

## Proposed Waimakariri District Plan – CIAL submission on bird strike issues

My name is Rachel McClellan. I am a self-employed consultant. The focus of my work for most of my professional career has been the ecology and management of bird populations. I have a Master of Conservation Science from Victoria University (thesis: the breeding biology of flesh-footed shearwaters on Karewa Island), and a PhD in Zoology from Otago University (thesis: the ecology and management of Southland's black-billed gulls).

I have worked as a consultant for 16 years, mostly for Wildland Consultants, where I was first a Senior Ecologist and Office Manager in Christchurch, and then a Principal Ecologist based in Wellington. I have also worked for the Department of Conservation in Northland and on the West Coast, and in England, for BirdLife International – a non-governmental organisation based in Cambridge.

As a consultant, I have had projects in every region of New Zealand. In Canterbury, projects have included a management plan for the birds of the Waimakariri River, aerial surveys of 30 Canterbury rivers for colonies of the threatened black-billed gull (tarāpuka), a management plan for the Avon-Heathcote Estuary, evidence at Environment Court for Hurunui District Council on the Mt Cass and Hurunui wind farm proposals, and a review of the assessments of effects on birds for the re-consenting of the Waitaki and Tekapo power stations.

Of particular relevance to this hearing is my involvement in the Christchurch District Plan hearings in relation to bird strike. I was contracted by Christchurch City Council to assist with addressing Christchurch International Airport's submission to the proposed plan in 2015-2016. I undertook formal, facilitated conferencing with the airport's bird strike expert, Mr Phillip Shaw, Director of Avisure – a company specialising in bird strike management at airports across the world, and two others, and presented both evidence and rebuttal evidence on the topic of bird strike. The airport's submission to the Christchurch plan was similar to its current submission in that it presented a list of 'bird strike activities', and requested rules to manage those activities within 3, 8 and 13 km contours from the airport runways. The commissioners' final decision was largely as per the recommendations in my evidence; that is, rules for waterbodies, and activities such as piggeries and freezing works, only within 3 km of the airport, and landfills anywhere within the Christchurch District.

I have also worked for Rotorua District Council regarding a potential bird strike issue at Rotorua International Airport, and on a further six wind farm projects, focusing on the populations and ecology of bird species present, their movements at local and landscape levels, and international best practice monitoring of blade strike. I was selected by the Department of Conservation to review the methods and results of the bird strike monitoring programme at Waipipi wind farm, south Taranaki.

I was contracted by Waimakariri District Council to review Christchurch International Airport's submission to the proposed Waimakariri District Plan, focusing on bird strike. I also reviewed the briefs of evidence of the airport's bird strike experts as presented to the hearings for the Christchurch District Plan (2016) and the Selwyn District Plan (2021), the airport's wildlife hazard management plan (2020), and the earlier 'off-airport' wildlife management plan (2016).

The airport's submission lists 10 separate 'bird strike risk activities' that it considers require controlling with a tiered management system that has 3 km, 8 km, and 13 km circles from the airport. The list has been modified and refined from the 40 or so activities presented to the Christchurch and Selwyn District Council hearings by the airport's international expert, Mr Shaw. In my opinion, the list and accompanying rules are problematic on several levels, for example:

- Lack of specific definitions, for example, a recycling depot may have a very different risk profile to a refuse facility dealing with food waste.
- Repeated use of the word 'avoid' rather than manage, mitigate, or minimise. To avoid attracting any bird strike species is generally impractical.
- Inconsistency; for example, regulating smaller temporary ponds but only larger permanent ones.
- Controls on the development of activities such as recreational areas when there are already thousands of hectares of managed grasslands in the wider landscape.

