

PROBABLE SIGNIFICANT NATURAL AREAS FOR UPPER HUTT CITY DISTRICT PLAN



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Indigenous forest and scrub in Keith George Memorial Park along State Highway 2 in Upper Hutt City.

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1. INTRODUCTION

Upper Hutt City Council (UHCC) is reviewing provisions relating to significant natural areas in their District Plan.

This project has arisen for a number of reasons:

- A new Regional Policy Statement needs to be given effect to.
- Existing provisions could be made more efficient and effective.
- There is a need to provide more consistency in District Plan provisions within Wellington region.

UHCC will review and amend provisions relating to significant natural areas in its District Plan to:

- Meet the statutory requirements of:
 - Section 6(c) of the Resource Management Act (RMA) 1991;
 - Policies 23, 24 and 47 of the Regional Policy Statement for the Wellington region.
- Meet community aspirations for the management of significant natural areas.
- Achieve better consistency in how significant natural areas are managed through the wider region.

This initial project to identify probable Significant Natural Areas (SNAs) will be followed by consultation with landowners who own land upon which Significant Natural Areas have been identified, and Plan changes to protect significant natural values appropriately.

Wildland Consultants was engaged by UHCC to undertake this project and to collect robust and consistent ecological information to inform this early stage of the Plan change process.

2. PROJECT SCOPE

In 2016, UHCC undertook a desktop assessment of areas that could be potentially ecologically significant on private land only (Wildland Consultants 2016). The current project is both an update of this earlier work and has been expanded to include the substantial areas of public land that are known to have high ecological values. This report includes both a Desktop Analysis and Road Side Assessment to identify and describe probable Significant Natural Areas in Upper Hutt City that may be incorporated in to a District Plan Change for Upper Hutt City.

2.1 Desktop analysis

The aims of the project are to:

- Identify potential SNAs on private and public land in Upper Hutt City District using the most recent aerial imagery available.
- Delineate the boundaries of all probable SNA to include areas with indigenous ecological values and where possible exclude areas with low or marginal indigenous ecological values.
- Assess the ecological significance of the probable SNAs against the criteria in Policy 23 (Identifying indigenous ecosystems and habitats with significant indigenous biodiversity values - District and Regional plans) of the Regional Policy Statement (RPS) for the Greater Wellington Region (GWRC 2013).
- Provide information on the ecological values and significance assessment of each probable SNA in a readily accessible format.
- Assist with future management decisions by ranking the ecological values within each probable SNA (derived from the desk-top analysis), against the criteria in Wildland Consultants and Kessels Ecology (2015).

2.2 Roadside field assessment

This report also details the roadside field assessment, which aims to:

- Update the probable SNA descriptions based on viewing sites from publicly accessible areas, such as roads.
- Undertake more robust significance assessments informed by the road side viewing of probable SNAs.
- Better match the probable SNA boundaries with the underlying vegetation, cadastral boundaries, and structures in the landscape (e.g. exclude dwellings and other buildings larger than five m² that were not readily visible in aerial photographs or constructed after the photographs were flown).
- Identify probable SNAs.

2.3 Study area

The study area was the Upper Hutt City District (Figure 1). Upper Hutt City District (53,985 hectares) incorporates the Te Awa Kairangi/Hutt River valley from just north of Haywards to its headwaters in the southern Tararua Range. The District extends west across the Akatarawa Range to within three kilometres of the Kāpiti Coast near Paekākāriki, and east to the main spine of the Rimutaka Range. The southern boundary abuts Hutt City District (Figure 1).

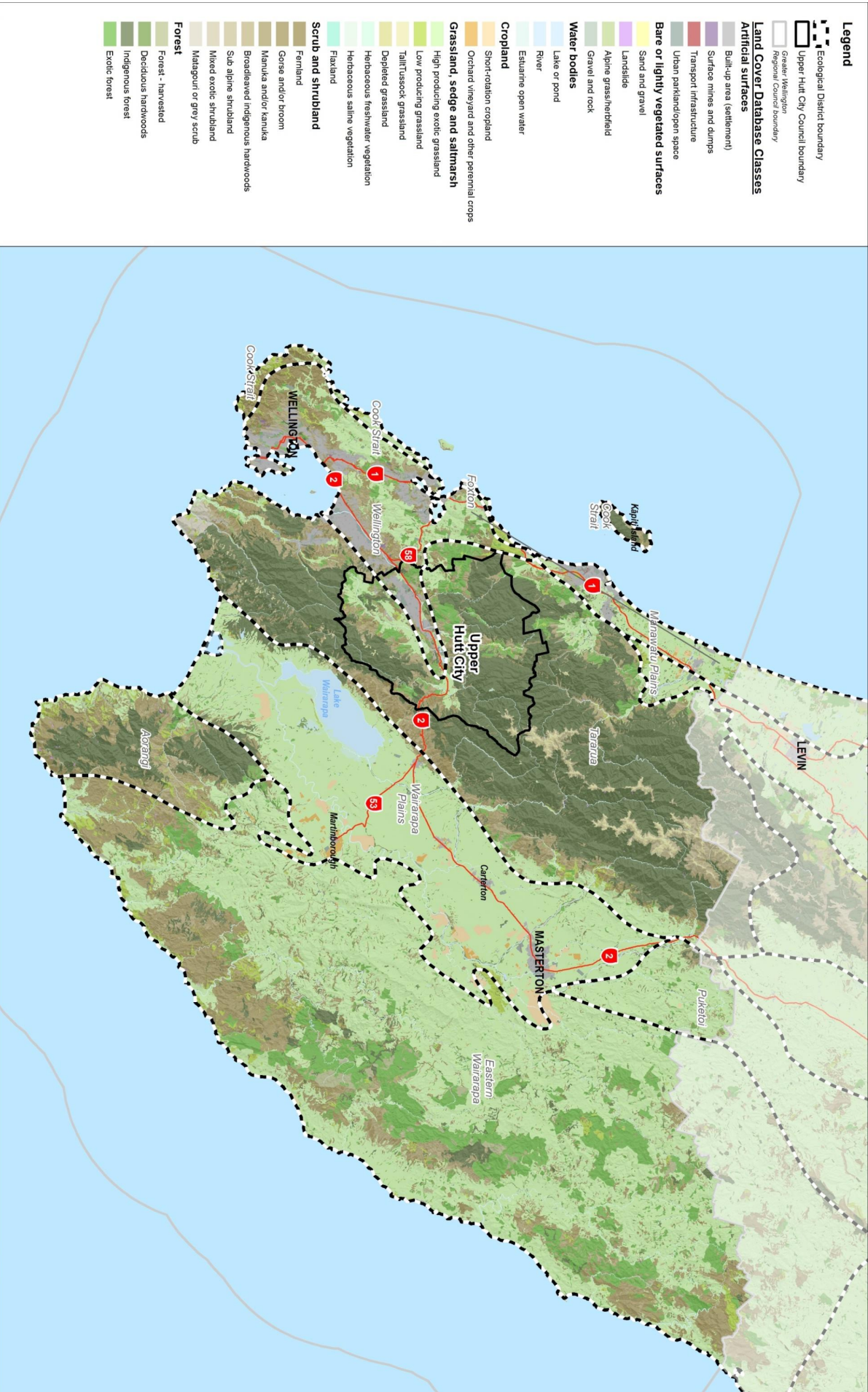


Figure 1. Location of Upper Hutt City, Ecological Districts, and Land Cover (LCDB4.1) for the Wellington region.

<p>Legend</p> <ul style="list-style-type: none"> Ecological District boundary Upper Hutt City Council boundary Greater Wellington Regional Council boundary <p>Land Cover Database Classes</p> <p>Artificial surfaces</p> <ul style="list-style-type: none"> Built-up area (settlement) Surface mines and dumps Transport infrastructure Urban parkland/open space <p>Bare or lightly vegetated surfaces</p> <ul style="list-style-type: none"> Sand and gravel Landslide Alpine grass/herbfield Gravel and rock <p>Water bodies</p> <ul style="list-style-type: none"> Lake or pond River Estuarine open water <p>Cropland</p> <ul style="list-style-type: none"> Short-rotation cropland Orchard vineyard and other perennial crops <p>Grassland, sedge and saltmarsh</p> <ul style="list-style-type: none"> High producing exotic grassland Low producing exotic grassland Tall tussock grassland Depleted grassland Herbaceous freshwater vegetation Herbaceous saline vegetation Flaxland <p>Scrub and shrubland</p> <ul style="list-style-type: none"> Fernland Gorse and/or broom Manuka and/or kanuka Broadleaved indigenous hardwoods Sub alpine shrubland Mixed exotic shrubland Matagouri or grey scrub <p>Forest</p> <ul style="list-style-type: none"> Forest - harvested Deciduous hardwoods Indigenous forest Exotic forest 	<p>Data Acknowledgment</p> <p>Refer to appendix 3 in the related report number 4390a.</p> <p>Report title: Upper Hutt City Council Client: Upper Hutt City Council Date: 13/10/2018 Path: R:\190 Upper Hutt Shm From 07/2018 05 Data File: UpperHuttCity_LandCover_Atlas.mxd</p>	<p>Scale: 1:300,000 Date: 13/10/2018 Cartographer: SP Format: ASX</p>
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Significant waterways have been identified in the Proposed Natural Resources Plan for the Wellington Region (GWRC 2015) thus only three major waterways have been included in this assessment as separate probable SNA sites (Te Awa Kairangi/Hutt River, Akatarawa River, Whakatikei River) although parts of other waterways may be included in one or more probable SNA.

Upper Hutt City contains large areas of indigenous secondary scrub, much of which is adjacent to, and contiguous with, extensive areas of indigenous forest and/or protected areas. Many of these areas are ecologically significant because they provide buffering to adjacent areas of indigenous vegetation, habitat for Threatened and At Risk species such as the red leek orchid (*Corunastylis nuda*, At Risk-Naturally Uncommon¹), barking gecko (*Naultinus punctatus*; At Risk-Declining²) - especially in proximity to areas of kānuka (*Kunzea robusta*; Threatened-Nationally Vulnerable)³ and mānuka (*Leptospermum scoparium*; At Risk-Declining)³, and bush falcon/ karearea (*Falco novaeseelandiae ferox*; At Risk-Recovering⁴) which hunt in them.

3. METHODS

The following methodology was employed:

Client Liaison

- Meetings were held with Council representatives to confirm project scope, finalise methodology and the significance criteria to be used for assessment of sites, the attributes for the significant natural area database, and the attributes to be captured in a GIS layer, and the SNA reporting template.

Review of Existing Information

- A literature search was undertaken to gather all relevant ecological information on the Upper Hutt City District.
- Relevant background information was reviewed to find potential SNA sites on private land in Upper Hutt District, including:
 - Existing layers that identify areas of potential ecological significance or information on site management; for instance
 - Greater Wellington Regional Council Key Native Ecosystems (KNE), Regional Parks, pest animal control.
 - Department of Conservation managed land, extracts from the Bioweb lizard and plant databases.

¹ Threat classifications for vascular plants are from de Lange *et al.* (2018).

² Threat classifications for reptiles are from Hitchmough *et al.* (2016).

³ Kānuka and mānuka have national-level threat classifications as per de Lange *et al.* 2018; kānuka (*Kunzea robusta*; Threatened-Nationally Vulnerable), and mānuka (*Leptospermum scoparium*; At Risk-Declining). They are Myrtaceae species which are at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of these species have been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of these species at this site does not trigger the rarity criteria because the species are currently widespread and common in the local environment.

⁴ Threat classifications for birds are from Robertson *et al.* (2016).

- And the previous assessment of probable UHCC SNA on private land)¹.
 - Existing Council held GIS layers (e.g. UHCC owned land, LINZ esplanade strips).
 - Recent aerial photography (2017 colour images) and historic aerial photography supplied by UHCC (1980 black and white images).
 - Remote sensing datasets (including Land Environment New Zealand (LENZ), Land Cover Database, Land Research Information Systems (LRIS), Natural Vegetation Survey Databank (NVS)).
 - Information held by Upper Hutt City Council, GWRC, Landcare Research, QEII Trust and Department of Conservation (DOC).
 - Up-to-date information provided by organisations (e.g. QEII representatives, Department of Conservation staff, Council personnel) regarding the natural values and management of probable SNA sites (where available).
- Conservation threat classifications used throughout the document are from the most recent assessments e.g. for lizards Hitchmough *et al.* (2016).
 - Information on the location, tenure, local authority, protection status, size, and biodiversity values of each site was entered into an MS Excel workbook database (Table A in Appendix 4).

Mapping

- Mapping of probable SNA sites was undertaken in a shared GIS workspace provided by UHCC.
- Where a vegetation or habitat type extended across public land/private land boundaries then these areas were generally assessed as one probable SNA, unless the management of the public and private land was known to be substantially different (e.g. extensive mammal pest control on public land but not on the adjacent private land or vice versa).
- Visible buildings (larger than five m²) and sealed roads were generally excluded from SNAs, but access tracks and driveways were only excluded where it did not result in fragmentation of the SNA. The area excluded either followed the boundary of the area previously cleared (as seen on earlier Google Earth or UHCC supplied imagery) or the edge of the indigenous vegetation surrounding the building.
- Data sources used to produce the figures are listed in Appendix 3.

Significance Assessment

- Each site was assessed against the ecological significance criteria in Policy 23 of the Regional Policy Statement (RPS) for the Wellington region (Appendix 1). These criteria are designed to meet Councils' obligations under Section 6(c) of the RMA (1991). If one or more of these criteria was found to be significant for a

¹ Note that if the site has previously been mapped as a SNA, the boundaries were checked and adjusted as necessary based on the desk top analysis, making a note of any changes made.

site, then the site is ecologically significant. All assessments were recorded in the Excel workbook (more information provided in Section 3.1 and Appendix 4).

- “Management” criteria were also assessed for each site, based on criteria in Wildland Consultants and Kessels Ecology (2015) (Appendix 2), with each criterion receiving a score from 1-5. This part of the Excel workbook collates the more detailed information on threatened species, rare habitats, connectivity and other parameters that inform the significance assessments. The scores are provided without any weighting; weightings can be applied retrospectively, as part of the management process, to appropriately rank sites with desired features or required management actions.
- The assessments followed the guidance set out in:
 - Department of Conservation - Guidelines for Assessing and Identifying Significant Ecological Values (July 2015).
 - Greater Wellington Regional Council RPS Method 21: Identifying and protecting biodiversity in the Wellington region: A guide to interpreting criteria in the Regional Policy Statement. Draft report 29 September 2015.
 - Quality Planning Website - Describing and Evaluating Biodiversity Values (<http://www.qualityplanning.org.nz/index.php/planning-tools/indigenous-biodiversity/describing-and-evaluating-biodiversity-values?highlight=WyJpbmRpZ2Vub3VzIl0=>).
 - Environmental Institute of Australia and New Zealand - Ecological Impact Assessment (EcIA) EIANZ guidelines for use in New Zealand: terrestrial and freshwater ecosystems March 2015 (EIANZ 2015).
 - The agreed significance assessment methodology, and site management ranking, as set out in Wildland Consultants and Kessels Ecology (2015).
- Site description sheets were completed for each site identified as significant (Appendix 7).
- Sites assessed as likely to be significant, but for which there was insufficient information to fully assess their significance were also identified and described; a list of these sites is provided in Appendix 8.
- Sites deemed to be not significant in the current review were retained in a separate Excel workbook for future reference.

Roadside Field Assessments

To reduce the limitations associated with a desktop exercise, an ecologist attempted to view all probable SNAs visible from publicly accessible locations in May-July 2018. These roadside field assessments were used to update the site descriptions and undertake more robust significance assessments.

All vegetation within SNAs visible from publicly accessible locations was compared to recent aerial imagery and SNA descriptions. Not all parts of all sites were visible due to being obscured behind buildings, other vegetation, or hills. Where vegetation types were visible this was often extrapolated to other parts of the site with similar looking vegetation on aerial photographs.

During the roadside field assessment, notes were made on the weeds, fauna, canopy plant species and any human-made structures or exotic species present, the condition and diversity of the site, any adjacent features and any possible management issues. Adjustments to the site boundaries were made where discrepancies occurred between the descriptions and the underlying vegetation types, including:

- Reducing the area of the site where vegetation was deemed to be of a lower ecological quality than previously thought.
- Increasing the area of the site, where the vegetation or ecological values warranted this.
- Adjustments to boundaries to increase the accuracy.
- Deletion of sites where there were insufficient ecological values.
- Excluding buildings larger than five m² and roads from sites.

The site descriptions and significance justification fields of the excel workbook were updated based on the above information.

Numbering and Renaming of Probable SNA

This project built on the findings of the previous project to identify probable SNA on private land. Existing SNA numbers and existing SNA names were used initially for those previously identified SNA sites. However, many sites have been renamed where changes to the site required this (e.g. inclusion of substantial areas of public land). The renaming sought to use existing names for natural areas (e.g. park names) or geographical features (e.g. stream names, road names, suburb names) to provide some identity and context followed by a brief description of the vegetation or habitat type (e.g. forest, wetland). All sites were also renumbered to produce a more logical progression through the Upper Hutt City landscape.

Probable SNA Site Reports

The information collated in the spreadsheet was used to produce the site reports in Appendix 7 via an MS Word mail merge template. The information to be included and the layout of this template had been agreed with UHCC. Site figures and context figures were produced by GIS for each probable SNA, and inserted in the appropriate locations.

An Explanatory Note is included in Appendix 9, which provides information about what each of the fields in the SNA site reports means and how this information was collated or assessed.

Review of Site Information

The information for each probable SNA was reviewed and clarified by both Wildland Consultants and UHCC reviewers. These comments were incorporated in both the SNA site reports and the Excel workbook.

3.1 RPS Policy 23 - assessment of significance

The methodology used to assess the ecological significance of probable Significant Natural Area is the same as that used for the Kāpiti Coast District, Wellington City, Lower Hutt City, and Porirua City. During the assessment process for the Kāpiti Coast District, invited ecologists attended a methodology workshop which resulted in a peer reviewed report that sets out the methodology to assess ecological significance and the location of the boundaries of Significant Natural Areas (Wildland Consultants and Kessels Ecology 2015).

Table 2 of the methodology report (Wildland Consultants and Kessels Ecology 2015) summarises the agreed attributes and data sources to be used to assess the RPS Policy 23 criteria and these attributes and data sources are consistent with those listed in the RPS Method 21 report (Greater Wellington Regional Council 2016). The sections below outline key points with regards to assessment of ecological significance.

3.1.1 Representativeness

RPS Policy 23:

- (a) Representativeness: the ecosystems or habitats that are typical and characteristic examples of the full range of the original or current natural diversity of ecosystem and habitat types in a district or in the region, and:
- (i) are no longer commonplace (less than about 30% remaining); or
 - (ii) are poorly represented in existing protected areas (less than about 20% legally protected).

The ecologists agreed that the Singers (2014) vegetation layer provided the only reasonable spatial data (in terms of sufficient resolution of vegetation classes) that could be used to identify whether part, or all, of an Ecological Site is representative habitat at the regional or District scale. The Leathwick (2012) vegetation patterns layer is appropriate for assessment at a national or Ecological District scale. The Singers and Rogers (2014) and Singers (2014) classification system is further described in Section 4.3.

Typical and Characteristic

Singers (2014) mapping was used to make an assessment as to whether the vegetation types described are typical and characteristic:

- Indigenous species or habitats are dominant (50% or greater indigenous); and
- Most of the expected species and tiers of the vegetation type(s) are present for the relevant class of ecosystem or habitat type.

It was also agreed that the minimum area of forest or scrub to be considered as comprising a probable SNA was 0.5 ha. Wetlands should not have an area limit but be dominated (i.e. comprise 50% or more) by indigenous vegetation and/or water.

3.1.2 Rarity

RPS Policy 23:

- (b) **Rarity:** the ecosystem or habitat has biological or physical features that are scarce or threatened in a local, regional, or national context. This can include individual species, rare and distinctive biological communities and physical features that are unusual or rare.

The ecologists agreed that “threatened” includes any Threatened or At Risk taxon in a relevant national classification system including the following:

- Department of Conservation threatened species classification system (Hitchmough *et al.* 2013, Townsend *et al.* 2008, and relevant papers for each taxonomic group; a list is provided in Appendix 6).
- Threatened and originally rare terrestrial ecosystem classification (Williams *et al.* 2007, Wiser *et al.* 2014, Holdaway *et al.* 2012).
- Threatened Land Environment Classification (TEC, Cieraad *et al.* 2015), to assess remaining indigenous vegetation and the proportion legally protected at a national scale.
- The New Zealand Geopreservation Inventory for the Wellington region (Kenny and Hayward 1996) for physical and geological features.
- Regionally rare fauna were listed in the methodology report (Wildland Consultants and Kessels Ecology 2015) and regionally rare plants as per Sawyer (2004)

3.1.3 Diversity

RPS Policy 23:

- (c) **Diversity:** the ecosystem or habitat has a natural diversity of ecological units, ecosystems, species and physical features within an area.

Diversity has to be evaluated relative to the particular ecosystem or habitat type; some of which may be naturally more diverse than other types. It should also be evaluated relative to the pre-human baseline condition and other remaining similar ecosystems and habitats.

The degree of diversity, and whether this is considered to be significant, is a professional judgement call.

3.1.4 Ecological Context

RPS Policy 23:

(d) Ecological context of an area: the ecosystem or habitat:

- Enhances connectivity or otherwise buffers representative, rare or diverse indigenous ecosystems and habitats; or
- Provides seasonal or core habitat for protected or threatened indigenous species.

The ecologists agreed that the criteria for ecological context in the West Coast Regional Council vs Friends of Shearer Swamp and other parties (Appendix 8 of the decision, reproduced in Appendix 1 of the methodology report) seemed appropriate. Thus a site will be considered significant for ecological context if it has one or more of the following functions or attributes:

- It plays an important role in protecting adjacent ecological values, including adjacent and downstream ecological and hydrological processes, indigenous vegetation, habitats or species populations; or
- Is an important habitat for critical life history stages of indigenous fauna including breeding/spawning, roosting, nesting, resting, feeding, moulting, refugia, or migration staging points (as used seasonally, temporarily or permanently); or
- It makes an important contribution to ecological networks (such as connectivity and corridors for movement of indigenous fauna); or
- It makes an important contribution to the ecological functions and processes within the Ecological Site, and potentially within the landscape.

A site will be deemed to be significant for ecological context if there is evidence or justification for supporting one or more of the above functions or attributes, and especially where the ecological context supports populations of protected terrestrial indigenous species as defined in the Wildlife Act 1953 S.3 ‘Wildlife to be protected’, or indigenous fish species and their migratory pathways.

GWRC Policy 23 criteria refers to the relationship of a site to “*representative, rare or diverse ecosystems*”. It would therefore be appropriate for these buffers or connections to be included with the ‘representative, rare or diverse ecosystem’ site. It is not appropriate to identify a site as significant solely on its role as a buffer or corridor.

3.1.5 Tangata Whenua Values

RPS Policy 23:

- Tangata whenua values: the ecosystem or habitat contains characteristics of special spiritual, historical or cultural significance to tangata whenua, identified in accordance with tikanga Māori.

Assessment of tangata whenua values is generally outside the expertise of ecological specialists and should be evaluated by a specialist in that field. However, where relevant information on tangata whenua values was available it was included in the site assessment information. A key source of such information was the Proposed Natural Resources Plan (Greater Wellington Regional Council 2015b).

4. ECOLOGICAL CONTEXT

This section sets out the ecological context of Upper Hutt City against which the significance of any probable SNA was assessed. For instance RPS Policy 23a representativeness can be assessed at a number of scales including Territorial Local Authority (TLA) District, Ecological District, Wellington Regional area, or nationally (vegetation types that are nationally threatened are automatically considered significant at a smaller scale such as a District). The Protected Natural Areas Programme (McEwen 1987) described the bioclimatic and prior vegetation and habitats for each Ecological District. This provides a background against which to describe and assess the importance and/or decline of the original vegetation and habitat types within an area.

4.1 Wellington and Tararua Ecological Districts

Upper Hutt City District includes parts of two ecological districts in two ecological regions (see Table 1 and Figure 1).

Table 1: Ecological regions and ecological districts in Upper Hutt City District.

Ecological Region	Ecological District	Total Area of ED (ha)	Upper Hutt City	
			Area (ha)	% of ED
Sounds-Wellington	Wellington	51,800	6,105	11.8
Tararua	Tararua	240,640	47,881	19.9

The summaries below are sourced from: McEwen (1987), Singers and Rogers (2014), Rogers (2014), Greater Wellington Regional Council (2002) and Landcare Research (2015).

4.1.1 Wellington Ecological District

Topography, Geology, and Soils

Wellington Ecological District comprises steep, strongly faulted hills and ranges; two harbours, one with several small islands, the large Pāuatahanui estuary, and the large Te Awa Kairangi/Hutt River valley.

The geology almost entirely comprises Triassic-Jurassic alternating argillite and greywacke. There are a range of soils from greywacke and Pleistocene drift material and loess, with alluvial, peaty and stony soils in valleys. Soils on steep slopes are moderately leached, stony and shallow steepland soils. They are moderately fertile, with only slight scree erosion, and mainly used for pastoral farming, with some areas reverting to scrub. Soils on hilly, rolling and flattish slopes are generally moderately deep to deep loess or drift material over greywacke. In lower rainfall areas near the

coast, subsoils are pale coloured, firm to compact, but in more inland higher rainfall areas the subsoils are browner, more friable, and better structured. Soils in valleys range from sandy and silty well-drained soils on levees, through poorly drained heavier textured soils in back-swamps and fans, to peaty soils in swamps. Shallow, stony soils occur on low terraces. There are minor areas of salty soils in estuarine areas and sandy soils on coastal dunes.

Climate

The climate is windy with west to northwest winds prevailing, a high wind-run and frequent gales. Summers are warm and winters mild. Annual rainfall is 900-1,400 mm and evenly distributed throughout the year.

Ecosystems

Singers and Rogers (2014) have classified New Zealand's terrestrial ecosystems. Those present in the Wellington Ecological District are presented in Appendix 5 (also refer to Section 4.2 and Figure 2).

Pre-human Vegetation

Indigenous forests were originally widespread, with podocarp forests (kahikatea/*Dacrydium dacrydioides*, tōtara/*Podocarpus totara*, matai/*Prumnopitys taxifolia*) on hills, rimu (*Dacrydium cupressinum*)-northern rātā (*Metrosideros robusta*)/kohekohe (*Dysoxylum spectabile*) forest nearer coast, and miro (*Prumnopitys ferruginea*)-rimu/tawa (*Beilschmiedia tawa*) forest at higher elevations.

Current Vegetation

Much of ecological district is now farmed (semi-extensive sheep and cattle), with c.30% of the land covered in exotic grassland and c.8% in exotic forest. Areas of gorse and/or broom are common, covering c.14.5% of the district, while urban areas (e.g. Wellington city) comprise c.22% of landcover in the ED (Landcover Database v4.1; Landcare Research 2015, Figure 1).

Remaining indigenous vegetation includes salt marsh communities around Pāuatahanui Inlet, 'Mānuka and/or Kānuka' (c.2% of landcover), 'Broadleaved Indigenous Hardwoods' (c.15% of landcover), and remnants of the original 'Indigenous Forest' (c.2% of landcover) (Landcover Database v4.1; Landcare Research 2015), although many have been logged for podocarps. Compared to Tararua Ecological District, very little beech is present, although black beech (*Fuscospora solandri*) and hard beech (*F. truncata*) occur in ridge stands between Haywards and Moonshine.

4.1.2 Tararua Ecological District

Topography, Geology, and Soils

The Tararua Ecological District comprises steep, high, dissected hills and mountains of the Tararua and Rimutaka Ranges, rising to 1,571 m in the central Tararua Range

(Mitre Peak), heavily faulted and broken by major rivers with steep hillslopes dropping to small river flats. Severe erosion, especially in the south of the Rimutaka Range, leads to large slump areas, raw erosion pavement and gravel filled river beds. Many of the rivers are gorged near the foothills. Some valleys in the central Tararuas may be of glacial origin. The southern coastline includes the uplifted beaches of Turakirae Head.

The geology of the Tararua Ecological District comprises Triassic-Jurassic greywacke, argillite and bedded, and alternating greywacke and argillite (0.01-1 m thick beds).

Steepland soils from greywacke mainly shallow, stony and strongly leached to podzolised with low natural fertility; mainly in forest or induced scrub and gorse; small areas of shallow stony alpine soils on mountain tops; less leached and more fertile farmed steepland soils in lower altitude foothills with lower rainfalls; hill soils from greywacke range from moderately leached with yellowish brown, well-structured silty subsoils developed under hardwood forest to strongly leached soils with compact, pale coloured impermeable clayey subsoils formed under beech; deep silty, well drained soils from Pleistocene drift or loess under moderate rainfalls. With increasing altitude and rainfall soils more strongly leached with poorer drainage and peaty topsoils.

Climate

Westerly winds predominate, with gale force winds common. Low cloud covers the ranges for prolonged periods. Rainfall is high, ranging from 1,600 mm p.a. at lower altitudes to 8,000 mm and occasionally as high as 10,000 mm in the central Tararua Range, with some high intensity rainfalls of 370 mm/day, leading to flash flooding. Snow lies on much of the alpine areas of Tararuas during winter, with small snowfalls recorded for all months at high altitudes on the Tararua and Rimutaka Ranges.

Ecosystems

Singers and Rogers (2014) have classified New Zealand's terrestrial ecosystems. Those present in the Tararua Ecological District are presented in Appendix 5 (also refer to Section 4.2 and Figure 2).

Pre-human Vegetation

Prior to the arrival of humans, Tararua Ecological District was mostly covered in indigenous forest. Much of this vegetation still remains and is described in the section on Current Vegetation.

Current Vegetation

Indigenous forest is still extensive, covering an estimated 70% of the ecological district ('Indigenous Forest' c.59% and 'Broadleaved Indigenous Hardwoods' c.15% of landcover; LCDBv4.1, Landcare Research 2015, Figure 1). About 10% of landcover comprises exotic grassland, 5% exotic forest, and 4% gorse and broom.

The ranges contain altitudinal zonation from small areas of alpine herbfield and tussockland (e.g. *Chionochloa pallens*), to leatherwood (*Olearia colensoi*) scrub, and then forests. In the Tararua Range, silver beech (*Lophozonia menziesii*) is dominant in montane and subalpine forests, and red beech (*Fuscospora fusca*)/kāmahi (*Weinmannia racemosa*) forest and northern rātā/kāmahi forest are dominant in the western Tararua foothills. Rimu, Hall's tōtara (*Podocarpus laetus*) and miro are found throughout, and hard beech is also present. The northern boundary of the ecological district lies at the northern extent of beech in the Tararua Range.

In the Rimutaka Range, extensive stands of silver beech occur, along with hard beech, black beech and some red beech (e.g. in the Pakuratahi River catchment). Lowland hardwood forests of the Rimutaka Range comprise a complex mosaic of hardwood species with isolated podocarps (Hall's tōtara and rimu), with northern rātā/kāmahi forest and scrub dominant at lower altitudes. Near the coast, northern rātā/kāmahi forest is replaced by mānuka, harakeke (flax; *Phormium tenax*), *Muehlenbeckia complexa*, and tauhinu (*Ozothamnus leptophyllus*).

4.2 Ecological domains

Ecological Domains, also known as eco-domains, combine information on geology, geomorphology, meteorology, biology and human use of natural resources, and combined this with expert knowledge of the ecological processes and characteristics of the Region. This classification is at a finer scale than Ecological Districts. This method resulted in a mosaic of some 60+ *eco-domains* - areas that have unity within themselves but distinctiveness from each other over the Greater Wellington region (Greater Wellington Regional Council 2002).

Table 2 lists the eco-domains that occur in the Upper Hutt City District.

Table 2: Eco-domains that occur in Upper Hutt City District.

Eco-Domain
56 Western Hills
58 Tararua (<550 metres)
59 Tararua (550 metres - Treeline)
61 Wainuiomata - Hutt - Kaitoke
62 Rimutaka (<550 metres)
63 Rimutaka (>550 metres)

4.3 Singers and Rogers ecosystem classification

The classification of ecosystems, as opposed to vegetation, involves the description of relationships between the abiotic environment and its biotic overlay. Development of a theoretical framework of environmental or physical drivers in New Zealand resulted in a hierarchy of temperature, moisture availability, and landform and soil gradients, which were divided sequentially down into categories or environmental classes (Singers and Rogers 2014). Vegetation communities and ground cover classes are aligned with each of the environmental zones.

A primary division within the classification is the conceptual distinction between zonal and azonal ecosystems, where zonal ecosystems are driven primarily by the

physical, macroclimatic variables of temperature and moisture availability, and azonal ecosystems are primarily the product of process variables producing edaphic extremes (e.g. extreme rock and soil chemistry, extreme heat, and frequent disturbance). This classification led to 152 ecosystems being recognised nationally - 78 zonal and 74 azonal (Singers and Rogers 2014).

Singers (2014) has undertaken the mapping for the Wellington region on behalf of Greater Wellington Regional Council. In the Wellington region (see Appendix 5 and Figure 2) c.30.6% of the land is covered in North and South Island mild forests (Units MF1, 2, 5-8, 20) with the altitudinal limit of this zone approximately defined by the upper elevational limits of tawa across its entire latitudinal range; c.11.7% is covered in Warm temperate forest (Units WF1, 2, 3, 6, 8) whose boundary is approximately defined by the southern and inland distributional limits of kohekohe (*Dysoxylum spectabile*); and c.6.7% is covered by Cool forest and scrub (Units CLF4, 9, 10, 11). The other units comprise a smaller (although nonetheless important) part of the region, and 0.11% of the region remains unclassified (Singers 2014).

4.4 Threatened Environment Classification

The Threatened Environment Classification (TEC) combines three national databases: Land Environments of New Zealand (LENZ), Land Cover Database (LCDB3), and the protected areas network (PAN-NZ) to determine which LENZ environments have the least amount of indigenous vegetation remaining and/or are not legally protected and are therefore considered to be at most risk (Cieraad *et al.* 2015, Walker *et al.* 2007).

Each of the 500 LENZ Level IV environments were assigned one of six threat categories on the basis of past habitat loss (percentage indigenous cover remaining) and current legal protection¹ (Table 3). A land environment was given a high threat status if it supported a small amount of indigenous vegetation, and a low threat category if it still supports large areas of indigenous vegetation. These categories are illustrated for the Wellington region (Figure 3).

Table 3: Extant indigenous cover for Upper Hutt City for each of the Level IV Threatened Environment Classification categories (as per Cieraad *et al.* 2015, Walker *et al.* 2007).

Threatened Environment Category	Criterion	% of Region or District	
		Wellington Region	Upper Hutt City
Acutely Threatened	<10% indigenous cover remaining.	8.9	9.7
Chronically Threatened	10-20% indigenous cover remaining.	2.0	3.1
At Risk	20-30% indigenous cover remaining.	12.6	9.1
Critically Underprotected	>30% indigenous cover remaining and <10% legally protected.	1.4	0.9
Underprotected	>30% indigenous cover remaining and 10-20% legally protected.	74.4	76.7
No Threat Category	>30% indigenous cover and >20% legally protected	0.6	0.4

¹ Current legal protection does not necessarily protect indigenous ecological values. Protection of indigenous species and ecosystem values can depend on the type of legal protection/reserve status, and also the type of proposed development.

Indigenous vegetation cover remaining in threatened land environments is therefore potentially ecologically significant. However, relative ecological value will also depend on the maturity and species composition of each area of indigenous vegetation, and their importance as habitat for indigenous fauna species. Not all areas of indigenous vegetation are ecologically significant, but areas of vegetation deemed not significant vegetation may contain significant habitat for indigenous fauna.

The government produced a non-statutory report recommending national priorities for conservation on private land, with the expectation that these priorities would be used to support and inform Councils' biodiversity responsibilities under the Resource Management Act (Ministry for the Environment 2007). These national priorities outline that indigenous vegetation on Acutely Threatened or Chronically Threatened environments should be protected where possible.

4.5 Protected Natural Areas

Many of the probable SNAs identified in this review are located within, adjacent to, or encompass part or all of Key Natural Areas (KNE) sites, Regional Parks, water catchment areas, other GWRC- and Department of Conservation-administered natural areas, and indigenous habitats on land administered by UHCC. Upper Hutt City District contains parts or all of several extensive protected natural areas including Rimutaka Forest Park (Department of Conservation), Pakuratahi Forest Park (GWRC), Akatarawa Forest Park (GWRC), and Tararua Forest Park (Department of Conservation) (Figure 4). Upper Hutt Water Catchment Area (GWRC) and Kaitoke Regional Park, which contain large areas of indigenous vegetation, are also present.

GWRC also administers several Key Native Ecosystems (KNE) in Upper Hutt City District, as part of its objective to protect and restore indigenous biodiversity in the Greater Wellington region. These include Pakuratahi Forest KNE, Kaitoke Regional Park KNE, and Akatarawa Forest KNE.

Upper Hutt City also administer reserves and parks, such as Emerald Hill Reserve, which contain indigenous habitats. Approximately 194 ha of Upper Hutt City land is covered by indigenous bush.

5. RESULTS

5.1 Overview of SNA sites in Hutt City and Upper Hutt City Districts

A total of 100 sites covering an area of *c.*37,180 ha have been identified and described in Upper Hutt City (Table 4; see also Appendix 7 for SNA site descriptions). The locations of sites within UHCC are shown in Figure 4. Sixteen areas of public land make up two thirds of this total (22,636 hectares). Sixty-six areas of private land (including QEII Trust covenants, a private wildlife reserve and an area owned by Forest and Bird) total another 5,088 hectares. The remaining probable SNA are a mix of private and public land.

Table 4: Total area (ha) and number of probable SNAs in each ecological district in Upper Hutt City.

Ecological District	No. of Sites ¹	Area (ha)
Tararua	63	15,387
Tararua, Wellington ²	16	21,333
Wellington	21	460
Total	100	37,180

¹. Some sites comprise more than one area.

². Some sites extend over part of more than one ecological district.

One hundred sites were considered to be ecologically significant based on currently available information. More information is required about the vegetation types and any management issues for one QEII covenant site. Four sites may change in ecological significance (increase or decrease) if more information can be obtained about species and vegetation composition (Appendix 8).

Parts of fifteen probable SNA sites were not visible from public areas, and most or all of another 14 sites could also not be viewed. Nevertheless the known values of these probable SNA meets one or more of the RPS Policy 23 criteria; a site visit would verify and provide further information for some of the other PRS Policy 23 criteria. Twenty-three sites require further information about the condition of site and any management issues.

Table 5 below summarises the number of probable SNAs that were identified as significant for all ecological criteria in the Greater Wellington RPS, Policy 23 (a, b, c, d) and for each of the criteria.

Table 5: Number of sites and total area (ha) in Upper Hutt City assessed as significant for each ecological significance criterion of the Greater Wellington RPS, Policy 23.

Significance	No. of Sites	Area (ha)
Significant for all RPS23 ecological criteria	28	34,180
Significant for PRS23a Representativeness	90	36,638
Significant for PRS23b Rarity	79	35,435
Significant for PRS23c Diversity	45	35,970
Significant for PRS23d Ecological Context	83	37,058

5.2 Management criteria

Eight criteria were scored from 1 to 5 for each probable SNA to assist with making future management decisions such as allocating pest and weed control funding; Representativeness, Threatened Land Environment, Rarity of habitats, Rare flora, Rare fauna, Community diversity, Ecological context, and Fauna habitat. These criteria were scored on the currently available information and are likely to change as more information becomes available for some of the sites. The final summed scores ranged from 12 (lowest possible score = 8) to 40 (highest possible score = 40). These scores can be used to assist with selecting sites to manage, and multipliers can be applied to these scores to rank for particular features.

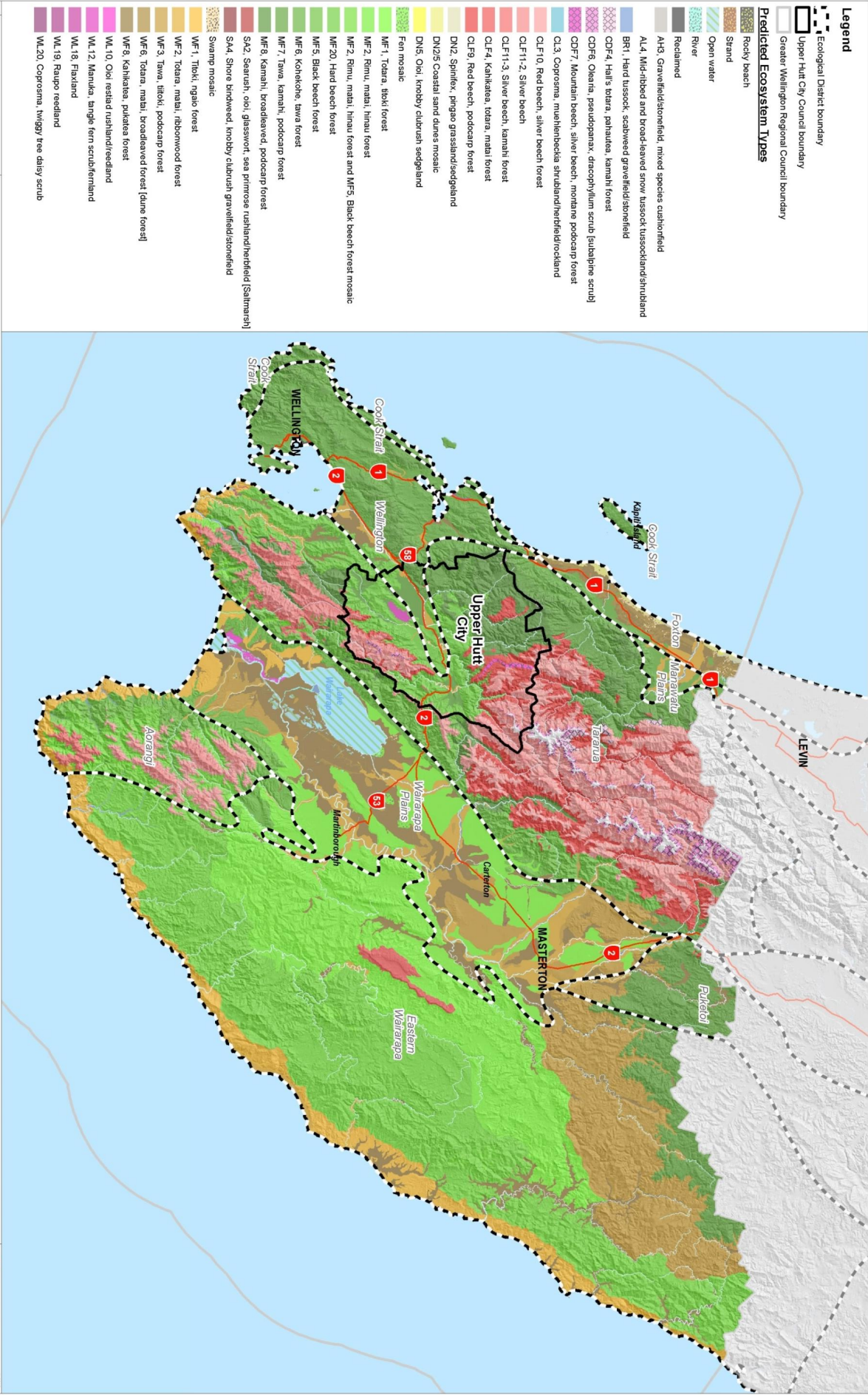


Figure 2. Singers (2014) predicted ecosystem types for the Wellington region

Legend

- Ecological District boundary
- Upper Hutt City Council boundary
- Greater Wellington Regional Council boundary

Predicted Ecosystem Types

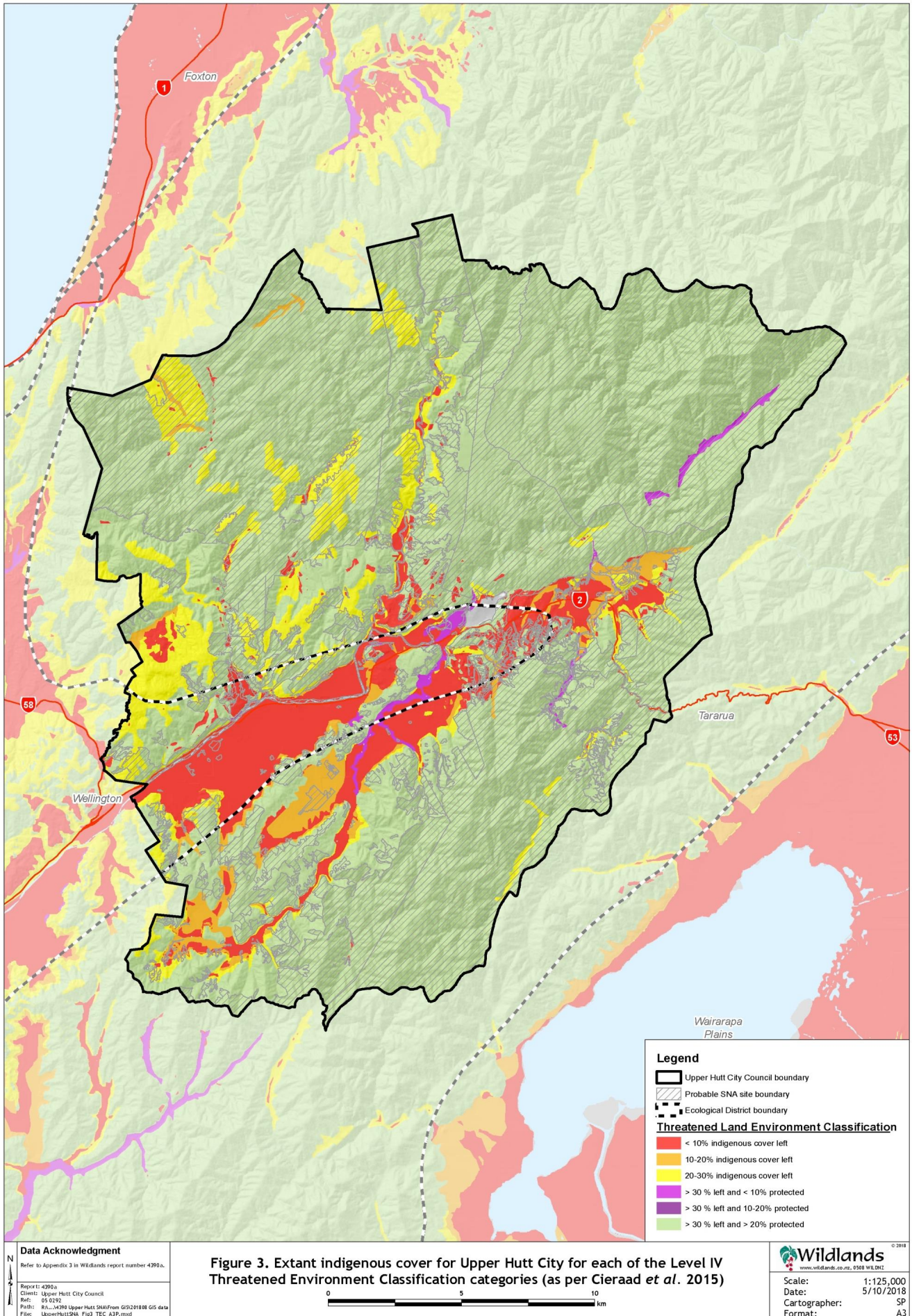
- Reclaimed
- AH3, Grassfield/stonefield, mixed species cushionfield
- AL4, Mid-ribbed and broad-leaved snow tussock tussockland/shrubland
- BR1, Hard tussock, seaboard gravelfield/stonefield
- CDP4, Hall's totara, patautaua, kamahi forest
- CDP6, Cleanta, pseudopanax, dracophyllum scrub (subalpine scrub)
- CDP7, Mountain beech, silver beech, montane podocarp forest
- CL3, Coprosma, muhlenbeckia shrubland/heiferfield/rockland
- CLF10, Red beech, silver beech forest
- CLF11-2, Silver beech
- CLF11-3, Silver beech, kamahi forest
- CLF14, Kahikatea, totara, matai forest
- CLF19, Red beech, podocarp forest
- DN2, Spinifex, pingao grassland/setgeland
- DN25 Coastal sand dunes mosaic
- DN5, Oioi, knobby clubrush sedgeland
- Fan mosaic
- MF1, Totara, tikohi forest
- MF2, Rimu, matai, hinau forest
- MF2, Rimu, matai, hinau forest and MF5, Black beech forest mosaic
- MF20, Hard beech forest
- MF5, Black beech forest
- MF6, Kohikohi, tawa forest
- MF7, Tawa, kamahi, podocarp forest
- MF8, Kamahi, broadleaved, podocarp forest
- SA2, Searua, oioi, glasswort, sea primrose rushland/heiferfield (Salimahi)
- SA4, Shore bindweed, knobby clubrush gravelfield/stonefield
- Swamp mosaic
- WF1, Tikohi, ngao forest
- WF2, Totara, matai, ribbonwood forest
- WF3, Tawa, tikohi, podocarp forest
- WF6, Totara, matai, broadleaved forest (lune forest)
- WF8, Kahikatea, pikatea forest
- WL10, Oioi redsted rushland/seedland
- WL12, Manuka, bangle fern scrub/fernland
- WL18, Flaxland
- WL19, Raupo reesland
- WL20, Coprosma, twiggly tree daisy scrub

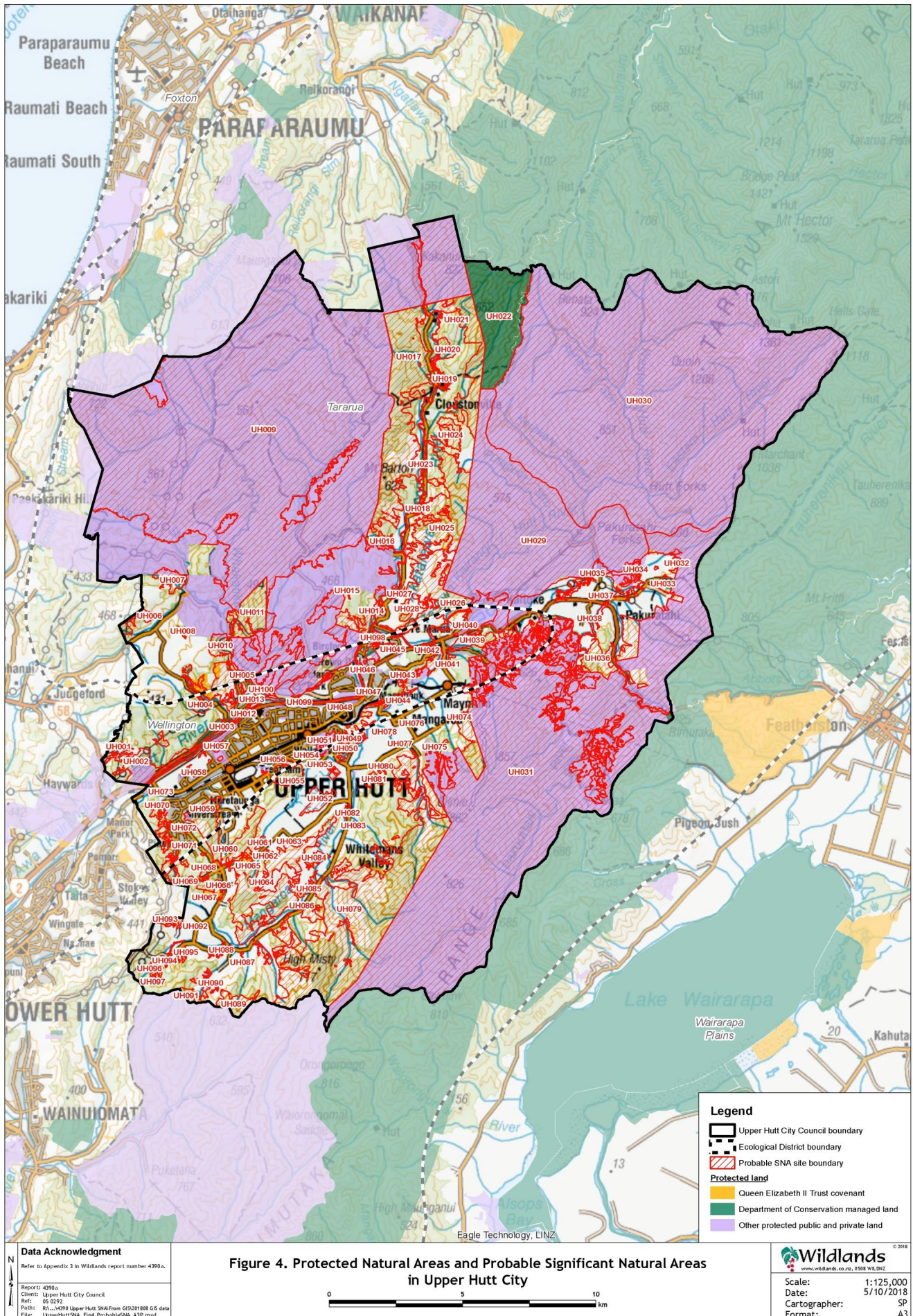
Data Acknowledgment

Refer to Appendix 3 in the related report number 0914.

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 File: UpperHuttEnv_Fig_Singers_EA.mxd

Scale: 1:500,000
 Date: 5/10/2018
 Cartographer: SP
 Format: A3R





6. RECOMMENDATIONS

This report identifies probable SNA sites, and the actual and potential values within those sites, using a desktop analysis, and roadside field assessments. Whilst this methodology provides a robust approach, there are still some uncertainties regarding vegetation quality and species composition for some sites, particularly in the interior, under the canopy and in difficult to view areas of the sites. Additionally, the presence of Threatened, At Risk or uncommon species may need to be confirmed for some sites. All sites included in Appendix 7 are significant for at least one PRS Policy 23 criterion, and are therefore considered significant.

Ideally, an ecologist would undertake comprehensive field surveys of each probable SNA, however this is time and cost prohibitive. Therefore, there is a need to prioritise those SNAs that require site visits. Some probable SNAs are clearly significant, such as those already protected by a covenant, consent notice, or those that have been identified as a Key Native Ecosystem or included in the Proposed Natural Resources Plan. SNAs on publicly owned/managed land are generally better protected from potentially adverse impacts such as roading or development, and a site visit may be of lower priority for these SNAs.

Site inspections are recommended as a priority where uncertainties have been raised, including:

- Sites where large portions or sometimes the entire site was unable to be viewed from publicly accessible locations (listed in Appendix 8).
- Sites where there are uncertainties regarding the composition and diversity of plant and animal communities (listed in Appendix 8).
- When confirmation was required regarding the condition of site and any management issues (listed in Appendix 8).
- At the request of a landowner.

Following public consultation of the probable SNAs, landowners are likely to request site visits. A site visit would re-assess all of the information for the affected site, including the RPS23 criteria, any importance justification scores and the site boundary. A site visit to one part of a probable SNA may confirm the significance (or lack thereof) for an entire site or a large portion of that site.

It is recommended that these visits include an ecologist and an UHCC planner. The planner can answer questions regarding potential policy and rule directions, while the ecologist can assess the ecological significance and site boundaries. An ecologist can also offer advice on ecological issues, such as options for site enhancement. In some instances, it may also be possible to view adjacent SNAs or parts of SNAs on adjacent properties; at which stage additional information should be captured and used to further update the site descriptions. Discussion with landowners and further field survey will identify other values, some of which may be more important than those currently known (e.g. the presence of threatened species). This new information should be included in the description and assessment of the site at this later stage.

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POLICY 23 OF THE REGIONAL POLICY STATEMENT FOR THE WELLINGTON REGION (GWRC 2013)

Policy 23: Identifying indigenous ecosystems and habitats with significant indigenous biodiversity values - district and regional plans

District and regional plans shall identify and evaluate indigenous ecosystems and habitats with significant indigenous biodiversity values; these ecosystems and habitats will be considered significant if they meet one or more of the following criteria:

- (a) Representativeness: the ecosystems or habitats that are typical and characteristic examples of the full range of the original or current natural diversity of ecosystem and habitat types in a district or in the region, and:
 - (i) are no longer commonplace (less than about 30% remaining); or
 - (ii) are poorly represented in existing protected areas (less than about 20% legally protected).
- (b) Rarity: the ecosystem or habitat has biological or physical features that are scarce or threatened in a local, regional or national context. This can include individual species, rare and distinctive biological communities and physical features that are unusual or rare.
- (c) Diversity: the ecosystem or habitat has a natural diversity of ecological units, ecosystems, species and physical features within an area.
- (d) Ecological context of an area: the ecosystem or habitat:
 - (i) enhances connectivity or otherwise buffers representative, rare or diverse indigenous ecosystems and habitats; or
 - (ii) provides seasonal or core habitat for protected or threatened indigenous species.
- (e) Tangata whenua values: the ecosystem or habitat contains characteristics of special spiritual, historical or cultural significance to tangata whenua, identified in accordance with tikanga Māori.

Explanation

Policy 23 sets out criteria as guidance that must be considered in identifying indigenous ecosystems and habitats with significant biodiversity values. Wellington Regional Council, and district and city councils are required to assess indigenous ecosystems and habitats against all the criteria but the relevance of each will depend on the individual cases. To be classed as having significant biodiversity values, an indigenous ecosystem or habitat must fit one or more of the listed criteria. Wellington Regional Council and district and city councils will need to engage directly with land owners and work collaboratively with them to identify areas, undertake field evaluation, and assess significance. Policy 23 will ensure that significant biodiversity values are identified in district and regional plans in a consistent way.

Indigenous ecosystems and habitats can have additional values of significance to tangata whenua. There are a number of indigenous ecosystems and habitats across the region which

are significant to tangata whenua for their ecological characteristics. These ecosystems will be considered for significance under this policy if they still exhibit the ecosystem functions which are considered significant by tangata whenua. Access and use of any identified areas would be subject to landowner agreement. Wellington Regional Council and district and city councils will need to engage directly with tangata whenua and work collaboratively with them and other stakeholders, including landowners, to identify areas under this criterion.

Regional plans will identify indigenous ecosystems and habitats with significant biodiversity values in the coastal marine area, wetlands and the beds of lakes and rivers. District plans will identify indigenous ecosystems and habitats with significant biodiversity values for all land, except the coastal marine area and the beds of lakes and rivers.

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MANAGEMENT CRITERIA (UPDATED FROM WILDLAND CONSULTANTS AND KESSELS ECOLOGY 2015)

1 Representative	2 TEC ¹	3 Rare Habitats	4 Rare Plants	5 Rare Fauna	6 Communities	7 Ecological Context	8 Habitat for Indigenous Fauna
5 Ecosystems ² that are typical and characteristic of those originally present in the region ³ prior to human occupation, or an ecosystem that is one of the better remaining examples of its type in the region.	At least 0.5 ha ⁴ of indigenous vegetation or habitat on Acutely Threatened (<10% indigenous cover remaining) land environments.	Nationally rare or uncommon indigenous vegetation or habitat	Nationally Threatened indigenous plant, lichen, or fungus species present	Nationally Threatened indigenous animal species regularly present	At least 5 indigenous vegetation/habitat types or landforms covered by indigenous vegetation OR at least 80% of the expected indigenous plant species, OR at least one indigenous fauna group with close to expected species richness.	Extensive or uninterrupted habitat greater than 100 ha in size or at least 5 km long, OR buffers more than 70% of the margin of an important or vulnerable ecosystem (e.g. stream wetland, dune systems, nationally rare ecosystem type).	Important site or habitat for more than 10 or assemblage of indigenous fauna species
4 Ecosystems that are mostly typical and characteristic of those originally present in the region prior to human occupation, but where parts of the ecosystem are not in original condition, or ecosystems that are some of the better remaining examples of its type in the ecological district.	At least 1 ha of indigenous vegetation or habitat on Chronically Threatened (10-20% indigenous cover remaining) land environments, or wetland habitats smaller than 0.5 ha on Acutely Threatened (<10% indigenous cover remaining) land environments	Regionally rare or uncommon indigenous vegetation or habitat	Nationally At Risk-Declining indigenous plant, lichen, or fungus species present OR regionally uncommon indigenous plant species present.	Nationally At Risk-Declining indigenous animal species regularly present OR regionally uncommon indigenous animal species present.	At least 4 indigenous vegetation/habitat types or landforms covered by indigenous vegetation OR at least 70% of the expected indigenous plant species, OR at least one indigenous fauna group with 70% expected species richness	Extensive or uninterrupted habitat 10-100 ha in size or 3-5 km long, OR buffers 50-70% of the margin of an important or vulnerable ecosystem.	Important site or habitat for 5-9 assemblages of indigenous fauna species
3 Ecosystems that are typical and characteristic examples of the current natural diversity of ecosystem types in the ecological district (but not the best examples remaining).	At least 5 ha of indigenous vegetation or habitat on At Risk (20-30% indigenous cover remaining) land environments, or at least 0.5 ha on Chronically Threatened (10-20% indigenous cover remaining) land environments.	Rare or uncommon indigenous vegetation or habitat at ecological district scale.	Nationally At Risk-Naturally Uncommon, At Risk-Relict or At Risk-Recovering plant, lichen, or fungus species present, OR indigenous plant, lichen, or fungus species present that is rare at ecological district scale	Nationally At Risk-Naturally Uncommon, At Risk-Relict or At Risk-Recovering indigenous animal species regularly present	At least 3 indigenous vegetation/habitat types or landforms covered by indigenous vegetation OR at least 50-70% of the expected indigenous plant species, OR at least one indigenous fauna group with 50-70% expected species richness.	Habitats of 5-9 ha in size or 1-2 km long OR buffers 20-49% of the margin of an important or vulnerable ecosystem	Important site or habitat for 2-4 assemblages of indigenous fauna species
2 Ecosystems that retain only limited elements that are typical of the natural diversity of an ecological district.	At least 5 ha of indigenous vegetation or habitat on Critically Under protected (<10% protection) land environments, or at least 0.5 ha on At Risk (20-30% indigenous cover remaining) land environments	Rare or uncommon indigenous vegetation or habitat at the TLA ⁵ scale.	Data Deficient plant, lichen, or fungus species present and recently recorded.	Data Deficient indigenous animal species regularly present	Only 2 indigenous vegetation/habitat types or landforms covered by indigenous vegetation OR at least 25-50% of the expected indigenous plant species, OR at least one indigenous fauna group with 25-50% expected species richness	Habitats of 1-4 ha in size or 0.1-0.9- km long OR buffers 1-19% of the margin of an important or vulnerable ecosystem	Important site or habitat for 1 assemblage of indigenous fauna species
1 Ecosystems that contain few or no elements that are representative of the natural diversity of an ecological district.	Under protected land environments or No Threat Category.	No rare / uncommon habitat / community recorded.	No nationally or regionally locally rare or uncommon plant, lichen, or fungus species recorded.	No rare or uncommon animal species regularly present.	Only 1 indigenous vegetation/habitat type or landform covered by indigenous vegetation OR less than 25% of the expected indigenous plant species, OR less than 25% expected species richness for fauna groups.	Small (<1 ha) areas of habitat that do not buffer important or vulnerable ecosystems.	Unimportant site or habitat for assemblage of indigenous fauna species

1 Threatened Environment Classification. Only potentially relevant if indigenous vegetation or habitats are present.

2 For brevity, ecosystems include habitats in this table.

3 Where region refers to the Territorial Region, e.g Greater Wellington Region.

4 The minimum size for terrestrial habitats was set at 0.5 ha. Wetlands could be any size provided they were still dominated by indigenous species or habitats.

5 TLA means Local Territorial Authority and in this context is the area administered by a City or District Council.

GIS DATA SOURCES USED

Data Sources Used in the Shared GIS Workspace to Delineate Probable SNA

Information provided to Wildland Consultants by Upper Hutt City Council, June/July 2018.

1. Existing Layers in District Plan, Aerial Imagery and Other Geo-Spatial Information

Title	Brief Summary of Information Type	Additional Note
<ul style="list-style-type: none"> • Potential SNA Sites • GWRC KNE Boundary • Covenants & Esplanades • Resource consents (SNA) • SNA Public Parcels • Urban Tree Group • Ridgelines • Landscapes (PC58) • Guildford Reserves • Guildford Land & Spur • Southern Hills • District Plan Zones • All parcels impacted by SNA 	<ul style="list-style-type: none"> • First iteration of sites from Wildlands • Wellington regional layer for KNE • Comes from LINZ easement layer • Based on internal UHCC.pdf • Parcels impacted by SNAs which are public • As defined in District Plan • As defined in District Plan • Draft Landscapes Plan Change (ONFL, SAL) • Proposed reserve sites • Land currently owned by Guildford & UHCC • As defined in District Plan • As defined in District Plan • All land parcels that are impacted by SNA (intersect) 	
1980 Aerials	1980's imagery georeferenced (source: Retrolens). Flown Feb 2017.	
2017 Aerials		Complete Kaitoke area.
Notes/Comments	Two layers for Wildlands to write notes and rename SNA's	

2. Resource Consent and Plan Change Information *

Title	Brief Summary of Information Type	Additional Note/ Follow Up
Indigenous and general vegetation clearances - Resource Consent assessments	Excel spreadsheet and supporting reports /maps focusing on last 10 years (period 2007 - 2017), and listing the Mt Marua development from 2000.	Does not include notable tree removals or urban tree group clearances
PC51 (private plan change request) - area subject to PPC request.	Custom map provided of Plan Change site and intersect with Draft SNA.	Intersects with UH030 from Draft 2016 report. (Refer separate email for what provided to applicant/ potential applicants re PC51 and other anticipated PCs)
Anticipated Plan Changes -	Map detailing potential development area and intersect with Draft SNAs.	Intersects with UH003, UH012 and UH060 from Draft 2016 reports.
Waipango Swamp SNAs	Map detailing potential development area and intersect with Draft SNAs sent This site has been included because a submission was made to the LTP regarding the protection if Waipango Swamp.	Intersects with UH027 from Draft 2016 report.
Other Resource Consent information/ development:	Information NOD, site area and management plan provided.	

* **Search limitations:** limitation of search tools relative to how Resource Consent information is recorded within the Upper Hutt City system means it is difficult to do a refined search's by time period. Search criteria is limited to key word search for individual consents, and not consent conditions which may further protect ecological sites. Results therefore relate specifically to consents seeking to alter vegetated areas.

3. Other Background, e.g. Covenants, Reports, Plan Changes etc

Title	Brief Summary of Information Type	Additional Note/ Follow Up
Ecological assessment of Silverstream Spur, 2015 - for context/reference.	Report result of UHCC engaging BML of ecological values assessment of Silverstream Spur Reserve.	

4. Data Sources Used in the Figures

- Local Government Boundaries: Statistics New Zealand
 - http://archive.stats.govt.nz/browse_for_stats/Maps_and_geography/Geographic-areas/digital-boundary-files.aspx#dataservice
- Ecological Districts:
 - <ftp://ftp.doc.govt.nz/Public/GIS/>
- Land Cover Database Classes LCDB4.1: Landcare Research
 - <https://iris.scinfo.org.nz/layer/48429-lcdb-v41-version-trace-mainland-new-zealand>
- Level IV Threatened Environments Classification categories: Landcare Research
 - <https://iris.scinfo.org.nz/layer/48288-threatened-environments-classification-2012>
- LENZ Hillshade 25m: Landcare Research
 - <https://iris.scinfo.org.nz/layer/48131-nzdem-north-island-25-metre/>
- Road Centre Lines : Land Information New Zealand
 - <https://data.linz.govt.nz/layer/53382-nz-roads-addressing/>
- NZ Road Centrelines (Topo, 1:50k): Land Information New Zealand
 - <https://data.linz.govt.nz/layer/50329-nz-road-centrelines-topo-150k/>
- Topographic Basemap (Topo 50k and Topo 250k): Land Information New Zealand
 - <https://data.linz.govt.nz/layer/50767-nz-topo50-maps/>
 - <https://data.linz.govt.nz/layer/50798-nz-topo250-maps/>
 - <https://services.arcgisonline.co.nz/arcgis/rest/services/LINZ/geotiffs/MapServer>
- Aerial Imagery: Upper Hutt City Council
 - https://services.geocirrus.co.nz/arcgis/rest/services/UHCC/aerials_MixedMode/MapServer
- Upper Hutt Parks and Reserves: Upper Hutt City Council
 - https://services.geocirrus.co.nz/arcgis/rest/services/UHCC/UHCC_public_combined_HTML5/MapServer/34
- Greater Wellington Regional Parks, Akatarawa Forest, Pakuratahi Forest and Water Collection Areas: Greater Wellington Regional Council:
 - <http://data-gwrc.opendata.arcgis.com/>
- Queen Elizabeth II Trust Covenants (24/07/2018): Queen Elizabeth II Trust
 - <https://qeiiationaltrust.org.nz/publications-and-resources/gis-data/>
- DOC Public Conservation Areas: Department of Conservation
 - http://geoportal.doc.govt.nz/ArcGIS/rest/services/GeoportalServices/DOC_Public_Conservation_Areas/MapServer

- DOC Covenants (13/07/2018): Department of Conservation
 - <ftp://ftp.doc.govt.nz/Public/GIS/>
- Covenant Esplanade: Land Information New Zealand & Upper City Council
- Esplanade Strips: Land Information New Zealand & Upper City Council

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DATA FIELDS USED IN THE EXCEL WORKBOOK SNA DATABASE

Table A: Explanatory notes for SNA database fields.

Attribute Code	Attribute Name	Comments
SITENUMB	Site Number	Unique site number (e.g. UH001).
SITENAME	Site Name	A suitable name, such as nearest road or feature, ecosystem type and unique suffix if required (e.g. Smith Road Wetland A).
AREA_HA	Area	Measured in hectares.
NZTM_X	NZ Transverse Mercator Easting	Coordinates of the centroid for a probable SNA
NZTM_Y	NZ Transverse Mercator Northing	Coordinates of the centroid for a probable SNA
ALT	Altitude	Altitudinal range about sea-level in metres, rounded to the nearest 10 metres.
LOCATION	Location	Brief description of location.
ECOLDIST	Ecological District	As per McEwen (1987). As site may be in more than one ecological district.
ECODOMAIN	Ecological Domain	As per Greater Wellington Regional Council (2002). As site may be in more than one ecological domain.
DOMHAB	Dominant Habitats	Brief description of the dominant habitat and vegetation types in the probable SNA.
SITESUMM	Site Summary	Summary of the ecologically important characteristics of the site.
TLA	Territorial local authority	Upper Hutt City.
STATUS	Status	Private, UHCC, DOC, GWRC.
PROT_STAT	Protection status	Whether a site is fully, partially or not legally protected, with a focus on protection of ecological values.
PROT_TYP	Protection type	The legal mechanism or reserve status.
ADJACE	Adjacent land use	Brief description of surrounding land use.
CONDITION	Condition	Any information known about how the SNA is being managed.
LAND_MGNT	Land management issues	Any information about future management that could improve or adversely affect ecological values.
REFS	References	References to compile the information for that SNA.
GWRCDBID	Greater Wellington Database ID	The reference number and name for any sites also identified in the GWRC wetlands database.
RPS23A	Criterion a) Representativeness	Y/N
RPS23A_JUS	Criterion a) Justification	Justification statement
RPS23B	Criterion b) Rarity	Y/N
RPS23B_JUS	Criterion b) Justification	Justification statement
RPS23C	Criterion c) Diversity	Y/N
RPS23C_JUS	Criterion c) Justification	Justification statement
RPS23D	Criterion d) Ecological context	Y/N
RPS23D_JUS	Criterion d) Justification	Justification statement
RPS23E	Criterion e) Tangata whenua	Not Assessed/ or information about significant values.
RPS23SIG	Overall Significance	Y/N

Attribute Code	Attribute Name	Comments
IMP_REP_S	Representative score	Score from 1 to 5
IMP_REP_C	Representative comment	Representativeness of the current vegetation.
IMP_TLE_S	Threatened Land Environment score	Score from 1 to 5.
IMP_TLE_C	Threatened Land Environment comment	Assessment of how much of each Threatened Land Environment occurs within the SNA.
IMP_HAB_S	Rare habitats score	Score from 1 to 5
IMP_HAB_C	Rare habitats comment	Identification of any know rare habitats of vegetation types.
IMP_FLO_S	Rare flora score	Score from 1 to 5.
IMP_FLO_C	Rare flora comment	List of rare plant species and their current national or regional threat ranking.
IMP_FAU_S	Rare fauna score	Score from 1 to 5.
IMP_FAU_C	Rare fauna comment	List of rare animal species and their current national or regional threat ranking.
IMP_COM_S	Community diversity score	Score from 1 to 5
IMP_COM_C	Community diversity comment	Identification of any rare communities.
IMP_CON_S	Ecological context score	Score from 1 to 5.
IMP_CON_C	Ecological context comment	Identification of how an SNA contributes to connectivity in the landscape.
IMP_FH_S	Fauna habitat score	Score from 1 to 5.
IMP_FH_C	Fauna habitat comment	Notes on whether the SNA provides important habitat for particular fauna species or groups.
GeoFeature	Geological feature	Any known geological features as identified in Kenny and Hayward (1996)
IMP_SCORE	Importance score	Sum of all scores
IMP_JUST	Importance justification	Brief summary of ecologically important features.
FIELD	Fieldwork required	Whether field work is required to confirm site significance.
COMMENTS	Any additional comments	Any additional comments.
ASSES_TECH	Assessment techniques	Techniques used to determine ecological values.
ASSES_BY	Assessment undertaken by	Who undertook the assessment.
ASSES_DATE	Assessment completed on	Date assessment completed.
REVIEW_BY	Review undertaken by	Who undertook the internal peer review.
REVIEW_DATE	Review completed on	Date peer review completed.

ECOSYSTEM TYPES THAT ARE NO LONGER COMMONPLACE OR ARE POORLY REPRESENTED IN EXISTING PROTECTED AREAS

The ecosystem or habitat types that meet the RPS Policy 23a criterion are highlighted in pink.

Table B: Singers and Rogers (2014) classification of New Zealand's terrestrial ecosystems; percent remaining and protected of ecosystem types found within the Upper Hutt District at the regional and district scales.

Ecosystem Type	Criterion <30% Remaining		Criterion <20% Protected	
	Wellington Region	Upper Hutt City	Wellington Region	Upper Hutt City
AL4, Mid-ribbed and broad-leaved snow tussock tussockland/shrubland	100	100	94.88	0.00
BR1, Hard tussock, scabweed gravel/stonefield	86.91	91.44	14.54	0.19
CDF4, Hall's tōtara, pahautea, kāmahī forest	100	100	79.52	0.00
CDF6, Olearia, Pseudopanax, Dracophyllum scrub [Subalpine scrub]	100	100	94.59	0.00
CDF7, Mountain beech, silver beech, montane podocarp forest	100	100	36.06	36.06
CL3, Coprosma, Muehlenbeckia shrubland/herbfield/rockland	43.13		32.70	
CLF10, Red beech, silver beech forest	96.87	98.01	84.55	4.02
CLF11-2, Silver beech	98.65	99.36	66.38	0.00
CLF11-3, Silver beech, kāmahī forest	98.96	77.74	65.34	0.00
CLF4, Kahikatea, tōtara, matai forest	0.96		0.00	
CLF9, Red beech, podocarp forest	97.59	97.87	72.62	5.93
DN2, Spinifex, pingao grassland/sedgeland	6.02		0.00	
DN2/5 Coastal Sand Dunes Mosaic	14.57		33.04	
DN5, Oioi, knobby clubrush sedgeland	2.94		0.00	
Fen mosaic	5.65		0.00	
MF1, Tōtara, tītōki forest	5.23		5.09	
MF2, Rimu, matai, hīnau forest	86.98		70.98	
MF2, Rimu, matai, hīnau forest and MF5, Black beech forest mosaic	44.37		14.49	
MF20, Hard beech forest	57.02	54.61	5.90	0.33
MF5, Black beech forest	59.39	99.40	55.80	0.00
MF6, Kohekohe, tawa forest	19.48	72.03	22.16	0.00
MF7, Tawa, kāmahī, podocarp forest	25.87	19.96	27.80	1.18
MF8, Kāmahī, broadleaved, podocarp forest	88.36	86.54	32.82	0.12
Open Water	90.36		94.14	
Reclaimed	8.08		1.24	
River	83.62		23.38	
SA2, Searush, oioi, glasswort, sea primrose rushland/herbfield [Saltmarsh]	63.52		86.40	
Strand	81.97		10.16	
Swamp mosaic	46.93		28.82	
WF1, Tītōki, ngaio forest	20.52		17.05	
WF2, Tōtara, matai, ribbonwood forest	6.90	16.52	7.44	0.77
WF3, Tawa, tītōki, podocarp forest	7.11		6.49	
WF6, Tōtara, matai, broadleaved forest [Dune Forest]	3.68		6.98	
WF8, Kahikatea, pukatea forest	4.21		29.25	
WL10, Oioi restiad rushland/reedland	16.76		61.01	
WL12, Mānuka, tangle fern scrub/fermland	15.18	15.18	0.00	0.00
WL18, Flaxland	83.46		49.63	
WL19, Raupo reedland	88.97		25.93	

Table C: Leathwick *et al.* (2012) Potential Vegetation of New Zealand; percentage remaining of vegetation types found in Upper Hutt District at the national, regional and district scale.

