Before a Board of Inquiry
MacKays to Peka Peka Expressway Proposal

under: the Resource Management Act 1991

in the matter of: Notice of requirement for designation and resource consent applications by the NZ Transport Agency for the MacKays to Peka Peka Expressway Proposal

applicant: **NZ Transport Agency**
Requiring Authority

Statement of rebuttal evidence of **Dr Leigh Bull** (Avifauna) for the NZ Transport Agency

Dated: 24 October 2012

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STATEMENT OF REBUTTAL EVIDENCE OF DR LEIGH BULL FOR THE NZ TRANSPORT AGENCY

1 My full name is Dr Leigh Sandra Bull.

2 I have the qualifications and experience set out at paragraphs 2-8 of my statement of evidence in chief, dated 31 August 2012 (*EIC*).

3 I repeat the confirmation given in my EIC that I have read, and agree to comply with, the Code of Conduct for Expert Witnesses (Consolidated Practice Note 2011)

4 In this statement of rebuttal evidence, I respond to the evidence of:

4.1 Ms Shona Myers, on behalf of Kāpiti Coast District Council, submitter 682.

4.2 Ms Emily Thomson, on behalf of Kāpiti Coast District Council, submitter 682.

5 I note that my responses to Ms Thomson's evidence is in the context of the proposed changes to relevant consent conditions based on the recommendations outlined in Ms Myers' evidence.

6 The fact that this rebuttal statement does not respond to every matter raised in the evidence of submitter witnesses within my area of expertise should not be taken as acceptance of the matters raised.[1] Rather, I rely on my earlier technical reports, my EIC and this rebuttal statement to set out my opinion on what I consider to be the key avifauna ecological matters for this hearing.

7 Consistent with my EIC, I have referred to the MacKays to Peka Peka Expressway Project as "the Project" in this rebuttal evidence.

EXECUTIVE SUMMARY

8 The presence of the At Risk North Island fernbird within the Project footprint was identified late in the assessment process and could not be fully assessed prior to lodgements with the EPA due to requirements to study this species during spring. Accurately determining the potential level of effect of the Project on the fernbird population therefore remains an outstanding issue that is yet to be quantified.

9 Fernbird monitoring is currently being undertaken in appropriate habitats along the Project alignment.[2] The results of that

[1] For example, in relation to Ms Pomore's evidence (submitter 309), I have already addressed the issue of bird flight paths from Kāpiti Island in my EIC (paragraphs 103-106). And in relation to the Deardens' concern (submitter 261) regarding the impact of lighting on birds, I also addressed this issue in my EIC (paragraphs 120-122).

[2] This is discussed below under the "Update" heading below.

monitoring are needed in order to more accurately determine if mitigation is required, and if so, the appropriate level of mitigation.

10 Data collection will be completed in November 2012. However, analysis of the data is a time consuming process and is likely to take until January 2013 to complete. Preliminary results to date are indicating widespread distribution of fernbird.

11 Ms Myers has made a recommendation that pest animal control in local wetland habitat be required for mitigation of impacts on fernbird and other wetland avifauna species in the absence of evidence that there will be an impact. It is my opinion that this cannot be justified on the information currently available and outlined in my EIC.

12 Furthermore, I disagree with Ms Myers' recommendation for quarterly monitoring of the fernbird population prior, during and post-construction. The frequency of monitoring should be consistent with the Department of Conservation's draft guidelines for monitoring this species, i.e. during spring and late autumn.

13 Finally, I confirm my opinion that no other wetland waders or waterfowl will suffer significant adverse effects from this Project.

UPDATE ON FERNBIRD MONITORING

14 Since my EIC was lodged, the pre-construction baseline monitoring of fernbird, as proposed in Annexure B to my EIC (page 29), has commenced with acoustic devices being deployed in appropriate habitat along the proposed alignment north of the Waikanae River.

15 The bioacoustic devices are recording daily for a period of four hours (0630-1030 hours) from September through November 2012. To date, the first two weeks of data have been analysed.

16 From these preliminary results, fernbird have been detected at four of the five monitoring sites located under the proposed alignment north of the Waikanae River. However, analyses of the full data set (September – November) is needed to obtain a comprehensive understanding of fernbird habitat use during the entire breeding period.

