

**Before the Hearing Commissioners appointed by Hawke's Bay  
Regional Council**

**In the matter** of the Resource Management Act 1991  
**(the Act)**

**And in the matter** of applications APP-123534, APP-123548, APP-123526, APP-123550, APP-123535 & APP-123536 by the Regional Assets Section, Hawke's Bay Regional Council to remove gravel and undertake other earthworks at various locations along the Ngaruroro River, Tukituki Catchment Rivers and Tutaekuri River to the coast

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**Statement of evidence of Adam Sean Forbes**

**5 November 2021**

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## INTRODUCTION

### Qualifications and experience

- 1 My full name is Dr Adam Sean Forbes.
- 2 I am the founder and Principal Ecologist at Forbes Ecology Limited.
- 3 I hold a PhD in Forestry (University of Canterbury; 2015), a Master of Science in Ecology and Conservation (Auckland University; 2010), and a Bachelor's degree in Applied Science (Massey University; 2003).
- 4 I have worked as an Ecological Consultant and Researcher since 2004 (17 years' experience). The first eight years of my consulting career were with MWH New Zealand Limited (now Stantec). In 2012 I established the consultancy, Forbes Ecology Limited.
- 5 Over the last 12 years I have assisted the Asset Management Group at Hawke's Bay Regional Council (Council or HBRC) with advice on appropriate ecological management of the braided rivers of Hawke's Bay.
- 6 My work on the ecological management of braided rivers commenced in 2009 when I led a multidisciplinary team of specialist Ecologists in a project to delineate the ecological values of the Ngaruroro River, from Whanawhana to the sea, and to prepare an Ecological Management and Enhancement Plan (Ngaruroro EMEP; Forbes, 2011)<sup>1</sup> addressing the impacts of HBRC's flood control activities on the river. In 2017 I revised the 2011 Ngaruroro EMEP<sup>2</sup> with learnings and new information obtained over the preceding period.

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<sup>1</sup> Forbes, A. (2011). Ngaruroro River Flood Protection and Drainage Scheme Ecological Management and Enhancement Plan. Prepared for Hawke's Bay Regional Council. Hastings: MWH New Zealand Limited.

<sup>2</sup> Forbes, A. (2017). Ngaruroro River Ecological Management and Enhancement Plan [Report No. AM 17-06; HBRC Plan No. 4926].

- 7 In subsequent years I was involved with preparation of EMEPs for both the Tutaekuri<sup>3</sup> and Tukituki Rivers.<sup>4</sup> I have since been involved with implementation of aspects of the EMEPs, including leading seasonal riverbed bird surveys to ensure Council's riverbed management activities avoid impacts to breeding riverbed birds.
- 8 In 2017 I prepared a terrestrial ecology impact assessment<sup>5</sup> in relation to the HBRC gravel review. This 2017 assessment is the focus of my statement of evidence.

### **Expert witness Code of Conduct**

- 9 I have been provided with a copy of the Code of Conduct for Expert Witnesses contained in the Environment Court's Practice Note dated 1 December 2014. I have read and agreed to comply with that Code. This evidence is within my area of expertise, except where I state that I am relying upon the specified evidence of another person. I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.

### **PURPOSE AND SCOPE OF EVIDENCE**

- 10 The purpose of this evidence is to confirm my original assessment in respect of the actual or potential effects on river bird arising from the proposal.
- 11 I will also comment briefly on the s.42A Officer's Report and respond to matters raised in submissions.

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<sup>3</sup>Forbes, A., & Whitesell, P. (2015). Tutaekuri River Ecological Management and Enhancement Plan [Report No. AM 15-13; HBRC Plan No. 4748].

<sup>4</sup>Forbes, A. (2017a). Tukituki Catchment Rivers Ecological Management and Enhancement Plan [Report No. AM 17-05 HBRC Plan No. 4925].

<sup>5</sup>Forbes, A. (2017b). Gravel Review: Terrestrial Ecology Impact Assessment. Havelock North: Forbes Ecology Limited.

