

Private Plan Change 84 - Mangawhai Hills Ecological Review

Contract Report No. 7150

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Contract Report No. 7150

March 2024

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1.0 Introduction

Kaipara District Council (**KDC**) has received an application for a Private Plan Change PPC84 (**PPC**) from Mangawhai Hills Limited in relation to a proposed rezoning of land at Tara Road, Cove Road, Moir Street and Old Waipu Road Mangawhai. PPC84 seeks to rezone 218.3 hectares of land within the site boundaries from 'Rural' to 'Residential' to enable the development of a residential subdivision and the creation of a Mangawhai Hills Development Area. The stated aim of the development is to protect ecological features, promote high-quality urban design, and provide open space and connectivity. KDC has engaged Wildland Consultants Ltd (Wildlands) to provide supplementary ecological advice with respect to ecological aspects of the application on behalf of the District Council as part of the section 42A Report.

2.0 Project Scope and Methods

This report provides the following:

- A high-level peer review of the Ecological Impact Assessment (**EclIA**) prepared by Bioresearches for the applicant and appended to the PPC application (Appendix 11 of the application).
- Review and professional opinion regarding ecological issues raised by submitters.

To assist with the review, a Wildlands Senior Ecologist visited the site on 14 March 2024.

3.0 Review of the Ecological Impact Assessment Report Prepared by Bioresearches

3.1 Introduction

The EclIA prepared by Bioresearches (2023) generally mentions relevant ecological aspects of the proposed PPC and associated Mangawhai Hills Development Area. A broad summary of the findings of the EclIA is provided in the Introduction section of the report, with the overall conclusion that:

"...the proposed zone change to a Residential Zone will ensure adequate maintenance and enhancement of ecosystem services, indigenous biodiversity and areas of contiguous indigenous vegetation cover, while accommodating for the appropriate subdivision, use and development of urban land."

3.2 Methods

A Methods section (Section 2) states the dates that site visits were undertaken and points out that 'due to access restrictions', only the ecological features within the western portion of the site were ground-truthed, and the ecological features within the eastern block were 'conservatively' mapped using aerial imagery. The omission of ground truthing of ecological features in the eastern portion of the site is a gap in the ecological assessment, and a site visit to assess ecological values (particularly delineation of wetlands) should be undertaken prior to finalising of plans for the location of any earthworks or other works associated with development of the site.

A description is provided of methods used to characterise terrestrial and freshwater ecological features including desktop review of relevant on-line databases, and methods used during the site visit. Methods described are appropriate for the impact assessment.



Bioresearches utilised the Environment Institute of Australia and New Zealand (**EIANZ**) Ecological Impact Assessment Guidelines (EclAG) (Roper-Lindsay *et al.* 2018) to assign ecological value to species, communities and ecosystems present on the site, and also to assess the magnitude and overall level of ecological effect of the proposed PPC. These guidelines are widely used throughout New Zealand, and their use here provides an appropriate framework for the assessment of ecological effects.

3.3 Background and existing environment

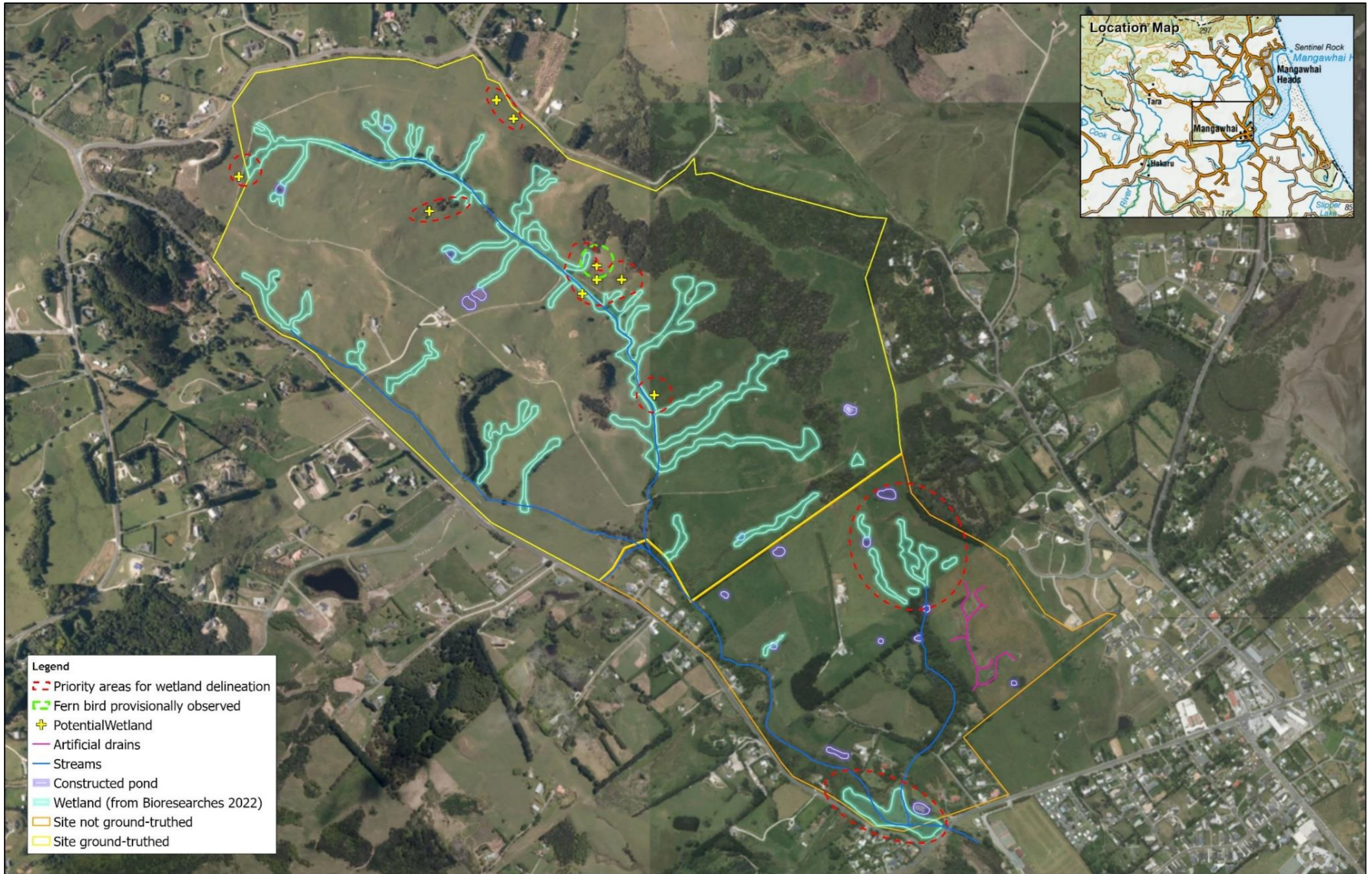
Section 3 of the report titled Existing Environment follows the Methods section and begins with a description of historical land use and ecological context of the site, then goes on to describe the present ecological features of the site, and assesses the ecological value of those features.

