BEFORE THE KAIPARA DISTRICT COUNCIL'S HEARING PANEL

IN THE MATTER OF	the Resource Management Act 1991 (**the Act**)
AND	
IN THE MATTER	An application for Private Plan Change 85 (**PC85**) -**MANGAWHAI EAST** by Foundry Group Limited (formerly Cabra Mangawhai Limited) and Pro Land Matters Company to rezone approximately 94-hectares of land at Black Swamp and Raymond Bull Roads, Mangawhai

STATEMENT OF EVIDENCE OF MARK PIERRE DELANEY ON BEHALF OF THE APPLICANTS

(Ecology)

16 December 2025

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INTRODUCTION

QUALIFICATIONS AND EXPERIENCE

1. My full name is Mark Pierre Delaney. I am a Director and Lead Ecologist at the firm Viridis Limited, a role which I have held since December 2022. Prior to that I was a Senior Ecologist at Bioresearches, a subsidiary of Babbage Consultants Limited.

2. I hold a Bachelor of Science degree in geography and biology from the University of Auckland and a Master of Science degree in conservation biology from Massey University.

3. I am a member of the New Zealand Freshwater Sciences Society, the New Zealand Ecological Society and the Environment Institute of Australia and New Zealand. I am also a Technical Advisor relating to ecological matters for the New Zealand Greenstar Building Council.

4. I have more than 15 years' experience in ecology. I specialise and have expertise in terrestrial ecology, freshwater ecology, stream classifications, wetland classifications and delineations, ecological impact assessments and ecological monitoring.

5. I have appeared as an expert witness before council hearings in relation to plan change and consent applications for terrestrial and freshwater environments. Of particular relevance to this application are the following projects that I have been involved with:

    a. PC 5 - Whenuapai. I undertook ecological investigations, prepared an ecological assessment report and appeared as an expert witness for a submitter.

    b. PC 25 (Private): Warkworth North. I was the lead ecologist for the plan change, preparing the assessment of freshwater ecological effects and providing evidence at the council hearing.

    c. PC 35 (Private) - Foster Crescent, Snells Beach. I undertook ecological investigations that informed the initial design phase of the plan change.

    d. PC 40 (Private) Warkworth - Clayden Road. I undertook the early ecological investigations that informed initial design phase of the plan change.

e. PC 65 (Private) - Kaukapakapa – Alpine Road. I was the lead ecologist for the plan change, preparing the assessment of ecological effects.

f. PC 70 (Private) - 751 & 787 Kaipara Coast Highway, Kaukapakapa. I was the lead ecologist for the plan change, preparing the assessment of ecological effects.

g. PC 76 (Private) – Kohe. I was the lead ecologist for the plan change, preparing the assessment of freshwater ecological effects and providing evidence at the council hearing.

h. PC 78 (Private) - Estuary Estates/Mangawhai Central. I reviewed the applicant's material relating to ecological matters and appeared as an expert witness for Kaipara District Council (KDC).

i. PC 88 (Private) - Beachlands South. I provided an expert peer review of wetland and stream ecological matters in relation to the Beachlands South development and prepared expert evidence.

j. PC 92 (Private) – Wellsford Welding Club. I was the lead ecologist for the plan change ecological assessment and provided evidence at the council hearing.

k. PC 98 (Private) - 47 Golding Road & 50 Pukekohe East Road, Pukekohe. I was the lead ecologist for the plan change ecological assessment.

l. PC 84 (Private) – Mangawhai Hills. I was the lead ecologist for the plan change ecological assessment and provided evidence at the council hearing.

m. PC 107 (Private) – Whenuapai Business Park. 69-73 and 94-96A Trig Road and 141, 145, 151, 153, 155-157, 159 and 163 Brigham Creek Road, Whenuapai, Auckland. I was the lead ecologist for the plan change ecological assessment and prepared evidence for the council hearing.

n. PC 109 (Private) – Whenuapai Green. 98-100 and 102 Totara Road, Whenuapai, Auckland. I was the lead ecologist for the plan change ecological assessment and provided evidence at the council hearing.

o. PC 119 (Private) - Ara Hills (Hall Farm). I was the lead ecologist for the plan change ecological assessment.

p. PC 122 (Private) - 15, 17 and 17A Clarks Lane, and 10, 12, 14 and 16 Sinton Road. I am the lead ecologist for the plan change ecological assessment.

EXPERT WITNESS CODE OF CONDUCT

6. Although this is not a hearing before the Environment Court, I record that I have read and agree to and abide by the Environment Court's Code of Conduct for Expert Witnesses as specified in the Environment Court's Practice Note 2023. This evidence is within my area of expertise, except where I state that I rely upon the evidence of other expert witnesses as presented to this hearing. I have not omitted to consider any material facts known to me that might alter or detract from the opinions expressed.

PROJECT INVOLVEMENT

7. I was instructed by Foundry Group Limited (formally Cabra Mangawhai Limited) in 2024 to undertake ecological assessments and ecological reporting associated with the northern part of the Private Plan Change 85 (**PC85**) area, mainly north of Black Swamp Road, totalling an area of approximately 63 hectares.

8. I was the reviewer of the ecological impact assessment (EcIA) [1] for the Northern Area, which was included in the PC85 application and Viridis' response to the ecological queries within the request for information.

9. On 4 December 2025 I was instructed by Pro Land Matters Limited to prepare expert evidence relating to the EcIA for the southern area of PC85. This area totals approximately 31 hectares. That EcIA was prepared by Jack Warden Rural Design Limited in 2024[2]. I note I worked with Mr Warden in the preparation of the ecological responses to the clause 23 request for further information and in relation to the identification of the Significant Natural Areas (SNA) shown on the Structure Plan map, to ensure a consistent approach to the assessment of the SNA areas. For clarity, my evidence addresses the entire PC85 area.

10. The location and extent of the northern and southern areas covered in the two EcIA reports is shown in Attachment A.

[1] PC85, Appendix 14

[2] Rural Design, 2024. Ecological Assessment Proposed Private Plan Change – Mangawhai East. Southern Area - Lot 2 DP 29903, Lot 1 DP 392239 & LOT 2 DP 392239 Mangawhai. November 2024.