Vegetation Type	Criterion <30% Remaining				
	National	Wellington Region	Upper Hutt City	Tararua ED	Wellington ED
Dunelands	25.95	16.40	40.53	30.40	14.54
Hall's tōtara/broadleaf forest	34.12	95.40	100	99.88	
Hall's tōtara-miro-rimu/kāmahi-silver beech-southern rātā forest	97.95	98.74	100		
Kahikatea-matai/tawa-māhoe forest	14.77	24.94	17.48	48.47	8.36
Kahikatea-pukatea-tawa forest	6.07	4.33	0.00	21.99	2.01
Kahikatea-tōtara forest	3.31	42.54			
Kauri/taraire-kohekohe-tawa forest	39.54	13.13			12.10
Matai-kahikatea-tōtara forest	2.93	6.79	28.19	75.87	28.19
Matai-tōtara/black/mountain beech forest	29.45	52.94	70.70	71.95	
Matai-tōtara-kahikatea-rimu/broadleaf-fuchsia forest	10.65	37.56			
Mountain beech forest	61.27	81.06	93.54	94.39	
Mountain beech-red beech forest	83.70	98.86		100	
Red beech-silver beech forest	86.31	99.46	100	98.05	
Rimu/tawa-kāmahi forest	30.28	23.15	34.60	40.25	17.67
Rimu-matai-miro-tōtara/kāmahi forest	35.70	24.74	16.89	65.22	7.78
Rimu-miro/kāmahi-red beech-hard beech forest	79.55	82.34	76.75	85.22	39.39
Rimu-miro/tawari-red beech-kāmahi-tawa forest	74.28	70.41		80.73	
Rimu-miro-tōtara/kāmahi forest	50.94	11.58		53.63	
Scrub, tussock-grassland and herbfield above treeline	97.39	100	100	100	
Silver beech forest	70.53	99.82	99.90	99.60	
Wetland	32.23	14.63	15.19	22.65	63.69
Unclassified	83.07	52.86	47.09	66.11	15.44
Not classified	99.75	99.82	65.61	83.25	77.36

Table D: Leathwick *et al.* (2012) Potential Vegetation of New Zealand; percentage protected of vegetation types found in Upper Hutt District at the national, regional and district scale.

Vegetation Type	Criterion <20% Protected				
	National	Wellington Region	Upper Hutt City	Tararua ED	Wellington ED
Dunelands	18.42	3.52	0.06	4.45	3.68
Hall's tōtara/broadleaf forest	18.11	90.34	0.00	99.31	
Hall's tōtara-miro-rimu/kāmahi-silver beech-southern rātā forest	96.26	57.55	0.00		
Hall's tōtara-miro-rimu/kāmahi-southern rātā-broadleaf forest	40.62	<0.01			
Kahikatea-matai/tawa-māhoe forest	2.57	3.04	0.00	11.94	1.33
Kahikatea-pukatea-tawa forest	1.53	1.28	0.00	41.10	0.00
Kahikatea-tōtara forest	2.09	0.00			
Kauri/taraire-kohekohe-tawa forest	16.96	1.61			0.00
Matai-kahikatea-tōtara forest	1.61	1.63	0.00	62.29	0.00
Matai-tōtara/black/mountain beech forest	8.93	6.84	0.00	0.40	
Matai-tōtara-kahikatea-rimu/broadleaf-fuchsia forest	4.60	19.50			
Mountain beech forest	32.92	23.67	0.00	17.79	
Mountain beech-red beech forest	70.45	80.80		86.39	
Red beech-silver beech forest	65.20	89.40	0.00	87.79	
Rimu/tawa-kāmahi forest	13.50	5.26	0.16	32.62	3.90
Rimu-matai-miro-tōtara/kāmahi forest	25.38	11.38	0.22	78.91	0.00
Rimu-miro/kāmahi-red beech-hard beech forest	63.90	46.73	2.41	53.60	1.75
Rimu-miro/tawari-red beech-kāmahi-tawa forest	51.85	58.61		89.96	
Rimu-miro-tōtara/kāmahi forest	39.92	11.58		69.11	
Scrub, shrubland and tussock-grassland below treeline	25.02			<0.01	
Scrub, tussock-grassland and herbfield above treeline	79.22	97.24	0.00	97.66	
Silver beech forest	62.68	79.21	0.58	80.05	
Wetland	24.80	7.54	0.00	7.48	79.85
Unclassified	63.41	15.97	0.00	56.73	3.47
Not classified	22.78	1.60	0.18	54.97	2.92

'THREATENED', 'AT RISK', AND REGIONALLY UNCOMMON SPECIES RECORDED IN UPPER HUTT CITY

Sources: Vascular plants (Bioweb; and references in site descriptions); birds (eBird - Sullivan *et al.* 2009; and references in site descriptions); indigenous lizards (Bioweb Herpetofauna database). Threat classifications are as per the most recent classification for that taxa.

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Species	Common Name	National Threat Classification de Lange <i>et al.</i> 2018	Regional Threat Status Sawyer 2004
Vascular Plants			
<i>Brachyglottis kirkii</i> var. <i>kirkii</i>		At Risk-Declining	
<i>Caladenia minor</i>	Caladenia	Data Deficient	
<i>Corunastylis nuda</i>		At Risk-Naturally Uncommon	
<i>Corybas cryptanthus</i>		At Risk-Naturally Uncommon	
<i>Crassula manaia</i>		Threatened-Nationally Vulnerable	
<i>Crassula ruamahanga</i>		At Risk-Naturally Uncommon	
<i>Gahnia rigida</i>		Not Threatened	Regionally Critical
<i>Hymenophyllum australe</i>	Filmy fern	At Risk-Naturally Uncommon	
<i>Ileostylus micranthus</i>			Regionally uncommon-gradual decline
<i>Kunzea robusta</i>	Kānuka	Threatened-Nationally Vulnerable	
<i>Leptinella tenella</i>		Threatened-Nationally Vulnerable	
<i>Leptospermum scoparium</i>	Mānuka	At Risk-Declining	
<i>Lophomyrtus obcordata</i>	Rōhutu	Threatened-Nationally Critical	
<i>Mazus novae-zeelandiae</i> subspecies		Threatened-Nationally Vulnerable or At Risk-Declining	Regionally Critical or Regionally Endangered
<i>Metrosideros colensoi</i>		Threatened-Nationally Vulnerable	
<i>Metrosideros diffusa</i>		Threatened-Nationally Vulnerable	
<i>Metrosideros perforata</i>		Threatened-Nationally Vulnerable	
<i>Metrosideros robusta</i>		Threatened-Nationally Vulnerable	
<i>Metrosideros umbellata</i>	Northern rata	Threatened-Nationally Vulnerable	
<i>Nestegis cunninghamii</i>	Black maire		Of local interest
<i>Peraxilla colensoi</i>	Scarlet mistletoe	At Risk-Declining	
<i>Peraxilla tetrapetala</i>	Red mistletoe, pirirangi	At Risk-Declining	Regionally Critical
<i>Pittosporum obcordatum</i>	Heart-leaved kohuhu	Threatened-Nationally Vulnerable	
<i>Pterostylis foliata</i>		At Risk-Naturally Uncommon	
<i>Pterostylis micromega</i>		Threatened-Nationally Endangered	
<i>Pterostylis puberula</i>	Dwarf greenhood	Threatened-Nationally Vulnerable	
<i>Pterostylis tasmanica</i>		Threatened-Nationally Vulnerable	
<i>Streblus banksii</i>	Large-leaved milk tree, tūrepo	At Risk-Relict	
<i>Syzygium maire</i>	Swamp maire	Threatened-Nationally Critical	
<i>Teucrium parvifolium</i>	Native verbena	At Risk-Declining	
<i>Thelymitra ixioides</i>		At Risk-Naturally Uncommon	
<i>Trichomanes (Polyphlebium) colensoi</i>	Bristle fern	At Risk-Naturally Uncommon	
<i>Tupeia antarctica</i>	White mistletoe	At Risk-Declining	
Lizards			
Hitchmough <i>et al.</i> 2016			
<i>Dactylocnemis pacificus</i>	Pacific gecko	At Risk-Relict	
<i>Mokopirirakau</i> "southern North Island"	Ngahere gecko	At Risk-Declining	
<i>Naultinus punctatus</i>	Barking gecko	At Risk-Declining	
<i>Oligosoma ornatum</i>	Ornate skink	At Risk-Declining	
Birds			
Robertson <i>et al.</i> 2016			
Wildland Consultants and Kessels Ecology 2015			
<i>Acanthisitta chloris granti</i>	North Island rifleman	At Risk-Declining	
<i>Anas chlorotis</i>	Brown teal	At Risk-Recovering	
<i>Anas superciliosa</i>	Grey duck	Threatened-Nationally Critical	
<i>Anthornis melanura melanura</i>	Bellbird	Not Threatened	All of GWRC, localised distribution, increasing in abundance.
<i>Anthus novaeseelandiae</i>	New Zealand pipit	At Risk-Declining	

Upper Hutt District Plan - Significant Natural Area Assessment - Significance Statement

Species	Common Name	National Threat Classification	Regional Threat Status
<i>Apteryx mantelli</i>	North Island brown kiwi	At Risk-Declining	
<i>Ardea modesta</i>	White heron	Threatened-Nationally Critical	
<i>Cyanoramphus novaezelandiae novaezelandiae</i>	Red-crowned parakeet	At Risk-Relict	
<i>Eudynamys taitensis</i>	Long-tailed cuckoo	At Risk-Naturally Uncommon	
<i>Falco novaeseelandiae ferox</i>	Bush falcon	At Risk-Recovering	
<i>Haematopus unicolor</i>	Variable oystercatcher	At Risk-Recovering	
<i>Hydroprogne caspia</i>	Caspian tern	Threatened-Nationally Vulnerable	
<i>Mohoua albicilla</i>	Whitehead	At Risk-Declining	Uncommon in urban areas or around urban fringe of extensive forests
<i>Nestor meridionalis septentrionalis</i>	North Island kaka	At Risk-Recovering	
<i>Notiomystis cincta</i>	Stichbird, Hihi	Threatened-Nationally Vulnerable	
<i>Petroica longipes</i>	North Island robin	At Risk-Declining	
<i>Petroica macrocephala toitoi</i>	Pied tomtit	Not Threatened	Uncommon in urban areas or around urban fringe of extensive forests
<i>Phalacrocorax carbo novaehollandiae</i>	Black shag	At Risk-Naturally Uncommon	
<i>Phalacrocorax sulcirostris</i>	Little black shag	At Risk-Naturally Uncommon	
<i>Platalea regia</i>	Royal spoonbill	At Risk-Naturally Uncommon	
<i>Poliiocephalus rufopectus</i>	New Zealand dabchick	At Risk-Recovering	
Freshwater Fish		Goodman et al. 2013	
<i>Anguilla dieffenbachii</i>	Longfin eel	At Risk-Declining	
<i>Cheimarrichthys fosteri</i>	Torrentfish	At Risk-Declining	
<i>Galaxias argenteus</i>	Giant kōkopu	At Risk-Declining	
<i>Galaxias brevipinnis</i>	Kōaro	At Risk-Declining	
<i>Galaxias divergens</i>	Dwarf galaxias	At Risk-Declining	
<i>Geotria australis</i>	Lamprey	Threatened-Nationally Vulnerable	
<i>Gobiomorphus hubbsi</i>	Bluegill bully	At Risk-Declining	
<i>Gobiomorphus huttoni</i>	Redfin bully	At Risk-Declining	
Invertebrates		As per invertebrate references above	
<i>Hemiandrus lanceolatus</i>	Ground weta	Data Deficient	
<i>Mecodema quoinense</i>	Carabid beetle	Threatened-Nationally Critical	
<i>Orthodera novaezealandiae</i>	Praying mantis	At Risk-Declining	



Appendix 9 of this report contains an explanatory note to support understanding the content contained within the individual Significant Natural Area (SNA) site description statements.

Mt Cecil Road scrub

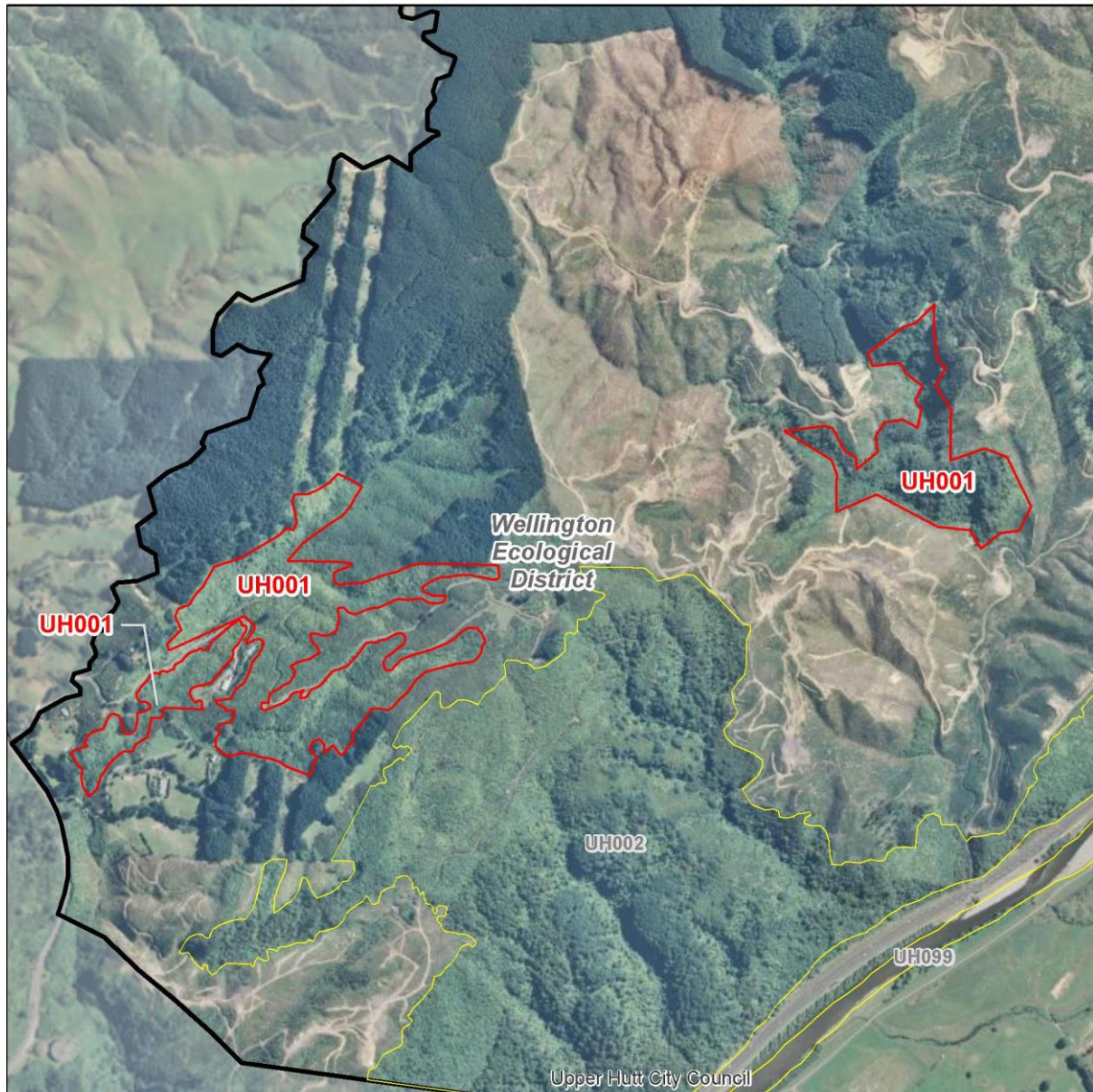
INTRODUCTION

Site Name: Mt Cecil Road scrub
Site Number: UH001
Site Location: Southeast of Mt Cecil Road, off Haywoods Hill Road
Site Area: 37.68 ha.
Current Protection Status: Site has no legal protection.
Protection Type: Not applicable.

Site Map

Site Number: UH001

Site Name: Mt Cecil Road scrub



— SNA site boundary

— Other probable SNA site boundary

— District boundary

- - Ecological District boundary

Upper Hutt District Plan - Significant Natural Area Assessment - Significance Statement

Site Summary: Regenerating broadleaved scrub comprised of māhoe with mānuka (*Leptospermum scoparium*; At Risk-Declining ^{Note##}), rangiora, hangehange, treefern, and tawa.

IMPORTANT FEATURES

Threatened Indigenous Flora:	Mānuka (<i>Leptospermum scoparium</i> ; At Risk-Declining) ^{Note##} .
Threatened Indigenous Fauna:	No Threatened, At Risk, or regionally uncommon animal species are known from this site. Whitehead (<i>Mohoua albicilla</i> ; At Risk-Declining) and the regionally uncommon bellbird (<i>Anthornis melanura</i>) and tomtit (<i>Petroica macrocephala toitoi</i>) have been recorded nearby.
Threatened Land Environments:	More than 0.5 hectares on Acutely Threatened land environments (<10% indigenous cover remaining).
Rare Habitats:	No rare habitats or communities known.
Geological Features:	None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	Late succession broadleaved scrub is representative of current vegetation types, and also contains some elements representative of MF7-Tawa, kāmahī, podocarp forest, of which there is less than 30% remaining in the Wellington region and less than 20% protected in Upper Hutt.
RPS23b: Rarity	Yes	One At Risk plant species ^{Note##} . Includes indigenous vegetation on land environments with less than 10% indigenous vegetation cover remaining.
RPS23c: Diversity	No	Likely to have a reduced natural diversity of species.
RPS23d: Ecological Context	Yes	May provide connectivity and bird habitat along the Western Hills.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

Ecological District:	Wellington
Ecological Domain(s):	58 Tararua (<550 metres).
Digital Scale:	1:17,000
Altitude Range:	110-385 m a.s.l.
Grid Reference:	NZTM E1767197 N5444638
Adjacent Vegetation and Habitats:	Pine plantation, farmland, residential and Keith George Memorial Park KNE.

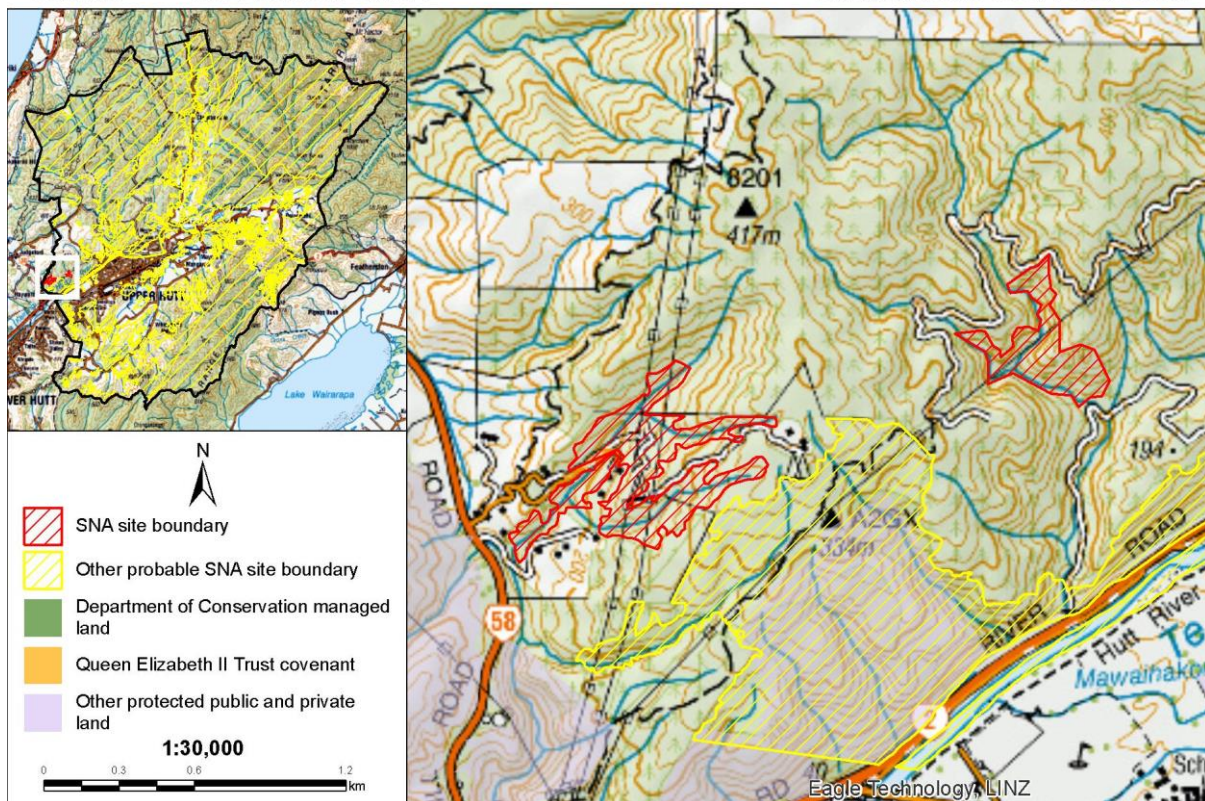
Notes on Overall Condition: Regenerating scrub, gorse present in some areas.

Potential Land Management Issues: Access to transmission pylons. Harvesting of pine plantations may impact the sites values.

Sources of Information for this Site ^{Note#:} Google Earth.

Context Site Number: UH001

Site Name: Mt Cecil Road scrub



ASSESSED BY

Assessment Techniques: Aerial imagery, partial road side viewing (large part not visible).
Assessed By: Keely Paler (Date 26/06/2018)
Reviewed By: Steve Rate (Date 27/7/2018)

NOTES

Please note that this statement is based on information available at the time of writing. No site visits were undertaken on private land. Due to the changing nature of ecosystems and surrounding land use, future assessment of the Significant Natural Area may be necessary to reflect any changes in knowledge, values, or boundaries that may influence its assessment as ecologically significant.

An Explanatory Note is included in Appendix 9, which provides more information about how each of the above fields was collated or assessed.

The full list of data sources and references used to assess sites is listed in the main body of the report under REFERENCES and also in the EXPLANATORY NOTES in Appendix 9. Aerial

photography (2017 colour) was used to view and evaluate all sites, additional sources such as historic aerial photography in Google Earth, was used to inform site values and improve site boundaries.

Mānuka (*Leptospermum scoparium*) has a national-level threat classification of At Risk-Declining, as per de Lange *et al.* 2018. Mānuka is a Myrtaceae species which is at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of mānuka has been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of mānuka at this site does not trigger the rarity criteria because the species is currently common and widespread in the local environment.

DRAFT

Keith George KNE

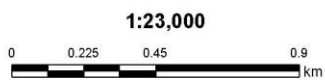
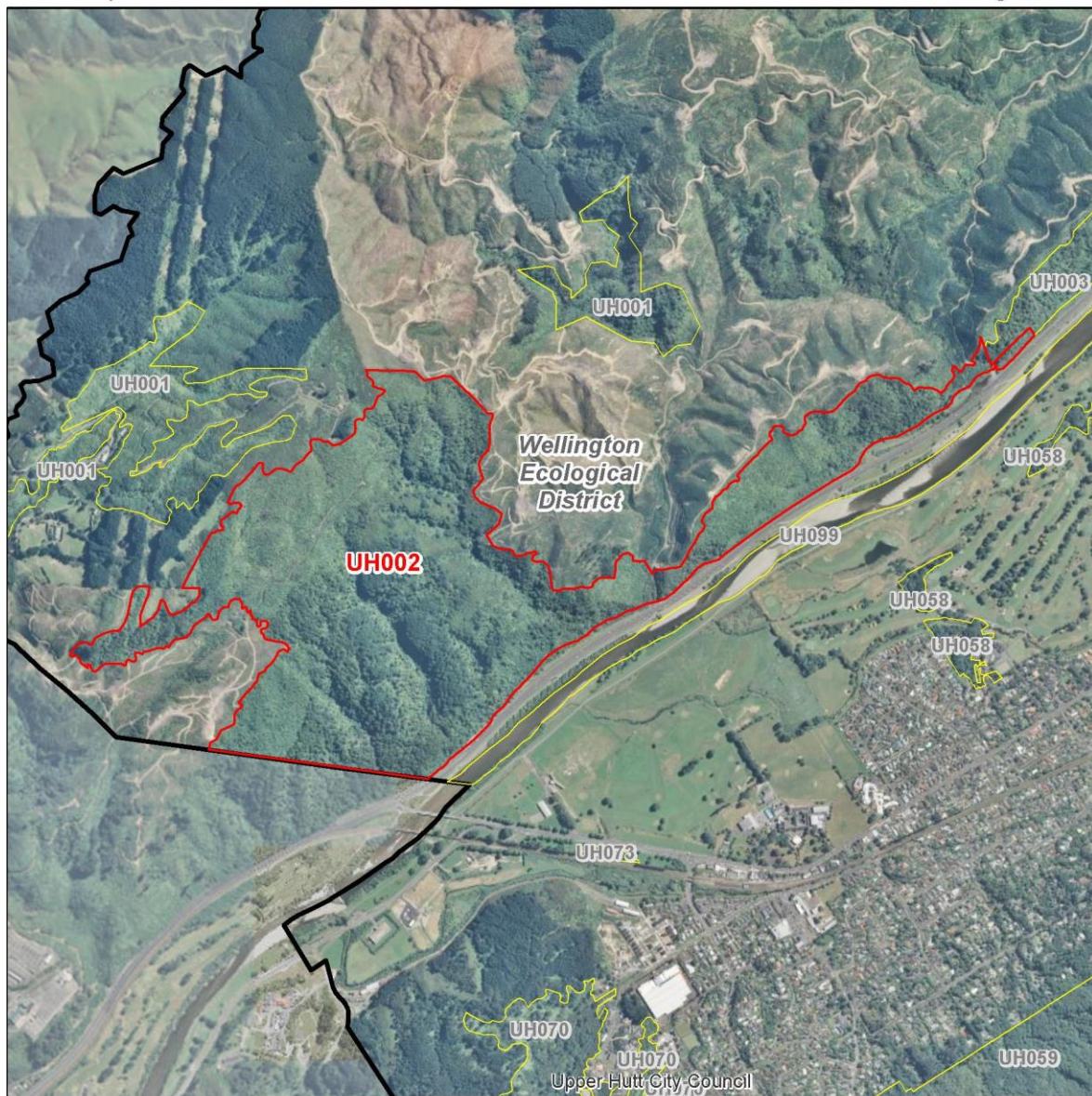
INTRODUCTION

Site Name: Keith George KNE
Site Number: UH002
Site Location: Southeast-facing hillslopes above the Te Awa Kairangi/Hutt River near the junction of SH2 (Western Hutt Road/River Road) and SH58 (Haywards Hill Road).
Site Area: 141.18 ha.
Current Protection Status: Site is partially legally protected.
Protection Type: UHCC park.

Site Map

Site Number: UH002

Site Name: Keith George KNE



— SNA site boundary
— Other probable SNA site boundary

District boundary
 Ecological District boundary

Site Summary: This site includes Keith George Memorial Park, Silverstream Scenic Reserve and the vegetation immediately adjacent. Vegetation within this site is in a modified condition, but its composition and structure is representative of forests that would have been formerly more widespread within Wellington Ecological District. The vegetation provides riparian protection to several small tributaries of the Te Awa Kairangi/Hutt River. This site contains 10 main vegetation types: tawa (*Beilschmiedia tawa*) forest on steep colluvial slopes; hard beech (*Fuscospora truncata*)-black beech (*F. solandri*) forest on weathered greywacke; māhoe (*Melicytus ramiflorus*)-mixed broadleaved scrub on steep colluvial slopes; māhoe-tutu (*Coriaria arborea*)-koromiko (*Hebe stricta*)-rangiora (*Brachyglottis repanda*) scrub on very steep/bluffy colluvial slopes; māhoe forest in gully; Kāmahi (*Weinmannia racemosa*) scrub and low forest on weathered greywacke spurs and colluvial slopes; a mosaic of beech-tawa-kāmahi forest on steep colluvial slopes; and mānuka (*Leptospermum scoparium*; At Risk-Declining^{Note##})-gorse (*Ulex europaeus*) scrub. An area close to SH2 includes flax, potentially indicating wet soils. Other plant species include tōtara (*Podocarpus totara*; of local interest), kahikatea (*Dacrydium dacrydioides*; of local interest), black maire (*Nestegis cunninghamii*; of local interest), tītoki, five-finger, red māpou, kohuhu, tree ferns, rewarewa, wineberry, tarata, and kōwhai, fuchsia, poataniwha. The At Risk-Declining red mistletoe (*Peraxilla tetrapetala*) and poroporo (*Solanum aviculare* var. *aviculare*), and the At Risk-Naturally Uncommon orchids *Corunastylis nuda* and *Corybas cryptanthus* and the Data Deficient *Caladenia minor* have previously been recorded at this site. The site provides habitat for at least 18 indigenous forest bird species, including whitehead (*Mohoua albicilla*; At Risk-Declining), bush falcon (*Falco novaeseelandiae ferox*; At Risk-Recovering), North Island rifleman (*Acanthisitta chloris granti*; At Risk-Declining), and the regionally uncommon bellbird (*Anthornis melanura melanura*) and tomtit (*Petroica macrocephala toitoi*).

IMPORTANT FEATURES

- Threatened Indigenous Flora:** At Risk-Declining red mistletoe (*Peraxilla tetrapetala*), poroporo (*Solanum aviculare* var. *aviculare*), and mānuka (*Leptospermum scoparium*^{Note#Note##}); the At Risk-Naturally Uncommon orchids *Corunastylis nuda* and *Corybas cryptanthus*; and the Data Deficient *Caladenia minor*.
- Threatened Indigenous Fauna:** Whitehead (*Mohoua albicilla*; At Risk-Declining), North Island rifleman (*Acanthisitta chloris granti*; At Risk-Declining), bush falcon (*Falco novaeseelandiae ferox*; At Risk-Recovering), and the regionally uncommon bellbird (*Anthornis melanura*) and tomtit (*Petroica macrocephala toitoi*) have been recorded at this site.
- Threatened Land Environments:** More than five hectares At Risk land environments (20-30% indigenous cover remaining).
- Rare Habitats:** Contains vegetation representative of Singers and Rogers (2014) MF7-Tawa, kāmahi, podocarp forest which has less than 30% remaining in the Wellington region.
- Geological Features:** None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	Representative vegetation types present. The Singers and Rogers (2014) vegetation classifications include MF7-Tawa, kāmahī, podocarp forest, of which there is less than 30% remaining in the Wellington region and less than 20% protected in Upper Hutt; and MF8-Kāmahī, broadleaved, podocarp forest, of which there is less than 20% protected in Upper Hutt.
RPS23b: Rarity	Yes	Five At Risk plant species ^{Note##} , three At Risk bird species and two regionally uncommon bird species.
RPS23c: Diversity	Yes	A high diversity of indigenous plant species.
RPS23d: Ecological Context	Yes	Provides connectivity through Belmont Regional Park, Trentham Scenic Reserve and Akatawara Forest Park.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

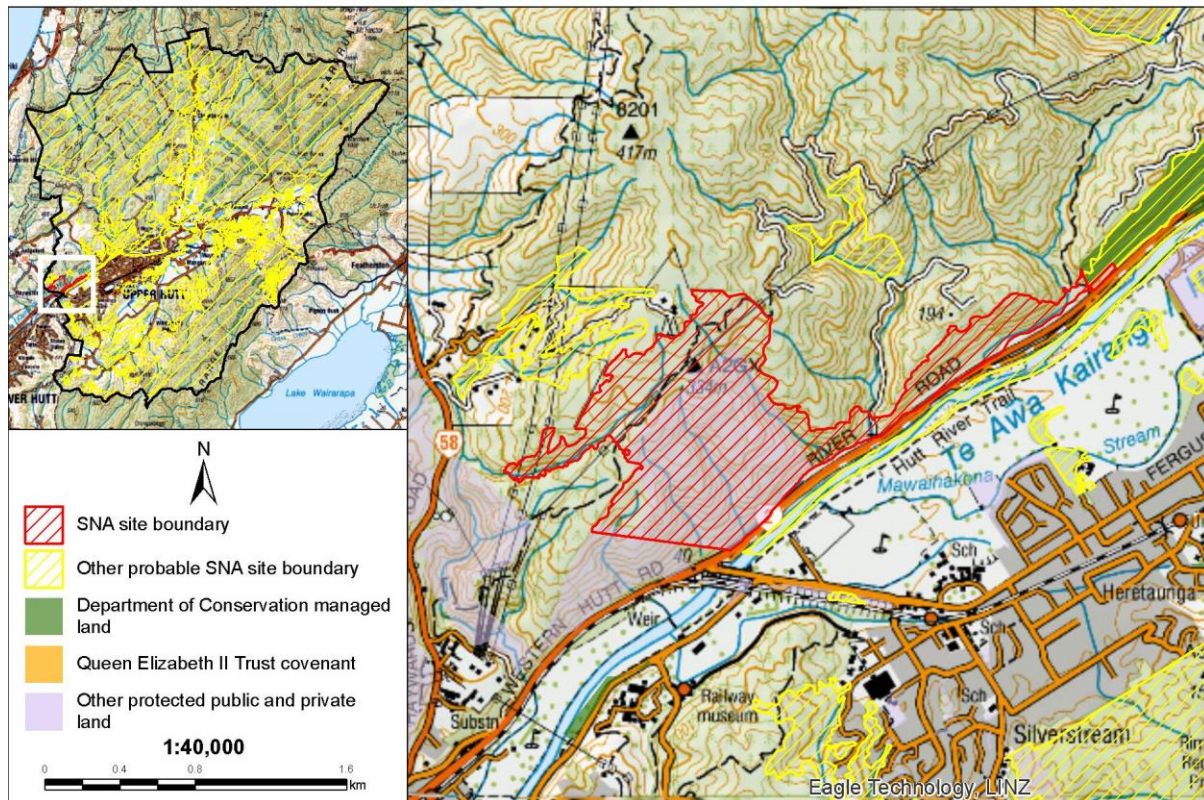
SITE CONTEXT AND OTHER INFORMATION

Ecological District:	Wellington
Ecological Domain(s):	58 Tararua (<550 metres); 61 Wainuiomata - Hutt - Kaitoke.
Digital Scale:	1:23,000
Altitude Range:	35-385 m a.s.l.
Grid Reference:	NZTM E1767684 N5444002
Adjacent Vegetation and Habitats:	SH58, SH2, electrical substation, plantation forest, gorse scrub.
Notes on Overall Condition:	Privately owned land is present in the central southern part of site, and is currently used for plantation forestry. Previous logging occurred within the site, but a few large, remnant podocarp trees still exist. Ecological pest plants are widespread throughout the site, ranging from wilding pine to ground-covering plant species, with pest plant infestations comprised of gorse, willow, tree lucern, and pampas grass particularly along the forest edges and adjoining roads. Large areas of gorse scrub have been excluded from the SNA. Possums (<i>Trichosurus vulpecula</i>), rats (<i>Rattus</i> spp.) and mustelids (<i>Mustela</i> spp.) are the greatest pest animal threats.
Potential Land Management Issues:	Access to and felling exotic plantation trees, which could open forest edge to pest plants and drying. Access to Transpower's electricity lines, which pass over the site. Pest plant and animal control.
Sources of Information for this Site^{Note#}:	GWRC 2015d; DOC Bioweb; Wellington City Council 1981; Google Earth.

Context

Site Number: UH002

Site Name: Keith George KNE



ASSESSED BY

Assessment Techniques: Literature review, species databases, aerial imagery, road side viewing.

Assessed By: Keely Paler (Date 21/06/2018)

Reviewed By: Steve Rate (Date 27/7/2018)

NOTES

Please note that this statement is based on information available at the time of writing. No site visits were undertaken on private land. Due to the changing nature of ecosystems and surrounding land use, future assessment of the Significant Natural Area may be necessary to reflect any changes in knowledge, values, or boundaries that may influence its assessment as ecologically significant.

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Mānuka (*Leptospermum scoparium*) has a national-level threat classification of At Risk-Declining, as per de Lange *et al.* 2018. Mānuka is a Myrtaceae species which is at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of mānuka has been elevated as a

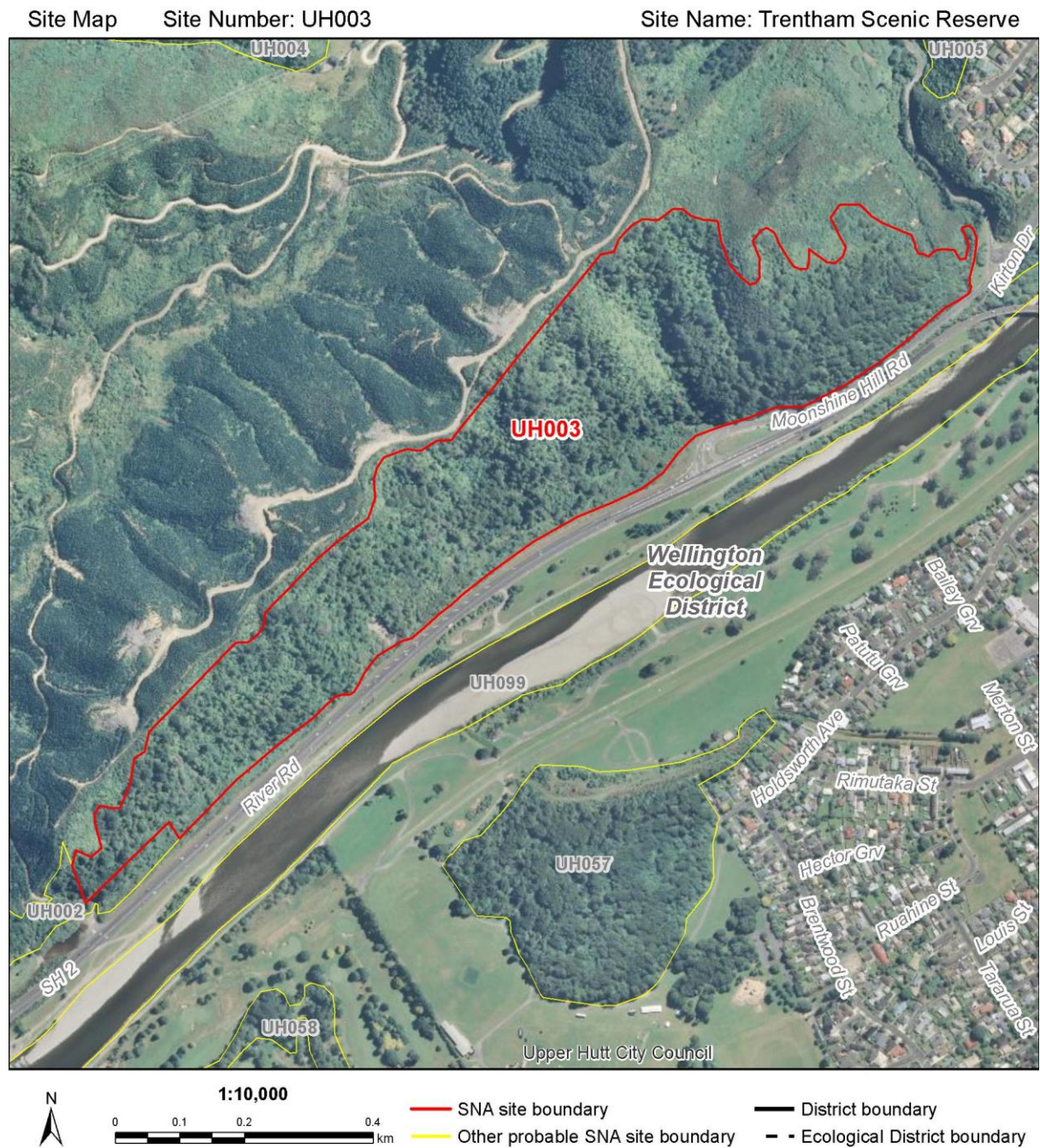
precautionary measure based on the potential threat posed by myrtle rust. However the presence of mānuka at this site does not trigger the rarity criteria because the species is currently common and widespread in the local environment.

DRAFT

Trentham Scenic Reserve

INTRODUCTION

Site Name: Trentham Scenic Reserve
Site Number: UH003
Site Location: Western side of Te Awa Kairangi/Hutt River, South of Moonshine Road
Site Area: 34.52 ha.
Current Protection Status: Site is fully legally protected.
Protection Type: DOC managed land.



Site Summary: A steep area of native bush, forming part of the Wellington Fault escarpment and containing tawa/māhoe-mixed broadleaf forest with tōtara (*Podocarpus totara*; of local interest), and hard and black beech forest on clay spurs. Other plant species recorded include New Zealand myrtle (*Lophomyrtus obcordata*; Threatened-Nationally Critical ^{Note###}), matai (*Prunopitys taxifolia*; of local interest), black maire, puawananga, green mistletoe, puka, rewarewa, kiekie, hīnau, small-leaved milktree, immature rimu (*Dacrydium cupressinum*; of local interest), and miro (*Prumnopitys ferruginea*; of local interest). This site may also provide habitat for the bush falcon (*Falco novaeseelandiae ferox*; At Risk-Recovering), and a number of additional At Risk forest bird species which are present in the Keith George Memorial Park (UH003) adjacent to this site.

IMPORTANT FEATURES

Threatened Indigenous Flora:	New Zealand myrtle (<i>Lophomyrtus obcordata</i> ; Threatened-Nationally Critical ^{Note###}).
Threatened Indigenous Fauna:	No rare fauna are known from the site, however the site may at times provide habitat for the bush falcon (<i>Falco novaeseelandiae ferox</i> ; At Risk-Recovering). Whitehead (<i>Mohoua albicilla</i> ; At Risk-Declining) and long-tailed cuckoo (<i>Eudynamys taitensis</i> ; At Risk-Naturally Uncommon) have been recorded nearby.
Threatened Land Environments:	Includes >5 hectares on land Environments with 20-30% indigenous vegetation cover remaining.
Rare Habitats:	Contains vegetation representative of Singers and Rogers (2014) vegetation types: MF7-Tawa, kāmahī, podocarp forest, and WF2-Tōtara, matai, ribbonwood forest, which have less than 30% remaining in the Wellington region.
Geological Features:	None known.

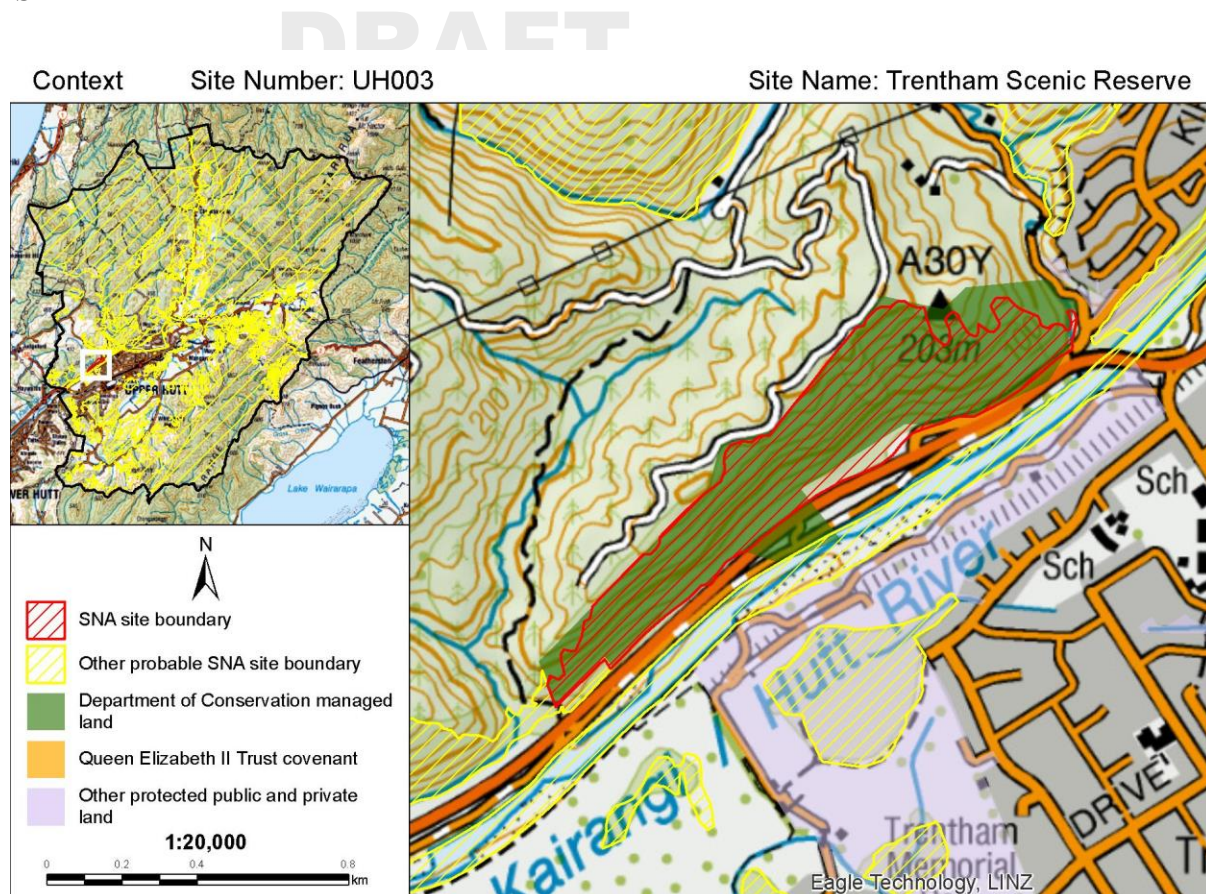
SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	Representative of Singers and Rogers (2014) MF7-Tawa, kāmahī, podocarp forest, of which there is less than 30% remaining in the Wellington region and less than 20% protected in Upper Hutt.
RPS23b: Rarity	No	One Threatened plant species ^{Note###} .
RPS23c: Diversity	Yes	Forest likely to have a natural diversity.
RPS23d: Ecological Context	Yes	Site contiguous with or adjacent to other areas with indigenous vegetation. Likely to provide a corridor for native forest bird species.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

Ecological District:	Wellington
Ecological Domain(s):	58 Tararua (<550 metres).
Digital Scale:	1:10,000
Altitude Range:	45-215 m a.s.l.
Grid Reference:	NZTM E1770229 N5445375
Adjacent Vegetation and Habitats:	Pine plantation, SH2, Te Awa Kairangi/Hutt River.
Notes on Overall Condition:	Pest animal and pest plant issues including goats, old man's beard (<i>Clematis vitalba</i>), hawthorn.
Potential Land Management Issues:	Pest plant and pest animal control.
Sources of Information for this Site ^{Note#:}	Department of Conservation, 1996; iNaturalist, 2018.

**ASSESSED BY**

Assessment Techniques:	Species database, aerial imagery, road side viewing.
Assessed By:	Keely Paler (Date 26/06/2018)
Reviewed By:	Steve Rate (Date 27/7/2018)

NOTES

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Rōhutu (New Zealand myrtle; *Lophomyrtus obcordata*) has a national-level threat classification of Threatened- Nationally Critical, as per de Lange *et al.* 2018. Rōhutu is a Myrtaceae species which is at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of rōhutu has been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of rōhutu at this site does not trigger the rarity criteria because the species is currently still widespread in the local environment.

Moon Ridge Road forest and scrub

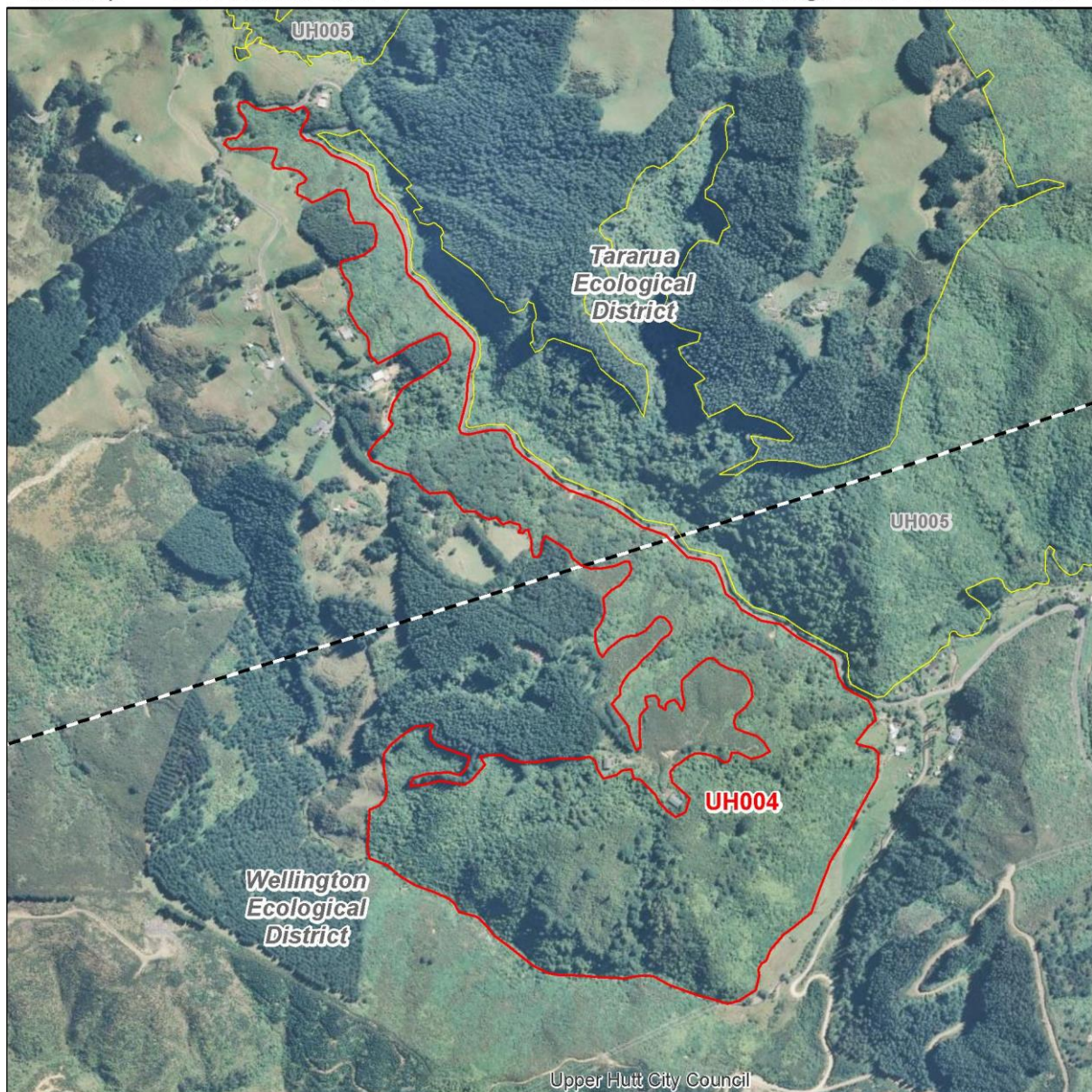
INTRODUCTION

Site Name: Moon Ridge Road forest and scrub
Site Number: UH004
Site Location: Moonshine Hill Road/Moon Ridge Road, Moonshine Valley
Site Area: 40.20 ha.
Current Protection Status: Site has no legal protection.
Protection Type: Not applicable.

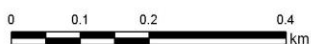
Site Map

Site Number: UH004

Site Name: Moon Ridge Road forest and scrub



1:11,000



— SNA site boundary

— Other probable SNA site boundary

— District boundary

- - Ecological District boundary



Site Summary: Located to the east of Moon Ridge Road and separated from three QEII covenants by Moonshine Hill Road, this moderately large site comprises indigenous broadleaved forest and scrub. Plant species include beech, tawa, rewarewa, pigeonwood, five-finger, mānuka (*Leptospermum scoparium*; At Risk-Declining^{Note##}), treefern, and māhoe. Records suggest that northern rātā (*Metrosideros robusta*; Threatened-Nationally Vulnerable^{Note##}) may also be present on this site. Ngahere gecko (*Mokopirirakau* 'southern North Island'; At Risk-Declining) has been recorded at the site.

IMPORTANT FEATURES

Threatened Indigenous Flora:	Northern rātā (<i>Metrosideros robusta</i> ; Threatened-Nationally Vulnerable), mānuka (<i>Leptospermum scoparium</i> ; At Risk-Declining) ^{Note##} .
Threatened Indigenous Fauna:	Ngahere gecko (<i>Mokopirirakau</i> 'southern North Island'; At Risk-Declining) recorded at the site and barking gecko (<i>Naultinus punctatus</i> ; At Risk-Declining), whitehead (<i>Mohoua albicilla</i> ; At Risk-Declining), bush falcon (<i>Falco novaeseelandiae ferox</i> ; At Risk-Recovering), and the regionally uncommon pied tomtit (<i>Petroica macrocephala toitoi</i>) and bellbird (<i>Anthornis melanura melanura</i>) recorded nearby.
Threatened Land Environments:	More than 0.5 ha At Risk land environments (20-30 indigenous vegetation remaining); remainder on Better Protected and Less Reduced land environments (>30% indigenous vegetation remaining and >20% protected).
Rare Habitats:	No rare habitats or communities known.
Geological Features:	None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	Late succession broadleaved scrub is representative of current vegetation types, and also contains some elements representative of Singers and Rogers (2014) MF7-Tawa, kāmahi, podocarp forest, of which there is less than 30% remaining in the Wellington region and less than 20% protected in Upper Hutt.
RPS23b: Rarity	Yes	One Threatened and one At Risk plant species ^{Note##} and one At Risk reptile species.
RPS23c: Diversity	No	Modified, with reduced diversity of ecological units.
RPS23d: Ecological Context	Yes	Contiguous with and buffering QEII covenants 5/07/409, 410, 411, and alongside a tributary of the Te Awa Kairangi/Hutt River.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

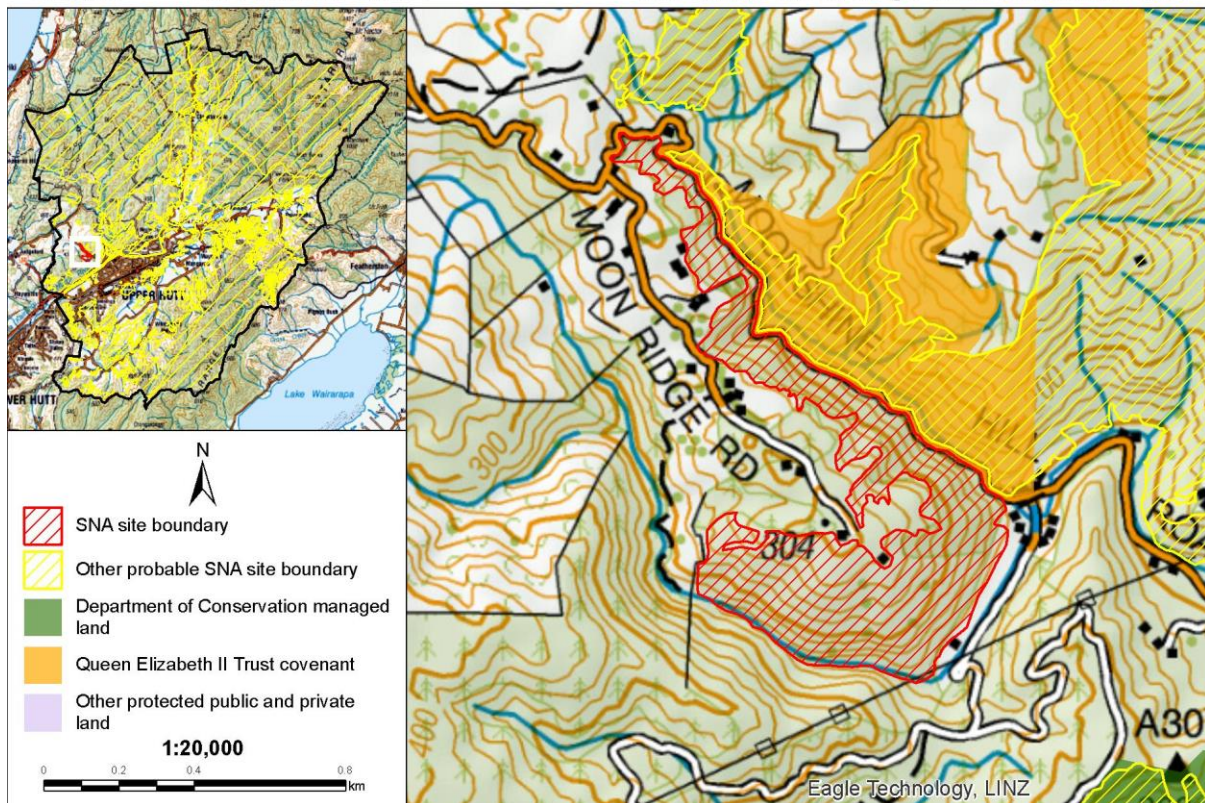
SITE CONTEXT AND OTHER INFORMATION

Ecological District: Wellington, Tararua

Upper Hutt District Plan - Significant Natural Area Assessment - Significance Statement

Ecological Domain(s): 58 Tararua (<550 metres); 56 Western Hills.
Digital Scale: 1:11,000
Altitude Range: 110-305 m a.s.l.
Grid Reference: NZTM E1769642 N5446484
Adjacent Vegetation and Habitats: Plantation forest, pasture.
Notes on Overall Condition: Includes some gorse and wilding pines. The northern part is narrow and convoluted, whilst southern-most area is still early succession scrub.
Potential Land Management Issues: Pine plantation harvesting. Small rural farming uses, including grazing.
Sources of Information for this Site ^{Note#:} DOC Bioweb, Google Earth, NZPCN.

Context Site Number: UH004 Site Name: Moon Ridge Road forest and scrub



ASSESSED BY

Assessment Techniques: Species database, aerial imagery, partial road side viewing (large part not visible).
Assessed By: Keely Paler (Date 26/06/2018)
Reviewed By: Steve Rate (Date 27/7/2018)

NOTES

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Northern rātā and mānuka have national-level threat classifications as per de Lange *et al.* 2018; Northern rātā (*Metrosideros robusta*; Threatened-Nationally Vulnerable), and mānuka (*Leptospermum scoparium*; At Risk-Declining). Northern rātā and mānuka are Myrtaceae species which are at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of northern rātā and mānuka have been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of northern rātā or mānuka at this site does not trigger the rarity criteria because the species are currently widespread in the local environment.

DRAFT

North Moonshine Hill Road forest

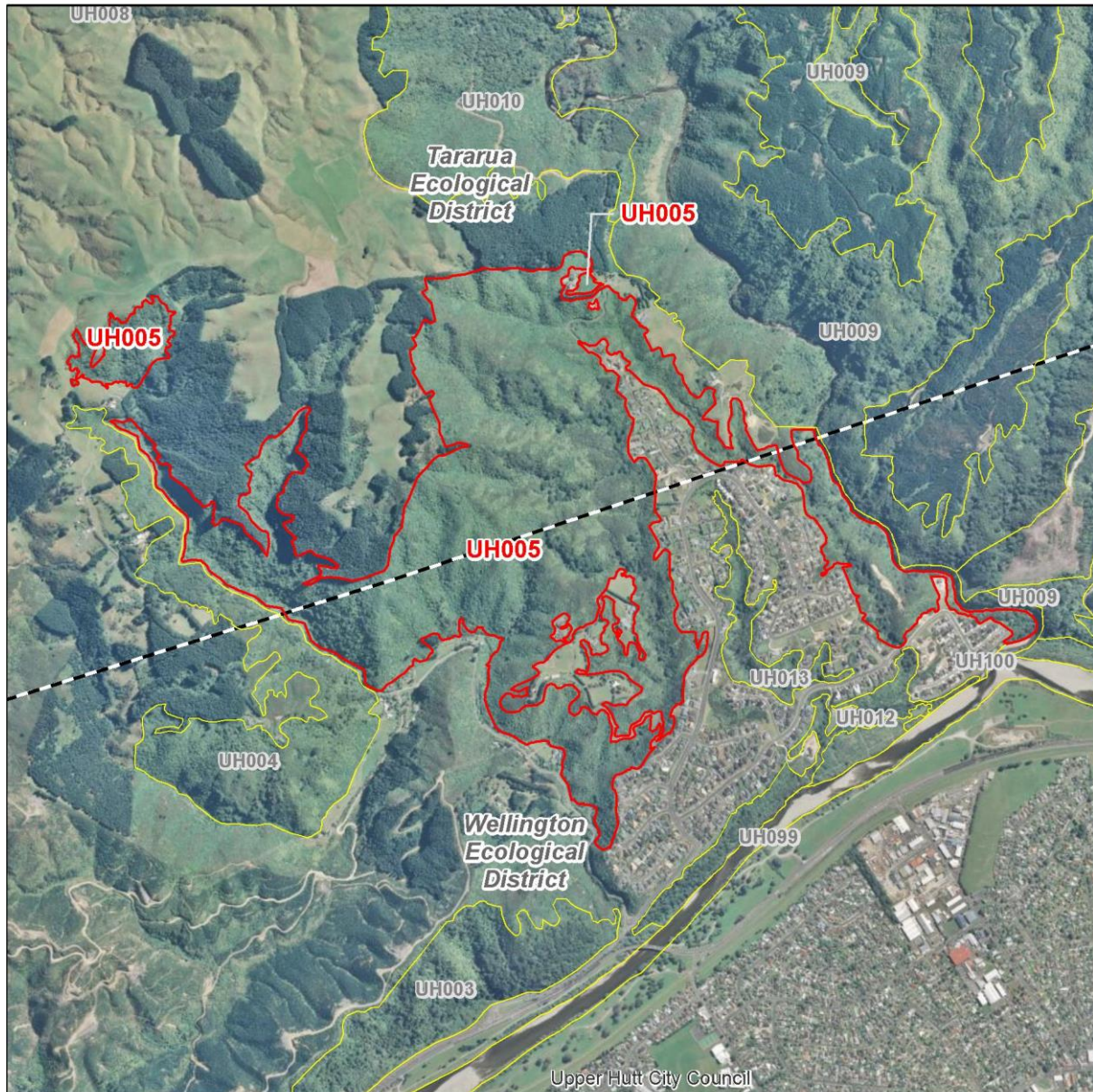
INTRODUCTION

Site Name: North Moonshine Hill Road forest
Site Number: UH005
Site Location: Moonshine Hill Road, Moonshine Valley
Site Area: 166.50 ha.
Current Protection Status: Site is partially legally protected.
Protection Type: QEII covenant.

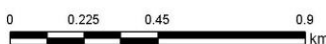
Site Map

Site Number: UH005

Site Name: North Moonshine Hill Road forest



1:23,000



— SNA site boundary

— District boundary

— Other probable SNA site boundary

- - Ecological District boundary

Site Summary: This site comprises one large and one small area of vegetation to the north of Moonshine Hill Road and west of Whakatikei River. The central part of the site is protected by covenants QEII 5/07/409, QEII 5/07/410, and QEII 5/07/411. The eastern and western extents of the site are privately owned and managed. The vegetation includes hard beech forest with scattered podocarps and tawa; hard beech/māpou forest comprised of māpou with patches of emergent hard beech; broadleaved forest, including māhoe, putaputawētā, koromiko and tree ferns; mānuka (*Leptospermum scoparium*; At Risk-Declining ^{Note##}) forest with a sparse understorey of indigenous broadleaved species; recently cleared areas comprised of gorse and exotic pasture. There may be small areas of primary forest present. Other plant species include rewarewa, red māpou, tōtara (*Podocarpus totara*; of local interest), pigeonwood, tawa, kāmahī, tarata, five-finger, and northern rātā (*Metrosideros robusta*; Threatened-Nationally Vulnerable ^{Note##}). Weeds include wilding pine, Spanish heath, blackberry, and Himalayan honeysuckle. Rare species recorded from the site include whitehead (*Mohoua albicilla*; At Risk-Declining), regionally uncommon tomtit (*Petroica macrocephala toitoi*) and bellbird (*Anthornis melanura*), and barking gecko (*Naultinus punctatus*; At Risk-Declining). This SNA includes sections of the Moonshine stream and protects slopes above the Whakatikei River. These watercourses provide habitat for the At Risk-Declining longfin eel, giant kōkopu, and redfin bully. This site includes indigenous vegetation on land environments with less than 10% vegetation cover remaining.

IMPORTANT FEATURES

Threatened Indigenous Flora:	Northern rātā (<i>Metrosideros robusta</i> ; Threatened-Nationally Vulnerable), mānuka (<i>Leptospermum scoparium</i> ; At Risk-Declining) ^{Note##} .
Threatened Indigenous Fauna:	Whitehead (<i>Mohoua albicilla</i> ; At Risk-Declining), regionally uncommon tomtit (<i>Petroica macrocephala toitoi</i>) and bellbird (<i>Anthornis melanura</i>), barking gecko (<i>Naultinus punctatus</i> ; At Risk-Declining), and the At Risk-Declining longfin eel (<i>Anguilla dieffenbachii</i>), giant kōkopu (<i>Galaxias argenteus</i>), redfin bully (<i>Gobiomorphus huttoni</i>) have been recorded at the site. Ngahere gecko (<i>Mokopirirakau</i> "southern North Island"; At Risk-Declining), long-tailed cuckoo (<i>Eudynamys taitensis</i> ; At Risk-Naturally Uncommon), and bush falcon (<i>Falco novaeseelandiae ferox</i> ; At Risk-Recovering) have been recorded nearby.
Threatened Land Environments:	More than 0.5 hectares on Acutely Threatened land environments (<10% indigenous cover remaining).
Rare Habitats:	Contains vegetation representative of Singers and Rogers (2014) vegetation types: MF7-Tawa, kāmahī, podocarp forest, and WF2-Tōtara, matai, ribbonwood forest, which have less than 30% remaining at the Wellington regional Scale.
Geological Features:	None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	This SNA includes vegetation likely to be representative of primary indigenous forest, and vegetation representative of several stages of regenerating forest including Singers and Rogers (2014) vegetation types MF7-Tawa, kāmahi, podocarp forest of which less than 30% remains and less than 20% is protected in Upper Hutt, and MF20-Hard beech forest which has less than 20% is protected in the Wellington region.
RPS23b: Rarity	Yes	One Threatened and one At Risk plant species ^{Note##} , one At Risk and one regionally uncommon bird species, one At Risk lizard species and three At Risk freshwater species. Includes indigenous vegetation on land environments with less than 10% indigenous vegetation cover remaining.
RPS23c: Diversity	Yes	Has a natural diversity of species.
RPS23d: Ecological Context	Yes	Part of a series of forested areas around the Western Hutt hills.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

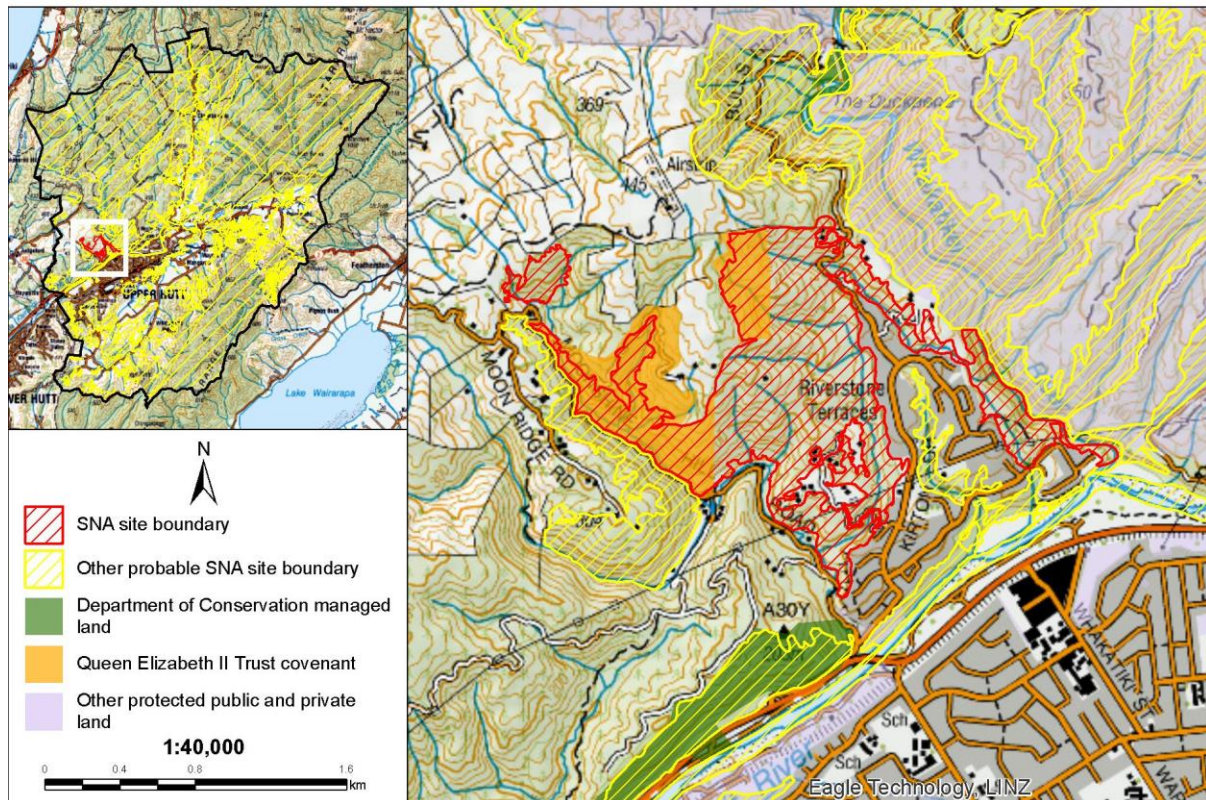
SITE CONTEXT AND OTHER INFORMATION

Ecological District:	Tararua, Wellington
Ecological Domain(s):	58 Tararua (<550 metres); 56 Western Hills.
Digital Scale:	1:23,000
Altitude Range:	50-390 m a.s.l.
Grid Reference:	NZTM E1770578 N5447086
Adjacent Vegetation and Habitats:	Indigenous forest, plantation forest, pasture, residential, road.
Notes on Overall Condition:	Intensive possum and rodent control has been carried out for over 10 years. Weeds include wilding pine, Spanish heath, blackberry, and Himalayan honeysuckle.
Potential Land Management Issues:	Access for pine plantation harvesting, residential development, managing pest plants.
Sources of Information for this Site ^{Note#}:	GWRC 2010.

Context

Site Number: UH005

Site Name: North Moonshine Hill Road forest



ASSESSED BY

Assessment Techniques: Species database, aerial imagery, road side viewing.
Assessed By: Keely Paler (Date 21/06/2018)
Reviewed By: Steve Rate (Date 27/7/2018)

NOTES

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Northern rātā and mānuka have national-level threat classifications as per de Lange *et al.* 2018; Northern rātā (*Metrosideros robusta*; Threatened-Nationally Vulnerable), and mānuka (*Leptospermum scoparium*; At Risk-Declining). Northern rātā and mānuka are Myrtaceae species which are at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of

northern rātā and mānuka have been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of northern rātā or mānuka at this site does not trigger the rarity criteria because the species are currently widespread in the local environment.

DRAFT

West Moonshine Hill Road scrub

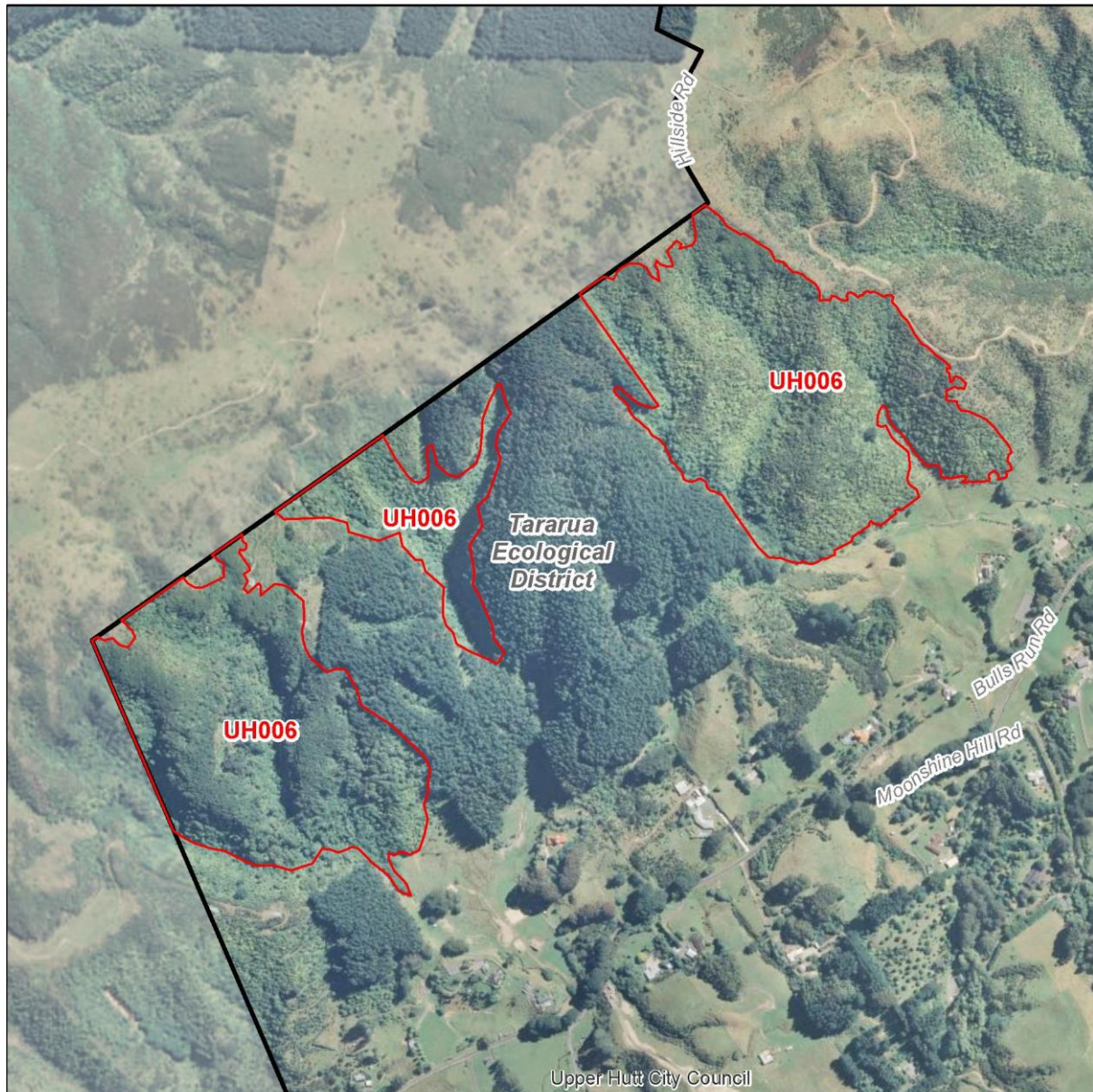
INTRODUCTION

Site Name: West Moonshine Hill Road scrub
Site Number: UH006
Site Location: Western extent of Moonshine Hill Road in Upper Hutt District
Site Area: 35.27 ha.
Current Protection Status: Site has no legal protection.
Protection Type: Not applicable.

Site Map

Site Number: UH006

Site Name: West Moonshine Hill Road scrub



1:10,000



— SNA site boundary

— Other probable SNA site boundary

— District boundary

- - Ecological District boundary

Site Summary: This site includes three areas of regenerating indigenous scrub and forest parts of which are considerably older than 40 years, ranging from 7 to 30 ha. The vegetation is comprised of broadleaved species, including mānuka (*Leptospermum scoparium*; At Risk-Declining^{Note##}) on the ridges in the western-most block. These areas provide connectivity to Significant Natural Areas in Porirua City.

IMPORTANT FEATURES

Threatened Indigenous Flora:	Mānuka (<i>Leptospermum scoparium</i> ; At Risk-Declining) ^{Note##} .
Threatened Indigenous Fauna:	No rare or uncommon fauna species recorded.
Threatened Land Environments:	More than five hectares on Critically Under protected land environments (>20% protection).
Rare Habitats:	No rare habitats or communities known.
Geological Features:	None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	Contains vegetation representative of Singers & Rogers (2014) MF7-Tawa, kāmahī, podocarp forest.
RPS23b: Rarity	No	One At Risk plant species ^{Note##} .
RPS23c: Diversity	Yes	Likely to have a natural diversity of ecological units, ecosystems, and species.
RPS23d: Ecological Context	Yes	Contiguous with Significant Natural Areas in Porirua City.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

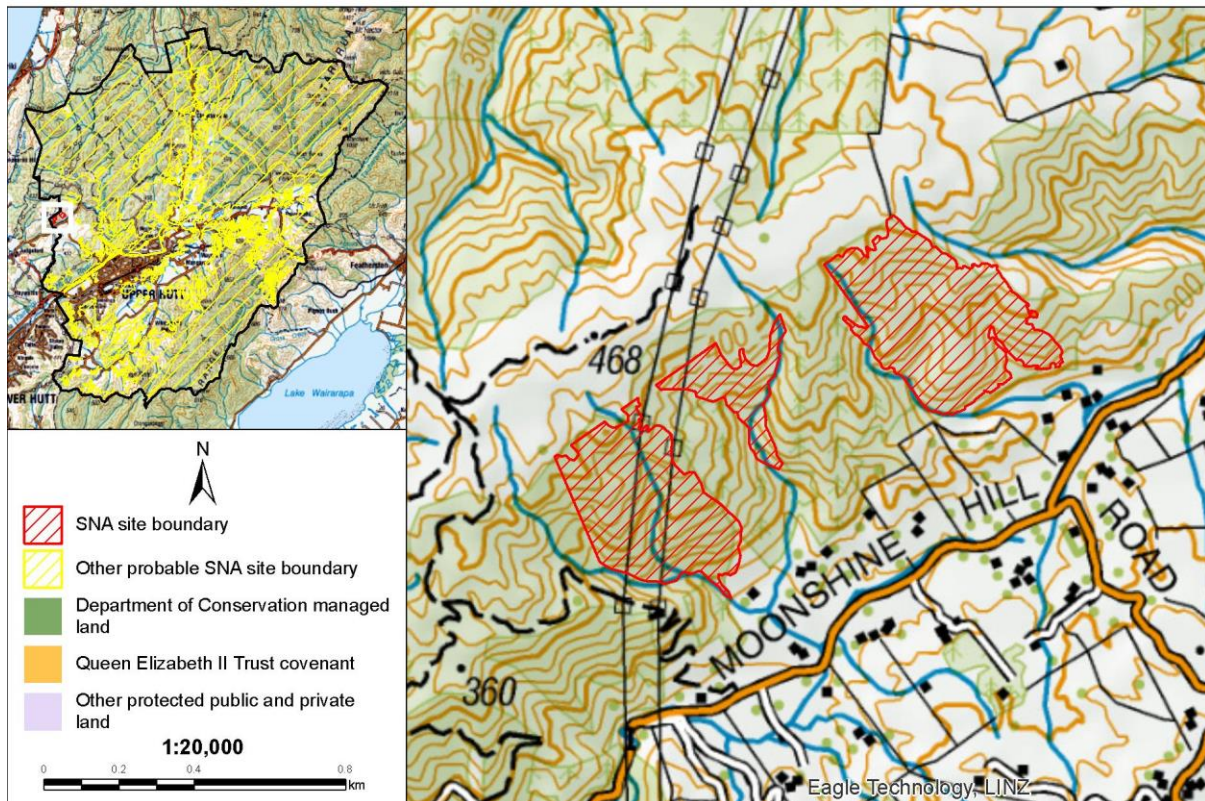
SITE CONTEXT AND OTHER INFORMATION

Ecological District:	Tararua
Ecological Domain(s):	58 Tararua (<550 metres).
Digital Scale:	1:10,000
Altitude Range:	165-420 m a.s.l.
Grid Reference:	NZTM E1767326 N5449444
Adjacent Vegetation and Habitats:	Pine plantation, regenerating scrub/shrubland, pasture.
Notes on Overall Condition:	Includes regenerating vegetation types.