Terrestrial vegetation types are described in the terms ‘native bush remnants’, ‘native-exotic bush’, and ‘exotic vegetation’. Those vegetation types are mapped in a map figure (Figure 4 of that report) and example photographs of each vegetation type are provided. The descriptions of terrestrial vegetation are adequate for the purposes of the EclA, and the ‘high’ ecological value of the largest native bush remnant known as the ‘Old Waipu Road Remnant’ (Goldwater *et al.* 2012) is appropriately assessed.

Section 3.2.2 of the report provides a discussion of **connectivity and ecological function** of the native and native-exotic vegetation within the site. Section 3.2.3 provides a brief mention of the expectation that common **pest animals** (rats, mice, feral cats, mustelids, and hedgehogs) are likely to be present at the property. Section 3.2.4 of the report assesses the likelihood of the presence, and the ecological value of indigenous fauna at the site. Based on desktop investigation the report correctly identified that there are areas that provide high quality habitat for indigenous **geckos and skinks** (particularly in the ungrazed ‘native-exotic bush’ area in the North of the site).

A section on **avifauna** cites a bird survey undertaken in 2019 in the ‘western block’ of the site that found seven common indigenous species, none of which are listed as threatened or at risk, plus six introduced naturalised species (Ecology New Zealand 2019). The Bioresearches report states that “...it is unlikely that ‘At Risk’ or ‘Threatened’ species are present within the site, even on an intermittent basis”. I am not in agreement with this statement due to the presence within the site of habitat suitable for some bird species that are listed as At Risk or Threatened (Robertson *et al.* 2017) and that are known to be present in adjacent areas (pers. comm. Alex Flavell-Johnson, eBird database). Examples of species that may potentially be present within the site at times include mātātā (fernbird; *Poodytes punctatus*; At Risk-Declining) and matuku-hūrepo (Australasian bittern; *Botaurus poiciloptilus*; Threatened-Nationally Critical). During the site visit on 14 March 2024, the Wildlands Senior Ecologist provisionally identified a pair of mātātā on the fringe of wetland and indigenous forest/scrub habitat at the location shown in Figure 1. The identification of the mātātā is considered to be probable due to the appearance of the birds, the nature of a call heard, the habitat type where they were seen and the behaviour of the birds, but could not be confirmed absolutely due to the fleeting nature of the sighting.

The Bioresearches report assessed that neither **long tailed bats** (*Chalinolobus tuberculatus*) nor **short tailed bats** (*Mystacina tuberculata*) are expected to utilise the site as the majority of the larger trees within the site are kānuka and mānuka, that do not provide suitable roosting habitat for bats and there is a paucity of suitable habitat for bats on the site. I am not in agreement with this conclusion, as there are stands of large exotic trees in the ‘eastern block’ that may offer potential roosting habitat, and larger kānuka can also provide suitable habitat for bats to roost. Given the potential for bats to utilise the site, a bat survey and management plan may need to be considered, including reference to the Department of Conservation Bat tree roost protocols (2021). I also note that the current threat classification for long tailed bats should be presented as ‘Threatened – Nationally Critical’ not ‘Nationally Vulnerable’, and this should be corrected in the report.



