

Before the Independent Hearing Panel
appointed by Environment Southland and
Gore District Council

Under the Resource Management Act 1991

In the matter of an application by Gore District Council for resource consent to
establish the Longford Bridge across the Mataura River

Statement of evidence of Della Gaye Bennet

2 December 2020

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Introduction

- 1 My full name is Della Gaye Bennet.
- 1 I am a Senior Avifauna Ecologist with Wildland Consultants Ltd ('Wildlands'), based in Christchurch. I have worked for Wildlands for nine months. Prior to working with Wildlands, I have undertaken avifauna work throughout the South Island, including surveys and monitoring, mist netting and bird banding, and the monitoring of threatened species.
- 2 I have considerable experience with terrestrial birds. Recent examples include: analysing and reporting on a forest bird population where predator control and non-treatment sites were surveyed over three years, undertaking a desktop assessment of potential bird species and the likelihood of occurrence within fifteen exotic forest plantations, a bird strike risk assessment for a temporary stormwater retention basin located close to an international airport.
- 3 I have also worked for the Christchurch International Airport Limited, where I was the Wildlife Control Officer for the prevention of bird strike with aircraft. This role involved active management by manipulating bird behaviour away from the airport, airport bird strike hazard identification and mitigation processes, and ensuring compliance with legislation.
- 4 I hold the degrees of Bachelor of Science in Biological Science (Ecological Endorsement, 2013), Postgraduate Diploma (Distinction, 2014), and a PhD in Biological Science, all from the University of Canterbury (2018). My PhD thesis investigated the diving behaviour, diet and foraging locations of the Threatened-Nationally Vulnerable Hutton's shearwater in Kaikoura. I am a member of the Ornithological Society of New Zealand and the Royal Society.
- 5 In preparing this statement of evidence I have considered the following documents:
 - (a) The Assessment of Environmental Effects (**AEE**) accompanying the resource consent application;
 - (b) Submissions relevant to my evidence;
 - (c) The Section 42A report;
 - (d) Environment Southland Regional Council 20/RC/109;
 - (e) Essential Lighting Consultancy Ltd Rev B 5-11-20.

Code of Conduct for Expert Witnesses

- 6 While this is not a hearing before the Environment Court, I have read the Code of Conduct for Expert Witnesses contained in the Environment Court Practice Note 2014. I have complied with it in preparing this evidence and I agree to comply with it in presenting evidence at this hearing. The evidence that I give is within my area of expertise except where I state that my evidence is given in reliance on another person's evidence. I have considered all material facts that are known to me that might alter or detract from the opinions that I express in this evidence.

Scope of evidence

- 7 This evidence addresses:
- (a) A summary of Dr Della Bennet's previous report: *Wildland Consultants 2020: Assessment of effects on avifauna for the proposed Longford shared pathway over the Mataura River, Gore. Wildland Consultants Contract Report No.5580*. Prepared for Gore District Council. 13 pp.
 - (b) A response to submissions; and
 - (c) A response to the s42A reports.

Summary of previous report

- 8 The Gore District Council commissioned Wildland Consultants to provide a desktop ecological assessment of the potential effects of the proposed bridge on avifauna. The purpose of this desktop ecological assessment was to: 1) Identify and describe avifauna values in the bridge footprint and wider area. 2) Describe the potential effects of the bridge on avifauna arising from construction, operation and maintenance. 3) Provide an ecological assessment of avifauna that addresses the proposed bridge's effects on bird flight paths. 4) Identify measures to avoid, remedy, or mitigate potential adverse effects.¹
- 9 The desktop assessment reviewed relevant avian literature, reports, and data sets within c.10 kilometres of the site. Information was sourced from the eBird database maintained by Cornell University, the on-line iNaturalist database, which is maintained by the California Academy of Science and

¹ Bennet, DG, Wildland Consultants Ltd report.

the National Geographic Society, National threat classification lists for birds, and the Field Guide to the Birds of New Zealand.

- 10 I confirm the content of my report provides technical information to identify any risks posed to avifauna, both during the construction phase and provides mitigation responses to the effects on bird flight paths (attached as **Appendix 1**).
- 11 Report summary: The proposed Longford shared path will cross the Matāura River and will connect the East Gore bank (Church and Huron streets) with the west bank of the town (Surrey Street), allowing easy access to the township and schools, while providing a safe river crossing for pedestrians and cyclists. The proposed bridge is a cable-stay design and will be 39 metres high, 90 metres long and three metres wide. The circular steel mast (39 metres high, 916 millimetre diameter), positioned on the western bank, will suspend high strength spiral strand cables (26.4 millimetres) to support the bridge. The construction phase should preferably be implemented outside of the nesting period of river bird species (e.g. shags, ducks, tern and dotterel), to minimise potential disturbance or displacement of bird species. However, if construction cannot avoid the breeding period, an ecologist should be commissioned to undertake a river bird survey and advise on nest avoidance. General use and public movement through and around the area upon completion should have only minor effects on bird species, and any maintenance should follow the protocols identified for bridge construction. Birds will become accustomed to the presence of the bridge, and it is unlikely to have any adverse effects on bird flight paths. All lighting should be downward-facing with minimal horizontal spill to avoid attracting or disorienting any birds in flight. If injury or mortality of any Threatened or At-Risk species occur, the spiral strand cables could be made more visible to birds flying by the use of UV lights, luminous tape, or aerial markers.