Potential Land Management Issues: Access to transmission pylons. Harvesting of pine plantations may impact the sites values..

Sources of Information for this Site ^{Note#:} Google Earth.

Context Site Number: UH006 Site Name: West Moonshine Hill Road scrub



ASSESSED BY

Assessment Techniques: Aerial imagery.

Assessed By: Keely Paler (Date 25/06/2018)

Reviewed By: Steve Rate (Date 27/7/2018)

NOTES

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Mānuka (*Leptospermum scoparium*) has a national-level threat classification of At Risk-Declining, as per de Lange *et al.* 2018. Mānuka is a Myrtaceae species which is at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of mānuka has been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of mānuka at this site does not trigger the rarity criteria because the species is currently common and widespread in the local environment.

DRAFT

Cooks Road scrub

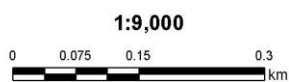
INTRODUCTION

Site Name: Cooks Road scrub
Site Number: UH007
Site Location: Northwest of the intersection between Cooks Road and Bulls Run Road.
Site Area: 62.08 ha.
Current Protection Status: Site is partially legally protected.
Protection Type: GWRC water collection area; GWRC park.

Site Map

Site Number: UH007

Site Name: Cooks Road scrub



- SNA site boundary
- Other probable SNA site boundary
- District boundary
- Ecological District boundary

Site Summary: This large site appears to comprise broadleaved forest and māhoe scrub/forest, parts of which are at least 40 years old. Indigenous vegetation provides riparian protection to a tributary of the Whakatikei River, and protects slopes of high and very high steepness. The site is likely to provide habitat for birds and fish.

IMPORTANT FEATURES

Threatened Indigenous Flora: No rare flora are known from the site.

Threatened Indigenous Fauna: No rare fauna are known from the site.

Threatened Land Environments: c.0.5 ha At Risk land environments (20-30% indigenous vegetation remaining).

Rare Habitats: No rare habitats or communities known.

Geological Features: None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	Contains representative forest especially on the south-facing slopes.
RPS23b: Rarity	No	No rare features known.
RPS23c: Diversity	No	Likely to be modified with a reduced diversity.
RPS23d: Ecological Context	No	A relatively isolated site.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

Ecological District: Tararua

Ecological Domain(s): 58 Tararua (<550 metres).

Digital Scale: 1:9,000

Altitude Range: 130-375 m a.s.l.

Grid Reference: NZTM E1768623 N5451038

Adjacent Vegetation and Habitats: Pine forest.

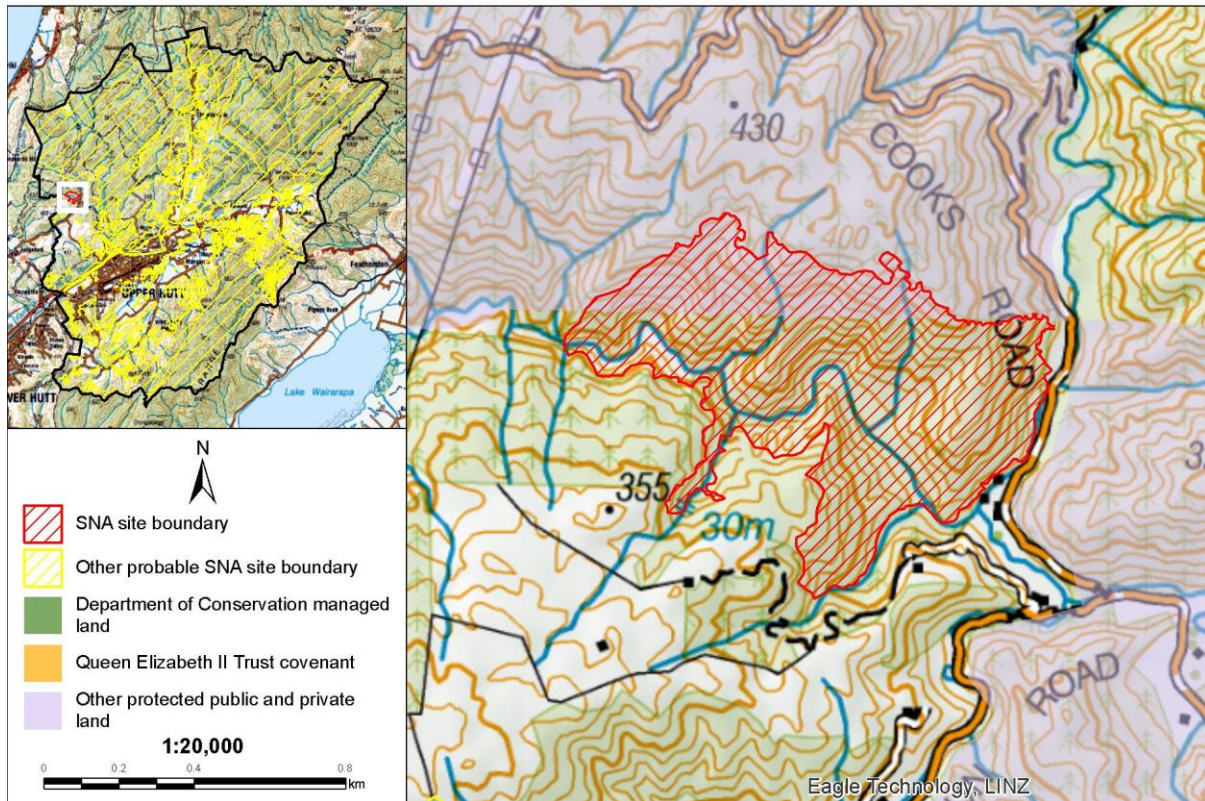
Notes on Overall Condition: Areas of early succession, which includes some gorse, shubland areas and wilding conifers.

Potential Land Management Issues: Harvesting of pine plantation may impact the sites values.

Sources of Information for this Site Note#: Google Earth, Historic aerial imagery.

Context Site Number: UH007

Site Name: Cooks Road scrub



ASSESSED BY

Assessment Techniques: Aerial imagery.
Assessed By: Keely Paler (Date 27/06/2018)
Reviewed By: Steve Rate (Date 27/7/2018)

NOTES

Please note that this statement is based on information available at the time of writing. No site visits were undertaken on private land. Due to the changing nature of ecosystems and surrounding land use, future assessment of the Significant Natural Area may be necessary to reflect any changes in knowledge, values, or boundaries that may influence its assessment as ecologically significant.

An Explanatory Note is available in Appendix 9, which provides more information about how each of the above fields was collated or assessed.

The full list of data sources and references used to assess sites is listed in the main body of the report under REFERENCES and also in the EXPLANATORY NOTES in Appendix 9. Aerial photography (2017 colour) was used to view and evaluate all sites, additional sources such as historic aerial photography in Google Earth, was used to inform site values and improve site boundaries.

Bulls Run Road forest west

INTRODUCTION

Site Name: Bulls Run Road forest west
Site Number: UH008
Site Location: Southwest of the intersection between Bulls Run Road and Moonshine Hill Road.
Site Area: 7.06 ha.
Current Protection Status: Site has no legal protection.
Protection Type: Not applicable.

Site Map

Site Number: UH008

Site Name: Bulls Run Road forest west



1:5,000

0 0.05 0.1 0.2 km

— SNA site boundary

— Other probable SNA site boundary

— District boundary

- - Ecological District boundary



Site Summary: This 12 hectare block of indigenous forest is bordered by pine plantations and pasture. The vegetation is at least 40 years old, likely to contain mānuka (*Leptospermum scoparium*; At Risk-Declining^{Note##}), and provides riparian protection to a headwater tributary of the Whakatikei River.

IMPORTANT FEATURES

Threatened Indigenous Flora: Mānuka (*Leptospermum scoparium*; At Risk-Declining)^{Note##}.

Threatened Indigenous Fauna: No rare fauna are known from the site.

Threatened Land Environments: More than five hectares on At Risk land environments (20-30% indigenous cover remaining).

Rare Habitats: No rare habitats or communities known.

Geological Features: None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	Contains mature or advanced stage, regenerating forest. Likely to contain elements representative of original vegetation types.
RPS23b: Rarity	No	May contain one At Risk plant species. ^{Note##}
RPS23c: Diversity	No	A relatively small site, with a reduced diversity of species.
RPS23d: Ecological Context	No	A small, isolated area.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

Ecological District: Tararua

Ecological Domain(s): 58 Tararua (<550 metres); 56 Western Hills.

Digital Scale: 1:5,000

Altitude Range: 195-280 m a.s.l.

Grid Reference: NZTM E1769062 N5449077

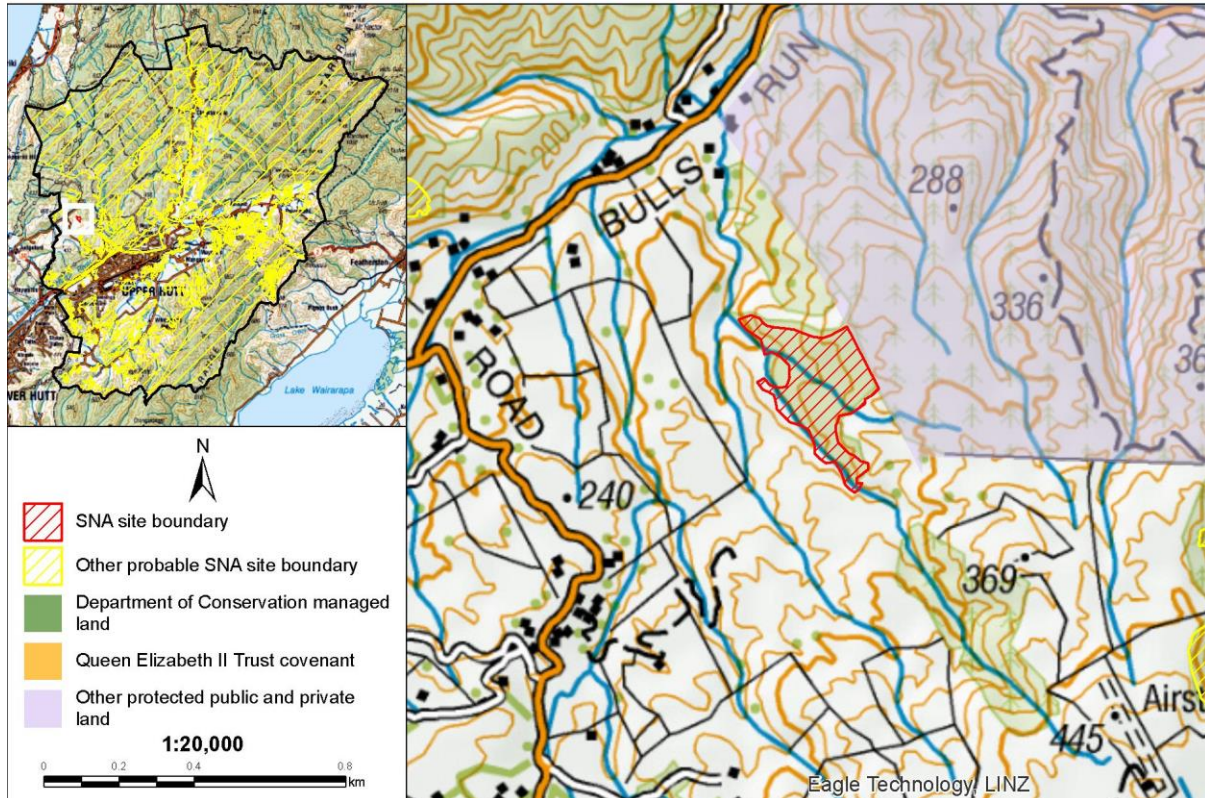
Adjacent Vegetation and Habitats: Pasture, recently felled pine.

Notes on Overall Condition: Largely unknown, but appears fenced along at least the northern boundary.

Potential Land Management Issues: May require additional fencing.

Sources of Information for this Site^{Note#}: Google Earth, Historic aerial imagery.

Context Site Number: UH008 Site Name: Bulls Run Road forest west



ASSESSED BY

Assessment Techniques: Aerial imagery.

Assessed By: Keely Paler (Date 7/02/2018)

Reviewed By: Steve Rate (Date 27/7/2018)

NOTES

Please note that this statement is based on information available at the time of writing. No site visits were undertaken on private land. Due to the changing nature of ecosystems and surrounding land use, future assessment of the Significant Natural Area may be necessary to reflect any changes in knowledge, values, or boundaries that may influence its assessment as ecologically significant.

An Explanatory Note is available in Appendix 9, which provides more information about how each of the above fields was collated or assessed.

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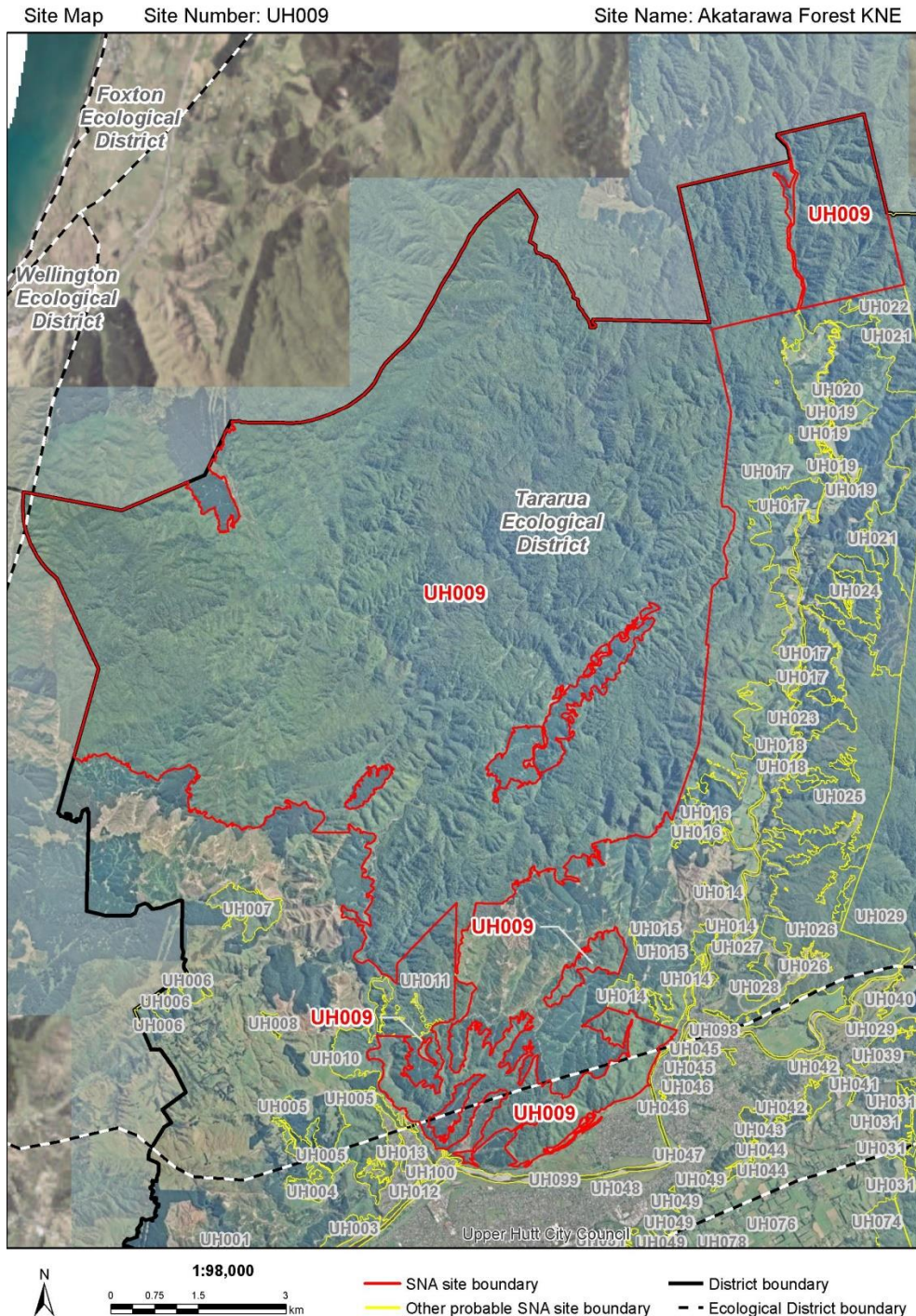
Mānuka (*Leptospermum scoparium*) has a national-level threat classification of At Risk-Declining, as per de Lange *et al.* 2018. Mānuka is a Myrtaceae species which is at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of mānuka has been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of mānuka at this site does not trigger the rarity criteria because the species is currently common and widespread in the local environment.

DRAFT

Akatarawa Forest KNE

INTRODUCTION

Site Name: Akatarawa Forest KNE
Site Number: UH009
Site Location: Northwest Upper Hutt, to the west of Akatarawa Road and north of SH2.
Site Area: 10,350.27 ha.
Current Protection Status: Site is partially legally protected.
Protection Type: GWRC park; GWRC water collection area; UHCC park.



Site Summary: This site includes the Akatarawa Forest Key Native Ecosystem (KNE) and private property and comprises the largest area of natural vegetation west of the Hutt valley. It contains a matrix of indigenous forest types and wetlands that are representative of forests that were once common in the Wellington region. These forests form an ecological gradient from coastal, to lowland, to montane bioclimatic zones. Forest types include: tawa (*Beilschmiedia tawa*) with emergent rimu (*Dacrydium cupressinum*; of local interest) and northern rātā (*Metrosideros robusta*; Threatened-Nationally Vulnerable ^{Note###}) up to 400 metres asl; kāmahī (*Weinmannia racemosa*) and hīnau (*Elaeocarpus dentatus* var. *dentatus*) above 400 metres asl; and kāmahī, Hall's tōtara and miro (*Prumnopitys ferruginea*; of local interest) above 550 metres asl. Hard beech is present at some sites, usually on poorer soils or in association with northern rātā-rimu-hīnau-kāmahī forest. Montane miro-kāmahī cloud forest and Hall's tōtara-kāmahī forest are regionally uncommon habitat types. New Zealand's largest recorded northern rātā trees, diameters of 4.95 metres and 4.90 metres are known from this site. Most of the KNE site's forests have been modified by logging, although unlogged pockets remain. Smaller areas of indigenous fernland, native shrubland, and subalpine vegetation are also present. Several wetlands occur within the KNE site. Martin's River and Whakatikei headwater wetlands have been identified as wetlands of national importance for biodiversity and contain kahikatea (*Dacrydium dacrydioides*; of local interest), a regionally uncommon ecosystem type. Site also contains the Whakatikei Wetland (regionally significant) and the Birchville Dam (GWRC PNRP Historic Heritage Freshwater Site). Plant species include the Threatened-Nationally Vulnerable woodrose (*Dactylanthus taylorii*), and northern rātā (*Metrosideros robusta*); the At Risk-Declining Kirk's daisy (*Brachyglottis kirkii* var. *kirkii*), *Leptinella tenella*, dwarf musk (*Mazus novaezeelandiae* subsp. *novaezeelandiae*), scarlet mistletoe (*Peraxilla colensoi*), red mistletoe (*Peraxilla tetrapetala*), and large-leaved milk tree (tūrepo, *Streblus banksii*; At Risk-Relict); the At Risk-Naturally Uncommon bristle fern (*Polyphelebium colensoi*), and filmy fern (*Hymenophyllum australe*); and *Anthosachne multiflora* subsp. *multiflora*; Data Deficient). Nine regionally threatened plant species have been recorded including bristle fern (*Abrodictyum elongatum*; regionally critical); parsley fern (*Botrychium biforme*; gradual decline); the regionally uncommon maidenhair (*Adiantum fulvum*, and *Adiantum viridescens*), perching kōhūhū (*Pittosporum cornifolium*), and raukawa (*Raukawa edgerleyi*); and the regionally data deficient erect bristle fern (*Abrodictyum strictum*), tuberous maidenhair (*Adiantum diaphanum*), and strapfern (*Notogrammitis pseudociliata*). Over twenty indigenous bird species have been recorded in the KNE site, including the Threatened-Nationally Critical grey duck (*Anas superciliosa*), the At Risk-Declining North Island rifleman (*Acanthisitta chloris granti*), whitehead (*Mohoua albicilla*) and New Zealand pipit (*Anthus novaeseelandiae*), the At Risk-Naturally uncommon long-tailed cuckoo (*Eudynamys taitensis*) and black shag (*Phalacrocorax carbo novaehollandiae*), the At Risk-Relict red-crowned parakeet (*Cyanoramphus novaezeelandiae*), the At Risk-Recovering bush falcon (*Falco novaeseelandiae ferox*), and the regionally uncommon tomtit (*Petroica macrocephala toitoi*) and bellbird (*Anthornis melanura*). Four At Risk-Declining indigenous freshwater fish species have been recorded in the site: longfin eel (*Anguilla dieffenbachii*), kōaro (*Galaxias brevipinnis*), dwarf galaxias (*Galaxias divergens*), and redfin bully (*Gobiomorphus huttoni*). Kōura (*Paranephrops planifrons*) and banded kōkopu are also present. Other species recorded in the Akatarawa ranges and likely to be present in the KNE site are the Ngahere gecko (*Mokopirirakau* 'southern North Island') and

Charopidae spp. land snails.

IMPORTANT FEATURES

Threatened Indigenous Flora:	The Threatened-Nationally Vulnerable woodrose (<i>Dactylanthus taylorii</i>), and northern rātā (<i>Metrosideros robusta</i> ^{Note##}); the At Risk-Declining Kirk's daisy (<i>Brachyglottis kirkii</i> var. <i>kirkii</i>), <i>Leptinella tenella</i> , maire (<i>Mida salicifolia</i>), dwarf musk (<i>Mazus novaezeelandiae</i> subsp. <i>novaezeelandiae</i>), scarlet mistletoe (<i>Peraxilla colensoi</i>), red mistletoe (<i>Peraxilla tetrapetala</i>), mānuka (<i>Leptospermum scoparium</i> ^{Note##}); and large-leaved milk tree (tūrepo, <i>Streblus banksii</i> ; At Risk-Relict); the At Risk-Naturally Uncommon bristle fern (<i>Polyphlebium colensoi</i>), <i>Corunastylis nuda</i> , <i>Corybas cryptanthus</i> , and filmy fern (<i>Hymenophyllum australe</i>); and <i>Anthosachne multiflora</i> subsp. <i>multiflora</i> ; Data Deficient). Nine regionally threatened plant species have been recorded including bristle fern (<i>Abrodictyum elongatum</i> ; regionally critical); parsley fern (<i>Botrychium biforme</i> ; gradual decline); the sparse maidenhair (<i>Adiantum fulvum</i> , and <i>Adiantum viridescens</i>), perching kōhūhū (<i>Pittosporum cornifolium</i>), and raukawa (<i>Raukaua edgerleyi</i>); and the data deficient erect bristle fern (<i>Abrodictyum strictum</i>), tuberous maidenhair (<i>Adiantum diaphanum</i>), and strapfern (<i>Notogrammitis pseudociliata</i>).
Threatened Indigenous Fauna:	Over twenty indigenous bird species have been recorded in the KNE site, including the Threatened-Nationally Critical grey duck (<i>Anas superciliosa</i>), the At Risk-Declining North Island rifleman (<i>Acanthisitta chloris granti</i>), whitehead (<i>Mohoua albicilla</i>) and New Zealand pipit (<i>Anthus novaeseelandiae</i>), the At Risk-Naturally uncommon long-tailed cuckoo (<i>Eudynamys taitensis</i>) and black shag (<i>Phalacrocorax carbo novaehollandiae</i>), the At Risk-Relict red-crowned parakeet (<i>Cyanoramphus novaezeelandiae</i>), the At Risk-Recovering bush falcon (<i>Falco novaeseelandiae ferox</i>), and the regionally uncommon tomtit (<i>Petroica macrocephala toitoi</i>) and bellbird (<i>Anthornis melanura</i>). Four At Risk-Declining indigenous freshwater fish species have been recorded in the site: longfin eel (<i>Anguilla dieffenbachii</i>), kōaro (<i>Galaxias brevipinnis</i>), dwarf galaxias (<i>Galaxias divergens</i>), and redfin bully (<i>Gobiomorphus huttoni</i>). Kōura (<i>Paranephrops planifrons</i>) and banded kōkopu (<i>Galaxias fasciatus</i>) are also present.
Threatened Land Environments:	More than 0.5 hectares on Acutely Threatened land environments (<10% indigenous cover remaining).
Rare Habitats:	Freshwater wetlands are nationally rare (<10% of their original extent remains) and a regionally uncommon habitat type. Less than 30% remaining of Singers and Rogers (2014) MF7-Tawa, kāmahi, podocarp forest, MF6-Kohekohe, tawa forest, and WF2-Tōtara, mata
Geological Features:	Te Awa Kairangi/Hutt River Alluvial Terraces

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

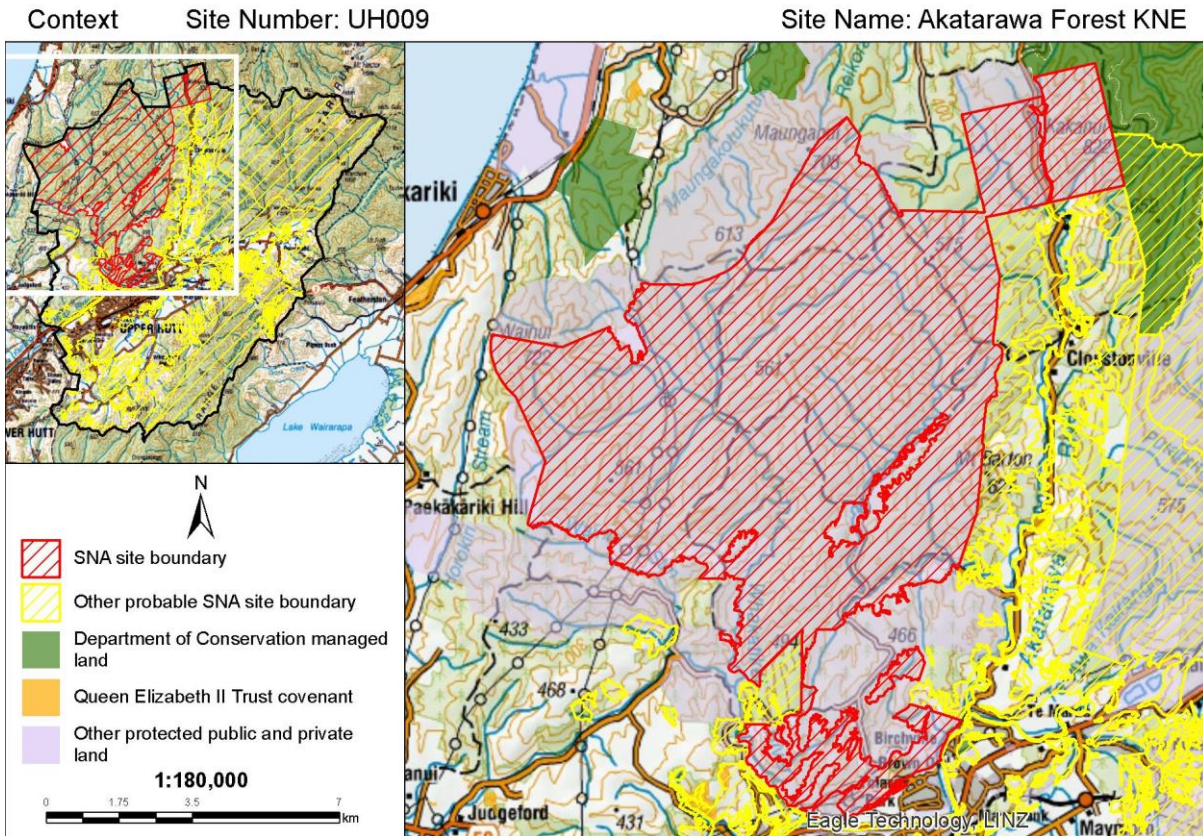
RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	The forest is representative of the Singers and Rogers (2014) vegetation types: MF7-Tawa, kāmahi, podocarp forest, WF2-Tōtara, matai, ribbonwood forest, and MF6-Kohekohe, tawa

RPS Policy 23 Criteria	Achieved	Assessment
		forest, which have less than 30% remaining in the Wellington region, and less than 20% protected in Upper Hutt District; MF20-Hard beech forest, which has less than 20% protected in the Wellington region; MF8-Kāmahi, broadleaved, podocarp forest, CLF9-Red beech, podocarp forest, CLF10-Red beech, silver beech forest, and CDF4-Hall's tōtara, pāhautea, kāmahi forest which have less than 20% protected in Upper Hutt District. Also contains three natural wetlands that are nationally or regionally significant and representative of original wetland types.
RPS23b: Rarity	Yes	Two Threatened, twelve At Risk, one Data Deficient, and nine regionally threatened plant species ^{Note##} , one Threatened, seven At Risk, and two regionally uncommon bird species, and four At Risk freshwater fish species. Freshwater wetlands are nationally rare (<10% of their original extent remains) and a regionally uncommon habitat type. Includes indigenous vegetation on land environments with less than 10% indigenous vegetation cover remaining. Geological Feature: Te Awa Kairangi/Hutt River Alluvial Terraces, regionally important.
RPS23c: Diversity	Yes	Several different forests types containing a natural plant species diversity, three wetlands and a wide altitudinal range. Contains marker species indicative of primary forests (Park 1999)
RPS23d: Ecological Context	Yes	Large site, adjacent to other areas of indigenous vegetation and likely to provide a bird corridor.
RPS23e: Tangata Whenua Values	Yes	Ngāti Toa Rangātira and Wellington-based Taranaki iwi retain mana whenua over the lands. Akatarawa River scheduled in the Proposed Natural Resources Plan for contact recreation and Māori use.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

Ecological District:	Tararua, Wellington
Ecological Domain(s):	56 Western Hills; 58 Tararua (<550 metres); 57 Western Hills Cloud Zone (>400 meters).
Digital Scale:	1:98,000
Altitude Range:	60-810 m a.s.l.
Grid Reference:	NZTM E1772410 N5456475
Adjacent Vegetation and Habitats:	Maungakotukutuku Scenic Reserve, Tararua Forest Park, privately owned indigenous forests, exotic plantation forests.
Notes on Overall Condition:	Control of the worst weed infestations of ecological weeds has been undertaken since 2001 and weeds are now fairly sparse, although there is still some wilding pine and cherry. Ongoing control of possums and goats have kept these species at low numbers, whilst rats and stoats are thought to be present in moderate numbers. A number of barriers to fish passage exist.
Potential Land Management Issues:	Access to and felling of exotic plantation trees. Popular area for mountain biking, walking/tramping, horse riding, running, four wheel driving, quad biking, trail biking, hunting, fishing, and nature study. Motorised recreation is particularly popular and can have adverse impacts.

Sources of Information for this Site ^{Note#:} GWRC 2015c, Kenny and Hayward 1996.



ASSESSED BY

Assessment Techniques: Literature review, species databases, aerial imagery, road side viewing.
Assessed By: Keely Paler (Date 27/06/2018)
Reviewed By: Steve Rate (Date 27/7/2018)

NOTES

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Northern rātā and mānuka have national-level threat classifications as per de Lange *et al.* 2018; Northern rātā (*Metrosideros robusta*; Threatened-Nationally Vulnerable), and mānuka (*Leptospermum scoparium*; At Risk-Declining). Northern rātā and mānuka are Myrtaceae species which are at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of northern rātā and mānuka have been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of northern rātā or mānuka at this site does not trigger the rarity criteria because the species are currently widespread in the local environment.

DRAFT

Bulls Run Road forest east

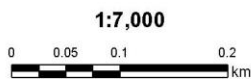
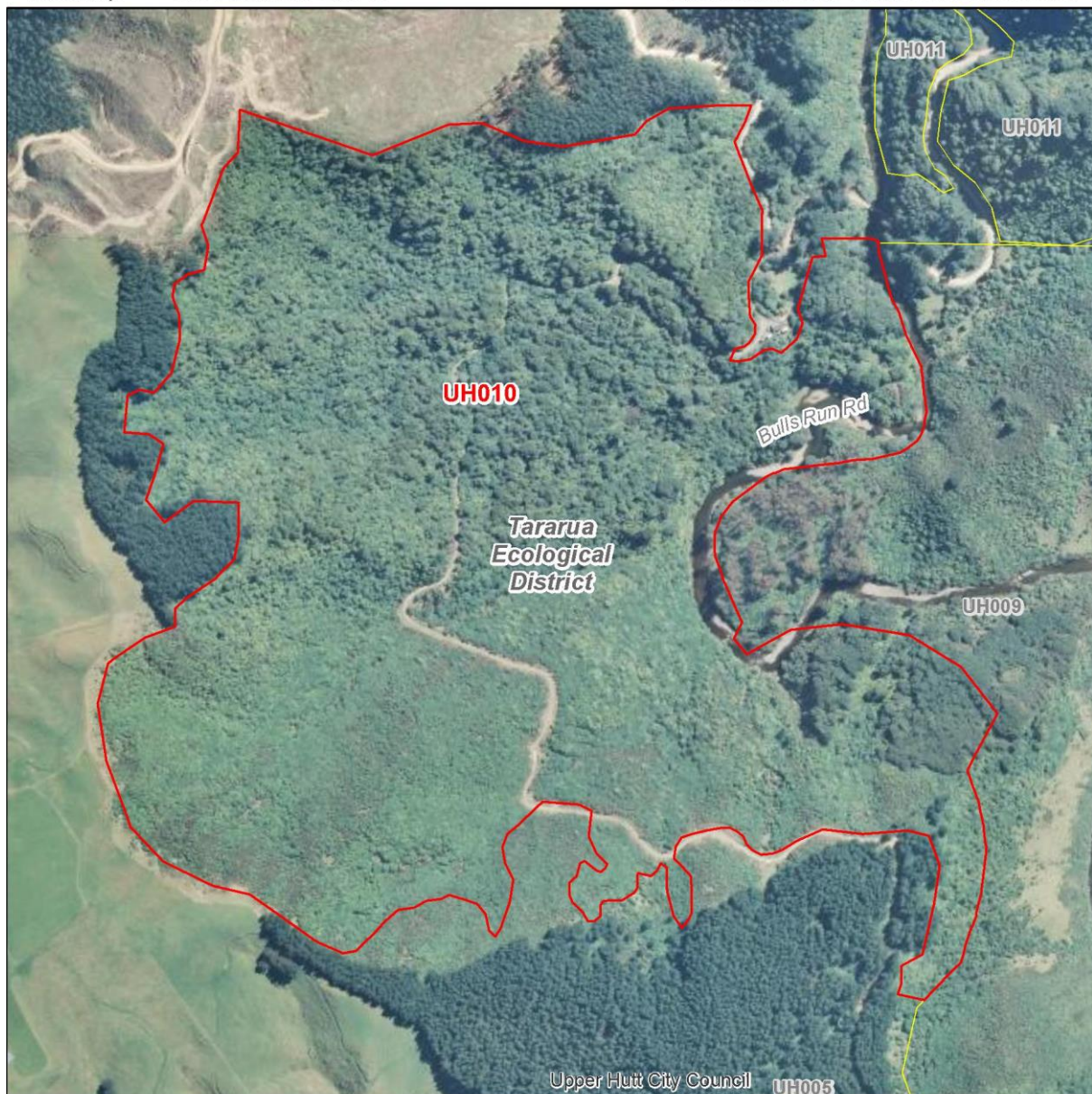
INTRODUCTION

Site Name: Bulls Run Road forest east
Site Number: UH010
Site Location: Bulls Run Road, Upper Hutt.
Site Area: 55.01 ha.
Current Protection Status: Site is partially legally protected.
Protection Type: DOC reserves; GWRC water collection area; GWRC park.

Site Map

Site Number: UH010

Site Name: Bulls Run Road forest east



— SNA site boundary

— Other probable SNA site boundary

— District boundary

- - Ecological District boundary

Site Summary: This relatively large site is adjacent to the southwest of GWRC's Akatarawa Forest KNE and includes a large area of private land, the Department of Conservation-administered Whakatiki Scenic Reserve, a small section of the Whakatikei River and Bulls Run Road. Council-owned plantation forest borders the site to the north. Vegetation, particularly in the northern half of the site, and in Whakatiki Scenic Reserve, is comprised of black beech forest, secondary broadleaved species forest with tawa, putaputawētā, and tree ferns. The southern parts of the site may still contain gorse; however the vegetation in this area is at least 38 years old and is predominantly indigenous broadleaved scrub and forest. A small area in the southeastern corner of the site appears to be comprised of mānuka (*Leptospermum scoparium*; At Risk-Declining^{Note##}) forest. There are previous records (1986) for a number of orchid species including spider orchid, tutukiwi and raupeka.

IMPORTANT FEATURES

Threatened Indigenous Flora:	Mānuka (<i>Leptospermum scoparium</i> ; At Risk-Declining) ^{Note##} .
Threatened Indigenous Fauna:	No rare fauna are known from the site.
Threatened Land Environments:	More than 0.5 hectares on Acutely Threatened land environments (<10% indigenous cover remaining).
Rare Habitats:	No rare habitats or communities known.
Geological Features:	None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	Large areas are covered in regenerating broadleaved forest, which is representative of the region's current diversity. Singers & Rogers (2014) vegetation types present in this SNA: MF5-Black beech forest, which has less than 20% protected in Upper Hutt and MF7-Tawa, kāmahī, podocarp forest, which has less than 30% remaining in the Wellington region, and less than 20% protected in Upper Hutt.
RPS23b: Rarity	Yes	Includes indigenous vegetation on land environments with less than 10% indigenous vegetation cover remaining. May contain one At Risk plant species ^{Note##} .
RPS23c: Diversity	No?	Contains a large area of early successional forest, which may have a reduced diversity of species.
RPS23d: Ecological Context	Yes	Buffers indigenous vegetation in Whakatiki Scenic Reserve.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

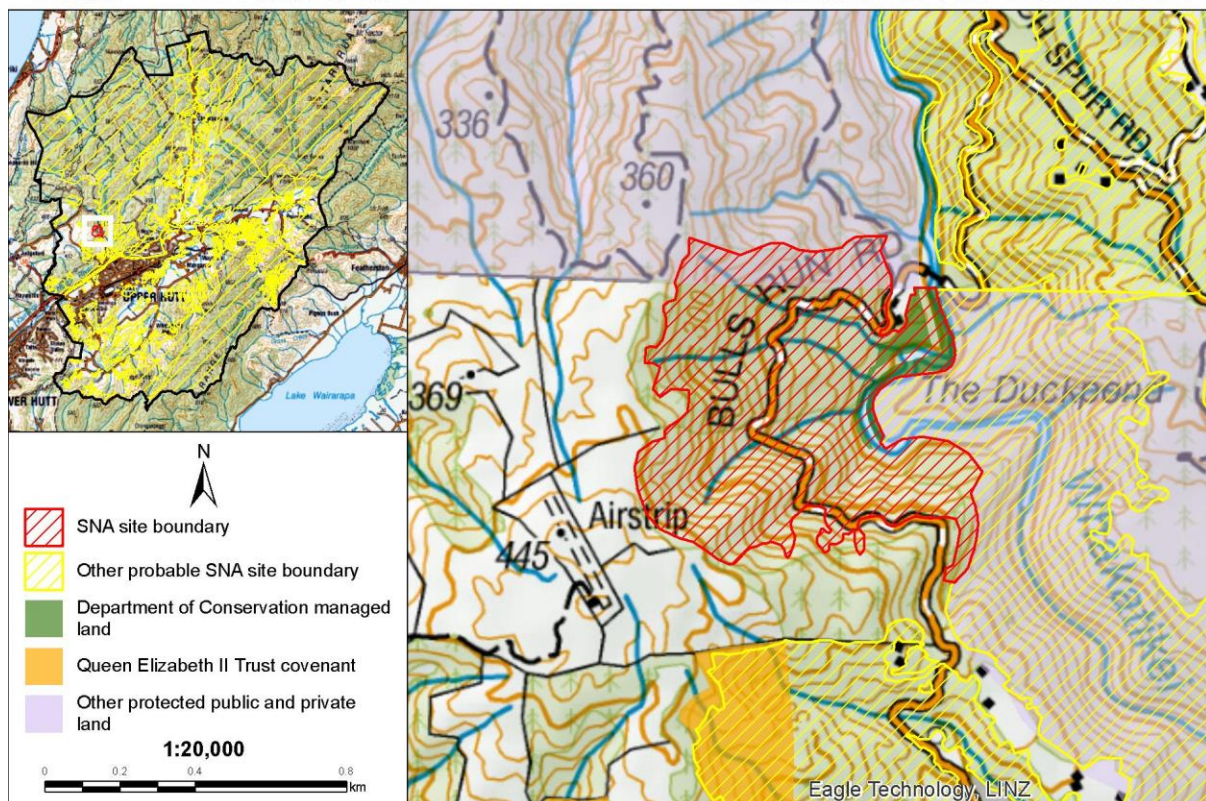
Ecological District: Tararua
Ecological Domain(s): 58 Tararua (<550 metres); 56 Western Hills.
Digital Scale: 1:7,000
Altitude Range: 90-420 m a.s.l.
Grid Reference: NZTM E1770474 N5448552
Adjacent Vegetation and Habitats: Pasture, plantation forest.
Notes on Overall Condition: Includes gorse. Appears at least partially fenced along the west boundary.
Potential Land Management Issues: May need additional fencing.
Sources of Information for this Site ^{Note#:} Wassilieff and Timmins 1984.

DRAFT

Context

Site Number: UH010

Site Name: Bulls Run Road forest east



ASSESSED BY

Assessment Techniques: Aerial imagery.
Assessed By: Keely Paler (Date 27/06/2018)
Reviewed By: Steve Rate (Date 27/7/2018)

NOTES

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Mānuka (*Leptospermum scoparium*) has a national-level threat classification of At Risk-Declining, as per de Lange *et al.* 2018. Mānuka is a Myrtaceae species which is at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of mānuka has been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of mānuka at this site does not trigger the rarity criteria because the species is currently common and widespread in the local environment.

Birch Spur Road forest

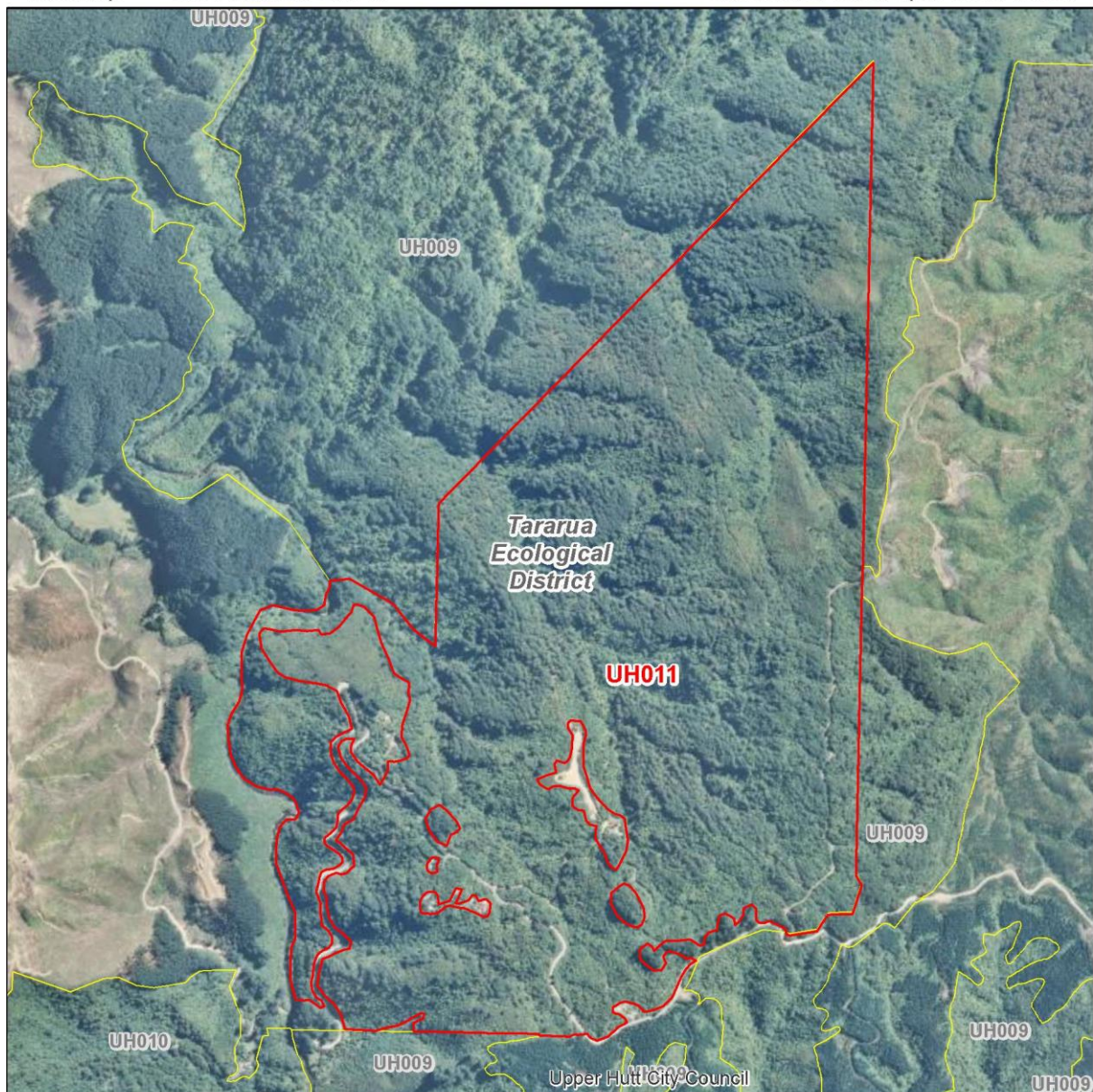
INTRODUCTION

Site Name: Birch Spur Road forest
Site Number: UH011
Site Location: Birch Spur Road.
Site Area: 191.16 ha.
Current Protection Status: Site has no legal protection.
Protection Type: Not applicable.

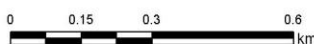
Site Map

Site Number: UH011

Site Name: Birch Spur Road forest



1:16,000



— SNA site boundary

— District boundary

— Other probable SNA site boundary

- - Ecological District boundary

Site Summary: This site is located near Birch Spur Road and is contiguous with, and buffers the southern part of Akatarawa Forest Park. The vegetation is likely to comprise beech forest, which forms continuous tracts of forest with that within Akatarawa Forest Park. Downstream of the site there are records for three At Risk-Declining fish species: longfin eel (*Anguilla dieffenbachia*), redfin bully (*Gobiomorphus huttoni*) and kōaro (*Galaxias brevipinnis*), and these species may also occur within waterways of this site.

IMPORTANT FEATURES

Threatened Indigenous Flora:	No rare flora are known from the site.
Threatened Indigenous Fauna:	No rare fauna are known from the site, however three At Risk-Declining fish species: longfin eel (<i>Anguilla dieffenbachia</i>), redfin bully (<i>Gobiomorphus huttoni</i>) and kōaro (<i>Galaxias brevipinnis</i>) have been recorded downstream and may also occur within waterways within this site
Threatened Land Environments:	More than five hectares on At Risk land environments (20-30% indigenous cover remaining).
Rare Habitats:	No rare habitats or communities known.
Geological Features:	None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	This site is likely to contain forests representative of Singers and Rogers (2014) MF20-Hard beech forest, and MF8-Kāmahi, broadleaved, podocarp forest, which have less than 20% protected in Upper Hutt District.
RPS23b: Rarity	No	No rare features known.
RPS23c: Diversity	Yes	Likely to have a natural diversity of ecological units, ecosystems, and species.
RPS23d: Ecological Context	Yes	Forest in the site is contiguous with and buffers regionally representative forests in Akatarawa Forest Park.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

Ecological District:	Tararua
Ecological Domain(s):	58 Tararua (<550 metres).
Digital Scale:	1:16,000
Altitude Range:	95-490 m a.s.l.
Grid Reference:	NZTM E1771610 N5449748

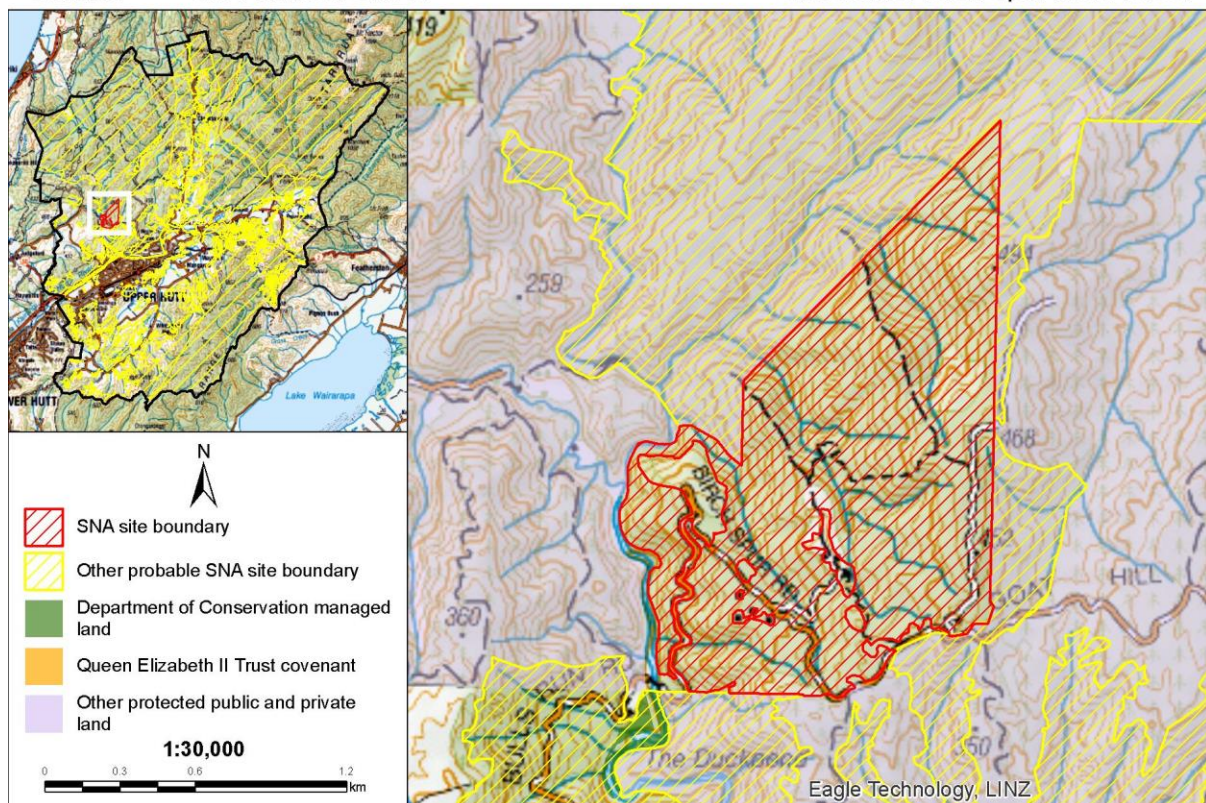
Adjacent Vegetation and Habitats: Indigenous forest, scrub, plantation forest, houses.

Notes on Overall Condition: Western portion in poorer condition. Tracks and buildings are present; Visible buildings larger than 5 m² have been excluded from the SNA.

Potential Land Management Issues: Residential development, plantation forestry may impact on values.

Sources of Information for this Site ^{Note#:}: Google Earth.

Context Site Number: UH011 Site Name: Birch Spur Road forest



ASSESSED BY

Assessment Techniques: Aerial imagery.

Assessed By: Keely Paler (Date 27/06/2018)

Reviewed By: Steve Rate (Date 27/7/2018)

NOTES

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DRAFT

Riverstone Drive forest

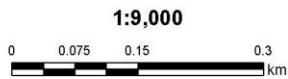
INTRODUCTION

Site Name: Riverstone Drive forest
Site Number: UH012
Site Location: Between Riverstone Drive and the Te Awa Kairangi/Hutt River.
Site Area: 11.29 ha.
Current Protection Status: Site is partially legally protected.
Protection Type: UHCC park.

Site Map

Site Number: UH012

Site Name: Riverstone Drive forest



- SNA site boundary
- Other probable SNA site boundary
- District boundary
- Ecological District boundary

Site Summary: This site comprises an elongated tract of forest on the stream bank between the Te Awa Kairangi/Hutt River and Riverstone Drive. The forest comprises broadleaved-tawa forest and scrub, with beech and podocarps, kahikata (*Dacrycarpus dacrydioides*) and tōtara (*Podocarpus totara*) which are of local interest. Other plant species include tarata, tītoki, cabbage tree, māhoe, and rewarewa. This site includes indigenous vegetation on land environments with less than 10% indigenous vegetation cover remaining and provides a riparian buffer to the Te Awa Kairangi/Hutt River. Bush falcon (*Falco novaeseelandiae ferox*; At Risk-Recovering), long-tailed cuckoo (*Eudynamys taitensis*; At Risk-Naturally Uncommon), and the regionally uncommon bellbird (*Anthornis melanura melanura*) and have been recorded nearby and may utilise habitat within the SNA.

IMPORTANT FEATURES

Threatened Indigenous Flora:	No rare flora are known from the site, but contains podocarp species of local interest.
Threatened Indigenous Fauna:	No rare fauna are known from the site, but bush falcon may use habitat within this site, and long-tailed cuckoo (<i>Eudynamys taitensis</i> ; At Risk-Naturally Uncommon) and the regionally uncommon bellbird (<i>Anthornis melanura melanura</i>) recorded nearby.
Threatened Land Environments:	More than 0.5 hectares on Acutely Threatened land environments (<10% indigenous cover remaining).
Rare Habitats:	Contains vegetation representative of Singers and Rogers (2014) MF7-Tawa, kāmahi, podocarp forest which has less than 30% remaining in the Wellington region.
Geological Features:	None known.

SIGNIFICANCE ASSESSMENT

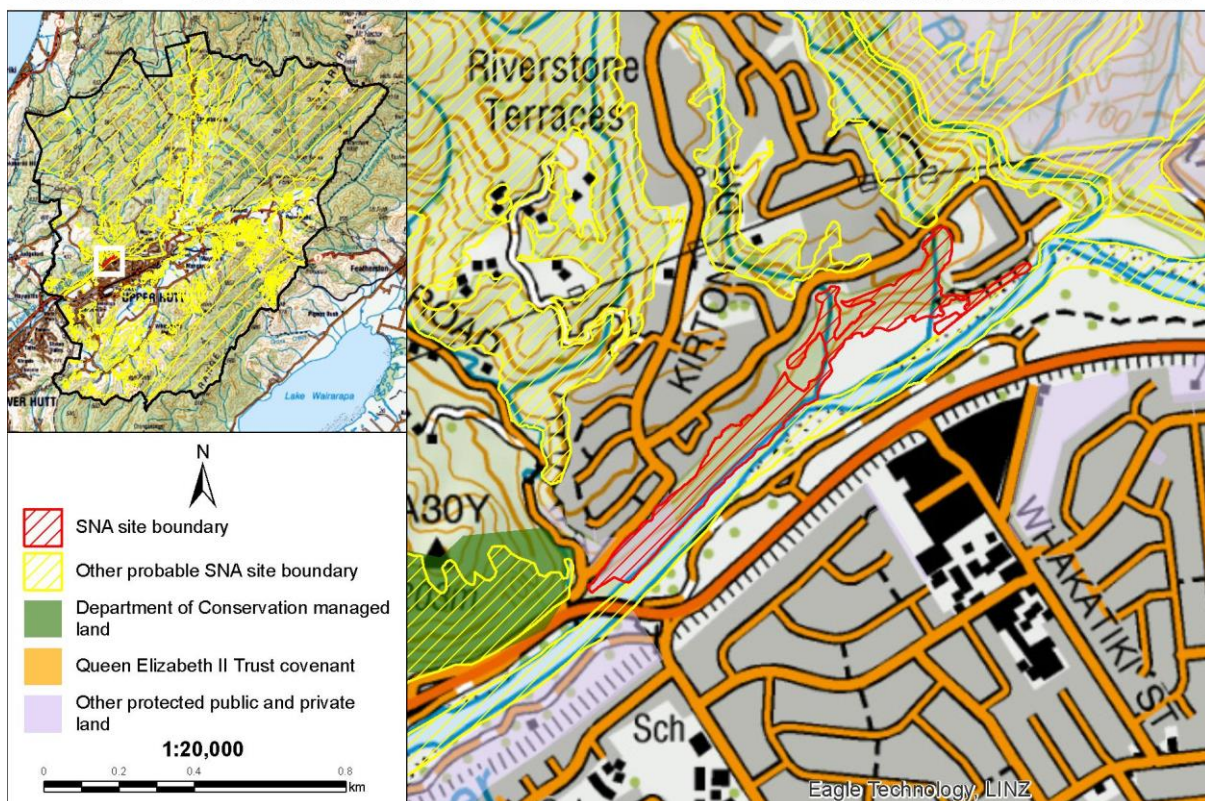
This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	Representative of Singers and Rogers (2014) MF7-Tawa, kāmahi, podocarp forest, of which there is less than 30% remaining in the Wellington region and less than 20% protected in Upper Hutt.
RPS23b: Rarity	Yes	Includes indigenous vegetation on land environments with less than 10% indigenous vegetation cover remaining.
RPS23c: Diversity	Yes	Likely to have a natural diversity of ecological units, ecosystems, and species.
RPS23d: Ecological Context	Yes	Buffers the Te Awa Kairangi/Hutt River and provides stepping stone habitat between forested areas along the Western Hills.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

Ecological District: Wellington
Ecological Domain(s): 58 Tararua (<550 metres).
Digital Scale: 1:9,000
Altitude Range: 45-105 m a.s.l.
Grid Reference: NZTM E1771499 N5446187
Adjacent Vegetation and Habitats: Residential, river.
Notes on Overall Condition: Generally in good condition, but includes some areas of gorse and broom, particularly along the edges, and exotic trees including sycamore and willow.
Potential Land Management Issues: Pest plant control would be beneficial.
Sources of Information for this Site ^{Note#:} Google Earth.

Context Site Number: UH012 Site Name: Riverstone Drive forest



ASSESSED BY

Assessment Techniques: Aerial imagery, road side viewing.
Assessed By: Keely Paler (Date 26/06/2018)
Reviewed By: Steve Rate (Date 27/7/2018)

NOTES

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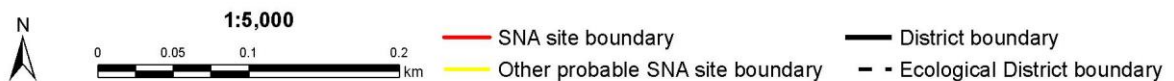
DRAFT

Riverstone Park forest and scrub

INTRODUCTION

Site Name: Riverstone Park forest and scrub
Site Number: UH013
Site Location: Kirton Drive, Riverstone Terraces.
Site Area: 7.21 ha.
Current Protection Status: Site has no legal protection.
Protection Type: Not applicable.

Site Map Site Number: UH013 Site Name: Riverstone Park forest and scrub



Site Summary: A 13 hectare block of gully vegetation, surrounded by residential subdivisions on Kirton Drive, Riverstone Terraces. The vegetation includes areas of beech forest; podocarp/tawa forest; mānuka (*Leptospermum scoparium*; At Risk-Declining ^{Note##}) scrub; and broadleaved forest and scrub including māhoe, karamū, red māpou and treeferns, as well as podocarps of local interest: rimu (*Dacrydium cupressinum*), kahikatea (*Dacrycarpus dacrydioides*) and tōtara (*Podocarpus totara*). The site includes indigenous vegetation on land environments with less than 10% vegetation cover remaining and supports a diverse community of indigenous forest birds.

IMPORTANT FEATURES

Threatened Indigenous Flora:	Mānuka (<i>Leptospermum scoparium</i> ; At Risk-Declining) ^{Note##} .
Threatened Indigenous Fauna:	No rare fauna are known from the site, but bush falcon may use habitat within this site and whitehead (<i>Mohoua albicilla</i> ; At Risk-Declining), long-tailed cuckoo (<i>Eudynamys taitensis</i> ; At Risk-Naturally Uncommon), and the regionally uncommon bellbird (<i>Anthornis melanura melanura</i>) have been recorded nearby.
Threatened Land Environments:	More than 0.5 hectares on Acutely Threatened land environments (<10% indigenous cover remaining).
Rare Habitats:	No rare habitats or communities known.
Geological Features:	None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	Late succession broadleaved scrub is representative of current vegetation types, and also contains some elements representative of MF7-Tawa, kāmahī, podocarp forest, of which there is less than 30% remaining in the Wellington region and less than 20% protected in Upper Hutt.
RPS23b: Rarity	Yes	One At Risk plant species ^{Note##} . Includes indigenous vegetation on land environments with less than 10% indigenous vegetation cover remaining.
RPS23c: Diversity	Yes	Contains a diversity of vegetation types.
RPS23d: Ecological Context	Yes	Buffers the Te Awa Kairangi/Hutt River and provides stepping stone habitat between forested areas along the western Hills.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

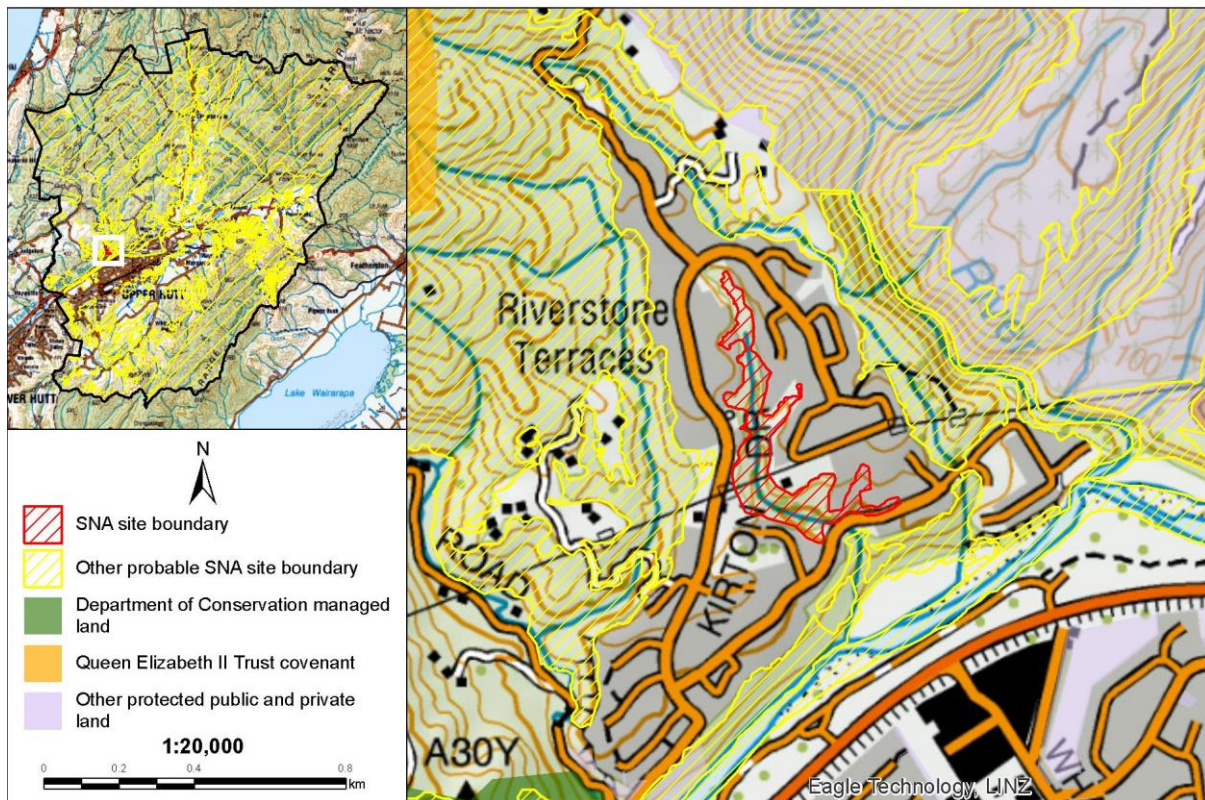
SITE CONTEXT AND OTHER INFORMATION

Ecological District: Wellington

Upper Hutt District Plan - Significant Natural Area Assessment - Significance Statement

Ecological Domain(s): 58 Tararua (<550 metres).
Digital Scale: 1:5,000
Altitude Range: 90-160 m a.s.l.
Grid Reference: NZTM E1771376 N5446697
Adjacent Vegetation and Habitats: Residential.
Notes on Overall Condition: Fragmented by residential development, and includes some gorse and broom, particularly along the edges.
Potential Land Management Issues: Impacts of residential development.
Sources of Information for this Site ^{Note#}: McArthur *et al.* 2017, Google Earth.

Context Site Number: UH013 Site Name: Riverstone Park forest and scrub



ASSESSED BY

Assessment Techniques: Aerial imagery, species databases.
Assessed By: Keely Paler (Date 26/06/2018)
Reviewed By: Steve Rate (Date 27/7/2018)

NOTES

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Mānuka (*Leptospermum scoparium*) has a national-level threat classification of At Risk-Declining, as per de Lange *et al.* 2018. Mānuka is a Myrtaceae species which is at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of mānuka has been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of mānuka at this site does not trigger the rarity criteria because the species is currently common and widespread in the local environment.

DRAFT

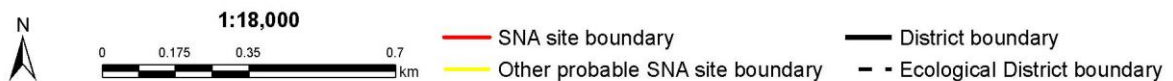
Birchville scrub

INTRODUCTION

Site Name: Birchville scrub
Site Number: UH014
Site Location: West of Akatarawa Rd, opposite the intersection with Gillespies Road.
Site Area: 97.73 ha.
Current Protection Status: Site is partially legally protected.
Protection Type: GWRC park; GWRC water collection area.

Site Map Site Number: UH014

Site Name: Birchville scrub



Site Summary: This site comprises four blocks of indigenous forest and scrub to the west of Akatarawa Road, at the confluence of the Akatarawa River and the Te Awa Kairangi/Hutt River. There are a number of vegetation types, including beech forest, treefern-broadleaved scrub, and treefern fernland, with rewarewa, māhoe, tawa, tītoki and *Muehlenbeckia australis*. These four areas are combined into one SNA as they all occur on similar topography, and slope aspect, and are either physically linked or linked via the plantation forest and are therefore affected by similar management issues. Additionally, it is important to maintain gradients between different ecosystems and habitat types. Vegetation occurs on slopes of high (21-30°) and very high (31-40°) steepness and includes riparian vegetation, which stabilises soils and buffers a number of small tributaries of the Akatarawa River. The Akatarawa River has been identified in the Proposed Natural Resources Plan as providing important macroinvertebrate and indigenous fish habitat. The praying mantis *Orthodera novaezealandiae* (At Risk-Declining) has been recorded at the site. Bush falcon (*Falco novaeseelandiae ferox*; At Risk-Recovering), bellbird (*Anthornis melanura melanura*; regionally uncommon), and whitehead (*Mohoua albicilla*; At Risk-Declining) have been recorded nearby and may use habitat within the SNA.

IMPORTANT FEATURES

Threatened Indigenous Flora:	No rare flora are known from the site.
Threatened Indigenous Fauna:	The praying mantis <i>Orthodera novaezealandiae</i> (At Risk-Declining) has been recorded at the site. Bush falcon (<i>Falco novaeseelandiae ferox</i> ; At Risk-Recovering), bellbird (<i>Anthornis melanura melanura</i> ; regionally uncommon), and whitehead (<i>Mohoua albicilla</i> ; At Risk-Declining) have been recorded nearby and may use habitat within the SNA.
Threatened Land Environments:	More than five hectares on At Risk land environments (20-30% indigenous cover remaining).
Rare Habitats:	No rare habitats or communities known.
Geological Features:	None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	The site contains regenerating forest, which is representative of current vegetation types, and beech forest which is representative of Singers and Rogers (2014) MF20-Hard beech forest, which has less than 20% protected in the Wellington region.
RPS23b: Rarity	Yes	One At Risk invertebrate (<i>Orthodera novaezealandiae</i>). Several At Risk bird species have been recorded nearby and may use habitat within the SNA.
RPS23c: Diversity	No	Early successional forest types, which are likely to have reduced species diversity.
RPS23d: Ecological Context	Yes	Contiguous with Akatarawa forest; provides stepping stone habitat along Akatarawa Road.

RPS Policy 23 Criteria	Achieved	Assessment
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

Ecological District: Tararua

Ecological Domain(s): 58 Tararua (<550 metres); 61 Wainuiomata - Hutt - Kaitoke.

Digital Scale: 1:18,000

Altitude Range: 85-355 m a.s.l.

Grid Reference: NZTM E1775850 N5449823

Adjacent Vegetation and Habitats: Pines, wattles, eucalyptus, residential.

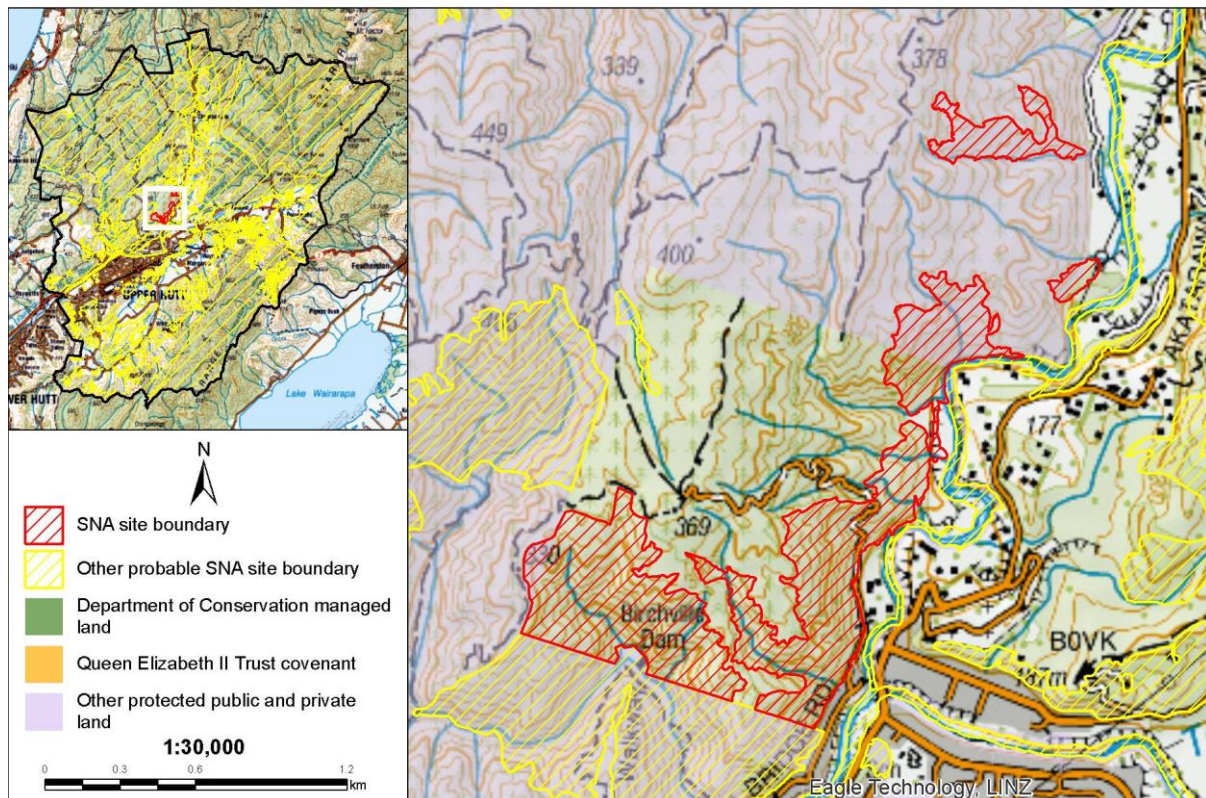
Notes on Overall Condition: Contains a mosaic of different vegetation types, ranging from mature beech forest to relatively recent regenerating scrub. *Muehlenbeckia australis*, particularly around houses indicates disturbance.

Potential Land Management Issues: Adjacent pine plantation harvesting and vegetation disturbance around houses may impact on site margins.

Sources of Information for this Site ^{Note#:} Google Earth.

Context Site Number: UH014

Site Name: Birchville scrub



ASSESSED BY

Assessment Techniques: Aerial imagery, partial road side viewing (large part not visible).
Assessed By: Keely Paler (Date 7/02/2018)
Reviewed By: Steve Rate (Date 27/7/2018)

NOTES

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Gratton's Wetland

INTRODUCTION

Site Name: Gratton's Wetland
Site Number: UH015
Site Location: Three Skulls Rd, Craigs Flat.
Site Area: 1.71 ha.
Current Protection Status: Site is partially legally protected.
Protection Type: GWRC water collection area; GWRC park

Site Map

Site Number: UH015

Site Name: Gratton's Wetland



1:5,000



— SNA site boundary

— District boundary

— Other probable SNA site boundary

- - Ecological District boundary

Site Summary: Grattons Wetland is located in plantation forest near the southeast extent of Akatarawa Forest. The swamp wetland is largely natural, with regenerating indigenous vegetation along its margins. Freshwater wetlands are nationally rare (<10% of their original extent remains) and are a regionally uncommon habitat type.

IMPORTANT FEATURES

Threatened Indigenous Flora: No rare flora are known from the site.

Threatened Indigenous Fauna: No rare fauna are known from the site.

Threatened Land Environments: More than 0.5 hectares on At Risk land environments (20-30% indigenous cover remaining)

Rare Habitats: Freshwater wetlands are nationally rare, with less than 10% of their original extent remaining and they are a regionally uncommon habitat type.

Geological Features: None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	The site is likely to be representative of natural wetland ecosystems for the region. Wetlands are rare at a national and regional scale.
RPS23b: Rarity	Yes	Freshwater wetlands are nationally rare (<10% of their original extent remains) and a regionally uncommon habitat type. Indigenous vegetation on land environments with less than 10% indigenous vegetation cover remaining.
RPS23c: Diversity	Yes	Likely to have a natural diversity of ecological units, ecosystems, and species.
RPS23d: Ecological Context	No	Isolated within plantation forest.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

Ecological District: Tararua

Ecological Domain(s): 58 Tararua (<550 metres).

Digital Scale: 1:5,000

Altitude Range: 310-320 m a.s.l.