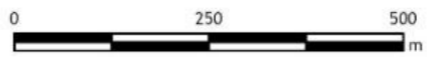
Legend

- Priority areas for wetland delineation
- Fern bird provisionally observed
- Potential Wetland
- Artificial drains
- Streams
- Constructed pond
- Wetland (from Bioreserches 2022)
- Site not ground-truthed
- Site ground-truthed

Data Acknowledgment
 Contains data sourced from the LINZ Data Service licensed for reuse under CC BY 4.0
 All digitised data is drawn from Bioreserches

Report: 7105
 Ref: 11324
 Client: -
 Name: Wetland_figures.aprx
 Path: E:\gis\MangawhaiHills.mxd

Figure 1 Freshwater features at Mangawhai Hills site showing potential wetland areas



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Scale: 1:9,000
 Date: 25/03/2024
 Cartographer: LW
 Format: A3R



Section 3.3 of the report describes, and ascribes ecological value to **freshwater features** on site. Features within the western block were ground-truthed and classified during the site visits by Bioresarches ecologists as permanent or intermittent streams, ephemeral flow paths, natural wetlands, or constructed features.

Streams within the eastern block were ‘conservatively’ mapped based on aerial imagery and topography. I consider the lack of ground-truthing of streams in the southeast portion of the site to be an information gap in terms of the EclA. The report presents stream ecological valuations (SEVs) of the two main streams undertaken by Freshwater Solutions in 2019 (Freshwater Solutions 2019). Stream classifications, and ecological value assessments in the greater northern portion of the site that were ground-truthed are appropriately assessed. Description of the **aquatic fauna** present, and valuation of habitat for aquatic fauna is also reproduced from surveys and SEV’s undertaken by Freshwater Solutions (2019) and are adequately assessed.

During my site visit (14 March 2024) I identified several areas of potential **natural inland wetlands** that were either not included in the map of key freshwater features in the EclA report (Figure 5 of that report), or where the mapped extent appeared to be inaccurate. I have reproduced in this report the map of key freshwater features provided by Bioresarches, and overlaid the locations where I noted potential areas of natural wetlands that are not included in the Bioresarches map (Figure 1). Given the apparent inaccuracies in the mapping of wetlands, it is recommended that a survey by a suitably qualified ecologist to assess ecological values and focusing on the delineation of wetlands in areas identified in Figure 1 of this report should be undertaken to check the wetland delineations across the entire proposed plan change site, including the area referred to as the ‘eastern block’. The survey should follow MfE wetland delineation protocols (MfE 2022) in accord with the NPS-FM. The survey will be required to inform the site design before detailed plans for the location of any earthworks for roading infrastructure or other site development works are finalised.

A table summary of **terrestrial and freshwater ecological values** is provided in Section 3.4 of the report. I am in general agreement with the valuation of ecological features except for the ecological value assigned to wetlands. Rather than having ‘low’ ecological value across all the wetlands on the entire property, the values vary according to their size, their level of degradation, the plant species assemblages present, and the potential for utilisation by indigenous fauna. Wetlands have intrinsic value in terms of rarity (all wetlands have priority status for protection under the National Environmental Standards for Freshwater), and some wetlands on the site have value in terms of ecological context. In my opinion some of the wetlands may have ‘low moderate’ or ‘moderate’ ecological value, and this should be re-assessed along with a survey to more accurately delineate wetland extent on the site. A survey to reassess wetland habitat should be undertaken prior to any subdivision or development of the site.

3.4 Assessment of Effects

In terms of terrestrial vegetation, the report rightly makes the important point that:

“No indigenous vegetation removal is required as a part of the PPC proposal. The Structure Plan seeks to incorporate all of the identified native bush on the site within public ecological areas. Approximately 16.6 ha of existing identified native bush fragments within the site are proposed to be protected under the proposed Mangawhai Hills Development Area. Therefore, the proposal will provide long-term protection of the native vegetation within the PPC area.”



In addition, the report adds:

*“The PPC proposes to extend the ecological corridors within the site by requiring subdivision to be undertaken generally in accordance with the Mangawhai Hills Development Area Concept Structure Plan which details extensive revegetation planting to link existing indigenous vegetation (Appendix 1). The assigning of approximately 85 ha of land as ecological areas will retain the existing ecological values, protect this land from further degradation and provides the opportunity to further significantly enhance the terrestrial ecological values through the enhancement of the existing native vegetation, revegetation planting of steep land and the planting and protection of the 10 m riparian margins. These potential plantings will greatly increase the quantity and diversity of native vegetation as well as result a large increase in ecological connectivity and terrestrial habitat. As such, **it is considered that the Structure Plan will likely result in an overall large ecological gain in regard to terrestrial ecology.**”*

I agree generally with these positive summary statements in terms of the ecological gains to be made through implementation of developments in accordance with the Mangawhai Hills Development Area Concept Structure Plan.

