

**BEFORE INDEPENDENT HEARING COMMISSIONERS
APPOINTED BY THAMES COROMANDEL DISTRICT COUNCIL**

IN THE MATTER of the Resource Management Act 1991

AND

IN THE MATTER of the hearing of submissions to Variation 3 to the
Proposed Thames Coromandel District Plan
(Taiwawe Catchment Structure Plan)

**STATEMENT OF EVIDENCE OF
NICHOLAS PAUL GOLDWATER
ON BEHALF OF HOT WATER BEACH (NZ) LIMITED**

Dated 1 March 2021

Qualifications and Experience

1. My full name is Nicholas Paul Goldwater.
2. I am a Principal Ecologist with Wildland Consultants Ltd based in Auckland. I have been employed as a consultant ecologist with Wildland Consultants since 2008.
3. I have a Master of Science (First Class Honours) in ecology and environmental science from the University of Auckland, and have more than 13 years' experience in ecological consultancy. In my role as Principal Ecologist, I undertake field assessments, provide technical advice and services, and manage projects for a range of clients. I have undertaken numerous terrestrial and aquatic assessments in the Auckland, Northland, Waikato, and Wellington regions.
4. I have considerable experience with consents relating to vegetation removal and ecological restoration, including quarrying activities, subdivisions, and infrastructure projects, all involving the assessment of ecological effects under the Resource Management Act 1991 (RMA). I have assisted councils with numerous projects that include baseline biodiversity surveys, consent reviews, preparation of Ecological Management Plans, and surveys of vegetation and habitats, threatened plants, indigenous fish, birds, and reptiles.
5. I have mapped and assessed numerous Significant Natural Areas (SNAs), or Significant Ecological Areas (SEAs) as they are known in Auckland. I have carried out extensive desktop studies of SNAs in the Otorohanga District, helping to compile a database of over 1,000 sites for Waikato Regional Council. Prior to the Auckland Unitary Plan becoming operative, I was involved in the rapid field survey of potential SEAs for Auckland Council, and subsequently I undertook numerous site assessments in order to ground-truth SEA boundaries disputed by landowners.
6. I am very familiar with the vegetation types and ecological processes in the eastern Coromandel Peninsula. I have undertaken ecological projects in Whangamatā and Tairua, and I am currently the trustee of a community-led conservation trust at Ferry Landing (close to Whitianga). I have been visiting the area for about 40 years.

Code of Conduct

7. I confirm that I have read the Code of Conduct for Expert Witnesses contained in the Environment Court Practice Note 2014 and confirm that I have complied with it in preparing this evidence. I confirm that the issues addressed in this evidence are within my area of expertise, except where I have indicated that I am relying on others opinions. I have not omitted material facts known to me that might alter or detract from my evidence.

Background and scope of evidence

8. I visited the subject site on 3-4 October 2018 in order to map and assess all terrestrial and aquatic habitats at the site. The site visit included a night time spotlighting survey for indigenous fish. Targeted surveys for other fauna such as lizards, bats, and cryptic birds were not in the scope of my assessment, given that very little vegetation is proposed for removal. However, baseline fauna surveys will take place prior to the commencement of any earthworks and/or vegetation removal. I return to this issue below.
9. I have prepared one report regarding the application: Ecological Assessment of a Proposed Structure Plan for 790c Hot Water Beach Road, Hot Water Beach (Wildland Consultants 2019, Attachment A). I have also responded to submissions prepared by Waikato Regional Council and other parties.
10. In preparing my evidence, I have relied on the following documents:
 - Proposed Taiwawe Catchment Structure Plan (Variation 3) and attachments (Version 11, as produced by Mr Lawrence), including Diagram A
 - Council officer's final report (s42a)
 - Significant Natural Areas of the Thames-Coromandel District: Terrestrial and Wetland Ecosystems. Prepared by Kessels Associates (2010).
11. The scope of my evidence focuses on the following issues raised in the s42a report, including:
 - lack of mapping and assessment of Significant Natural Areas (SNAs) within and adjacent to the subject site¹;
 - targeted surveys for fauna species, including Coromandel brown kiwi²;
 - adverse effects on threatened fauna species³;
 - ecological effects resulting from land use activities other than residential dwellings, e.g., farming⁴;
 - lack of details in the ecological provisions of the Structure Plan⁵.
12. For the purposes of my evidence, I adopt Attachment A.

