Update on black-fronted tern project in the Lower Waitaki

After kick-starting the tern island project in the Lower Waitaki in October, we have now finished our monitoring for this breeding season. The aim of this project is to find alternative ways to improve the breeding success of black-fronted terns and other braided river birds by improving the breeding habitat for them. In many of the lower reaches of the braided rivers in Canterbury introduced weeds are a big issue. Braided river birds are adapted to nesting in clear gravel areas, however these are also areas where introduced weeds, such as lupins, broom and gorse and many others establish very quickly. Not only does it make breeding habitat unavailable to birds, but it also stabilises channels and provides habitat to introduced predators such as cats, stoats and hedgehogs. The project in the Lower Waitaki will look into ways of clearing weeds and keeping areas free of weeds to improve the breeding success and the habitat of braided river birds. This work will be undertaken this coming winter and the outcome for monitored over the next coming breeding seasons.

From top to bottom: Black-fronted tern flying away, a chick running in the foreground and the adult sitting on the nest, an adult landing near its nest.
(Photos: A. Schlesselmann)

This season we kept tabs on 78 nests in 4 colonies and used inked tracking tunnels and cameras to detect predator species on the mainland and on 15 islands. This data together with the predator monitoring will lay the baseline to which future breeding success can be compared to.

No monitoring of the breeding success of black-fronted terns in the Lower Waitaki has been done for nearly 15 years and given the nature of a big river like the Lower Waitaki, it requires more logistics to be able to access breeding colonies. Out of the six colonies we found between Kurow and Duntroon, only one was accessible by walking and all others required a jet boat. By using camera traps, we were able to follow the outcomes of nests, but also had the opportunity to observe the terns close up.

Here is some more detail about each colony from this current breeding season.

Black-fronted tern landing in a few inches of water, where its nest used to be. (Photo: A. Schlesselmann)

Colony 1 (9 nests monitored, 18 birds) near the confluence of the Otiake river was unfortunately flooded out early on in the season in November. All nests with two eggs each were abandoned.

Above the Kurow bridge was **colony 2** (22 nests monitored, 80 birds). This was the most successful colony we monitored. Just before Christmas we counted 16 fledglings and 10 chicks. Nevertheless five nests failed due to being flooded or predated late in the season.

Adult and two chicks at the nest at the colony above the Kurow bridge. (Photo: A. Schlesselmann)

Colony 3 (30 nests monitored, 250+ birds) was a large colony near Riverside Flats right next to a large black-back gull colony. This colony slowly disappeared throughout the season through disturbance and predation. We observed 4 fledglings in December, however by late December only a few adult terns remained and no fledglings were seen.

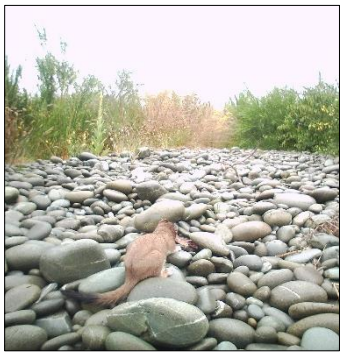
From left to right: Adults feeding their chicks with a worm, one chick hiding behind a rock and the other one underneath the small gorse plant while the adult is warning, later a black-back gull visiting the nest and a black-fronted tern flying in the background (Photos: A. Schlesselmann).

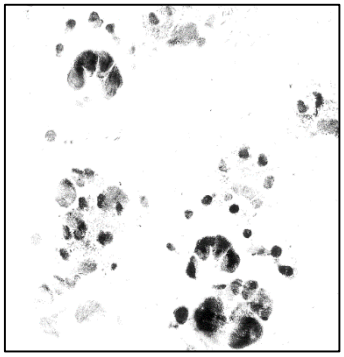
On the true left side of the river near Station Peak was **colony 4** (18 nests monitored, 70 birds). It shared an island with a large black-billed gull colony. Although we observed young chicks, we found deserted broken eggs, dead chicks and fledglings there in early December. No terns were observed in late December.

Black-fronted tern flying from its nest. Despite not having any large woody weeds, this island and many of the others are still vegetated by introduced weeds not leaving much clear gravel (Photo: A. Schlesselmann).

We also found another colony of black-fronted terns spread over 3 islands near Borton's Pond. Unfortunately it was not possible to monitor the nests closely in that colony. Also a new colony formed in early December just above the confluence of Kurow Creek, again of which the outcome is unknown. Overall about 50% of the nests we monitored hatched at least one egg, however not all chicks survived to a fledgling stage.

Our monitoring of predators with cameras and tracking tunnels showed mustelids, mice, rats and even a possum on islands. All of these islands were only accessible via jet boat, however in low flows sometimes connected to other larger areas. All of these islands are vegetated with a mix of grassy and woody weed species. On the banks of the river we also detected cats, ferrets and hedgehogs as well as rats, stoats, mice and possums. We also detected skinks with the inked tracking tunnels.





From left to right: Mouse detected on a camera, stoat trying to get at the bait and possum footprints from a tracking tunnel (Photos: A. Schlesselmann).

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On the way back to Kurow after a successful monitoring round (Photo: J. Cooper).