Grid Reference: NZTM E1775255 N5450514

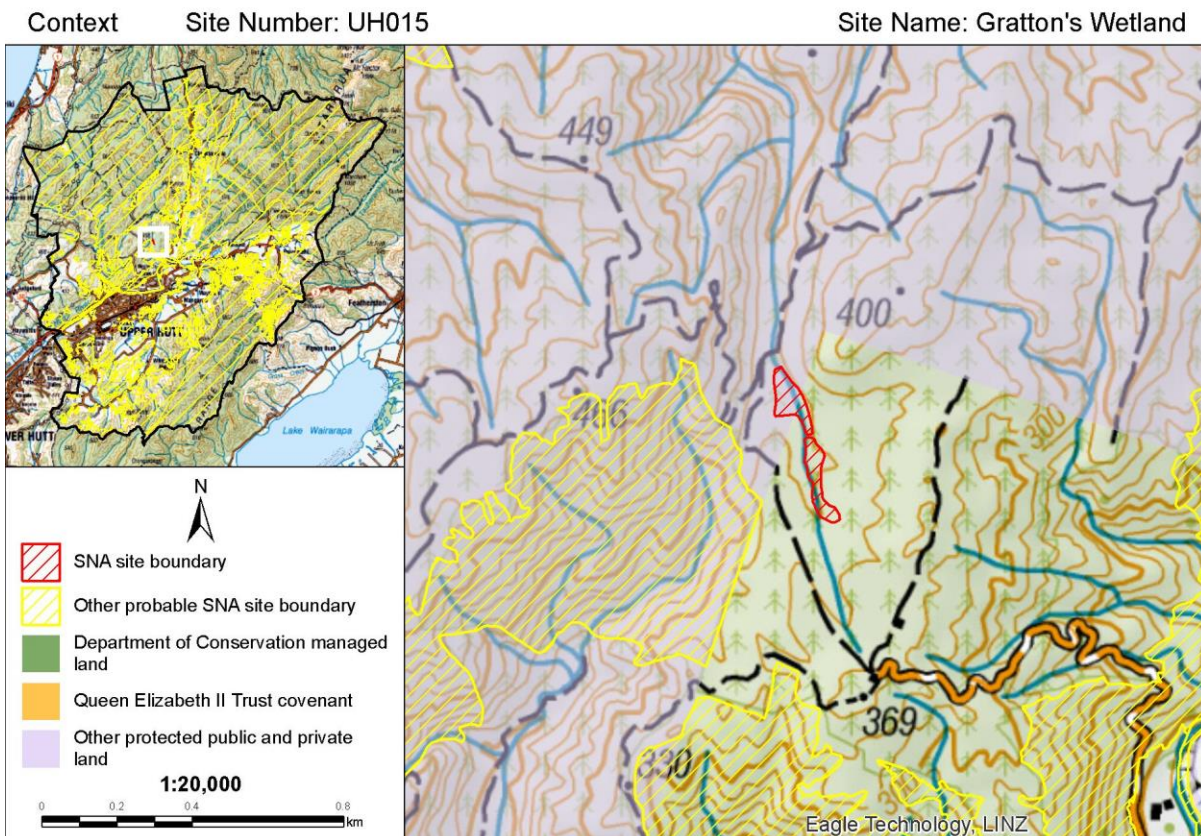
Adjacent Vegetation and Habitats: Pine and eucalyptus, as well as some native regeneration in the area directly adjacent to the site.

Upper Hutt District Plan - Significant Natural Area Assessment - Significance Statement

Notes on Overall Condition: The site is largely natural. Feral pig sign recorded. A dam which bisects this area has blown out in the centre so has very limited impact on the wetland.

Potential Land Management Issues: Unknown.

Sources of Information for this Site ^{Note#:} GWRC wetland database.



ASSESSED BY

Assessment Techniques: Literature review; aerial imagery.
Assessed By: Keely Paler (Date 7/02/2018)
Reviewed By: Steve Rate (Date 27/7/2018)

NOTES

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DRAFT

Karapoti Road scrub

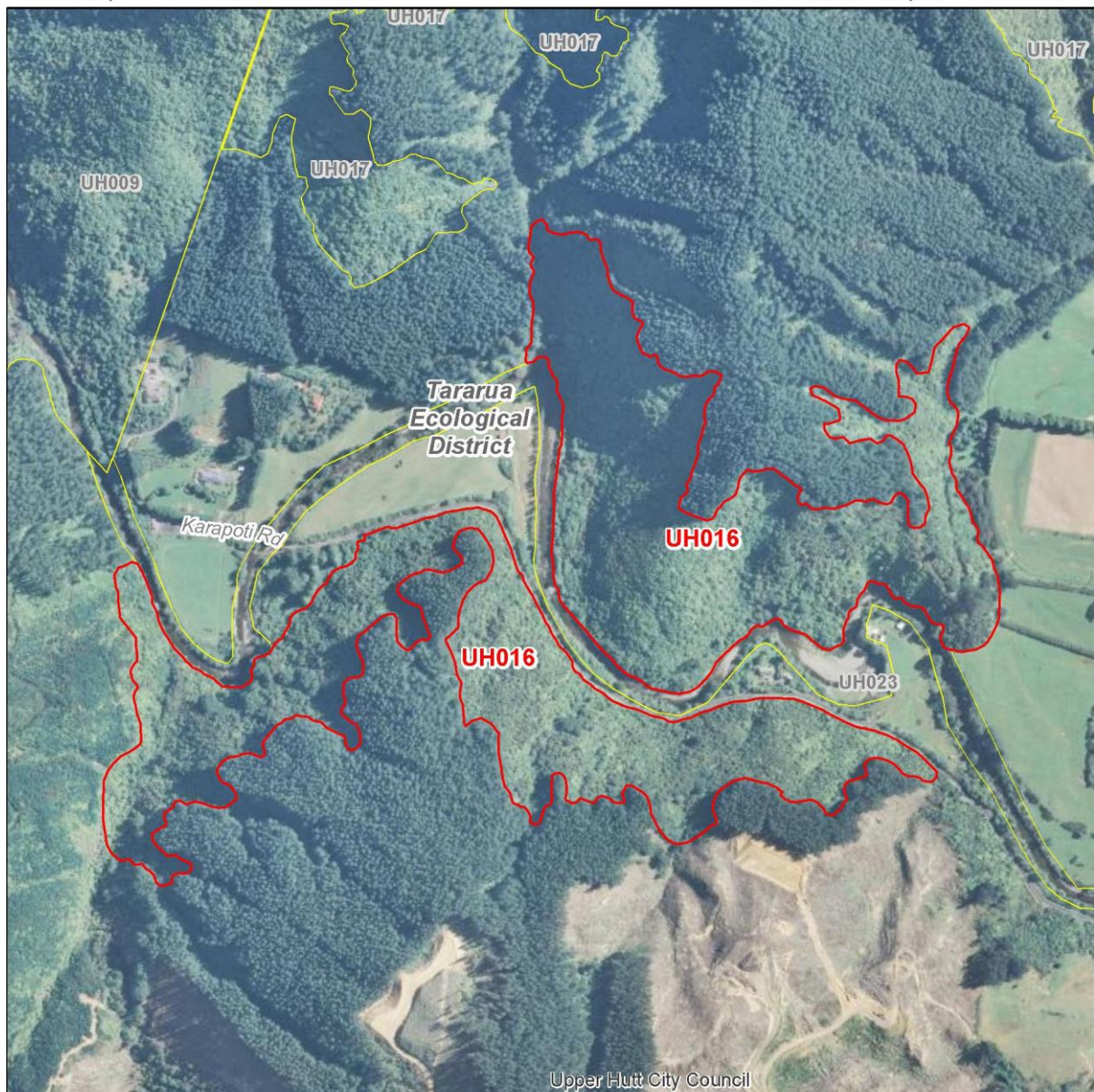
INTRODUCTION

Site Name: Karapoti Road scrub
Site Number: UH016
Site Location: North and south of Karapoti Road.
Site Area: 27.11 ha.
Current Protection Status: Site is partially legally protected.
Protection Type: GWRC water collection area; GWRC park.

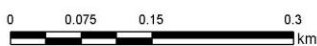
Site Map

Site Number: UH016

Site Name: Karapoti Road scrub



1:8,000



— SNA site boundary

— District boundary

— Other probable SNA site boundary

- - Ecological District boundary



Site Summary: This site consists of two areas of indigenous forest and scrub on the slopes above Akatarawa River West, at the confluence with the Akatarawa River. Vegetation is comprised of beech, kāmahī, mānuka (*Leptospermum scoparium*; At Risk-Declining^{Note##}), rewarewa, pate, red māpou, māhoe and tree ferns. Previous plant records include the indigenous tree fuchsia, swamp maire (*Syzygium maire*; Threatened-Nationally Critical^{Note##}), northern rātā (*Metrosideros robusta*; Threatened-Nationally Vulnerable^{Note##}), kiekie (*Freycinetia banksii*), tawhirikaro (*Pittosporum cornifolium*), *Jovellana repens*, and orchids (*Earina autumnalis*, *Earina mucronata*, *Pterostylis banksii*). This vegetation provides riparian protection to the Akatarawa River West.

IMPORTANT FEATURES

Threatened Indigenous Flora:	Swamp maire (<i>Syzygium maire</i> ; Threatened-Nationally Critical), northern rātā (<i>Metrosideros robusta</i> ; Threatened-Nationally Vulnerable), and mānuka (<i>Leptospermum scoparium</i> ; At Risk-Declining) ^{Note##} .
Threatened Indigenous Fauna:	No rare fauna are known from the site. The At Risk-Recovering bush falcon (<i>Falco novaeseelandiae ferox</i>) has been recorded nearby.
Threatened Land Environments:	More than 0.5 hectares on At Risk land environments (20-30% indigenous cover remaining)
Rare Habitats:	No rare habitats or communities known.
Geological Features:	None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	The vegetation includes Singers and Rogers (2014) MF20-Hard beech forest which is representative of the original vegetation type and has less than 20% protected in the Wellington region.
RPS23b: Rarity	No	Two Threatened and one At Risk plant species ^{Note##} .
RPS23c: Diversity	Yes	Contains a good diversity of species, including species which are indicative of primary forests (Park, 1999).
RPS23d: Ecological Context	No	Isolated by pine plantations, however relatively close to Akatarawa Forest and may provide some connectivity for mobile species.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

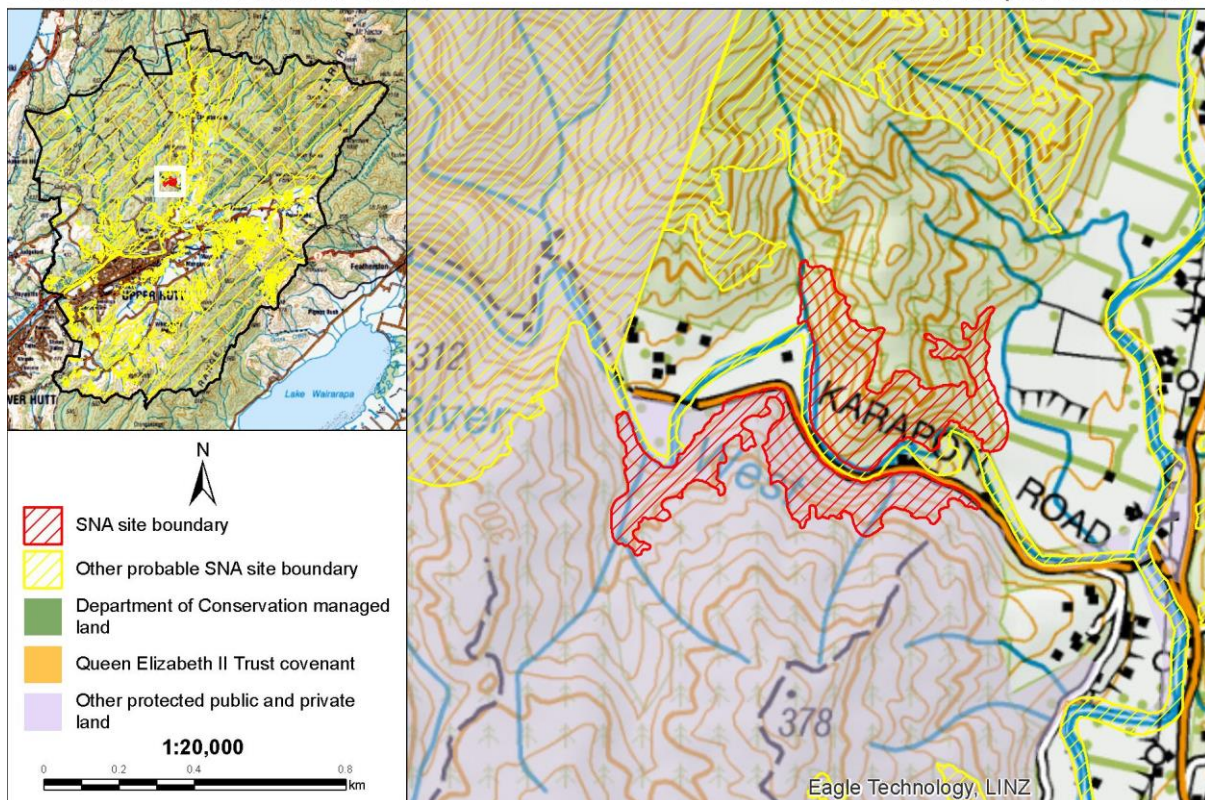
SITE CONTEXT AND OTHER INFORMATION

Ecological District:	Tararua
Ecological Domain(s):	58 Tararua (<550 metres); 61 Wainuiomata - Hutt - Kaitoke.
Digital Scale:	1:8,000

Upper Hutt District Plan - Significant Natural Area Assessment - Significance Statement

Altitude Range: 115-235 m a.s.l.
Grid Reference: NZTM E1776493 N5452409
Adjacent Vegetation and Habitats: Pine plantation, pasture, river.
Notes on Overall Condition: Mostly representative forest, but contains early succession vegetation types, and the southern area is bordered by recently replanted pines.
Potential Land Management Issues: Access for and effects of pine harvesting, which may impact the values within the site.
Sources of Information for this Site ^{Note#:}: Google Earth.

Context Site Number: UH016 Site Name: Karapoti Road scrub



ASSESSED BY

Assessment Techniques: Species database, aerial imagery, partial road side viewing (large part not visible).
Assessed By: Keely Paler (Date 7/03/2018)
Reviewed By: Steve Rate (Date 27/7/2018)

NOTES

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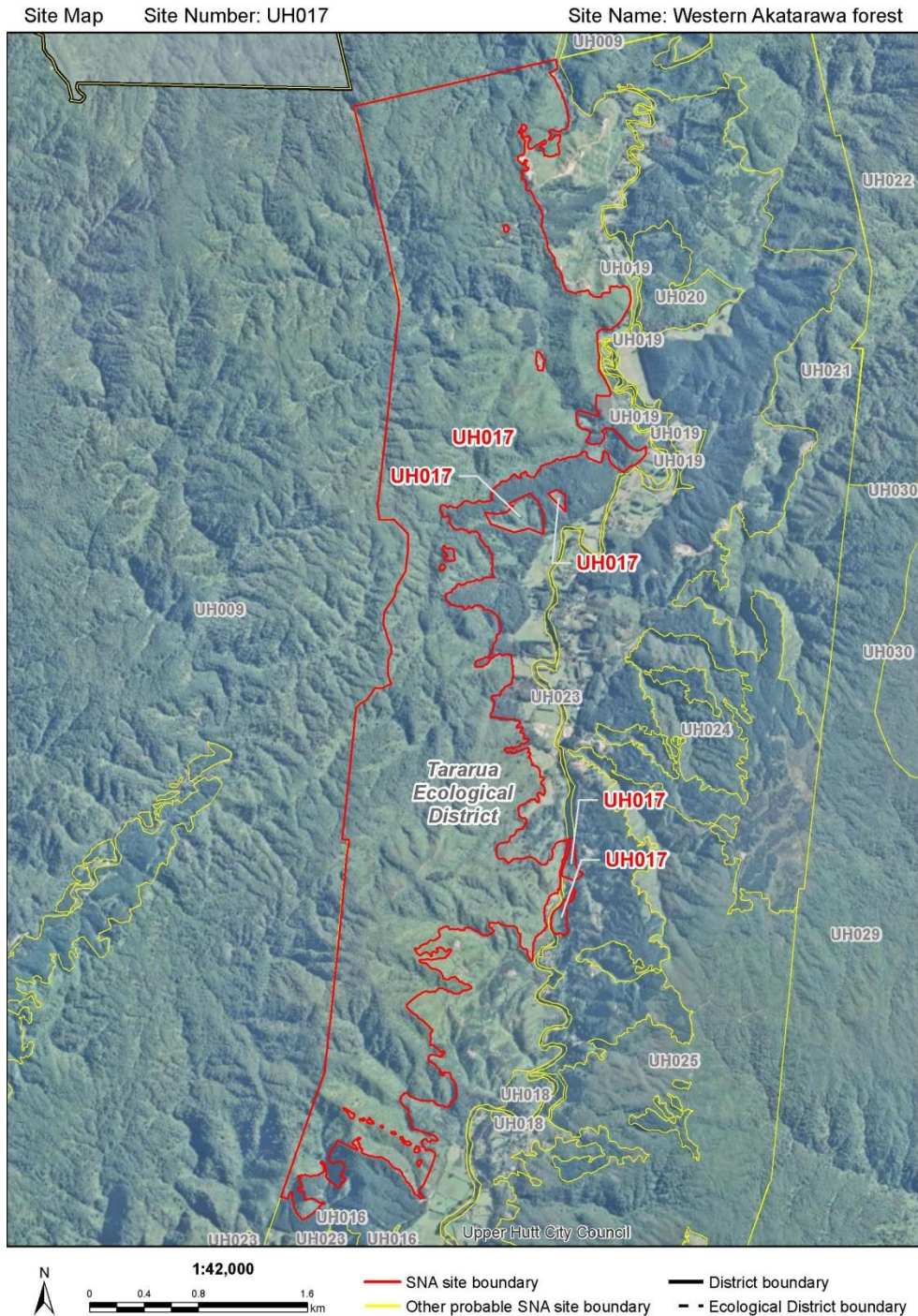
Swamp maire, northern rātā and mānuka have national-level threat classifications as per de Lange *et al.* 2018; Swamp maire (*Syzygium maire*; Threatened-Nationally Critical), northern rātā (*Metrosideros robusta*; Threatened-Nationally Vulnerable), and mānuka (*Leptospermum scoparium*; At Risk-Declining). They are Myrtaceae species which are at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of swamp maire, northern rātā, and mānuka have been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of swamp maire, northern rātā or mānuka at this site does not trigger the rarity criteria because the species are currently widespread in the local environment.

DRAFT

Western Akatarawa forest

INTRODUCTION

Site Name: Western Akatarawa forest
Site Number: UH017
Site Location: Western slopes and forests of the Akatarawa Valley.
Site Area: 910.00 ha.
Current Protection Status: Site is partially legally protected.
Protection Type: Small areas of GWRC park; GWRC water collection are; Esplanade strip.



Site Summary: This large area of indigenous forest and scrub along the western slopes of the Akatarawa Valley is contiguous with the Akatarawa Forest Key Native Ecosystem (KNE). Indigenous vegetation types include kāmahī forest with beech and rewarewa, beech forest, kāmahī-red māpou scrub, and rewarewa/mānuka (*Leptospermum scoparium*; At Risk-Declining ^{Note##})-patē-māhoe-pigeonwood-kotukutuku-rangiora scrub and forest. Wilding pine, rimu (*Dacrydium cupressinum*; of local interest), and Kirk's daisy (*Brachyglottis kirkii* var. *kirkii*; At Risk-Declining) are present. The site includes small patches of gorse on the ridges. Bush falcon (*Falco novaeseelandiae ferox*; At Risk-Recovering) and long-tailed cuckoo (*Eudynamys taitensis*; At Risk-Naturally Uncommon) have been recorded nearby and may use habitat within this SNA.

IMPORTANT FEATURES

Threatened Indigenous Flora:	Kirk's daisy (<i>Brachyglottis kirkii</i> var. <i>kirkii</i> ; At Risk-Declining) and mānuka (<i>Leptospermum scoparium</i> ; At Risk-Declining ^{Note##}).
Threatened Indigenous Fauna:	No rare fauna are known from the site. The At Risk bush falcon (<i>Falco novaeseelandiae ferox</i>) and long-tailed cuckoo (<i>Eudynamys taitensis</i>) have been recorded nearby.
Threatened Land Environments:	More than five hectares on At Risk land environments (20-30% indigenous cover remaining).
Rare Habitats:	No rare habitats or communities known.
Geological Features:	None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	This site includes large tracts of mid-successional regenerating forest, which is representative of current ecosystem diversity, in addition to blocks of beech forest, and kāmahī which are representative of original forest types, including Singers and Rogers (2014) MF8-Kāmahī, broadleaved, podocarp forest, which has less than 20% protected in Upper Hutt District.
RPS23b: Rarity	Yes	Two At Risk plant species ^{Note##} .
RPS23c: Diversity	Yes	Contains areas of mature forest which is likely to contain a good diversity of species.
RPS23d: Ecological Context	Yes	A large site which buffers Akatarawa Forest.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

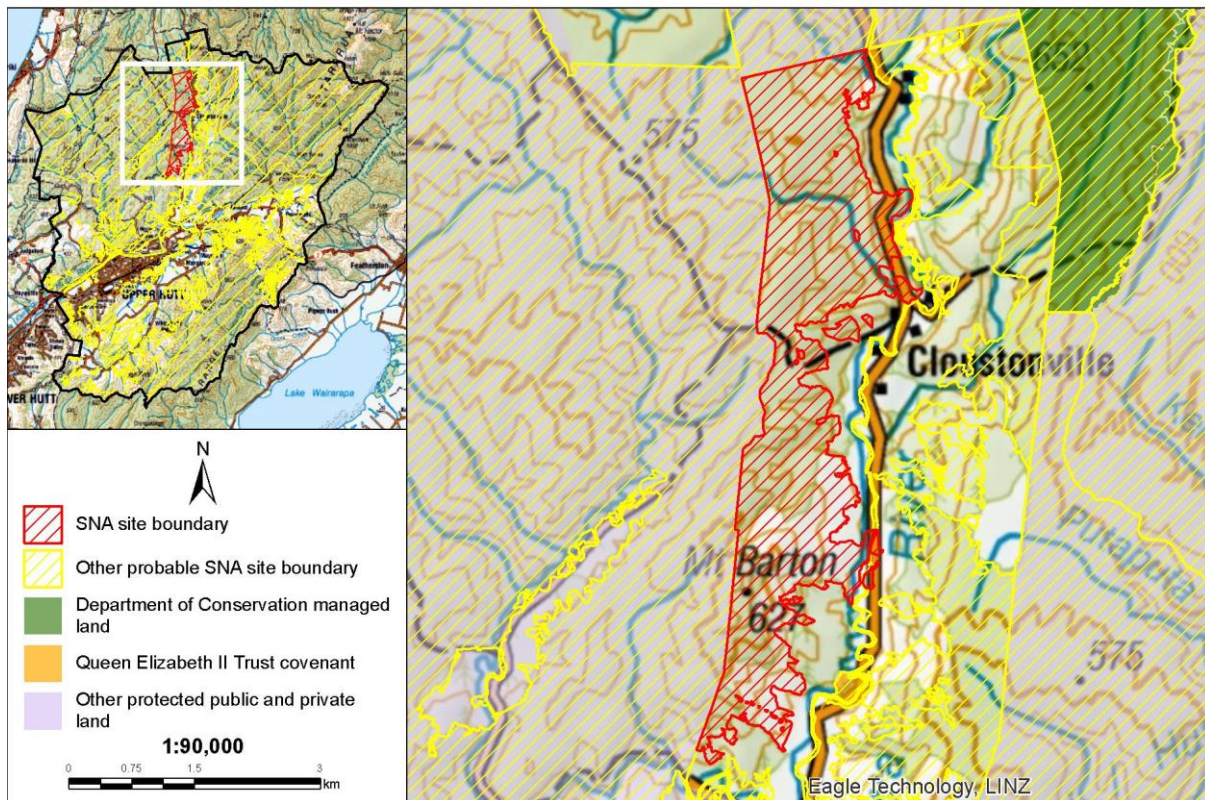
SITE CONTEXT AND OTHER INFORMATION

Ecological District: Tararua

Upper Hutt District Plan - Significant Natural Area Assessment - Significance Statement

Ecological Domain(s): 58 Tararua (<550 metres); 61 Wainuiomata - Hutt - Kaitoke.
Digital Scale: 1:42,000
Altitude Range: 140-625 m a.s.l.
Grid Reference: NZTM E1777301 N5457429
Adjacent Vegetation and Habitats: Pine plantation, indigenous forest, pasture, gorse.
Notes on Overall Condition: Contains mature indigenous forest, particularly in the west of the site. However, eastern areas of the site contain earlier successional scrub and wilding pine.
Potential Land Management Issues: Control of wilding pines.
Sources of Information for this Site ^{Note#:}: Google Earth.

Context Site Number: UH017 Site Name: Western Akatarawa forest



ASSESSED BY

Assessment Techniques: Species database, aerial imagery, partial road side viewing (large part not visible).
Assessed By: Keely Paler (Date 7/05/2018)
Reviewed By: Steve Rate (Date 27/7/2018)

NOTES

Please note that this statement is based on information available at the time of writing. No site visits were undertaken on private land. Due to the changing nature of ecosystems and surrounding land use,

Upper Hutt District Plan - Significant Natural Area Assessment - Significance Statement

future assessment of the Significant Natural Area may be necessary to reflect any changes in knowledge, values, or boundaries that may influence its assessment as ecologically significant.

An Explanatory Note is available in Appendix 9, which provides more information about how each of the above fields was collated or assessed.

The full list of data sources and references used to assess sites is listed in the main body of the report under REFERENCES and also in the EXPLANATORY NOTES in Appendix 9. Aerial photography (2017 colour) was used to view and evaluate all sites, additional sources such as historic aerial photography in Google Earth, was used to inform site values and improve site boundaries.

Mānuka (*Leptospermum scoparium*) has a national-level threat classification of At Risk-Declining, as per de Lange *et al.* 2018. Mānuka is a Myrtaceae species which is at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of mānuka has been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of mānuka at this site does not trigger the rarity criteria because the species is currently common and widespread in the local environment.

DRAFT

QEII 5/07/203 forest

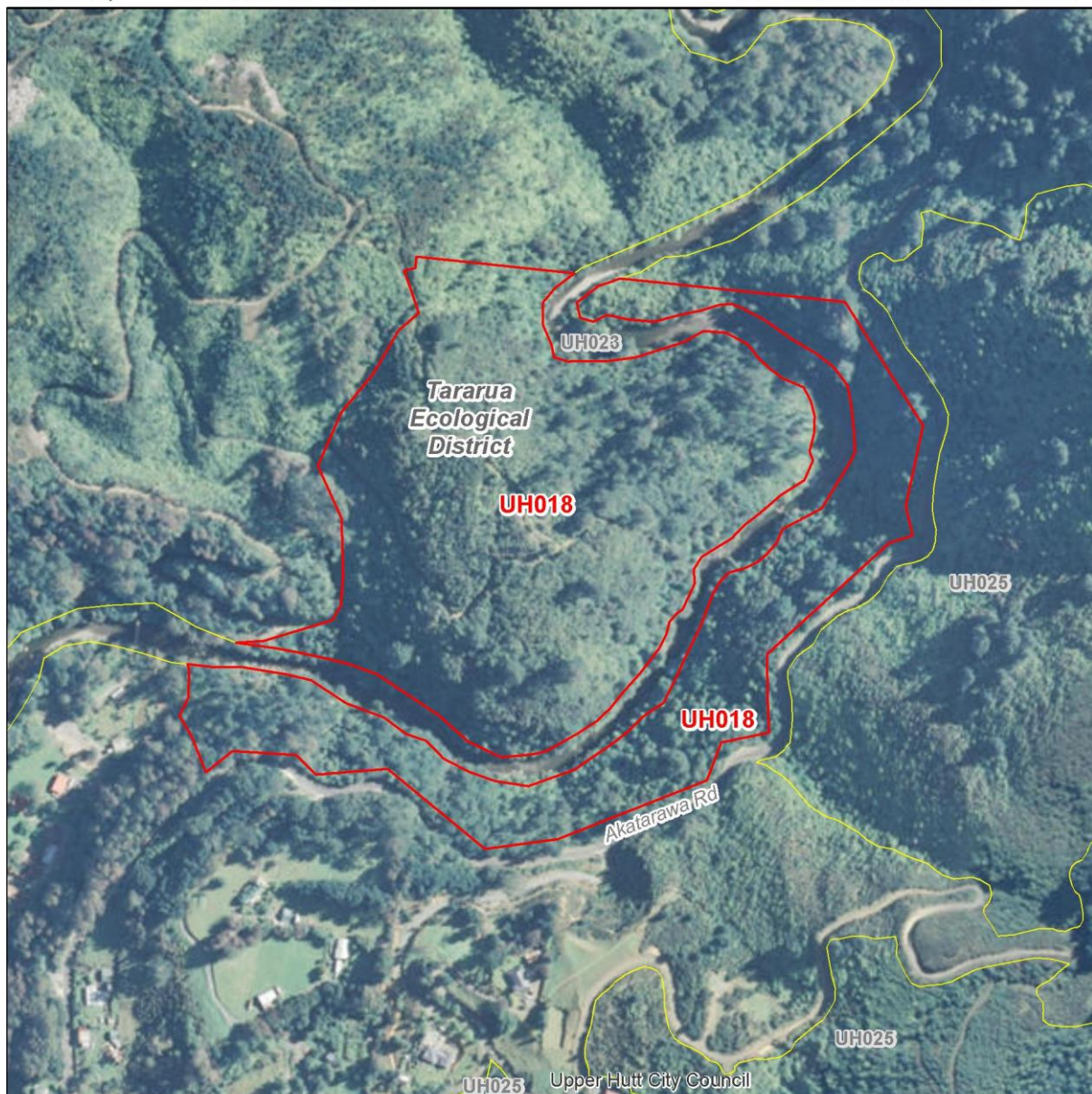
INTRODUCTION

Site Name: QEII 5/07/203 forest
Site Number: UH018
Site Location: Akatarawa Road, Akatarawa.
Site Area: 12.84 ha.
Current Protection Status: Site is fully legally protected.
Protection Type: QEII covenant.

Site Map

Site Number: UH018

Site Name: QEII 5/07/203 forest



1:5,000



— SNA site boundary

— District boundary

— Other probable SNA site boundary

- - Ecological District boundary

Site Summary: This QEII covenant (5/07/203) is located alongside Akatarawa Road and buffers both sides of Akatarawa River for approximately one kilometre. Vegetation types include beech-tawa-kāmahī-rewarewa forest, riparian forest and regenerating broadleaved scrub on hillslopes. Bush falcon (*Falco novaeseelandiae ferox*; At Risk-Recovering) are reported from nearby. The Akatarawa River is identified in the Proposed Natural Resources Plan as providing important habitat for stream macroinvertebrates and indigenous fish, including the Threatened-Nationally Vulnerable lamprey (*Geotria australis*), the At Risk-Declining bluegill bully (*Gobiomorphus hubbsi*), dwarf galaxias (*Galaxias divergens*), kōaro (*Galaxias brevipinnis*), longfin eel (*Anguilla dieffenbachia*), and redfin bully (*Gobiomorphus huttoni*), and the Not Threatened banded kōkopu (*Galaxias fasciatus*), Cran's bully (*Gobiomorphus basalis*), and shortfin eel (*Anguilla australis*).

IMPORTANT FEATURES

Threatened Indigenous Flora:	No rare flora are known from the site.
Threatened Indigenous Fauna:	Bush falcon (<i>Falco novaeseelandiae ferox</i> ; At Risk-Recovering) has been recorded nearby.
Threatened Land Environments:	More than 0.5 hectares on At Risk land environments (20-30% indigenous cover remaining).
Rare Habitats:	No rare habitats or communities known.
Geological Features:	None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	The site includes patches of indigenous vegetation which are representative of Singers and Rogers (2014) original vegetation types: MF20-Hard beech forest and MF8-Kāmahī, broadleaved, podocarp forest, which have less than 20% protected in the Wellington region and Upper Hutt District, respectively.
RPS23b: Rarity	Yes	Indigenous vegetation on Acutely Threatened land environments. At Risk bird species reported from nearby.
RPS23c: Diversity	Yes	Likely to have a natural diversity of ecological units, ecosystems, and species.
RPS23d: Ecological Context	Yes	Protects part of the Akatarawa River, part of larger indigenous forest area.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

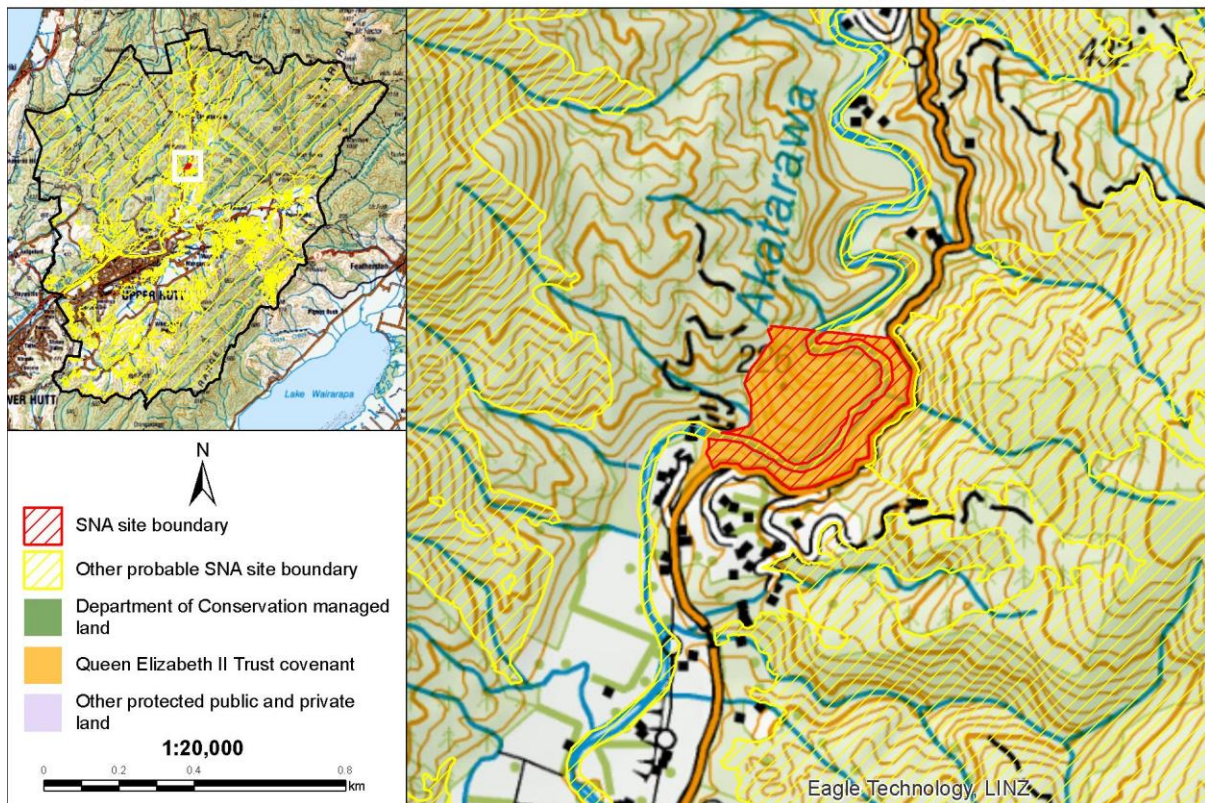
Ecological District: Tararua

Upper Hutt District Plan - Significant Natural Area Assessment - Significance Statement

Ecological Domain(s): 58 Tararua (<550 metres).
Digital Scale: 1:5,000
Altitude Range: 130-220 m a.s.l.
Grid Reference: NZTM E1777881 N5453667
Adjacent Vegetation and Habitats: Plantation forest, road, residential.
Notes on Overall Condition: Includes eucalyptus and pine trees.
Potential Land Management Issues: Control of exotic trees.
Sources of Information for this Site ^{Note#:}: Google Earth.

Context Site Number: UH018

Site Name: QEII 5/07/203 forest



ASSESSED BY

Assessment Techniques: Aerial imagery, species databases.
Assessed By: Keely Paler (Date 7/05/2018)
Reviewed By: Steve Rate (Date 27/7/2018)

NOTES

Please note that this statement is based on information available at the time of writing. No site visits were undertaken on private land. Due to the changing nature of ecosystems and surrounding land use, future assessment of the Significant Natural Area may be necessary to reflect any changes in knowledge, values, or boundaries that may influence its assessment as ecologically significant.

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An Explanatory Note is available in Appendix 9, which provides more information about how each of the above fields was collated or assessed.

DRAFT

Cloustonville Park riparian forest and scrub

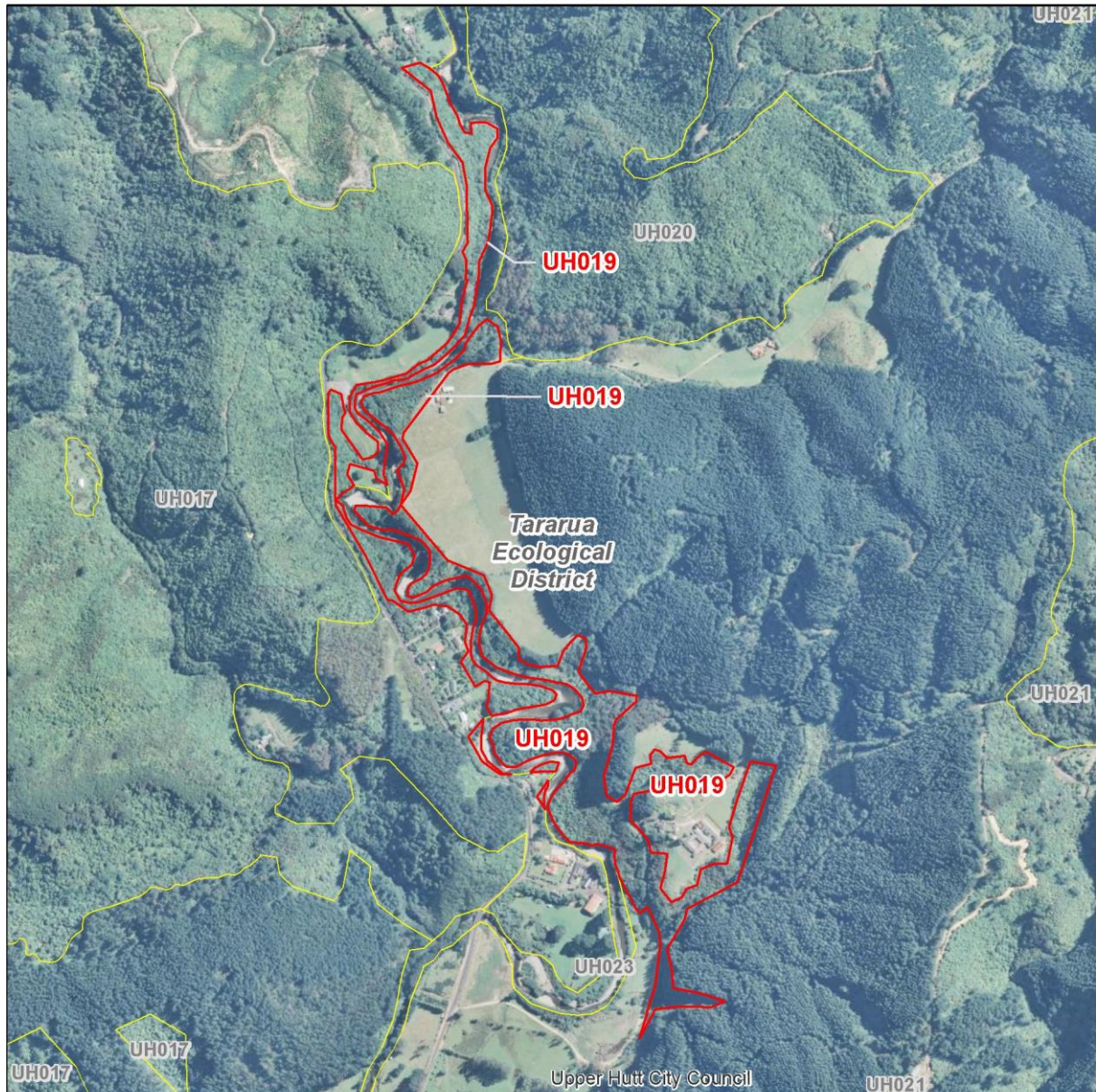
INTRODUCTION

Site Name: Cloustonville Park riparian forest and scrub
Site Number: UH019
Site Location: Indigenous vegetation within Cloustonville Park.
Site Area: 15.40 ha.
Current Protection Status: Site is partially legally protected.
Protection Type: UHCC park; Esplanade strip.

Site Map

Site Number: UH019

Site Name: Cloustonville Park riparian forest and scrub



— SNA site boundary
— Other probable SNA site boundary

— District boundary
- - Ecological District boundary

Site Summary: Cloustonville Park Riparian is comprised of indigenous broadleaved forest along the approximately 2.5 kilometres long Akatarawa River Flats. Indigenous forest and scrub are comprised of māhoe, kōtukutuku, patē, putaputawētā, kāmahi, treefern, mānuka (*Leptospermum scoparium*; At Risk-Declining ^{Note##}), *Pittosporum* sp., and rewarewa, and includes podocarps of local interest including rimu (*Dacrydium cupressinum*) and kahikatea (*Dacrycarpus dacrydioides*). This site includes indigenous vegetation on land environments with less than 10% indigenous vegetation cover remaining. The forests supports at least 12 indigenous bird species, including whitehead (*Mohoua albicilla*; At Risk-Declining) and the regionally uncommon bellbird (*Anthornis melanura melanura*) and tomtit (*Petroica macrocephala toitoi*). This site includes riparian vegetation and a section of the Akatarawa River, which has been identified in the Proposed Natural Resources Plan as providing important habitat for stream macroinvertebrates and indigenous fish, including the Threatened-Nationally Vulnerable lamprey (*Geotria australis*), the At Risk-Declining bluegill bully (*Gobiomorphus hubbsi*), dwarf galaxias (*Galaxias divergens*), kōaro (*Galaxias brevipinnis*), longfin eel (*Anguilla dieffenbachia*), and redfin bully (*Gobiomorphus huttoni*), and the Not Threatened banded kōkopu (*Galaxias fasciatus*), Cran's bully (*Gobiomorphus basalis*), and shortfin eel (*Anguilla australis*).

IMPORTANT FEATURES

Threatened Indigenous Flora:	Mānuka (<i>Leptospermum scoparium</i> ; At Risk-Declining ^{Note##}) and podocarps of local interest including rimu (<i>Dacrydium cupressinum</i>) and kahikatea (<i>Dacrycarpus dacrydioides</i>).
Threatened Indigenous Fauna:	Supports whitehead (<i>Mohoua albicilla</i> ; At Risk-Declining), the regionally uncommon bellbird (<i>Anthornis melanura</i>) and tomtit (<i>Petroica macrocephala toitoi</i>), as well as the Threatened-Nationally Vulnerable lamprey (<i>Geotria australis</i>), and the At Risk-Declining bluegill bully (<i>Gobiomorphus hubbsi</i>), dwarf galaxias (<i>Galaxias divergens</i>), kōaro (<i>Galaxias brevipinnis</i>), longfin eel (<i>Anguilla dieffenbachia</i>), and redfin bully (<i>Gobiomorphus huttoni</i>).
Threatened Land Environments:	More than 0.5 hectares on Acutely Threatened land environments (<10% indigenous cover remaining).
Rare Habitats:	No rare habitats or communities known.
Geological Features:	None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

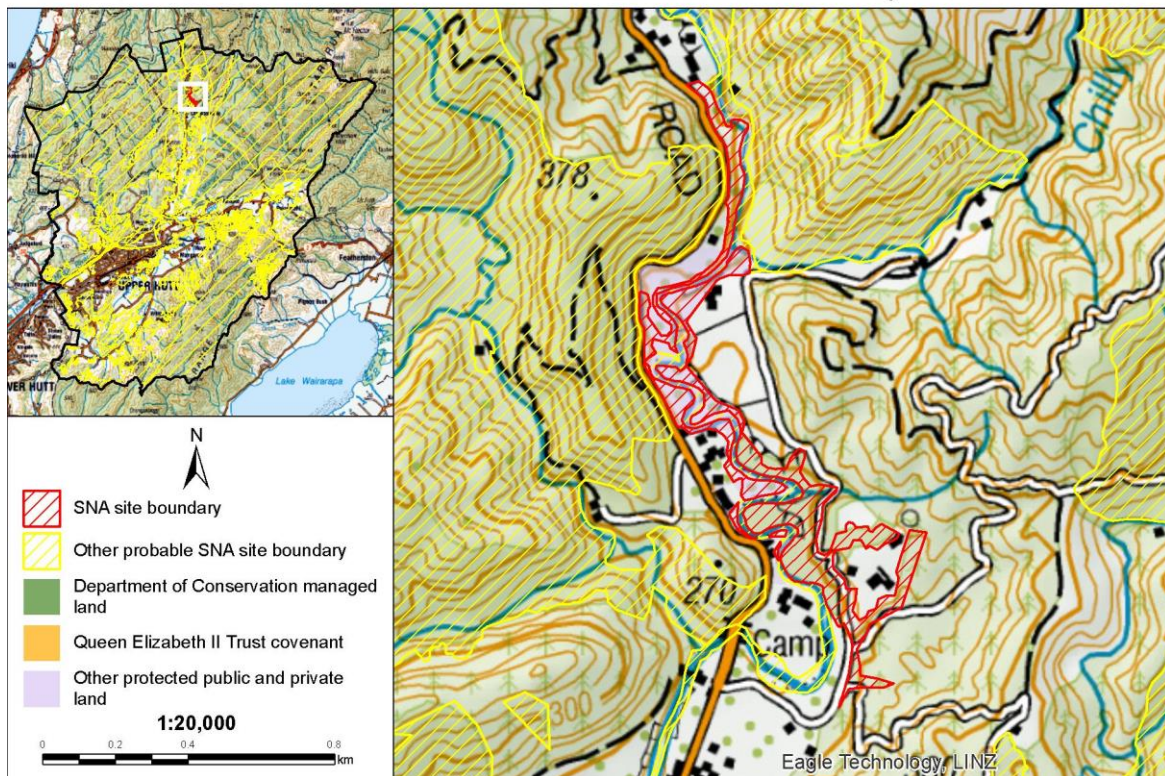
RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	The site contains vegetation representative of Singers and Rogers (2014) vegetation type MF8-Kāmahi, broadleaved, podocarp forest, which is poorly protected in Upper Hutt District.
RPS23b: Rarity	Yes	One At Risk and two regionally uncommon bird species and one Threatened and four At Risk fish species, one At Risk plant species ^{Note##} . Includes indigenous vegetation on land environments with less than 10% indigenous vegetation cover

RPS Policy 23 Criteria	Achieved	Assessment
		remaining.
RPS23c: Diversity	No?	Early succession communities are likely to have a low diversity of species.
RPS23d: Ecological Context	Yes	Buffers a stream that runs into the Te Awa Kairangi/Hutt River and provides connectivity between other SNA's.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

Ecological District:	Tararua
Ecological Domain(s):	58 Tararua (<550 metres).
Digital Scale:	1:12,000
Altitude Range:	185-240 m a.s.l.
Grid Reference:	NZTM E1778756 N5458837
Adjacent Vegetation and Habitats:	Road, pasture grassland, rural residences.
Notes on Overall Condition:	A fragmented site adjacent to pasture, rural residences and recreation reserve. The SNA area contains exotic vegetation including pines, macrocarpa, fir, and willow.
Potential Land Management Issues:	Management and control of exotic trees.
Sources of Information for this Site^{Note#}:	McArthur <i>et al.</i> 2017, Google Earth.

Context Site Number: UH019 Site Name: Cloustonville Park riparian forest and scrub



ASSESSED BY

Assessment Techniques: Aerial imagery, species databases.
Assessed By: Keely Paler (Date 7/05/2018)
Reviewed By: Steve Rate (Date 27/7/2018)

NOTES

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Mānuka (*Leptospermum scoparium*) has a national-level threat classification of At Risk-Declining, as per de Lange *et al.* 2018. Mānuka is a Myrtaceae species which is at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of mānuka has been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of mānuka at this site does not trigger the rarity criteria because the species is currently common and widespread in the local environment.

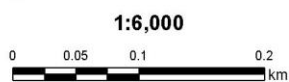
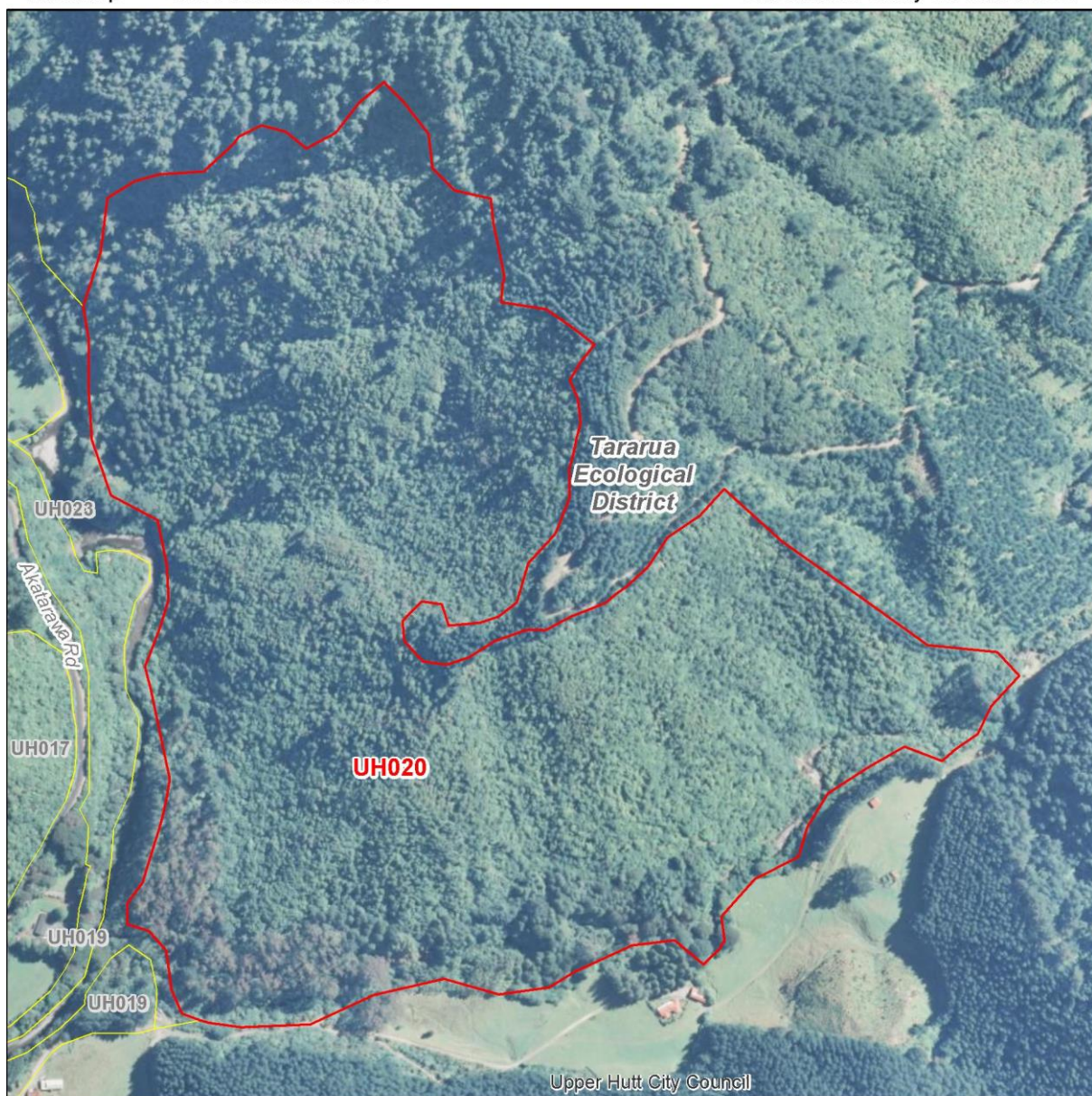
Chilly Stream forest

INTRODUCTION

Site Name: Chilly Stream forest
Site Number: UH020
Site Location: On the eastern slopes of the Akatarawa Valley, upstream of the confluence of Chilly Stream and the Akatarawa River.
Site Area: 36.62 ha.
Current Protection Status: Site is partially legally protected.
Protection Type: Esplanade strip.

Site Map Site Number: UH020

Site Name: Chilly Stream forest



— SNA site boundary

— Other probable SNA site boundary

— District boundary

- - Ecological District boundary

Site Summary: This site comprises indigenous vegetation on the eastern slopes of Akatarawa Valley, upstream of the confluence of Chilly Stream and the Akatarawa River. The SNA is bordered by pine plantations and exotic scrub, but contiguous with the Cloustonville Park Riparian forest (UH019), buffering reaches of both the Akatarawa River and Chilly Stream. The vegetation is comprised of regenerating kāmahi-broadleaved forest, and includes treeferns, pate and māhoe. The Akatarawa River has been identified in the Proposed Natural Resources Plan as providing important habitat for stream macroinvertebrates and indigenous fish, including the Threatened-Nationally Vulnerable lamprey (*Geotria australis*), the At Risk-Declining bluegill bully (*Gobiomorphus hubbsi*), dwarf galaxias (*Galaxias divergens*), kōaro (*Galaxias brevipinnis*), longfin eel (*Anguilla dieffenbachia*), and redfin bully (*Gobiomorphus huttoni*), and the Not Threatened banded kōkopu (*Galaxias fasciatus*), Cran's bully (*Gobiomorphus basalis*), and shortfin eel (*Anguilla australis*). Streams within Chilly Stream forest could provide habitat for one or more of these aquatic species. Whitehead (*Mohoua albicilla*; At Risk-Declining), bush falcon (*Falco novaeseelandiae ferox*; At Risk-Recovering), and the regionally uncommon bellbird (*Anthornis melanura*) and tomtit (*Petroica macrocephala toitoi*) have been recorded nearby and may utilise the SNA.

IMPORTANT FEATURES

Threatened Indigenous Flora:	No rare flora are known from the site
Threatened Indigenous Fauna:	No rare fauna are known from the site. Whitehead (<i>Mohoua albicilla</i> ; At Risk-Declining), bush falcon (<i>Falco novaeseelandiae ferox</i> ; At Risk-Recovering), and the regionally uncommon bellbird (<i>Anthornis melanura</i>) and tomtit (<i>Petroica macrocephala toitoi</i>) have been recorded nearby. The Akatarawa River provides habitat for a range of aquatic species some of which could also occur here. These include stream macroinvertebrates and indigenous fish, including the Threatened-Nationally Vulnerable lamprey (<i>Geotria australis</i>), the At Risk-Declining bluegill bully (<i>Gobiomorphus hubbsi</i>), dwarf galaxias (<i>Galaxias divergens</i>), kōaro (<i>Galaxias brevipinnis</i>), longfin eel (<i>Anguilla dieffenbachia</i>), and redfin bully (<i>Gobiomorphus huttoni</i>), and the Not Threatened banded kōkopu (<i>Galaxias fasciatus</i>), Cran's bully (<i>Gobiomorphus basalis</i>), and shortfin eel (<i>Anguilla australis</i>).
Threatened Land Environments:	More than five hectares on At Risk land environments (20-30% indigenous cover remaining).
Rare Habitats:	No rare habitats or communities known.
Geological Features:	None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	Representative of Singers and Rogers (2014) MF8-Kāmahī, broadleaved, podocarp forest, which has less than 20% protected in Upper Hutt District.
RPS23b: Rarity	No	No rare features known.
RPS23c: Diversity	Yes	Likely to have a natural diversity of ecological units, ecosystems, and species.
RPS23d: Ecological Context	Yes	Buffers the Akatarawa River.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

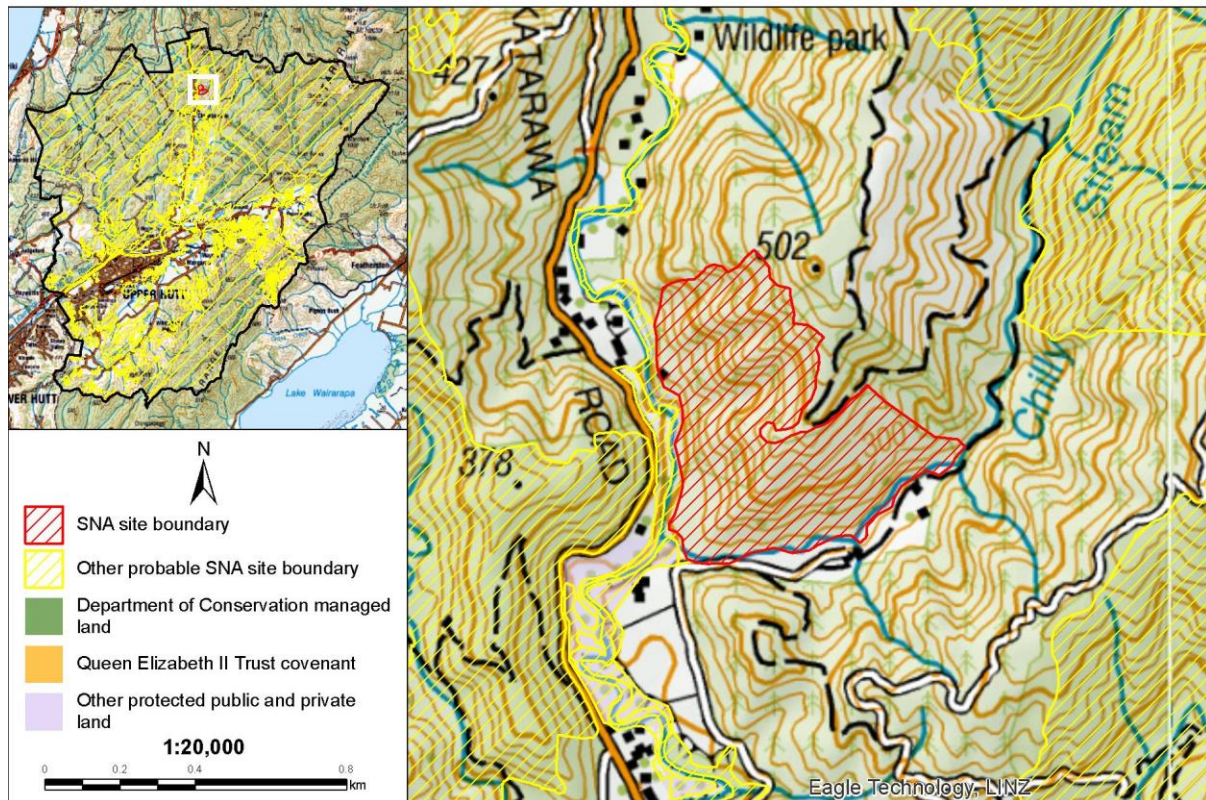
SITE CONTEXT AND OTHER INFORMATION

Ecological District:	Tararua
Ecological Domain(s):	58 Tararua (<550 metres).
Digital Scale:	1:6,000
Altitude Range:	200-450 m a.s.l.
Grid Reference:	NZTM E1778945 N5459673
Adjacent Vegetation and Habitats:	Pine forest, Akatarawa River, pasture grassland
Notes on Overall Condition:	Appears to be relatively early succession, but needs to be confirmed.
Potential Land Management Issues:	Wilding pines may establish from adjacent forestry blocks.
Sources of Information for this Site ^{Note#}:	Google Earth.

Context

Site Number: UH020

Site Name: Chilly Stream forest



ASSESSED BY

Assessment Techniques: Aerial imagery, species databases.
Assessed By: Keely Paler (Date 7/05/2018)
Reviewed By: Steve Rate (Date 27/7/2018)

NOTES

Please note that this statement is based on information available at the time of writing. No site visits were undertaken on private land. Due to the changing nature of ecosystems and surrounding land use, future assessment of the Significant Natural Area may be necessary to reflect any changes in knowledge, values, or boundaries that may influence its assessment as ecologically significant.

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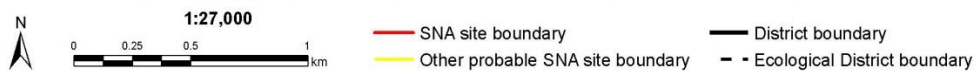
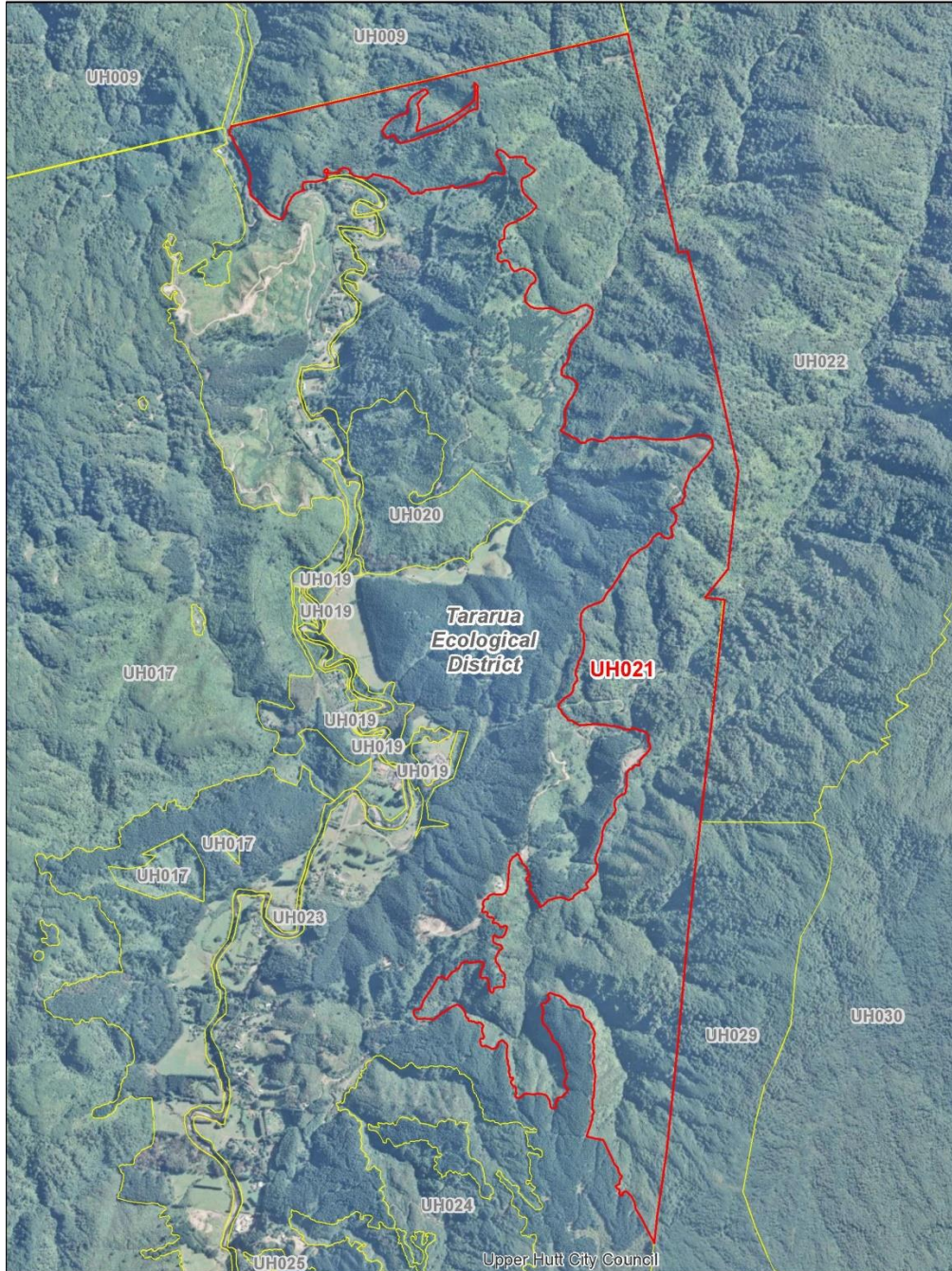
An Explanatory Note is available in Appendix 9, which provides more information about how each of the above fields was collated or assessed.

Eastern Akatarawa Road forest

INTRODUCTION

Site Name: Eastern Akatarawa Road forest
Site Number: UH021
Site Location: Eastern slopes of the Akatarawa Valley.
Site Area: 343.41 ha.
Current Protection Status: Site has no legal protection.
Protection Type: Not applicable.

Site Map Site Number: UH021 Site Name: Eastern Akatarawa Road forest



Site Summary: This large area of indigenous vegetation is located on the eastern slopes of the Akatarawa Valley, bordering the Akatarawa Forest Key Native Ecosystem (KNE) (UH009) to the north, and Akatarawa-Tararua Forest SNA (UH022) to the east. Indigenous vegetation types include kāmahi scrub and forest with rewarewa and wilding pines. Riparian vegetation protects a section of Frances Stream, which is identified in the Proposed Natural Resources Plan as providing important trout spawning habitat. As this is a tributary of the Akatarawa River, it is also likely to provide important habitat for stream macroinvertebrates and indigenous fish, including a number of At Risk species. Bush falcon (*Falco novaeseelandiae ferox*; At Risk-Recovering) and the regionally uncommon bellbird (*Anthornis melanura melanura*) have been recorded nearby and may use habitat within this SNA.

IMPORTANT FEATURES

Threatened Indigenous Flora:	No rare flora are known from the site.
Threatened Indigenous Fauna:	No rare fauna are known from the site. The At Risk-Recovering bush falcon (<i>Falco novaeseelandiae ferox</i>) and regionally uncommon bellbird (<i>Anthornis melanura melanura</i>) have been recorded nearby.
Threatened Land Environments:	More than 0.5 hectares on At Risk land environments (20-30% indigenous cover remaining).
Rare Habitats:	No rare habitats or communities known.
Geological Features:	None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	Representative of Singers and Rogers (2014) MF8-Kāmahi, broadleaved, podocarp forest, which has less than 20% protected in Upper Hutt District.
RPS23b: Rarity	No	No rare features known.
RPS23c: Diversity	Yes	Contains areas of mature forest which is likely to contain a good diversity of species.
RPS23d: Ecological Context	Yes	A large site which buffers Kaitoke Regional Park and the Tararua Ranges.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

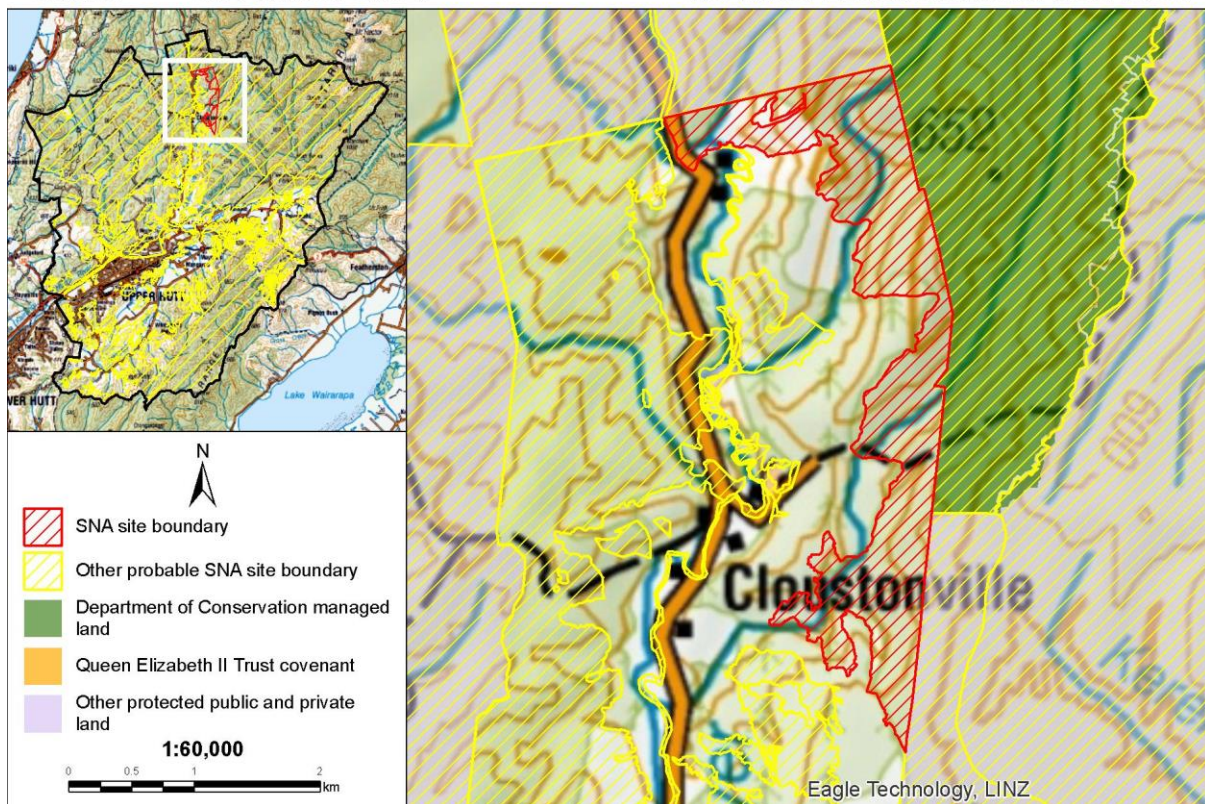
SITE CONTEXT AND OTHER INFORMATION

Ecological District:	Tararua
Ecological Domain(s):	58 Tararua (<550 metres); 59 Tararua (550 metres - Treeline).
Digital Scale:	1:27,000

Upper Hutt District Plan - Significant Natural Area Assessment - Significance Statement

Altitude Range: 185-625 m a.s.l.
Grid Reference: NZTM E1779711 N5459435
Adjacent Vegetation and Habitats: Pine plantation, indigenous forest, gorse.
Notes on Overall Condition: Contains mature indigenous forest in the gullies and earlier succession scrub, potentially including gorse, along the ridges.
Potential Land Management Issues: Wilding pines, and rural encroachment could affect values.
Sources of Information for this Site ^{Note#:}: Google Earth.

Context Site Number: UH021 Site Name: Eastern Akatarawa Road forest



ASSESSED BY

Assessment Techniques: Aerial imagery, species databases.
Assessed By: Keely Paler (Date 7/05/2018)
Reviewed By: Steve Rate (Date 27/7/2018)

NOTES

Please note that this statement is based on information available at the time of writing. No site visits were undertaken on private land. Due to the changing nature of ecosystems and surrounding land use, future assessment of the Significant Natural Area may be necessary to reflect any changes in knowledge, values, or boundaries that may influence its assessment as ecologically significant.

The full list of data sources and references used to assess sites is listed in the main body of the report under REFERENCES and also in the EXPLANATORY NOTES in Appendix 9. Aerial photography (2017 colour) was used to view and evaluate all sites, additional sources such as historic aerial photography in Google Earth, was used to inform site values and improve site boundaries.

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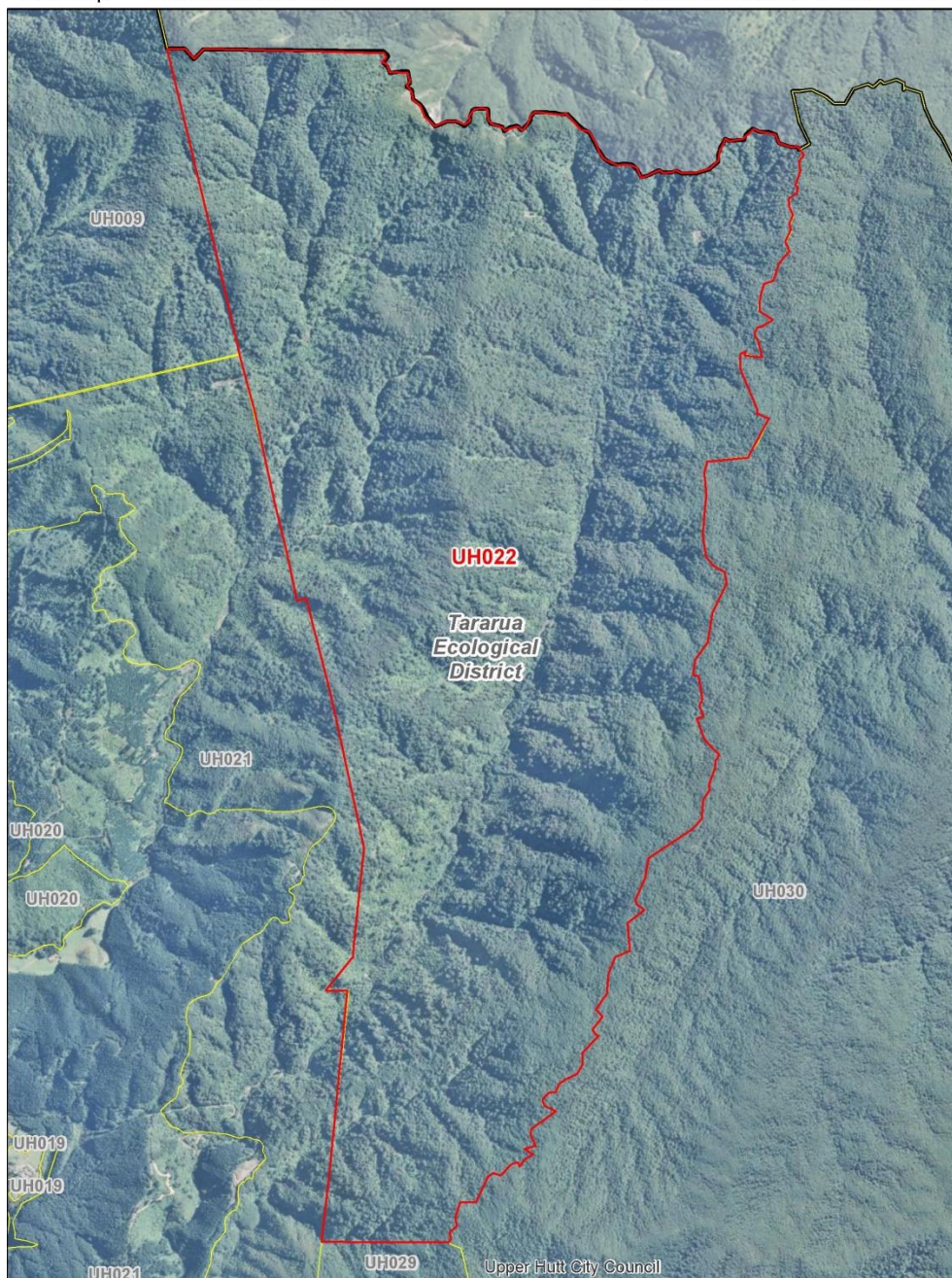
DRAFT

Akatarawa-Tararua Forest

INTRODUCTION

Site Name: Akatarawa-Tararua Forest
Site Number: UH022
Site Location: A block of forest to the east of the Akatarawa Valley between Akatarawa Forest Key Native Ecosystem (KNE) and Hutt Water Catchments Area KNE.
Site Area: 703.28 ha.
Current Protection Status: Site is fully legally protected.
Protection Type: DOC managed land; GWRC water collection area; GWRC park.

Site Map Site Number: UH022 Site Name: Akatarawa-Tararua Forest



N
 1:24,000
 0 0.225 0.45 0.9 km
 — SNA site boundary — District boundary
 — Other probable SNA site boundary - - Ecological District boundary

Site Summary: This area of forest is administered by the Department of Conservation and forms a continuous tract with mature forest in the Hutt Water Collection Area (UH030), Akatarawa Forest KNE (UH009) and the Eastern Akatarawa Road Forest (UH021). Vegetation within this area is likely to comprise relatively unmodified podocarp/kāmahi forest and beech forest. The site contains tributaries of the Akatarawa River, which is identified in the Proposed Natural Resources Plan as providing important habitat for stream macroinvertebrates and indigenous fish.

IMPORTANT FEATURES

Threatened Indigenous Flora:	No rare flora are known from the site.
Threatened Indigenous Fauna:	No rare fauna are known from the site. The site contains tributaries of the Akatarawa River, which is identified in the Proposed Natural Resources Plan as providing important habitat for stream macroinvertebrates and indigenous fish, some of which could occur here.
Threatened Land Environments:	More than 0.5 hectares on At Risk land environments (20-30% indigenous cover remaining).
Rare Habitats:	No rare habitats or communities known.
Geological Features:	None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	The site is likely to contain representative Singers and Rogers (2014) vegetation types: MF8-Kāmahi, broadleaved, podocarp forest, CLF9-Red beech, podocarp forest and CLF10-Red beech, silver beech forest, which have less than 20% protected in Upper Hutt District; in addition to CDF7-Mountain beech, silver beech, montane podocarp forest.
RPS23b: Rarity	No	No rare features known.
RPS23c: Diversity	Yes	Contains areas of mature forest which is likely to contain a good diversity of species.
RPS23d: Ecological Context	Yes	A large site which buffers and connects Kaitoke Regional Park and the Tararua Ranges.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

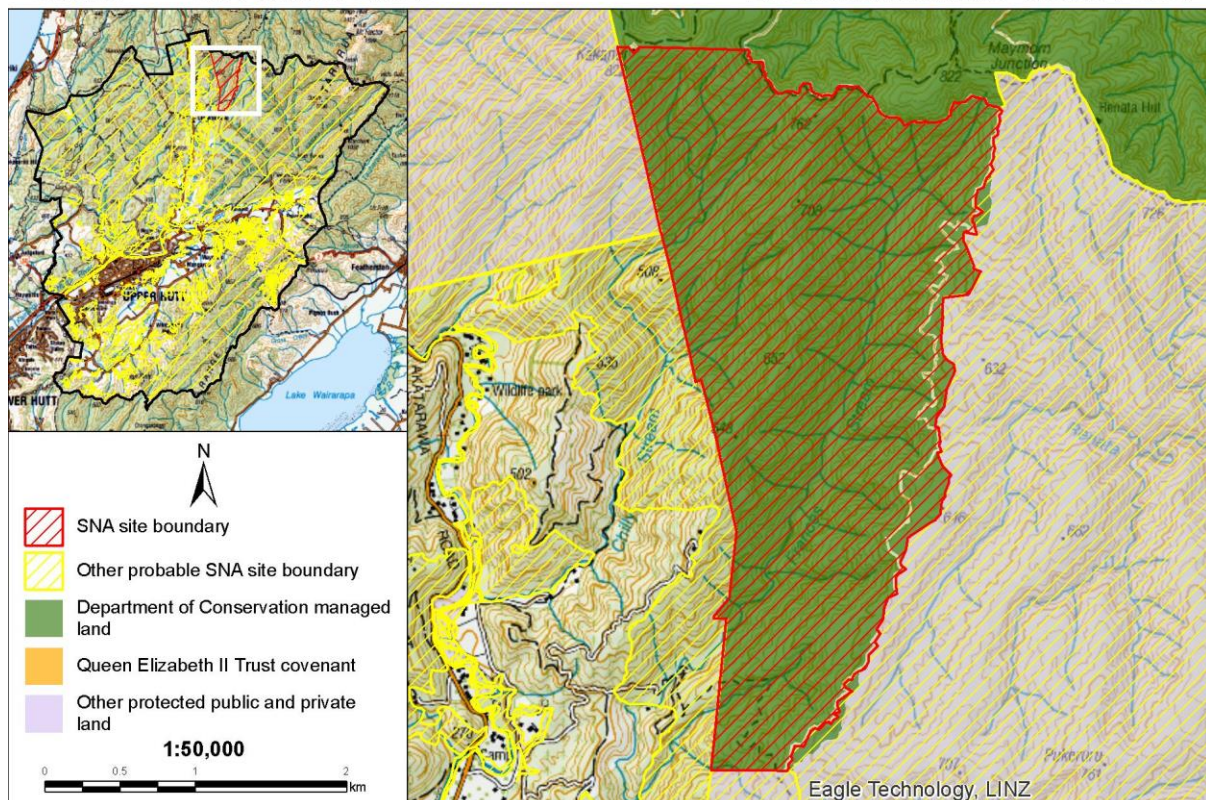
SITE CONTEXT AND OTHER INFORMATION

Ecological District:	Tararua
Ecological Domain(s):	58 Tararua (<550 metres); 59 Tararua (550 metres - Treeline).
Digital Scale:	1:24,000
Altitude Range:	270-815 m a.s.l.