11. I visited the PC85 area (the **Site**) in April 2024. My colleague, Angela Tinsel, who authored the EcIA for the Northern Area, last visited the Site in July 2024.

SCOPE OF EVIDENCE

12. This statement of evidence covers:

    a. A summary of the existing ecological values of the Site;

    b. A summary of the proposed ecological outcomes of PC85;

    c. A summary of the potential effects of PC85 on the ecological values of the Site;

    d. Relevant policy documents;

    e. Relevant matters raised within the s 42A report;

    f. Relevant matters raised by submitters; and

    g. A summary of key conclusions.

EXISTING ECOLOGICAL VALUES

Background

13. The Site is situated in the Rodney Ecological District of Eastern Northland. Historically much of the district would have been forested, with a range of coastal, estuarine and wetland habitats. The district has a long history of human occupation and modification of the natural landscape and the remaining natural areas are highly modified and fragmented. Mangawhai Harbour is one of the largest sites in the ecological district containing 'Threatened', 'At Risk' and regionally significant species.

14. The Site has an extended history of farming and agricultural activities. The land is currently in rural land uses, with a mix of larger properties of grazed pasture, smaller lifestyle blocks containing orchards, a brewery and nursery and a camping ground.

15. Two saltmarsh wetlands of SNA quality have been identified within the plan change area and are shown on the updated Structure Plan with corresponding provisions

in the Development Area because neither the Operative or Proposed Kaipara District Plan contain mapped SNAs.

16. The ecological values of ecological features were determined in accordance with the methodology prescribed in the Environment Institute of Australia and New Zealand (EIANZ) Ecological Impact Assessment guidelines (EcIAG) for use in New Zealand[3] (Roper-Lindsay et. al. 2018).

Terrestrial Ecology

17. Vegetation within the Site is heavily dominated by managed pasture which is grazed or mown. Other vegetation was limited and classified into the following categories: exotic trees, mixed native/exotic, native dominant, orchard / crops, and weedy vegetation / rank grass.

18. Mature exotic trees such as pine, poplar, she-oak, cedar species, macrocarpa, blackwood and willows were present across the site, mainly planted as shelterbelts along paddock edges, or along waterways. The botanical value of these trees is considered to be low.

19. Areas of mixed native / exotic vegetation have mainly been planted for amenity purposes near dwellings, driveways or along the road frontage. Tree and shrub species included Norfolk pine, gum, flame tree, banana, pōhutukawa, pūriri, kōhūhū, puka and kapuka. A variety of weed species were also present. The botanical value of these areas is considered to be low.

20. Native dominant areas of vegetation are limited. There are some strips of native restoration planting and edge planting in the northwestern part of the site with species such as harakeke, cabbage tree, karo and mānuka. Scattered native species such as mānuka, kānuka, tōtara, ponga, mingimingi and karo occur along the road edges. The coastal edge contains scattered pōhutukawa and other native species such as houpara, ngaio, karo, mingimingi and flax. The botanical value of these areas is considered to be low-moderate.

21. Orchards include olives, fruit trees and grape vines. They are of low botanical value.

[3] Roper-Lindsay J, Fuller SA, Hooson S, Sanders MD, Ussher GT 2018. Ecological impact assessment. EIANZ guidelines for use in New Zealand: terrestrial and freshwater ecosystems. 2nd edition.

22. Weedy vegetation and rank grass includes dense pampas, woolly nightshade, golden wattle and kikuyu grass and are of low botanical value.

23. Terrestrial connectivity and ecological functioning values are currently low-moderate because of the limited terrestrial vegetation on the site, however the linkages and ecotones between streams, wetlands, salt marsh and estuarine habitats are of value and there are opportunities for improving ecological connectivity within and beyond the Site.

24. The ecological values of the Site for herpetofauna are conservatively assessed to be low across most of the Site, and-moderate along the coastal edge and areas of weedy vegetation / rank grass due to the potential for the 'At-Risk' copper skink to be present in these areas.

25. Bat habitat on the Site was limited to larger trees, which could offer roosting or nesting habitat (i.e., cavities or large sections of flaking bark) for long-tailed bats. The lack of corridors or stands of indigenous vegetation in the surrounding area, the dominance of agriculture and high edge effects mean that any use of the Site by bats is expected to be transitory or intermittent and the habitat is not expected to support regular visits or large communal roosts. The ecological value of the Site for bats is conservatively considered to be low-moderate.

26. The ecological value of the Site for avifauna was considered to be high for the salt marsh areas due to the potential presence of several At Risk species such as the Australasian bittern, fernbird, banded rail, spoonbill and black shag; moderate for the native vegetation along the coast (some trees may provide roosting or nesting habitat); and low for the remainder of the Site. Birds associated with the adjacent coastal marine area (CMA) may use the Site for high tide roosting from time to time.

Freshwater ecology

27. The southern part of the Site south of Black Swamp Road contains a network of permanent, intermittent and ephemeral streams as well as artificial drains, which flow into a finger of the Mangawhai estuary that extends into the Site. Some modifications to streams within the Site (such as channelisation) have been made, and several artificial watercourses and ponds have been constructed. A range of native fish species have been recorded in the permanent streams and estuary to

the south of Black Swamp Road[4]. The natural watercourses have been degraded by a history of agricultural land use, vegetation clearance and grazing, and are considered to be of moderate ecological value[5] .

28. No natural permanent or intermittent streams have been identified in the PC85 area north of Black Swamp Road. A number of artificial watercourses (drains and swales) are present in this area that have been constructed for drainage purposes.

29. A number of natural inland wetlands have been identified within the PC85 area. Some small areas in grazed pasture in the north-west of the Site are potentially induced. Some areas of "damp pasture" were identified by Rural Design (2024) in the area south of Black Swamp Road. These small wetland areas and damp pasture are typically dominated by exotic species, are small in size and subject to grazing and are considered to be of low ecological value.

