# Memo

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| To: | Nick Taylor; Cuttriss Ltd | Job No: | 2210 |
| From: | Zac Milner; RMA Ecology Ltd | Date: | 04 July 2022 |
| cc: | Graham Ussher; RMA Ecology Ltd | | |
| Subject: | 33 Main Highway, **Ō**taki: Ecological Values Assessment | | |

Dear Nick,

In this memorandum we present the method and results of an ecological values assessment undertaken by RMA Ecology Ltd at 33 Main Highway, Ōtaki, hereafter referred to as 'the site' (Figure 1). We have undertaken this work as per the agreement dated 22 February 2022 with Barber Commercial Ltd as our client.

We understand that the client wishes to obtain an indication of the ecological values of the site as part of design work for a future resource consent application to subdivide the site. Our results will be used by the client to help assess the 'feasibility' of development of the site. 'Feasibility' implies the identification of issues that may be critical to determining a design (e.g., yield or lot layout) or which may be important when obtaining resource consents.

The scope of our assessment was the identification of:

- Wetlands that qualify under the National Policy Statement – Freshwater Management (NPS-FM) and Greater Wellington Regional Council (GWRC) local policies;
- Watercourses that qualify as streams under the GWRC Natural Resources Plan;
- Indigenous vegetation that may qualify as 'significant' under the GWRC Regional Policy Statement, or individual trees that are protected under the Kapiti Coast District Plan (KCDP); and
- The potential for native wildlife (lizards, birds, bats) to be present.

Figure 1. Aerial image of the site.

# 1 Assessment method

We used a combination of desktop-based research and a site visit to collect data for the site. The site visit was carried out on 12 April 2022. The methods described below were used for each ecological feature type.

Wetlands

The site was assessed for wetlands based on the definition in the GWRC Natural Resources Plan and the Resource Management Act 1991 (RMA). Loss of any wetland area is discouraged by GWRC. All wetlands that are dominated by indigenous vegetation are considered to be critically threatened environments where protection should be prioritised.

The site was also assessed for wetlands based on the definition within the NPS-FM. We understand that the NES-F and NPS-FM require Councils to ensure that the loss of extent of 'natural inland wetlands' is avoided, with few exceptions. The NPS-FM/ NES-F also requires a restriction on activities within a 10 m buffer around those wetlands, and controls on the level of potential adverse effects (from, for example, discharge of water or diversion of water) within a 100 m buffer around the wetland.

Together, these requirements may place considerable restrictions on the activities within a broad area around mapped wetlands, including how earthworks are undertaken, the level to which re-contouring may occur, the creation of impervious surfaces, diversion of stormwater from the buffer area, and discharge of stormwater or treatment of stormwater within the buffer areas.

The methodology applied for the assessment of wetlands at this site was as follows:

- Visual assessment of areas where the vegetation composition includes species which are scored as wetland obligate, facultative wetland, or facultative (e.g. rushes, wet pasture or 'wetland-type' vegetation);
- Where these compositions exist, an assessment of vegetation, soils, and hydrology is required:
    - Vegetation is assessed through plant identification and percentage cover estimates (as per the NPS-FM Clarkson delineation protocol[1]) of 2 m x 2 m plot areas within each potential wetland area;
    - Soils are assessed by applying the criteria outlined in Fraser (2018)[2] for identifying hydric (wetland) soils – which involves excavation and examination for gleyed, mottled or wet soils;
    - Hydrology is assessed by applying the criteria outlined in the Ministry for the Environment tool[3].
- A wetland can be classified based on the definition within the GWRC and the RMA, but not be classified as a 'natural wetland' under the NPS-FM because the definition of the latter includes some exclusions. For example, the percentage cover of pasture species and the current and historic land use have a bearing on the classification of a wetland.
- The boundaries of potential wetland areas are delineated by carrying out assessments of the various vegetation communities and through professional judgement.

[1] Ministry for the Environment. 2020. Wetland delineation protocols. Wellington: Ministry for the Environment.
[2] Fraser S, Singleton P, Clarkson B 2018. Hydric soils – field identification guide. Envirolink Tools Contract C09X1702. Manaaki Whenua – Landcare Research Contract Report LC3233 for Tasman District Council.
[3] Ministry for the Environment. 2021. Wetland delineation hydrology tool for Aotearoa New Zealand. Wellington: Ministry for the Environment.

Streams

Streams were classified onsite according to the GWRC Proposed Natural Resources Plan (PNRP):

> "Rivers and streams: for the purpose of determining stream width or intermittently flowing rivers and streams in Category 2 surface water bodies, the active bed is the area that is subject to at least frequent flows and is predominantly un-vegetated and made up of silt, sand, gravel, boulders or similar."