Grid Reference: NZTM E1780887 N5460940
Adjacent Vegetation and Habitats: Indigenous forest.
Notes on Overall Condition: Contains relatively unmodified indigenous forest.
Potential Land Management Issues: Unknown.
Sources of Information for this Site^{Note#}: Google Earth.

Context Site Number: UH022

Site Name: Akatarawa-Tararua Forest



ASSESSED BY

Assessment Techniques: Aerial imagery.
Assessed By: Keely Paler (Date 7/05/2018)
Reviewed By: Steve Rate (Date 27/7/2018)

NOTES

Please note that this statement is based on information available at the time of writing. No site visits were undertaken on private land. Due to the changing nature of ecosystems and surrounding land use, future assessment of the Significant Natural Area may be necessary to reflect any changes in knowledge, values, or boundaries that may influence its assessment as ecologically significant.

The full list of data sources and references used to assess sites is listed in the main body of the report under REFERENCES and also in the EXPLANATORY NOTES in Appendix 9. Aerial

photography (2017 colour) was used to view and evaluate all sites, additional sources such as historic aerial photography in Google Earth, was used to inform site values and improve site boundaries.

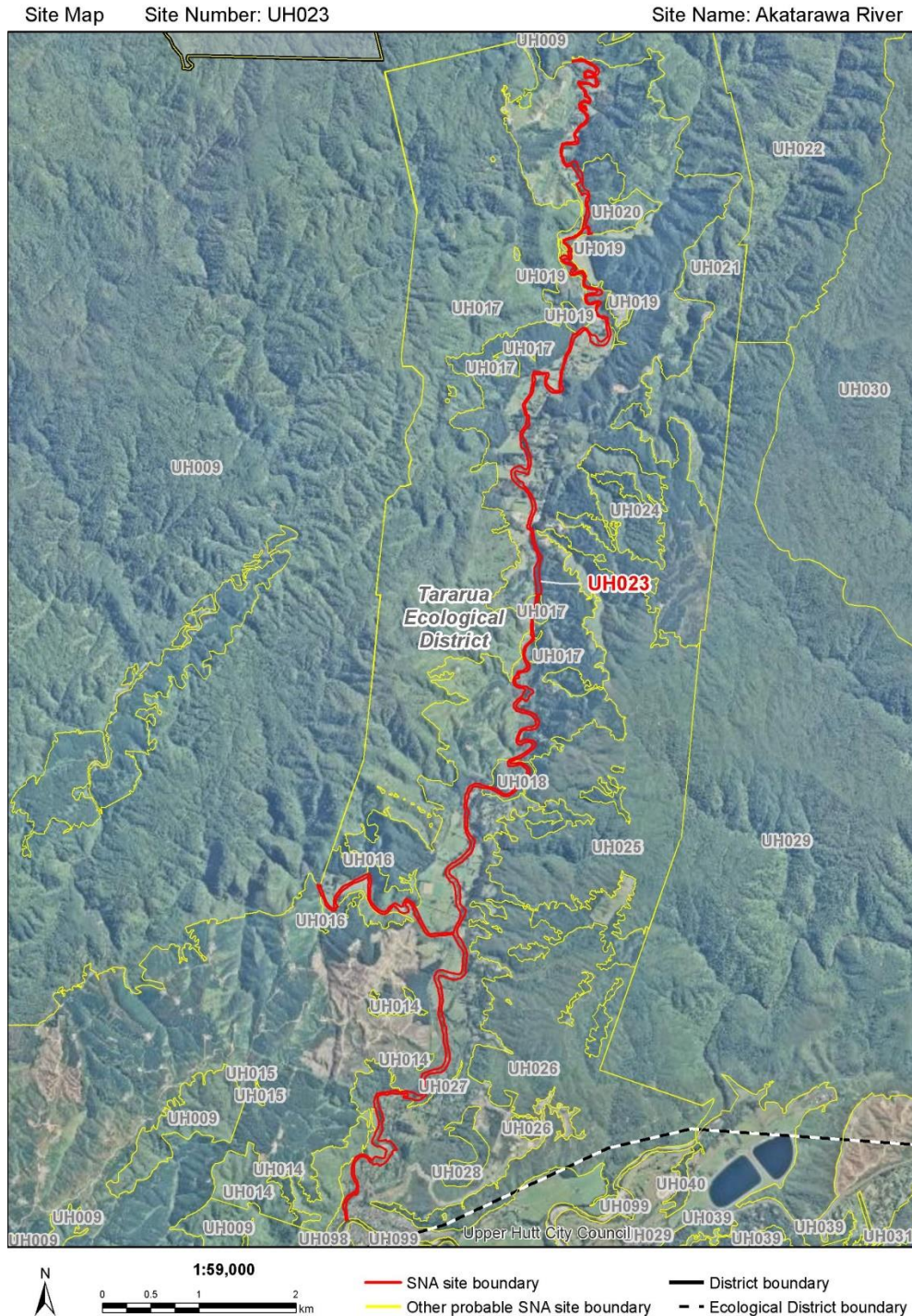
An Explanatory Note is available in Appendix 9, which provides more information about how each of the above fields was collated or assessed.

DRAFT

Akatarawa River

INTRODUCTION

Site Name: Akatarawa River
Site Number: UH023
Site Location: Adjacent to Akatarawa Road.
Site Area: 62.94 ha.
Current Protection Status: Site is partially legally protected.
Protection Type: UHCC park; Esplanade strip; QEII covenant; GWRC water collection area; GWRC park; Covenant.



Site Summary: The Akatarawa River has been identified in the Proposed Natural Resources plan as providing important habitat for macroinvertebrates and indigenous fish, including the Threatened-Nationally Vulnerable lamprey (*Geotria australis*), the At Risk-Declining bluegill bully (*Gobiomorphus hubbsi*), dwarf galaxias (*Galaxias divergens*), kōaro (*Galaxias brevipinnis*), longfin eel (*Anguilla dieffenbachia*), and redfin bully (*Gobiomorphus huttoni*), and the Not Threatened banded kōkopu (*Galaxias fasciatus*), Cran's bully (*Gobiomorphus basalis*), and shortfin eel (*Anguilla australis*). It has also been identified as an important river for trout fishing and spawning. Bush falcon (*Falco novaeseelandiae ferox*; At Risk-Recovering) have been recorded at the site and it is also likely to provide habitat for other indigenous birds and is a major watercourse from the Akatarawa forest and surrounding areas feeding into the Te Awa Kairangi/Hutt River.

IMPORTANT FEATURES

Threatened Indigenous Flora:	No rare plant species are known from the site
Threatened Indigenous Fauna:	Lamprey (<i>Geotria australis</i> ; Threatened-Nationally Vulnerable), four At Risk-Declining fish species including koaro (<i>Galaxias brevipinnis</i>), longfin eel (<i>Anguilla dieffenbachia</i>), bluegill bully (<i>Gobiomorphus hubbsi</i>), and redfin bully (<i>Gobiomorphus huttoni</i>) and Not Threatened shortfin eel (<i>Anguilla australis</i>), Cran's bully (<i>Gobiomorphus basalis</i>), and kōura (<i>Paranephrops</i>) and Introduced and naturalised brown trout (<i>Salmo trutta</i>). Bush falcon (<i>Falco novaeseelandiae ferox</i> ; At Risk-Recovering) have been recorded at the site. Whitehead (<i>Mohoua albicilla</i> ; At Risk-Declining), long-tailed cuckoo (<i>Eudynamys taitensis</i> ; At Risk-Naturally Uncommon), bellbird (<i>Anthornis melanura melanura</i>) and pied tomtit (<i>Petroica macrocephala toitoi</i> ; both regionally uncommon), and Ngahere gecko (<i>Mokopirirakau</i> "southern North Island"; At Risk-Declining) have been recorded nearby.
Threatened Land Environments:	More than 0.5 hectares on Acutely Threatened land environments (<10% indigenous cover remaining).
Rare Habitats:	No rare habitats or communities known
Geological Features:	None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	No	Very little indigenous, representative vegetation remains, and the current river is probably not representative of its natural flow.
RPS23b: Rarity	Yes	One Threatened, four At Risk fish species, one At Risk bird species. Parts of the river flow through Threatened Land Environments with less than 10% indigenous vegetation remaining.
RPS23c: Diversity	Yes	Still retains good diversity of fish species.
RPS23d: Ecological Context	Yes	Important connectivity between the Te Awa Kairangi/Hutt River and headwater habitats that are largely forested.
RPS23e:	Unknown	Not assessed.

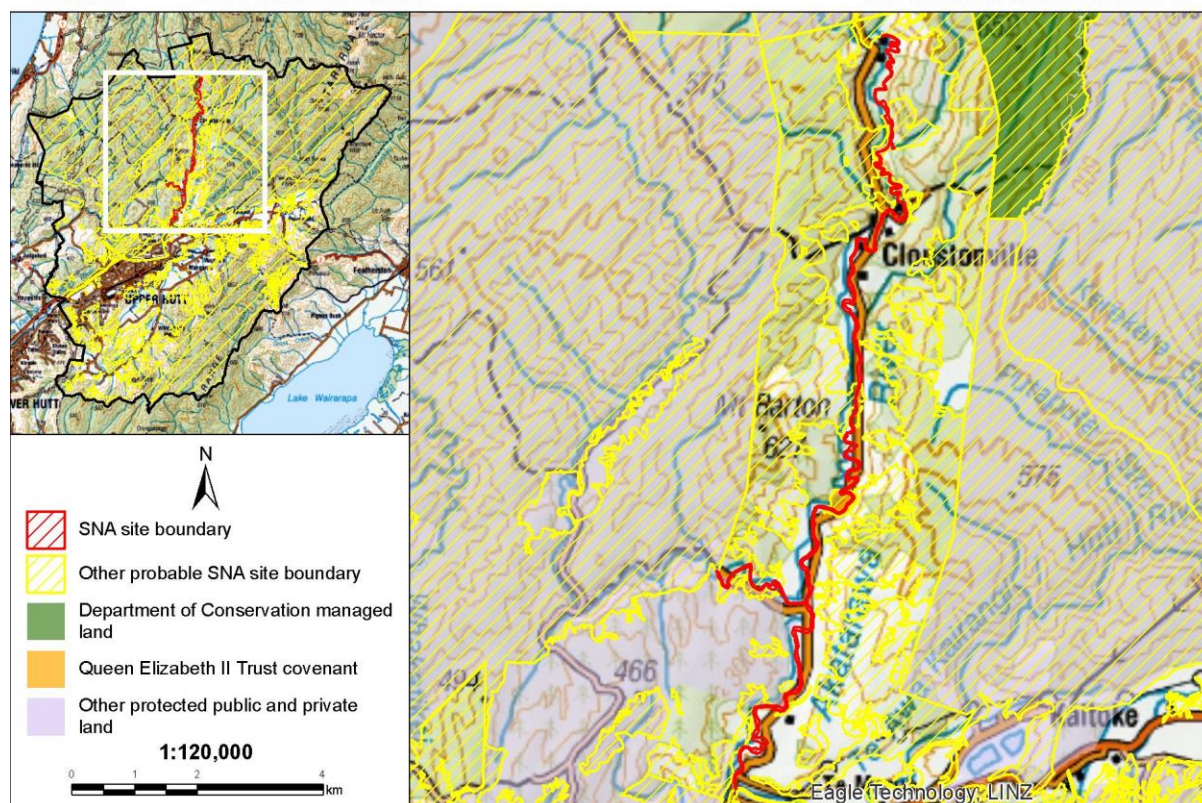
RPS Policy 23 Criteria	Achieved	Assessment
Tangata Whenua Values		
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

Ecological District: Tararua
Ecological Domain(s): 61 Wainuiomata - Hutt - Kaitoke; 58 Tararua (<550 metres)
Digital Scale: 1:58,000
Altitude Range: 75-230 m a.s.l.
Grid Reference: NZTM E1777630 N5454380
Adjacent Vegetation and Habitats: Pasture, road, indigenous forest, pine plantation.
Notes on Overall Condition: Water course has been modified along lower reaches by erosion protection measures.
Potential Land Management Issues: Sediment and contaminant input from surrounding land use could affect water quality.
Sources of Information for this Site ^{Note#:} Google Earth.

Context Site Number: UH023

Site Name: Akatarawa River



ASSESSED BY

Assessment Techniques: Aerial imagery, species databases.
Assessed By: Astrid van Meeuwen-Dijkgraaf (Date 1/08/2018)
Reviewed By: Steve Rate (Date 2/8/2018)

NOTES

Please note that this statement is based on information available at the time of writing. No site visits were undertaken on private land. Due to the changing nature of ecosystems and surrounding land use, future assessment of the Significant Natural Area may be necessary to reflect any changes in knowledge, values, or boundaries that may influence its assessment as ecologically significant.

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Frances Stream forest and scrub

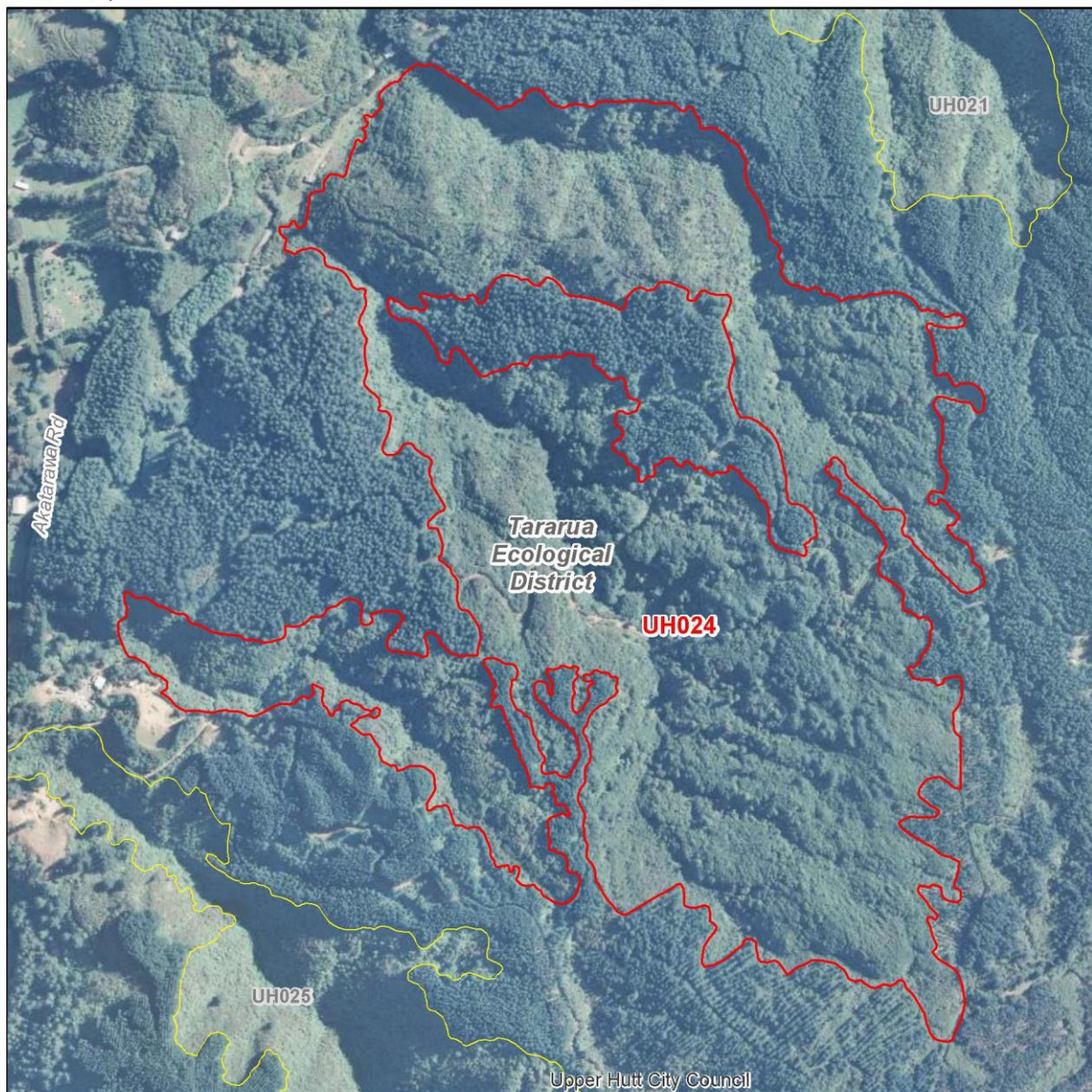
INTRODUCTION

Site Name: Frances Stream forest and scrub
Site Number: UH024
Site Location: East of Akatarawa Road at Cloustonville.
Site Area: 67.53 ha.
Current Protection Status: Site has no legal protection.
Protection Type: Not applicable.

Site Map

Site Number: UH024

Site Name: Frances Stream forest and scrub



— SNA site boundary

— Other probable SNA site boundary

— District boundary

- - Ecological District boundary

Site Summary: This moderately large area near Cloustonville is likely to comprise beech forest, podocarp-kāmahi forest, mānuka (*Leptospermum scoparium*; At Risk-Declining^{Note##}) forest and scrub, and broadleaved forest and scrub. The site includes a number of small tributaries of Frances Stream, a waterway which is identified in the Proposed Natural Resources Plan as providing important trout spawning habitat and is likely to have freshwater fish values.

IMPORTANT FEATURES

Threatened Indigenous Flora: Mānuka (*Leptospermum scoparium*; At Risk-Declining)^{Note##}.

Threatened Indigenous Fauna: No rare fauna are known from the site.

Threatened Land Environments: More than 0.5 hectares on Acutely Threatened land environments (<10% indigenous cover remaining).

Rare Habitats: No rare habitats or communities known.

Geological Features: None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	The site is likely to include vegetation representative of Singers and Rogers (2014) MF8-Kāmahi, broadleaved, podocarp forest, of which less than 20% is protected in Upper Hutt District.
RPS23b: Rarity	Yes	May contain one At Risk plant species ^{Note##} . Includes indigenous vegetation on land environments with less than 10% indigenous vegetation cover remaining.
RPS23c: Diversity	Yes	Likely to have a natural diversity of ecological units, ecosystems, and species.
RPS23d: Ecological Context	Yes	Provides stepping stone habitat for birds along Akatarawa Road and between Akatarawa Forest and Kaitoke Regional Park.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

Ecological District: Tararua

Ecological Domain(s): 58 Tararua (<550 metres).

Digital Scale: 1:9,000

Altitude Range: 175-455 m a.s.l.

Grid Reference: NZTM E1779062 N5456498

Adjacent Vegetation and Habitats: Pine plantation.

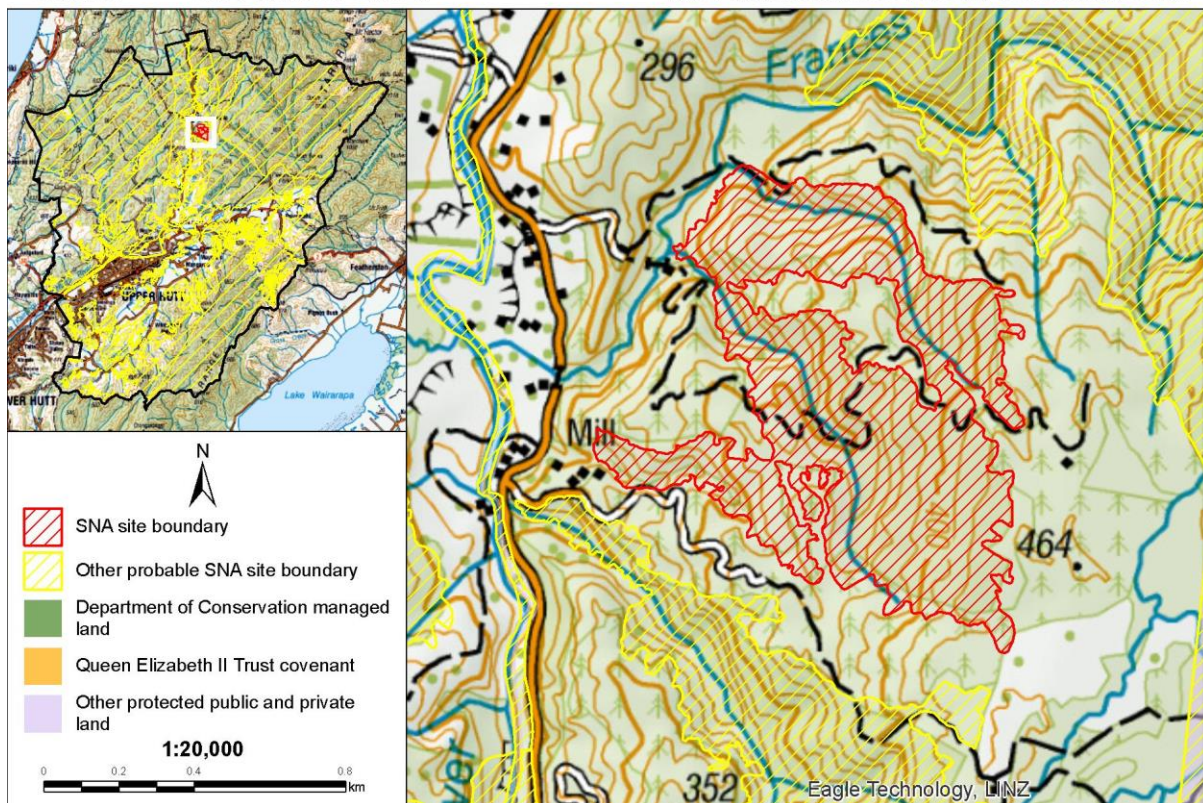
Upper Hutt District Plan - Significant Natural Area Assessment - Significance Statement

Notes on Overall Condition: Contains mature indigenous forest in the gullies, which appears to be in a relatively unmodified state. May include some areas of earlier successional scrub, which may contain some gorse, on the ridges. Dissected by tracks in some areas.

Potential Land Management Issues: Access to and harvesting of pine plantations.

Sources of Information for this Site^{Note#}: Google Earth, Historic aerial imagery.

Context Site Number: UH024 Site Name: Frances Stream forest and scrub



ASSESSED BY

Assessment Techniques: Aerial imagery.
Assessed By: Keely Paler (Date 7/05/2018)
Reviewed By: Steve Rate (Date 27/7/2018)

NOTES

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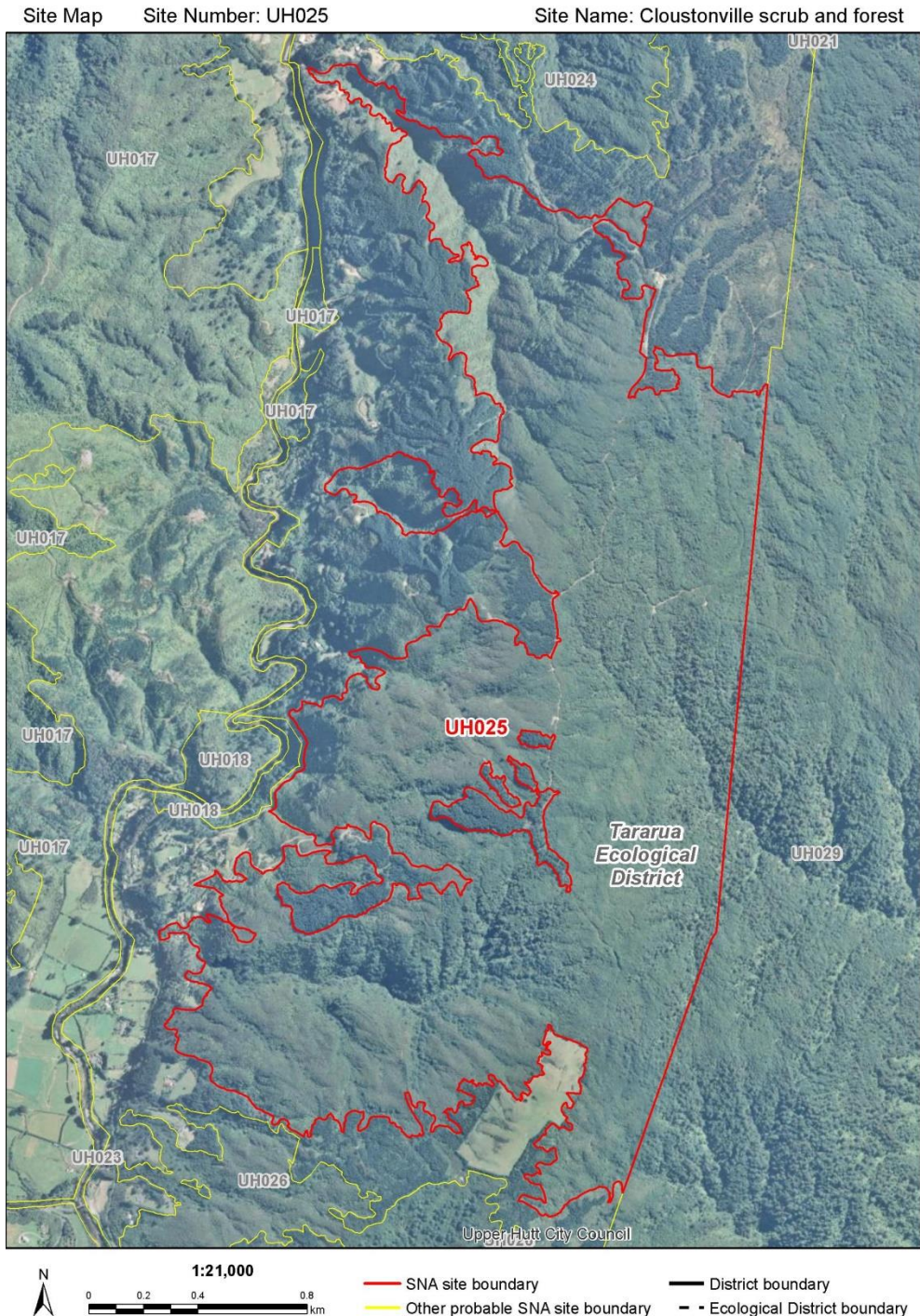
Mānuka (*Leptospermum scoparium*) has a national-level threat classification of At Risk-Declining, as per de Lange *et al.* 2018. Mānuka is a Myrtaceae species which is at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of mānuka has been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of mānuka at this site does not trigger the rarity criteria because the species is currently common and widespread in the local environment.

DRAFT

Cloustonville scrub and forest

INTRODUCTION

Site Name: Cloustonville scrub and forest
Site Number: UH025
Site Location: Akatarawa Road, west of Kaitoke Forest Park.
Site Area: 429.58 ha.
Current Protection Status: Site has no legal protection.
Protection Type: Not applicable.



Site Summary: This large site is located east of Akatarawa Road and acts as a buffer for Kaitoke Regional Park. Vegetation types include beech forest, kāmahī forest, mānuka (*Leptospermum scoparium*; At Risk-Declining^{Note##}) forest and scrub, tree fern fernland and broadleaved forest and scrub. This site may retain small areas of gorse. These vegetation types are likely to provide habitat for birds, including the bush falcon (*Falco novaeseelandiae ferox*; At Risk-Recovering) and long-tailed cuckoo (*Eudynamys taitensis*; At Risk-Naturally Uncommon) which have been recorded nearby. This site provides riparian protection to a number of other tributaries of the Akatarawa River, which are likely to provide habitat for freshwater species.

IMPORTANT FEATURES

Threatened Indigenous Flora:	Mānuka (<i>Leptospermum scoparium</i> ; At Risk -Declining) ^{Note##} .
Threatened Indigenous Fauna:	Bush falcon (<i>Falco novaeseelandiae ferox</i> ; At Risk-Recovering) and long-tailed cuckoo (<i>Eudynamys taitensis</i> ; At Risk-Naturally Uncommon) reported nearby, and could use this site.
Threatened Land Environments:	More than 0.5 hectares on Acutely Threatened land environments (<10% indigenous cover remaining).
Rare Habitats:	No rare habitats or communities known.
Geological Features:	None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

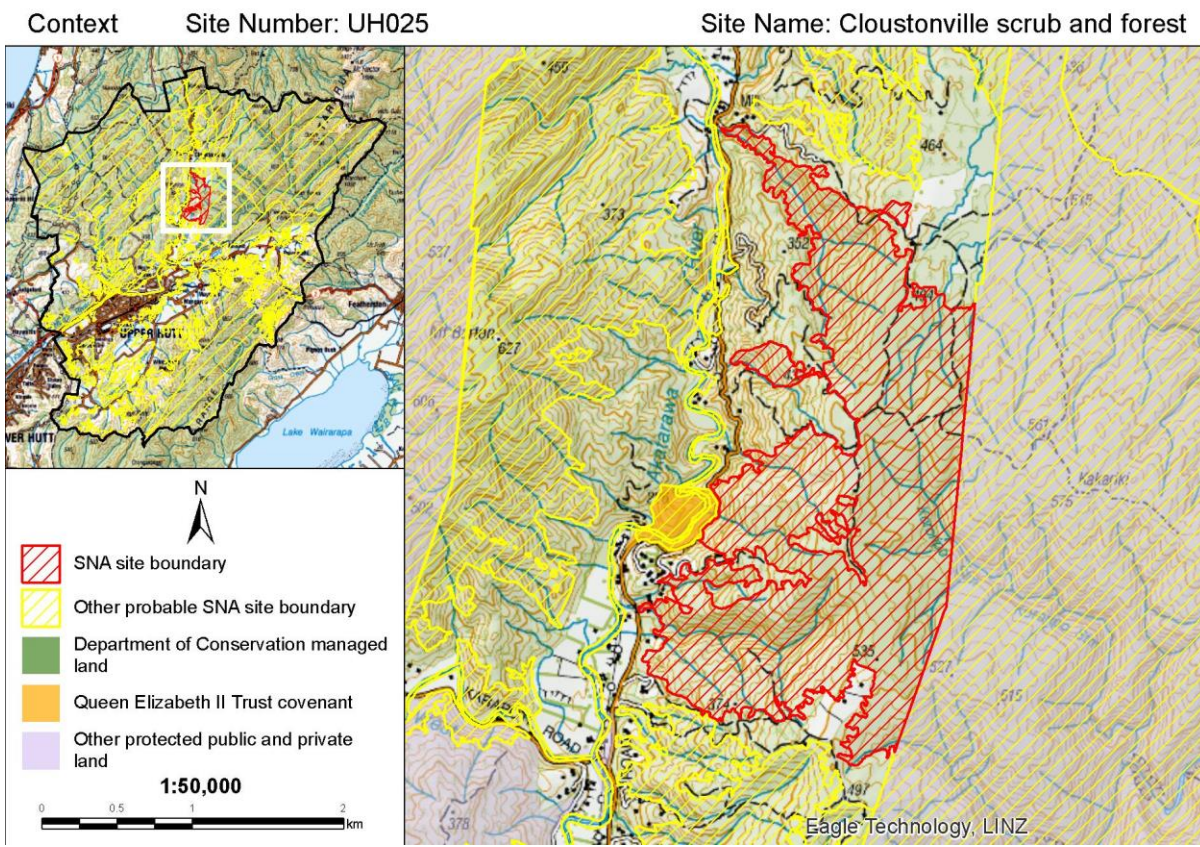
RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	The site includes areas of forest representative of Singers and Rogers (2014) vegetation types: MF8-Kāmahī, broadleaved, podocarp forest, and MF5-Black beech forest, of which there is less than 20% is protected in Upper Hutt District.
RPS23b: Rarity	Yes	One At Risk plant species ^{Note##} and one At Risk bird species. Includes indigenous vegetation on land environments with less than 10% indigenous vegetation cover remaining.
RPS23c: Diversity	Yes	Contains a moderate-high diversity of vegetation types.
RPS23d: Ecological Context	Yes	Contiguous with and buffers indigenous forest within Kaitoke Regional Park.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

Ecological District:	Tararua
Ecological Domain(s):	58 Tararua (<550 metres); 61 Wainuiomata - Hutt - Kaitoke.
Digital Scale:	1:21,000

Upper Hutt District Plan - Significant Natural Area Assessment - Significance Statement

Altitude Range: 135-540 m a.s.l.
Grid Reference: NZTM E1778933 N5453820
Adjacent Vegetation and Habitats: Indigenous forest, plantation forest, rural residential, pasture.
Notes on Overall Condition: The eastern part contains mature forest, whilst the western parts are comprised of higher proportions of regenerating forest and scrub, dissected by stands of pine and a few old tracks. The site contains some wilding pines and potentially small areas of gorse.
Potential Land Management Issues: Managing wilding pine, also still some areas of gorse.
Sources of Information for this Site ^{Note#:} Google Earth.



ASSESSED BY

Assessment Techniques: Aerial imagery.
Assessed By: Keely Paler (Date 7/04/2018)
Reviewed By: Steve Rate (Date 27/7/2018)

NOTES

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Mānuka (*Leptospermum scoparium*) has a national-level threat classification of At Risk-Declining, as per de Lange *et al.* 2018. Mānuka is a Myrtaceae species which is at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of mānuka has been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of mānuka at this site does not trigger the rarity criteria because the species is currently common and widespread in the local environment.

DRAFT

Fairview forest and scrub

INTRODUCTION

Site Name: Fairview forest and scrub
Site Number: UH026
Site Location: Akatarawa Cemetery Road, Fairview. Southwest of Kaitoke Forest Park.
Site Area: 387.65 ha.
Current Protection Status: Site has no legal protection.
Protection Type: Not applicable.



Site Summary: This site extends from the southwestern boundary of Kaitoke Forest Park to the margins of the Te Awa Kairangi/Hutt River. The vegetation comprises regenerating indigenous forest and scrub and includes an altitudinal gradient of 130 to 470 metres above sea level. Habitats present include beech forest, beech-kāmahi-podocarp forest, kāmahi-broadleaved forest, mānuka (*Leptospermum scoparium*; At Risk-Declining^{Note###})-dominated forest, scrub and shrubland, and broadleaved forest comprised of māhoe, five-finger, rewarewa, kotukutuku, tawa, treefern, and kanono. Podocarp species of local interest include tōtara (*Podocarpus totara*), kahikatea (*Dacrydium cupressinum*) and rimu (*Dacrydium cupressinum*). Pest plant species present include wilding pine and cherry. The site buffers Kaitoke Forest and provides a linkage for mobile species between Akatarawa Forest and Kaitoke Forest Park. Streams are in good condition and provide habitat for freshwater fish species, including longfin eel (*Anguilla dieffenbachii*; At Risk-Declining). Bird species such as bush falcon (*Falco novaeseelandiae ferox*; At Risk-Recovering) and the regionally uncommon bellbird (*Anthornis melanura melanura*) are known to occur at this site.

IMPORTANT FEATURES

Threatened Indigenous Flora:	Mānuka (<i>Leptospermum scoparium</i> ; At Risk -Declining) ^{Note##} .
Threatened Indigenous Fauna:	Longfin eel (<i>Anguilla dieffenbachii</i> ; At Risk-Declining), bush falcon (<i>Falco novaeseelandiae ferox</i> ; At Risk-Recovering) and regionally uncommon bellbird (<i>Anthornis melanura</i>) have been recorded at the site. At Risk-Declining whitehead (<i>Mohoua albicilla</i>) and regionally uncommon North Island robin (<i>Petroica longipes</i>) and pied tomtit (<i>Petroica macrocephala toitoi</i>) recorded nearby.
Threatened Land Environments:	More than 0.5 hectares on indigenous vegetation on Acutely Threatened land environments (<10% indigenous vegetation cover remaining).
Rare Habitats:	No rare habitats or communities known.
Geological Features:	None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	The site includes vegetation representative of Singers and Rogers (2014) vegetation types: MF20-Hard beech forest, which has less than 20% protected in the Wellington region, and CLF9-Red beech, podocarp forest which has less than 20% protected in Upper Hutt District.
RPS23b: Rarity	Yes	One At Risk plant species ^{Note##} , one At Risk and one regionally uncommon bird species, and one At Risk freshwater species. Includes indigenous vegetation on land environments with less than 10% indigenous vegetation cover remaining.
RPS23c: Diversity	Yes	Forests contain a natural plant species diversity, and diversity of types.
RPS23d: Ecological Context	Yes	Contiguous with and buffers indigenous forest within Kaitoke Regional Park.

RPS Policy 23 Criteria	Achieved	Assessment
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

Ecological District: Tararua, Wellington

Ecological Domain(s): 58 Tararua (<550 metres); 61 Wainuiomata - Hutt - Kaitoke.

Digital Scale: 1:23,000

Altitude Range: 95-505 m a.s.l.

Grid Reference: NZTM E1778404 N5450717

Adjacent Vegetation and Habitats: Plantation forest, pasture, Te Awa Kairangi/Hutt River, subdivision development.

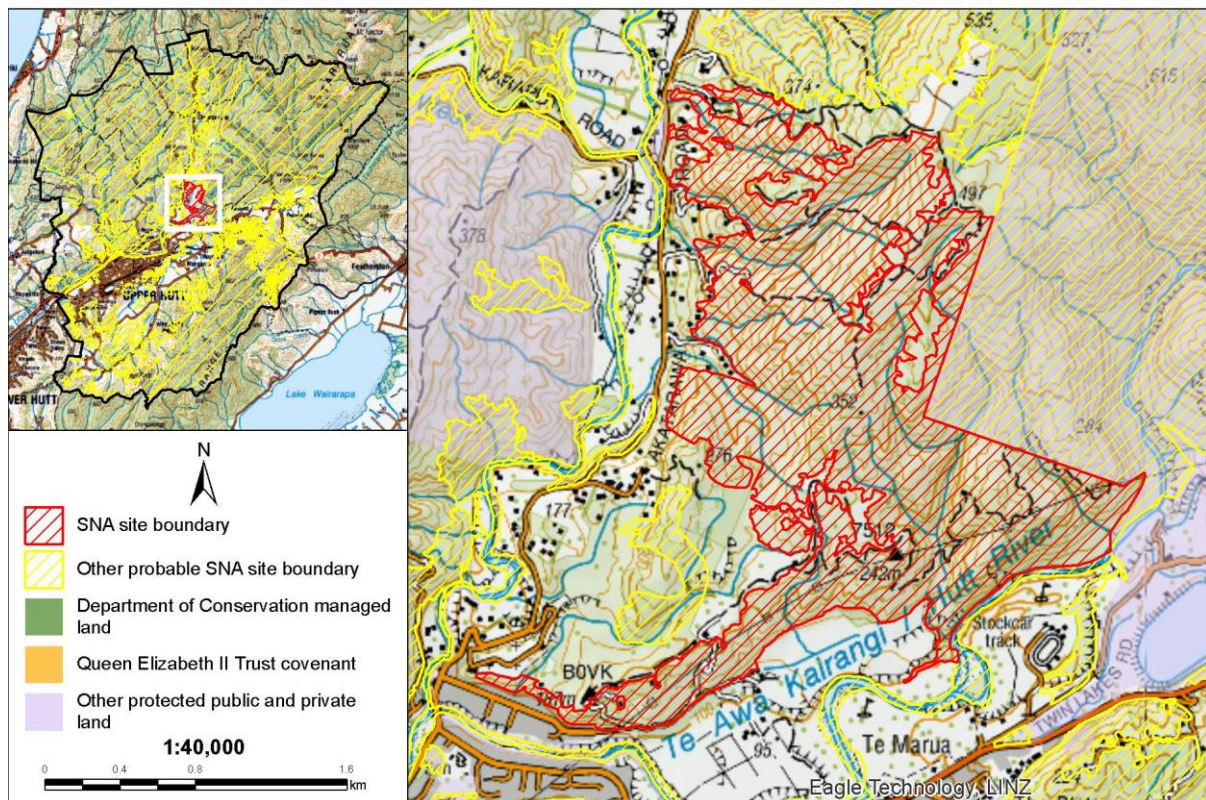
Notes on Overall Condition: Most of the site is regenerating broadleaved forest and scrub, with some wilding pine and cherry trees. Tracking on ridges and site margins.

Potential Land Management Issues: Subdivision could fragment site and introduce novel weed species, exotic trees need to be controlled.

Sources of Information for this Site ^{Note#:} Wildland Consultants 2013, Wildland Consultants 2014.

Context Site Number: UH026

Site Name: Fairview forest and scrub



ASSESSED BY

Assessment Techniques: Species database, aerial imagery, partial road side viewing (large part not visible).
Assessed By: Keely Paler (Date 7/02/2018)
Reviewed By: Steve Rate (Date 27/7/2018)

NOTES

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Mānuka (*Leptospermum scoparium*) has a national-level threat classification of At Risk-Declining, as per de Lange *et al.* 2018. Mānuka is a Myrtaceae species which is at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of mānuka has been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of mānuka at this site does not trigger the rarity criteria because the species is currently common and widespread in the local environment.

Akatarawa River scrub

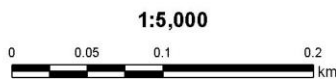
INTRODUCTION

Site Name: Akatarawa River scrub
Site Number: UH027
Site Location: West of the intersection between Crest Road and Akatarawa Road.
Site Area: 2.79 ha.
Current Protection Status: Site has no legal protection.
Protection Type: Not applicable.

Site Map

Site Number: UH027

Site Name: Akatarawa River scrub



— SNA site boundary

— Other probable SNA site boundary

— District boundary

- - Ecological District boundary

Site Summary: This site comprises māhoe scrub with other broadleaved species on a bank above the Akatarawa River, a watercourse which has been identified in the Proposed Natural Resources Plan as providing important habitat for macroinvertebrates and indigenous fish. The site includes indigenous vegetation on land environments with less than 10% indigenous vegetation cover remaining. Indigenous vegetation is present on slopes with high steepness (21-30°), and therefore provide erosion protection and may protect an old river terrace. Some non-indigenous plant species are present. Whitehead (*Mohoua albicilla*; At Risk-Declining) have been recorded at the site. Bush falcon (*Falco novaeseelandiae ferox*; At Risk-Recovering) has been recorded nearby and may use habitat within the SNA.

IMPORTANT FEATURES

Threatened Indigenous Flora:	No rare flora are known from the site.
Threatened Indigenous Fauna:	Whitehead (<i>Mohoua albicilla</i> ; At Risk-Declining) has been recorded at the site. Bush falcon (<i>Falco novaeseelandiae ferox</i> ; At Risk-Recovering) has been recorded nearby.
Threatened Land Environments:	Just <0.5 hectares on Acutely Threatened land environments (<10% indigenous cover remaining).
Rare Habitats:	No rare habitats or communities known.
Geological Features:	None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	No	The site contains limited elements representative of pre-human vegetation types.
RPS23b: Rarity	Yes	Indigenous vegetation on land environments with less than 10% indigenous vegetation cover remaining. One At Risk bird species.
RPS23c: Diversity	No	Modified and likely to have a low natural diversity of species.
RPS23d: Ecological Context	Yes	Buffers the Akatarawa River and increases connectivity between forested sites in the area.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

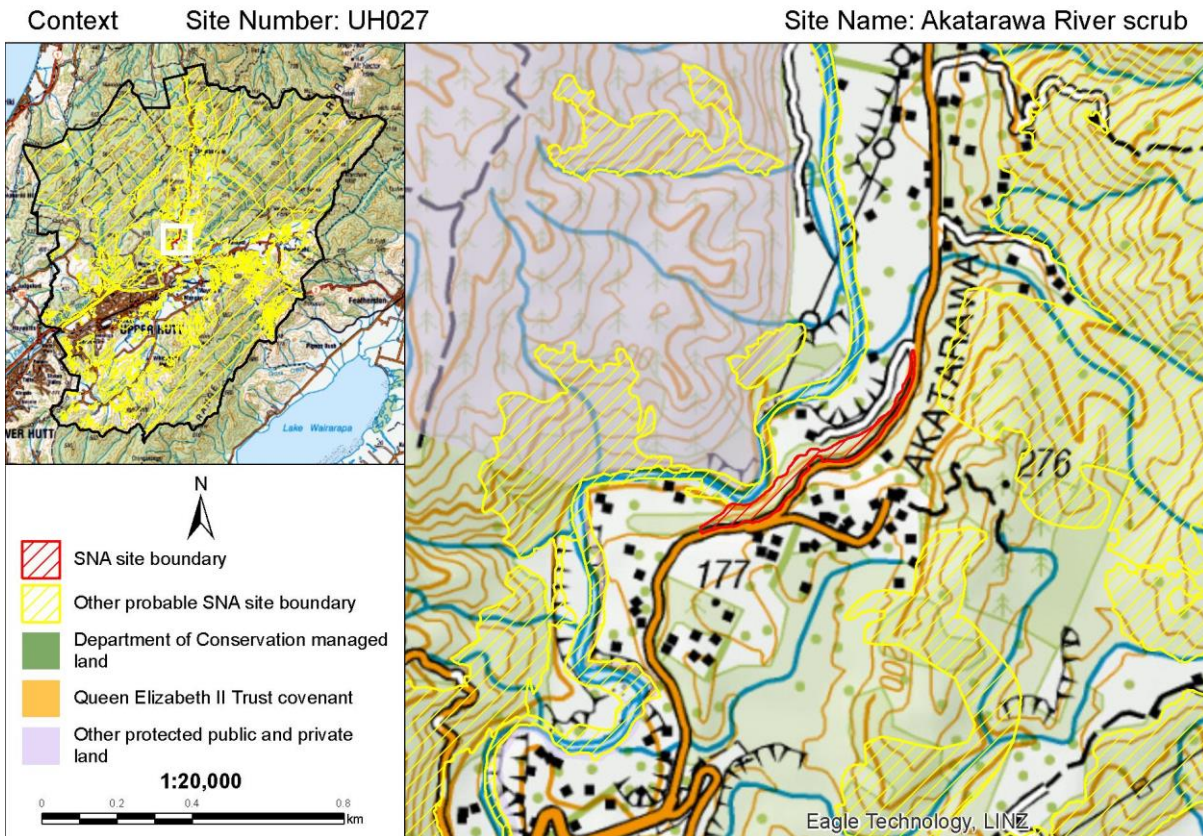
Ecological District:	Tararua
Ecological Domain(s):	61 Wainuiomata - Hutt - Kaitoke.
Digital Scale:	1:5,000
Altitude Range:	100-150 m a.s.l.
Grid Reference:	NZTM E1777104 N5450439

Adjacent Vegetation and Habitats: Rural residences, road.

Notes on Overall Condition: Includes wilding eucalyptus, pine and cherry trees, as well as the invasive old man’s beard (*Clematis vitalba*) and *Tradescantia fluminensis*.

Potential Land Management Issues: Pest plant control required, and residential development could affect values.

Sources of Information for this Site ^{Note#:} Google Earth.



ASSESSED BY

Assessment Techniques: Aerial imagery, partial road side viewing (large part not visible).

Assessed By: Keely Paler (Date 7/05/2018)

Reviewed By: Steve Rate (Date 27/7/2018)

NOTES

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photography (2017 colour) was used to view and evaluate all sites, additional sources such as historic aerial photography in Google Earth, was used to inform site values and improve site boundaries.

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DRAFT

Gillespies Stream beech forest

INTRODUCTION

Site Name: Gillespies Stream beech forest
Site Number: UH028
Site Location: Crest Road, Birchville.
Site Area: 19.01 ha.
Current Protection Status: Site has no legal biodiversity protection. Although this area should have been covenanted as part of subdivision mitigation.
Protection Type: Not applicable.



Site Summary: The vegetation in this site comprises red beech forest, red beech-kāmahi-treefern forest, and mānuka (*Leptospermum scoparium*; At Risk-Declining)-five finger-māhoe forest and scrub, with smaller areas of riparian gully forest. Swamp maire (*Syzygium maire*; Threatened-Nationally Critical^{Note##}), and two species of local interest; hutu (*Ascarina lucida* var. *lucida*) and toru (*Toronia toru*) known from the site. Indigenous vegetation is present on land environments with less than 10% indigenous vegetation cover remaining and on land environments with between 10-20% indigenous vegetation cover remaining. Longfin eel (*Anguilla dieffenbachii*; At Risk-Declining) has been recorded in Gillespies Stream. Bush Falcon (*Falco novaeseelandiae ferox*; At Risk-Recovering) and whitehead (*Mohoua albicilla*; At Risk-Declining) have been recorded nearby and may use habitat within this SNA.

IMPORTANT FEATURES

Threatened Indigenous Flora:	Swamp maire (<i>Syzygium maire</i> ; Threatened-Nationally Critical ^{Note##}), mānuka (<i>Leptospermum scoparium</i> ; At Risk-Declining ^{Note##}), and two species of local interest; hutu (<i>Ascarina lucida</i> var. <i>lucida</i>) and toru (<i>Toronia toru</i>) known from the site.
Threatened Indigenous Fauna:	Longfin eel (At Risk-Declining) has been recorded in Gillespies Stream. Bush falcon (<i>Falco novaeseelandiae ferox</i> ; At Risk-Recovering) and whitehead (<i>Mohoua albicilla</i> ; At Risk-Declining) have been recorded nearby.
Threatened Land Environments:	More than 0.5 ha of indigenous vegetation on Acutely Threatened land environments (<10% indigenous vegetation cover remaining).
Rare Habitats:	No rare habitats or communities known.
Geological Features:	None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	This site includes beech forest representative of Singers and Rogers (2014) vegetation type: MF20-Hard beech forests, which have less than 20% protected in Wellington region.
RPS23b: Rarity	Yes	One Threatened and one At Risk plant species ^{Note##} and one At Risk freshwater species. Indigenous vegetation on land environments where less than 10% indigenous vegetation cover remains.
RPS23c: Diversity	Yes	Has a natural diversity of ecological units, ecosystems, and species.
RPS23d: Ecological Context	Yes	Buffers Gillespies Stream which provides habitat for At Risk species; Provides connectivity around Kaitoke Regional Park.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

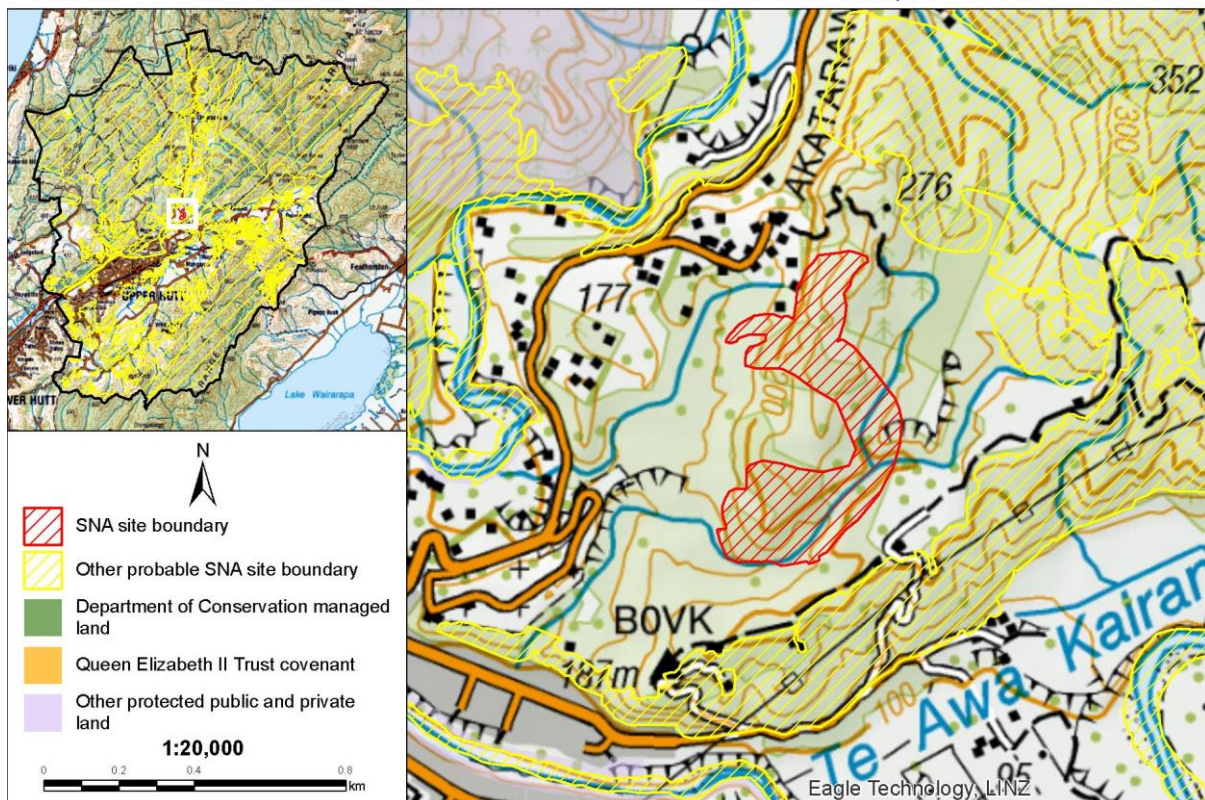
SITE CONTEXT AND OTHER INFORMATION

Ecological District: Tararua
Ecological Domain(s): 61 Wainuiomata - Hutt - Kaitoke.
Digital Scale: 1:6,000
Altitude Range: 150-265 m a.s.l.
Grid Reference: NZTM E1777441 N5449817
Adjacent Vegetation and Habitats: Cemetery, pine forest/treeland, indigenous/exotic scrub.
Notes on Overall Condition: Pines present (although some have ben subject to pest plant control operations). There is an adjacent population of Japanese (or Asiatic) knotweed (*Fallopia japonica*) - a GWRC surveillance species. Some gorse is still present.
Potential Land Management Issues: Control of pest plant species, residential development in the adjacent Fairview estate.
Sources of Information for this Site ^{Note#:} Wildland Consultants 2012.

DRAFT

Context Site Number: UH028

Site Name: Gillespies Stream beech forest



ASSESSED BY

Assessment Techniques: Literature review, aerial imagery, road side viewing.
Assessed By: Keely Paler (Date 7/02/2018)
Reviewed By: Steve Rate (Date 27/7/2018)

NOTES

Please note that this statement is based on information available at the time of writing. No site visits were undertaken on private land. Due to the changing nature of ecosystems and surrounding land use, future assessment of the Significant Natural Area may be necessary to reflect any changes in knowledge, values, or boundaries that may influence its assessment as ecologically significant.

An Explanatory Note is available in Appendix 9, which provides more information about how each of the above fields was collated or assessed.

The full list of data sources and references used to assess sites is listed in the main body of the report under REFERENCES and also in the EXPLANATORY NOTES in Appendix 9. Aerial photography (2017 colour) was used to view and evaluate all sites, additional sources such as historic aerial photography in Google Earth, was used to inform site values and improve site boundaries.

Swamp maire and mānuka have national-level threat classifications as per de Lange *et al.* 2018; Swamp maire (*Syzygium maire*; Threatened-Nationally Critical), and mānuka (*Leptospermum scoparium*; At Risk-Declining). They are Myrtaceae species which are at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of swamp maire and mānuka have been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of swamp maire or mānuka at this site does not trigger the rarity criteria because the species are currently widespread in the local environment.

Kaitoke Regional Park and Te Mārua forest

INTRODUCTION

Site Name: Kaitoke Regional Park and Te Mārua forest
Site Number: UH029
Site Location: In the southern foothills of the Tararua Range, approximately 7 km northeast of Upper Hutt and 16 km southeast of Waikanae.
Site Area: 2,650.24 ha.
Current Protection Status: Site is partially legally protected.
Protection Type: GWRC park; UHCC park; GWRC water collection area.



Site Summary: This SNA comprises the majority of the Kaitoke Regional Park and Te Mārua Key Native Ecosystem (KNE), excluding areas with human-made structures, water storage lakes, water treatment plant and the cleared land surrounding them. The Kaitoke and Te Mārua KNE is a large area of rising hill country steeply incised by the Te Awa Kairangi/Hutt River and several small tributaries, and also includes the Te Awa Kairangi/Hutt River and Pakurātāhi River flats at Te Mārua and Kaitoke. The headwaters of the Te Awa Kairangi/Hutt River (scheduled as Outstanding Waterbodies in the GWRC Proposed Natural Resources Plan) run through this site. This site contains Te Mārua Bush; a significant one hectare remnant of lowland river terrace forest containing three species of local interest mataī (*Prumnopitys taxifolia*), tōtara (*Podocarpus totara*) and black maire (*Nestegis cunninghamii*). The forest over the wider SNA includes podocarp/broadleaf/beechn forest with a large component of beech. Hard and black beech are common on the lowland hills, and red beech dominates on damper more fertile sites, grading into silver beech at higher elevations. In the gorges and terraces of the Te Awa Kairangi/Hutt River, mataī (*Prumnopitys taxifolia*; of local interest), northern rātā (*Metrosideros robusta*; Threatened-Nationally Vulnerable^{Note##}) and kahikatea (*Dacrycarpus dacrydioides*; of local interest) emerge over a canopy of kāmahī, hīnau, miro (*Prumnopitys ferruginea*; of local interest), tawa and black and swamp maire (*Syzygium maire*; Threatened-Nationally Critical^{Note##}), with many understory species present. In the Kororipo and Putaputa streams, northern rātā, rimu (*Dacrydium cupressinum*; of local interest), miro and pukatea mix with kāmahī, silver beech, and red beech in a largely podocarp forest. Small areas of tawa-tītoki forest are also present near Benge Stream. Orchid species are common, including the greenhood orchid (*Pterostylis tasmanica*; Threatened-Nationally Vulnerable). Other species of interest include Kirk’s daisy (*Brachyglottis kirkii* var. *kirkii*; Threatened-Nationally Vulnerable), red mistletoe (*Peraxilla tetrapetala*; At Risk-Declining), scarlet mistletoe (*Peraxilla colensoi*; At Risk-Declining), the At Risk-Naturally Uncommon *Caladenia minor*, *Caladenia variegata*, *Calochilus paludosus*, *Corunastylis nuda*, and *Pterostylis foliata*, and the regionally uncommon gully tree fern (*Cyathea cunninghamii*) and raukawa (*Raukawa edgerleyi*). Bird species recorded include the Threatened-Nationally Critical grey duck (*Anas superciliosa*), the Threatened-Nationally Vulnerable North Island kaka (*Nestor meridionalis septentrionalis*), At Risk-Naturally Uncommon long-tailed cuckoo (*Eudynamys taitensis*), and little black shag (*Phalacrocorax sulcirostris*), the At Risk-Recovering bush falcon (*Falco novaeseelandiae ferox*), the At Risk-Declining rifleman (*Acanthisitta chloris*) and whitehead (*Mohoua albicilla*), and the regionally uncommon North Island robin (*Petroica longipes*), bellbird (*Anthornis melanura*), and tomtit (*Petroica macrocephala toitoi*). Reptile species include Ngahere gecko (*Mokopirirakau* “southern North Island”; At Risk-Declining). Freshwater fish and invertebrate species include the At Risk-Declining longfin eel (*Anguilla dieffenbachii*), kōaro (*Galaxias brevipinnis*), dwarf galaxias (*Galaxias divergens*), bluegill bully (*Gobiomorphus hubbsi*), and redfin bully (*Gobiomorphus huttoni*), and the Not Threatened kōura and shortfin eel. This site also contains the Kaitoke Waterworks Weir (GWRC PNRP-Historic Freshwater Site).

IMPORTANT FEATURES

Threatened Indigenous Flora: Threatened species are swamp maire (*Syzygium maire*; Threatened-Nationally Critical^{Note##}), northern rātā (*Metrosideros robusta*; Threatened-Nationally Vulnerable^{Note##}), and greenhood orchid (*Pterostylis tasmanica*; Threatened-

Nationally Vulnerable). At Risk-Declining species include the Kirk's daisy (*Brachyglottis kirkii* var. *kirkii*), scarlet mistletoe (*Peraxilla colensoi*), red mistletoe (*Peraxilla tetrapetala*). At Risk-Naturally Uncommon species recorded are *Caladenia minor*, *Caladenia variegata*, *Calochilus paludosus*, *Corunastylis nuda*, and *Pterostylis foliata*. The Data Deficient *Caladenia minor* is also present. Regionally sparse species include the gully tree fern (*Cyathea cunninghamii*) and raukawa (*Raukaua edgerleyi*). Six species of local interest matai (*Prumnopitys taxifolia*), tōtara (*Podocarpus totara*), black maire (*Nestegis cunninghamii*), kahikatea (*Dacrycarpus dacrydioides*), miro (*Prumnopitys ferruginea*), and rimu (*Dacrydium cupressinum*).

Threatened Indigenous Fauna:

Bird species recorded include the Threatened-Nationally Critical grey duck (*Anas superciliosa*), the Threatened-Nationally Vulnerable North Island kaka (*Nestor meridionalis septentrionalis*), At Risk-Naturally Uncommon long-tailed cuckoo (*Eudynamys taitensis*), and little black shag (*Phalacrocorax sulcirostris*), the At Risk-Recovering bush falcon (*Falco novaeseelandiae ferox*), the At Risk-Declining rifleman (*Acanthisitta chloris*) and whitehead (*Mohoua albicilla*), and the regionally uncommon North Island robin (*Petroica longipes*), bellbird (*Anthornis melanura*), and tomtit (*Petroica macrocephala toitoi*). Reptile species include Ngahere gecko (*Mokopirirakau* "southern North Island"; At Risk-Declining). Freshwater fish and invertebrate species include the At Risk-Declining longfin eel (*Anguilla dieffenbachii*), kōaro (*Galaxias brevipinnis*), dwarf galaxias (*Galaxias divergens*), bluegill bully (*Gobiomorphus hubbsi*), and redfin bully (*Gobiomorphus huttoni*), and the Not Threatened kōura and shortfin eel.

Threatened Land Environments:

More than 0.5 hectares on Acutely Threatened land environments (<10% indigenous cover remaining).

Rare Habitats:

Flood plain, podocarp forest is very rare in Wellington Ecological District and the Wellington region.

Geological Features:

None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	Contains vegetation representative of Singers and Rogers (2014) vegetation types: MF20-Hard beech forest, which has less than 20% protected in the Wellington region, and MF8-Kāhahi, broadleaved, podocarp forest, MF5-Black beech forest, CLF9-Red beech, podocarp forest, both of which have less than 20% protected in Upper Hutt District.
RPS23b: Rarity	Yes	Eleven plant ^{Note###} , seven bird, one reptile and five fish species are listed as nationally Threatened or At Risk. One Data Deficient plant species also recorded. Five podocarp species of local interest have been recorded at this site. . Includes indigenous vegetation on land environments with less than 10% indigenous vegetation cover remaining.
RPS23c: Diversity	Yes	Contains a high diversity of vegetation types and species.
RPS23d: Ecological Context	Yes	Large site contiguous with Hutt Water Collection Area KNE, Pakuratahi Forest KNE and close to the Akatarawa Forest KNE.

RPS Policy 23 Criteria	Achieved	Assessment
RPS23e: Tangata Whenua Values	Yes	Ngāti Toa Rangātira; Schedule B in the Proposed Natural Resources Plan-Ngā Taonga Nui a Kiwa (Policies P1 and P20), Schedule H-Contact recreation and Māori use.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

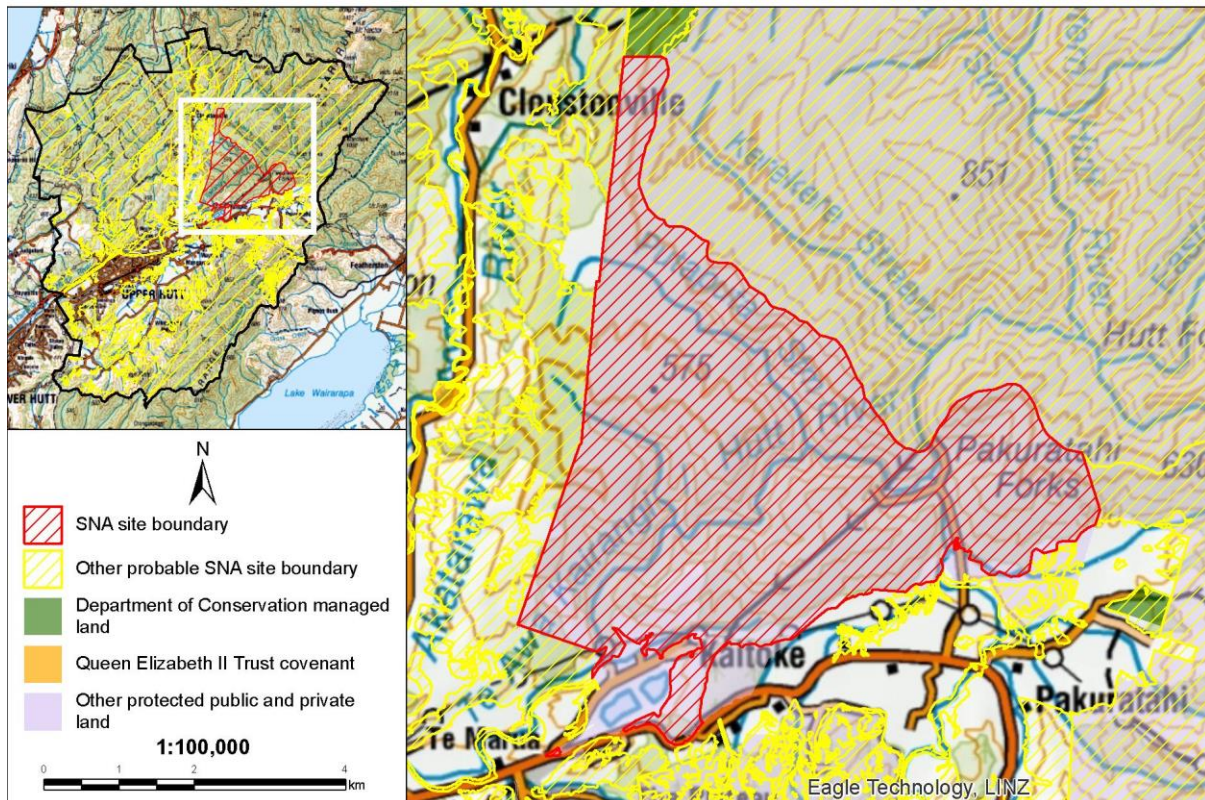
SITE CONTEXT AND OTHER INFORMATION

Ecological District:	Tararua, Wellington
Ecological Domain(s):	58 Tararua (<550 metres); 59 Tararua (550 metres - Treeline); 61 Wainuiomata - Hutt - Kaitoke.
Digital Scale:	1:50,000
Altitude Range:	5-635 m a.s.l.
Grid Reference:	NZTM E1782023 N5452817
Adjacent Vegetation and Habitats:	Hutt Water Collection Area.
Notes on Overall Condition:	Modified by selective logging and the impact of pests. A suite of highly invasive ecological weeds is present, but are mostly sparse and localised. Possums present in low numbers, whilst feral goats, rats and stoats are likely to be present in moderate numbers. Restoration activities occurring in Te Mārua bush.
Potential Land Management Issues:	Pest plant and pest animal control, revegetation (particularly in the southern end of site), human activities, including managing the dumping of garden waste.
Sources of Information for this Site ^{Note#}:	GWRC 2014a.

Context

Site Number: UH029

Site Name: Kaitoke Regional Park and Te Mārua forest



ASSESSED BY

Assessment Techniques: Aerial imagery, species databases.

Assessed By: Keely Paler (Date 7/02/2018)

Reviewed By: Steve Rate (Date 27/7/2018)

NOTES

Please note that this statement is based on information available at the time of writing. No site visits were undertaken on private land. Due to the changing nature of ecosystems and surrounding land use, future assessment of the Significant Natural Area may be necessary to reflect any changes in knowledge, values, or boundaries that may influence its assessment as ecologically significant.

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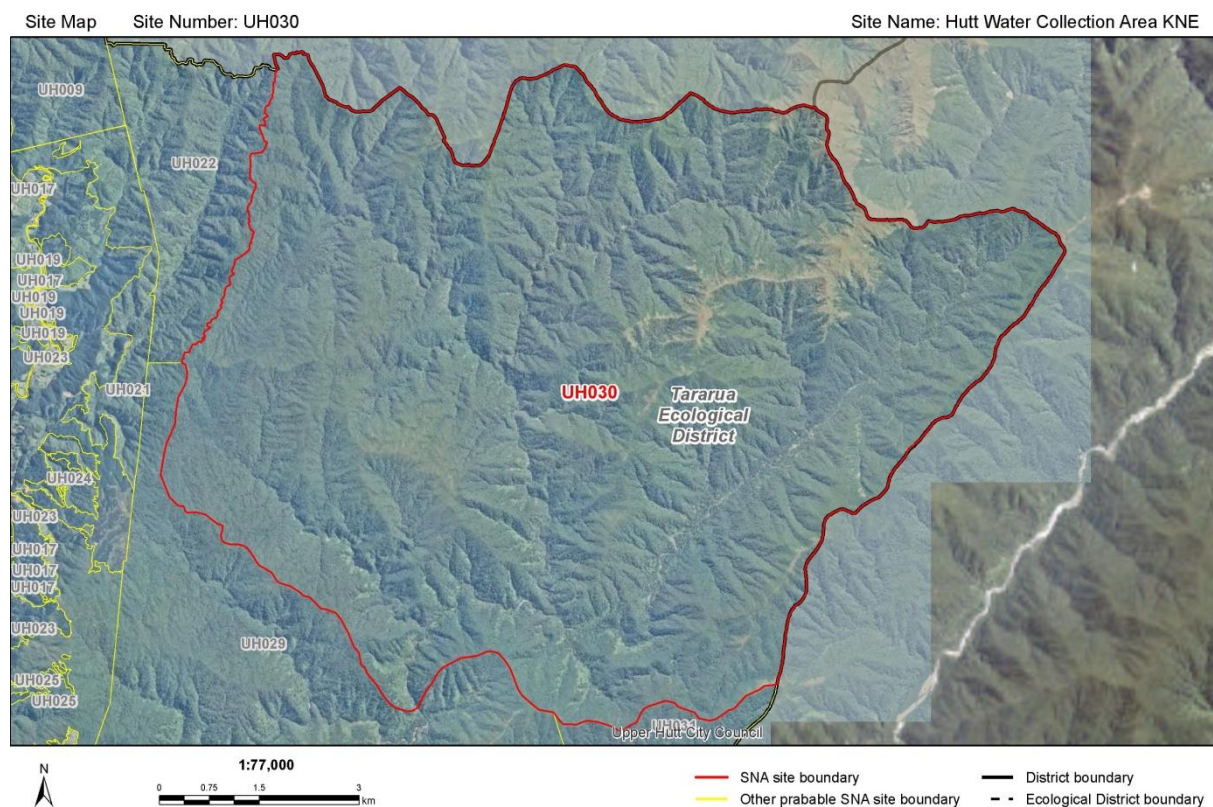
Swamp maire and northern rātā have national-level threat classifications as per de Lange *et al.* 2018; Swamp maire (*Syzygium maire*; Threatened-Nationally Critical), and northern rātā (*Metrosideros robusta*; Threatened-Nationally Vulnerable). They are Myrtaceae species which are at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of swamp maire and northern rātā have been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of swamp maire or northern rātā at this site does not trigger the rarity criteria because the species are currently widespread in the local environment.

DRAFT

Hutt Water Collection Area KNE

INTRODUCTION

Site Name:	Hutt Water Collection Area KNE
Site Number:	UH030
Site Location:	Approximately 13 km northeast of Upper Hutt City in the southern foothills of the Tararua ranges, north of SH2, and 13 km southeast of Waikanae.
Site Area:	8,748.79 ha.
Current Protection Status:	Site is fully legally protected.
Protection Type:	GWRC water collection area; GWRC park.



Site Summary: This SNA is one of the largest areas containing original forest types in the Wellington region. It is currently managed as a protected water supply area. This exposed, mountainous and rugged site contains multiple streams, including the headwaters of Te Awa Kairangi/Hutt River (scheduled as Outstanding Waterbodies in the GWRC Proposed Natural Resources Plan). Four wetlands are present: Phillips Stream Marsh, upper Eastern Hutt Wetland, Maymorn Ridge marsh, and Maymorn Ridge bog. The Omega Bogs and Tarns adjoin the KNE. The Maymorn Wetlands are scheduled as Outstanding Waterbodies in the GWRC Proposed Natural Resources Plan (PNRP). The Maymorn Ridge bog is a domed bog, which is an endangered ecosystem type. Vegetation on the valley floors is dominated by a canopy of hīnau and kāmahi, with emergent rimu (*Dacrydium cupressinum*; of local interest) and rātā (*Metrosideros robusta*, *M. umbellata*; both Threatened-Nationally Vulnerable Note^{###}). Tree fuchsia (*Fuchsia excorticata*) forests are located in some gully heads. Red beech is present above 400 metres above sea level, and red beech-

silver beech forests dominate from 900 to 1,100 metres above sea level. Ridge-top, sub alpine communities are characterised by stunted silver beech, leatherwood, *Dracophyllum filifolium*, *Chionochloa flavescens*, *Gaultheria* species, cushion grasses, and sundew species. Similar communities, but with mountain flax, haumakaroa, ferns, coprosmas and wet turf, and are found on the main ridge-lines. Snow grass areas and fellfields consist of leatherwood, porcupine scrub, *Dracophyllum* species, *Chionochloa flavescens*, *Chionochloa conspicua*, mountain astelia, daisy species, mountain buttercup, and *Gaultheria* species. Plant species of interest include the Threatened-Nationally Vulnerable northern rātā (*Metrosideros robusta*), southern rātā (*Metrosideros umbellata*), and greenhood orchid (*Pterostylis tasmanica*). At Risk-Declining species include the Kirk's daisy (*Brachyglottis kirkii* var. *kirkii*), scarlet mistletoe (*Peraxilla colensoi*), and red mistletoe (*Peraxilla tetrapetala*). Regionally uncommon plant species include gully tree fern (*Cyathea cunninghamii*), leafless mistletoe (*Korthalsella lindsayi*), tawhirikaro (*Pittosporum cornifolium*), raukawa (*Raukaua edgerleyi*), green mistletoe (*Ileostylus micranthus*), and Pimelea (*Pimelea gnidia*). Bird species recorded include the At Risk-Naturally Uncommon long-tailed cuckoo (*Eudynamys taitensis*); the At Risk-Recovering bush falcon (*Falco novaeseelandiae ferox*) and kākā (*Nestor meridionalis*); the At Risk-Declining rifleman (*Acanthisitta chloris*) and whitehead (*Mohoua albicilla*); and the At Risk-Relict red-crowned parakeet (*Cyanoramphus novaezelandiae*); and the regionally uncommon tomtit (*Petroica macrocephala toitoi*) and bellbird (*Anthornis melanura*). Reptile species include the Mokopirirakau "southern North Island" gecko (At Risk-Declining). Freshwater fish species include the At Risk-Declining longfin eel (*Anguilla dieffenbachii*), kōaro (*Galaxias brevipinnis*), and redfin bully (*Gobiomorphus huttoni*). Invertebrate species include kōura, the carabid beetle *Mecodema quoinense* (Threatened-Nationally Critical), and the ground weta *Hemianthus lanceolatus* (Data Deficient).

IMPORTANT FEATURES

Threatened Indigenous Flora:

The Threatened-Nationally Vulnerable northern rātā (*Metrosideros robusta* ^{Note###}), southern rātā (*Metrosideros umbellata* ^{Note###}), and greenhood orchid (*Pterostylis tasmanica*). At Risk-Declining species include the Kirk's daisy (*Brachyglottis kirkii* var. *kirkii*), scarlet mistletoe (*Peraxilla colensoi*), and red mistletoe (*Peraxilla tetrapetala*). Other species recorded are the the At Risk-Naturally Uncommon *Acianthus viridis*, *Corybas rivularis*, and *Pterostylis foliata*, and the Data Deficient *Caladenia minor*. Regionally threatened plant species include the regionally uncommon gully tree fern (*Cyathea cunninghamii*), leafless mistletoe (*Korthalsella lindsayi*), tawhirikaro (*Pittosporum cornifolium*), raukawa (*Raukaua edgerleyi*), green mistletoe (*Ileostylus micranthus*), and *Pimelea gnidia*.