The report discusses the effects of the change from Rural to Residential zoning and the increase in human population on the populations of **pest mammals**. The report indicates that animal pest control measures are ‘likely’ to be implemented and **asserts that the urbanisation of the PPC area is expected to result in positive outcomes for reducing pest mammal populations within the site**. In light of the high likelihood that avifauna species with the conservation status of Threatened and At Risk will utilise the site at times, I consider there is justification for provision for controls on **domestic dogs and cats** to be included in the Private Plan Change. There is no mention of ensuring provisions for control of **pest plants** in the EclA. However, I note that DEV 1 REQ 2.2 in the Mangawhai Hills Development Area provisions does require that an Ecological Planting and Management Plan that includes a plan for management of plant and animal pests is required to be prepared at the time of future application for subdivision consent.

In terms of **effects on terrestrial fauna** the EclA asserts correctly that the proposed revegetation planting will result in increased habitat for indigenous fauna. The report also points out that any potential direct adverse effects on native terrestrial fauna as a result of subsequent development works such as earthworks would be assessed at the resource consenting phase and can be appropriately mitigated through the implementation of fauna management plans. In my opinion the EclA should have included a detailed assessment of the potential ecological effects of residential development on avifauna including Threatened and At Risk birds.

In terms of effects on **freshwater ecology**, the report points out that the streams within the site are considered to be of low ecological value due to their highly modified nature, and that the proposed rezoning will not affect stream protection measures required by the KDP’s objectives, policies and rules. Multiple road crossings over streams and wetlands are proposed within the PPC Area. The crossings are proposed to utilise existing culverts, and where crossings are proposed over wetlands, arched culverts or bridges will be utilised to avoid wetland drainage. Revegetation planting is proposed for the 10m wide riparian yard ‘on both banks’. Hence **it is considered that the proposed rezoning will not cause adverse effects to freshwater values, but rather the removal of stock and the revegetation planting will likely result in the enhancement of freshwater values**. I am in general agreement with this statement, but with the caveat that accurate delineation of wetlands is required prior to subdivision or development of the site. This is necessary in order to inform the scheme plan for the location of future housing and infrastructure for any future subdivision.



The EclA identifies stormwater runoff from impervious surfaces and increased pollutant runoff as the main threats to the freshwater ecology at the site. Section 4.2.1 of the EclA provides a detailed explanation of the stormwater management and discharge considerations and recommended standards set out in a Stormwater Management Plan (SMP) (Chester Limited, 2022) that is included in the PPC application. The SMP proposes recommendations for a range of control measures relevant to protection of stream and wetland ecology including:

- Installation of water quality devices to treat stormwater contaminants in runoff from all private driveways and public roads.
- Use of rainwater retention tanks for all residential properties.
- Use of stormwater detention facilities.
- Curbs and channels alongside roadways to be avoided.
- Utilise soakage systems as a primary means of stormwater disposal.
- To accommodate the NES-F, stormwater catchments (as identified in Figure 4-1) that discharge into natural wetlands are to ensure that the post-development scenario also discharge/runoff into the same natural drainage point to prevent drying up of the downstream environment.
- To accommodate the NES-F a 10m setback is proposed from all natural wetland edges.

The implementation of all these protective measures as part of any development is expected to provide adequate protection from adverse effects of stormwater runoff to ecological features at the site.

I note that the EclA does not consider or provide an assessment of the potential effects of wastewater on ecological features at the site. I consider this a gap in the ecological assessment of effects.

Section 4.3 of the EclA discusses the relevance of the following documents in relation to PPC84:

- National Policy Statement for Freshwater Management 2020 (NPS-FM).
- Northland Regional Policy Statement (RPS).
- Operative Kaipara District Plan 2022 (KDP).

I am in agreement with most of the analysis provided in this section, but not the statement in relation to the NPS-FM that reads: *“The PPC is in accordance with the objective of the NPS-FM as all freshwater ecosystems have been identified within the site, no reclamation or stream works are proposed...”* I disagree with this because not all wetlands have been identified or correctly delineated, and clearly, earthworks will be necessary in the construction of all road crossings over streams and wetlands. Earthworks within wetlands is a Prohibited activity under clause 53 a) of the National Environmental Standards for Freshwater 2020 (NES-F). However, in this case clause 45 c) of the NES-F may apply such that the activity is Restricted Discretionary. How such activity can be consented should be explicitly considered - in particular how this might be addressed under the NPS-FM effects management hierarchy.

The discussions in relation to the RPS and the KDP correctly point out that design features incorporated into PPC84 including retirement from grazing, restoration planting and protection measures for streams and wetlands are generally in alignment with policies and objectives in those planning instruments that promote the protection and enhancement of ecological features.



3.5 Bioresarches Summary and Recommendations

The final section of the EclA considers that PPC84 is appropriate for the site and that future subdivision and development in accordance with the zoning and the Mangawhai Hills Conceptual Structure Plan is expected to result in appropriate protection and enhancement of indigenous terrestrial and freshwater biodiversity values. It also recognises that the operative KDP, the NES-F and the Mangawhai Hills Development Area provisions provide a framework to manage any proposed future development at the resource consenting phase to ensure development aligns with the appropriate policies and regulations.