**TECHNICAL REPORT – SUMMARY OF CONCLUSIONS**

- 12 My report (Forbes 2017b) is at Appendix E of the applications lodged with the Hawke's Bay Regional Council for resource consent to extract gravel from the beds of the Tukituki, Tutaekuri and Ngaruroro Rivers.
- 13 Reach-scale river bird habitat scores ranged from Very High (lower Tukituki) to Moderate ecological value (see Forbes 2017b, Table 5, page 16). The ecological values of regionally and nationally threatened river birds occupying habitats within the scheme area range from Very High to Moderate-High (see Forbes 2017b, Table 6, page 17).
- 14 Before effects management measures are applied, gravel extraction would result in loss or alteration of one or more key elements/features of the existing baseline conditions, such that the post-development character, composition and/or attributes will be partially changed; AND/OR, loss of a moderate proportion of the known population or range of the element/feature.
- 15 These changes in river bird community from baseline conditions would result from direct disturbance of river bird breeding where gravel extraction proceeded without measures to identify and avoid river bird nesting. The magnitude of effect would be Moderate/Medium (Forbes, 2017).
- 16 Without effects management measures, a Moderate/Medium magnitude of effect to ecological values of Very High to Moderate levels would result in levels of effect of Very High to Low (Forbes, 2017b; Table 8, page 26). As such, effects management measures are required to reduce the potential level of adverse effects to river birds.
- 17 The EMEPs for the Ngaruroro, Tutaekuri, and Tukituki Rivers constrain gravel extraction activities in a number of ways so as to avoid impacts to breeding river birds during their breeding season (Forbes, 2017). The key management measure which addresses potential adverse effects on river

birds is the requirement during their nesting season to conduct pre-extraction inspections by a suitably qualified and experienced ecologist to identify whether nesting is taking place in the area proposed for extraction. If this seasonal inspection identifies nesting activity the extraction activity is directed to an alternative location to avoid direct adverse effects on the nesting birds. Where extraction works cease for more than 10 days during the nesting season, an inspection is required before works can recommence. This management approach has proven to be practical and to my knowledge has been implemented by the Council for a number of years now.

- 18 With the EMEP gravel extraction provisions in place, the magnitude of effect to river birds is reduced to Negligible, resulting in Low to Very Low levels of effect from gravel extraction to river bird values.
- 19 It should be noted that with correct management (i.e., EMEP implementation), and in combination with beach raking, gravel extraction activities have a positive effect on river bird habitats by addressing weed encroachment, thereby maintaining open breeding habitat for river birds (Forbes, 2017).

#### **RESPONSE TO MATTERS RAISED IN THE SECTION 42A REPORT**

- 20 I have reviewed the Council's Section 42A report. Matters relating to avian ecology are addressed primarily under Section 2.2, pages 9-11. The Reporting Officer accepts as appropriate the conclusions of my technical report and concludes that the actual and potential adverse effects on birds are no more than minor.
- 21 Subject to the Applicant implementing the EMEP's, I agree with that assessment.

## RESPONSE TO MATTERS RAISED IN SUBMISSIONS

- 22 I note that Winstone Aggregates has raised a question in their submission on bird nesting at Roy's Hill Quarry (summarised at p.52 of the Section 42A report) and how this may impact their current year-round operations. The Applicant's response to that submission point (also at p.52 of the Section 42A report) notes that the Roy's Hill extraction area is not a critical area for bird nesting and that the annual survey carried out by HBRC will identify if that situation changes, with appropriate actions then taken.
- 23 I agree with the response provided by the Applicant, and consider that this reflects how the EMEP's should work in practice to ensure that any adverse effects on birds are avoided.
- 24 No other matters were raised in submissions relating to my area of expertise.

## CONCLUSIONS AND RECOMMENDATIONS

- 25 The reaches of the Ngaruroro, Tutaekuri, and Tukituki Rivers on which gravel extraction occurs hold Moderate to Very High ecological values for river birds. Management is required to reduce the level of effect to river birds which would result from unconstrained gravel extraction.
- 26 Gravel extraction is undertaken in accordance with the provisions of the Ngaruroro, Tutaekuri, and Tukituki EMEPs which provide a management structure resulting Low to Very Low levels of adverse effect to the river bird community.



**Dr Adam Forbes**  
5 November 2021