¹ Paragraphs 19, 130, 145, 181, 215 and 289 of the s42a report.

² Paragraphs 112 and 178 of the s42a report.

³ Paragraph 299 of the s42a report.

⁴ Paragraph 188 of the s42a report.

⁵ Paragraphs 63, 74, 106(h) 145, and 299 of the s42a report.

Significant Natural Areas and assessment of significance

13. The s42a report mentions that the Wildlands report prepared in 2019 did not map Significant Natural Areas and “*only offers a general description of existing flora features (with some incomplete reference to fauna)*”.
14. I do not agree with this statement regarding the flora and fauna features at the site, and I address the issue of SNA mapping below. During my survey, I inspected all vegetation at the site over two days, and I have provided detailed descriptions of terrestrial and aquatic habitats in Section 4 of the Ecological Assessment (refer to Attachment A), which are supported by a vegetation map and photographs. I also compiled a comprehensive list of vascular plants together with a list of all fauna species observed during the survey. I assessed all vegetation types for their potential to support threatened species such as geckos, bats, and cryptic wetland birds.
15. Paragraph 40 of the s42a report cites Section 29.1 of the Thames-Coromandel District Plan as follows:

‘Where subdivision, use or development is proposed...the SNA report will be referenced to determine if the indigenous vegetation is potentially significant then ‘ground-truthing’ by a suitably qualified ecologist will be required in accordance with Waikato Regional Policy Statement (WRPS) criteria to determine the area’s ecological significance.’
16. During my visit to the site, I undertook two days of ground-truthing, which involved mapping and describing vegetation types, assessing ecological values and threats, and recording species lists for plants and animals. As part of my reporting, I assessed the existing habitats at the site against the criteria in the WRPS (as discussed in paragraphs 19 to 23 below).
17. Parts of two SNAs occur on the subject property: SNA TC363 (Taiwawe Forest Fragments) and SNA TC364 (Hot Water Beach Bush). These SNAs encompass most of the indigenous vegetation at the site, and are mapped in **Appendix A** of my statement of evidence. Five other SNAs occur in close proximity to the site: SNA TC334 (TCDC Recreation Reserve Duneland), SNA TC335 (TCDC Recreation Reserve Coastal Forest), SNA TC362 (Hot Water Beach Covenants), SNA TC365 (TCDC Covenant), and SNA TC365a (Taiwawe Outliers).
18. The descriptions for SNAs TC363 and TC364 from the Kessels (2010) report are summarised below, together with the significance criteria they meet – or are likely to meet – as per the WRPS. It is noted that the Kessels report was largely a desktop exercise, involving a literature review, aerial photography, datasets, and key legal boundaries. Approximately ten percent of the SNAs were randomly selected and ground-truthed to confirm that the assessment, in terms of SNA boundary and assessment of ranking and management issues were correct.⁶ The mapped SNA areas in my Appendix A are based on this this confirmation.

⁶ Page 8, Section 3.1 of the Kessels (2010) report.

SNA TC363 (Taiwawe Forest Fragments)

'Secondary coastal forest providing stepping stone habitat for mobile wildlife between the surrounding natural features, in particular kiwi'. Assessed as being 'Locally' significant; known to meet RPS Criterion 11 (provides buffer to other SNA(s) and linkages/corridors) and is likely to meet Criterion 3 (supports threatened species and/or species endemic to Waikato Region).

SNA TC364 (Hot Water Beach Bush)

'Regenerating forest in the coastal zone, including two streams to their headwaters. Mature forest is under-represented in the Tairua Ecological District. Several kiwi are present'. Assessed as being 'Nationally' significant; known to meet RPS Criterion 11 (provides buffer to other SNA(s) and linkages/corridors) and Criterion 3 (supports threatened species and/or species endemic to Waikato Region), and is likely to meet Criterion 8 (supports waterbodies that are critical to the self-sustainability of an indigenous species within a catchment of the Waikato region, or within the coastal marine area).