30. To the south of Black Swamp Road is a finger of the Mangawhai Harbour that contains salt marsh and mangrove habitat. This has been identified as natural inland wetland because it is located inland of the CMA boundary. The upper reaches of this "finger" are surrounded by degraded mānuka fen habitat. This wetland area is considered to be of moderate-high ecological value and has been identified as meeting the criteria to be considered a SNA under the National Policy Statement for Indigenous Biodiversity 2023 (NPS-IB).

31. The north-western portion of the PC85 area contains an extensive area of salt marsh in the north-western portion of the Site behind a man-made stop bank. This saltmarsh shows natural zonation of vegetation communities dominated by native species. This area is subject to a protective covenant under the Reserves Act 1977. This wetland area is considered to be of high ecological value and has been identified as meeting the criteria to be considered an SNA under the NPS-IB.

Coastal ecology

32. The Site is bounded in the west by the Mangawhai Estuary, which identified as a Level 1 Natural Area by the Department of Conservation (DoC) and a Significant Bird Area under the Northland Regional Council (NRC) Proposed Regional Plan

[4] Rural Design, 2023. Ecological assessment pertaining to a proposed subdivision at Lot 2 DP 29903 18A Black Swamp Road, Mangawhai. November 2023.

[5] Rural Design, 2024. Ecological Assessment Proposed Private Plan Change – Mangawhai East. Southern Area - Lot 2 DP 29903, Lot 1 DP 392239 & LOT 2 DP 392239 Mangawhai. November 2024

(PRP). Most of the coastal edge of the Site and the inlet just south of Black Swamp Road are identified as areas of High Natural Character in the NRC's PRP.

33. The harbour contains a wide variety and representative succession of habitats spanning dunes, tidal flats, channels, mangroves, saltmarsh and freshwater wetlands and adjacent shrubland. It is the single most important breeding ground for the Nationally Critical fairy tern, which breeds on the sandspit, and individuals forage in the estuary or just offshore for much of the year. The estuary is also important for a number of other threatened or at risk birds, notably northern New Zealand dotterel, Caspian tern, pied shag, reef heron, white-fronted tern and variable oystercatcher, with several migrant species visiting at different times of the year. The saltmarshes and mangroves support Australasian bittern, banded rail, fernbird and others.

34. Around much of the coastal edge is a thin strip of salt marsh vegetation, with mangroves beyond, except along the camp site where the channel is closer. In some areas there is evidence that mangroves have been removed. Most of the coastal edge has been modified by construction of retaining walls and a stop bank. An informal path along the coastline goes north from the campground, seaward of the stop bank to the paper road end of Raymond Bull Road.

35. The value of the coastal environment to the west of the Site is considered to be high given the potential for threatened species to be present and the classifications of the coastal environment by DoC and NRC.

PROPOSED ECOLOGICAL OUTCOMES

36. The ecological assessments identified the key ecological features of the Site, those being the existing streams, wetlands, native vegetation and the coastal environment.

37. PC85 contains a number of provisions that seek to protect, maintain and enhance the existing terrestrial, freshwater and coastal ecology values within and adjacent to the Site.

38. The proposed ecological outcomes outlined below incorporate several amendments arising from the KDC ecological peer review and the s42A Officer's recommendations.

39. PC85 prohibits the keeping of cats within the Site and requires dogs to be contained on residential sites and otherwise leashed to protect the biodiversity values in the surrounding area.

40. PC85 seeks to incorporate the two wetlands of significant ecological value as SNA in the Operative Kaipara District Plan (KDP) 2022.

41. PC85 promotes the protection and enhancement of the riparian margins of wetlands and streams on the Site.

42. Where possible roads avoid existing streams and wetlands.

43. Appropriate building setbacks from key ecological features are also sought under PC85.

44. A comprehensive Stormwater Management Plan (SMP) is proposed to ensure that stormwater is managed onsite in accordance with best practice.

45. Wastewater disposal will be provided by way of either connection to reticulated infrastructure where practicable, or private onsite disposal systems.

POTENTIAL ECOLOGICAL EFFECTS

Overview

46. Future land use and development within the PC85 area will require individual resource consent applications and assessment of site-specific ecological effects. The EcIAs of the Site for the plan change application therefore focuses on the potential consequences of the proposed change in land use.

47. Since completion of the original EcIA, additional matters were raised in the Council ecology peer review, submissions, and the s42A report. I have therefore expanded and updated the assessment of potential ecological effects to address those matters.

48. There was criticism in Mr Smith's evidence that the standard process and framework for assessing ecological effects was not fully applied in the Rural Design (2024)[6] assessment for the southern area. While I acknowledge these shortcomings, they are not fundamental at this plan change stage nor is it a bar to

[6] Rural Design, 2024. Ecological Assessment Proposed Private Plan Change – Mangawhai East. Southern Area - Lot 2 DP 29903, Lot 1 DP 392239 & LOT 2 DP 392239 Mangawhai. November 2024.

the grant of PC85. The purpose of this phase is to identify whether the ecological values are understood at an appropriate level of detail and whether any reasonably foreseeable risks can be managed through subsequent consenting processes. In my view, the available information is sufficient for that purpose, and the recommendations and effects-management responses outlined in the northern EcIA can be appropriately extended to the southern area. This, along with the process undertaken to identify the SNA areas, in my opinion ensures that the recognised ecological values and potential effects are addressed in a consistent and robust manner.

Terrestrial ecology

49. No indigenous vegetation removal is required or sought as part of the PC85 proposal. Native revegetation planting requirements will increase the extent and diversity of indigenous vegetation across the Site.

50. Any potential adverse effects on native terrestrial fauna (i.e., birds, bats and lizards), as a result of subsequent development works (e.g., exotic vegetation removal) would be assessed at the resource consenting phase and can be appropriately mitigated through the implementation of fauna management plans. The potential effects on the "Threatened" tara iti / fairy tern and Australasian bittern are considered further below in the section on effects outside of the PC85 area.