Native vegetation

Vegetation was mapped and described in terms of its composition and values. An assessment of ecological significance (as defined in the GWRC Regional Policy Statement (RPS) – Policy 23) was conducted. The criteria for ecological significance require a score of a species population or habitat under five criteria groupings (representativeness, rarity, diversity, ecological context, and tangata whenua values). All except tangata whenua values can be assessed by an ecologist.

Individual species were recorded and their threat status checked against the national threatened species classification list for vascular plants[4].

The KCDP has provisions for the protection of native vegetation, and of note for this site, certain native species which exceed certain size thresholds.

Wildlife

An assessment of birds, bats and lizards was conducted by reviewing the relevant databases:

- Bird Atlas of New Zealand;
- DOC bat database; and
- National Amphibian and Reptile (Herpetofauna) Database.

A survey was also conducted during the site visit. The survey involved general visual observations of potential habitat and wildlife. For lizards, debris (e.g. logs, corrugated iron) was inspected; however, this did not constitute a comprehensive survey using a range of methods (e.g. the use of artificial cover objects, pitfall traps, etc.).

For species which were assessed as possibly being present, their threat status was checked against the national threatened species classification lists for birds[5], bats[6], and reptiles[7].

[4] de Lange, Peter J., Jeremy R. Rolfe, John W. Barkla, Shannel P. Courtney, Paul D. Champion, Leon R. Perrie, Sarah M. Beadel, Kerry A. Ford, Ilse Breitwieser, Ines Schönberger, Rowan Hindmarsh-Walls, Peter B. Heenan and Kate Ladley (2017). Conservation status of New Zealand indigenous vascular plants. New Zealand Threat Classification Series 22. 82p.
[5] Robertson, Hugh A., Karen A. Baird, Graeme P. Elliott, Rodney A. Hitchmough, Nikki J. McArthur, Troy Makan, Colin M. Miskelly, Colin. J. O'Donnell, Paul M. Sagar, R. Paul Scofield, Graeme A. Taylor and Pascale Michel (2021). Conservation status of birds in Aotearoa New Zealand. New Zealand Threat Classification Series 36. Department of Conservation, Wellington. 43p.
[6] O'Donnell, C. F. J., K.M. Borkin, J.E. Christie, B. Lloyd, S. Parsons and R.A. Hitchmough (2017). Conservation status of New Zealand bats New Zealand Threat Classification Series 21. 4p.
[7] Hitchmough, Rod, Ben Barr, Carey Knox, Marieke Lettink, Joanne M. Monks, Geoff B. Patterson, James T. Reardon, Dylan van Winkel, Jeremy Rolfe and Pascale Michel (2021). Conservation status of New Zealand reptiles. New Zealand Threat Classification Series 35. Department of Conservation, Wellington. 15p.

# 2 Results

The ca. 5 ha site is flat and part of the flood plain of the Ōtaki River. It has been greatly modified from its natural pre-human condition and has been intensively worked for many decades. A summary of the ecological values is provided below:

1. Wetlands: No wetlands were identified at the site that meet either the RMA/GWRC definition or the NPS-FM definition. There was almost no indication of potential wetlands; however, to be certain, three plots in the 'wettest' areas on the site were measured (Plates 1-6).

Plate 1. Site of plot 1 – pasture.


Plate 2. Soil core for plot 1 – non-hydric.

Plate 3. Site of plot 2 – pasture.


Plate 4. Soil core for plot 2 – non-hydric.

Plate 5. Site of plot 3 – exotic weedland.


Plate 6. Soil core for plot 3 – non-hydric.

2. Streams: No streams were identified at the site that meet the GWRC definition. An elongated depression along most of the length of the eastern boundary of the site was probably created to assist drainage in the area, but is almost completely vegetated with terrestrial species and is not subject to frequent flows (Plates 7-8) – it is therefore not a stream.


Plates 7-8. Possible historic drain that does not meet the GWRC definition of a stream.

3. Vegetation: The site has been used for agricultural/horticultural purposes for many decades, and as such the vegetation is heavily modified and representative of this land use. Five vegetation types were identified at the site and are described below (Figure 2). None of the vegetation at the site meets the significance criteria prescribed in the GWRC RPS.