19. After ground-truthing the subject site, I assessed the vegetation and habitats within the aforementioned SNAs as meeting Criteria 3, 4, 6 and 10, and likely to meet Criterion 8. The justification for each criterion is presented in Table 1 below.

Table 1: Significance assessment of indigenous vegetation and habitats at 790c Hot Water Road.

Criteria	Assessment	Justification
Previously Assessed Site		
1.	No	All forest will be protected in the future.
Ecological Values		
2A	N/A	
3.	Yes	At Risk fish and reptile species are almost certain to occur at the site given its size, quality of habitat and connectivity to large forest tracts and waterways.
4.	Yes	The site features an area of mānuka-swamp millet wetland.

Criteria	Assessment	Justification
5. extent remaining) in an Ecological District, or Ecological Region, or nationally. It is indigenous vegetation or habitat that is, and prior to human settlement was, nationally uncommon such as geothermal, Chenier plain, or karst ecosystems, hydrothermal vents or cold seeps.	No	
6. It is wetland habitat for indigenous plant communities and/or indigenous fauna communities (excluding exotic rush/pasture communities) that has not been created and subsequently maintained for or in connection with: <ul style="list-style-type: none"> • waste treatment; • wastewater renovation; • hydro-electric power lakes (excluding Lake Taupō); • water storage for irrigation; or • water supply storage; unless in those instances they meet the criteria in Whaley <i>et al.</i> (1995).	Yes	The site features indigenous wetland habitats of natural origin.
7. It is an area of indigenous vegetation or naturally occurring habitat that is large relative to other examples in the Waikato region of similar habitat types, and which contains all or almost all indigenous species typical of that habitat type. Note this criterion is not intended to select the largest example only in the Waikato region of any habitat type.	No	
8. It is aquatic habitat (excluding artificial water bodies, except for those created for the maintenance and enhancement of biodiversity or as mitigation as part of a consented activity) that is within a stream, river, lake, groundwater system, wetland, intertidal mudflat or estuary, or any other part of the coastal marine area and their margins, that is critical to the self-sustainability of an indigenous species within a catchment of the Waikato region, or within the coastal marine area. In this context “critical” means essential for a specific component of the life cycle and includes breeding and spawning grounds, juvenile nursery areas, important feeding areas and migratory and dispersal pathways of an indigenous species. This includes areas that maintain connectivity between habitats.	Likely	The site forms an important part of the Taiwawe Stream catchment. Streams in the catchment act as migration pathways for diadromous fish species between the harbour and freshwater habitats upstream (particularly for banded kōkopu, Tnanga, and eels).
9. It is an area of indigenous vegetation or habitat that is a healthy and representative example of its type because: <ul style="list-style-type: none"> • its structure, composition, and ecological processes are largely intact; and • if protected from the adverse effects of plant and animal pests and of adjacent land and water use (e.g., stock, discharges, erosion, sediment disturbance), can maintain its ecological sustainability over time. 	No	This criterion will be met once stock are excluded and pest plant and animal control are implemented.
10. It is an area of indigenous vegetation or habitat that forms part of an ecological sequence , that is either not common in the Waikato region or an ecological district, or is an exceptional, representative example of its type.	Yes	The site also contains a representative example of an ecological sequence: mānuka -dominant wetland grading into kānuka forest. Such

Criteria		Assessment	Justification
			sequences are nationally uncommon ecosystem types.
Role in Protecting Ecologically Significant Area			
11.	It is an area of indigenous vegetation or habitat for indigenous species (which habitat is either naturally occurring or has been established as a mitigation measure) that forms, either on its own or in combination with other similar areas, an ecological buffer, linkage or corridor and which is necessary to protect any site identified as significant under Criteria 1-10 from external adverse effects.	No	

20. During the survey in October 2018, I identified and mapped three wetlands at the site (see Figure 1 in the Ecological Assessment), two of which are protected from stock and are relatively intact. The presence of these wetlands means the site meets Criteria 4 and 6 of the WRPS. These wetlands are not mentioned in the SNA report by Kessels (2010), given that the subject site was not likely to have been previously ground-truthed.