51. The proposed rezoning of the Site enables an increase in the human population density within the area, which can result in increases in pest fauna such as cats and hedgehogs. Limited pest control is currently undertaken across the Site, and cats are currently banned from a subdivision in the north-west of the Site. Restrictions on keeping of mammals (ban on cats and leash requirements for dogs) are proposed within the Mangawhai East Development Area provisions.

52. Private pest control is likely to be implemented on the Site once development commences. Additionally, the future vegetation enhancement works, as a result of future development, will likely require pest control.

53. These pet and pest controls will mitigate the potential increases in pest and predator fauna associated with urban development.

54. Under the Mangawhai East Development Area provisions relating to lighting, indigenous biodiversity values are being incorporated as a matter of discretion so that the effects of light on fauna can be addressed in resource consent applications.

55. Overall, it is my opinion that there will be an increase in the quantity and quality of indigenous vegetation and terrestrial fauna habitat on site over time, accomplished through the planting activities that are proposed under the proposed Mangawhai East Development Area provisions.

Freshwater ecology

56. PC85 will not affect stream and wetland protection measures required under the NRC PRP, the National Policy Statements for Freshwater Management (**NPS-FM**) and the Resource Management (National Environmental Standards for Freshwater) Regulations 2020 (**NES-F**).

57. The EcIA for the Southern part of the Site (Rural Design, 2024[7]) identified areas of "wet pasture". No data on wetland vegetation assessments has been provided for these areas. Mr Smith has raised concern that these areas could be natural inland wetlands. Another submitter has raised concerns about wetlands being identified on their land. Natural inland wetlands are protected under the NPS-FM and NES-F.[8] Wetland extent will be assessed again at the resource consenting phase and therefore determination of whether or not these wet pasture areas, or other areas are wetlands is not considered fundamental for PC85 and that assessment is more appropriately undertaken at that stage.

58. The proposed rezoning will result in a reduction of the riparian yard from 30 m in the current Rural Zone, to 15 m – 20 m in the PC85 area. I consider that 15 m setbacks from wetlands and streams, and 20 m from streams > 3 m in width, will be adequate to allow for their protection and an improvement in their ecological value through the required planting.

59. No wetlands are proposed for reclamation under PC85. While rezoning to an urban zone could result in applications for consent for potential wetland reclamation under the NES-F, it does not mean such applications will necessarily be made, or that any applications for reclamation which are made will be granted. Any such

[7] Rural Design, 2024. Ecological Assessment Proposed Private Plan Change – Mangawhai East. Southern Area - Lot 2 DP 29903, Lot 1 DP 392239 & LOT 2 DP 392239 Mangawhai. November 2024.
[8] Submitter 75, Bryce Taylor at 45a Black Swamp Road.

application for consent will require consideration on its merits. Any future works around wetlands, including reclamation, would be subject to site-specific ecological assessments, with the effects management hierarchy applied.

60. If walkways were proposed within, or within 10 m of wetland areas, resource consent is likely to be required for earthworks or vegetation removal.

61. Any potential direct adverse effects on native freshwater fauna as a result of subsequent development works (e.g., streamworks) would be assessed at the resource consenting phase and can be appropriately mitigated through the implementation of fish management plans.

62. Upgrading of culverts and crossings may provide the opportunity to increase fish passage required under the NES-F provisions.

63. Sedimentation of freshwater habitat can have significant adverse impacts on fauna and their habitat if unmanaged. It is expected that appropriate sediment and erosion control measures will be required at resource consenting stage for earthworks activities. These would appropriately avoid and/or mitigate the adverse effects of excessive sediment entering the downstream receiving environment.

64. The change from agricultural to residential land use, in addition to the proposed riparian planting, will reduce the overall amount of sediment entering the waterways over time. Furthermore, this planting will allow for an improvement of water quality through increased shading and filtration function it will provide to the Site's permanent and intermittent streams.

65. The main potential threats to freshwater values of the Site in relation to stormwater are the potential increase in impervious surfaces and the potential increase in pollutant runoff as a result of subsequent development.

66. A stormwater management plan has been prepared by Aspire Consulting Engineers Limited[9]. Proposed management methods include use of a treatment train approach, treatment of road and car park runoff via rain gardens, swales or other bioretention devices, inert building materials for roof areas to reduce contaminant

[9] Aspire Consulting Engineers Limited, 2025. Proposed Plan Change Mangawhai East. Stormwater Management Plan. Raymond Bull & Black Swamp Roads, Mangawhai. May 2025. Report 1838-2 Rev 1.

input, maintaining pre-development flows to wetlands, and groundwater recharge (retention) to maintain existing groundwater levels if peat remains in place.

67. Any future subdivision or development will require an ecological assessment at the time of subdivision or land use consent application. This will allow further assessment of potential adverse effects of stormwater and implementation of site-specific stormwater management measures to ensure that future development does not result in more than minor adverse ecological effects or a net loss of ecological value.

68. Mr Smith in his evidence raised concerns that in the structure plans walkways are shown crossing both wetlands that have been identified as SNAs. Walkways located in or near wetlands can give rise to ecological effects such as vegetation removal, hydrological disturbance from piling or earthworks, edge effects, and disturbance of wetland birds through increased human and dog presence.

69. I consider that the walkway routes in the structure plan are shown at a high / conceptual level rather than at a detailed level, and broadly indicate that these walkways will be located around the edges of these features. I consider that these walkways should be able to be constructed largely, if not fully, outside of the SNA areas. Any vegetation removal, earthworks or land disturbance within or within 10 m of a natural inland wetland associated with wetland utility structures (includes boardwalks and walking tracks) is a restricted discretionary activity under the NES-F, and would require a resource consent, which would enable the ecological effects of these works to be assessed and the effects management framework to be applied.

70. Vegetation removal and structures within wetland areas are regulated by the NRC-PRP and the NES-F, and therefore if works associated with these walkways are proposed within the wetlands or within 10 m of wetlands, they will need to meet the relevant permitted activity standards or will require a resource consent, which would enable the ecological effects of these works on the wetlands to be assessed and the effects management framework to be applied. Signage requiring dogs to be on a leash in these areas is already proposed within the Mangawhai East Development Area provisions.