Response to submissions

- 12 This paragraph addresses the submission of David and Lynn Gray, Hokonui Rūnanga, Keith and Joy Mockford, Bruce and Margaret Thomson, and Gary and Wendy Weir.² The cable stay bridge will be situated in direct line of the natural flight path of birds travelling down the Mataura River. Birds will fly at varying heights depending on the species and flight destination. Waterbirds predominantly associate with river areas and will

² Gore District Council Resource Consent LU 2020/012 Resource Consent Submissions.

become familiar with the structure. Although there is a potential for bird strikes to occur, the static structure will pose a minor hazard to birds flying during the day and illumination from the township and previous experience of the bridge structure will help species to avoid the structure at night. Many birds do fly at night and use various cues to guide their navigation; this can include light shining off rivers, street illumination of an area, and the ability to see at night. It is more beneficial for a reduction in direct lighting on the structure at night as birds can become disorientated or attracted to light sources. Essential Lighting Consultancy Ltd recommends that only 33% of the path width (1 metre of the 3 metres available) will be lit at night³. The proposed lighting will have a low amount of upward waste light, good glare control and a low amount of spill light. I recommend that in the event of injury or mortality of any Threatened or At-Risk species, that the support wires are marked with UV lights, luminous tape or spherical aerial markers to aid bird avoidance behaviour to the high-strength spiral cables, especially in low light. Avian taonga species are important, and the ecological impact on their flight paths have been investigated with regards to species which are Threatened and At-Risk and are likely to be found within one kilometre of the proposed Longford shared pathway. In my opinion, the Longford Bridge poses a less than minor risk to Threatened or At-Risk species.

Response to s42A report

- 13 Mr Bryce⁴ has reviewed my report and concludes that he is satisfied with the appropriate technical information provided and that any risks posed to avifauna during the construction have been addressed and that mitigation responses have been provided with regards to effects on bird flight paths. Mr Bryce agrees that disturbance or displacement of bird species can be minimised during the construction phase by checking the area prior to construction if construction occurs during the braided river bird breeding season. A suitably qualified ecologist should be commissioned to undertake the survey and advise on nest avoidance. Mr Bryce supports the recommendation that appropriate bridge lighting should be implemented to mitigate any effects on avifauna (e.g. all lighting should be downward-facing with minimal horizontal spill and the spiral strand cables could be made

³ Essential Lighting Consultancy Ltd. Longford Bridge and shared pathway lighting in Gore Rev B5-11-20.

⁴ Section 42a Rural City Living, Gore District Council.

more visible to birds flying by the use of UV lights, luminous tape, or aerial markers). Mr Bryce also agrees that subject to the imposition of conditions as outlined in my report, that the effects on avifauna to be less than minor. As highlighted by Mr Bryce, my recommendation for dogs to be 'under control at all times' is not part of this decision process.

- 14 Ms McRae⁵ has reviewed my report and concludes that the avifauna assessment addresses the effects on birds in relation to the construction of the bridge. Ms McRae also agrees that before construction commences, an ecologist should be engaged if work is to be undertaken during the breeding period, and that birds will become accustomed to the increased human presence and the presence of the bridge. Ms McRae agrees that the avifauna report considers the effects on avifauna and taonga species as being less than minor.

Conditions of consent

- 15 As the breeding season of braided river birds is from July to March, avoidance of this period would greatly impact the construction phase of the bridge. Prior to commencement of works, a suitably qualified ecologist should be engaged to undertake a survey of the area of works to determine whether there are any nests of ground-nesting birds within the construction footprint and advise on avoidance procedures.
- 16 There shall be no disturbance of the roosting and nesting areas of the black fronted tern, black-billed gull, and banded and black-fronted dotterel, or the feeding areas of the banded and black-fronted dotterel, as a result of the exercise of this consent.
- 17 In the event of injury or mortality of any Threatened or At-Risk species, a review of consent conditions should be undertaken and mitigation measures should be implemented, e.g. UV lights, luminous tape, or aerial markers.

Conclusion

- 18 I have summarised my report on the assessment of effects on avifauna (Wildlands 2020). I have reviewed the concerns of the submissions and discussed the various aspects with regards to bird strike risk, avian flight
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⁵ Environment Southland Regional Council 20/RC/109

paths, and lighting. I believe that my report has addressed the various concerns raised and that appropriate evidence has been provided to support that the bridge will have a minor effect on avian species. I have highlighted mitigation measures which will further reduce any impact on river birds and that avian species will become familiar with the structure and will adjust their behavioural response. I have also reviewed the comments and summaries of Mr Bryce and Ms McRae who agree with my avifauna assessment and conclude that the proposed Longford Bridge will have a less than minor effect on avian species. In my opinion, the actual and potential adverse effects on river birds have been appropriately researched and that the conditions proposed are appropriate to mitigate any effects on river bird species.

Dated this 2nd day of December 2020

Della Gaye Bennet