21. I did not originally assess the site as meeting Criterion 11 of the WRPS. However, after consulting with submitters regarding the presence of Coromandel brown kiwi in the catchment, I agree that remnants of regenerating forest and scrub at the site may provide important stepping stone habitat for kiwi and other mobile fauna species such as kererū and North Island kākā. As I understand it, the successful control of mammalian predators in the Whenuakite Kiwi Care Group block (approximately five kilometres to the southwest of the site) has led to a marked increase in the number of kiwi chicks being fledged, which in turn has resulted in the dispersal of juvenile birds in search of new territory (Adele Smaill, pers. comms.)⁷. There are anecdotal reports of kiwi frequently calling at night near the subject site (Adele Smaill, pers. comms.).

22. Overall, I consider that vegetation and habitats at the site are of 'local' significance. My rationale for this level of significance is as follows:

- the site is unlikely to be used on a regular basis by an indigenous species in the threat categories 'Nationally Critical', 'Nationally Endangered', or 'Nationally Vulnerable'.
- for a site to be Nationally Significant⁸, it needs to be important to the long-term viability of the species on a national basis.
- although low numbers of kiwi may be present at the site, to be Regionally Significant, the site needs to be important to the long-term viability of kiwi on a regional basis. There are known strongholds for kiwi elsewhere in the Coromandel, including the area managed by the Whenuakite Kiwi Care Group.

⁷ The use of 1080 combined with year-round trapping as Combined with year-round trapping, has resulted in an annual increase in kiwi numbers higher than anywhere else in New Zealand. <https://www.kiwisforkiwi.org/what-we-do/who-are-kiwis-for-kiwi/community-efforts/coromandel/whenuakite/>

⁸ Definitions of 'Nationally Significant', 'Regionally Significant', and 'Locally Significant' are provided in Section 3.2.2 of the Kessels (2010) SNA report.

23. It is also noted that the site only includes a very small fraction of the 'Nationally Significant' SNA TC364 (Hot Water Beach Bush), and that the more intact, mature, better quality forest is located on the adjacent property to the west.

Targeted surveys for fauna species

24. Given that there will be no loss of SNA vegetation at the site and only several free-standing trees are likely to be felled to facilitate the development, targeted surveys for fauna species, including threatened species, were not included in the scope of the ecological assessment. However, all habitats were assessed in terms of their suitability for supporting threatened species, including geckos, bats, and cryptic wetland birds.
25. As discussed in Section 7 of the Ecological Assessment, I have stated that the vegetation is "highly likely to support indigenous geckos and skinks" and that "large trees at the property, including pines, have the potential to support the 'Threatened-Nationally Critical' long-tailed bat". I have also stated that wetland habitats have the potential to support threatened wetland bird species such as fernbird and spotless crake, and that the streams have the potential to support threatened fish species such as longfin eel.
26. All bird species observed during the two-day field survey were recorded and a list is provided in Appendix 2 of the Ecological Assessment. My observations included North Island kākā, which is classified as 'At Risk – Recovering' by Robertson *et al.* (2017)⁹.
27. Desktop surveys have been undertaken for indigenous lizards and long-tailed bats¹⁰ using records held in databases administered by the Department of Conservation (Bioweb database for lizards and bat distribution database, 2 July 2020 version). There are no records of lizards or bats in the Hot Water Beach locality, although two threatened skink species have been recorded in the Cooks Beach-Front Beach locality, approximately ten kilometres to the north of the subject site¹¹.
28. There is one record of long-tailed bat activity approximately 18 kilometres to the west of the subject site, which is within the standard home range of this species. It is noted that the paucity of records for long-tailed bats is likely attributable to a lack of survey effort, and it is likely that this species may occur in or near the subject site¹².
29. As discussed in paragraph 21 of my evidence, it is possible that the subject site is used by Coromandel brown kiwi. This species has a threat status of 'At Risk – Declining' and it is estimated that there are 1,000 birds present on the Coromandel

