IN THE MATTER OF	the Resource Management Act 1991
AND	
IN THE MATTER OF	Notices of requirement for designations under section 168 of the Act, in relation to Te Ahu a Turanga; Manawatū Tararua Highway Project
BY	**NEW ZEALAND TRANSPORT AGENCY** Requiring Authority

ADDENDUM TO STATEMENT OF EVIDENCE OF ANDREW RUSSELL BLAYNEY (TERRESTRIAL FAUNA) ON BEHALF OF THE NEW ZEALAND TRANSPORT AGENCY

25 March 2019

BUDDLEFINDLAY
Barristers and Solicitors
Wellington

Solicitors Acting: **David Randal / Thaddeus Ryan / Annie O'Connor**
Email: david.randal@buddlefindlay.com
Tel 64-4-499 4242 Fax 64-4-499 4141 PO Box 2694 DX SP20201 Wellington 6140

INTRODUCTION

1. My name is **Andrew Russell Blayney**

2. I submitted a statement of expert evidence on terrestrial fauna ("**EIC**") on behalf of the New Zealand Transport Agency ("**Transport Agency**") dated 8 March 2019.

3. I have the qualifications and experience set out in my EIC.

4. I repeat the confirmation given in my EIC that I have read the 'Code of Conduct' for expert witnesses and that my evidence has been prepared in compliance with that Code.

5. In this addendum I use the same defined terms as in my EIC.

6. In this addendum to my EIC, I respond to points made in the expert evidence of Dr Timothy Martin on behalf of Director-General of Conservation.

RESPONSE TO EVIDENCE OF DR MARTIN

7. I respond to Dr Martin's evidence as it relates specifically to terrestrial fauna matters[1]. Dr Martin did not attend the terrestrial ecological expert conferencing held in the week of 11 March, and as such we did not have the opportunity to discuss these points directly.

Assessment of Ecological Values

Herpetofauna[2]

8. I do not understand there to be any disagreement between Dr Martin and I in respect of the assessment of herpetofauna values. In particular:

   (a) I have assessed potential ecological value of habitats in the Project as 'high';

   (b) I have given no weight to the non-detection of lizards in the surveys taken to date; and

   (c) I understand that Dr Martin considers the assessment of herpetofauna to be appropriate.

9. Dr Forbes addresses the issues concerning overall ecological values and significance raised by Dr Martin in this regard.

Invertebrates[3]

[1] Dr Forbes responds more generally to Dr Martin's evidence.
[2] Refer paragraphs 7.6 – 7.14 of Dr Martin's evidence.
[3] Refer paragraphs 7.15 – 7.24 of Dr Martin's evidence.

10. Dr Martin covered several concerns regarding invertebrates (paragraphs 7.15 to 7.24) which I address below.

Survey effort and Terrestrial Invertebrate Management Plan

11. The lack of terrestrial invertebrate surveys is acknowledged in the Terrestrial Fauna Report. I have recommended a Terrestrial Invertebrate Management Plan that includes a requirement of targeted surveys of at-risk and threatened taxa within the Project area. This would include surveys for the moths *Meterana grandiosa*, *M. exquisita*, and *Asaphodes stinaria*[4], and targeted surveys for any *Powelliphanta* and *Wainuia* snail species that may be present. It would also address other potential at-risk or threatened species that are known to occur in the type of ecosystems impacted, such as ground beetles (Family: Carabidae).[5]

12. The proposed Terrestrial Invertebrate Management Plan condition is presented in Ainsley McLeod's Addendum. The wording of the condition does not constrain the surveys to any habitat type, as this should be informed by the species being searched for. Further species to be targeted may be added as further information is gathered.

Habitat values of successional vegetation and divaricating *Coprosma* shrublands

13. I addressed this general issue in my EIC, referring to the response to the Wildlands review of Technical Assessment 6 (and the Terrestrial Fauna Report).

14. In light of the further information provided by Dr Martin on the detection of *Meterana grandiosa* and *M. exquisita* (both At-risk – relict) nearby[6]. I agree that the lack of recognition of the potential invertebrate habitat values of early successional habitats was an oversight in the Terrestrial Fauna Report. I overlooked the reference of both *Meterana* species occurring "*on the eastern flanks of Wharite Peak near Woodville in the Manawatu region*" provided within Patrick (2000)[7] which would have led me to the survey findings and informed a different approach.

[4] The reference of this species in the Horizons one plan reflects the record of a single individual found in the Kaweka Range (Hawkes Bay) at 960m above sea level (asl) collected prior to 1973. However, as the host plant is not yet confirmed (with many species a potential host plant) there remains a possibility of this species presence in the area. Patrick, B. (2000). Conservation status of two rare New Zealand Geometrid moths. Department of Conservation.