The EclA states that *“The significant ecological values are linked to the remnant coastal forest.”*, and that *“The adverse effects of the PPC on these natural features can be appropriately and effectively managed through the provisions of the proposed Mangawhai Hills Development Area”*. I am not entirely in agreement with these statements. While almost all ecological values at the site can in some way be linked to the coastal forest remnant, there are important ecological values that are more closely associated with the wetlands and watercourses. In my opinion, it is not clear that all important ecological values are appropriately protected from adverse effects of the future developments that will be enabled by the plan change. To ensure potential adverse ecological effects are appropriately avoided, remedied or mitigated, careful consideration is required of the protections afforded by the Mangawhai Hills Development Area provisions and the future protections and management measures that will be triggered by planning policies and regulations at the stage of resource consent application for subdivision.

It is important to note that I do agree generally with the statement that *“the PPC provides opportunities to protect and enhance the terrestrial and freshwater values of the site”* and that overall the approach to development of the site as set down in the Mangawhai Hills Development Area provisions will provide for an overall net ecological gain compared to the current management of the area, provided that perceived omissions or errors in the EclA and Mangawhai Hills Development Area provisions are addressed. A summary of what I think are key points that need to be addressed is provided below in section 5.0 of this report.

4.0 Response to ecological matters raised in submissions

Submission point 4.2 Bergren Trustee Co Ltd

Summary: The submitter asserts that there are no specific rules that secure the stated outcomes of the objectives and policies (e.g. DEV1-P5) that seek to promote environmentally conscious development. The objective relating to Freshwater Management should more clearly align with the NPS Freshwater Management.

Response: I disagree that there are no rules that secure the stated outcomes of the objectives and policies that seek to promote good environmental outcomes. Policy DEV1 – P6 refers to protection and enhancement of wetlands and streams, and DEV 1 REQ 2. 2 effectively requires at the subdivision consenting stage the preparation of a comprehensive Ecological Management Plan that includes specific methods for protection and enhancement of ecological features at the site. However, I agree with the submitter that objective DEV1-05 should refer to alignment with the NPS-FM.

Recommendation: Amend DEV1 – 05 to include reference to alignment with the NPS-FM.



Submission point 4.11 Bergren Trustee Co Ltd

Summary: Submitter seeks for any provisions relating to terrestrial vegetation, wetland and other freshwater resources need to acknowledge that what is shown on the Structure Plan is indicative only and not ground-truthed. Submitter seeks for a more detailed assessment prior to the development at the submitters site with related objectives, policies or rules recognising this Submitter notes their own property is included in the Ecological Assessment but has not been ground-truthed and, therefore the exact locations of wetlands and streams shown in the assessment are not confirmed.

Response: I agree with the submitter.

Recommendation: Prior to any subdivision or development occurring a survey by a suitably qualified ecologist to delineate wetlands accurately within the southeast portion of the site should be undertaken. Due to apparent inaccuracies in the delineation and mapping of natural wetlands presented in the Ecological Impact Assessment (Bioreserches 2023) and carried over to the Mangawhai Hills Structure Plan Map, a survey to assess ecological values with a particular focus on the delineation of wetlands in areas identified in Figure 1 of this report should be undertaken across the entire proposed plan change site. In accordance with the NPS-FM, the wetland delineation survey should follow methods as per the Ministry for the Environment wetland delineation protocols (MfE 2022). The survey should be undertaken to inform the site design before plans are finalised for the location of any earthworks for roading infrastructure or other site development works.

Submission point 5.3 Bergren Trustee Co Ltd

Summary: Submitter seeks for a new comprehensive pest plan to be implemented for both pest animals and pest plants. The pest plan should consider species protection and should seek to enhance existing protection and promote responsible pet ownership awareness. Submitter would like to see taonga, such as kiwi and the Australian Bittern which have been documented in the PPC84 area and the impacts of domestic pets in an urban subdivision, taken into consideration.

Response: DEV1 REQ2 2. of the provisions of the Mangawhai Hills Development Area do provide a requirement for a pest management plan to be prepared for the management of pest plants and pest animals in future resource consent processes. However, in light of the high likelihood that avifauna species with the conservation status of Threatened and At Risk will utilise the site at times, I consider there is justification for provision for controls on domestic dogs and banning of cats to be included in the Private Plan Change. Controls could take the form of a ban on cats, and rules ensuring that dogs are securely contained within their respective lot boundaries, are not allowed to roam into the protected areas, and are on leads when in public open spaces.

Recommendations: Include in PPC84 explicit consideration of provision for controls on dogs and cats as an additional matter of discretion in future resource consent processes.

Submission point 26.1 Jack Warden

Summary: Submitter seeks further clarification as to locations of confirmed wetland areas within the PPC84 area. Submitter is concerned that ecology assessments undertaken for PPC84 are broad brush desktop assessments and that wetland areas may be larger than what has been shown. Submitter seeks the requested relief to provide greater certainty as to where wetland areas are, noting potential rules triggered under the Northland Regional Plan and NES-F 2020.