    - Exotic pasture: A composition of exotic pasture species such as clover (Trifolium repens), browntop, (Agrostis capillaris) and narrow-leaved plantain (Plantago lanceolata) covers approximately two-fifths of the site (Plates 1 & 3).
    - Windrows: Planted poplar (Populus sp.) trees form a > 10 m high canopy with a self-seeded understory of invasive exotic species such as evergreen buckthorn (Rhamnus alaternus), blackberry (Rubus fruticosus) and banana passionfruit (Passiflora 'Tacsonia' subgroup) (Plate 9). Native species that are occasionally present in this understory include karamū (Coprosma robusta), taupata (Coprosma repens), tōtara (Podocarpus totara), cabbage tree (Cordyline australis) and kōhūhū (Pittosporum tenufolium). This vegetation type is narrow and arranged in rows across the west and centre of the site.
    - Exotic weedland: Blackberry forms dense thickets along the western boundary (Plate 10). In some places a canopy of evergreen buckthorn has formed. Nasturtium (Tropaeolum majus) forms a dense ground cover with interspersed wandering willie (Tradescantia fluminensis) along parts of the eastern boundary. Native species are generally excluded but there are occasional māhoe (Melicytus ramiflorus), karamū, taupata, and pōhuehue (Muelanbeckia australis).
    - Mixed native-exotic scrub: Vegetation comprising approximately 50:50 exotic and native species forms a dense patch at the site (Plate 11). Grey willow (Salix cinerea) and māhoe form a canopy along with occasional evergreen buckthorn, tree lucerne (Cytisus proliferus), karo (Pittosporum crassifolium), and fig (Ficus carica). Ground covers and shrubs that are common in the understory and along the edges include native karamū, taupata, pōhuehue and harakeke (Phormium tenax). Exotic species include blackberry, inkweed (Phytolacca octandra), arum lily (Zantedeschia aethiopica), wandering willie, and pampas (Cortaderia selloana).
    - Native plantings: A band of what appears to be native plantings exist along the northern boundary of the property (Plate 12). It is assumed that they are planted because of their position at the site (along a boundary), their similar age and height (ca. 3-4 m high), their regular spacing, the species composition (commonly planted

native species), and their relative dominance over exotic species compared with other parts of the site. The species include māhoe, taupata, kōhūhū, akeake (Dodonaea viscosa), tarata (Pittosporum eugenioides), kānuka (Kunzea robusta), kapuka (Griselinia littoralis), five-finger (Pseudopanax arboreus), large-leaved kōwhai (Sophora tetraptera), southern rātā (Metrosideros umbellata), and kawakawa (Piper excelsum). Exotic blackberry, evergreen buckthorn, bindweed (Calystegia sylvatica), and German ivy (Delairea odorata) are scattered throughout.

Plate 9. Windrows of poplar.

Plate 10. Blackberry thicket.

Plate 11. Mixed native-exotic scrub.

Plate 12. Native plantings.

4. Threatened plants: The only species identified at the site which have a threat status are kānuka and southern rātā (both 'Threatened – Nationally Vulnerable'); however, these species (along with all native species in the Myrtaceae family) were only recently afforded a higher threat status due to the emerging threat of myrtle rust (Austropuccinia psidii). It is well recognised by ecologists and Councils that kānuka, southern rātā, and other common native species in the Myrtaceae family should not receive a higher level of protection for individual trees (or vegetation communities that they are a part of) compared to 'Not Threatened' species. In addition, southern rātā is not native to the area and was very likely planted.

5. Protected plants: The KCDP has provisions for the protection of certain native species which exceed specific size thresholds. The species which are present at the site and are listed in the KCDP as Key Indigenous Tree Species are presented in Table 1 and mapped in Figure 2. Whether they are self-seeded or planted (and the purpose for being planted) also affects their level of protection under the KCDP. They are generally of low to moderate ecological value.

   All of the native trees located along the northern boundary of the site appear to be planted, and therefore our understanding is that they would have a reduced protection status under the KCDP Key Indigenous Tree Species protection rules. Native trees elsewhere on the site (see Figure 2) are self-seeded and our understanding is that the level of protection afforded to

these is greater. An RMA planner should be consulted to assess the level of protection and Activity Status required to modify or remove native trees listed in **Table 1** across this site.

**Table 1.** List of native plant species that are both present at the site and listed as Key Indigenous Tree Species in the KCDP, their dimension thresholds, and the number of individuals at the site that meet these thresholds.

| Species | Common name | Dimensions that relate to rules | | | Number at site |
|---|---|---|---|---|---|
| | | Diameter (cm) | Circumference (cm) | Height (m) | |
| *Cordyline australis* | Cabbage tree | 30.0 | 95 | 4 | 4 |
| *Dysoxylum spectabile* | Kohekohe | 15.0 | 47 | 4 | 1 |
| *Podocarpus totara* | Tōtara | 30.0 | 47 | 4 | 2 |
| *Kunzea robusta* | Kānuka | 15.0 | 47 | 3 | 3 |
| *Melicytus ramiflorus* | Māhoe | 30.0 | 95 | 4 | 16 |


**Figure 2.** Map of vegetation types and Key Indigenous Tree Species at the site.

6. Birds: Two native bird species were detected at the site: pukeko (Porphyrio melanotus) and fantail (Rhipidura fuliginosa) – neither of which are rare or threatened. Two exotic bird species were detected at the site: Australian magpie (Gymnorhina tibicen) and pheasant (Phasianus colchicus). There are likely to be other bird species which are common in rural or peri-urban environments which utilise the site – none of which are likely to be rare or threatened.