EVIDENCE OF SUBMITTERS

Fernbird

17 The main issues raised in Ms Myers' evidence in relation to avifauna were in regard to fernbird and included statements or recommendations to the effect that:

17.1 Any effects on this species will be "very significant"[3];

17.2 There is a need for protection and restoration of fernbird habitat, including pest control to protect habitat[4]; and

17.3 There is a need for an increase in the frequency of monitoring fernbird populations during construction[5].

Level of Effects

18 In paragraph 5.22 of her EIC, Ms Myers states that "*Any effect on North Island fernbird will be very significant…".*

19 In response, while I agree that there is the potential for there to be a significant effect of the Project on the fernbird population, I disagree that "*any effect*" will be very significant.

20 Additional research on this species has been commissioned to accurately determine if effects associated with the Project are likely to occur, and in the event that they do, to determine the necessary mitigation. This research is outlined in paragraph 88.1 and Annexure B of my EIC.

21 The initial results of this research, which has been carried out at the Northern Gateway Motorway[6], suggest that this species is highly tolerant to highway activities, and are successfully utilising habitat within 25 m of the operating motorway.

22 While Ms Myers accepts that "*these results could be useful*", she then effectively dismisses these early findings on the basis that "*this situation could potentially be quite different, with a different habitat type, and a different pest control regime in that area*."[7] I agree that every situation will be different. However, the fact remains that fernbird populations at the Northern Gateway site are surviving successfully in very close proximity to a busy operating motorway.

Pest Animal Control

23 In her evidence, Ms Myers recommends[8] that pest animal control be undertaken in local wetland habitats in order to mitigate any adverse effects on fernbird. Specifically, she specifies that *"control of mustelids, feral cats, and rodents will be required".*

24 While pest animal control is one option for mitigating an adverse effect on fernbird, it is my opinion that it is first necessary to confirm that an adverse effect will occur, to then quantify the scale

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3 Refer to Ms Myers' EIC, paragraph 5.22.

4 Refer to Ms Myers' EIC, paragraphs 6.34, 6.39, 6.40 and 7.11.

5 Refer to Ms Myers' EIC, paragraph 7.12.

6 Refer to paragraph 27-29 of my EIC.

7 Refer to paragraph 6.33 of Ms Myers' EIC.

8 Refer to paragraphs 6.34, 6.39, 6.40 and 7.11 of Ms Myers' EIC.

of that effect, and then an appropriate method and level of mitigation can be determined. We have yet to determine that there will be an adverse effect of the Project.

25 I would also suggest that Ms Myers approach is somewhat simplistic. Predators of fernbird include both introduced mammalian and native avian species. Parker (2002)[9] lists seven native avifauna species that may predate on fernbird including the Threatened Australasian bittern which occurs locally, but which clearly cannot be controlled.

26 Consequently, I do not agree with KCDC's recommended change to proposed Condition G.34(d)(x), as outlined in paragraph 10.11 of Ms Thomson's evidence, which requires the EMP to provide information on how the following outcomes will be achieved:

> Ensure that ~~T~~the North Island fernbird population is not adversely affected by construction or operation of the Project and provide for the protection and restoration of the habitat for the species, including pest control.[10]

27 I continue to support the approach outlined in paragraphs 88.1 and 88.5 of my EIC, whereby the results of fernbird distribution research are discussed with the Department of Conservation (*DOC)* in order to determine if further monitoring or mitigation is required.

28 If mitigation is required, a range of tools for mitigation are available that can be readily applied within the context of the current designation.

Monitoring

29 Regarding proposed Condition G.38 (Ecological Monitoring), Ms Myers recommends that monitoring of fernbird populations during construction should be undertaken seasonally.[11]

30 This recommendation is reflected in paragraph 10.13 of Ms Thomson's evidence, with a requirement for quarterly monitoring of fernbird.

31 While I agree that there is an important seasonal component to this monitoring, I disagree with the recommended change to Condition G.38 requiring that this monitoring be undertaken quarterly.

32 Given the cryptic nature of fernbird,[12] it is best practice to undertake monitoring of fernbird during the spring months when territorial

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9 Parker, K.A. (2002). Ecology and management of North Island fernbird (*Bowdleria punctata vealeae*). Unpub. MSc, University of Auckland, Auckland.