Response: I agree with the submitter. During my visit to the site on 14/3/2024 I noted several areas of potential natural inland wetlands that were either not included in the map of key freshwater features, or where the mapped extent appeared to be inaccurate.



Recommendation: As there appear to be inaccuracies in the mapping of wetlands, it is recommended that prior to any subdivision or development a survey by a suitably qualified ecologist to assess ecological values across the entire site and focusing on the delineation of wetlands in areas identified in Figure 1 of this report should be undertaken across the proposed plan change site, including the area that has not been ground-truthed in the southeast portion of the site. The survey methods should follow MfE wetland delineation protocols (MfE 2022) as stipulated in the NPS-FM. The survey should be undertaken to inform the site design before plans are finalised for the location of any earthworks for roading infrastructure or other site development works.

Submission point 26.2 Jack Warden

Summary: Submitter seeks further consideration of areas assessed in the Ecological Impact Assessment with consideration to indigenous vegetation. The submitter is concerned that areas consisting of indigenous vegetation are likely to be of SNA quality and may need further consideration and assessment.

Response: Aside from the re-assessment of ecological values focusing on wetlands discussed above, I do not see the need for further assessment of the areas of indigenous terrestrial vegetation. The largest block of indigenous terrestrial vegetation has been recognised in the Ecological Impact Assessment as having a ‘high’ level of ecological value and as being one of only three remaining coastal forest areas left in the Rodney Ecological District. The submission does bring into focus the proposed establishment of ‘nature trails’ shown as ‘indicative’ in section 5.4 of the Urban Design Statement in the Mangawhai Hills Development Area provisions.

Recommendation: I recommend assessment of the ecological effects, and careful consideration of design features of proposed walking/biking trails through the ‘Old Waipu Road Remnant’ area of indigenous coastal forest as outlined in Section 5.4 of the Urban Design Statement in the Mangawhai Hills Development Area provisions. At present, the level of detail as to the extent and type of tracks proposed is insufficient to assess the potential ecological effects. If trails are to be established there, the design and implementation should seek to minimise ecological effects. It may be appropriate to undertake this assessment at the time of future consenting processes.

Submission point 26.3 Jack Warden

Summary: Submitter seeks that greater consideration be given to potential avifauna species that may reside within the PPC84 area and may be at greater risk than assessed in the EIA. The submitter does not agree with part of the assessment in the Ecological Impact Assessment which states “It is unlikely that ‘At Risk’ or ‘Threatened’ species are present within the site, even on an intermittent basis.”

The submitter points out that given the sites extensive wetland systems and locality It is considered that the site is within the home range/habitat of the ‘Nationally Critical’ Australasian bittern (*Botaurus poiciloptilus*) and nearby populations of ‘At Risk/ Declining’ North Island fern bird (*Poodytes punctatus* subsp. *Vealeae*). The submitter acknowledges that PPC84 provides for the protection of wetland habitat on the site but considering the significance of those species and wetland habitats the submitter asserts that those provisions should be modified to suit the relevant avifauna requirements.

Response: I agree with the submitter that the assertion expressed in the EclA that “*It is unlikely that ‘At Risk’ or ‘Threatened’ species are present within the site, even on an intermittent basis.*” is incorrect. Both Australasian bittern and fernbird have been confirmed to be present on adjacent properties (unpublished report, Alex Flavell-Johnson, The Shorebirds Trust), and there is suitable habitat for utilisation by those and other Threatened and At Risk species also confirmed to be present near the PPC84 Property. I heard and saw fernbirds (although sighting is considered provisional/ unconfirmed) at the site during my site visit.



Recommendation: I recommend that prior to any subdivision or development there should be a robust assessment of potential effects on Threatened and At Risk avifauna at the site to take into account the likelihood that those species may be present within the PPC84 area at times. Consideration should be given to controls on domestic dogs and cats to be included in the Private Plan Change provisions (see response to submission 5.3 above). Those considerations should take into account that current proposed measures for protection and enhancement of wetlands included in the Mangawhai Hills Development Area provisions will confer ecological benefit to those bird species that are likely to utilise the wetland habitat, and will encourage their presence at the site.

Submission point 26.4 Jack Warden

Summary: Submitter seeks for the National Policy Statement for Indigenous Biodiversity (NPS-IB) to be explicitly considered in relation to the PPC84.

Recommendation: I recommend that the policies in the NPS-IB should be explicitly considered prior to finalisation of any detailed plans for development works at the site to ensure that protections for highly mobile fauna as stipulated in the NPS-IB are appropriately provided for.

Submission point 26.5 Jack Warden

Summary: Submitter requests further consideration of setback rules to manage the effects on wetland features. Submitter views there are conflicts between developable land, the proposed roading network and wetland features and the submitter considers the current layout as demonstrated on the scheme plan is not effective to manage potential effects on wetlands.