7. Bats: The DOC bat database was reviewed for records in the area surrounding the site. Despite several surveys having taken place, there are no records of any bat species within 18 km of the site. Three records exist within 25 km:

   - A lesser short-tailed bat (Mystacina tuberculata) 18.1 km south-east of the site in the Tararua Ranges in 1921;
   - A lesser short-tailed bat 19.7 km north-west of the site in Levin in 1958; and
   - A long-tailed bat (Chalinolobus tuberculatus) 20.3 km south-west of the site on Kapiti Island in 2017.

   The distance from the site of these records, the age of two of the records, and the lack of quality habitat at the site or in surrounding areas means that it is very unlikely that bats use this site, even in a transient manner.

8. Lizards: During the site survey, no lizards or lizard signs (e.g. scat, slough) were observed. There are no records for the site; however, four native species are known to inhabit the general vicinity (Table 2), including one (northern grass skink) that is recorded from similar habitat nearby and is very likely to be present in parts of the site.

   The areas of thick vegetation such as blackberry and pōhuehue (Plate 10), and debris such as corrugated iron (Plates 13-14) on site provides suitable habitat for northern grass skinks. There is no vegetation on site that provides suitable habitat for native arboreal (tree dwelling) geckos (e.g. barking gecko and Ngahere gecko).

   All native lizards are absolutely protected under the Wildlife Act 1953 and consequently a Wildlife Act Authority from the Department of Conservation is required to undertake activities within habitat that may support native lizards and where activities may result in a significant impact on a species or habitat. There is often a requirement to relocate lizards to alternative, protected habitat if avoidance of effects is not practicably feasible.

   If a future development could impact the applicable habitat at the site, a survey for native lizards should be conducted as part of any future assessment of ecological effects. The pasture at the site should not be left to grow rank as this would create further habitat for lizards which may then need to be surveyed and salvaged prior to development.

Plate 13. Debris such as timber and corrugated iron.

Plate 14. Abandoned shed may provide lizard habitat.

**Table 2.** Lizard species recorded in the national Herpetofauna database from nearby the site.

| Species | Common name | Threat Status (Hitchmough *et al.*, 2015) | Likelihood of occupying site | Applicable habitat |
|---|---|---|---|---|
| *Naultinus punctatus* | Barking gecko | At risk - declining | Nil | Nil |
| *Mokopirirakau* "southern North Island" | Ngahere gecko | At risk - declining | Nil | Nil |
| *Oligosoma ornatum* | Ornate skink | At risk - declining | Very low/ Nil | Nil |
| *Oligosoma zelandicum* | Glossy brown skink | At risk - declining | Very low | Weedy vegetation margins (blackberry) |
| *Oligosoma aeneum* | Copper skink | Not threatened | Low | Weedy vegetation margins (blackberry) |
| *Oligosoma polychroma* | Northern grass skink | Not threatened | Likely | Weedy vegetation margins (blackberry) |

# 3 Conclusions

A site visit and desktop review of the site found the following:

- There are no wetlands at the site that meet either the RMA/GWRC definition or the NPS-FM definition.
- There are no streams at the site that meet the GWRC definition.
- The vegetation at the site is predominantly pasture, windrows and weedland, although native species are also present throughout the site.
    - There is no vegetation at the site that meets the criteria for ecological significance prescribed in the GWRC RPS.
    - The best example of native vegetation is the planted natives along the northern boundary of the site. This area could be retained and enhanced through a planting programme and weed control.
    - Twenty-six individual trees of five native species are present at the site that meet the criteria of Key Indigenous Tree Species in the KCDP. These trees are of low to moderate ecological value.
- A suite of native and exotic bird species common in rural or peri-urban settings is likely to be present at the site. None are likely to be rare or threatened.
- Bats are very unlikely to use the site.
- There are nearby records for native lizards and there is suitable habitat at the site for one of those species (northern grass skink). Therefore, a survey for native lizards should be conducted as part of any future assessment of ecological effects.
    - The pasture at the site should not be left to grow rank as this would create further habitat for lizards which may then need to be surveyed and salvaged prior to development.

We trust that this report provides the necessary information to assist with design work for the site.

Please contact us with any questions that you have[8].

Yours sincerely,

Zac Milner

Ecologist

RMA Ecology Ltd[9]

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[8] s 9(2)(a)

[9] This report has been prepared for the benefit of our Client with respect to the particular brief given to us and it may not be relied upon in other contexts or for any other purpose without our prior review and agreement. Any use or reliance by a third party is at that party's own risk. Where information has been supplied by the Client or obtained from other external sources, it has been assumed that it is accurate, without independent verification, unless otherwise indicated. No liability or responsibility is accepted by RMA Ecology Limited for any errors or omissions to the extent that they arise from inaccurate information provided by the Client or any external source.