SUMMARY STATEMENT OF LEIGH BULL (COASTAL AVIFAUNA)

1. My name is Leigh Sandra Bull.

2. I am a Senior Ecologist and Director of BlueGreen Ecology Ltd. I hold the qualifications of Bachelor of Science (Zoology), Masters of Science with Honours (Ecology) and PhD (Ecology) from Victoria University of Wellington.

3. I attended the avifauna and planning expert conferencing (20 September 2023) and was a party to the resulting joint witness statement (JWS).

4. This statement of evidence relates to the topic of coastal avifauna ecology.

Executive Summary

5. Desktop research and targeted field surveys were used to gather information to inform the coastal avifauna assessment for Northport's proposed reclamation.

6. Coastal avifauna surveys conducted from One Tree Point to the Channel Infrastructure jetty recorded a total of 21 species utilising the area, including five species classified as *Threatened* and 12 classified as *At Risk*.

7. The assessment of effects on coastal avifauna was prepared using the following:

   (a) Site specific data collected over multiple tides, seasons, and years to account for temporal variability in species assemblage, abundance, and behaviours.

   (b) The Environmental Institute of Australia and New Zealand's (EIANZ) Ecological Impact Assessment Guidelines for New Zealand. These guidelines were developed to provide an objective and transparent framework for assessing potential effects based on the threat status of the species (ecological value) and the severity of potential effects (magnitude of effect).

   (c) A determination of the magnitude of effect at scale of the wider Whangarei Harbour; that being the coastline and harbour waters to the west of a line drawn from Busby Head in the north to Ruakaka Estuary in the south. This scale was deemed appropriate based on the habitat types within that area, and the way the species being assessed use those habitats. This was also consistent with the

"system-wide approach" required by Policy D.2.18(5) of the proposed Northland Regional Plan.

8. The potential construction and operational effects that were assessed included permanent habitat loss, mortalities, disturbance and displacement (forms of habitat loss), impacts on food supply and foraging ability, artificial lighting, pollution and cumulative effects.

9. The potential overall effects of the construction and operation of the proposed eastern reclamation was determined to be Low to Very Low (a summary of the level of effect for each species is provided in Appendix 2 of my evidence in chief), taking account of the management and mitigation measures proposed:

   (a) The provision and ongoing maintenance of additional high tide roosting habitat, such as the re-creation of a historic sandbank to function as a high tide roost on the western side of Northport prior to construction commencing;

   (b) Preparation and implementation of an Avifauna section within the projects Construction and Environmental Management Plan (CEMP) that outlines measures to avoid direct impacts (mortalities) of construction on variable oystercatcher and little penguin / kororā;

   (c) The implementation of some form of underwater noise mitigation for all piling activities using hydraulic impact hammer such that a safe underwater passage is maintained for kororā traversing in and out of the harbour; and

   (d) Operational lighting to be hooded and orientated downwards to avoid attraction and potential mortalities of seabirds on the Project site.

10. I note that while not changing the level of effect identified, several updates to these above listed measures are proposed following points raised in submitter evidence and discussed during expert conferencing:

   (a) The term of the maintenance of the proposed high tide roost should be for the duration of the eastern reclamation, not just limited to the 35 years duration of consent.

   (b) The CEMP should outline measures to avoid direct impacts (mortalities) of construction on all Threatened and At Risk avifauna species, not just variable oystercatcher and kororā;

(c) The potential construction of the high tide roost using an alternative material, provided it achieves the intended outcome of providing a safe high tide roost for coastal avifauna

Issues Raised During Expert Conferencing and Rebuttal

11. The issues recorded in the Avifauna and Planning JWS were in relation to the level of impact and the high tide roost. However, as noted in the JWS, there was insufficient time during the expert conferencing session to complete the record of the wide-ranging discussion. There was also insufficient time to review the relevant proposed conditions.

12. As such, I prepared rebuttal evidence in order to address the following matters that were not covered in the JWS, including:

(a) Assessment data and method – As I understand it, the two key issues raised by Dr Beauchamp and Mr West were in relation to:

(i) the data used; and

(ii) the scale of assessment for variable oystercatcher and New Zealand dotterel.

For the reasons outlined in paragraphs 10 to 16 of my rebuttal evidence, I remain of the opinion that my assessment is sound on the basis of the field and desktop data used, method of assessment (i.e. EIANZ (2018) best practice guidelines) and harbour-wide scale to determine magnitude of effect.

(b) High tide roost creation – Disagreement between some of the experts related to:

(i) My interpretation of the high tide roost as an avoidance measure;

(ii) The proposed location of the high tide roost;

(iii) The effects on species foraging at that location, including lesser knot.

For the reasons outlined in paragraphs 17 to 22 of my rebuttal evidence, I remain of the opinion that the creation of the high tide roost can achieve an avoidance measure, and that the proposed location is appropriate based on the distance from impact and shoreline, and the relative value of the habitat beneath the footprint.

(c) Maintenance dredging - The potential effect of this activity on food supply and foraging was not explicitly covered in the assessment. However, based on the very minor difference in the extent of the existing vs proposed areas of dredging, I did

not foresee any additional effects that may arise from the maintenance dredging than currently exists.

(d) Compounding effects – Ms Webb is of the view that my assessment did not identify or assess the compounding effects on foraging habitat within Marsden Bay. I believe I have considered the potential effects identified by Miss Webb, but as explained in my rebuttal evidence (paragraphs 26 to 31), I don't consider them to be compounding.

(e) Cumulative Effects - Ms Webb is of the opinion that the RMA definition of cumulative effects includes all other activities that affect shorebird populations, and that these extend beyond present and foreseeable consented projects. On this point we remain in disagreement, and my interpretation and assessment of cumulative effects on coastal avifauna for the project are as outlined in my EIC.

Leigh Sandra Bull
BlueGreen Ecology Ltd

9 October 2023