BEFORE THE WHANGAREI DISTRICT COUNCIL AND NORTHLAND REGIONAL COUNCIL

IN THE MATTER	of the Resource Management Act 1991
AND	
IN THE MATTER	of a resource consent application by Northport Limited under section 88 of the Resource Management 1991 for a port expansion project at Marsden Point
APPLICATION NO.	APP.005055.38.01 LU 2200107

REBUTTAL STATEMENT OF EVIDENCE OF SHANE KELLY

(MARINE ECOLOGY)

3 October 2023

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INTRODUCTION

SCOPE OF EVIDENCE

1. My name is Shane Kelly. My qualifications and experience as a planning expert are set out at paragraphs 2 - 5 of my evidence in chief (EIC).

2. I repeat the confirmation given at paragraph 7 of my EIC that I have read the Code of Conduct for Expert Witnesses and agree to comply with it.

3. I have already provided comment on certain submissions, and on Dr Lohrer's review of the assessment of ecological effects[1] in my EIC. I do not repeat that here, but do refer the Panel to specific sections, as appropriate. In this statement I:

   (a) address additional ecological matters raised in the evidence of Dr Richard Bulmer and Mr Simon West;

   (b) address remaining matters of disagreement among the ecological experts as identified in the Joint Witness Statement (JWS) of the ecological and planning experts, carried out between 19 and 25 September 2023.

REBUTTAL OF EVIDENCE

Richard Bulmer

4. In summary, Dr Bulmer raises the following key matters in his evidence:

   (a) He considered the appropriate system scale for the assessment of impacts on kai moana shellfish to be the Outer Harbour Entrance Zone (OHEZ), and the magnitude of effect at that scale to be moderate (c.f. the ecological assessment which ranked effects low at the harbour scale). The reason provided for Dr Bulmer's conclusion was the potential for dredging and reclamation to affect ecological connectivity between the outer harbour, and other parts of harbour, and the potential for cumulative effects[2&3].

   (b) He believes that cumulative effects have not been adequately addressed: agreeing with Dr Lohrer's conclusions on this matter, and highlighting connectivity, sedimentation and sea level rise as matters of relevance.

[1] Appendix C3 of the S42a Staff Report.
[2] Evidence of Richard Bulmer, para 3.2 (a).
[3] Evidence of Richard Bulmer, para 5.3 (a).

5. I disagree with Dr Bulmer on those matters. In my opinion, Dr Bulmer has not adequately considered:

(a) the existing environment,

(b) the temporary nature of capital dredging,

(c) the management approach proposed for limiting effects through consent conditions, or

(d) the detailed assessments, evidence and information that have informed our assessment and my evidence.

6. I also consider his evidence to be highly speculative. As one example, in relation to cumulative effects he speculates about how the relative ecological values around the port would change based on conjecture about an envisaged, future environment.

> *"Further, it is likely that ecological communities both within and outside of the proposed consent area will continue to decline over the next 30 years+ due to cumulative impact of multiple stressors, including sedimentation and sea level rise. There are likely to be spatial variability in the response of ecological communities to these cumulative stressors. For example, communities that are living nearer to mud tolerance thresholds may decline before communities nearer to the mouth. This would mean that the relative importance of ecological communities within the proposed consent area increases through time."*[4]

7. In relation to effects on kai moana shellfish, arising from the proposed activities disrupting ecological connectivity, I refer the panel to my response to similar concerns raised by Dr Lohrer.[5] I also note:

(a) Ecological patterns in the existing environment already include marked differences in taxa diversity and counts of macroinvertebrate taxa on western and eastern sides of existing Northport structures. This strongly suggests that ecological connectivity is already impeded.[6] I see little potential for the proposed and already consented reclamations to exacerbate that present situation. Rather, in my opinion, it seems more likely that the proposed and already consented

[4] Richard Bulmer EIC, para. 6.2.
[5] Shane Kelly EIC, para. 87 – 100 and 142.
[6] Shane Kelly EIC, fig. 2.

reclamations could slightly improve connectivity compared to the existing situation,[7] by reducing the size of the eddy on the eastern side of the port.[8]

(b) Northport already has consent to dredge the area concerned (noting a slight variation in the dredging footprint).

(c) The evidence of Dr Beamsley, who provides figures showing predicted changes to currents, concludes that the proposed layouts will only have a minor effect on the current field. This suggests that the proposed and already consented activities will have little effect on the dispersal of planktonic or juvenile phases of kai moana species beyond those associated with eddies on the eastern side of the reclamations, as discussed above.

(d) The evidence of Ms. Stanway indicates that the proposed capital dredging will only take around 12 months to complete.