71. Overall, it is considered that over time there will be an increase in the freshwater ecological values of the Site as a result of the proposed PC85, through the removal of stock and implementation of the riparian planting along streams and wetlands.

Coastal ecology

72. The coastal environment will be protected from development by the existing 20 m coastal esplanade reserve and existing provisions requiring coastal esplanade reserves upon subdivision. The recommended wetland buffers and enhancement will also benefit the coastal environment as these provisions will keep works away from the coastline, enable retainment of existing vegetation and provide ecological benefits such as habitat for roosting birds, lizards and protects against coastal erosion.

73. Any works proposed along the coastal edge such as for the coastal walkway would need KDC approval to construct as this is already esplanade reserve and if any works extend into, or impact on the CMA then regional consent and potentially Department of Conservation authorisation would also be required.

74. Light pollution, which has the potential to affect migratory birds that feed within the adjacent marine protected areas, was recommended to be considered in future design and is proposed to be included in the proposed amendments to the Mangawhai East Development Area provisions by Mr Clease.

Effects beyond the PC85 area

75. Mr Smith notes that potential effects of PC85 that extend beyond the PC85 area have not been considered. Specifically, those effects associated with a potential future harbour access point and the associated increase in the use of the harbour for recreation, the Insley Street shared use path, and the effects of the proposed coastal walkway. These issues have also been raised by submitters. The potential ecological effects associated with these is discussed below.

76. The identified potential future harbour access point shown on the Structure Plan, is proposed to be removed from the Structure Plan, however this location is already used as an access point, with access available via the paper road for pedestrians and bikes (see photos in Figure 1, Attachment 2). Other than being identified as a potential future harbour access on the Structure Plan, there are no other provisions or proposals within PC85 to create a more formal access point here. PC85 also does not preclude this being further developed. If this paper road and access point were opened up to use by larger vehicles and boats in the future, there would be potential impacts on the fauna and flora associated with the mud flats, coastal edge and middle harbour through boat activity, vehicle movements, and increased

disturbance within the harbour and along the shoreline. Establishing a functional boat-launching area would likely require construction works and vegetation removal. Vegetation removal and construction within the CMA is regulated under the NRC PRP and would require resource consent. The Wildlife Act 1953 protects fauna that may be affected. These regulations provide appropriate processes for assessing the ecological effects of such works on the coastal environment and for applying the effects management framework.

77. The proposed coastal walkway is intended to be located within the esplanade reserve and passes mainly through managed grass and weedy vegetation / rank grass (of low botanical value) and some areas of native dominant (low-moderate botanical value) and mixed native / exotic vegetation (low botanical value). The vegetation provides low-moderate habitat values to fauna such as lizards and birds.

78. The potential ecological effects of constructing a walkway along the esplanade reserve includes vegetation removal and disturbance of fauna habitat. Construction effects can be mitigated by measures such as fauna management plans, routing the path to minimise vegetation removal and habitat loss, and undertaking planting, and therefore the magnitude of effect is expected to be able to be mitigated to low, and the overall effect low.

79. Operational effects of a coastal walkway relate to the potential disturbance to fauna such as the "At Risk" banded rail. Note that a campground (which allows dogs) is located along this proposed pathway, and there is an existing informal walkway within the CMA following the coast from the campground to the paper road on the north-western corner of the Site (see photos in Figure 2, Attachment 2). Therefore disturbance effects associated with humans and dogs, which would peak during bird breeding season (summer), are already established along much of the proposed pathway route. Operational effects can be mitigated by signage requiring dogs to be on a leash along the walkway. The magnitude of effect is expected to be able to be mitigated to low, and the overall effect low.

80. Constructing the coastal walkway is expected to require resource consent/s for vegetation removal, earthworks or works within the CMA or the adjacent wetland and also land owner approval from KDC given the esplanade reserve status. It is expected that the need to obtain Council landowner approval and potential resource consent requirements, along with the requirements of the Wildlife Act, provide appropriate processes for assessing the ecological effects of such works on

the coastal environment and for applying the effects management framework. I consider the full range of effects of the construction of the walkway are more appropriately addressed at the consenting stage.

81. Mr Smith raises concerns with regard to the ecological effects of providing a shared use path along the Insley Street causeway, which Mr Clease's evidence states is critical to the ability to connect the PC85 area to the rest of Mangawhai township. I understand from Mr Van der Westhuizen's evidence that the existing Insley Street road reserve across the causeway provides only limited width, insufficient to deliver the shared path fully within the road reserve. Therefore provision of a future shared path would need to extend partially into the estuary, either through reclamation or construction of a pile based structure.

82. Construction of a path alongside the causeway will require resource consent to undertake works within the CMA. The consent process will enable the ecological effects of these works on the wetlands to be assessed and the effects management framework to be applied to ensure that the ecological effects are no more than minor. Following is a brief overview of the ecological values along the causeway and the potential ecological effects associated with construction of the path.

83. The causeway batter extends several metres into the estuary on either side of the causeway, and the central channel is crossed by a road bridge. Along the north-eastern side of the causeway, the vegetation appears to be mainly grasses, with occasional flax, mangroves and salt marsh vegetation. Along the south-western side, the vegetation includes planted pōhutukawa trees regularly spaced along the causeway, weedy vegetation such as rank grass, *Watsonia* sp., gorse and woolly nightshade on the batter and mangroves and salt marsh vegetation to the base of the batter. The value of the vegetation along the causeway is considered to be low-moderate. The vegetation may provide some limited foraging habitat for "At Risk" bird species such as banded rail.

84. The value of the harbour in this area is considered to be moderate-high, as although it is significantly impacted by the existing causeway, it is known to provide foraging habitat to the Threatened – Nationally critical fairy tern/tara iti.