⁹ Robertson H.A., Baird K., Dowding J.E., Elliott G.P., Hitchmough R.A., Miskelly C.M., McArthur N., O'Donnell C.F.J., Sagar P.M., Scofield R.P., Taylor G.A. 2017: Conservation status of New Zealand birds, 2016. New Zealand Threat Classification Series 19. Department of Conservation, Wellington. 23 p.

¹⁰ Long-tailed bat records were obtained on 8 October 2020.

¹¹ Section 6.3 of the Ecological Assessment (Attachment A).

¹² Refer to Section 6.4 of the Ecological Assessment (Attachment A).

Peninsula out of a national population of approximately 25,000 birds (2008 estimate)¹³.

30. During consultation with WRC officers, it was agreed that baseline surveys for threatened fauna species would be undertaken as a precautionary measure. This would include surveys for kiwi, bats, lizards, and cryptic wetland bird species.
31. The provision for undertaking the baseline fauna surveys is specified in Rule 1 (i) of the proposed Structure Plan and would be undertaken in accordance with the Ecological Management Plan.
32. As a precaution, the baseline survey for lizards should also include the proposed building platforms, given that some species of indigenous skinks inhabit rank grass. These surveys would only be required if the building footprints are not grazed by livestock.
33. If any protected indigenous species are detected in areas that may be directly impacted by earthworks or vegetation removal, specific management plans will need to be prepared and approved by the Department of Conservation or Waikato Regional Council prior to works commencing.

Adverse effects on threatened species and measures to mitigate effects

34. Paragraph 299 of the s42a report claims that the Ecological Assessment has not addressed effects on “key threatened species” and “makes only general suggestions of how those might be mitigated”. Notwithstanding the potential loss of bat roosting habitat through the removal of scattered pine trees, and acknowledging that vegetation within the SNAs will not be adversely impacted, the primary threats posed to threatened fauna species such as kiwi, geckos, and bats, are from the introduction of domestic cats and dogs (as described in Section 10.4 of the Ecological Assessment). Key excerpts from this section are provided below:
 - *‘Domestic cats are also predators of birds’ eggs, indigenous reptiles (predominantly skinks), frogs, bats, fish, and invertebrates (King 2005). The characteristics of many New Zealand fauna (large size, terrestrial foraging or breeding habitat, isolated in indigenous habitat fragments) makes many species vulnerable to cat predation (Jones 2008).’*
 - *‘Although domestic dogs pose less of a risk to indigenous fauna within forested habitats, uncontrolled dogs have the potential to disturb feeding birds and/or kill ground-nesting and burrowing birds. North Island brown kiwi (Apteryx mantelli) is present within the wider area (e.g., Whenuakite Block), and this species is particularly vulnerable to dog attacks.’*
35. Measures to address the protection of threatened species are described in Section 11.4 of the Ecological Assessment, including recommendations to ban cats from the subdivision and keep dogs under control. Rules have since been incorporated into the Taiwawe Catchment Structure Plan to provide for a ban on

¹³ <http://www.nzbirdsonline.org.nz/species/north-island-brown-kiwi>

cats and strict controls for dog ownership, including the requirement for dogs to undergo kiwi aversion training and keeping dogs in an enclosed run on each dwelling (Rule 1(j) and (k)). It is noted that the proposed sustained programme of pest animal control, together with the exclusion of stock, will benefit resident indigenous fauna at the subject site, and address existing risks to key threatened species, i.e., representing an improvement on the existing situation.