(e) Modelling results presented in Figures 58 and 59 (pages 101-102) of the ecological assessment report, predict for the scenario modelled (TSHD dredging at site 1a), that the areas affected by very high total suspended solids (TSS) concentrations will be localised to the immediate vicinity of the dredge, with concentrations rapidly diminishing away from the dredge to $\leq$ 20 mg/l for around 70% to 90% of the time beyond the dredging area. In my opinion, it is unlikely that such plumes would create a barrier to planktonic dispersal, and even if they did, the effects would be temporary.

(f) I also note that Whāngārei Harbour has a long history of harbour dredging (summarised in s4.2 of the ecological assessment). I am not aware of any scientific evidence indicating it has disrupted ecological connectivity.

8. In terms of the potential for the proposed activities to compound the broader effects of climate change I simply note that climate change is a matter that will have far reaching global, national and local consequences (Intergovernmental Panel on Climate Change, 2023). Examples, recent national events linked to climate change have included:

(a) Marine warming and heat waves with effects on the viability of salmon aquaculture in Marlborough Sounds, sponge die-offs (Bell et al., 2023), and a southward shift in the extents of large macroalgae (Tait et al., 2021).

[7] Shane Kelly EIC, fig. 4.
[8] Brett Beamsley EIC, figs. 3 to 6.

(b) Extreme weather events leading to unprecedented sediment and contaminant run-off and discharges in many parts of New Zealand (not to mention forestry slash), the effects of which are yet to be determined.

(c) A mass mortality event linked to nutrient runoff during heavy rain, high sea temperatures, and calm sea conditions in Hawkes Bay (Shanahan, 2023).

9. More broadly, available information shows that effects of climate change are already significant and that they will continue to increase (Intergovernmental Panel on Climate Change, 2023). Against that background, any cumulative effects of the proposed port development will be negligible.

Simon West

10. Mr West provided evidence that touched on both marine ecology and avifauna effects. Key matters raised in relation to marine ecology included:

(a) Concerns about effects on seagrass in relation to requirements for protecting indigenous biological diversity under s11(a) of the New Zealand Coastal Policy Statement. On that matter I note that seagrass is classified as a "Non-endemic" species under the New Zealand Threat Classification system,[9] and therefore s11(a) does not apply.

(b) The lack of a specific assessment of what biota are going to be permanently buried and lost beneath the proposed bird roost footprint. On this matter, I consider that sufficient data was collected during the intertidal survey of Marsden Bay[10] to characterise the community within the footprint of the proposed bird roost.

(c) Mr West also sought:

i. Additional conditions linking the ecological assurance monitoring to a management response.

This was addressed through conferencing and the subsequent provision of proposed conditions 173 and 174, which I understand are to be attached to the rebuttal evidence of Mr Hood. Those conditions require the final ecological assurance monitoring report to assess whether the observed ecological effects of dredging are within the bounds of those anticipated in the marine ecological assessment report that was lodged with the application. If the observed effects exceed anticipated effects, then

[9] NZTCS.
[10] Section 5.4.2 of the Ecological Assessment (Appendix C3 of the S42a Staff Report).

Northport will be required to engage a suitably qualified and experienced person to assess whether benthic habitats and communities are recovering, but at a slower rate than anticipated. If they are recovering at a slower rate, then the likely timeframes for residual effects to resolve will need to be provided, along with recommendations on additional monitoring to track that recovery. If recovery is not occurring, then the reasons for the lack of recovery will need to be assessed, and options for remedying or mitigating that situation have to be developed, certified by Council, and implemented by Northport.

ii. Additional conditions requiring the assessment of changes in benthic biota as a result of the proposed bird roost.

I note that proposed conditions for the intertidal ecological assurance monitoring will provide for that (i.e. conditions 168, 169, 171, 172). I do not consider that any further amendments or additions are required.

Joint Witness Statement

11. There was a large degree of agreement among the marine ecological experts, with the only outstanding matters of disagreement being.

(a) Drs Lohrer and Bulmer disagreed with Mr Sneddon and I, regarding the adequacy of the assessment of cumulative effects. I address the concerns raised in the evidence of Drs Lohrer and Bulmer in paragraphs 4 to 9 above, and in Paragraphs 143 to 153 of my EIC.

(b) A difference in opinion about the appropriate scale to use for assessing intertidal effects, but the consequences of that difference were considered to be relatively small.

(c) Mr West had concerns about the bird roost. Related matters raised in his evidence are addressed in paragraph 10 above.

(d) Dr Lohrer and Mr West sought changes to some conditions. These were addressed through discussions that continued after the finalisation of the marine ecology JWS, leading to an amendment to proposed condition 170 and new conditions 173 and 174.

Shane Kelly
Coast and Catchment Ltd
3 October 2023

REFERENCES

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