

Black-billed Gull Study – Disturbance and Predation

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Birds New Zealand

The summer season of 2015/16 appeared to be a poor breeding year for the black-billed gulls. A colony on the Buller River was located early in the summer, but nests were abandoned a few days later. This did not allow for the possibility to set up any cameras. No other colony was found on the Buller throughout the summer. There was no colony on the Awatere or Matakītaki Rivers. The Wairau River had one colony, but it was only half of the size it usually is. Consequently, this was the only colony in the Marlborough/Nelson region where cameras could be set up.

Much progress was made with the data that were gathered at the Wairau River colony. Two day-time (0600-2100) and two night-time (2100-0600) running cameras were set up to take a photo every minute from 21-November to 26-December 2015. Each camera was facing in a different direction, thereby covering various angles and all regions of the colony. A total of 61,829 day-time photos were taken, and 30,839 night-time photos. No day-time footage was missed as at least one camera was working at all times. About 50.5 hours were missed during the night. This included five consecutive nights from 9-14 December.

During the day, 405 disturbance events were recorded, all of which lasted approximately one minute. The cause of these could not be identified. However, it is not possible to increase the number of pictures that are taken because the battery life cannot sustain it. Where possible, two disturbance factors were identified. The main one was harrier hawks, which were seen 24 times, both flying and sitting on the ground in the colony. Usually, the disturbance lasted one minute, but it ranged from 3 minutes to seven hours (birds did not return to their nests for seven hours). The second disturbance was people which were seen in the colony (with a dog) for a period of about seven minutes. The frequency of disturbance increased from 8-December onwards, with the most happening between 18-25 December. Hawks were first seen on 1-December, and their presence continued in fluctuations throughout the month.

During the night, there were a total of 32 disturbances, all of which only lasted one minute. Unfortunately, the cause of these disturbances could not be identified. The most frequent amount (nine events) of disturbance occurred between 21-23 November with only five events from 29-November to 5-December. A hedgehog was observed in the colony twice, once it came and went over 45 minutes, and the second time it was only seen once. This was towards the end of the season, 25-26 December, and hence there were only a few birds still sitting on eggs as the rest had moved away from the colony. Only some birds flew away as a result of the disturbance.

For the season of 2015/16, it is apparent that harrier hawks caused the most disturbance and most likely predation on the black-billed gull colony on the Wairau River. The breeding success at the colony was 0.61 chicks per nest (184 nests were counted at mid-incubation and 112 chicks banded before fledging). The footage of the people in the colony has also emphasized the need to continue to educate the public about the gulls. Continuing this study for at least another season will allow for the possibility of a more successful breeding season next year, and therefore for the opportunity to set up and use the remote cameras at different colonies within various river catchments. Multiple years will also account for inter-annual variability in disturbance and/or predation as it is possible that different parameters impact colonies to a variable degree depending on the season.



Ltl Acorn ● 059°F 015°C 12/25/2015 04:15:44

Night time photo showing hedgehog in the middle of the colony.



Ltl Acorn ☾ 077°F 025°C 12/01/2015 14:36:08

Day time photo showing harrier on the ground in the middle of the colony.