The 3 and 8 km circles are based on data from the United States, where over 600 species have been recorded as bird strike, for example, 34 species of eagles, falcons, and vultures, and 17 species of gulls. The 13 km circle appears to have been defined from UK data. I have significant reservations about the use of the management circles in Christchurch because:

- They have not been shown to reduce bird strike overseas.
- Only three key species are managed off-airport at Christchurch, the native black-backed gull (karoro), and the introduced rock pigeon and Canada goose, and the relevance of the circles to these species is particularly weak, in fact, two of the species are capable of flying distances greater than the largest circle.
- Data from the Civil Aviation Authority of New Zealand indicate that the vast majority of strikes and near strikes occur at or near the airport, during take-off and landing.
- A better approach is to monitor, study, and manage the three species, which is largely what the airport's Wildlife Hazard Management Plan (2020) states.

As previously mentioned, the 2016 off-airport management plan focuses on the above three species only. All other species are considered better managed 'on-airport', though the airport works with at least one neighbouring wetland trust to monitor and manage mallard. This management approach is mirrored in the 2020 management plan.

Briefly, for black-backed gull, the airport works with local and regional authorities to monitor and control numbers of black-backed gulls on the adjacent Waimakariri River. Environment Canterbury has recently commissioned a black-backed gull control strategy for Canterbury rivers.

For Canada goose, the airport's approach is to support regional stakeholders with an interest in the species' management. Media reports indicate that there is considerable interest among stakeholders to manage the species, however, I am not aware of any plan in the pipeline. The airport has funded a Masters study on the species, and it is a priority species for further research. The airport monitors this and other species at off-airport locations.

For rock pigeon, the airport and other agencies undertake culling operations at problem locations such as Christchurch Botanic Gardens and Riccarton Bush, and it works with such agencies and landowners to provide advice and support for management. The airport encourages the development of a Canterbury Feral Pigeon Management Strategy. The species is a current and future priority for airport-funded research.

In my opinion, monitoring, research, and management of these three species, particularly involving a multi-agency approach, combined with working with key local landowners, are more powerful tools than the rules proposed in the airport's submission. My only recommendation is to ensure that waste management facilities are managed to minimise attraction to black-backed gulls anywhere in the Waimakariri District.

I confirm that I have read the relevant sections of the s42A report on Airport Noise Contours and Bird Strike written by Neil Sheerin, Senior Policy Planner, Waimakariri District Council, and largely agree with his findings except for my point above regarding waste management facilities.

I have reviewed the evidence of Dr Leigh Bull for Christchurch International Airport on bird strike. As previously noted, I have also reviewed the evidence both she and Mr Phillip Shaw presented to the Selwyn District Council hearing (2021) on bird strike. My brief comments on her evidence follow.

Regarding the data-related matters from my report that Dr Bull refers to in her paragraphs 108-111, I note that she is using datasets with different timeframes:

- I referenced Bell (2020) who considered that black-backed gull numbers showed a decreasing trend on the Waimakariri River between 2006 and 2019. Dr Bull provides a graph (Figure 2, page 9) of counts from a shorter, more recent timeframe (2016 to 2023) that show a fluctuating trend.
- In response to my summary point that the black-backed gull strike rate at the airport is decreasing, Dr Bull provides a graph (Figure 29, page 27) that shows that the combined number of strike and near strike events has remained largely stable between 2017 and 2023. The decreasing rate is reported in the airport's Wildlife Hazard Management Plan (2020), which I reproduced in my Table 7. The discrepancy will likely be the result of different timeframes being compared; the airport has bird strike data going back much further than 2017.

In response to my statement that no Canada geese have been recorded as bird strike, Dr Bull clarifies that there has been one strike in June 2021. I was not aware of this as the most recent publicly available information on species bird strike rates at the airport is Dr Bull's and Mr Shaw's evidence from September 2021 in which this event was not reported.