10 KCDC's changes underlined.

11 Refer to paragraph 7.12 of Ms Myers' EIC.

12 Heather & Robertson (2000) describe fernbird as secretive, often remaining hidden in thick vegetation; reluctant to fly and often detected by sound alone.

disputes and calls are most prevalent. Territory defences break down during the autumn moult and in the early winter[13].

33 The DOC's draft protocols for monitoring fernbird[14] recommend that monitoring be undertaken during October – November, as well as June.

34 In paragraph 7.13 of her evidence, Ms Myers recommends that "*there be an independent peer review of the results of the monitoring of wetlands and the fernbird population, and of any effects*". As a consequence, Ms Thomson's evidence recommends that proposed Condition G.39 be amended by adding a requirement that all ecological monitoring required under the EMP (including fernbird) be "independently peer reviewed".[15]

35 I disagree. My concern with this recommendation (at least in relation to fernbird) is that it adds another layer into the compliance process, and an unnecessary layer. Proposed condition G.39 already requires the results of all ecological monitoring to be submitted to the GWRC Manager at quarterly intervals, and to DOC and KCDC for information. Accordingly, I do not support Ms Thomson's suggested amendment.

Other wetland bird species

36 In paragraph 5.21 of her evidence, Ms Myers states that she has "*concerns regarding potential effects on other wetland bird species which are likely to be present*".

37 In response, I stand by my original assessment that the potential effects on these species will be **Low,** for all the reasons outlined in my EIC.[16]

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Dr Leigh Bull
24 October 2012

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13 Heather, B., & Robertson, H. (2000). The Field Guide to the Birds of New Zealand. Viking, New Zealand.

14 Refer to **Annexure A** to my rebuttal evidence. While the protocol attached has been developed at the Awarua-Waituna wetlands study site, the methods are applicable to other sites.

15 Ms Thomson's evidence, paragraph 10.15.

16 Refer to paragraphs 57-83 in my EIC.

ANNEXURE A – DEPARTMENT OF CONSERVATION DRAFT PROTOCOL FOR MONITORING FERNBIRD

Fernbird

Draft protocols for index counts:

Awarua-Waituna wetlands, Southland

Photo: © Wynston Cooper, DOC image library

1. Objectives for monitoring

The aim of the long term monitoring of fernbird populations at Awarua-Waituna is to contribute to monitoring of:

(a) wetland bird species that contribute to measuring wetland health and integrity, including determining whether populations of interest are stable, increasing, or decreasing and when and where management intervention is necessary.

(b) response of swamp birds wetland management; specifically the effectiveness of pest control and habitat maintenance and restoration (e.g. water regimes, cover, weeds, fragmentation, food supplies)

Methods need to be sensitive enough to detect significant population changes within relatively short timeframes so that management can be adaptive.

2. Draft protocol

a. Count type: Call listening count at point stations.

b. What to sample: Measures will be

- An index of calls/5 minutes
- Estimate of the total number of different individuals recorded
- Presence/not detected data per station

Record total number of calls by different individuals and pairs (duets) detected/5-min.

c. Sample size: Number of counts required to give power to detect changes are relatively high and definitely in the order of >80 per sampling session.

d. Count method: Point counts. These are almost the universal standard, particularly because of the inability to sample continuously while walking along transects through many wetland types.

e. Distance between count stations: 100 m.

f. Count layout: Random distribution of sampling points is ideal but unlikely to be achievable in most wetlands. Systematic sampling from accessible transects that are representative of typical and widespread habitats should be undertaken. Stations should be at 100 m along transects of 10-20 stations each. Record all locations with GPS and map.

g. Count length: 5 minutes per count.

h. Time of year: October-November and June.

i. Time of day: Standard hours 0900-1700 (NZ Daylight time).

j. Optimum survey conditions: In order to minimise some of the variability in counts, standardising environmental conditions on counts (e.g., wind, moon, temperature etc) is advisable. We do not know what these conditions are as yet, so trial counts should be undertaken in a wide range of conditions so that at the end of next field season we can make better recommendations. However, generally avoid strong winds (> 10 knots) and rain or other noisy conditions that limit hearing.

k. Field sheet: Use the draft datasheet (DOCDM-487756).

l. Equipment:

- Map to draw stations on.
- GPS
- Compass
- Timer/stopwatch or watch
- Standard field data sheets