[5] There are potentially several such species present, but which species and what threat status they might be is a current unknown. Fuller, L., Johns, P., & Ewers, R. (2013). Assessment of protected area coverage of threatened ground beetles (Coleoptera: Carabidae): a new analysis for New Zealand. New Zealand Journal of Ecology, 37(2), 184–192.

[6] Evidence of Tim Martin Paragraph 7.19 and McGregor, P. G., Watts, P. J., & Esson, M. J. (1987). Light trap records from southern North Island hill country. New Zealand Entomologist, 10(1), 104–121.

[7] Patrick, Brian. (2000). Conservation status of two rare New Zealand Geometrid moths. Department of Conservation.

15. As such, I present an updated position below that takes better account of the potential for effects on invertebrate fauna in successional vegetation communities.

16. Following the conservative scoring guidance provided in the Terrestrial Fauna Report, the presence of the two *Meterana* species would have elevated the ranking to "very high" for terrestrial invertebrate values.

17. However, the process I followed in assigning overall rankings in the Terrestrial Fauna Report was very conservative (in the absence of good data collection opportunity). To put this conservative scoring into perspective, EIANZ guidance recommends an ecological value of "moderate" for the presence of "At-risk – relict" terrestrial species.

18. In this context, I agree with Dr Martin[8] and Dr Forbes, that the overall value of the divaricating *Coprosma* shrublands is appropriately assessed as "High" ecological value. However, I do not agree with Dr Martin[9] that the reassessment of the overall ecological value of divaricating shrubland habitats from "high" to "very high" is appropriate in light of this reassessment of terrestrial invertebrate value.

Timing of vegetation clearance in respect of moths

19. I agree with Dr Martin that there is opportunity to reduce potential adverse effects on moths by timing vegetation clearance. The proposed Terrestrial Invertebrate Management Plan condition (16A c) iii) includes a requirement to determine the optimal timing of vegetation clearance to address the potential presence of these moth taxa.

Concern about the Terrestrial Invertebrate Management Plan condition

20. Dr Martin expressed concerns around the condition proposed for the Terrestrial Invertebrate Management Plan. I consider his concerns are addressed by the condition now proposed, as well as the updated assessment of habitat value of divaricate *Coprosma* shrubland for terrestrial invertebrates.

Bats[10]

21. I do not understand there to be any disagreement between Dr Martin and I in respect of bats. I consider the proposed Bat Management Plan (Condition 15) is adequate to address the matters raised by Dr Martin. As

[8] Evidence of Dr Martin at paragraph 7.14
[9] Evidence of Dr Martin at paragraph 7.21.
[10] Refer paragraph 7.25 of Dr Martin's evidence.

outlined in my EIC the final round of bat surveys is occurring currently which will be used to inform the Bat Management Plan.

Adequacy of proposed measures to address effects

22. Dr Martin[11] identifies the potential for a residual effect regarding the loss of shrubland habitats for terrestrial invertebrates and herpetofauna.

23. In the case of herpetofauna (which do not have specific host-plant requirements) I consider that most[12] of the proposed plantings would, in time, provide suitable habitat for the lizard species present within the Project area. As such the maintenance of a successional shrubland type habitat[13] is not critical in replacing the herpetofauna habitat lost.

24. For invertebrates, where there may be taxa present that rely on a single plant species or group of plant species as a host, the proposed Terrestrial Invertebrates Management Plan condition requires "*detailed measures to create and/or restore habitats for populations of 'at risk' or 'threatened' taxa impacted by the Project*". That requirement directly addresses the need to apply taxa/host plant specific habitat creation or restoration and consideration of potential issues.

25. I have also expressed the importance of retirement and restoration of existing habitats for fauna in my EIC, and there is significant scope in the area for this to occur. I note that in regard to successional communities (such as the divaricating *Coprosma* shrubland), these naturally in time evolve through to forest and are "lost" to mature ecosystems (at least in the quantity they are in disturbed landscapes). Such natural change must not be viewed as a failing in the context of measures to address ecological effects. It is important to recognise the benefits that this aspect of the positive effects package will bring (the package is not restricted solely to planting).

Andrew Russell Blayney

25 March 2019

[11] Evidence of Dr Martin in paragraph 10.34
[12] With the exception of wetland planting for arboreal lizard species.
[13] At-risk lizard species present in the Project area that occur in scrubland also occur in forest.