Threatened Indigenous Fauna:

Bird species recorded include the At Risk-Naturally Uncommon long-tailed cuckoo (*Eudynamys taitensis*); the At Risk-Recovering bush falcon (*Falco novaeseelandiae ferox*) and kākā (*Nestor meridionalis*); the At Risk-Declining rifleman (*Acanthisitta chloris*) and whitehead (*Mohoua albicilla*); and the At Risk-Relict red-crowned parakeet (*Cyanoramphus novaezelandiae*); and the regionally uncommon tomtit (*Petroica macrocephala toitoi*) and bellbird (*Anthornis melanura*). Reptile species include the Mokopirirakau "southern North Island" gecko (At Risk-Declining). Freshwater fish species include the At Risk-Declining longfin eel (*Anguilla dieffenbachii*), kōaro (*Galaxias brevipinnis*), and redfin bully (*Gobiomorphus huttoni*). Invertebrate species

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	include kōura, the carabid beetle <i>Mecodema quoinense</i> (Threatened-Nationally Critical), and the ground weta <i>Hemiandrus lanceolatus</i> (Data Deficient).
Threatened Land Environments:	More than five hectares on Critically Under protected land environments (>20% protection).
Rare Habitats:	Freshwater wetlands are nationally rare, with less than 10% of their original extent remaining and they are a regionally uncommon habitat type.
Geological Features:	None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	The vegetation is representative of Singers and Rogers (2014) vegetation types: MF20-Hard Beech forest, which has less than 20% protected in the Wellington region; AL4-Mid-ribbed and broadleaved snow tussock tussockland/shrubland, CLDF6-Olearia, Pseudopanax, Dracophyllum scrub [subalpine scrub], CLF9-Red beech, podocarp forest, CLF10-Red beech, silver beech forest, CLF11-2 Silver beech forest and MF5-Black Beech, all of which have less than 20% protected in Upper Hutt District; in addition to CDF7-Mountain beech, silver beech, montane podocarp forest. Also contains wetlands that are representative of the original wetland types.
RPS23b: Rarity	Yes	This site contains three Threatened ^{Note###} , six At Risk, one Data Deficient, and six regionally uncommon plant species; six At Risk and two regionally uncommon bird species; one At Risk reptile species; three At Risk fish species; one At Risk reptile species; and one Threatened and one Data Deficient invertebrate species. Site also contains four wetlands, including a domed bog and the Maymorn Wetlands, which are scheduled as an outstanding and rare wetland in the PNRP.
RPS23c: Diversity	Yes	Contains a high diversity of species and habitat types, including several different forest types, four wetlands, numerous major and minor watercourses, sub-alpine and alpine floral associations.
RPS23d: Ecological Context	Yes	Large site, adjacent to other areas of indigenous vegetation and provides breeding habitat and connectivity for bird species.
RPS23e: Tangata Whenua Values	Yes	Ngāti Toa Rangātira; Schedule B-Ngā Taonga Nui a Kiwa (Policies P1 and P20), Schedule H-Contact recreation and Māori use.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

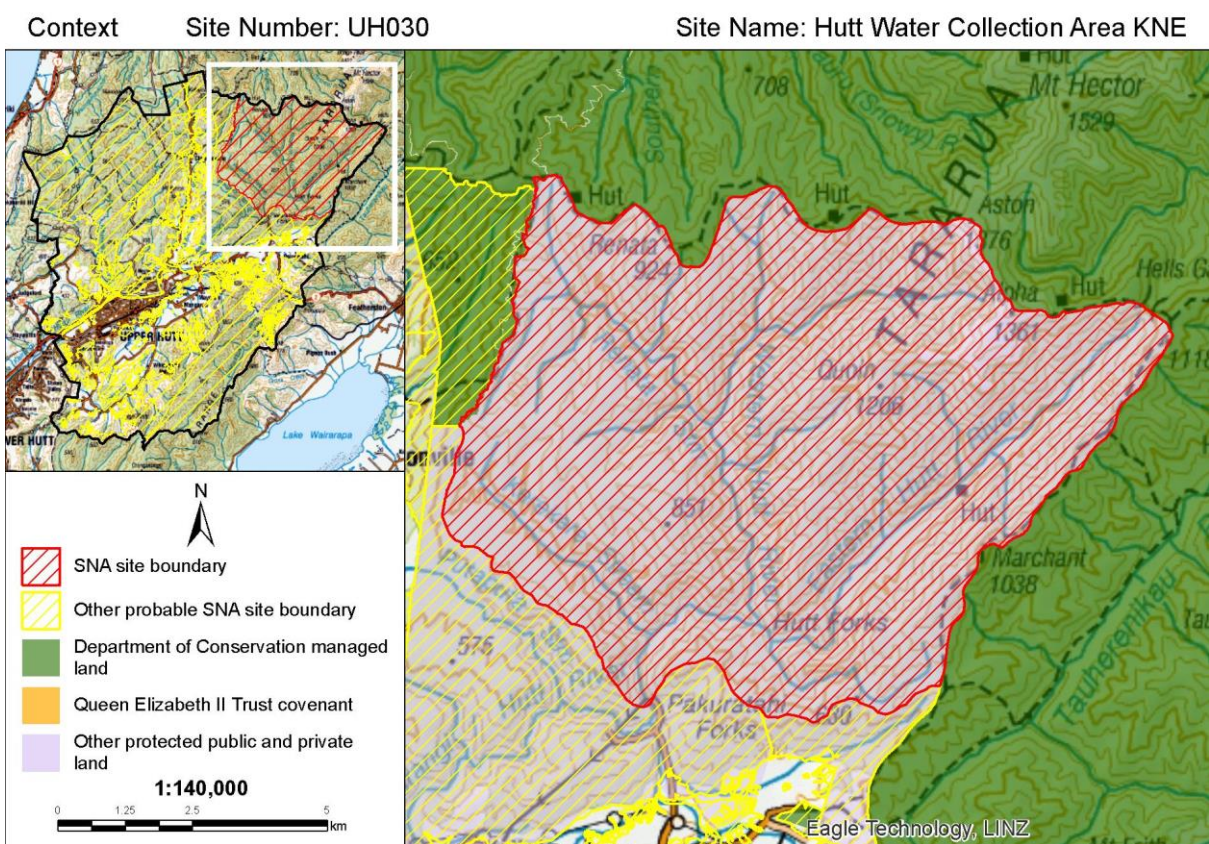
Ecological District:	Tararua
Ecological Domain(s):	58 Tararua (<550 metres); 59 Tararua (550 metres - Treeline); 60 Tararua (> Treeline).
Digital Scale:	1:77,000
Altitude Range:	5-1370 m a.s.l.
Grid Reference:	NZTM E1786621 N5457879

Adjacent Vegetation and Habitats: Kaitoke Regional Park, Pakuratahi Forest.

Notes on Overall Condition: The site is in good condition due to its management as a water supply area, lack of logging, and its relative remoteness. In some areas, goats and red deer have significantly modified the vegetation. Possum numbers are very low, whilst there are moderate numbers of rats and stoats. A large weir is likely to have restricted the range of some fish species.

Potential Land Management Issues: Water supply management activities, pest animal control required, especially deer.

Sources of Information for this Site ^{Note#}: Google Earth; GWRC 2015b; GWRC 2016.



ASSESSED BY

Assessment Techniques: Literature review, aerial imagery.
Assessed By: Keely Paler (Date 6/07/2018)
Reviewed By: Steve Rate (Date 27/7/2018)

NOTES

Please note that this statement is based on information available at the time of writing. No site visits were undertaken on private land. Due to the changing nature of ecosystems and surrounding land use, future assessment of the Significant Natural Area may be necessary to reflect any changes in knowledge, values, or boundaries that may influence its assessment as ecologically significant.

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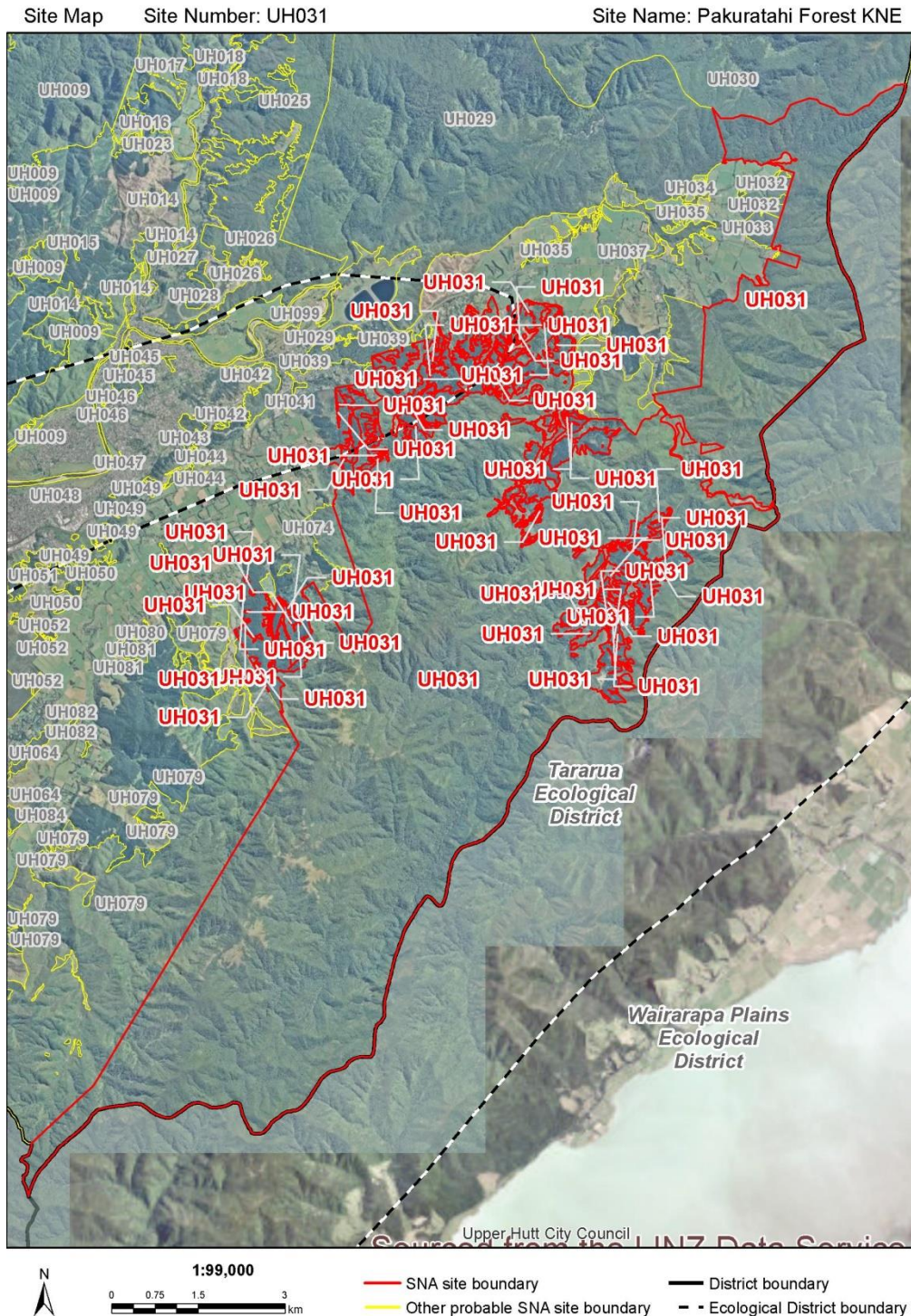
Northern rātā and southern rātā have national-level threat classifications as per de Lange *et al.* 2018; Northern rātā (*Metrosideros robusta*; Threatened-Nationally Vulnerable), and southern rātā (*Metrosideros umbellata*; Threatened-Nationally Vulnerable). Northern rātā and southern rātā are Myrtaceae species which are at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of northern rātā and southern rātā have been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of northern rātā or southern rātā at this site does not trigger the rarity criteria because the species are currently widespread in the local environment.

DRAFT

Pakuratahi Forest KNE

INTRODUCTION

Site Name: Pakuratahi Forest KNE
Site Number: UH031
Site Location: Western side of the Rimutaka Range, east of Upper Hutt.
Site Area: 7,215.72 ha.
Current Protection Status: Site is partially legally protected.
Protection Type: GWRC water collection area; GWRC park.



Site Summary: This site has been identified as a Key Native Ecosystem (KNE) and contains steep to very steep, dissected hill country, and encompasses nearly all of the Pakuratahi River catchment, including land within the Kaitoke Basin. Largely unmodified vegetation is present in the Pakuratahi headwaters to the south, while a mosaic of original and regenerating podocarp remnants and scrub are present in the north of the site. There are four forest ecosystem types: hard beech, red beech/podocarp, red/silver beech and silver beech. It is significant that four beech species are found together at this one site. This site contains the only remaining example of podocarp-tawa forest on alluvial terrace in the Wellington region, as well as a significant area of swamp maire (*Syzygium maire*; Threatened-Nationally Critical ^{Note##}) forest. Over 30 species of orchid have been recorded, and there is a 120 hectare area of sub-alpine tussockland which includes the only area of snow tussock (*Chionochloa flavescens*) on the Rimutaka Range. The site also includes Ladle Bend wetland, a 1.5 hectare rain-fed wetland dominated by mānuka (*Leptospermum scoparium*; At Risk-Declining ^{Note##}). Other vegetation types include mānuka forest and scrub, rewarewa/māhoe-kāmahi forest and broadleaved-gorse scrub. The site provides habitat for New Zealand pipit (*Anthus novaeseelandiae*), North Island rifleman (*Acanthisitta chloris granti*), whitehead (*Mohoua albicilla*), and bush falcon (*Falco novaeseelandiae ferox*), long-tailed cuckoo (*Eudynamys taitensis*; At Risk-Naturally Uncommon), and regionally uncommon tomtit (*Petroica macrocephala toitoi*) and bellbird (*Anthornis melanura*). Barking gecko (*Naultinus punctatus*; At Risk-Declining) has been recorded at the site. At Risk-Declining freshwater fish species include the longfin eel (*Anguilla dieffenbachia*), dwarf galaxid (*Galaxias divergens*), kōaro (*Galaxias brevipinnis*) and redfin bully (*Gobiomorphus huttoni*). Cran's bully (*Gobiomorphus basalis*), freshwater shrimp (*Paratya curvirostris*), and kōura (*Paranephrops* sp.) are also present. The site also contains the Pakuratahi Bridge and the Ladle Bend Bridge (GWRC PNRP Historic Heritage Freshwater Sites).

IMPORTANT FEATURES

- Threatened Indigenous Flora:** Greenhood orchid (*Pterostylis tasmanica*; Threatened-Nationally Vulnerable) and Kirk's daisy (*Brachyglottis kirkii* var. *kirkii*; At Risk-Declining), swamp maire (*Syzygium maire*; Threatened-Nationally Critical ^{Note##}) and mānuka (*Leptospermum scoparium*; At Risk-Declining ^{Note##}). Other regionally uncommon species include *Pittosporum rigidum*, *Pimelea gnidia*, tufted filmy fern (*Hymenophyllum pulcherrimum*) and forest violet (*Viola filicaulis*).
- Threatened Indigenous Fauna:** Bird species recorded at the site include the At Risk-Declining New Zealand pipit (*Anthus novaeseelandiae*), North Island rifleman (*Acanthisitta chloris granti*), whitehead (*Mohoua albicilla*), bush falcon (*Falco novaeseelandiae ferox*; At Risk-Recovering), long-tailed cuckoo (*Eudynamys taitensis*; At Risk-Naturally Uncommon), and regionally uncommon tomtit (*Petroica macrocephala toitoi*) and bellbird (*Anthornis melanura*). Reptile species recorded in the site include the barking gecko (*Naultinus punctatus*; At Risk-Declining). At Risk-Declining freshwater fish species include the longfin eel (*Anguilla dieffenbachia*), dwarf galaxid (*Galaxias divergens*), kōaro (*Galaxias brevipinnis*) and redfin bully (*Gobiomorphus huttoni*). Cran's bully (*Gobiomorphus basalis*), freshwater shrimp (*Paratya curvirostris*), and kōura (*Paranephrops* sp.) are also present.
- Threatened Land Environments:** More than 0.5 hectares on Acutely Threatened land environments (<10% indigenous cover remaining).

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Rare Habitats: Podocarp-tawa forest on alluvial terraces are very rare in the Wellington region. Freshwater wetlands are nationally rare, with less than 10% of their original extent remaining and they are a regionally uncommon habitat type. WL12 mānuka, tangle fern scrub.

Geological Features: None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	The vegetation is representative of Singers and Rogers (2014) vegetation types: WL12 mānuka, tangle fern scrub/fermland, which has less than 30% remaining and less than 20% protected in the Wellington region; MF20 Hard beech forest, which has less than 20% protected in the Wellington region; and CLF9 Red beech, podocarp forest; CLF10 Red beech, silver beech forest; CLF11-2 Silver beech; CDF6 Olearia, Pseudopanax, Dracophyllum scrub [Subalpine scrub] which have less than 20% protected in Upper Hutt District. Also contains a wetland that is representative of the original wetland types.
RPS23b: Rarity	Yes	Two Threatened and two At Risk plant species ^{Note##} , five At Risk and two regionally uncommon bird species, one At Risk lizard species and four At Risk freshwater fish species have been recorded. Freshwater wetlands are nationally rare (<10% of their original extent remains) and a regionally uncommon habitat type. Includes indigenous vegetation on land environments with less than 10% indigenous vegetation cover remaining.
RPS23c: Diversity	Yes	Several different forest types, alpine vegetation and a wetland.
RPS23d: Ecological Context	Yes	Large site contiguous with Hutt Water Collection Area KNE, Kaitoke Regional Park, Wainuiomata/Orongorongo Water Collection Area.
RPS23e: Tangata Whenua Values	Yes	Pakuratahi River Schedule H in the Proposed Natural Resources Plan-Contact recreation and Māori use.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

Ecological District: Tararua, Wellington

Ecological Domain(s): 58 Tararua (<550 metres); 59 Tararua (550 metres - Treeline); 61 Wainuiomata - Hutt - Kaitoke; 62 Rimutaka (<550 metres); 63 Rimutaka (>550 metres).

Digital Scale: 1:99,000

Altitude Range: 125-860 m a.s.l.

Grid Reference: NZTM E1782092 N5443388

Adjacent Vegetation and Habitats: Rimutaka Forest Park, Tararua Forest Park, Hutt Water Collection Area KNE site, exotic plantation forest.

Notes on Overall Condition:

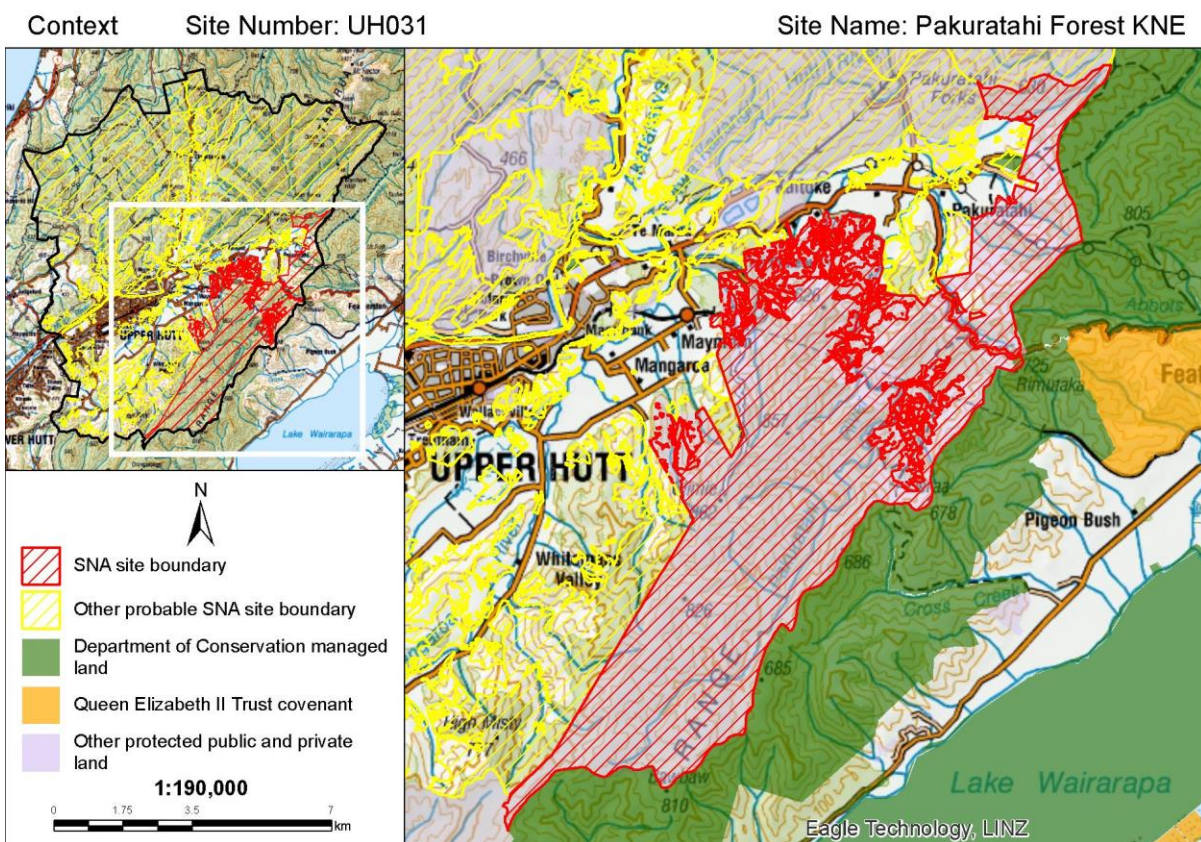
Pest plants are prevalent throughout the northern half of the site, with wilding pine seedlings spreading through large areas of native forest from the nearby forestry blocks. The SNA (and KNE) is fragmented by pine plantation forests. The SNA includes areas of early succession scrub, including gorse. Low numbers of possums, feral goats and deer due to ongoing pest control operations. Moderate numbers of rats and stoats.

Potential Land Management Issues:

The area is popular for recreational activities (walkers, cyclists, horse riders, and hunters). Access to and felling exotic plantation trees. Potential future development for the purposes of water supply, recreation and forestry.

Sources of Information for this Site ^{Note#:}

GWRC 2014b; Google Earth.



ASSESSED BY

Assessment Techniques: Literature review, aerial imagery, road side viewing.
Assessed By: Keely Paler (Date 7/05/2018)
Reviewed By: Steve Rate (Date 27/7/2018)

NOTES

Please note that this statement is based on information available at the time of writing. No site visits were undertaken on private land. Due to the changing nature of ecosystems and surrounding land use, future assessment of the Significant Natural Area may be necessary to reflect any changes in knowledge, values, or boundaries that may influence its assessment as ecologically significant.

An Explanatory Note is available in Appendix 9, which provides more information about how each of the above fields was collated or assessed.

The full list of data sources and references used to assess sites is listed in the main body of the report under REFERENCES and also in the EXPLANATORY NOTES in Appendix 9. Aerial photography (2017 colour) was used to view and evaluate all sites, additional sources such as historic aerial photography in Google Earth, was used to inform site values and improve site boundaries.

Swamp maire and mānuka have national-level threat classifications as per de Lange *et al.* 2018; Swamp maire (*Syzygium maire*; Threatened-Nationally Critical), and mānuka (*Leptospermum scoparium*; At Risk-Declining). They are Myrtaceae species which are at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of swamp maire and mānuka have been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of swamp maire or mānuka at this site does not trigger the rarity criteria because the species are currently widespread in the local environment.

DRAFT

Marchant Road forest

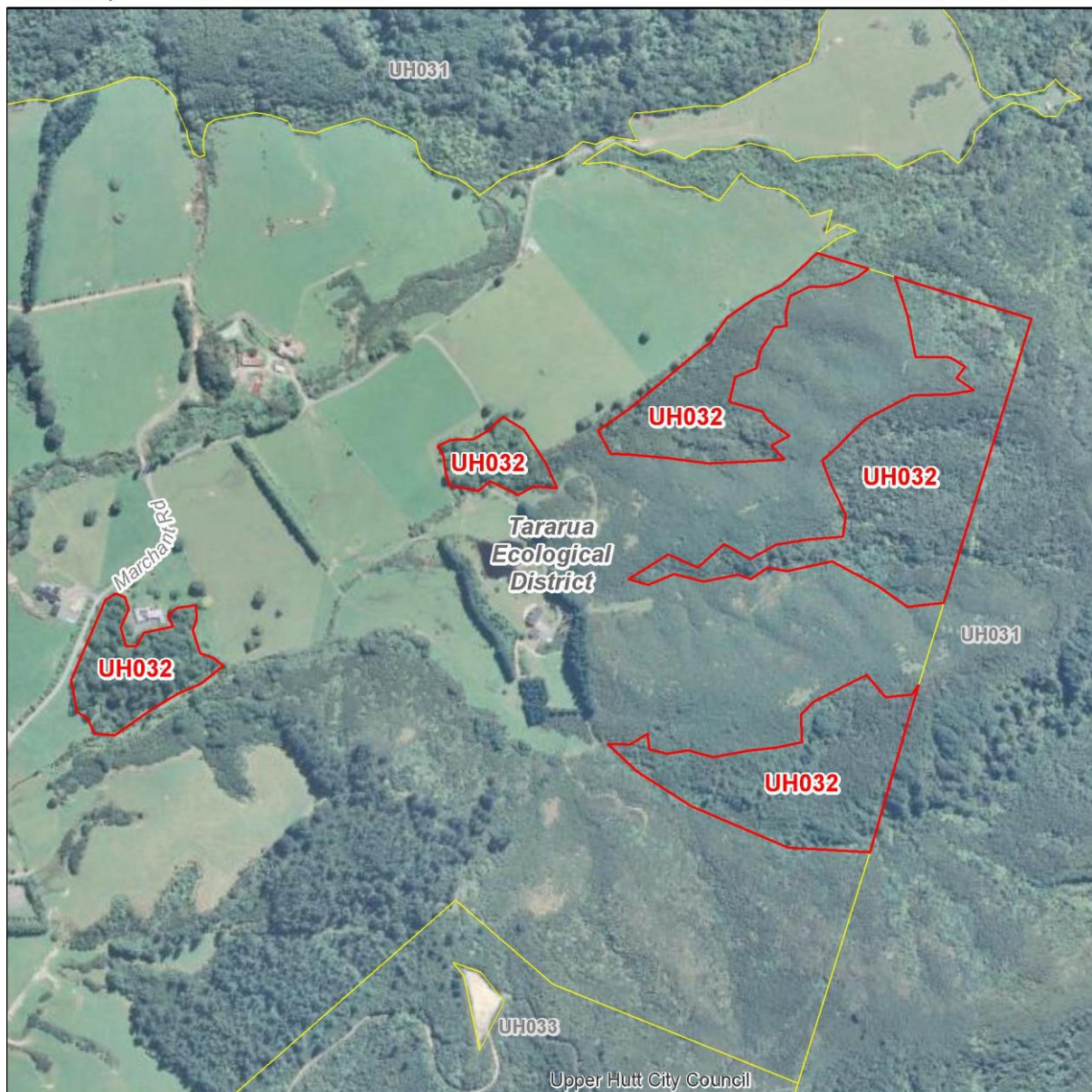
INTRODUCTION

Site Name: Marchant Road forest
Site Number: UH032
Site Location: End of Marchant Road, Kaitoke.
Site Area: 10.62 ha.
Current Protection Status: Site has no legal protection.
Protection Type: Not applicable.

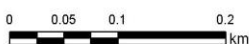
Site Map

Site Number: UH032

Site Name: Marchant Road forest



1:7,000



— SNA site boundary

— Other probable SNA site boundary

— District boundary

- - Ecological District boundary

Site Summary: This site comprises four areas of remnant podocarps and gully vegetation to the east of Marchant Road. At Risk-Declining longfin eel (*Anguilla dieffenbachia*) and redfin bully (*Gobiomorphus huttoni*) are known from Farm Creek. Indigenous vegetation is present on land environments with 10-20% vegetation cover remaining. Includes riparian vegetation and a number of small tributaries of Farm Creek, which is listed in the Proposed Natural Resources Plan as important for trout fisheries.

IMPORTANT FEATURES

Threatened Indigenous Flora:	Mānuka (<i>Leptospermum scoparium</i> ; At Risk-Declining) ^{Note##} .
Threatened Indigenous Fauna:	At Risk-Declining longfin eel (<i>Anguilla dieffenbachia</i>) and redfin bully (<i>Gobiomorphus huttoni</i>) are known from Farm Creek. Barking gecko (<i>Nautinus punctatus</i> ; At Risk-Declining) has been recorded nearby.
Threatened Land Environments:	More than one hectare of Chronically Threatened land environments (10-20% indigenous cover remaining)
Rare Habitats:	No rare habitats or communities known.
Geological Features:	None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	Regenerating broadleaved forest is representative of current ecosystem types; remnant lowland forest is likely to be representative of Singers and Rogers (2014) vegetation type MF7-Tawa, kāmahī, podocarp forest, of which there is less than 30% remaining in the Wellington region and less than 20% protected in Upper Hutt.
RPS23b: Rarity	Yes	^{Note#} Two At Risk fish species. One At Risk plant species ^{Note##} . Includes indigenous vegetation on land environments with 10-20% indigenous vegetation cover remaining.
RPS23c: Diversity	No	Relatively small or modified areas which are unlikely to have a high diversity of species.
RPS23d: Ecological Context	Yes	A number of small gully and flats fragments providing connectivity between the rivers on the valley floor and Pakuratahi Forest.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

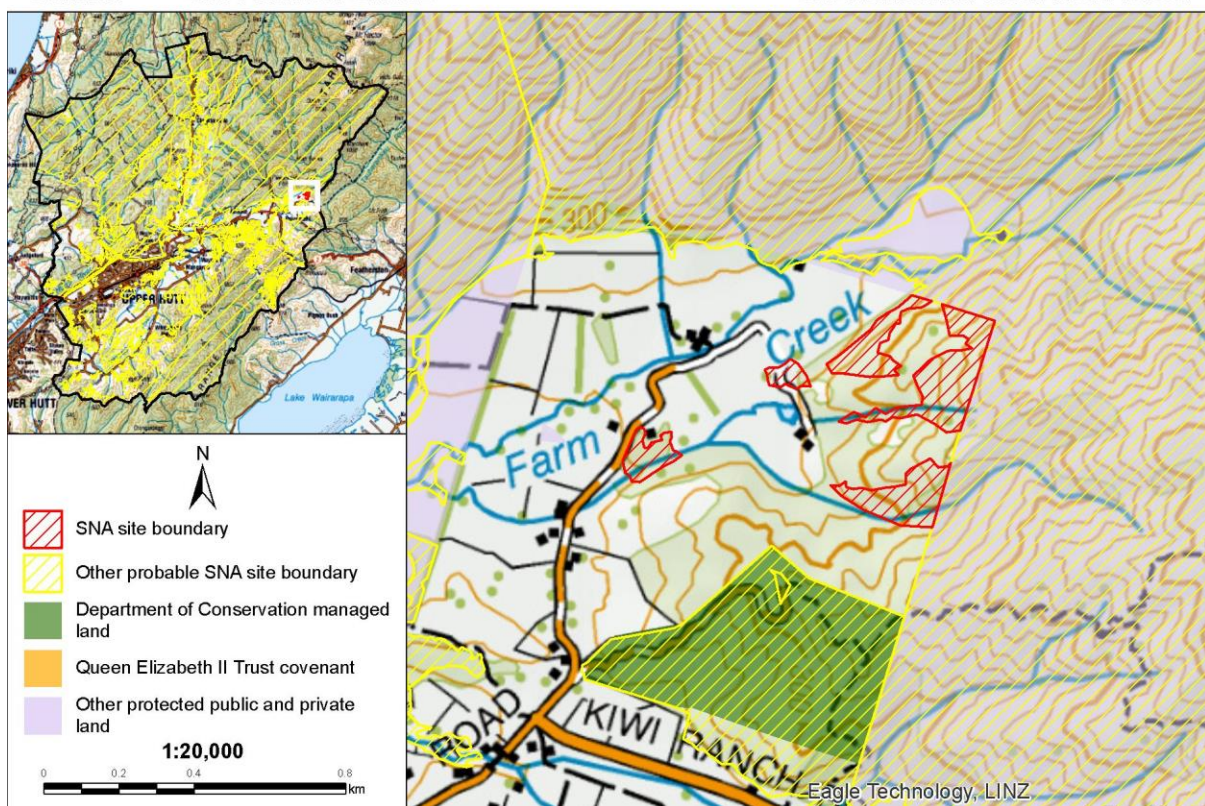
SITE CONTEXT AND OTHER INFORMATION

Ecological District:	Tararua
Ecological Domain(s):	61 Wainuiomata - Hutt - Kaitoke.
Digital Scale:	1:7,000

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Altitude Range: 245-375 m a.s.l.
Grid Reference: NZTM E1787435 N5451573
Adjacent Vegetation and Habitats: Indigenous and gorse scrub, pasture, rural residences.
Notes on Overall Condition: Unknown.
Potential Land Management Issues: Unknown.
Sources of Information for this Site ^{Note#:}: Google Earth, historic aerial imagery.

Context Site Number: UH032 Site Name: Marchant Road forest



ASSESSED BY

Assessment Techniques: Species database, aerial imagery.
Assessed By: Helen White (Date 10/07/2018)
Reviewed By: Steve Rate (Date 27/7/2018)

NOTES

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Mānuka (*Leptospermum scoparium*) has a national-level threat classification of At Risk-Declining, as per de Lange *et al.* 2018. Mānuka is a Myrtaceae species which is at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of mānuka has been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of mānuka at this site does not trigger the rarity criteria because the species is currently common and widespread in the local environment.

DRAFT

Tararua scrub

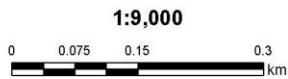
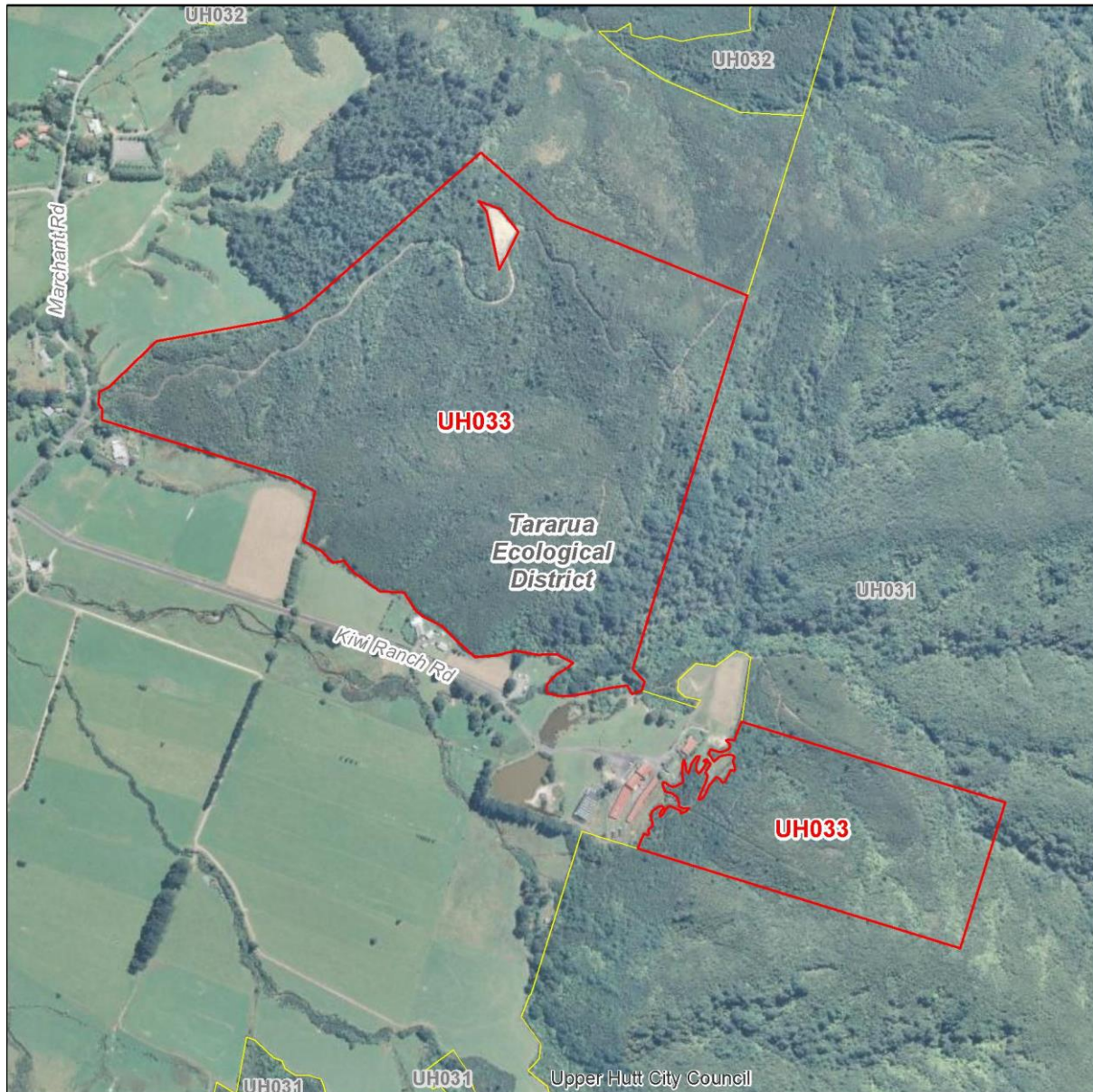
INTRODUCTION

Site Name: Tararua scrub
Site Number: UH033
Site Location: Near the end of Marchant Road, above Kiwi Ranch Road.
Site Area: 39.73 ha.
Current Protection Status: Site is partially legally protected.
Protection Type: DOC managed land.

Site Map

Site Number: UH033

Site Name: Tararua scrub



- SNA site boundary
- District boundary
- Other probable SNA site boundary
- - Ecological District boundary

Site Summary: This area of forest and scrub is largely managed as part of the larger Tararua Forest park, but is separated from it by Pakuratahi Forest. This SNA is mostly comprised of tall mānuka (*Leptospermum scoparium*; At Risk-Declining^{Note##}) scrub and forest, with regenerating tōtara (*Podocarpus totara*; of local interest), red māpou and pāte. This site contains wilding pine and eucalyptus. The gully at the southeastern end of the SNA contains beech forest and pāte scrub, with rimu (*Dacrydium cupressinum*; of local interest) and kahikatea (*Dacrycarpus dacrydioides*; of local interest) near the stream. Indigenous vegetation is present on land environments with less than 10% vegetation cover remaining.

IMPORTANT FEATURES

Threatened Indigenous Flora:	Mānuka (<i>Leptospermum scoparium</i> ; At Risk-Declining ^{Note##}) and a number of podocarp species of local interest.
Threatened Indigenous Fauna:	No rare fauna are known from the site.
Threatened Land Environments:	More than 0.5 hectares on Acutely Threatened land environments (<10% indigenous cover remaining).
Rare Habitats:	No rare habitats or communities known.
Geological Features:	None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

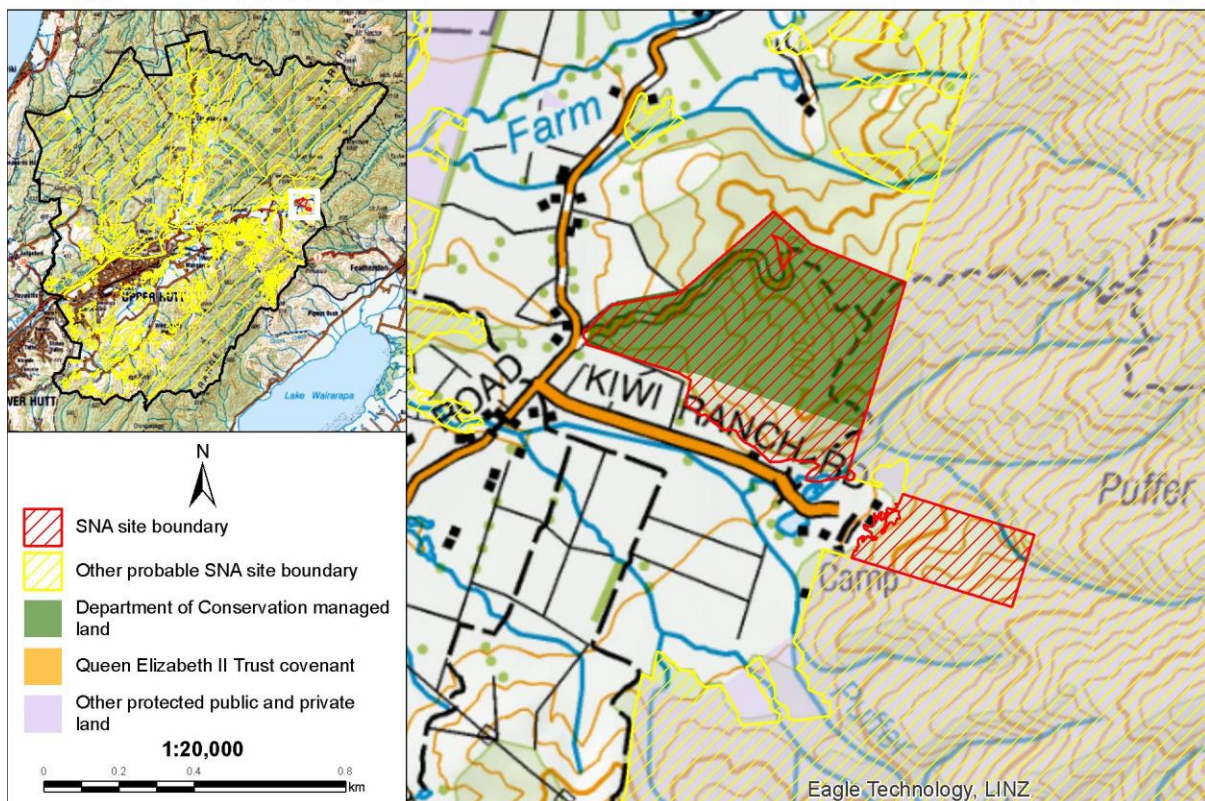
RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	Vegetation at this site includes regenerating forest which is representative of current ecosystem diversity; podocarps and beech forest are likely representative of Singers and Rogers (2014) vegetation types: MF7-Tawa, kāmahī, podocarp forest, of which there is less 30% remaining in the Wellington region and less than 20% protected in Upper Hutt District; and MF20-Hard beech forest, which has less than 20% protected in the Wellington region.
RPS23b: Rarity	Yes	One At Risk plant species ^{Note##} . Includes indigenous vegetation on land environments with less than 10% indigenous vegetation cover remaining.
RPS23c: Diversity	No	Majority of site comprised of early successional forest, which is likely to have reduced diversity.
RPS23d: Ecological Context	Yes	Contiguous with Pakuratahi Forest and close to Kaitoke Regional Park and Tararua Forest Park. Provides some buffering to these forests and near continuous vegetation cover between the rivers on the valley floor and the hills surrounding.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

Ecological District: Tararua
Ecological Domain(s): 61 Wainuiomata - Hutt - Kaitoke.
Digital Scale: 1:9,000
Altitude Range: 230-385 m a.s.l.
Grid Reference: NZTM E1787239 N5450750
Adjacent Vegetation and Habitats: Pasture, indigenous forest, scrub, YMCA camp, pine plantation. The YMCA camp may contain a wetland as indicated by the presence of ghania (NZPCN).
Notes on Overall Condition: Pines present, partially fenced.
Potential Land Management Issues: An access road runs through the site, potential impacts of pine harvesting.
Sources of Information for this Site ^{Note#:} Google Earth, historic aerial imagery.

Context Site Number: UH033

Site Name: Tararua scrub



ASSESSED BY

Assessment Techniques: Species database, aerial images and road side viewing.
Assessed By: Helen White (Date 10/07/2018)
Reviewed By: Steve Rate (Date 27/7/2018)

NOTES

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Mānuka (*Leptospermum scoparium*) has a national-level threat classification of At Risk-Declining, as per de Lange *et al.* 2018. Mānuka is a Myrtaceae species which is at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of mānuka has been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of mānuka at this site does not trigger the rarity criteria because the species is currently common and widespread in the local environment.

Farm Creek riparian scrub

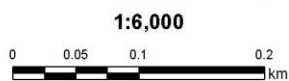
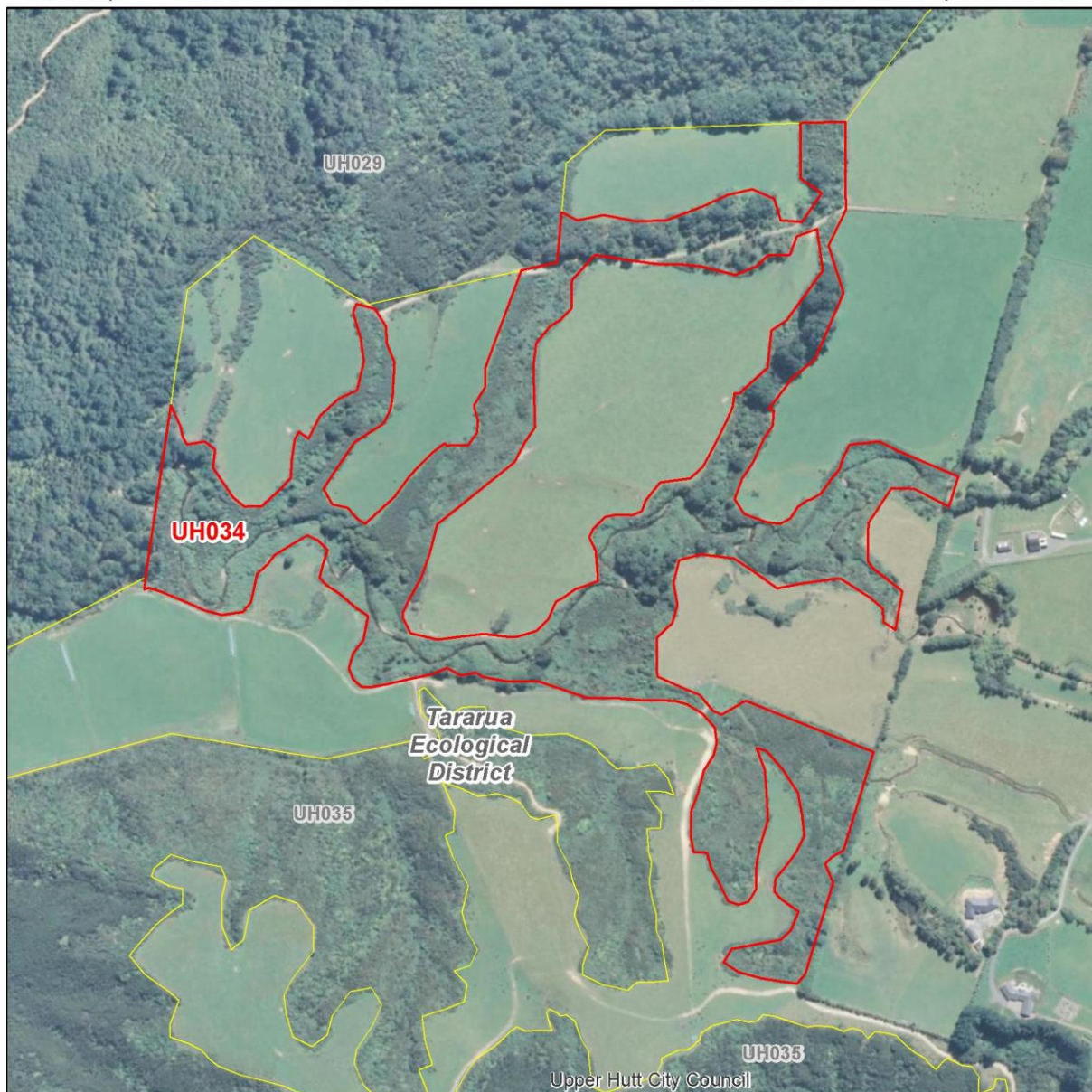
INTRODUCTION

Site Name: Farm Creek riparian scrub
Site Number: UH034
Site Location: East of Marchant Road.
Site Area: 11.94 ha.
Current Protection Status: Site is fully legally protected.
Protection Type: GWRC park.

Site Map

Site Number: UH034

Site Name: Farm Creek riparian scrub



— SNA site boundary

— Other probable SNA site boundary

— District boundary

- - Ecological District boundary

Site Summary: Vegetation in this SNA is likely to comprise māhoe scrub which buffers Farm Creek, a tributary of the Pakuratahi River. There is a high cover of gorse and likely other exotic species. At Risk-Declining longfin eel (*Anguilla dieffenbachia*) and redfin bully (*Gobiomorphus huttoni*) are known from Farm Creek. Whitehead (*Mohoua albicilla*; At Risk-Declining), bellbird (*Anthornis melanura melanura*; regionally uncommon), and bush falcon (*Falco novaeseelandiae ferox*; At Risk-Recovering) have been recorded nearby, and may utilise the SNA.

IMPORTANT FEATURES

Threatened Indigenous Flora: No rare flora are known.

Threatened Indigenous Fauna: At Risk-Declining longfin eel (*Anguilla dieffenbachia*) and redfin bully (*Gobiomorphus huttoni*) are known from Farm Creek. Another four At Risk-Declining fish species are known from the Pakuratahi River and could also occur in this waterway: freshwater mussel (*Echyridella menziesi*), kōaro (*Galaxias brevipinnis*), dwarf galaxias (West Coast) (*Galaxias divergens*), and bluegill bully (*Gobiomorphus hubbsi*). Whitehead (*Mohoua albicilla*; At Risk-Declining), bellbird (*Anthornis melanura melanura*; regionally uncommon), and bush falcon (*Falco novaeseelandiae ferox*; At Risk-Recovering) have been recorded nearby.

Threatened Land Environments: More than one hectare on Chronically Threatened land environments (10-20% indigenous cover remaining)

Rare Habitats: No rare habitats or communities known.

Geological Features: None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	No	The site appears to contain limited elements representative of pre-human vegetation types.
RPS23b: Rarity	Yes	Two At Risk fish species. Includes indigenous vegetation on land environments with 10-20% indigenous vegetation cover remaining.
RPS23c: Diversity	No	Likely to be modified with a reduced diversity.
RPS23d: Ecological Context	Yes	Buffers the Farm Creek and provides connectivity for freshwater fish moving up stream, and corridors of vegetation for bird movement.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

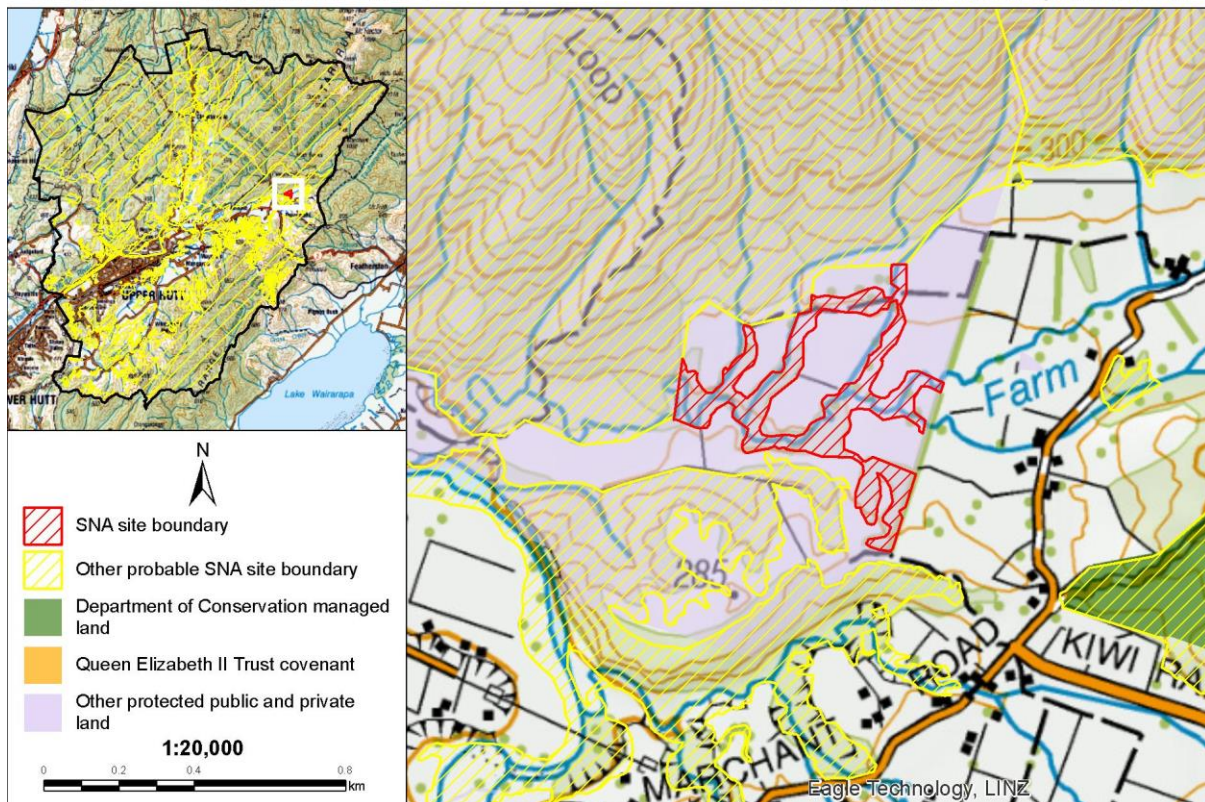
Ecological District: Tararua

Upper Hutt District Plan - Significant Natural Area Assessment - Significance Statement

Ecological Domain(s): 58 Tararua (<550 metres); 61 Wainuiomata - Hutt - Kaitoke.
Digital Scale: 1:6,000
Altitude Range: 210-255 m a.s.l.
Grid Reference: NZTM E1786013 N5451407
Adjacent Vegetation and Habitats: Farmland.
Notes on Overall Condition: Unknown.
Potential Land Management Issues: Unknown, contains high gorse cover.
Sources of Information for this Site ^{Note#}: Google Earth.

Context Site Number: UH034

Site Name: Farm Creek riparian scrub



ASSESSED BY

Assessment Techniques: Aerial imagery, historic images.
Assessed By: Helen White (Date 10/07/2018)
Reviewed By: Steve Rate (Date 27/7/2018)

NOTES

Please note that this statement is based on information available at the time of writing. No site visits were undertaken on private land. Due to the changing nature of ecosystems and surrounding land use,

Upper Hutt District Plan - Significant Natural Area Assessment - Significance Statement

future assessment of the Significant Natural Area may be necessary to reflect any changes in knowledge, values, or boundaries that may influence its assessment as ecologically significant.

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DRAFT

Kaitoke Stream riparian scrub

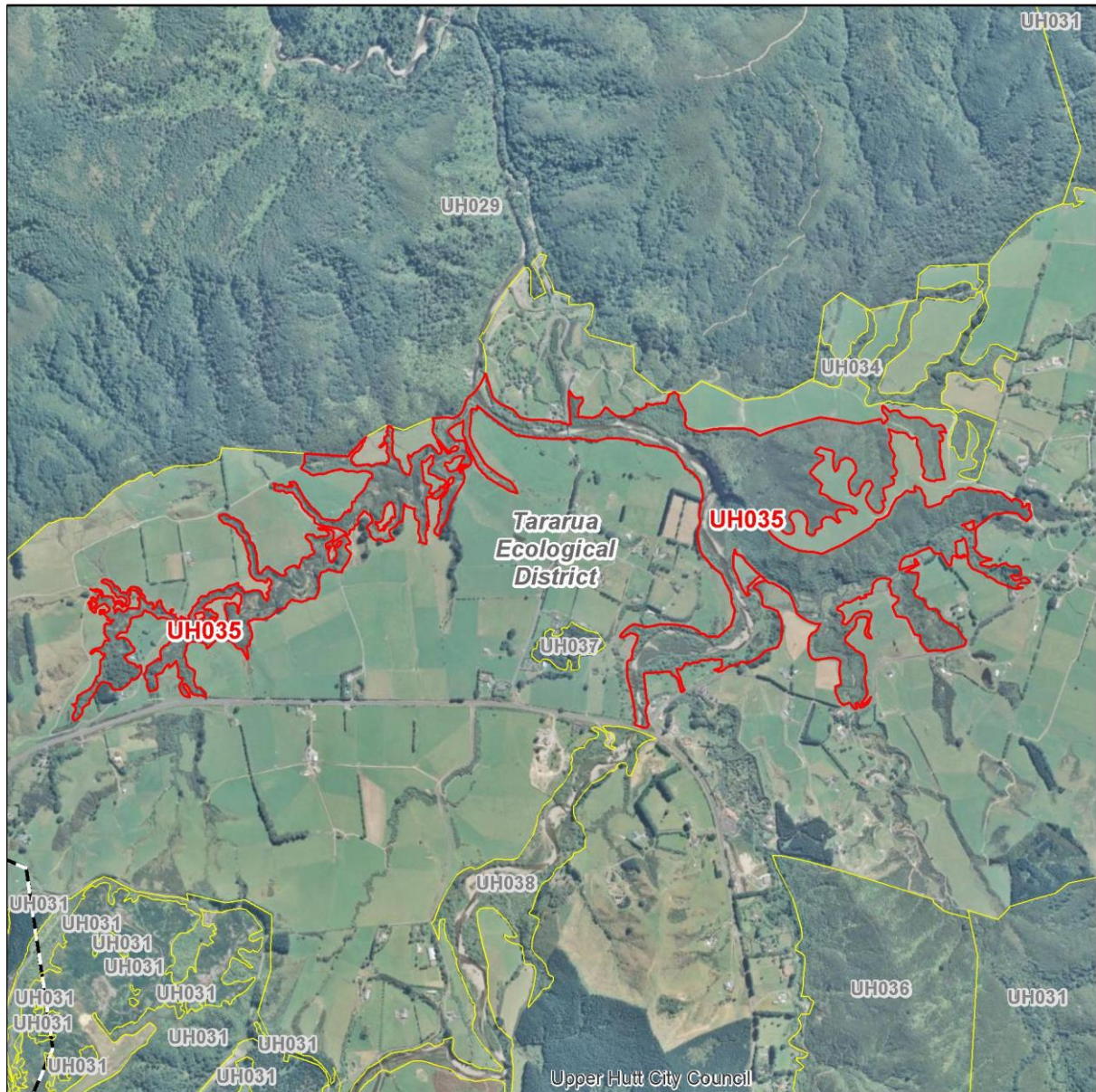
INTRODUCTION

Site Name: Kaitoke Stream riparian scrub
Site Number: UH035
Site Location: Gully to the north of Marchant Road.
Site Area: 95.38 ha.
Current Protection Status: Site is partially legally protected.
Protection Type: GWRC park; Esplanade strip.

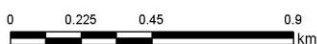
Site Map

Site Number: UH035

Site Name: Kaitoke Stream riparian scrub



1:24,000



— SNA site boundary

— District boundary

— Other probable SNA site boundary

- - Ecological District boundary

Site Summary: This site comprises riparian vegetation on either side of Kaitoke stream. The vegetation is dominated by willows, blackberry, gorse, broom, and rank grass, but also contains isolated kahikatea (*Dacrycarpus dacrydioides*; of local interest) and rimu (*Dacrydium cupressinum*; of local interest) and an area of indigenous scrub comprised of māhoe, five-finger, mānuka (*Leptospermum scoparium*; At Risk-Declining^{Note##}) and treeferns on an area of high slope steepness (21-30°) above the Pakuratahi River. This site supports regionally uncommon bellbird (*Anthornis melanura*) and Cran's bully (*Gobiomorphus basalis*; Not Threatened).

IMPORTANT FEATURES

Threatened Indigenous Flora: Mānuka (*Leptospermum scoparium*; At Risk-Declining^{Note##}).

Threatened Indigenous Fauna: The regionally uncommon bellbird (*Anthornis melanura*) and Cran's bully (*Gobiomorphus basalis*; Not Threatened) have been recorded at this site. The At Risk North Island rifleman (*Acanthisitta chloris granti*), whitehead (*Mohoua albicilla*), long-tailed cuckoo (*Eudynamys taitensis*), and bush falcon (*Falco novaeseelandiae ferox*), and the regionally uncommon pied tomtit (*Petroica macrocephala toitoi*) have been recorded nearby.

Threatened Land Environments: More than 0.5 hectares on Acutely Threatened land environments (<10% indigenous cover remaining).

Rare Habitats: Braided river systems are a Threatened ecosystem.

Geological Features: None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	No	This site contains limited elements representative of pre-human vegetation types and most of the site contains greater than 50% exotic species.
RPS23b: Rarity	Yes	One At Risk plant species ^{Note##} . One regionally uncommon bird species. Includes indigenous vegetation on land environments with less than 10% indigenous vegetation cover remaining.
RPS23c: Diversity	No	Low diversity of indigenous species.
RPS23d: Ecological Context	Yes	Buffers and provides connectivity along the Kaitoke Stream.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

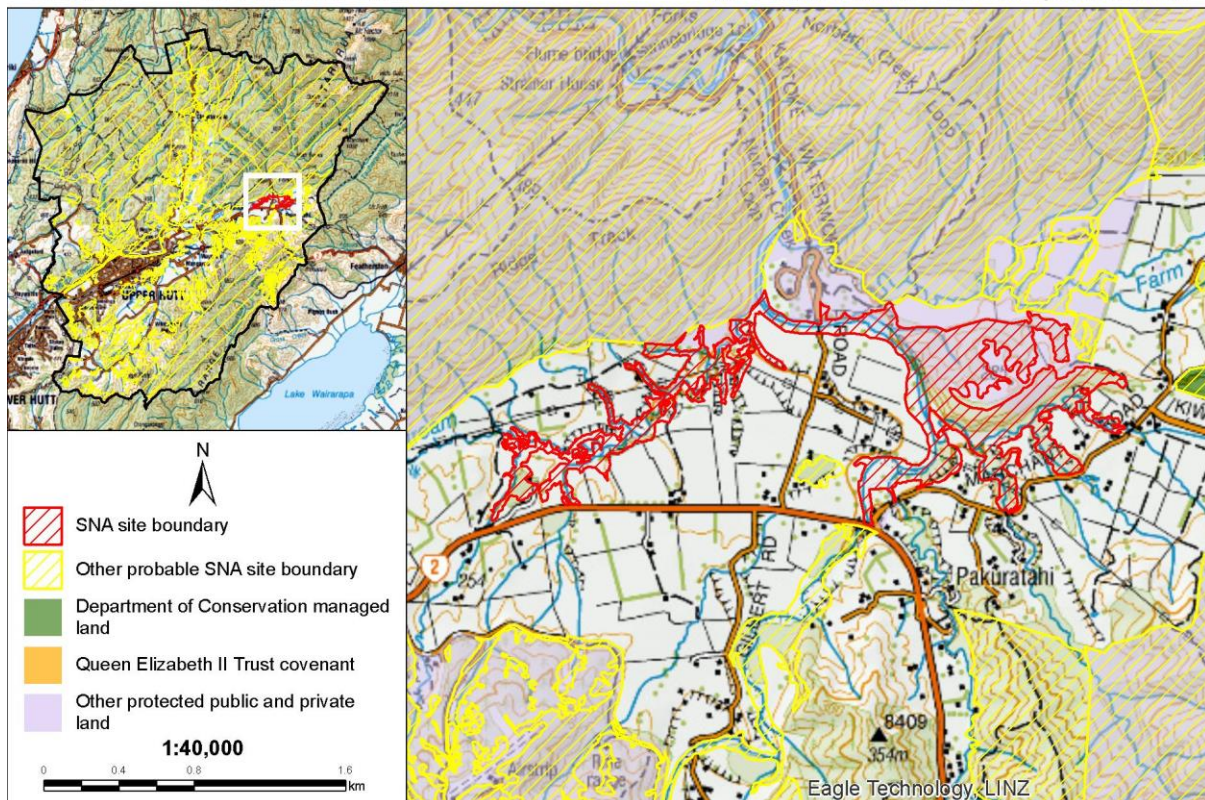
Ecological District: Tararua

Ecological Domain(s): 61 Wainuiomata - Hutt - Kaitoke.

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Digital Scale: 1:24,000
Altitude Range: 190-280 m a.s.l.
Grid Reference: NZTM E1785065 N5450807
Adjacent Vegetation and Habitats: Pasture, indigenous forest.
Notes on Overall Condition: Exotic and early succession vegetation.
Potential Land Management Issues: Brown trout impacts on indigenous aquatic species and the need for pest plant control.
Sources of Information for this Site Note#: Google Earth.

Context Site Number: UH035 Site Name: Kaitoke Stream riparian scrub



ASSESSED BY

Assessment Techniques: Aerial imagery, historic images, road side viewing.
Assessed By: Helen White (Date 10/07/2018)
Reviewed By: Steve Rate (Date 27/7/2018)

NOTES

Please note that this statement is based on information available at the time of writing. No site visits were undertaken on private land. Due to the changing nature of ecosystems and surrounding land use,

Upper Hutt District Plan - Significant Natural Area Assessment - Significance Statement

future assessment of the Significant Natural Area may be necessary to reflect any changes in knowledge, values, or boundaries that may influence its assessment as ecologically significant.

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Mānuka (*Leptospermum scoparium*) has a national-level threat classification of At Risk-Declining, as per de Lange *et al.* 2018. Mānuka is a Myrtaceae species which is at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of mānuka has been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of mānuka at this site does not trigger the rarity criteria because the species is currently common and widespread in the local environment.

DRAFT

Rimutaka Highway scrub

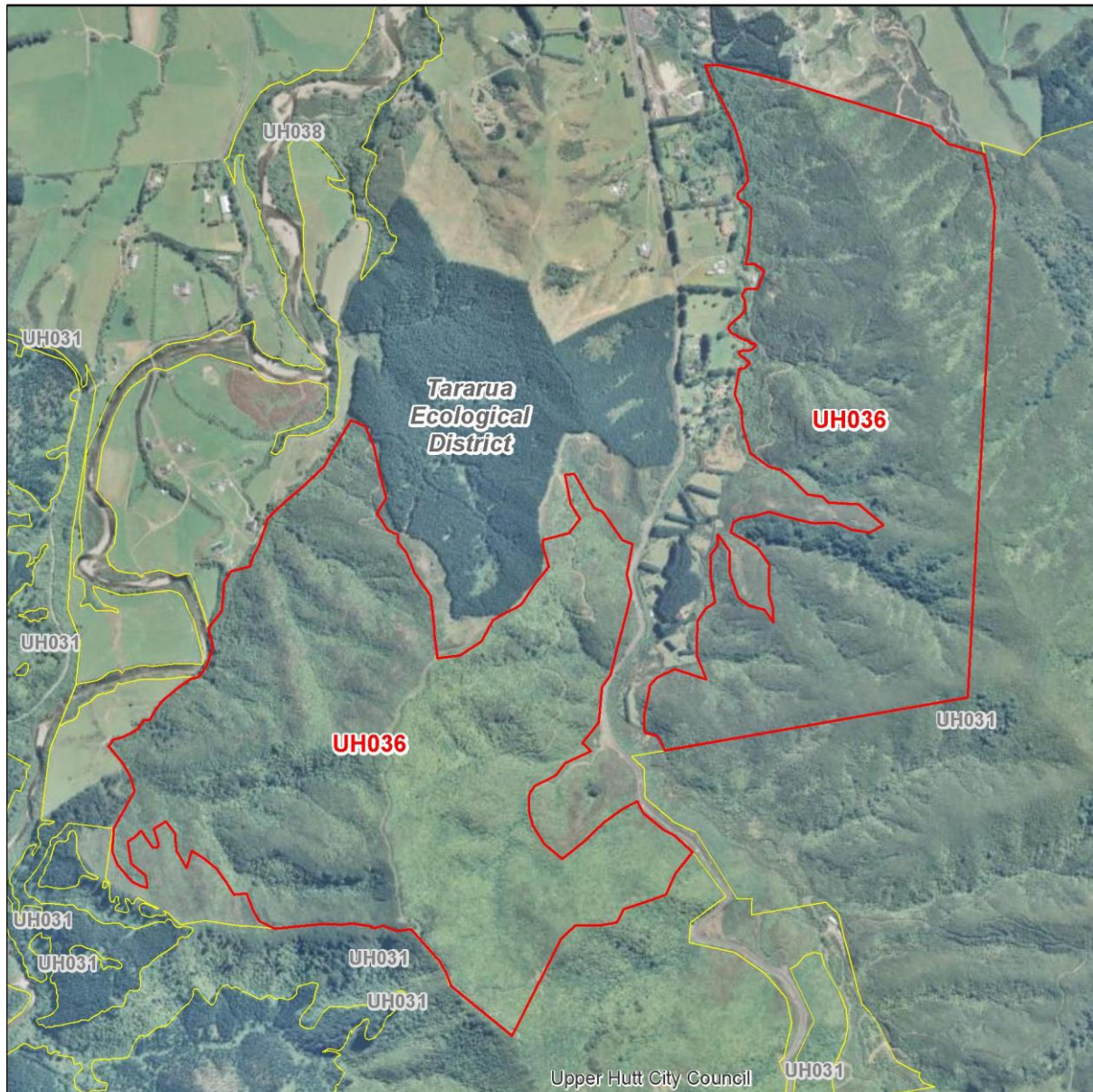
INTRODUCTION

Site Name: Rimutaka Highway scrub
Site Number: UH036
Site Location: SH2 on the Upper Hutt side of Pakuratahi Forest.
Site Area: 202.30 ha.
Current Protection Status: Site is partially legally protected.
Protection Type: Esplanade strip.

Site Map

Site Number: UH036

Site Name: Rimutaka Highway scrub



— SNA site boundary

— Other probable SNA site boundary

— District boundary

- - Ecological District boundary

Site Summary: Rimutaka Highway Scrub comprises areas of regenerating indigenous forest on each side of SH2, and adjoining Pakuratahi Forest. The vegetation comprises mānuka (*Leptospermum scoparium*; At Risk-Declining^{Note##}) forest and scrub with red māpou, māhoe, kāmahī, treeferns, pigeonwood, and beech. Gorse may be present at low densities in some areas. The site includes some indigenous vegetation on land environments with less than 10% vegetation cover remaining. The vegetation protects the headwaters and a small section of the Rimutaka Stream and a tributary of the Pakuratahi River, which provides habitat for dwarf galaxias (*Galaxias divergens*; At Risk-Declining).

IMPORTANT FEATURES

Threatened Indigenous Flora:	Mānuka (<i>Leptospermum scoparium</i> ; At Risk-Declining ^{Note##}).
Threatened Indigenous Fauna:	Dwarf galaxias (<i>Galaxias divergens</i> ; At Risk-Declining).
Threatened Land Environments:	More than 0.5 hectares on Acutely Threatened land environments (<10% indigenous cover remaining).
Rare Habitats:	No rare habitats or communities known.
Geological Features:	None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	No	Early successional forests have limited elements representative of original vegetation types.
RPS23b: Rarity	Yes	Includes indigenous vegetation on land environments with less than 10% vegetation cover remaining. One At Risk plant species ^{Note##} and one At Risk fish species.
RPS23c: Diversity	No	Early successional forests are likely to have reduced diversity.
RPS23d: Ecological Context	Yes	Contiguous with Pakuratahi Forest. Buffers tributaries of the Rimutaka Stream and Pakuratahi Rivers.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

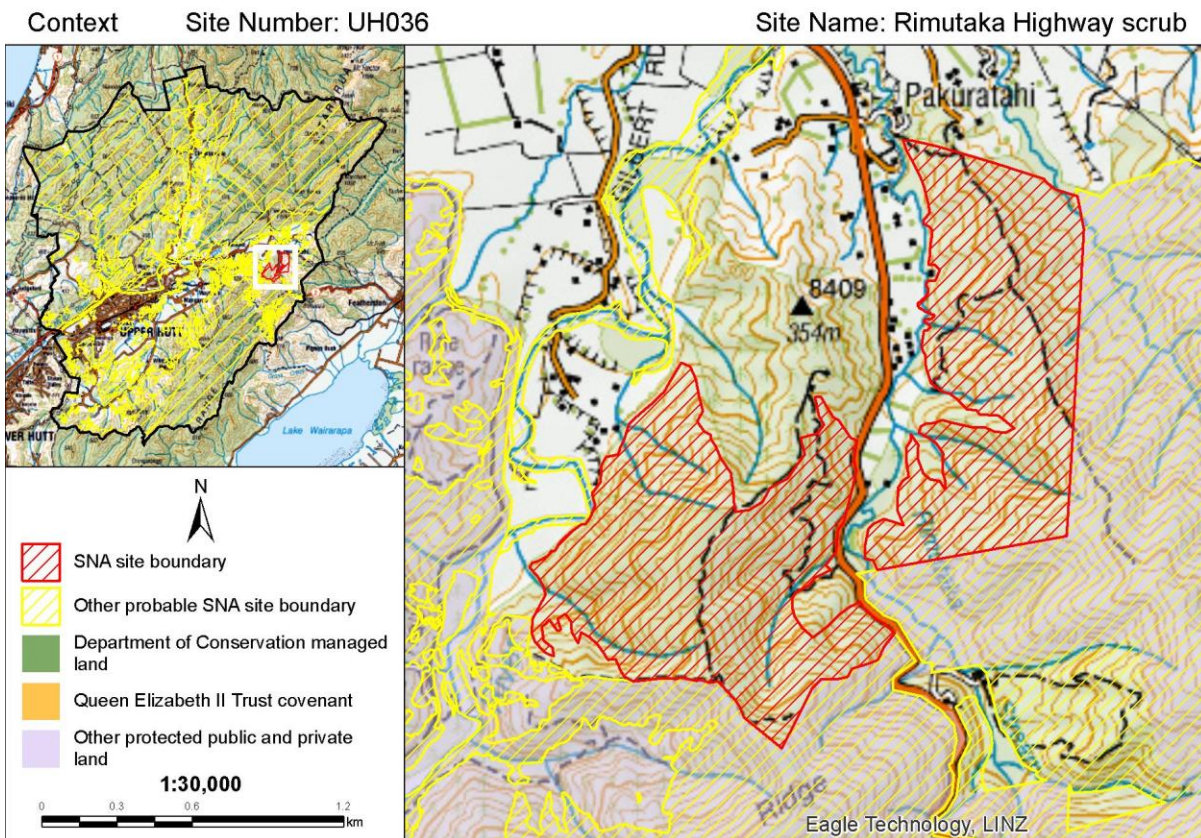
Ecological District:	Tararua
Ecological Domain(s):	58 Tararua (<550 metres); 61 Wainuiomata - Hutt - Kaitoke; 62 Rimutaka (<550 metres).
Digital Scale:	1:17,000
Altitude Range:	220-590 m a.s.l.
Grid Reference:	NZTM E1785230 N5448370

Adjacent Vegetation and Habitats: Pasture, pine plantation, SH2.

Notes on Overall Condition: Contains gorse and brown trout.

Potential Land Management Issues: Brown trout impacts on indigenous aquatic species and the need for pest plant control.

Sources of Information for this Site ^{Note#}: Google Earth, Historic aerial imagery.



ASSESSED BY

Assessment Techniques: Species database, aerial imagery, road side viewing.

Assessed By: Helen White (Date 10/07/2018)

Reviewed By: Steve Rate (Date 1/8/2018)

NOTES

Please note that this statement is based on information available at the time of writing. No site visits were undertaken on private land. Due to the changing nature of ecosystems and surrounding land use, future assessment of the Significant Natural Area may be necessary to reflect any changes in knowledge, values, or boundaries that may influence its assessment as ecologically significant.

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Mānuka (*Leptospermum scoparium*) has a national-level threat classification of At Risk-Declining, as per de Lange *et al.* 2018. Mānuka is a Myrtaceae species which is at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of mānuka has been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of mānuka at this site does not trigger the rarity criteria because the species is currently common and widespread in the local environment.

DRAFT

Kaitoke Waterworks Road forest

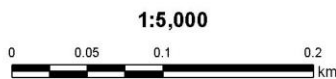
INTRODUCTION

Site Name: Kaitoke Waterworks Road forest
Site Number: UH037
Site Location: Next to Kaitoke Waterworks Road, near the intersection with SH2.
Site Area: 2.45 ha.
Current Protection Status: Site has no legal protection.
Protection Type: Not applicable.

Site Map

Site Number: UH037

Site Name: Kaitoke Waterworks Road forest



— SNA site boundary

— District boundary

— Other probable SNA site boundary

- - Ecological District boundary

Site Summary: This remnant area of valley floor forest mostly contains kahikatea (*Dacrycarpus dacrydioides*; of local interest), but also includes tōtara (*Podocarpus totara*; of local interest). Indigenous vegetation is present on land environments with less than 10%, and 10-20% indigenous vegetation cover remaining. Lowland forests have been largely cleared in Upper Hutt District, therefore any remnants that remain are important. The site may be grazed, as the understorey vegetation is in poor condition.

IMPORTANT FEATURES

Threatened Indigenous Flora: No rare plant species are known from the site. However, the site may contain podocarp species of local interest.

Threatened Indigenous Fauna: No rare fauna are known from the site.

Threatened Land Environments: Almost entirely on land environments with <10% vegetation cover remaining.

Rare Habitats: No rare habitats or communities known.

Geological Features: None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	This site includes vegetation that is representative of Singers and Rogers (2014) vegetation type: MF7-Tawa, kāmahī, podocarp forest, of which there is less than 30% remaining within the Wellington region, and less than 20% protected in Upper Hutt District.
RPS23b: Rarity	Yes	Includes indigenous vegetation on land environments with less than 10% vegetation cover remaining.
RPS23c: Diversity	No	Appears to have a reduced natural diversity compared to natural podocarp forest types.
RPS23d: Ecological Context	Yes	Physically isolated by pasture surrounding the site, but less than 50 m to the network of indigenous scrub and exotic cover of the Pakuratahi River riparian zones.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

Ecological District: Tararua

Ecological Domain(s): 61 Wainuiomata - Hutt - Kaitoke.