Response: I agree there are conflicts between the proposed roading network and wetland features. The various maps produced for the PPC84 proposal vary in the location of proposed roading routes, and the current mapping of wetlands contains some inaccuracies. This makes it difficult to see precisely where all roads will cross wetlands. However, it is clear that there are points where there will be road crossings through wetlands. These will require earthworks and likely vegetation clearance within wetlands. Earthworks within wetlands is a Prohibited activity under clause 53 a) of the NES-F. However, in this case clause 45 c) of the NES-F will apply and the activity is Restricted Discretionary.

Recommendation: A survey following wetland delineation protocols in accord with the NPS-FM to accurately delineate the extent of natural inland wetlands should be undertaken prior to any subdivision or development. In my opinion, ideally this survey would be undertaken prior to the Hearing for this plan change. This would provide certainty that the location of areas shown in the structure plan and areas to be protected is generally correct. As an alternative, I am advised that these matters can be addressed as part of future consenting processes. In respect of ensuring this in terms of the planning process, I rely on Mr Cleese. The pathway to proceed with consenting for road crossing through natural inland wetlands, will need to be addressed through the Effects Management Hierarchy (Section 3.21) in the National Policy Statement for Freshwater Management (2020).

Submission point 26.6 Jack Warden

Summary: Submitter seeks for greater consideration to be had for the protection of ecological features, with respect to legal protections, protective fencing, and animal controls.

Response: DEV 1 REQ 2. 2. of the Mangawhai Hills Development Area provisions requires that: *Any subdivision consent application shall be supported by an Ecological Planting and Management Plan prepared by a suitably qualified ecologist to ensure that existing natural features and ecological values on site are appropriately enhanced, protected and maintained as a part of site development.* Detailed therein is the requirement for a plan that specifies the protection measures proposed to ensure the



indigenous vegetation remains protected in perpetuity. This can be implemented through covenanting of areas identified as high value ecological features including coastal forest remnants and wetlands by way of QEII or Council covenanting pathways. Any requirements for stock-proof fencing should not be necessary as the development site will not be stocked with grazing animals. DEV 1 REQ 2.2 requires that an Ecological Planting and Management Plan to be prepared at the time of future application for subdivision consent includes a plan for management of plant and animal pests. However, there is no mention of control measures for domestic pets.

Recommendations: Given the likelihood that Threatened and At Risk avifauna may utilise the site, I recommend that some provision for controls on dogs and cats as an additional matter of discretion in future resource consent processes should be included as part of the PPC84 provisions.

Further submission points FS 1.4, 1.23, 1.24, 1.25 Bergren Trustee Co Ltd

Summary: These further submissions all refer to the need for a robust ground-truthing survey to be undertaken to accurately describe and characterise the freshwater and terrestrial ecological features within the site including the portion of the site not yet surveyed on the ground.

Response: I am in agreement with the submitter as discussed above in response to submission 26.1. I think it is necessary for a ground truthed survey to be undertaken to inform the site design before plans are finalised for the location of any earthworks for roading infrastructure or other site development works. Recommendations to address this point are provided above in relation to initial submissions.

Further submission points FS 2.18, S and K Gow

Summary: The submitter views that development of the paper road will have a negative impact on birdlife and the surrounding environment.

Response: Given the high likelihood that the wetland and other suitable habitat within the PPC84 area may be utilised by Threatened and At Risk avifauna, it is reasonable to assess what effect any roading development may have on those bird species.

Recommendation: As previously recommended above, a survey following wetland delineation protocols in accord with the NPS-FM to accurately delineate the extent of natural inland wetlands should be undertaken prior to the finalisation of the location of any roading infrastructure at the site. Correct mapping of the delineated wetlands can inform an assessment of the effects of any development on Threatened and At Risk avifauna that may utilise wetland habitats within the PPC84 area.

5.0 Summary of recommendations

- I recommend that to provide greater assurance that freshwater ecological values will be appropriately protected, DEV1 – 05 be amended to include reference to alignment with the NPS-FM.
- Amend PPC84 provisions to include provision for controls on dogs and cats as an additional matter of discretion in future resource consent processes.
- Due to inaccuracies in the delineation of natural inland wetlands as presented in the EclA (Bioreserches 2023), it is recommended that a survey by a suitably qualified ecologist to assess ecological values across the entire site and focusing on the delineation of wetlands in areas identified in Figure 1 of this report should be undertaken. The survey should delineate wetland



boundaries across the proposed plan change site, including the area in the southeast portion of the site that has not been ground-truthed. The survey methods should follow MfE wetland delineation protocols (MfE 2022) in accord with the NPS-FM. The survey should be undertaken to inform the site design before plans are finalised for the location of any earthworks for roading infrastructure or other site development works. In my view, ideally this survey would be undertaken prior to the Hearing for this plan change. This would provide certainty that the location of areas shown in the structure plan and areas to be protected is generally correct and for refinements to be made to the Structure Plan as part of the Hearing process. As an alternative, I understand that these matters may be able to be addressed as part of future consenting processes, including under resource consents required from the NRC. However, in respect of ensuring this in terms of the planning process, I rely on Mr Cleese. The pathway to proceed with consenting for road crossing through natural inland wetlands, will need to be addressed through the Effects Management Hierarchy (Section 3.21) in the National Policy Statement for Freshwater Management (2020).