85. Construction of a shared path has the potential for the following adverse ecological effects:

a. Disturbance of weedy vegetation that may contain "At Risk" lizard species such as copper skink;

b. Disturbance of "At Risk" or "Threatened" coastal bird species;

c. Loss of coastal vegetation such as mangroves and/or pōhutukawa;

d. Sedimentation;

e. Underwater noise effects on marine animals;

f. Toxic material deposition in the CMA.

86. The construction effects can be mitigated by measures such as fauna management plans for lizards and birds, timing piling to be undertaken at low tide to minimise underwater noise, routing the path to minimise vegetation removal and habitat loss, undertaking planting, and appropriate construction methodologies to minimise the risks of sedimentation and toxic material deposition. Without mitigation the magnitude of effects is considered to be low to moderate, but can be mitigated to low, and the overall level of effects low.

87. Operation of the shared path across the causeway has potential for disturbance of "At Risk" or "Threatened" coastal bird species through increased recreational use and dog walking. The pathway will be located adjacent to a busy road and therefore the effect of movement of people is not expected to be significantly greater than the existing level of disturbance. Off leash dogs could result in a moderate-high level of ecological effect due to the potential impact on birds foraging nearby, however this effect can be mitigated by signage requiring dogs to be on a leash (including on the approaches to the causeway), education signs about the bird fauna, and a barrier separating the path from the estuary. The magnitude of operational effects is considered to be moderate without mitigation, but able to be mitigated to low, and the overall level of effect low.

Assessment of effects on tara iti / fairy tern

88. Tara iti / New Zealand fairy tern is the rarest breeding bird in New Zealand, with a conservation status of Threatened – Nationally Critical, with only a very small number (tens) of known individuals. The Mangawhai Harbour is the most important breeding ground for tara iti, which breeds on the sandspit (2 km north-east of the PC85 Site). Tara iti forage on the wing for small fish such as gobies within

the channels of the Mangawhai Harbour or just offshore. Tara iti are considered to be of Very High ecological value in the EcIAG framework.

89. The main potential risks that PC85 poses to tara iti are increasing disturbance to feeding individuals in the middle harbour through increased recreational activity, particularly increased activity on the tidal flats at low tide which is the peak time for foraging (e.g. from people and off-leash dogs), increased turbidity as a result of increased suspended sediments in the water, and increased accumulation of contaminants in the estuary. Increased disturbance during foraging could reduce chick-rearing success. Effects on water quality could reduce habitat suitability, prey availability, or lead to toxicity effects.

90. Despite the indication of a proposed future accessway on the Structure Plan (now to be removed), which as discussed is already present, PC85 is unlikely to result in increased boat activity in the middle harbour, as the current boat accessways are located near the harbour mouth. If a ramp was ever proposed at the existing accessway, the effects would need to be assessed at the time. PC85 will result in an increased population in the area, and therefore, along with construction of a path along the coastal edge, there will be some increase in people, and dogs, walking along the foreshore and on the mud flats. However, the presence of the campground means that activity levels by people and dogs over the peak summer period (which coincides with the tara iti breeding season) are already high. Therefore there the potential change in the existing magnitude of impact before mitigation is considered to be low-moderate.

91. Proposed dog controls, including signage requiring dogs to be on a leash along the walkway and requiring them to be contained on residential properties or otherwise leashed, will help to mitigate any increase in effects. Education signage about the bird species of the harbour could assist in compliance. Sedimentation and water quality effects are proposed to be mitigated through the proposed erosion and sediment control, restrictions on roof materials and treatment of runoff. Following mitigation, the magnitude of residual effects on tara iti foraging and breeding, and the overall level of effect, are considered to be low.

Assessment of effects on Australasian bittern

92. Australasian bittern's (Threatened – nationally critical) typical habitat is "*tall, dense beds of raupo and reeds in freshwater wetlands, wet habitats with a mixture of water purslane and willow weed, and damp pasture infested with large clumps of*

rush or introduced tall fescue" [10]. The eBird records for bittern indicate that in the Mangawhai area it has mainly been found outside of the CMA, with only one record within the harbour, compared to over 30 records in the wider Mangawhai area. Bittern are considered to be of Very High ecological value in the EcIAG framework.

93. The main areas of potential bittern habitat in the PC85 Site (i.e. the proposed SNA wetland areas) are proposed to be protected and enhanced as part of PC85. The proposed coastal path goes along the edges of the large SNA quality wetlands on the PC85 Site, which provide potential breeding and foraging habitat for bittern. The paths are not proposed to extend into these wetland areas. The main potential effect of these pathways on bittern is disturbance from humans or dogs, or an increase in the numbers of mammalian predators. The mitigation measures proposed to reduce these risks are the ban on cats within the Site, and incorporation of signage around the pathway requiring that dogs be kept on a lead. The mitigation measures proposed, mean that there is expected to be a low magnitude of effect on bittern within the wetland, and a low overall level of effect.

94. In terms of effects on bittern outside of the PC85 area, such as through increased recreation along the harbour edge and construction of a shared path along the causeway, these are expected to be low as the harbour does not provide ideal habitat for bittern, there are existing effects associated with recreation, and mitigation measures employed such as during path construction and restrictions on dogs will reduce these effects.

RELEVANT REGULATORY DOCUMENTS

National Policy Statement for Freshwater Management 2020

95. The main objective of the NPS-FM is to ensure health and well-being of water bodies and freshwater ecosystems are prioritised. PC85 is in accordance with the NPS-FM as all freshwater ecosystems have been identified within the Site, no reclamation is proposed and any potential significant adverse effect can be appropriately avoided, minimised, remedied or offset. Furthermore, PC85 provides opportunities to protect and enhance the freshwater ecosystems via protection and planting activities.

National Environmental Standards for Freshwater 2020

[10] Heather, B and Robertson, H (2015) The Field Guide to Birds of New Zealand. 464pp. Penguin Book.

96. The NES-F main purpose is to regulate activities that pose risks to the health of freshwater and freshwater ecosystems. The NES-F sets requirements for carrying out these activities. Anyone carrying out these activities will need to comply with the relevant standards.

97. In summary, as an urban environment, within the PC85 area the NES-F would control the following activities where they occur within the specified setbacks from a stream or wetland: vegetation clearance, earthworks, taking, use, damming or diversion of water and the discharging of water.