Digital Scale: 1:5,000

Altitude Range: 205-215 m a.s.l.

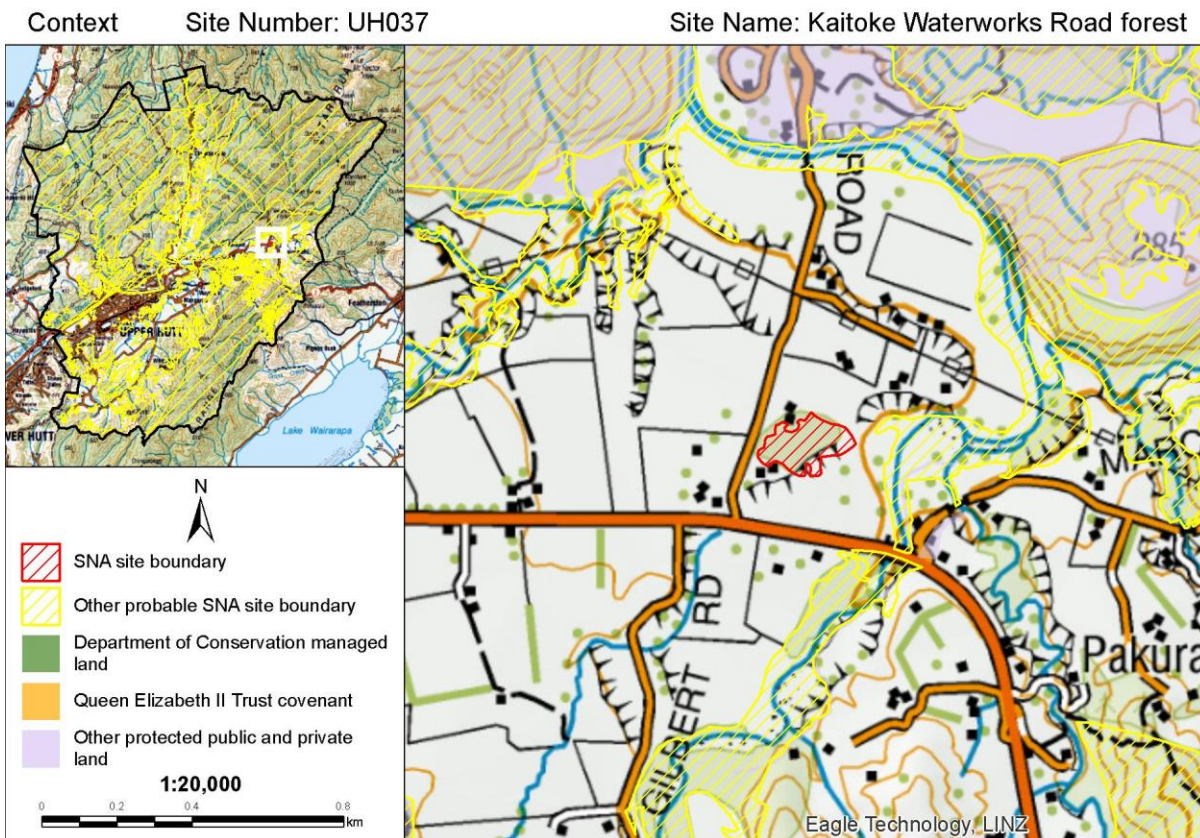
Grid Reference: NZTM E1784753 N5450425

Adjacent Vegetation and Habitats: Pasture.

Notes on Overall Condition: Mature podocarps, but does not appear to have good understorey vegetation (possibly grazed underneath).

Potential Land Management Issues: Fencing may be required.

Sources of Information for this Site ^{Note#}: Google Earth, historic aerial imagery.



ASSESSED BY

Assessment Techniques: Species databases, aerial imagery, and road side viewing.

Assessed By: Helen White (Date 10/07/2018)

Reviewed By: Steve Rate (Date 1/8/2018)

NOTES

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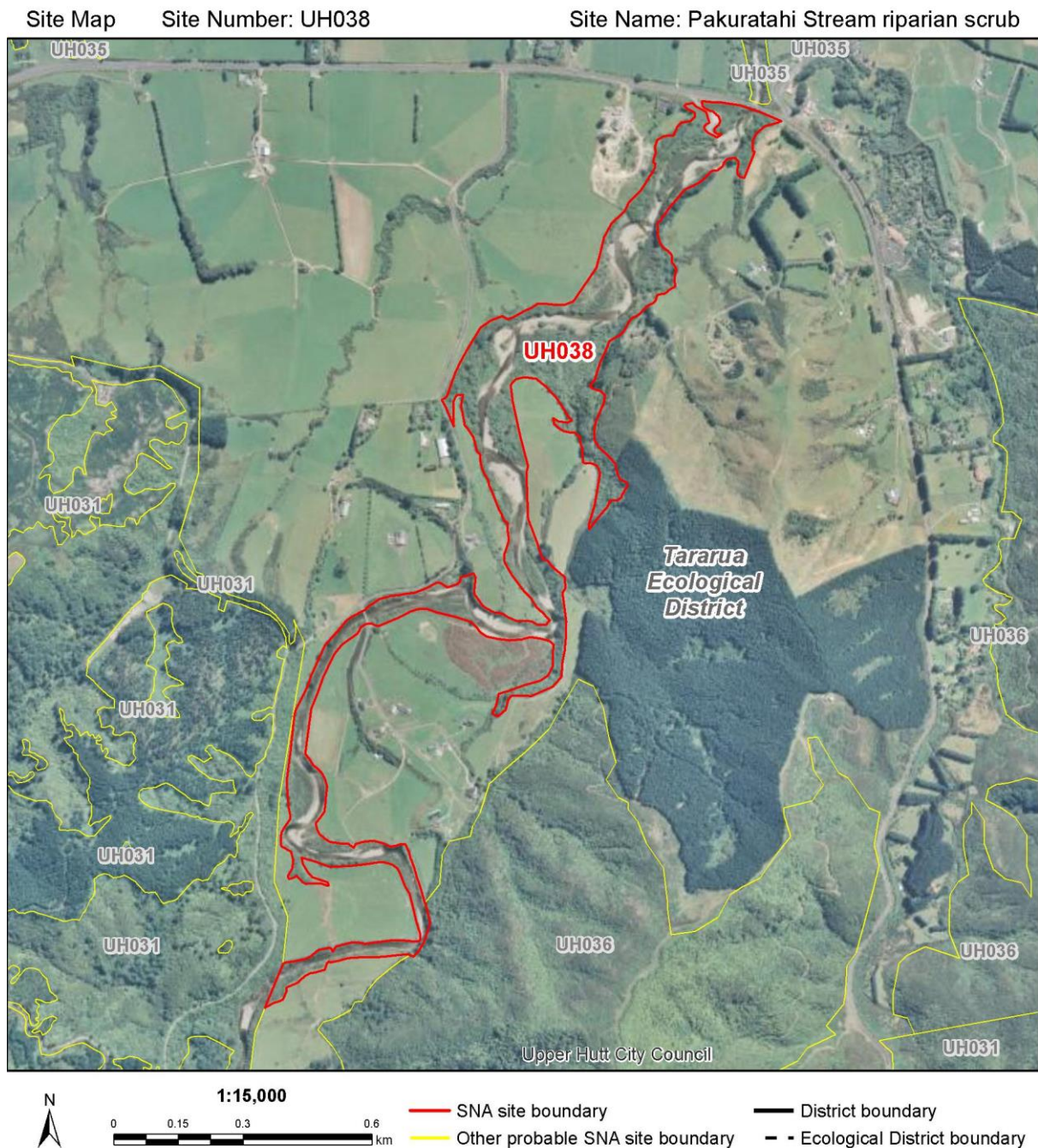
The full list of data sources and references used to assess sites is listed in the main body of the report under REFERENCES and also in the EXPLANATORY NOTES in Appendix 9. Aerial photography (2017 colour) was used to view and evaluate all sites, additional sources such as historic aerial photography in Google Earth, was used to inform site values and improve site boundaries.

DRAFT

Pakuratahi Stream riparian scrub

INTRODUCTION

Site Name: Pakuratahi Stream riparian scrub
Site Number: UH038
Site Location: East of Gilbert Road.
Site Area: 30.06 ha.
Current Protection Status: Site is partially legally protected.
Protection Type: Esplanade strip.



Site Summary: This SNA comprises riparian vegetation on both sides of the Pakuratahi River. More than 50% of the plant species present are exotic, including willow, gorse, Himalayan honeysuckle, blackberry, tree lucerne, broom, poplar, and cherry. The site includes an area near Gilbert Road with māhoe-mānuka (*Leptospermum scoparium*; At Risk-Declining ^{Note##}) scrub and beech trees. The river supports the At Risk-Declining dwarf galaxias (*Galaxias divergens*), longfin eel (*Anguilla dieffenbachii*), kōaro (*Galaxias brevipinnis*), redfin bully (*Gobiomorphus huttoni*), as well as Cran's bully (*Gobiomorphus basalis*) and freshwater mussel (*Echyridella menziesii*). This waterway also supports the introduced brown trout (*Salmo trutta*).

IMPORTANT FEATURES

Threatened Indigenous Flora:	Mānuka (<i>Leptospermum scoparium</i> ; At Risk-Declining) ^{Note##} .
Threatened Indigenous Fauna:	This site supports the At Risk-Declining dwarf galaxias (<i>Galaxias divergens</i>). The At Risk-Declining longfin eel (<i>Anguilla dieffenbachii</i>), kōaro (<i>Galaxias brevipinnis</i>), redfin bully (<i>Gobiomorphus huttoni</i>), and freshwater mussel (<i>Echyridella menziesii</i>) have also been recorded in Pakuratahi River.
Threatened Land Environments:	More than 0.5 hectares on Acutely Threatened land environments (<10% indigenous cover remaining).
Rare Habitats:	Braided river systems are a Threatened ecosystem.
Geological Features:	None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	No	Early successional forests have limited elements representative of original vegetation types.
RPS23b: Rarity	Yes	Six At Risk fish species, and one At Risk plant species ^{Note##} . Although adversely impacted by exotic vegetation, it is an example of a small braided river system, which is a Threatened ecosystem. Includes indigenous vegetation on land environments with less than 10% indigenous vegetation cover remaining.
RPS23c: Diversity	No	Likely to be modified with a reduced diversity.
RPS23d: Ecological Context	Yes	Buffers the Pakuratahi Stream and provides connectivity for freshwater fish moving up stream.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

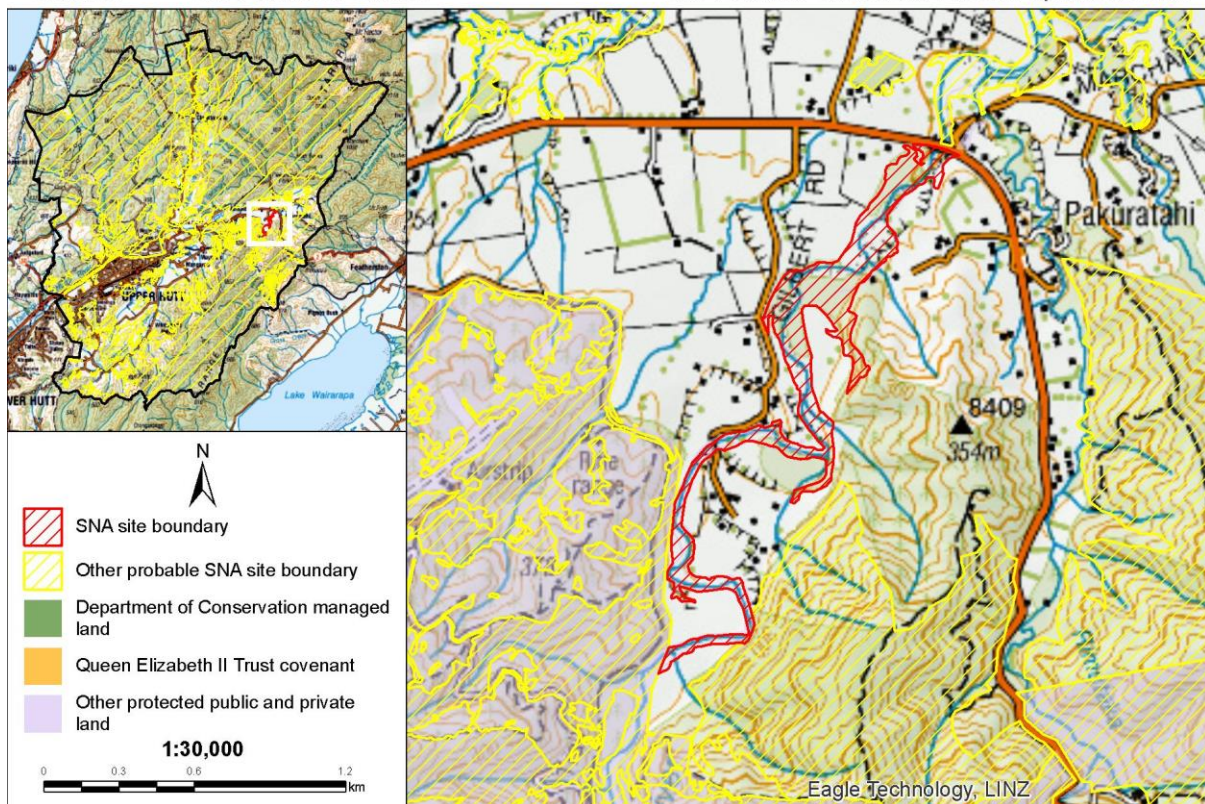
SITE CONTEXT AND OTHER INFORMATION

Ecological District:	Tararua
Ecological Domain(s):	61 Wainuiomata - Hutt - Kaitoke; 62 Rimutaka (<550 metres).
Digital Scale:	1:15,000

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Altitude Range: 200-265 m a.s.l.
Grid Reference: NZTM E1784454 N5449278
Adjacent Vegetation and Habitats: Pasture, pine plantation.
Notes on Overall Condition: Unknown.
Potential Land Management Issues: Brown trout impacts on indigenous aquatic species.
Sources of Information for this Site ^{Note#:} Google Earth.

Context Site Number: UH038 Site Name: Pakuratahi Stream riparian scrub



ASSESSED BY

Assessment Techniques: Aerial imagery, historic images, road side viewing.
Assessed By: Helen White (Date 10/07/2018)
Reviewed By: Steve Rate (Date 1/8/2018)

NOTES

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Mānuka (*Leptospermum scoparium*) has a national-level threat classification of At Risk-Declining, as per de Lange *et al.* 2018. Mānuka is a Myrtaceae species which is at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of mānuka has been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of mānuka at this site does not trigger the rarity criteria because the species is currently common and widespread in the local environment.

DRAFT

Plateau Road forest and scrub

INTRODUCTION

Site Name: Plateau Road forest and scrub
Site Number: UH039
Site Location: North of Plateau Road and south of SH2.
Site Area: 81.81 ha.
Current Protection Status: Site is partially legally protected.
Protection Type: UHCC park; Esplanade strip.



Site Summary: This SNA includes three areas contiguous with, and buffering, the north of GWRC's Pakuratahi Forest KNE site. The site has an altitudinal range of approximately 100 to 260 metres above sea level, which supports a diversity of vegetation types, including beech forest with tall mānuka (*Leptospermum scoparium*; At Risk-Declining ^{Note##}), rewarewa-rimu/kāmahi forest, and broadleaved forest and scrub comprised of māhoe, red māpou, five-finger, tarata, rewarewa and mānuka. Other plant species of interest include northern rātā (*Metrosideros robusta*; Threatened-Nationally Vulnerable ^{Note##}), kahikatea (*Dacrydium dacrydioides*; of local interest), and rimu (*Dacrydium cupressinum*; of local interest). This site includes indigenous vegetation on land environments with less than 10% indigenous vegetation cover remaining, and with 10-20% indigenous vegetation cover remaining. A tributary of Mangaroa River flows along the southern part of the site, and this habitat supports redfin bully (*Gobiomorphus huttoni*; At Risk-Declining). Bush falcon (*Falco novaeseelandiae ferox*; At Risk-Recovering), whitehead (*Mohoua albicilla*; At Risk-Declining), and bellbird (*Anthornis melanura melanura*; regionally uncommon) have been recorded adjacent to this SNA.

IMPORTANT FEATURES

Threatened Indigenous Flora:	Mānuka (<i>Leptospermum scoparium</i> ; At Risk-Declining ^{Note##}), northern rātā (<i>Metrosideros robusta</i> ; Threatened-Nationally Vulnerable ^{Note##}), kahikatea (<i>Dacrydium dacrydioides</i> ; of local interest), and rimu (<i>Dacrydium cupressinum</i> ; of local interest).
Threatened Indigenous Fauna:	Redfin bully (<i>Gobiomorphus huttoni</i> ; At Risk-Declining) has been recorded at the site. The At Risk whitehead (<i>Mohoua albicilla</i>) and bush falcon (<i>Falco novaeseelandiae ferox</i>), and regionally uncommon bellbird (<i>Anthornis melanura melanura</i>) have been recorded nearby.
Threatened Land Environments:	More than 0.5 hectares on Acutely Threatened land environments (<10% indigenous cover remaining).
Rare Habitats:	No rare habitats or communities known.
Geological Features:	None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	Includes vegetation representative of Singers and Rogers (2014) vegetation type: MF20-Hard beech forest, which has less than 20% protected in the Wellington region.
RPS23b: Rarity	Yes	One Threatened ^{Note##} , one At Risk ^{Note##} and two plant species of local interest, and one At Risk fish species. Contains indigenous vegetation on land environments where indigenous vegetation is reduced to less than 10%, or reduced to 10-20%.
RPS23c: Diversity	Yes	Contains a diversity of vegetation types.
RPS23d: Ecological Context	Yes	Contiguous with, and buffers GWRC's Pakuratahi Forest KNE site.
RPS23e: Tangata Whenua	Unknown	Not assessed.

RPS Policy 23 Criteria	Achieved	Assessment
Values		
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

Ecological District: Wellington

Ecological Domain(s): 61 Wainuiomata - Hutt - Kaitoke.

Digital Scale: 1:17,000

Altitude Range: 100-280 m a.s.l.

Grid Reference: NZTM E1780097 N5448759

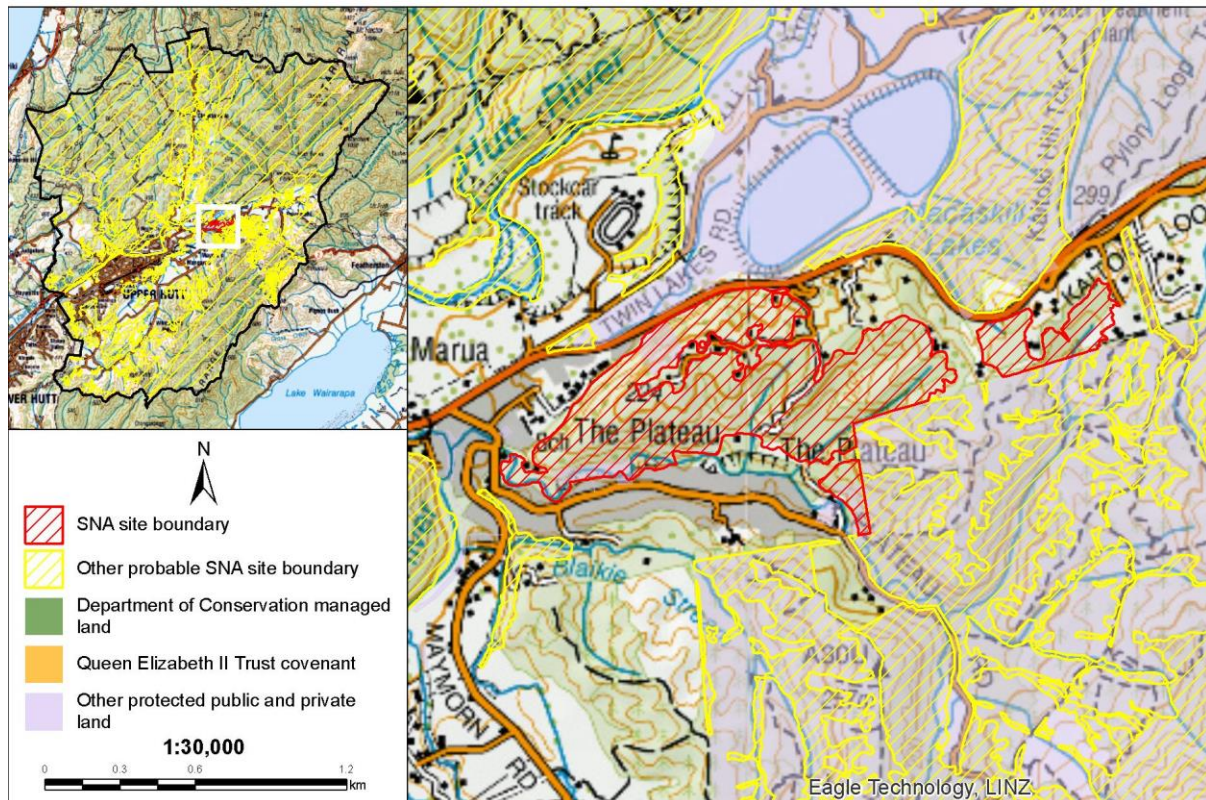
Adjacent Vegetation and Habitats: Residential, KNE, pines, Highway.

Notes on Overall Condition: Vehicle tracks, high number of wilding pines.

Potential Land Management Issues: Impacts of residential development, and wilding pines.

Sources of Information for this Site ^{Note#:} DOC Bioweb, NIWA 2015, Sullivan *et al.* 2009, Google Earth.

Context Site Number: UH039 Site Name: Plateau Road forest and scrub



ASSESSED BY

Assessment Techniques: Species database, aerial imagery, road side viewing.
Assessed By: Keely Paler (Date 6/07/2018)
Reviewed By: Steve Rate (Date 1/8/2018)

NOTES

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Northern rātā and mānuka have national-level threat classifications as per de Lange *et al.* 2018; Northern rātā (*Metrosideros robusta*; Threatened-Nationally Vulnerable), and mānuka (*Leptospermum scoparium*; At Risk-Declining). Northern rātā and mānuka are Myrtaceae species which are at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of northern rātā and mānuka have been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of northern rātā or mānuka at this site does not trigger the rarity criteria because the species are currently widespread in the local environment.

Stock Car Wetland

INTRODUCTION

Site Name: Stock Car Wetland
Site Number: UH040
Site Location: Twin Lakes Road, Te Marua.
Site Area: 7.91 ha.
Current Protection Status: Site has no legal protection.
Protection Type: Not applicable.



Site Summary: This site includes the Stock Car Wetland, located alongside Wellington Family Speedway, which is listed in GWRC's Proposed Natural Resources Plan for the Wellington Region Schedule F3: Identified significant natural wetlands. It contains indigenous shrubland dominated by *Coprosma tenuicaulis*, mānuka (*Leptospermum scoparium*; At Risk-Declining ^{Note##}), *Carex secta*, and kahikatea (*Dacrycarpus dacrydioides*; of local interest), a mosaic of mānuka scrub and shrubland, *Carex secta* sedgeland, and exotic crack willow treeland. Freshwater wetlands are nationally rare, with less than 10% of their original extent remaining, and as a regionally uncommon habitat type they are considered ecologically significant. The site also includes broadleaved forest and scrub on the scarp at the eastern and southern margins of the wetland, with beech, māhoe, tarata, five-finger, treeferns, supplejack and red māpou.

IMPORTANT FEATURES

Threatened Indigenous Flora:	Mānuka (<i>Leptospermum scoparium</i> ; At Risk-Declining) ^{Note##} . Also contains kahikatea (<i>Dacrycarpus dacrydioides</i> ; of local interest).
Threatened Indigenous Fauna:	No rare fauna are known from the site. Bush falcon (<i>Falco novaeseelandiae ferox</i> ; At Risk-Recovering), whitehead (<i>Mohoua albicilla</i> ; At Risk-Declining), and regionally uncommon bellbird (<i>Anthornis melanura melanura</i>), pied tomtit (<i>Petroica macrocephala toitoi</i>), and North Island robin (<i>Petroica longipes</i>) recorded nearby.
Threatened Land Environments:	More than 0.5 ha of indigenous vegetation on Acutely Threatened land environments (<10% indigenous vegetation cover remaining).
Rare Habitats:	Freshwater wetlands are nationally rare, with less than 10% of their original extent remaining and they are a regionally uncommon habitat type.
Geological Features:	None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

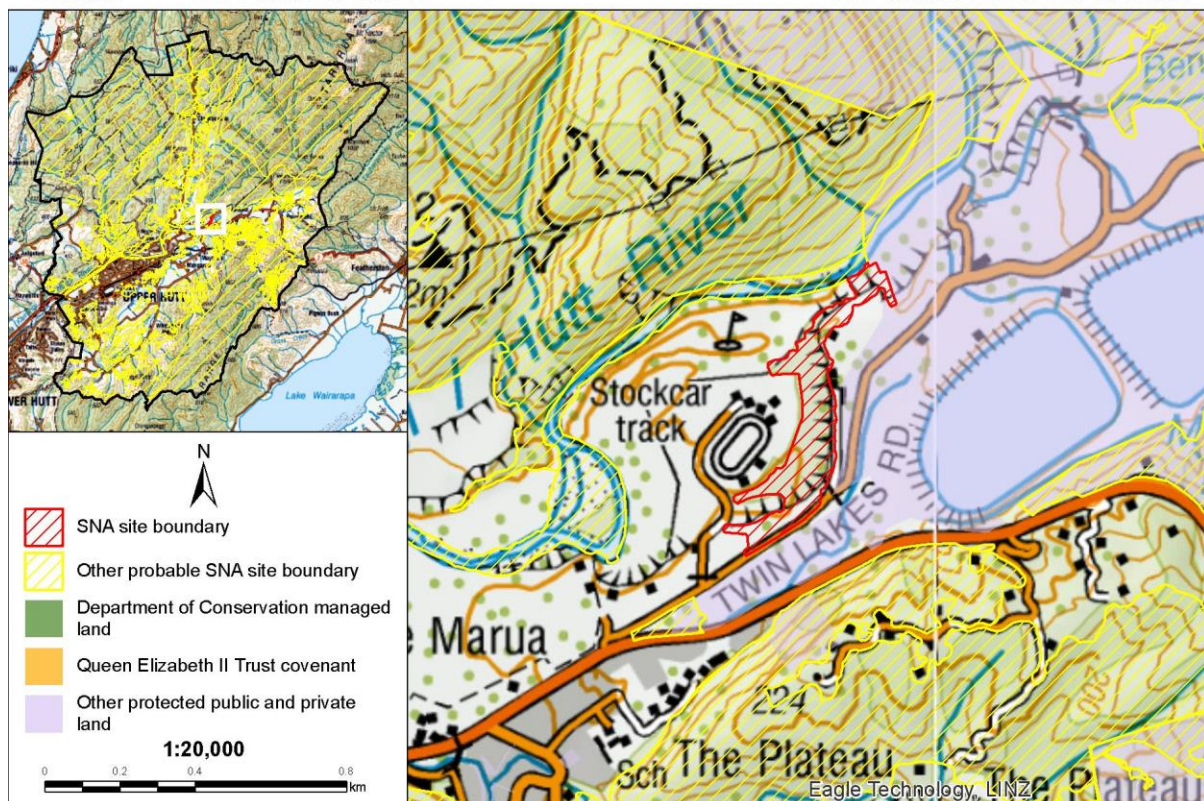
RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	Wetland scrub is representative of original vegetation types.
RPS23b: Rarity	Yes	One At Risk plant species ^{Note##} . Freshwater wetlands are a nationally rare (<10% of their original extent remains) and a regionally uncommon habitat type. Includes indigenous vegetation on land environments with less than 10% indigenous vegetation cover remaining.
RPS23c: Diversity	Yes	Contains a natural diversity of species (Wildland Consultants 2013).
RPS23d: Ecological Context	Yes	Likely to be used by birds crossing the Hutt Valley; good hydrological connectivity.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

Ecological District:	Wellington
Ecological Domain(s):	61 Wainuiomata - Hutt - Kaitoke.
Digital Scale:	1:6,000
Altitude Range:	100-115 m a.s.l.
Grid Reference:	NZTM E1779668 N5449495
Adjacent Vegetation and Habitats:	Pasture, road, residential, Te Awa Kairangi/Hutt River
Notes on Overall Condition:	Somewhat degraded, with weed infestations, including blackberry, and crack willow. May also have a modified hydrology. Strong urban influence.
Potential Land Management Issues:	Earthworks at motorsport track, track cutting through buffering vegetation, rubbish, fuel spills and fire from race track.
Sources of Information for this Site ^{Note#:}	GWRC 2015b, Boffa Miskell Ltd 2011, Ausseil <i>et al.</i> 2008, Google Earth, Wildland Consultants 2013.

Context Site Number: UH040

Site Name: Stock Car Wetland

**ASSESSED BY**

Assessment Techniques:	Literature review, aerial imagery, partial road side viewing (large part not visible).
Assessed By:	Keely Paler (Date 7/05/2018)
Reviewed By:	Steve Rate (Date 1/8/2018)

NOTES

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Mānuka (*Leptospermum scoparium*) has a national-level threat classification of At Risk-Declining, as per de Lange *et al.* 2018. Mānuka is a Myrtaceae species which is at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of mānuka has been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of mānuka at this site does not trigger the rarity criteria because the species is currently common and widespread in the local environment.

Maymorn Road forest and scrub

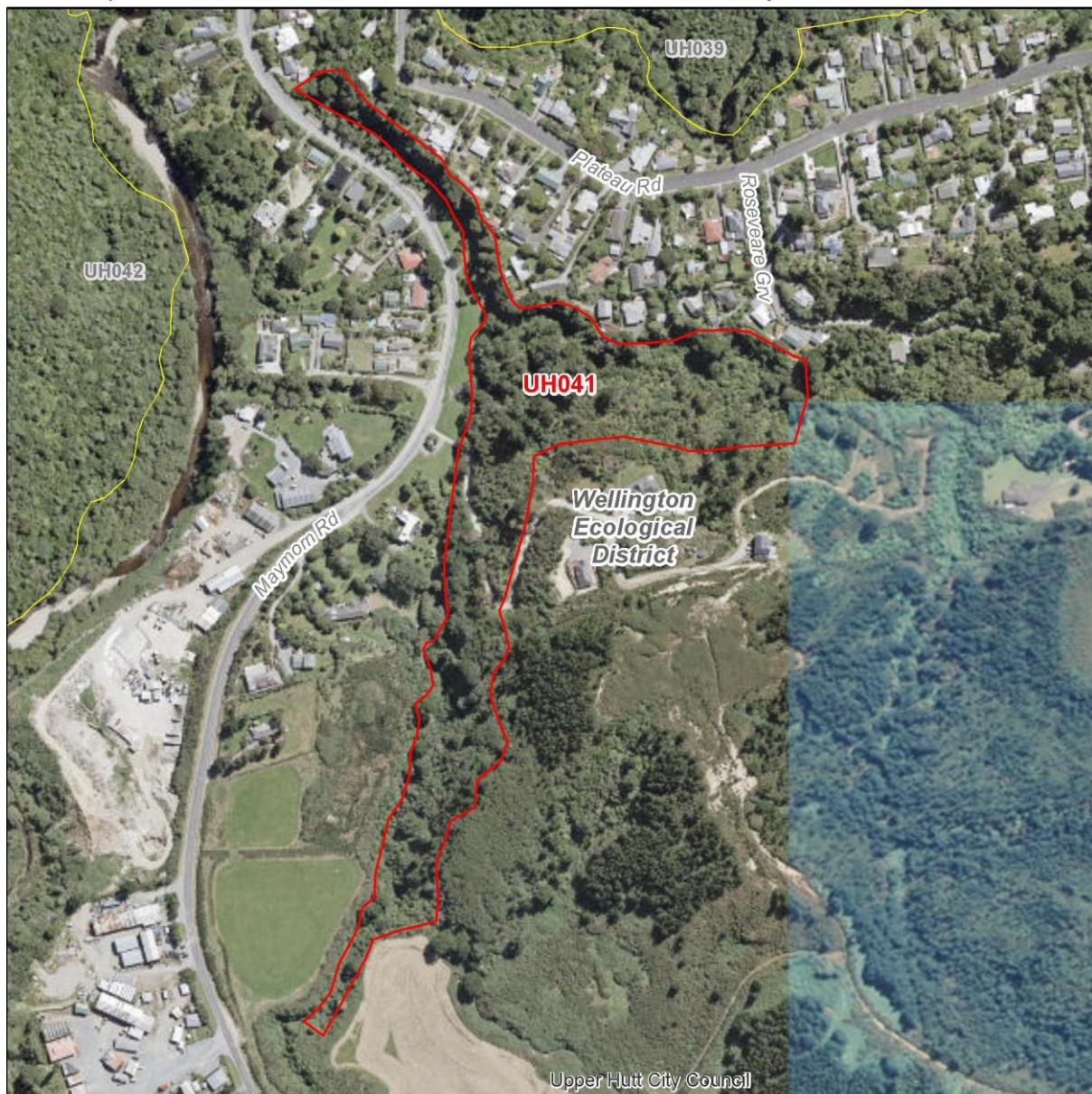
INTRODUCTION

Site Name: Maymorn Road forest and scrub
Site Number: UH041
Site Location: Maymorn Road, Maymorn.
Site Area: 4.53 ha.
Current Protection Status: Site has no legal protection.
Protection Type: Not applicable.

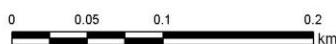
Site Map

Site Number: UH041

Site Name: Maymorn Road forest and scrub



1:5,000



— SNA site boundary

— District boundary

— Other probable SNA site boundary

- - Ecological District boundary

Site Summary: This small area of primary beech forest and broadleaved scrub is located between Maymorn Road and Plateau Road. Plant species present include rimu (*Dacrydium cupressinum*; of local interest), kōwhai, māhoe, tarata and five-finger. Indigenous vegetation is present on land environments with less than 10% vegetation cover remaining. There is broadleaved scrub on the riparian margins of Blaike Stream, a tributary of the Mangaroa River. Bush falcon (*Falco novaeseelandiae ferox*; At Risk-Recovering) has been recorded nearby.

IMPORTANT FEATURES

Threatened Indigenous Flora: No rare plant species are known from the site, but includes kahikatea (*Dacrycarpus dacrydioides*) and kōwhai (*Sophora microphylla*) which are of local interest.

Threatened Indigenous Fauna: No rare fauna are known from the site. Bush falcon (*Falco novaeseelandiae ferox*; At Risk-Recovering) has been recorded nearby.

Threatened Land Environments: More than 0.5 hectares on Acutely Threatened land environments (<10% indigenous cover remaining).

Rare Habitats: No rare habitats or communities known.

Geological Features: None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	Beech forest is representative of the Singers & Rogers (2014) vegetation type: MF20-Hard beech forest, which has less than 20% protected in the Wellington region.
RPS23b: Rarity	Yes	Includes indigenous vegetation on land environments with less than 10% vegetation cover remaining.
RPS23c: Diversity	No	Modified, with a reduced diversity of ecological units.
RPS23d: Ecological Context	Yes	A small part of the Eastern Hutt Hills bird corridor, which provides habitat for birds and other indigenous species moving along the eastern side of the Hutt Valley.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

Ecological District: Wellington

Ecological Domain(s): 61 Wainuiomata - Hutt - Kaitoke.

Digital Scale: 1:5,000

Altitude Range: 95-135 m a.s.l.

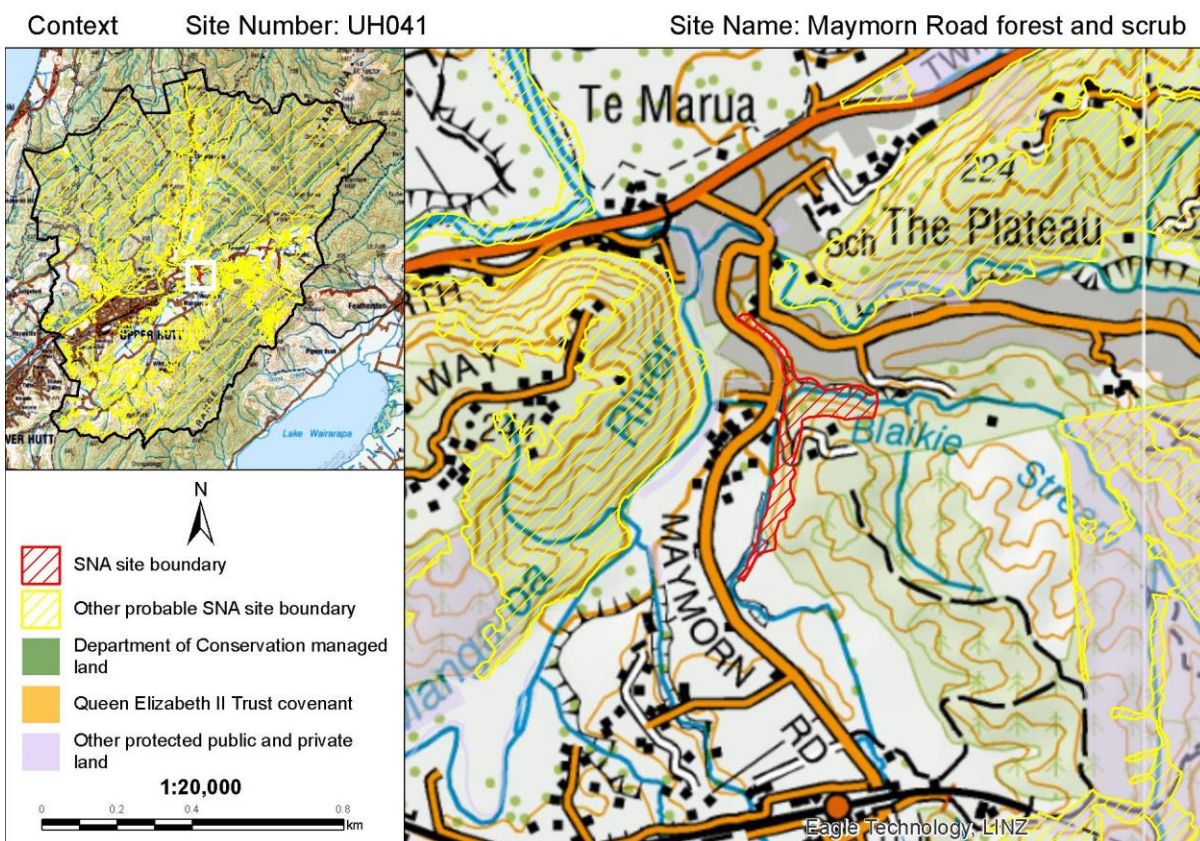
Grid Reference: NZTM E1779089 N5448045

Adjacent Vegetation and Habitats: Residential, broadleaved scrub.

Notes on Overall Condition: Small, narrow, convoluted and likely impacted by residential uses. Exotic plant species present include Japanese honeysuckle, blackberry, wilding pine, convulvulus and Himalayan honeysuckle.

Potential Land Management Issues: Impacts of residential gardening and pest plants.

Sources of Information for this Site ^{Note#:}: Wildland Consultants 2008, Google Earth.



ASSESSED BY

Assessment Techniques: Species database, aerial image, road side assessment.

Assessed By: Helen White (Date 9/07/2018)

Reviewed By: Steve Rate (Date 1/8/2018)

NOTES

Please note that this statement is based on information available at the time of writing. No site visits were undertaken on private land. Due to the changing nature of ecosystems and surrounding land use, future assessment of the Significant Natural Area may be necessary to reflect any changes in knowledge, values, or boundaries that may influence its assessment as ecologically significant.

An Explanatory Note is available in Appendix 9, which provides more information about how each of the above fields was collated or assessed.

The full list of data sources and references used to assess sites is listed in the main body of the report under REFERENCES and also in the EXPLANATORY NOTES in Appendix 9. Aerial photography (2017 colour) was used to view and evaluate all sites, additional sources such as historic aerial photography in Google Earth, was used to inform site values and improve site boundaries.

DRAFT

Mt Mārua Hillside forest and scrub

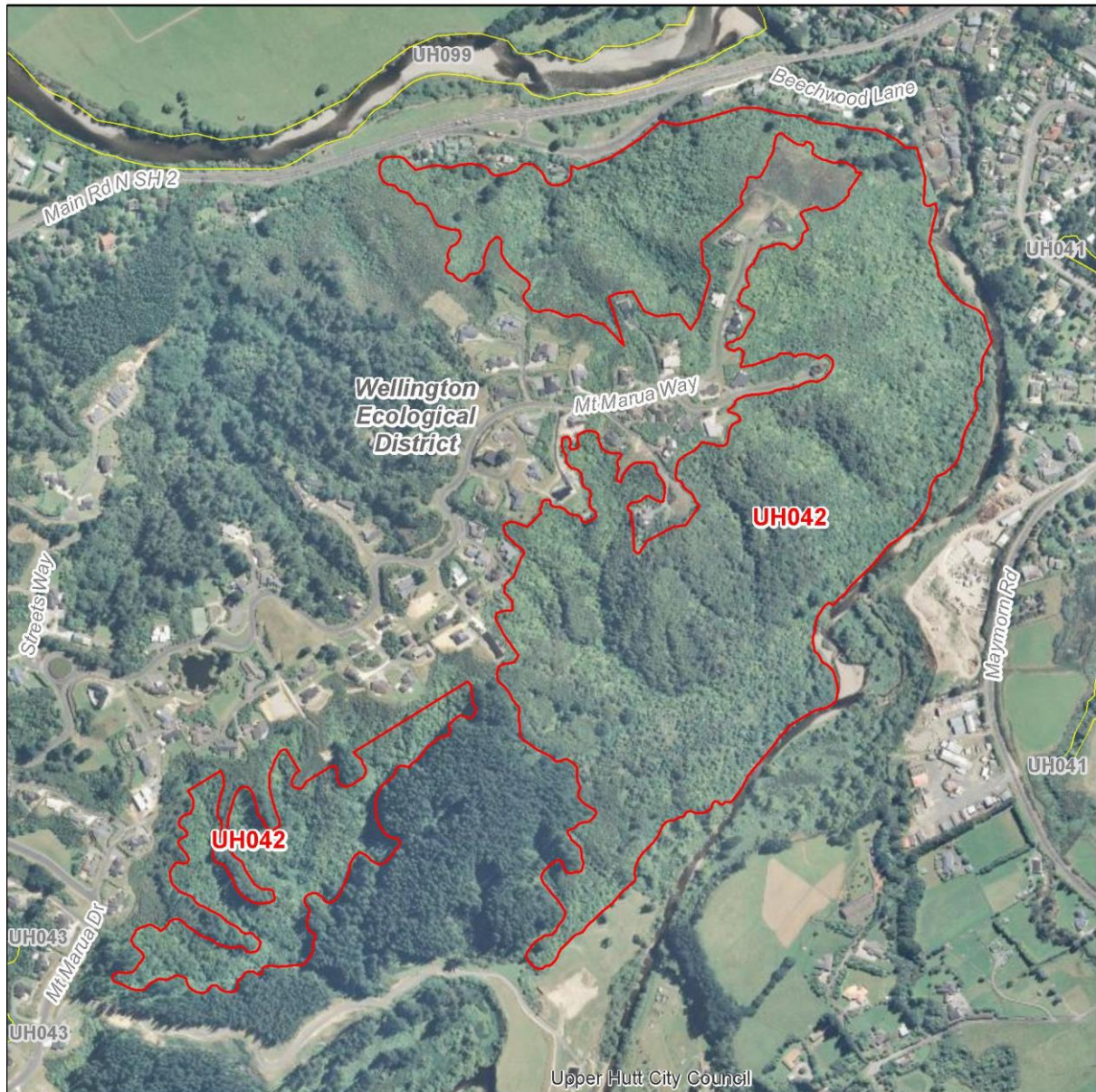
INTRODUCTION

Site Name: Mt Mārua Hillside forest and scrub
Site Number: UH042
Site Location: Mount Marua Way, Timberlea.
Site Area: 44.16 ha.
Current Protection Status: Site is partially legally protected.
Protection Type: Covenant over exotic and indigenous vegetation.

Site Map

Site Number: UH042

Site Name: Mt Mārua Hillside forest and scrub



— SNA site boundary

— Other probable SNA site boundary

— District boundary

- - Ecological District boundary

Site Summary: This site comprises two areas of steeply vegetated spurs and escarpments around the northern end and southeast facing hill slopes of Mt Marua. It includes riparian forest alongside the Mangaroa River and broadleaved forest on upper hillslopes and north-facing slopes above SH2. This site includes regenerating forest and scrub in addition to primary forest remnants of beech and swamp maire (*Syzygium maire*; Threatened-Nationally Critical ^{Note##}) between spurs, whilst much of the rest of the site comprises māhoe-kāmahi forest with mānuka (*Leptospermum scoparium*; At Risk-Declining ^{Note##}). Riparian indigenous vegetation is uncommon at low altitudes in this catchment. Bush falcon (*Falco novaeseelandiae ferox*; At Risk-Recovering) and bellbird (*Anthornis melanura melanura*; regionally uncommon) have been recorded nearby. Indigenous vegetation is present on slopes of high (21-30°) and very high (31-40°) steepness, and therefore provides erosion protection.

IMPORTANT FEATURES

Threatened Indigenous Flora:	Swamp maire (<i>Syzygium maire</i> ; Threatened-Nationally Critical) and mānuka (<i>Leptospermum scoparium</i> ; At Risk-Declining) ^{Note##} .
Threatened Indigenous Fauna:	No rare fauna are known from the site. Bush falcon (<i>Falco novaeseelandiae ferox</i> ; At Risk-Recovering) and bellbird (<i>Anthornis melanura melanura</i> ; regionally uncommon) have been recorded nearby.
Threatened Land Environments:	More than five hectares on Critically Under protected land environments (>20% protection).
Rare Habitats:	Swamp forests are nationally rare and regionally uncommon.
Geological Features:	None known.

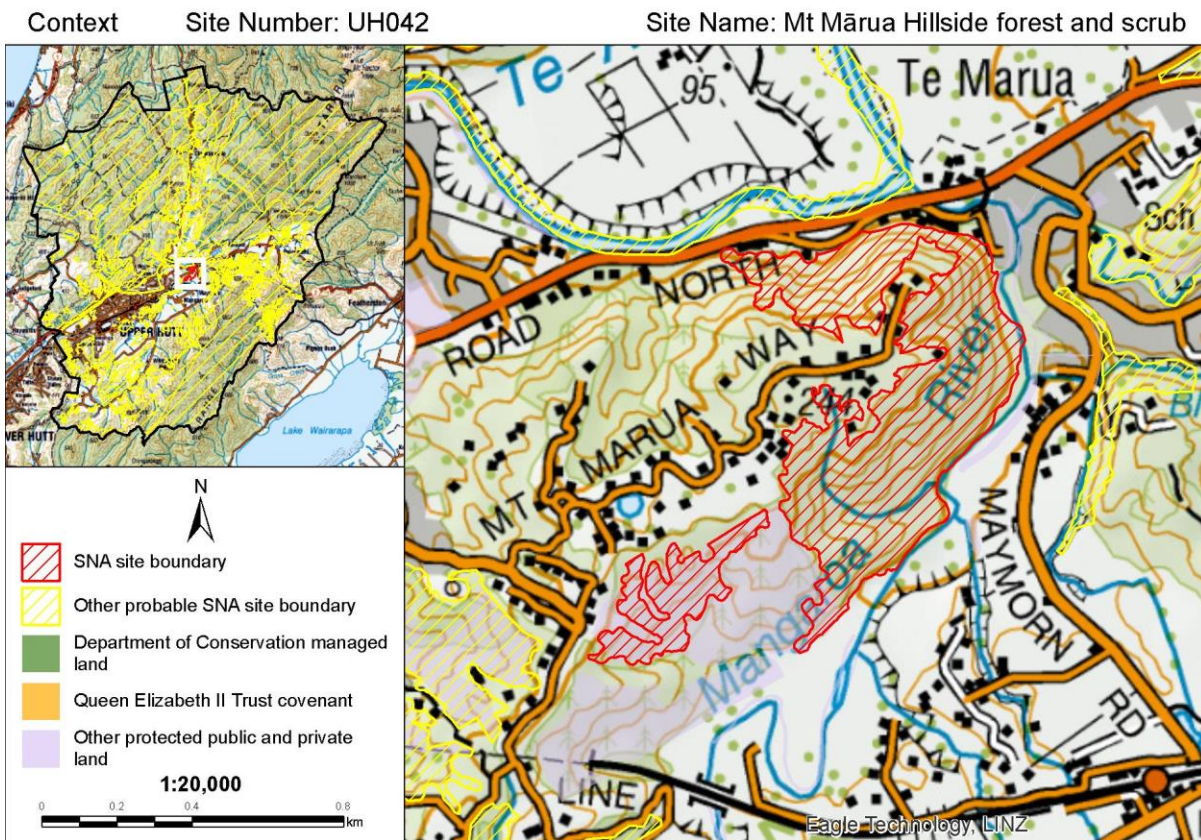
SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	This SNA includes primary beech forest remnants representative of Singers and Rodgers (2014) vegetation type: MF20-Hard beech forest, which has less than 20% protected in the Wellington region. Additionally, small pockets of remnant swamp forest occur in the valleys which are representative of the original vegetation types.
RPS23b: Rarity	Yes	One Threatened and one At Risk plant species ^{Note##} . Swamp forests are nationally rare and regionally uncommon. Low altitude riparian forests are uncommon in this catchment.
RPS23c: Diversity	No	A large proportion of site is regenerating vegetation and is unlikely to have developed a high diversity of species.
RPS23d: Ecological Context	Yes	A relatively large site that is part of the Eastern Hutt Hills habitat corridor; provides some riparian protection to the Mangaroa River.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

Ecological District: Wellington
Ecological Domain(s): 61 Wainuiomata - Hutt - Kaitoke.
Digital Scale: 1:9,000
Altitude Range: 95-235 m a.s.l.
Grid Reference: NZTM E1778393 N5447989
Adjacent Vegetation and Habitats: Residential, road, Mangaroa River, pines, gorse.
Notes on Overall Condition: Northern part is of lower quality, with areas of gorse. Willows along the riparian margin.
Potential Land Management Issues: Impacts of residential development.
Sources of Information for this Site ^{Note#:} Wildland Consultants 2008, Boffa Miskell Ltd 2008b.



ASSESSED BY

Assessment Techniques: Literature review, species databases, aerial imagery, road side viewing.
Assessed By: Keely Paler (Date 6/07/2018)
Reviewed By: Steve Rate (Date 1/8/2018)

NOTES

Please note that this statement is based on information available at the time of writing. No site visits were undertaken on private land. Due to the changing nature of ecosystems and surrounding land use, future assessment of the Significant Natural Area may be necessary to reflect any changes in knowledge, values, or boundaries that may influence its assessment as ecologically significant.

An Explanatory Note is available in Appendix 9, which provides more information about how each of the above fields was collated or assessed.

The full list of data sources and references used to assess sites is listed in the main body of the report under REFERENCES and also in the EXPLANATORY NOTES in Appendix 9. Aerial photography (2017 colour) was used to view and evaluate all sites, additional sources such as historic aerial photography in Google Earth, was used to inform site values and improve site boundaries.

Swamp maire and mānuka have national-level threat classifications as per de Lange *et al.* 2018; Swamp maire (*Syzygium maire*; Threatened-Nationally Critical), and mānuka (*Leptospermum scoparium*; At Risk-Declining). They are Myrtaceae species which are at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of swamp maire and mānuka have been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of swamp maire or mānuka at this site does not trigger the rarity criteria because the species are currently widespread in the local environment.

Gentian forest and scrub

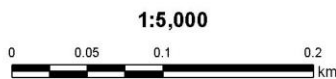
INTRODUCTION

Site Name: Gentian forest and scrub
Site Number: UH043
Site Location: Mount Marua Drive, Timberlea.
Site Area: 15.69 ha.
Current Protection Status: Site is partially legally protected.
Protection Type: Covenant over all native vegetation; UHCC park.

Site Map

Site Number: UH043

Site Name: Gentian forest and scrub



— SNA site boundary

— District boundary

— Other probable SNA site boundary

- - Ecological District boundary

Upper Hutt District Plan - Significant Natural Area Assessment - Significance Statement

Site Summary: This site includes Gentian Park and contiguous vegetation. The vegetation comprises mānuka (*Leptospermum scoparium*; At Risk-Declining ^{Note##}) scrub, broadleaved scrub, and pockets of high value remnant beech-kahikatea forest. Includes the Wellington Fault, and Harcourt Park Faulted Terraces, which are rare geological landforms.

IMPORTANT FEATURES

Threatened Indigenous Flora: Mānuka (*Leptospermum scoparium*; At Risk-Declining ^{Note##}), kahikatea (*Dacrycarpus dacrydioides*), tōtara (*Podocarpus totara*) of local interest.

Threatened Indigenous Fauna: No rare fauna are known from the site.

Threatened Land Environments: More than 0.5 ha of indigenous vegetation on Acutely Threatened land environments (<10% indigenous vegetation cover remaining).

Rare Habitats: No rare habitats or communities known.

Geological Features: Wellington Fault, Harcourt Park Faulted Terraces (rare geological landform)

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	Small patches of vegetation are present that are representative of Singers and Rogers (2014) MF20-Hard beech forest which has less than 20% protected in the Wellington region.
RPS23b: Rarity	Yes	One At Risk plant species ^{Note##} . Includes indigenous vegetation on land environments with less than 10% indigenous vegetation cover remaining. Geological Feature: Wellington Fault, Harcourt Park Faulted Terraces (rare geological landform).
RPS23c: Diversity	No	Likely to be modified with a reduced diversity of ecological units.
RPS23d: Ecological Context	Yes	Buffers, and includes a large proportion of Gentian Park. Part of the Eastern Hutt Hills bird corridor.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

Ecological District: Wellington

Ecological Domain(s): 61 Wainuiomata - Hutt - Kaitoke.

Digital Scale: 1:5,000

Altitude Range: 115-200 m a.s.l.

Grid Reference: NZTM E1777289 N5447349

Adjacent Vegetation and Habitats: Residential.

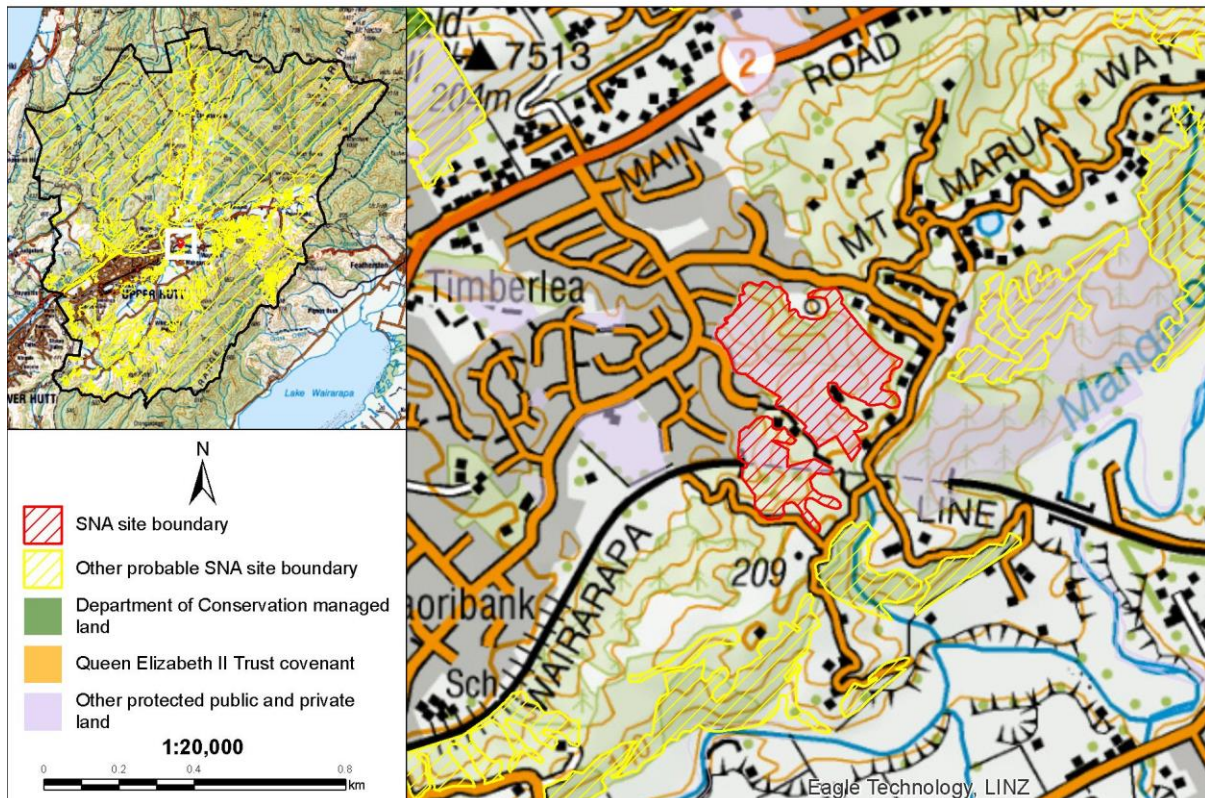
Notes on Overall Condition: Walking track present?

Potential Land Management Issues: Unknown.

Sources of Information for this Site ^{Note#:}: Boffa Miskell Ltd 2008b, Google Earth, Kenny and Hayward 1996.

Context Site Number: UH043

Site Name: Gentian forest and scrub



ASSESSED BY

Assessment Techniques: Species databased, aerial imagery, road side viewing.
Assessed By: Helen White (Date 9/07/2018)
Reviewed By: Steve Rate (Date 1/8/2018)

NOTES

Please note that this statement is based on information available at the time of writing. No site visits were undertaken on private land. Due to the changing nature of ecosystems and surrounding land use, future assessment of the Significant Natural Area may be necessary to reflect any changes in knowledge, values, or boundaries that may influence its assessment as ecologically significant.

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The full list of data sources and references used to assess sites is listed in the main body of the report under REFERENCES and also in the EXPLANATORY NOTES in Appendix 9. Aerial

photography (2017 colour) was used to view and evaluate all sites, additional sources such as historic aerial photography in Google Earth, was used to inform site values and improve site boundaries.

Mānuka (*Leptospermum scoparium*) has a national-level threat classification of At Risk-Declining, as per de Lange *et al.* 2018. Mānuka is a Myrtaceae species which is at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of mānuka has been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of mānuka at this site does not trigger the rarity criteria because the species is currently common and widespread in the local environment.

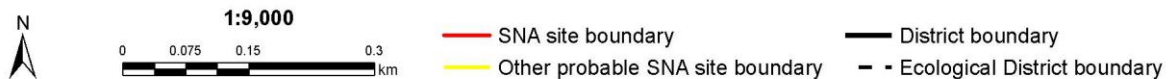
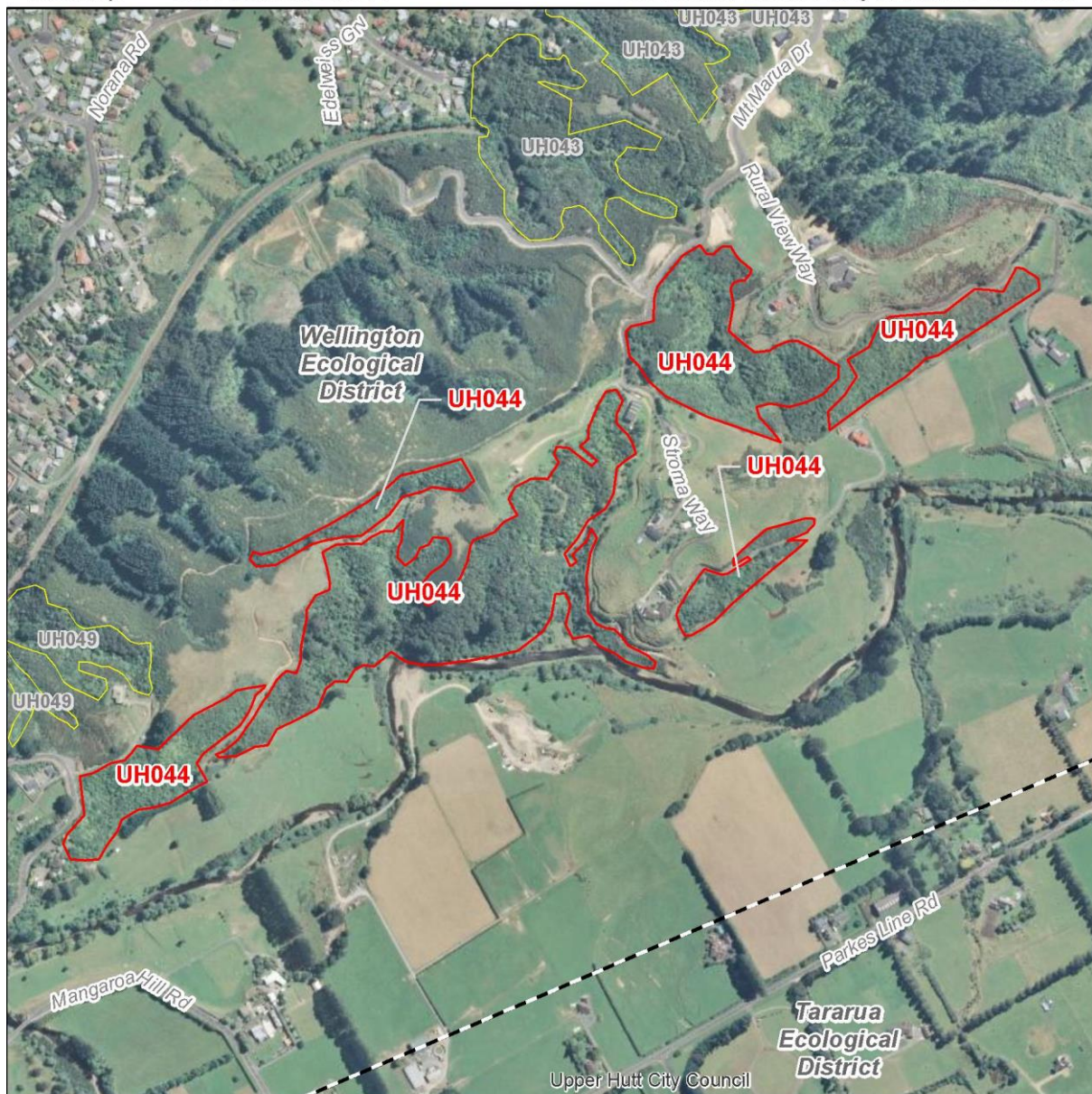
DRAFT

Stroma Way broadleaved scrub

INTRODUCTION

Site Name: Stroma Way broadleaved scrub
Site Number: UH044
Site Location: Stroma Way, Timberlea.
Site Area: 16.21 ha.
Current Protection Status: Site is partially legally protected.
Protection Type: Esplanade strip.

Site Map Site Number: UH044 Site Name: Stroma Way broadleaved scrub



Site Summary: This site comprises three blocks of broadleaved scrub on southeast-facing slopes above the Mangaroa Stream, including vegetation directly buffering approximately 350 metres of the stream. Vegetation types include rewarewa/kāmahi forest and māhoe-five-finger-red māpou scrub. Other species include mānuka (*Leptospermum scoparium*; At Risk-Declining^{Note##}), beech, kahikatea (*Dacrycarpus dacrydioides*; of local interest), and tōtara (*Podocarpus totara*; of local interest). Indigenous riparian vegetation is uncommon at lower elevations in this catchment. This site is also adjacent to, and provides links with UH043: Gentian forest and scrub and UH042: Mt Marua broadleaved scrub.

IMPORTANT FEATURES

Threatened Indigenous Flora:	Mānuka (<i>Leptospermum scoparium</i> ; At Risk-Declining ^{Note##}). Also contains kahikatea (<i>Dacrycarpus dacrydioides</i>) and tōtara (<i>Podocarpus totara</i>) which are of local interest.
Threatened Indigenous Fauna:	No rare fauna are known from the site. Whitehead (<i>Mohoua albicilla</i> ; At Risk-Declining), and regionally uncommon pied tomtit (<i>Petroica macrocephala toitoi</i>) recorded nearby.
Threatened Land Environments:	More than five hectares on Critically Under protected land environments (>20% protection).
Rare Habitats:	Indigenous riparian vegetation is uncommon at lower elevations in this catchment.
Geological Features:	None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	No	Early stage, regenerating scrub has low representative values.
RPS23b: Rarity	Yes	One At Risk plant species ^{Note##}). Indigenous riparian vegetation is uncommon at lower elevations in this catchment.
RPS23c: Diversity	No	Modified, with a likely reduced diversity of ecological units and species.
RPS23d: Ecological Context	Yes	This site is part of the Eastern Hutt Hills bird corridor. About 200 m of the site margin buffers the Mangaroa River.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

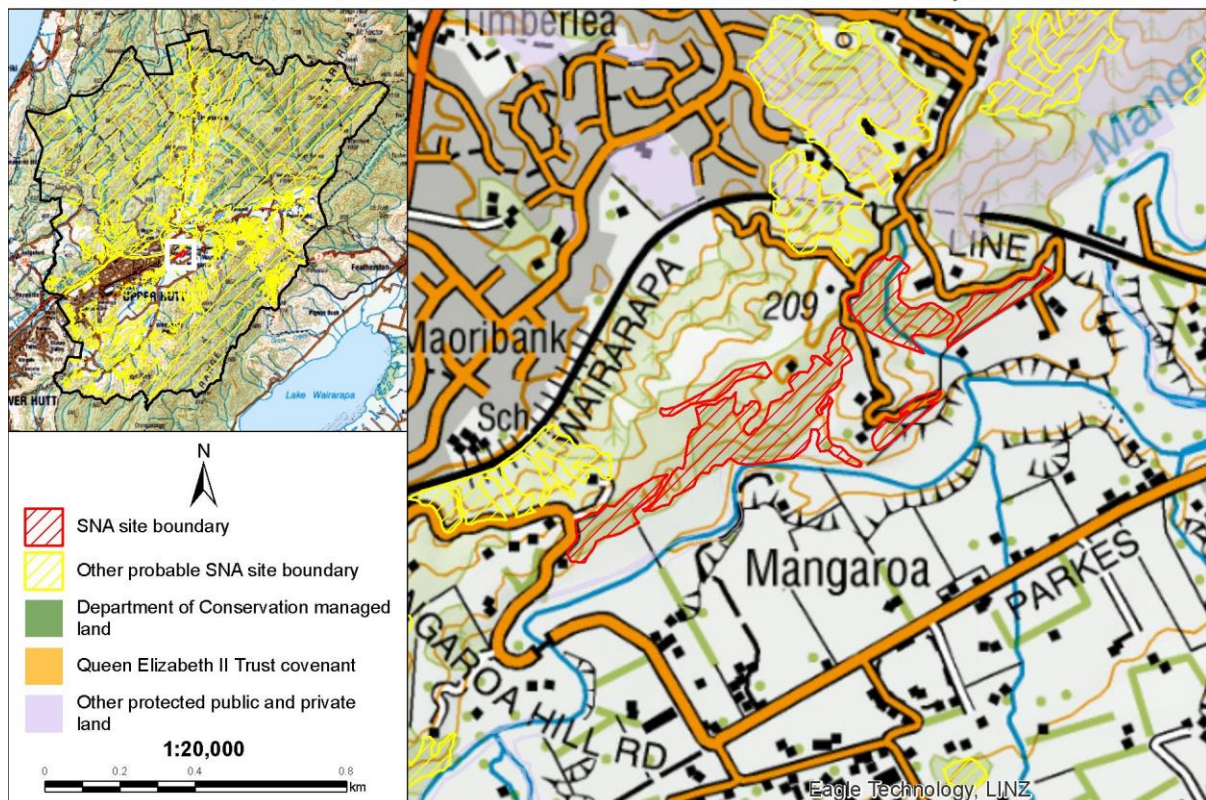
Ecological District:	Wellington
Ecological Domain(s):	61 Wainuiomata - Hutt - Kaitoke.
Digital Scale:	1:9,000
Altitude Range:	120-200 m a.s.l.

Upper Hutt District Plan - Significant Natural Area Assessment - Significance Statement

Grid Reference:	NZTM E1777206 N5446616
Adjacent Vegetation and Habitats:	Pasture, exotic scrub, road, residential, Mangaroa River.
Notes on Overall Condition:	Includes wilding pine and gorse scrub present (particularly along the edges).
Potential Land Management Issues:	Residential and subdivision pressures, and pest plant control.
Sources of Information for this Site ^{Note#:}	Wildland Consultants 2008.

Context Site Number: UH044

Site Name: Stroma Way broadleaved scrub

**ASSESSED BY**

Assessment Techniques:	Aerial imagery, species databases, road side viewing.
Assessed By:	Helen White (Date 9/07/2018)
Reviewed By:	Steve Rate (Date 1/8/2018)

NOTES

Please note that this statement is based on information available at the time of writing. No site visits were undertaken on private land. Due to the changing nature of ecosystems and surrounding land use, future assessment of the Significant Natural Area may be necessary to reflect any changes in knowledge, values, or boundaries that may influence its assessment as ecologically significant.

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Mānuka (*Leptospermum scoparium*) has a national-level threat classification of At Risk-Declining, as per de Lange *et al.* 2018. Mānuka is a Myrtaceae species which is at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of mānuka has been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of mānuka at this site does not trigger the rarity criteria because the species is currently common and widespread in the local environment.

DRAFT

Emerald Hill Drive forest and scrub

INTRODUCTION

Site Name: Emerald Hill Drive forest and scrub
Site Number: UH045
Site Location: North and South of Birch Terrace, east of Akatarawa Road, north and west of Emerald Hill Drive.
Site Area: 25.95 ha.
Current Protection Status: Site is partially legally protected.
Protection Type: DOC managed land; UHCC park.



Site Summary: This SNA comprises one small and one large area which includes Akatarawa Road Conservation Area, Emerald Hill Park and an area on private land. The vegetation comprises māhoe broadleaved scrub, gorse and mānuka (*Leptospermum scoparium*; At Risk-Declining^{Note##}) scrub on hillslopes. Plant species recorded from this SNA include three species of local interest kahikatea (*Dacrycarpus dacrydioides*), tōtara (*Podocarpus totara*), and rimu (*Dacrydium cupressinum*), as well as beech, red māpou, five-finger, māhoe, treefern, tarata, tītoki, cabbage tree, and akeake. Indigenous vegetation is present on land environments with less than 10% indigenous vegetation cover remaining. This SNA includes tracks to power pylons and an area of gorse-mānuka scrub on public land, which was included in the SNA to improve connectivity. The smaller area to the north protects a riparian margin of a stream which drains into the Akatarawa River. The site is known to support the regionally uncommon bellbird (*Anthornis melanura melanura*).

IMPORTANT FEATURES

Threatened Indigenous Flora:	Mānuka (<i>Leptospermum scoparium</i> ; At Risk-Declining) ^{Note##} .
Threatened Indigenous Fauna:	This site supports the regionally uncommon bellbird (<i>Anthornis melanura melanura</i>). Bush falcon (<i>Falco novaeseelandiae ferox</i> ; At Risk-Recovering) and whitehead (<i>Mohoua albicilla</i> ; At Risk-Declining) have been recorded nearby.
Threatened Land Environments:	More than 0.5 hectares on Acutely Threatened land environments (<10% indigenous cover remaining).
Rare Habitats:	No rare habitats or communities known.
Geological Features:	None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	Podocarps are representative of the original vegetation type. Sections of the site are representative of Singers and Rogers (2014) vegetation type: MF20-Hard beech forest which has less than 20% protected in the Wellington region.
RPS23b: Rarity	Yes	One regionally uncommon bird species and one At Risk plant species ^{Note##} . Includes indigenous vegetation on land environments with less than 10% indigenous vegetation cover remaining.
RPS23c: Diversity	No	Comprised of mostly early successional forest, which has a reduced diversity of species.
RPS23d: Ecological Context	Yes	Adjacent with other forested areas along Akatarawa road.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

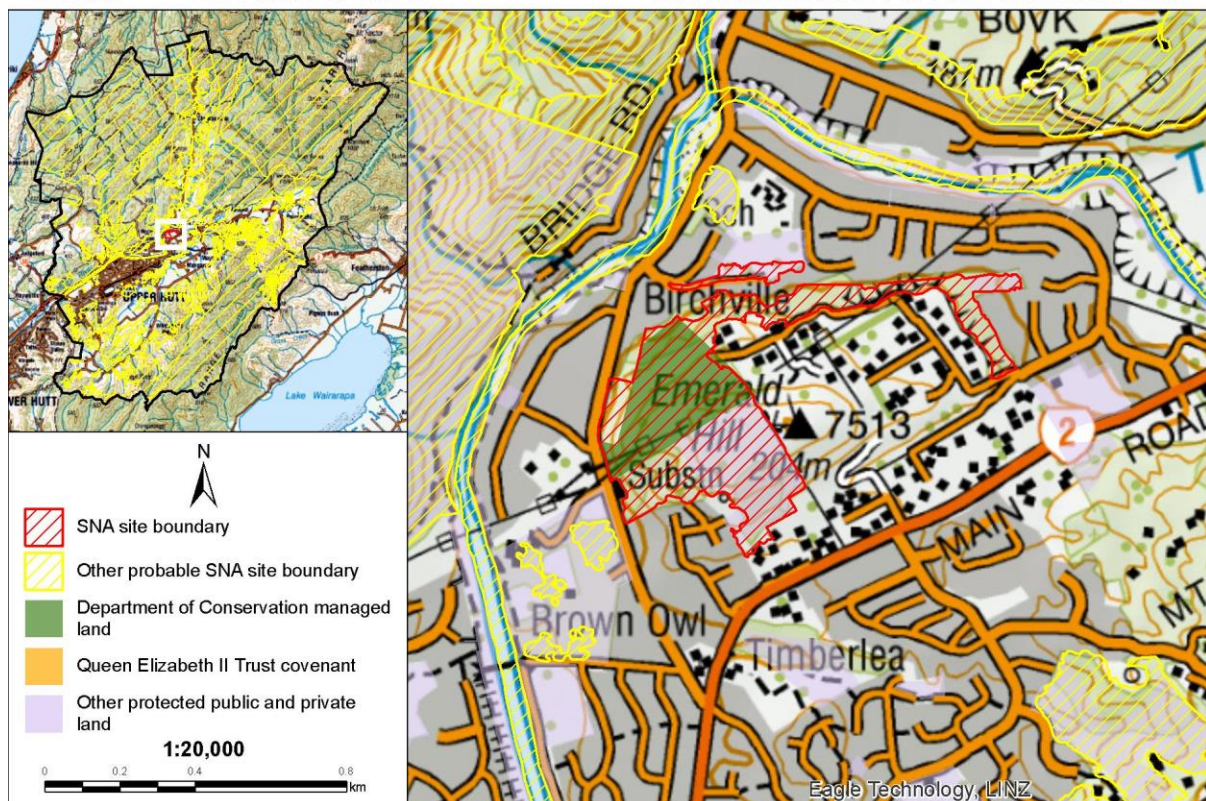
Ecological District:	Wellington
Ecological Domain(s):	61 Wainuiomata - Hutt - Kaitoke.
Digital Scale:	1:8,000
Altitude Range:	85-190 m a.s.l.
Grid Reference:	NZTM E1776267 N5448297
Adjacent Vegetation and Habitats:	Residential, gorse, roads, indigenous forest/scrub.
Notes on Overall Condition:	Contains pest plant species including old man's beard (<i>Clematis vitalba</i>), Japanese honeysuckle, wilding cherry, gorse, pines, and blackberry.
Potential Land Management Issues:	Fencing, maintaining access ways to the pylons, control of pest plant species.
Sources of Information for this Site ^{Note#:}	Department of Conservation, 1996; McArthur <i>et al.</i> 2017; Google Earth.

DRAFT

Context

Site Number: UH045

Site Name: Emerald Hill Drive forest and scrub

**ASSESSED BY**

Assessment Techniques:	Literature review, species databases, aerial imagery, road side viewing.
Assessed By:	Keely Paler (Date 27/06/2018)
Reviewed By:	Steve Rate (Date 1/8/2018)

NOTES

Please note that this statement is based on information available at the time of writing. No site visits were undertaken on private land. Due to the changing nature of ecosystems and surrounding land use, future assessment of the Significant Natural Area may be necessary to reflect any changes in knowledge, values, or boundaries that may influence its assessment as ecologically significant.

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Mānuka (*Leptospermum scoparium*) has a national-level threat classification of At Risk-Declining, as per de Lange *et al.* 2018. Mānuka is a Myrtaceae species which is at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of mānuka has been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of mānuka at this site does not trigger the rarity criteria because the species is currently common and widespread in the local environment.

Harcourt Park forest and treeland

INTRODUCTION

Site Name: Harcourt Park forest and treeland
Site Number: UH046
Site Location: North of Norbert Street.
Site Area: 2.43 ha.
Current Protection Status: Site is fully legally protected.
Protection Type: UHCC park.

Site Map

Site Number: UH046

Site Name: Harcourt Park forest and treeland



1:5,000



— SNA site boundary

— District boundary

— Other probable SNA site boundary

- - Ecological District boundary

Site Summary: Identified as a Department of Conservation ecological site, this SNA comprises mature podocarp forest on a river terrace. Plant species include red beech, black beech, three species of local interest rimu (*Dacrydium cupressinum*), tōtara (*Podocarpus totara*), miro (*Prumnopitys ferruginea*), as well as tarata, red māpou, māhoe, pigeonwood and rewarewa. The SNA includes indigenous vegetation on land environments with less than 10% indigenous vegetation cover remaining, and with 10-20% indigenous vegetation cover remaining. A small area is fenced; the unfenced sections have walking paths under the canopy and are augmented with garden plant species, including camellias and magnolias. This site supports the regionally uncommon bellbird (*Anthornis melanura melanura*).