Effects of non-residential land use activities

36. Potential ecological effects of non-residential land use activities primarily relate to farming. Under Rule 5.1, intensive farming¹⁴ in the Taiwawe Structure Plan area is a non-complying activity. Under Rule 5.2, Livestock Farming is a permitted activity within any balance or residual land in the Taiwawe Structure Plan area, or otherwise within any area not yet approved for residential purposes in an approved scheme plan.
37. No farming will be permitted inside the Conservation Area. Stock will be excluded from all indigenous bush, including existing and planted vegetation, together with wetlands and streams. As such, there will be no adverse ecological effects resulting from livestock farming outside the Conservation Area.
38. Goat farming will not be permitted under Rule 5 of the Structure Plan, given the potential for goats to jump fences and damage indigenous habitats.
39. It is noted in Rule 4.1(a) that activities involving the placement or erection of temporary or new permanent buildings and structures, including infrastructure, must not be located within any Conservation Area shown on Diagram A, except for the existing barn and immediate surrounds to provide for conservation activities including workshop, storage of tools and equipment, vehicles, chemicals and fuel. As long as all chemicals and fuel are stored appropriately and not used near watercourses, there will be no adverse effects on indigenous biodiversity.

Ecological provisions of the Proposed Taiwawe Catchment Structure Plan

40. I have provided ongoing ecological input into the various iterations of the Proposed Taiwawe Catchment Structure Plan, in particular Rule 1. My recommendations for the protection of indigenous fauna and flora, including kiwi, have been built into the provisions of the Plan. In its current form, I am satisfied the Plan provides a set of robust and transparent rules that will protect and enhance the ecological features at the subject site.
41. Communications with WRC officers and certain submitters have underscored the importance of kiwi in the catchment. I agree that dogs and increased traffic are real threats to local kiwi and, as such, strict measures will need to be implemented to ensure kiwi and other vulnerable fauna species are protected. Such measures include:

¹⁴ Intensive Farming means a primary production activity which does not rely on the productive capacity of soil on site and is predominantly carried out in buildings, sheltered enclosures, structures or tanks. TCDC Plan, Part I, Definitions.

- the requirement for dog owners to put their animals through kiwi aversion training on an annual basis.
- exclude stock from Conservation Areas.
- keep dogs within a dog-proof fence on private dwellings.
- establishing go slow areas for vehicles and installing signage to inform visitors of the presence of kiwi.

42. Rule 1 m) provides a detailed scope for an Ecological Management Plan, which will guide activities such as planting, pest plant and animal control, stock exclusion, baseline and ongoing surveys for threatened fauna species and their continued management.

43. Provided it is appropriately implemented, the combination of planting, pest control, and stock exclusion, as specified in the proposed Ecological Management Plan, will markedly enhance the biodiversity values of the subject site. Over time the combination of conservation and landscape planting (c.13.6 hectares) will more than double the area of existing indigenous vegetation at the site. This will enhance connectivity between isolated remnants and larger tracts of adjacent indigenous forest. These linkages will benefit the movement of mobile fauna such as kiwi, whilst also providing additional habitat and food resources for a range of species. In addition, the exclusion of stock from watercourses and wetlands will improve the quality of water flowing into downstream receiving environments.

Conclusions

44. Important issues regarding ecology were raised in the s42a report, including the mapping and assessment of SNAs at the subject site, managing effects on threatened species, and lack of detail in the provisions of the proposed Taiwawe Catchment Structure Plan.

45. I have responded to each of these aspects in my statement of evidence. I am satisfied that the issues raised have been appropriately addressed in the revised wording of the Structure Plan and that my recommendations have been fully incorporated.

46. I am confident that the Ecological Management Plan will achieve long-term ecological functioning of indigenous biodiversity within the Conservation Area, in accordance with Rule 8 of the Proposed Thames-Coromandel District Plan (Section 38). An Incorporated Society that is legally obligated to fund and implement an ongoing programme to control pest plant and animal species, together with an ongoing programme of monitoring, is more likely to achieve positive ecological outcomes than would a number of disparate land owners occupying the same area.

Nick Goldwater

1 March 2021

APPENDIX A: MAP OF EXISTING SIGNIFICANT NATURAL AREAS WITHIN AND ADJACENT TO THE SUBJECT PROPERTY