98. The PC85 Structure Plan demonstrates that roading alignments and areas allocated for residential housing avoid the identified wetlands and adhere to the appropriate setbacks as far as possible.

99. Where wetland or stream features cannot be avoided, measures, such as bridging, are proposed to minimise adverse effects. Furthermore, at the resource consenting phase, detailed assessment would be required, and the effects management hierarchy applied to ensure the proposed activities meet the relevant NES-F standards and adverse effects on the health of freshwater and freshwater ecosystems are no more than minor.

100. In summary, I consider that there is a clear consenting pathway available under the NES-F to enable PC85 to be successfully delivered.

National Policy Statement for Indigenous Biodiversity 2023

101. The main objective of the NPS-IB is to maintain indigenous biodiversity across Aotearoa New Zealand so that there is at least no overall loss in indigenous biodiversity. The NPS-IB also provides further direction to protect, maintain and restore indigenous biodiversity.

102. All key indigenous vegetation and habitats have been identified within the Site. Two saltmarsh wetlands of SNA quality have been identified within the plan change area.

103. Consistent with the objectives and policies of the NPS-IB, PC85 seeks to protect and enhance the existing native vegetation which would at least maintain indigenous biodiversity across the Site.

104. Furthermore, PC85 seeks to restore and increase the indigenous biodiversity through the proposed riparian and wetland buffer restoration.

Operative Kaipara District Plan 2022

105. Consistent with the relevant objectives within Chapter 3A of the KDP (Objectives 3A.4.4 & 3A4.6), the PC85 provides for new reserve connections within the Mangawhai Structure Plan Area. All areas of significant terrestrial and freshwater ecological value within the Site are proposed to be protected, and areas of degraded ecological quality are to be enhanced.

106. Consistent with the objectives and policies in Chapter 6 of the KDP, through the proposed protection of wetlands and enhancement and protection of wetland, stream and coastal margins, PC85 will provide ample opportunity to maintain and enhance the quality of the existing ecological features and their fauna habitat values and create ecological corridors within the Site through revegetation planting, while allowing for appropriate subdivision.

RESPONSE TO S42A REPORT

107. I have reviewed the s 42A report, prepared by Jonathan Clease on behalf of Kaipara District Council, with specific reference to the sections on ecology.

108. I also reviewed the ecology technical specialist report prepared by Jason Graham Smith on behalf of Kaipara District Council.

109. Mr Smith identified the following key ecological issues:

a. A lack of assessment of key ecological features (wet pasture in the southern area EcIA);

b. A lack of assessment of matters beyond the plan change boundaries (impacts on Fairy Tern/ Tara Iti and the shared path across the estuary);

c. In the case of the Southern EcIA, not recognising the potential effects generated by the plan change beyond construction effects;

d. Not considering the impacts on fauna from the potential additional disturbance from increased activity in the harbour and along the estuarine walkways;

e. Where effects have been recognised, the effects management proposed has not been adequately captured within the provisions of the plan change;

f. The plan change could better align with the higher-level planning documents, through the recognition of the SNAs in the Structure Plan and removal of the provisions that indicate disturbance to the SNA wetlands.

110. Mr Clease is in general agreement with Mr Smith, and proposes a number of amendments to the Mangawhai East Development Area provisions to improve their clarity and effectiveness, to address issues raise by Mr Smith and submitters, and to better reflect the recommendations in the northern area EcIA report.

111. Mr Clease recommends that a high level assessment of the potential ecological effects associated with the plan change that extend beyond the Site should be undertaken, particularly with respect to the coastal access, coastal walkway and the causeway shared path, recognising that more detailed assessment would be undertaken during resource consent application processes.

112. Mr Clease also notes that there is potential for positive ecological benefits and an enhanced coastal environment.

113. I respond to the above matters raised by Mr Clease and Mr Smith below.

Lack of assessment of key ecological features (wet pasture in the southern EcIA)

114. Mr Smith has raised concern that the "wet pasture" areas identified in the southern area EcIA could be natural inland wetlands. Natural inland wetlands are protected under the NPS-FM and NES-F and wetland extent would be assessed again at the resource consenting phase. The wet pasture areas are small, and therefore I consider that determination of whether or not these wet pasture areas are wetlands is not fundamental for PC85.

A lack of assessment of matters beyond the plan change boundaries

115. I agree that a high level assessment of potential ecological effects beyond the plan change boundaries should be undertaken. An assessment of potential ecological effects beyond the plan change boundaries is provided in the "Potential Ecological Effects" section above.

In the case of the Southern EcIA, not recognising the potential effects generated by the plan change beyond construction effects

116. I agree that the potential ecological effects associated with PC85 was inadequately assessed in the southern EcIA, however in my opinion the assessment provided in the northern EcIA can be appropriately applied to the southern area, along with the associated recommendations, and SNAs have been identified across both areas.

Not considering the impacts on fauna from the potential additional disturbance from increased activity in the harbour and along the estuarine walkways

117. I agree that an assessment of potential ecological effects associated with increased activity in the harbour and estuarine walkways should be undertaken. An assessment of these potential effects is provided in the "Potential Ecological Effects" section above.

Where effects have been recognised, the effects management proposed has not been adequately captured within the provisions of the plan change

118. I have reviewed the changes proposed by Mr Clease to the Mangawhai East Development Area provisions to address the concerns raised by Mr Smith and various submitters.

119. I agree that the proposed SNAs should be identified on the Structure Plan.

120. I agree with the incorporation of the "Effects on indigenous biodiversity values" as a matter of discretion in provision DEV X-G-R7 so that the effects of lighting on biodiversity can be considered, as recommended in the northern EcIA report.

121. With respect to the changes proposed by Mr Clease to include dogs and mustelids in site covenants in the criteria for a Restricted Discretionary activity status in DEV X-R1 and inclusion of dogs in policies for the Mangawhai East Development Area (DEV X-P4), I support the exclusion of cats and mustelids due to their well-established predation risks and their propensity to roam beyond property boundaries.

