

Before an Independent Hearings Panel  
appointed by the Waimakariri District Council

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*under:* the Resource Management Act 1991

*in the matter of:* Submissions and further submissions in relation to the  
proposed Waimakariri District Plan, Variation 1 and  
Variation 2

*and:* Hearing Stream 10A: Future Development Areas,  
Airport Noise Contour, Bird Strike and Growth policies

*and:* **Christchurch International Airport Limited**  
Submitter 254

Summary of Evidence of Dr Leigh Bull (Bird strike)

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Dated: 21 February 2024

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## **SUMMARY OF EVIDENCE OF DR LEIGH BULL**

### **INTRODUCTION**

- 1 My name is Leigh Sandra Bull and I am the Director of BlueGreen Ecology Limited, an ecological consultancy established in April 2023. My core work is in avifauna and I have worked on a number of major infrastructure development projects throughout New Zealand.
- 2 I prepared a brief of evidence addressing the relief sought by Christchurch International Airport Limited (*CIAL*) on the proposed Waimakariri District Plan. This statement provides a summary of key points and responds to the evidence of other submitters.

### **SUMMARY OF EVIDENCE**

- 3 I prepared evidence assessing the bird populations in Canterbury and analysing available information to inform *CIAL*'s approach to bird strike risk management and to inform the relief that *CIAL* is seeking in this Proposed Plan process.
- 4 It is predominantly the large and / or flocking species for which changes in land use could increase the risk of strike. In terms of current high-risk species, this includes southern black-backed gull (*SBBG*), Canada goose and feral pigeon (all currently high-risk species). In addition, other gull species, ducks, shags, swan and starling, which currently aren't classified as high risk, may also be attracted to various land uses which could encourage their movement across the landscape or facilitate population increases (which may result in them becoming higher risk species).
- 5 As an example of how changing land uses can influence bird populations, there have been documented changes in the foraging behaviour and movements of Canada geese in response to landscape changes in Christchurch City. Surveys in the "red zone" area indicated that population had increased following the earthquakes due to the area of land providing the urban populations (i.e. birds that are resident all year round and don't migrate to the high-country breeding grounds) of Canada geese with additional foraging habitat situated next to several wetland reserves.
- 6 I conclude that certain land uses in Waimakariri District could encourage changes in bird behaviour or population size which in turn impacts upon the risk profile at Christchurch Airport.
- 7 In the case of Canada geese, the main change in land use in Waimakariri District that could prove attractive to these birds relates to the provision of a large open waterbody within a rural landscape.

- 8 SBBG are capable of flying long distances and forage on a range of food sources from different habitats. While exact flight paths are not known, SBBG have been recorded flying in shared airspace on a number of occasions. Given SBBG colonies extend along much of the lower Waimakariri River, there is the potential that new land uses such as landfills / waste facilities and piggeries within 8 or 13 km of the Airport could attract birds from further up the river into shared airspace. As such, it would be prudent not to further increase the chance of birds dispersing across the wider landscape. I therefore support CIAL's relief seeking that waste management facilities proposed within a 13 km radius of Christchurch Airport are given a Non-Complying activity status.
- 9 Furthermore, based on the recent off-airport survey data collected by CIAL, I believe such a status would be appropriate for land uses where animal feed is available (e.g. piggeries, poultry farms, and equine racecourses). Sewage treatment and disposal facilities are another land use that I believe a Non-Complying Activity status would be appropriate.
- 10 While a much lower risk, land uses such as fruit farms, recreational areas and golf courses can also be attractive to flocking species such as starlings. As such, I am supportive of their inclusion in the proposed plan definition for "bird strike risk activity".
- 11 In preparing this summary statement I have reviewed the speaking notes of **Dr Rachel McClellan** for Waimakariri District Council. Paragraphs 107-120 of my evidence respond to Dr McClellan's review and I confirm that I consider the measures sought in CIAL's submission remain necessary and appropriate to address bird strike risk for Christchurch Airport.

#### **RESPONSE TO SUBMITTER EVIDENCE**

- 12 I have reviewed and provide comment on the evidence of:
- 12.1 **Ms Hannah Ritchie** on behalf of New Zealand Pork Industry Board
- 12.2 **Ms Helen Caley** on behalf of Fulton Hogan; and
- 12.3 **Ms Sarah Cameron** on behalf of Horticulture New Zealand.
- 13 In response to Ms Ritchie's submission in opposition to the proposed provisions in relation to pig farming, I note that my analysis of the CIAL avifauna monitoring data (presented in my statement of evidence) showed the highest maximum and average number of both SBBG and feral pigeon were recorded at the 'Paparua Piggery' site. In the case of feral pigeon, the maximum number of birds recorded at this site in any one occasion was 485 birds.

- 14 Furthermore, SBBG and feral pigeon ranked 4<sup>th</sup> and 7<sup>th</sup> respectively in terms of the number of near strike or strikes recorded at Christchurch Airport (refer to Figure 17 in my statement of evidence).
- 15 Thus, the data has shown that the activity of pig farming has the potential to attract significant numbers of birds that are considered high risk in relation to bird strike.
- 16 On this basis, I believe that a Non-Complying Activity status would be appropriate for land uses where animal feed is available (e.g. piggeries, poultry farms, and equine racecourses).
- 17 In response to Ms Caley's submission on the proposed provisions in relation to bird strike activities relating to "excavation works, including quarrying, which result in ponding exceeding 100m<sup>2</sup> or more of open water, for more than a continuous 48 hour period", there is the potential that the addition of permanent waterbodies >1000m<sup>2</sup> could serve to increase the movement of Canada goose, and other waterfowl, across the landscape and potentially within airspace. I therefore support the relief CIAL is seeking in the form of a Restricted Discretionary activity status for such activity.
- 18 In response to Ms Cameron's submission in relation to horticultural activities and bird strike, I note in my evidence I acknowledged that land uses such as fruit farms do pose a lower risk. However, these land uses still attract flocking species such as starlings and as such I remain supportive of their inclusion in the proposed plan definition for "bird strike risk activity".

Dated: 21 February 2024

Dr Leigh Bull