Dr Bull and I appear to agree on the three key species that should be the focus of off-airport management to reduce bird strike risk (her paragraph 107). However, she covers a further two species in detail in her evidence: spur-winged plover and Australasian harrier (kāhu). My understanding is that these species are not relevant to this hearing as they are most appropriately managed 'on-airport'. My conclusion is based on the evidence of Mr Shaw (2021), paragraph 41, where he states "the Harrier operates over large territories so culling would only open a niche for new hawks to enter. Management of this species is best handled on-airport. In addition, the spur-winged plover is highly territorial, particularly during the breeding season, and is best managed at the airport itself with habitat modification", and also the Christchurch International Airport Limited – Wildlife Hazard Management Plan (2020), which notes "Resident airfield birds [harriers] are monitored/managed and mainly left alone to control rodents and ground mammals."

Dr Bull highlights the development of a large open waterbody in a rural landscape as potentially encouraging Canada geese to traverse airport flight paths. In my opinion, this is sufficiently managed within the 3km radius, and does not require regulation further from the airport.

Dr Bull supports the airport's Non-Complying status for "landfills/waste facilities" out to 13 km from the airport on the basis that they may attract black-backed gulls. I consider this to be an unnecessary level of restriction. Waste facilities differ in their attractiveness to black-backed gulls; the lack of definitions, and the lack of acknowledgment that potential risk can be managed, is problematic. As I note in my report, Mr Shaw has recently supported Dunedin City Council's application for a landfill 4.5 km from Dunedin Airport based on the landfill's black-backed management plan. Furthermore, black-backed gulls can travel distances considerably greater than 26 km to forage, making the 13 km airport radius largely irrelevant. In contrast, at the Selwyn hearing in 2021, Dr Bull supported

mitigation of such land uses within 8 km, and monitoring within 13 km, as per Mr Shaw's recommendations.

Dr Bull also highlights the risk posed by land uses where animal feed is available, such as piggeries, poultry farms and racecourses. I have limited experience of these land uses but presume that the presence of birds that both consume animal feed and potentially spread disease is unwanted, and therefore managed 'in-house'. These issues were debated at the 2016 Christchurch hearing, and restrictions limited to a 3 km circle. Dr Bull recommends extending measures beyond 3 km, in part because "these species [black-backed gull and rock pigeon] have high dispersal ability". However, she provides no evidence of the dispersal ability of rock pigeon in this type of landscape, and I am not aware of any such research in New Zealand.

Dr Bull supports the inclusion of land uses such as "recreational areas and golf courses" as bird strike risk activities, when there are already thousands of hectares of managed grasslands available in the wider landscape.

I note that Dr Bull does not discuss other management tools available to reduce bird strike risk, such as existing control operations for black-backed gull and rock pigeon, communicating and working with key landowners to manage risk, or the potential for region-wide, multi-agency black-backed gull and Canada goose management plans. As I stated before, I believe these are more useful and potentially more powerful tools than wide scale regulation.

I have also read the relevant section of Mr Sebastian Hawken's evidence. He discusses the fact that bird strike is of greatest risk in the immediate vicinity of the airport, which I also refer to on pages 5-6 of my report. He sets out the national and Australian guidelines which recommend the development of bird monitoring programmes off-airport, and also wildlife hazard management programmes, both of which Christchurch International Airport has had in place for several years. He provides a general list of land uses that can increase strike risk from an Australian Airports Practice Note, which I consider to also be relevant in New Zealand. This practice note also states "Monitoring and communication are the key tools available to airports to address off-airport hazardous sites", which I also agree with.

In paragraphs 64 and 65 Mr Hawken goes on to reproduce further guidelines from Australia, which use the 13 km circle as a guide. However, there does not appear to be any requirement or recommendation to seek regulation within this boundary, rather, the guidance is for monitoring and assessment of hazards within the 13 km circle, and consultation and liaison with the local planning authority to that end. I discuss the 13 km circle on pages 18-19 of my report. I would reiterate that the airport's management plan, Dr Bull, and myself are all in general agreement that the three highest priority species for management off-airport are black-backed gull, rock pigeon, and Canada goose; in my opinion, the 13 km radius is largely irrelevant to the two larger species and is of unknown relevance to rock pigeon. Mr Hawken does not mention the 3 km and 8 km circles in his evidence on bird strike management.

Rachel McClellan  
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