- The omission of ground truthing of ecological features in the eastern portion of the site is a gap in the ecological assessment, and a site visit there to assess ecological values including terrestrial vegetation, watercourses and wetlands should be undertaken prior to finalising of plans for the location of any earthworks or other works associated with development of the site. Again, from my perspective, to enable these matters to be better understood this would be undertaken prior to the Hearing for this plan change. However, as an alternative, I understand from Mr Cleese that these matters may be able to be addressed as part of future consenting processes. In this respect, I rely on Mr Cleese.
- In my opinion the assertion expressed in the EclA that *“It is unlikely that ‘At Risk’ or ‘Threatened’ species are present within the site, even on an intermittent basis.”* is incorrect. Threatened and At Risk bird species are known to be present in adjacent and nearby land blocks, and there is habitat within the PPC84 area that is suitable for utilisation by such avifauna. Hence, in accordance with the NPS-IB, the ecological effects of the proposed plan change on those bird species should have been considered more thoroughly in the ecological impact assessment. This should include consideration of the potential effects on these species of development works proposed as well as potential effects of domestic pets, and how these effects will be managed. In my opinion, it is critical that, if PPC84 is confirmed, the ecological effects on Threatened and At Risk Bird species are able to be reassessed prior to any subdivision and development of the site.
- I recommend assessment of the ecological effects, and careful consideration of design features of proposed walking/biking trails through the ‘Old Waipu Road Remnant’ area of indigenous coastal forest as outlined in Section 5.4 of the Urban Design Statement in the Mangawhai Hills Development Area provisions. At present, the level of detail as to the extent and type of tracks proposed is insufficient to assess the potential ecological effects. If trails are to be established there, the design and implementation should seek to minimise ecological effects. It may be appropriate to undertake this assessment at the time of future consenting processes.
- Given the potential for long tailed bats to utilise parts of the site, in my view a bat survey and management plan should have been undertaken, including reference to the Department of Conservation Bat tree roost protocols (2021). In my opinion, it is important that if PPC84 is confirmed, that effects on long tailed bates are able to be assessed prior to any subdivision and development of the site. I also note that the current threat classification for long tailed bats should be presented as ‘Threatened – Nationally Critical’ not ‘Nationally Vulnerable’, and this should be corrected in the Bioresearches (2023) report.



- There is no mention of ensuring provisions for control of pest plants in the EclA. However, DEV 1 REQ 2.2 in the Mangawhai Hills Development Area provisions does require that an Ecological Planting and Management Plan including a plan for management of plant and animal pests is prepared at the time of future application for subdivision consent. Provided that DEV 1 REQ 2.2 is triggered at the time of future resource consenting, there is no need for further consideration of management of pest plants in the PPC84 application or EclA.
- The EclA does not consider or provide an assessment of the potential ecological effects of the preferred onsite wastewater disposal system as described in the Land Development Report (Chester 2023). I am advised that the applicant has applied to the NRC for a resource consent in relation to this.

6.0 Conclusion

The proposed Private Plan Change 84 and the development of the site as presented in the Mangawhai Hills Development Area provisions have the potential to confer a substantial overall ecological gain for the site and the wider Mangawhai area compared to the status quo. Wildlands is in agreement with the overall intent demonstrated in the application and Mangawhai Hills Development Area provisions in this regard. In particular the measures outlined in those provisions intended to protect and enhance ecological features on the site, including the exclusion of stock animals, protection of areas of indigenous vegetation, watercourses and wetlands, and the extensive revegetation and buffer plantings proposed support this view.

However, it is not clear that all important ecological values are appropriately protected from adverse effects of the future developments that will be enabled by PPC84 as proposed.

To ensure potential adverse ecological effects are appropriately avoided, remedied or mitigated, in my opinion, the recommendations summarised above in Section 5.0 of this report should be followed.



Acknowledgments

Patrick Fontein provided access to the site, including the use of an ATV to facilitate access to less accessible areas.

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Appendix 1

Summary of Qualifications and Experience

My full name is Stephen Nicholas Brown.

My qualifications are degrees of PhD (Zoology) from University of Canterbury, MSc (Applied Science) from University of Otago, Post Graduate Diploma (Resource Studies) from Lincoln University, and BSc (Botany) from Massey University.

I am currently a Senior Ecologist with Wildland Consultants Ltd. I have held this position for four years, prior to which I was the Environmental Manager for Te Uri o Hau Settlement Trust for one and a half years. Previously I held the position of Coastal Ecologist at NIWA for 17 years, and before that I worked as a scientist and science technician at the Cawthron institute for six years. I have 27 years of professional experience in research and commercial consulting in terrestrial and marine ecology. I have managed and implemented commercial and public sector projects around New Zealand and overseas in a range of disciplines including estuarine, terrestrial, wetland and forest ecology. I have authored more than 200 peer reviewed client reports, authored three peer reviewed articles in scientific journals, and presented findings at various forums ranging from local government resource management hearings to international conferences.

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