122. I am not opposed to the exclusion of dogs; however, I consider that alternative management approaches may also be appropriate. In particular, the potential ecological risks associated with domestic dogs can be effectively managed through

measures that ensure dogs are contained on the property at all times (e.g. secure fencing, dog run, electronic pet containment fence) unless controlled on a leash. Unlike cats, dogs are generally more able to be contained. In my view, a containment-based approach could achieve similar ecological outcomes while providing greater flexibility for future residents.

123. I agree with the extension to the weed and pest control on esplanade reserve enhancement to a minimum period of 24 months and requiring certification of the restoration plan by KDC.

124. There are currently no requirements in the Mangawhai East Development Area provisions to require weed and pest control in wetland and riparian margins of the Site. The northern area EcIA report and Mr Smith recommend weed and pest control in wetland and riparian margins of the Site. Therefore I recommend that the DEV X-P4 policy should be extended to require weed and pest control in the riparian margins of the wetlands and streams of the Site.

125. The current DEV X-P4 policy requiring riparian planting around wetland and freshwater resources refers to this being done in conjunction with delivery of public access paths. I agree with Mr Smith that this provision does not indicate that this planting is required before any walks are constructed. However, I do note that in DEV X-R1 Subdivision that native revegetation planting to a minimum of 10 m from the edge of natural wetlands, intermittent and permanent streams established and protected in perpetuity is part of the criteria for subdivision to be a Restricted Discretionary activity.

126. The current DEV X-R1 Subdivision 1. c. provision relating to requirements for native revegetation planting along the edges of wetlands and streams refers to only those wetlands and streams identified in the Mangawhai East Structure Plan. I consider that this should be extended to include all natural inland wetlands and permanent and intermittent streams, as the locations and extent of wetlands and streams will be reassessed at the resource consent application stage.

127. I agree with Mr Smith that all plans that govern ecological enhancements (e.g. planting plans, weed and pest control plans, covenant management plans) should be provided to KDC to act in a certification capacity, to ensure the plans align with best practice. The current provisions do not provide for this (except for the esplanade reserve enhancement plan).

128. While I'm not opposed to a 30 m setback from the CMA boundary, I consider the required esplanade reserve provides an adequate setback from the CMA.

129. I agree with the inclusion of defined riparian yards in the permitted activity criteria for earthworks (DEV X-G-R1). The matters of discretion in this rule should be extended to include biodiversity values.

130. I agree with changes to DEV X-G-R2 indigenous vegetation clearance to exclude clearance of short indigenous vegetation as a permitted activity to protect wetland vegetation (although note that vegetation clearance in natural inland wetlands is also regulated by the NES-F), and narrowing the width of permitted vegetation clearance for fencelines from 3.5m to 1m.

131. DEV X-G-RW c) ii. should be amended to exclude vegetation removal from wetlands and the proposed SNAs, as with the provision as currently worded vegetation clearance within the SNAs would be permitted by this clause (although note that vegetation clearance within wetlands is also controlled by the NES-F).

RESPONSE TO SUBMITTERS

132. I have read the submissions that are relevant to my area of expertise and I briefly address the following key points raised in the submissions:

    a. Effects on ecosystems and wildlife;

    b. Adequacy of fauna data;

    c. Pet animal controls;

    d. Effects on the estuary, including sedimentation;

    e. Harbour access.

133. While the body of this evidence addresses most of the matters raised by submitters relating to ecology, I provide the following further comments:

    a. The effects on ecosystems and wildlife have been further assessed within my evidence to better consider the potential effects of PC85 on the area outside of the Site and specifically for tara iti and Australasian bittern.

    b. DoC considers that there has been insufficient field work to detect lizards or bats or to define the locations and use of threatened birds in both the

northern and southern areas. Existing data has been utilised to identify what species are potentially present on the Site, and the northern area EcIA has conservatively assessed lizards, bats and threatened bird species are present within the PC85 Site in areas of potentially suitable habitat. Further assessment of potential effects on two threatened bird species has been provided above. These species are all protected under the Wildlife Act 1953. The areas of most significant biodiversity value have been identified as SNAs and are to be protected from development. Assessments of the potential impacts of development on lizard, bats and birds will need to be assessed in resource consent applications, and suitable mitigation measures proposed as part of the effects management framework. This could include surveys, relocation of lizards, assessment of bat habitat features, and restrictions on development timing and methodologies. Overall, dedicated fauna surveys at the plan change phase are not considered necessary.

c. DoC considers that the keeping of dogs and mustelids, as well as cats as previously recommended, be banned from the plan change area. Other submitters support the ban of cats. Some submitters are concerned that the policy should allow existing landowners to keep cats. Amendments proposed by Mr Clease have extended the exclusions to include dogs and mustelids. I support the exclusion of cats and mustelids and support specific controls on dogs such as containment. The existing policy wording allows for existing landowners to keep cats or dogs.

d. The effects on the estuary associated with PC85 have been further assessed above. Earthworks activities will be undertaken in accordance with the Auckland Council Guidance Document GD05 which sets out best practice standards for erosion and sediment control.

e. Further assessment of the ecological effects of increased harbour access has been provided above.

CONCLUSION

134. It is my opinion that PC85 has been designed in a manner that recognises and protects the existing key ecological features and values while providing for future residential development within areas with minimal existing ecological values.

135. The PC85 Structure Plan and Development Area provisions, with the amendments proposed above to reflect the recommendations of the northern EcIA report and the review by Mr Smith, provide an appropriate framework that seeks to protect and enhance indigenous terrestrial, freshwater and coastal biodiversity values of the Site and the surrounding environment, and in the long term will provide for a net indigenous biodiversity gain.

Mark Pierre Delaney

16 December 2025

Attachments:

A. PC 85 Area

B. Photos

C. a)

b)

c)

d)

Figure 1 a)-d). The existing accessway along the paper road at the northern edge of the PC85 Site

a)

b)

c)

Figure 2 a)-c). The existing coastal path north of the campground