IMPORTANT FEATURES

Threatened Indigenous Flora:	No rare plant species are known from the site, but contains podocarp species of local interest.
Threatened Indigenous Fauna:	This site supports the regionally uncommon bellbird (<i>Anthornis melanura melanura</i>). Bush falcon (<i>Falco novaeseelandiae ferox</i> ; At Risk-Recovering), and whitehead (<i>Mohoua albicilla</i> ; At Risk-Declining) have been recorded nearby.
Threatened Land Environments:	More than 0.5 hectares on Acutely Threatened land environments (<10% indigenous cover remaining).
Rare Habitats:	Indigenous vegetation on river terraces is rare in this catchment.
Geological Features:	None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	This site includes vegetation representative of Singers and Rogers (2014) MF20-Hard beech forest, which has less than 20% protected in the Wellington region.
RPS23b: Rarity	Yes	One regionally uncommon bird species. Includes indigenous vegetation on land environments with less than 10% indigenous vegetation cover remaining.
RPS23c: Diversity	No	A fragmented, modified site, that has a reduced diversity of naturally regenerating species.
RPS23d: Ecological Context	Yes	Provides 'stepping stone' habitat for birds across the Te Awa Kairangi/Hutt River.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

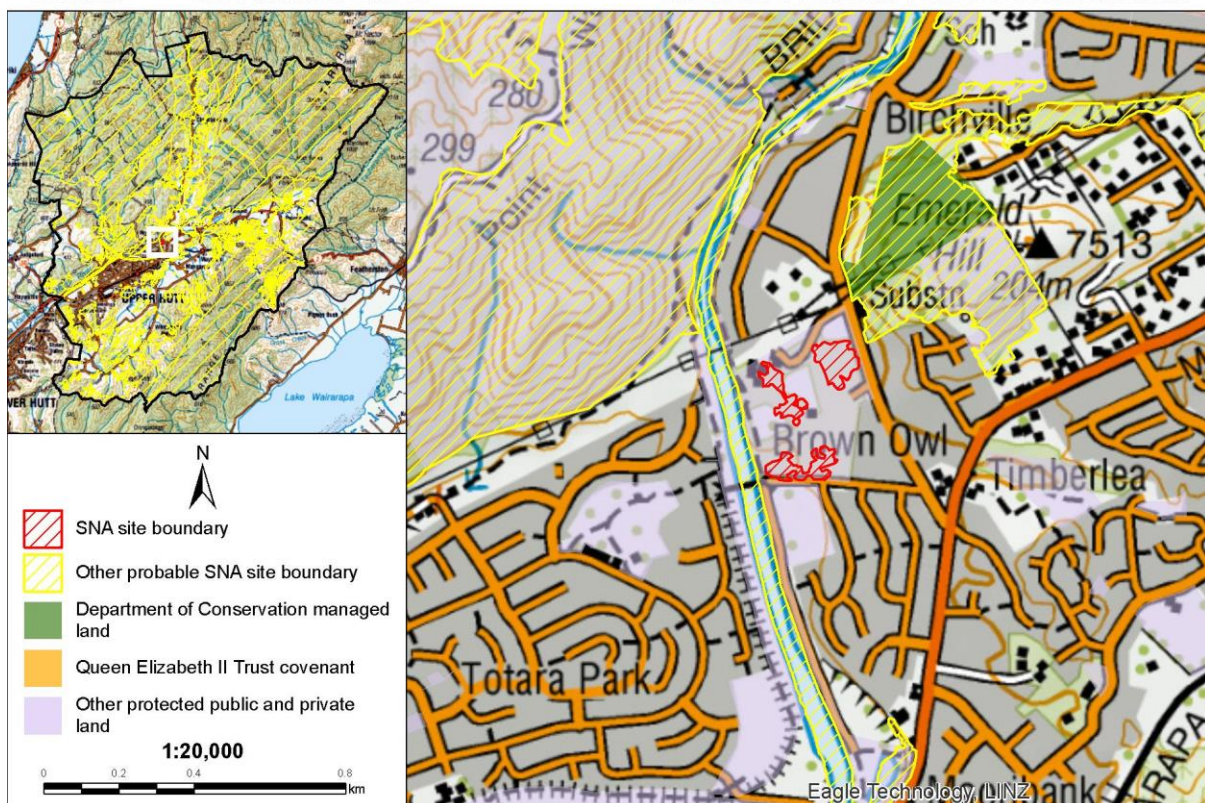
SITE CONTEXT AND OTHER INFORMATION

Ecological District:	Wellington
Ecological Domain(s):	61 Wainuiomata - Hutt - Kaitoke.

Upper Hutt District Plan - Significant Natural Area Assessment - Significance Statement

Digital Scale: 1:5,000
Altitude Range: 80-90 m a.s.l.
Grid Reference: NZTM E1775824 N5447801
Adjacent Vegetation and Habitats: Recreation reserve, residential.
Notes on Overall Condition: Contains mature trees, but is gardened under the canopy in places.
Potential Land Management Issues: Fencing to allow natural regeneration of understorey vegetation.
Sources of Information for this Site ^{Note#:}: Google Earth, Department of Conservation ecological Sites database.

Context Site Number: UH046 Site Name: Harcourt Park forest and treeland



ASSESSED BY

Assessment Techniques: Species database, aerial imagery, road side viewing.
Assessed By: Keely Paler (Date 27/06/2018)
Reviewed By: Steve Rate (Date 1/8/2018)

NOTES

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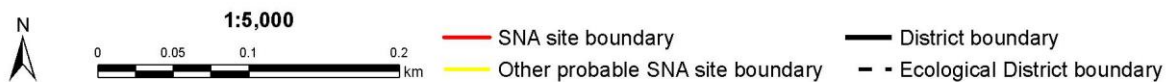
DRAFT

Te Haukaretu Park forest and scrub

INTRODUCTION

Site Name: Te Haukaretu Park forest and scrub
Site Number: UH047
Site Location: Northeast of the intersection between Fergusson Drive and Mangaroa Hill Road.
Site Area: 1.47 ha.
Current Protection Status: Site is fully legally protected.
Protection Type: UHCC park.

Site Map Site Number: UH047 Site Name: Te Haukaretu Park forest and scrub



Site Summary: Identified as a Department of Conservation ecological site, Te Haukaretu Park includes a pond and a forest on a terrace riser that comprises kahikatea (*Dacrycarpus dacrydioides*; of local interest)-tawa-māhoe forest. Indigenous vegetation is present on land environments with less than 10% indigenous vegetation cover remaining, and 10-20% indigenous vegetation cover remaining. The pond supports indigenous bird species, including the New Zealand dabchick (*Poliiocephalus rufopectus*; At Risk-Recovering).

IMPORTANT FEATURES

Threatened Indigenous Flora:	No rare plant species are known from the site, but includes podocarps of local interest.
Threatened Indigenous Fauna:	New Zealand dabchick (<i>Poliiocephalus rufopectus</i> ; At Risk-Recovering). Bush falcon (<i>Falco novaeseelandiae ferox</i> ; At Risk-Recovering) and regionally uncommon bellbird (<i>Anthornis melanura melanura</i>) have been recorded nearby and may also be present.
Threatened Land Environments:	More than 0.5 hectares on Chronically Threatened land environments (10-20% indigenous cover left).
Rare Habitats:	Indigenous vegetation on river terraces is rare in this catchment; the vegetation type represented is rare nationally.
Geological Features:	None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	The vegetation at this site is representative of Leathwick <i>et al.</i> (2012) vegetation type: Kahikatea-matai/tawa-mahoe forest, of which there is less than 30% remaining, and less than 20% protected nationally.
RPS23b: Rarity	Yes	One At Risk bird species. Includes more than 0.5 ha but less than 1 ha of indigenous vegetation on land environments with 10-20% vegetation cover remaining.
RPS23c: Diversity	Yes	Contains two habitat types, and a good diversity of plant species including species indicative of primary forest.
RPS23d: Ecological Context	No	Relatively small, isolated site.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

Ecological District:	Wellington
Ecological Domain(s):	61 Wainuiomata - Hutt - Kaitoke.
Digital Scale:	1:5,000
Altitude Range:	70-85 m a.s.l.

Upper Hutt District Plan - Significant Natural Area Assessment - Significance Statement

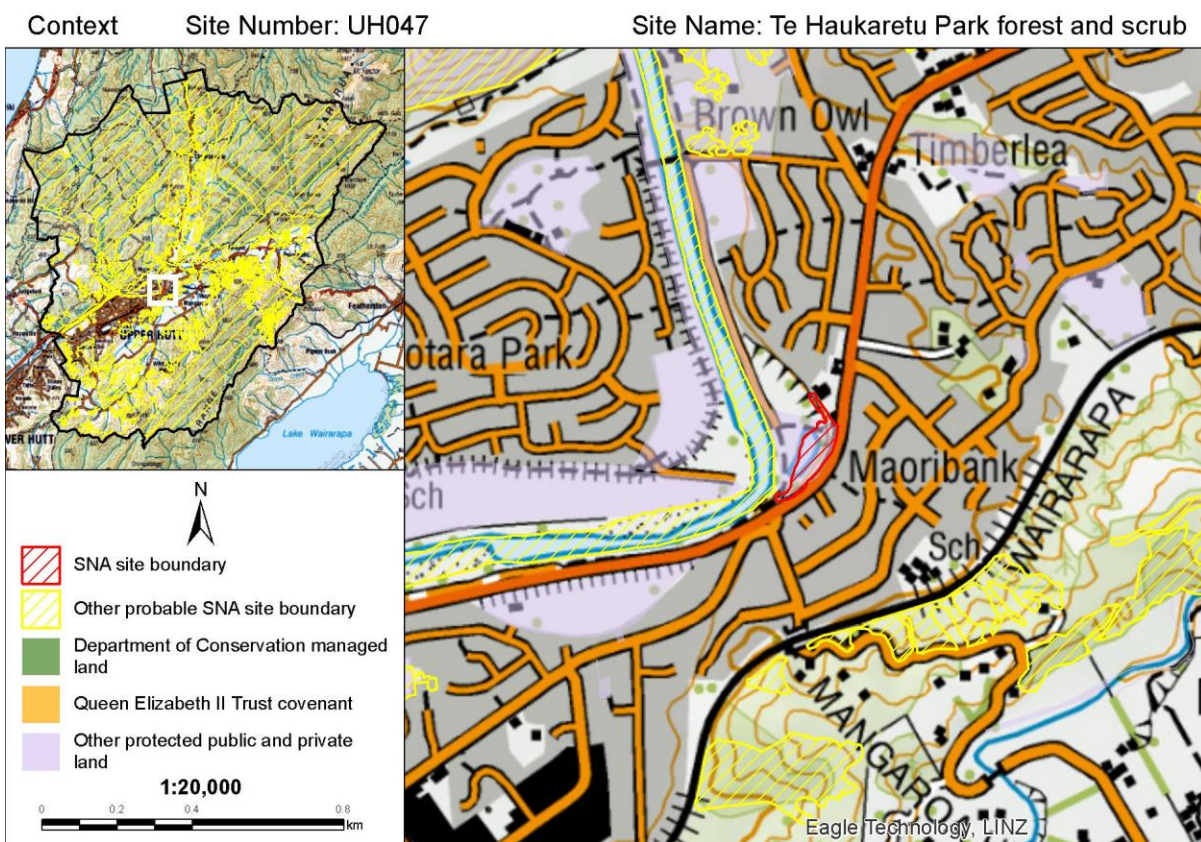
Grid Reference: NZTM E1776035 N5446814

Adjacent Vegetation and Habitats: Recreation reserve, residential.

Notes on Overall Condition: The northern 'finger' of the site contains early succession māhoe scrub and exotic vines. The western boundary of the pond is bordered by grassland that is popular for recreational uses, indicating that the water body is likely affected by human impacts (litter, bread, etc).

Potential Land Management Issues: Managing human impacts.

Sources of Information for this Site ^{Note#:}: Google Earth, Department of Conservation ecological sites database.



ASSESSED BY

Assessment Techniques: Species database, aerial imagery, road side viewing.

Assessed By: Keely Paler (Date 27/06/2018)

Reviewed By: Steve Rate (Date 1/8/2018)

NOTES

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DRAFT

Benge Park forest and scrub

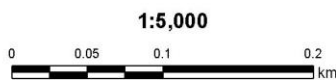
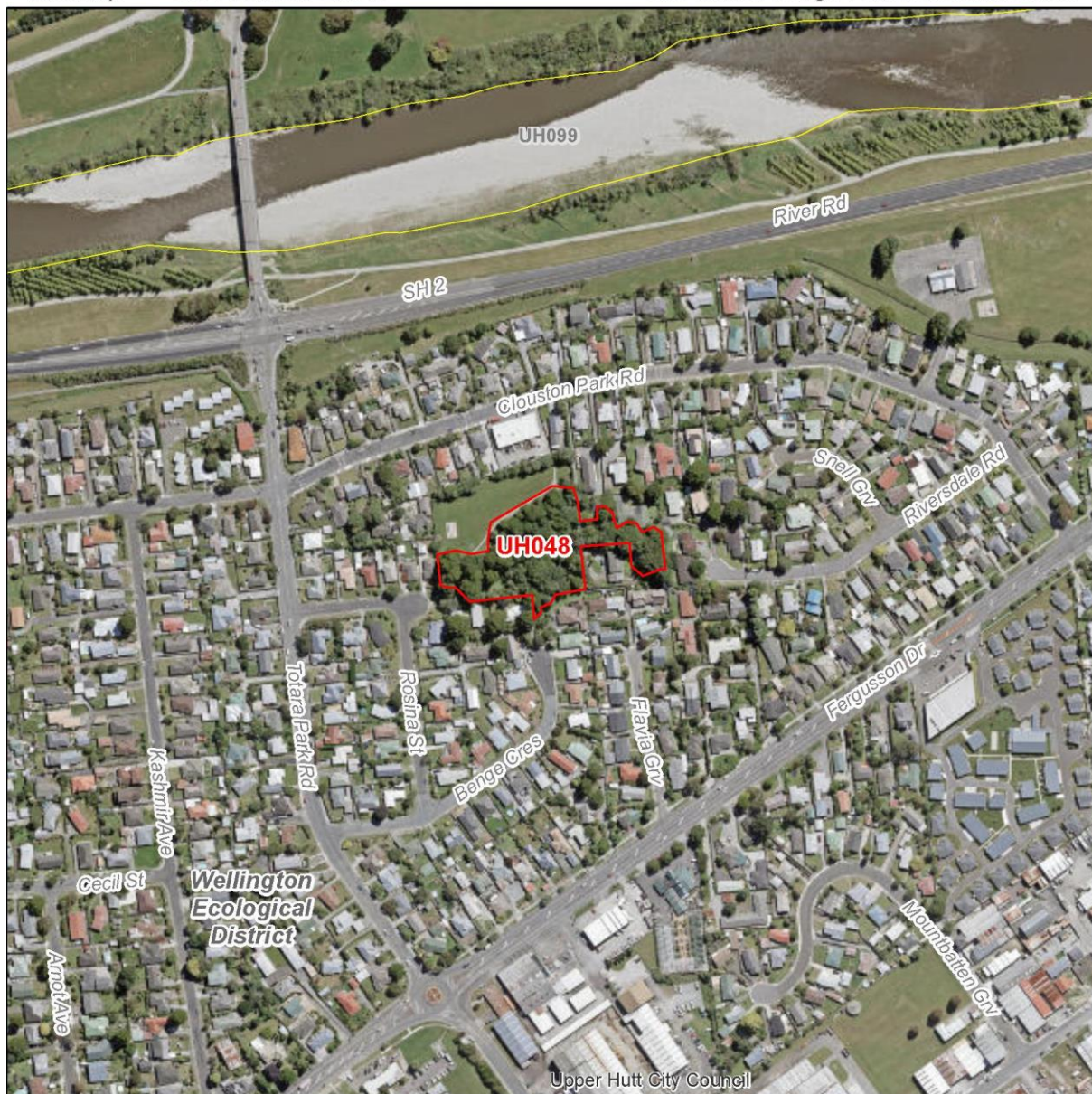
INTRODUCTION

Site Name: Benge Park forest and scrub
Site Number: UH048
Site Location: South of Clouston Park Road and between Riversdale road, Elavia Grove, Benge Crescent and Rosina Street.
Site Area: 0.75 ha.
Current Protection Status: Site is fully legally protected.
Protection Type: UHCC park.

Site Map

Site Number: UH048

Site Name: Benge Park forest and scrub



— SNA site boundary

— District boundary

— Other probable SNA site boundary

- - Ecological District boundary



Site Summary: This small remnant of river terrace forest has been identified as a Department of Conservation ecological site. Plant species include tōtara (*Podocarpus totara*; of local interest), rimu (*Dacrydium cupressinum*; of local interest), and tītoki, with understorey vegetation including tarata, māhoe and cabbage tree. The site reportedly contains green mistletoe (*Ileostylus micranthus*; regionally uncommon) and rōhutu (*Lophomyrtus obcordata*; Threatened-Nationally Critical ^{Note##}). It includes indigenous vegetation on land environments with less than 10% vegetation cover remaining. The remnant is fenced, with footpaths under the canopy vegetation. This site provides habitat for indigenous bird species.

IMPORTANT FEATURES

Threatened Indigenous Flora:	Rōhutu (<i>Lophomyrtus obcordata</i> ; Threatened-Nationally Critical ^{Note##}), green mistletoe (<i>Ileostylus micranthus</i> ; regionally uncommon).
Threatened Indigenous Fauna:	No rare fauna are known from the site. Bush falcon (<i>Falco novaeseelandiae ferox</i> ; At Risk-Recovering) and the regionally uncommon bellbird (<i>Anthornis melanura melanura</i>) have been recorded nearby.
Threatened Land Environments:	Entirely on Acutely Threatened land environments with <10% indigenous vegetation cover remaining.
Rare Habitats:	Indigenous vegetation on river terraces is rare in this catchment and Less than 30% remains of Singers and Rogers (2014) vegetation type MF7 in the Wellington region.
Geological Features:	None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	Mature podocarp forest is representative of Singers and Rogers (2014) MF7-Tawa, kāmahī, podocarp forest, of which there is less than 30% remaining in the Wellington region, and less than 20% protected in Upper Hutt District.
RPS23b: Rarity	Yes	One Threatened ^{Note##} and one regionally uncommon plant species. Includes indigenous vegetation on Threatened land environments with <10% indigenous vegetation cover remaining.
RPS23c: Diversity	No	Too small to contain a good diversity of species; understorey vegetation recent regeneration.
RPS23d: Ecological Context	No	Relatively small, isolated site.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

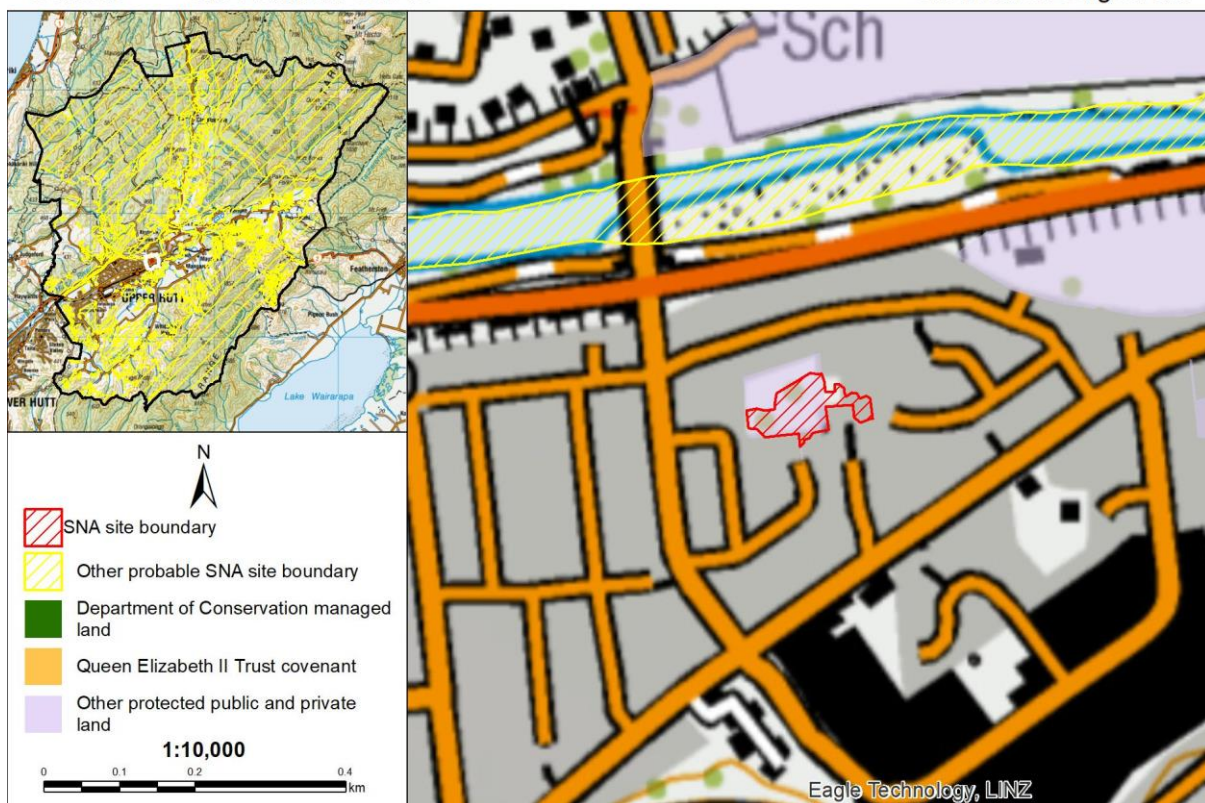
Ecological District: Wellington
Ecological Domain(s): 61 Wainuiomata - Hutt - Kaitoke.

Upper Hutt District Plan - Significant Natural Area Assessment - Significance Statement

Digital Scale: 1:5,000
Altitude Range: 65-65 m a.s.l.
Grid Reference: NZTM E1774950 N5446199
Adjacent Vegetation and Habitats: Recreation reserve, residential.
Notes on Overall Condition: Contains mature podocarps and fencing has allowed understorey vegetation to regenerate.
Potential Land Management Issues: Managing public access.
Sources of Information for this Site ^{Note#:}: Google Earth, Department of Conservation ecological Sites database.

Context Site Number: UH048

Site Name: Benge Park



ASSESSED BY

Assessment Techniques: Aerial imagery, species databases, road side viewing.
Assessed By: Helen White (Date 3/07/2018)
Reviewed By: Steve Rate (Date 1/8/2018)

NOTES

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Rōhutu (New Zealand myrtle; *Lophomyrtus obcordata*) has a national-level threat classification of Threatened- Nationally Critical, as per de Lange *et al.* 2018. Rōhutu is a Myrtaceae species which is at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of rōhutu has been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of rōhutu at this site does not trigger the rarity criteria because the species is currently still widespread in the local environment.

DRAFT

Kingsley Heights forest and scrub

INTRODUCTION

Site Name: Kingsley Heights forest and scrub
Site Number: UH049
Site Location: Oaklands Grove, Clouston Park.
Site Area: 35.14 ha.
Current Protection Status: Site is partially legally protected.
Protection Type: Esplanade strip.

Site Map

Site Number: UH049

Site Name: Kingsley Heights forest and scrub



— SNA site boundary

— Other probable SNA site boundary

— District boundary

- - Ecological District boundary

Site Summary: This SNA is a large area of regenerating broadleaved species scrub, mānuka (*Leptospermum scoparium*; At Risk-Declining ^{Note##}) scrub, and gorse, with smaller areas of higher value beech forest with kāmahī in remnant gully vegetation. The site is bordered by the railway line to the northwest, and fragmented by Mangaroa Hill Road and large areas of low value gorse scrub, which have been excluded from the SNA. The red leek orchid (*Corunastylis nuda*; At Risk-Naturally Uncommon) and whitehead (*Mohoua albicilla*; At Risk-Declining) have been recorded within the site. This site, in conjunction with the surrounding gorse scrub, forms a major part of an extensive wildlife corridor along the Eastern Hutt Hills.

IMPORTANT FEATURES

Threatened Indigenous Flora:	Mānuka (<i>Leptospermum scoparium</i> ; At Risk-Declining ^{Note##}) and <i>Corunastylis nuda</i> (At Risk-Naturally Uncommon).
Threatened Indigenous Fauna:	Whitehead (<i>Mohoua albicilla</i> ; At Risk-Declining) have been observed from Mangaroa Hill Road which transects the site. Bush falcon (<i>Falco novaeseelandiae ferox</i> ; At Risk-Recovering) and regionally uncommon bellbird (<i>Anthornis melanura melanura</i>) and pied tomtit (<i>Petroica macrocephala toitoi</i>) have been recorded nearby.
Threatened Land Environments:	More than five hectares on Critically Under protected land environments (>20% protection).
Rare Habitats:	No rare habitats or communities known.
Geological Features:	None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	Small patches of vegetation at this site are representative of Singers and Rogers (2014) vegetation type: MF20-Hard beech forest, which has less than 20% is protected in the Wellington region.
RPS23b: Rarity	Yes	Two At Risk plant species ^{Note##} and one At Risk bird species.
RPS23c: Diversity	No	Highly modified, fragmented with reduced diversity of ecological units.
RPS23d: Ecological Context	Yes	This large site is part of the Eastern Hutt Hills bird corridor and is contiguous with Council-owned land.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

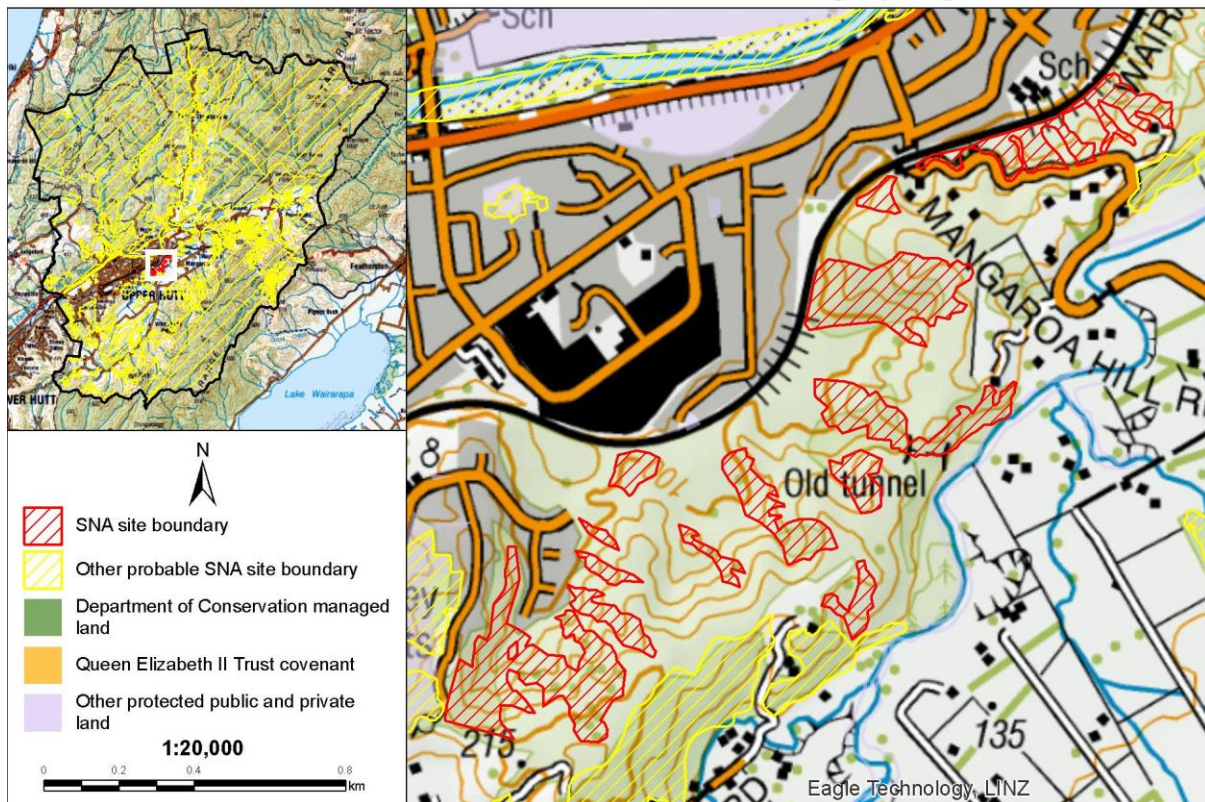
SITE CONTEXT AND OTHER INFORMATION

Ecological District:	Wellington, Tararua
Ecological Domain(s):	61 Wainuiomata - Hutt - Kaitoke.

Upper Hutt District Plan - Significant Natural Area Assessment - Significance Statement

Digital Scale: 1:14,000
Altitude Range: 85-210 m a.s.l.
Grid Reference: NZTM E1775659 N5445545
Adjacent Vegetation and Habitats: Railway, urban, pasture, plantation forest, beech forest.
Notes on Overall Condition: Small pockets of mature forest amongst early successional stage scrub, with some tracking on eastern margins.
Potential Land Management Issues: Impacts of residential development, pest plants, and fire.
Sources of Information for this Site ^{Note#}: Wildland Consultants 2008, DOC Bioweb, Boffa Miskell Ltd 2008b.

Context Site Number: UH049 Site Name: Kingsley Heights forest and scrub



ASSESSED BY

Assessment Techniques: Species database, aerial imagery, partial road side viewing (large part not visible).
Assessed By: Helen White (Date 3/07/2018)
Reviewed By: Steve Rate (Date 1/8/2018)

NOTES

Please note that this statement is based on information available at the time of writing. No site visits were undertaken on private land. Due to the changing nature of ecosystems and surrounding land use,

Upper Hutt District Plan - Significant Natural Area Assessment - Significance Statement

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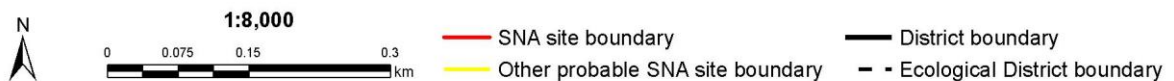
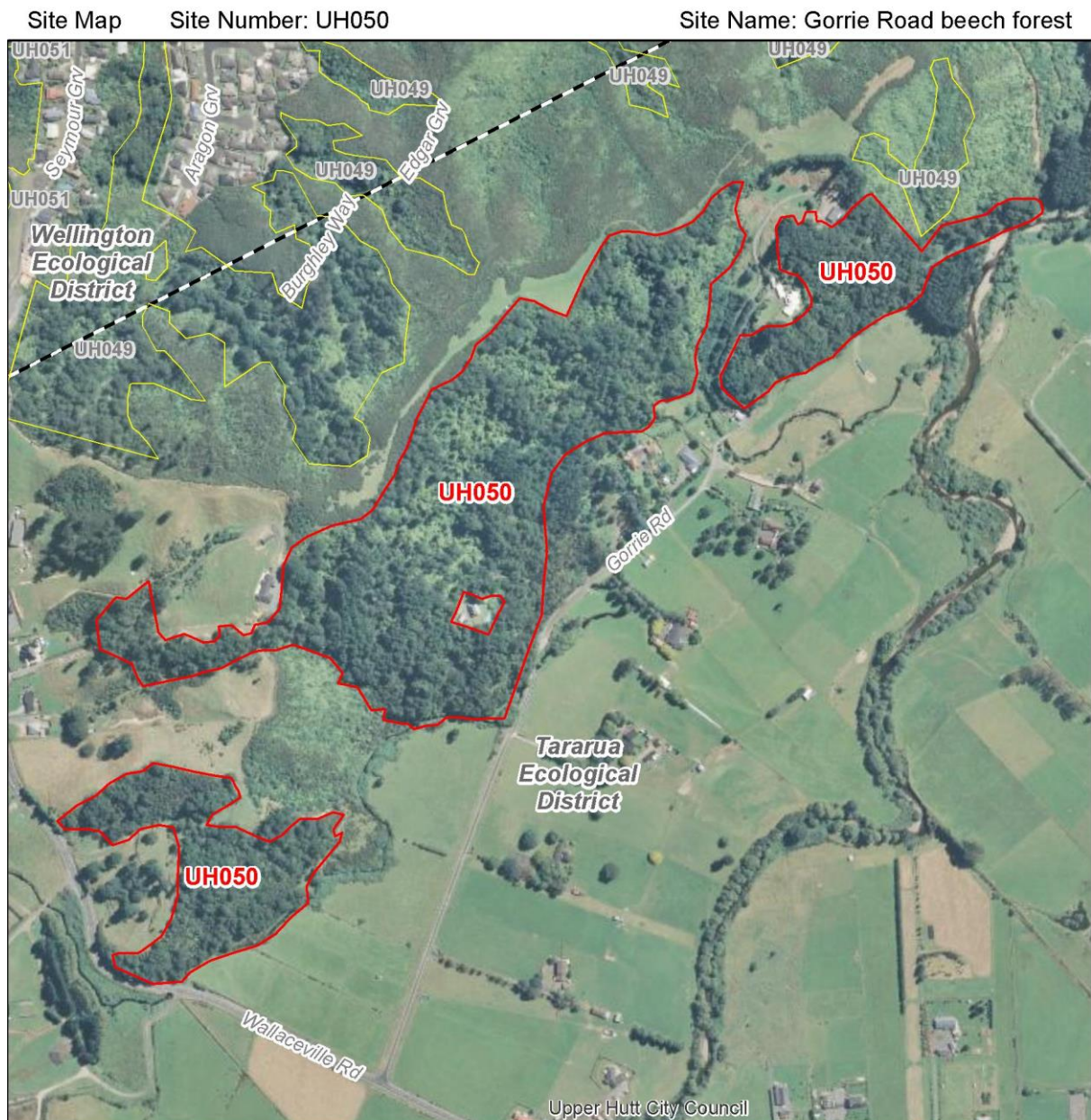
Mānuka (*Leptospermum scoparium*) has a national-level threat classification of At Risk-Declining, as per de Lange *et al.* 2018. Mānuka is a Myrtaceae species which is at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of mānuka has been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of mānuka at this site does not trigger the rarity criteria because the species is currently common and widespread in the local environment.

DRAFT

Gorrie Road beech forest

INTRODUCTION

Site Name: Gorrie Road beech forest
Site Number: UH050
Site Location: Gorrie Road, Mangaroa.
Site Area: 21.87 ha.
Current Protection Status: Site is partially legally protected.
Protection Type: Esplanade strip.



Site Summary: This SNA comprises of two remnants of hillslope beech forest, which includes kāmahi, kohuhu, and rimu (*Dacrydium cupressinum*; of local interest), as well as of regenerating broadleaved scrub composed of treefern, māhoe, and five-finger. The forest buffers approximately 650 metres of a small tributary of the Mangaroa River, and includes kahikatea (*Dacrycarpus dacrydioides*; of local interest). This SNA includes indigenous vegetation on land environments with less than 10%, and with 10-20% indigenous vegetation cover remaining. It is bordered by UHCC land to the northwest and is contiguous with regenerating gorse scrub, and indigenous vegetation in Kingsley Heights Forest and Scrub (UH049).

IMPORTANT FEATURES

Threatened Indigenous Flora:	No rare plant species are known from the site. Kahikatea (<i>Dacrycarpus dacrydioides</i>) and rimu (<i>Dacrydium cupressinum</i>) are of local interest.
Threatened Indigenous Fauna:	No rare fauna are known from the site. Whitehead (<i>Mohoua albicilla</i> ; At Risk-Declining), bush falcon (<i>Falco novaeseelandiae ferox</i> ; At Risk-Recovering), and regionally uncommon bellbird (<i>Anthornis melanura melanura</i>) have been recorded nearby.
Threatened Land Environments:	More than 0.5 hectares on Chronically Threatened land environments (10-20% indigenous cover left)
Rare Habitats:	Indigenous riparian vegetation is uncommon at lower elevations in this catchment.
Geological Features:	None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	The vegetation at this site is representative of Singers and Rogers (2014) vegetation type: MF20-Hard beech forest which has less than 20% protected in the Wellington region.
RPS23b: Rarity	Yes	Includes more than 0.5 ha but less than 1 ha of indigenous vegetation on land environments with 10-20% vegetation cover remaining.
RPS23c: Diversity	Yes	Likely to have a natural diversity of habitats and species.
RPS23d: Ecological Context	Yes	Contiguous with a larger area of indigenous vegetation. Part of the Eastern Hutt Hills bird corridor; vegetation buffers adjacent reaches of the Mangaroa River.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

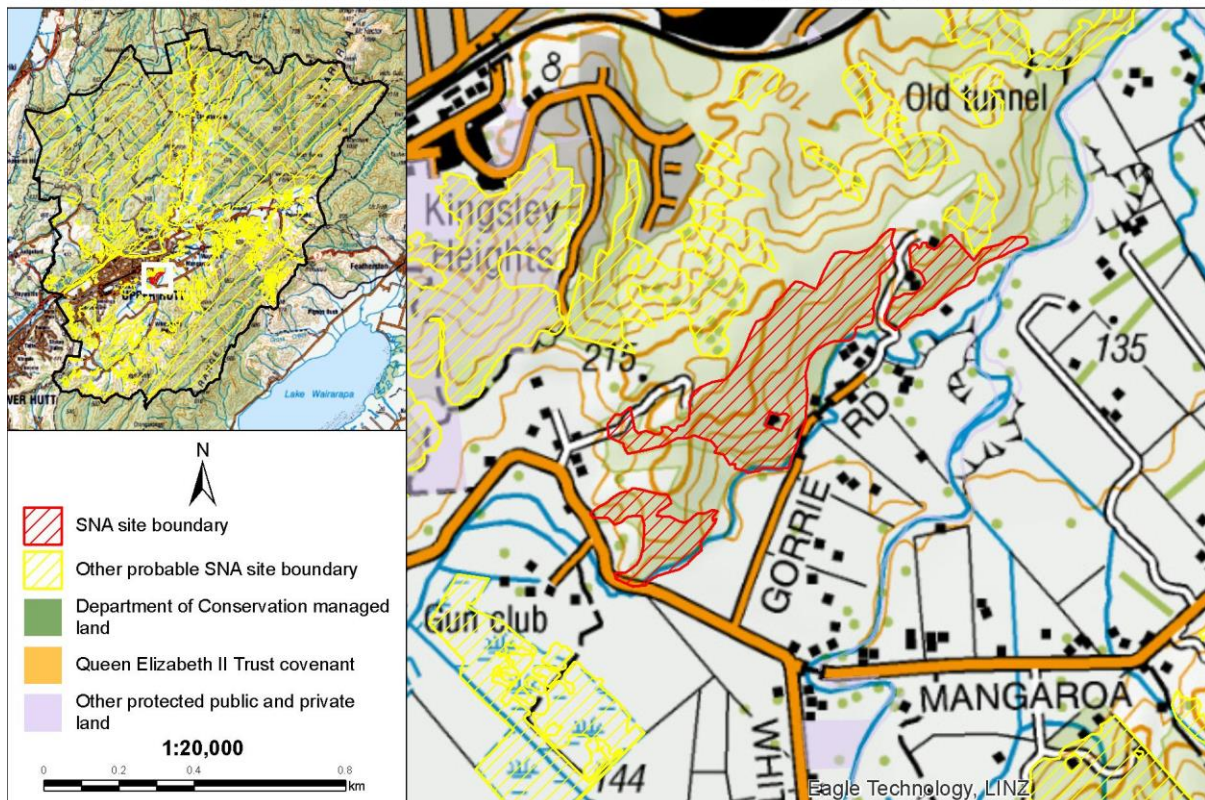
Ecological District:	Tararua
Ecological Domain(s):	61 Wainuiomata - Hutt - Kaitoke.

Upper Hutt District Plan - Significant Natural Area Assessment - Significance Statement

Digital Scale: 1:8,000
Altitude Range: 130-220 m a.s.l.
Grid Reference: NZTM E1775334 N5444701
Adjacent Vegetation and Habitats: Pasture, residential, exotic vegetation including pines, eucalyptus, wattle, and macrocarpa.
Notes on Overall Condition: Broadleaved scrub area is lower value/quality, some exotic forest and wilding pines present.
Potential Land Management Issues: Control of pest plant species.
Sources of Information for this Site ^{Note#}: Wildland Consultants 2008, Boffa Miskell Ltd 2008b.

Context Site Number: UH050

Site Name: Gorrie Road beech forest



ASSESSED BY

Assessment Techniques: Literature review, aerial imagery, road side viewing.
Assessed By: Helen White (Date 7/02/2018)
Reviewed By: Steve Rate (Date 1/8/2018/1/8/2018)

NOTES

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DRAFT

Maidstone Park forest and scrub

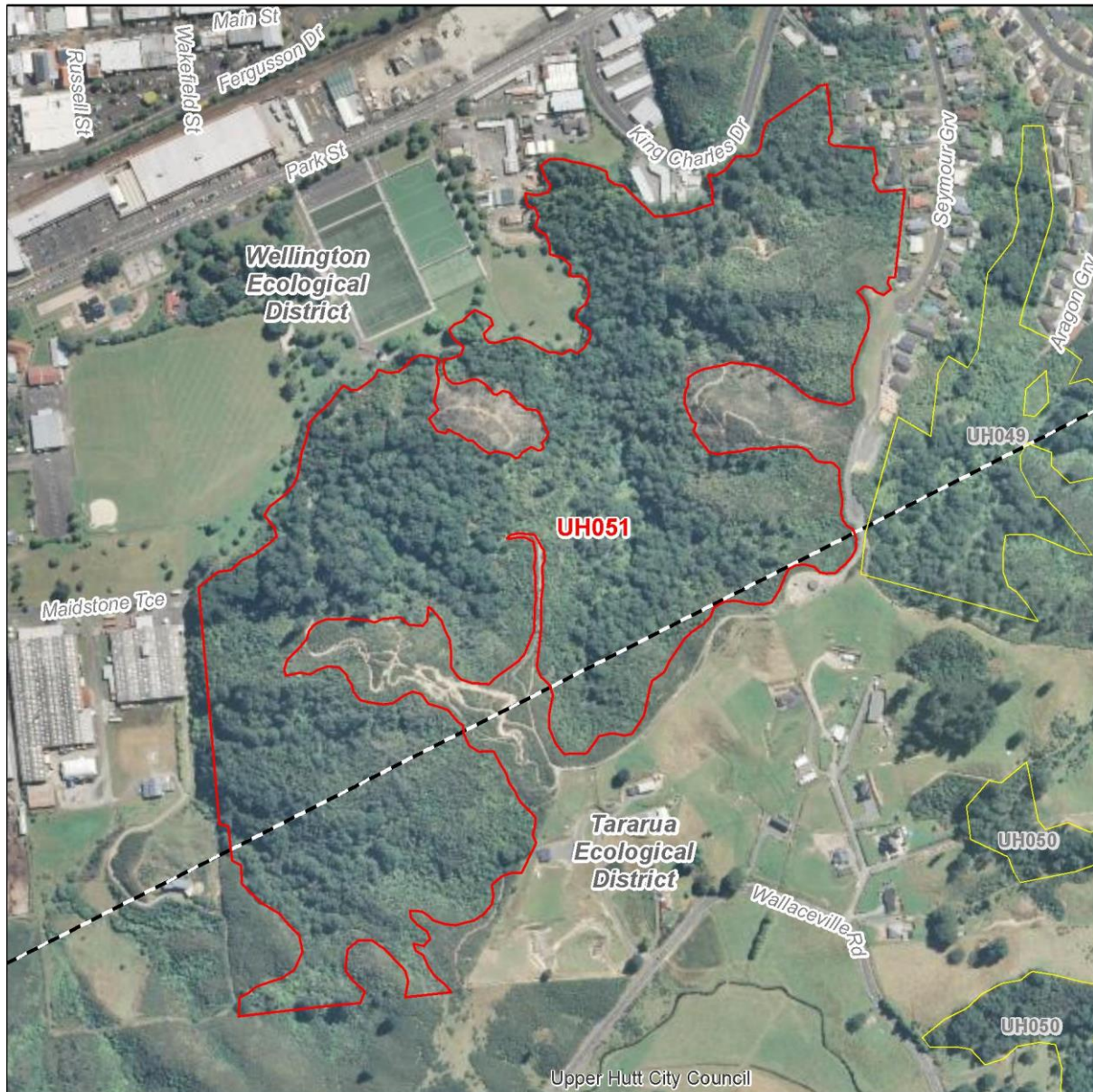
INTRODUCTION

Site Name: Maidstone Park forest and scrub
Site Number: UH051
Site Location: North of Wallaceville Road.
Site Area: 30.39 ha.
Current Protection Status: Site is partially legally protected.
Protection Type: UHCC park.

Site Map

Site Number: UH051

Site Name: Maidstone Park forest and scrub



1:7,000



— SNA site boundary

— Other probable SNA site boundary

— District boundary

- - Ecological District boundary

Site Summary: Indigenous vegetation in Maidstone Park includes a mosaic of beech forest, mānuka (*Leptospermum scoparium*; At Risk-Declining ^{Note###}) scrub, and māhoe-five-finger forest, with kāmahi, red māpou, treefern, rewarewa, rimu (*Dacrydium cupressinum*; of local interest), and tōtara (*Podocarpus totara*; of local interest). The site is known to support the regionally uncommon bellbird (*Anthornis melanura melanura*).

IMPORTANT FEATURES

Threatened Indigenous Flora:	Mānuka (<i>Leptospermum scoparium</i> ; At Risk -Declining) ^{Note##} . Tōtara (<i>Podocarpus totara</i>) and rimu (<i>Dacrydium cupressinum</i>) are of local interest.
Threatened Indigenous Fauna:	The regionally uncommon bellbird (<i>Anthornis melanura melanura</i>) has been recorded at this site. Bush falcon (<i>Falco novaeseelandiae</i> ; At Risk-Recovering) and whitehead (<i>Mohoua albicilla</i> ; At Risk-Declining) have been observed nearby.
Threatened Land Environments:	More than 1 hectare on Chronically Threatened land environments (10-20% indigenous cover left).
Rare Habitats:	No rare habitats or communities known.
Geological Features:	None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	The vegetation at this site is representative of Singers and Rogers (2014) vegetation type: MF20-Hard beech forest which has less than 20% protected in the Wellington region.
RPS23b: Rarity	Yes	One regionally uncommon bird species and one At Risk plant species ^{Note##} . Includes indigenous vegetation on land environments with 10-20% indigenous vegetation cover remaining.
RPS23c: Diversity	No?	Mature forest habitats within the site are likely to contain a natural diversity of species, however a large proportion of the site is comprised of early succession communities, which are likely to have a low diversity of species.
RPS23d: Ecological Context	Yes	Relatively isolated, but forms part of a habitat corridor along the eastern hills.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

Ecological District:	Wellington, Tararua
Ecological Domain(s):	61 Wainuiomata - Hutt - Kaitoke.
Digital Scale:	1:7,000
Altitude Range:	70-180 m a.s.l.

Upper Hutt District Plan - Significant Natural Area Assessment - Significance Statement

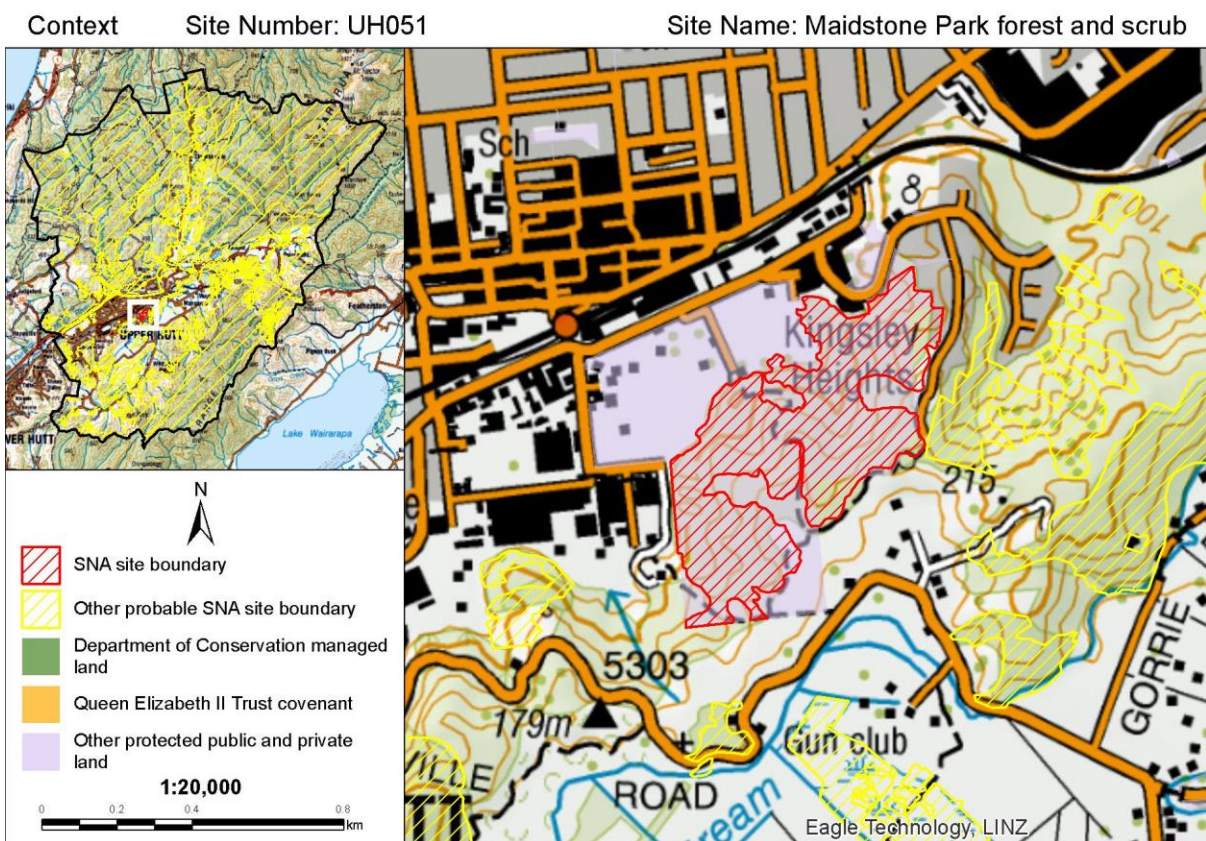
Grid Reference: NZTM E1774430 N5444862

Adjacent Vegetation and Habitats: Recreation reserve, industry, residential, pasture grassland, areas of recent (c.2008) felled pine forest, areas of gorse.

Notes on Overall Condition: Includes some areas of gorse, particularly along the boundary. May also include wilding pines.

Potential Land Management Issues: Control of wilding pines.

Sources of Information for this Site ^{Note#:} McArthur *et al.* 2017, Google Earth.



ASSESSED BY

Assessment Techniques: Species database, aerial imagery, road side viewing.

Assessed By: Helen White (Date 7/03/2018)

Reviewed By: Steve Rate (Date 1/8/2018)

NOTES

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Mānuka (*Leptospermum scoparium*) has a national-level threat classification of At Risk-Declining, as per de Lange *et al.* 2018. Mānuka is a Myrtaceae species which is at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of mānuka has been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of mānuka at this site does not trigger the rarity criteria because the species is currently common and widespread in the local environment.

DRAFT

Mangaroa Swamp

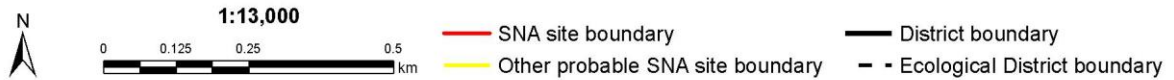
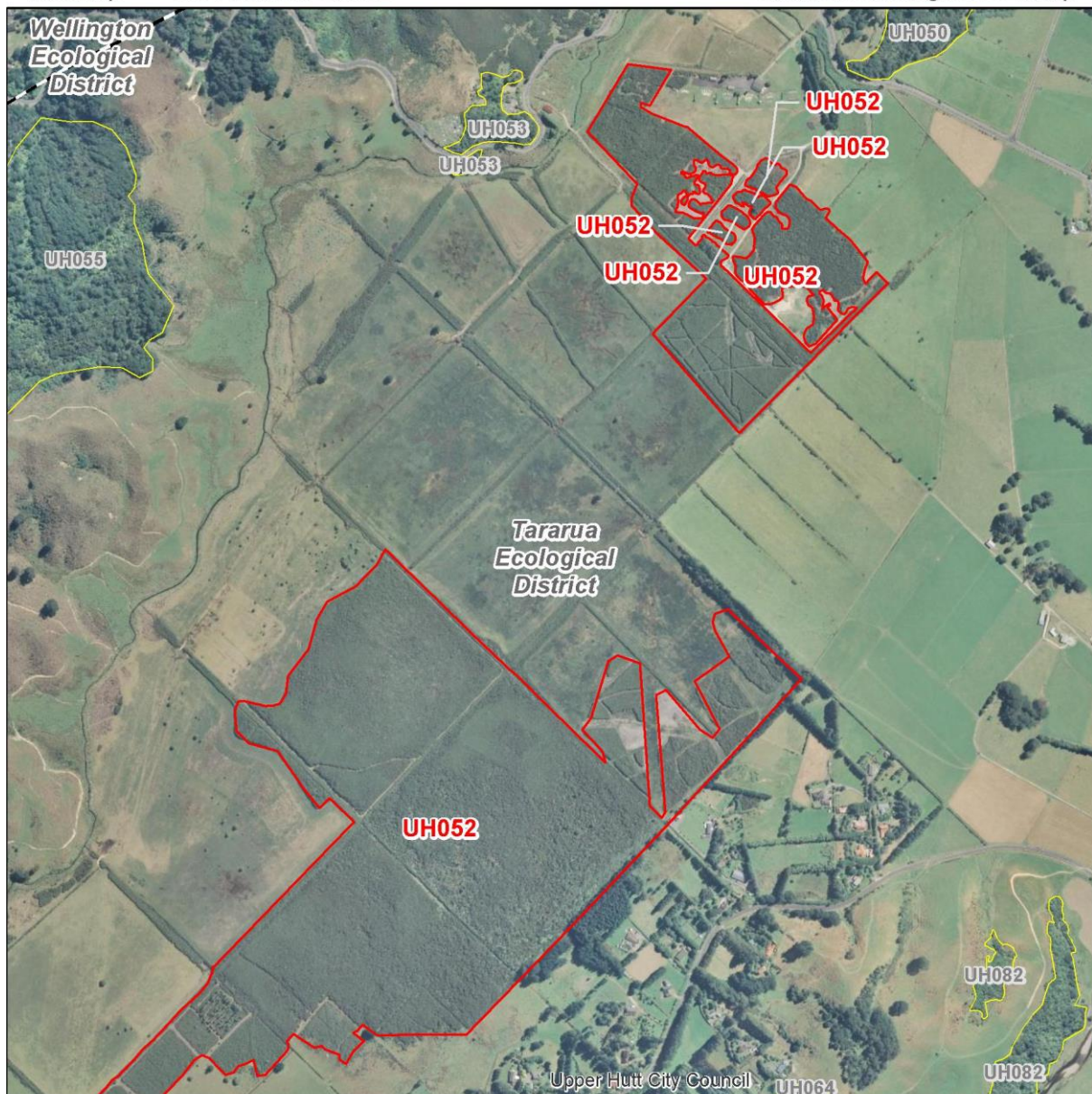
INTRODUCTION

Site Name: Mangaroa Swamp
Site Number: UH052
Site Location: Katherine Mansfield Drive, Blue Mountains.
Site Area: 65.43 ha.
Current Protection Status: Site has no legal protection.
Protection Type: Not applicable.

Site Map

Site Number: UH052

Site Name: Mangaroa Swamp



Site Summary: This site comprises remnants of a formerly extensive lowland peat bog and is part of the regionally important geological feature: Wallaceville Quaternary Swamp. The original wetland included kahikatea swamp forest, but vegetation has reportedly been cleared several times since the 1900s. The wetland type is a bog or transitional bog (rainwater fed, or rain- and groundwater fed). Currently dense mānuka (*Leptospermum scoparium*; At Risk -Declining^{Note##}) forest and scrub is present, but it has virtually no understorey species. Much of the wetland has been drained and parts (not included in the SNA) are currently grazed, while other parts continue to be cleared. Wetlands are much reduced at a national scale and within the Wellington region, where only 1.6% of landcover comprises freshwater wetlands. *Pterostylis foliata* (At Risk-Naturally Uncommon) has been recorded in the site, while *Pterostylis micromega* (Threatened-Nationally Endangered) and *Myriophyllum robustum* (At Risk-Declining) have been recorded in areas nearby that were formerly swamp but are now cleared, and potentially may still exist within the site. Thompson (2012) notes that "as a geomorphological feature - a large valley peatland - it is not only rare regionally, but also throughout the lower North Island." The Mangaroa peatland is a unique geomorphological structure in the Wellington region and its peat type is probably also unique among remaining peat deposits. It is threatened by drainage, fire, and vegetation clearance; the area vegetated has reduced substantially since the 1980s, suggesting threats to the ecosystem are on-going.

IMPORTANT FEATURES

Threatened Indigenous Flora:	Mānuka (At Risk-Declining ^{Note##}), <i>Pterostylis foliata</i> (At Risk-Naturally Uncommon). <i>Gahnia rigida</i> (regionally uncommon) and possibly other rare species; <i>Pterostylis micromega</i> (Threatened-Nationally Endangered) and <i>Myriophyllum robustum</i> (At Risk-Declining) have been recorded in areas nearby that were formerly swamp but are now cleared..
Threatened Indigenous Fauna:	No known rare fauna species. Pūkeko and harrier. SSWI ranking of "Potential". Regionally uncommon bellbird recorded nearby.
Threatened Land Environments:	More than one hectare on Chronically Threatened land environments (10-20% indigneous cover remaining).
Rare Habitats:	Freshwater wetlands are nationally rare, with less than 10% of their original extent remaining; and vegetation of this wetland is representaive of Singers and Rogers (2014) vegetation type: WL12-Mānuka, tangle fern scrub/fernland, of which less than 30% remains in the Wellington region.
Geological Features:	Wallaceville Quaternary Swamp (Regionally important).

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

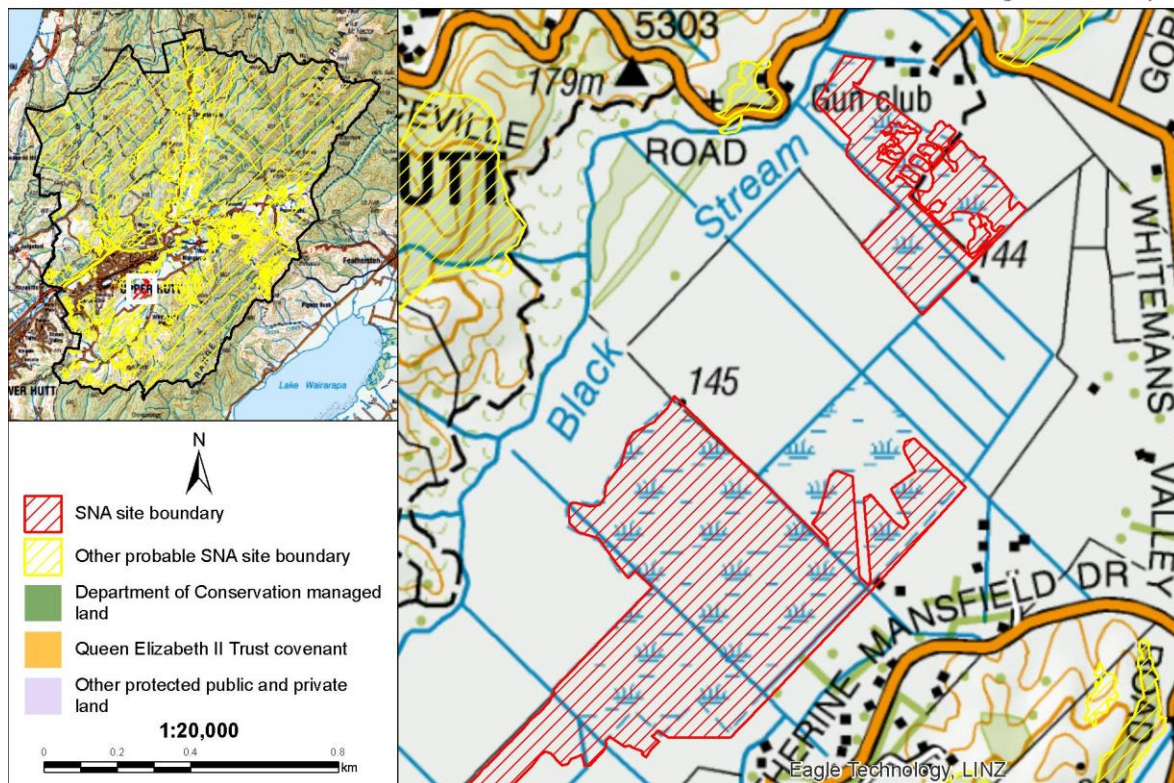
RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	This site is one of the only large lowland peat bogs remaining in the Wellington region. Wetlands cover less than 10% of their original extent at a national scale, and are therefore endangered ecosystems. The vegetation of the site is representative of Singers and Rogers (2014) vegetation type: WL12-Mānuka, tangle fern scrub/fernland which has less than 30% remaining, and is less than 20% protected, in the Wellington region.
RPS23b: Rarity	Yes	Two At Risk ^{Note##} and one regionally uncommon plant species. Freshwater wetlands are nationally rare (<10% of their original extent remains) and a regionally uncommon habitat type. Includes indigenous vegetation on land environments with 10-20% indigenous vegetation cover remaining. Geological features: Wallaceville Quaternary Swamp (Regionally important).
RPS23c: Diversity	No	Low habitat and species diversity.
RPS23d: Ecological Context	Yes	The swamp and vegetation within the SNA and the associated drains buffer a network of modified drains which are tributaries of the Mangaroa River.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

Ecological District:	Tararua
Ecological Domain(s):	61 Wainuiomata - Hutt - Kaitoke.
Digital Scale:	1:13,000
Altitude Range:	145-145 m a.s.l.
Grid Reference:	NZTM E1774271 N5443000
Adjacent Vegetation and Habitats:	Pasture.
Notes on Overall Condition:	Modified condition. Thompson (2012) indicated the site may not be significant for vegetation, with reduced potential for restoration of natural wetland communities. The rapid recruitment of mānuka as seen in aerial photography time series, indicates there is ample potential for restoration provided the water table isn't further altered. Thompson (2012) indicates it is a significant geological feature.
Potential Land Management Issues:	Impacts of drainage, fire, vegetation clearance, grazing and conversion to pasture.
Sources of Information for this Site ^{Note#}:	Fuller 1993, GWRC Wetland database, Boffa Miskell Ltd 2008b, Thompson 2012, Ausseil <i>et al.</i> 2008, Kenny and Hayward 1996, McEwen 1987, Sawyer 2004.

Context Site Number: UH052

Site Name: Mangaroa Swamp



ASSESSED BY

Assessment Techniques: Species database, aerial imagery, road side viewing.
Assessed By: Helen White (Date 2/07/2018)
Reviewed By: Steve Rate (Date 1/8/2018)

NOTES

Please note that this statement is based on information available at the time of writing. No site visits were undertaken on private land. Due to the changing nature of ecosystems and surrounding land use, future assessment of the Significant Natural Area may be necessary to reflect any changes in knowledge, values, or boundaries that may influence its assessment as ecologically significant.

An Explanatory Note is available in Appendix 9, which provides more information about how each of the above fields was collated or assessed.

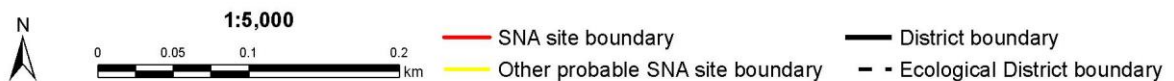
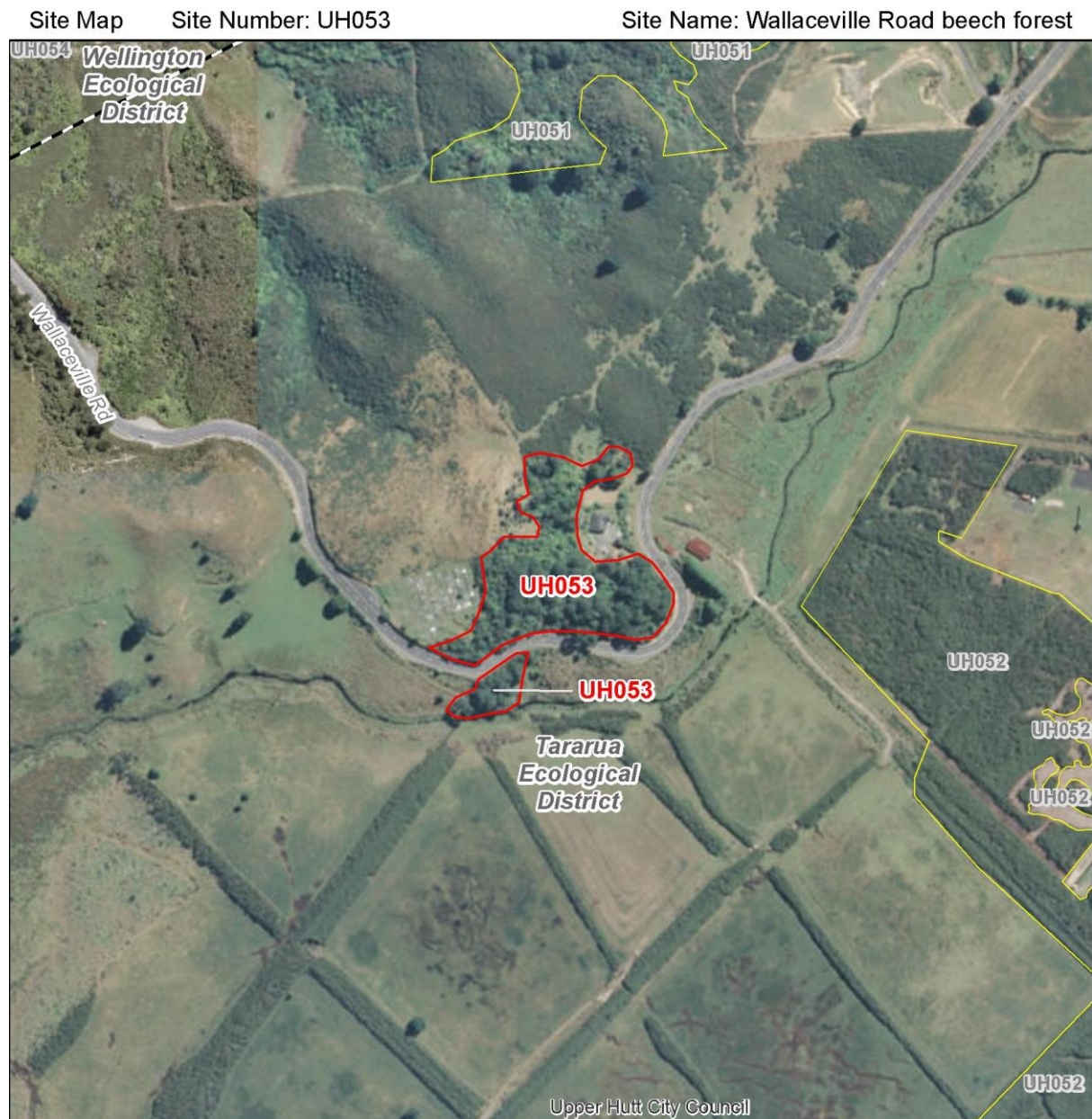
The full list of data sources and references used to assess sites is listed in the main body of the report under REFERENCES and also in the EXPLANATORY NOTES in Appendix 9. Aerial photography (2017 colour) was used to view and evaluate all sites, additional sources such as historic aerial photography in Google Earth, was used to inform site values and improve site boundaries.

Mānuka (*Leptospermum scoparium*) has a national-level threat classification of At Risk-Declining, as per de Lange *et al.* 2018. Mānuka is a Myrtaceae species which is at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of mānuka has been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of mānuka at this site does not trigger the rarity criteria because the species is currently common and widespread in the local environment.

Wallaceville Road beech forest

INTRODUCTION

Site Name: Wallaceville Road beech forest
Site Number: UH053
Site Location: Wallaceville Road, Wallaceville.
Site Area: 1.40 ha.
Current Protection Status: Site has no legal protection.
Protection Type: Not applicable.



Site Summary: This site comprises two small areas of beech forest separated by Wallaceville Road. Other species include kāmahī, tōtara (*Podocarpus totara*; of local interest), mānkua (*Leptospermum scoparium*; At Risk-Declining ^{Note##}), cabbage tree, kohuhu, māhoe, hebe species, red māpou, and karamū. It also includes indigenous vegetation on land environments with 10-20% vegetation cover remaining and is part of the regionally important geological feature: Wallaceville Quaternary Swamp. The site is in close proximity to UH054-Wallaceville Road scrub and UH052-Mangaroa Swamp and likely provides stepping stone habitat for fauna moving between the valley floor and the vegetation corridor along the hills.

IMPORTANT FEATURES

Threatened Indigenous Flora:	Mānuka (<i>Leptospermum scoparium</i> ; At Risk-Declining ^{Note##}) and tōtara (<i>Podocarpus totara</i> ; of local interest).
Threatened Indigenous Fauna:	No rare fauna are known from the site. Regionally uncommon bellbird (<i>Anthornis melanura melanura</i>) recorded nearby.
Threatened Land Environments:	Less than 5 ha on Better Protected and Less Reduced land environments (>30% indigenous vegetation remaining and >20 protected).
Rare Habitats:	No rare habitats or communities known.
Geological Features:	Wallaceville Quaternary Swamp (Regionally important).

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	Small patches of vegetation at this site are representative of Singers and Rogers (2014) vegetation type: MF20-Hard beech forest, which has less than 20% is protected in the Wellington region.
RPS23b: Rarity	Yes	One At Risk plant species ^{Note##} . Geological features: Wallaceville Quaternary Swamp (Regionally important). Indigenous vegetation on Threatened land environments with 10-20% indigenous vegetation cover remaining.
RPS23c: Diversity	No	Modified, with a likely reduced diversity of ecological units and species.
RPS23d: Ecological Context	Yes	This site is part of the Eastern Hutt Hills bird corridor.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

Ecological District:	Tararua
Ecological Domain(s):	61 Wainuiomata - Hutt - Kaitoke.
Digital Scale:	1:5,000
Altitude Range:	140-175 m a.s.l.

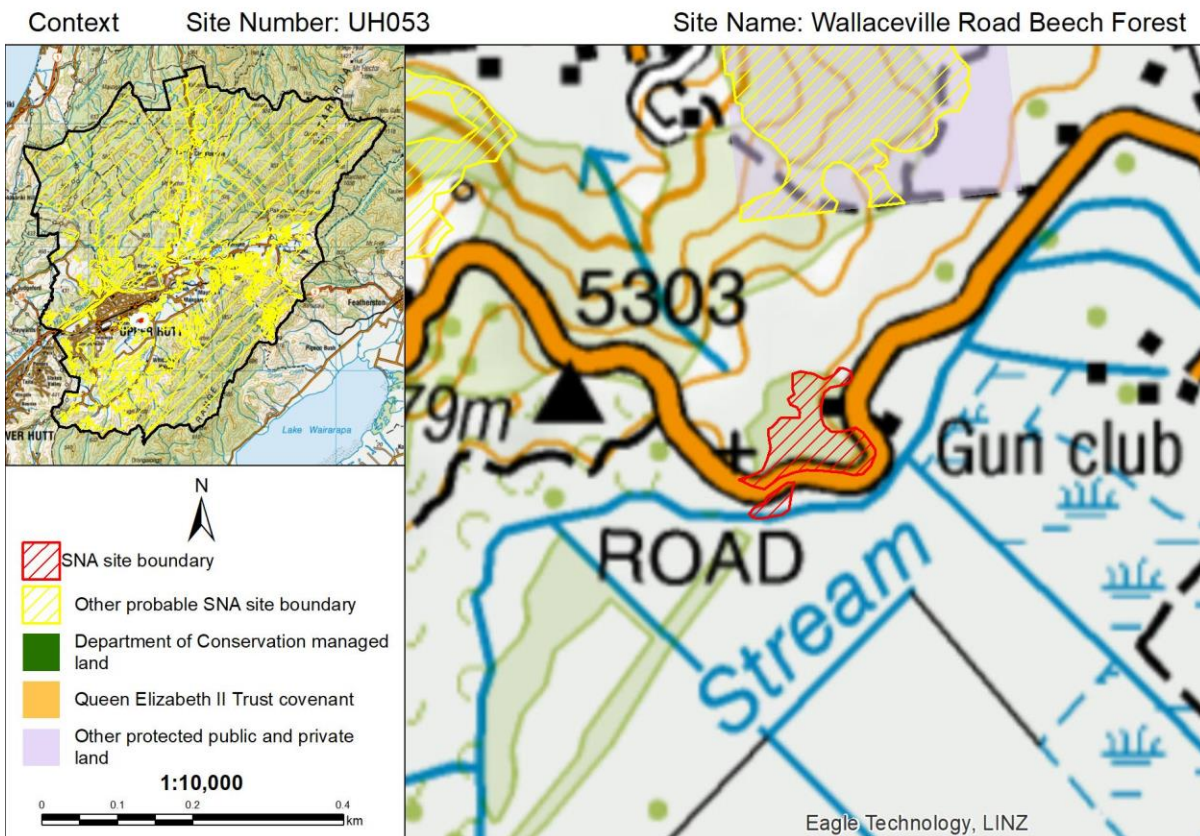
Grid Reference: NZTM E1774219 N5444078

Adjacent Vegetation and Habitats: Pasture, exotic scrub, road, cemetery, residential.

Notes on Overall Condition: Divided by road, with gaps in the forest canopy. Exotic species include barberry, gorse, Japanese honeysuckle, broom, Spanish heath.

Potential Land Management Issues: Control of pest plant species.

Sources of Information for this Site ^{Note#:}: Google Earth, Kenny and Hayward 1996.



ASSESSED BY

Assessment Techniques: Species database, aerial imagery, road side viewing.

Assessed By: Helen White (Date 2/07/2018)

Reviewed By: Steve Rate (Date 1/8/2018)

NOTES

Please note that this statement is based on information available at the time of writing. No site visits were undertaken on private land. Due to the changing nature of ecosystems and surrounding land use, future assessment of the Significant Natural Area may be necessary to reflect any changes in knowledge, values, or boundaries that may influence its assessment as ecologically significant.

An Explanatory Note is available in Appendix 9, which provides more information about how each of the above fields was collated or assessed.

The full list of data sources and references used to assess sites is listed in the main body of the report under REFERENCES and also in the EXPLANATORY NOTES in Appendix 9. Aerial photography (2017 colour) was used to view and evaluate all sites, additional sources such as historic aerial photography in Google Earth, was used to inform site values and improve site boundaries.

Mānuka (*Leptospermum scoparium*) has a national-level threat classification of At Risk-Declining, as per de Lange *et al.* 2018. Mānuka is a Myrtaceae species which is at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of mānuka has been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of mānuka at this site does not trigger the rarity criteria because the species is currently common and widespread in the local environment.

DRAFT

Wallaceville Road beech forest and scrub

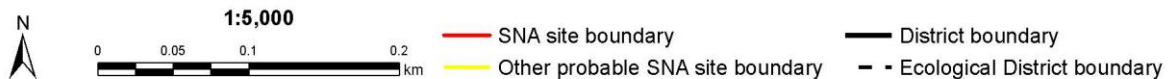
INTRODUCTION

Site Name: Wallaceville Road beech forest and scrub
Site Number: UH054
Site Location: Wallaceville Road, Wallaceville.
Site Area: 3.14 ha.
Current Protection Status: Site has no legal protection.
Protection Type: Not applicable.

Site Map

Site Number: UH054

Site Name: Wallaceville Road beech forest and scrub



Upper Hutt District Plan - Significant Natural Area Assessment - Significance Statement

Site Summary: This small area of hard beech forest has a mixed indigenous broadleaved understorey. Occasional tōtara (*Podocarpus totara*; of local interest), kāmahī, hīnau, and rewarewa occur in the canopy. Most of the site comprises regenerating broadleaved species scrub with five finger, mamaku, māhoe, kohuhu, five-finger, and red māpou.

IMPORTANT FEATURES

Threatened Indigenous Flora: No rare plant species are known from the site. However site contains tōtara (*Podocarpus totara*; of local interest).

Threatened Indigenous Fauna: No rare fauna are known from the site. Regionally uncommon bellbird (*Anthornis melanura melanura*) recorded nearby.

Threatened Land Environments: More than 0.5 hectares on Chronically Threatened land environments (10-20% indigenous cover left)

Rare Habitats: No rare habitats or communities known.

Geological Features: None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	Small patches of vegetation at this site are representative of Singers and Rogers (2014) vegetation type: MF20-Hard beech forest, which has less than 20% is protected in the Wellington region.
RPS23b: Rarity	Yes	Includes indigenous vegetation on land environments with 10-20% indigenous vegetation cover remaining.
RPS23c: Diversity	No	Modified, with a likely reduced diversity of ecological units and species.
RPS23d: Ecological Context	Yes	This site is a small part of the Eastern Hutt Hills bird corridor.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

Ecological District: Wellington, Tararua

Ecological Domain(s): 61 Wainuiomata - Hutt - Kaitoke.

Digital Scale: 1:5,000

Altitude Range: 70-125 m a.s.l.

Grid Reference: NZTM E1773688 N5444448

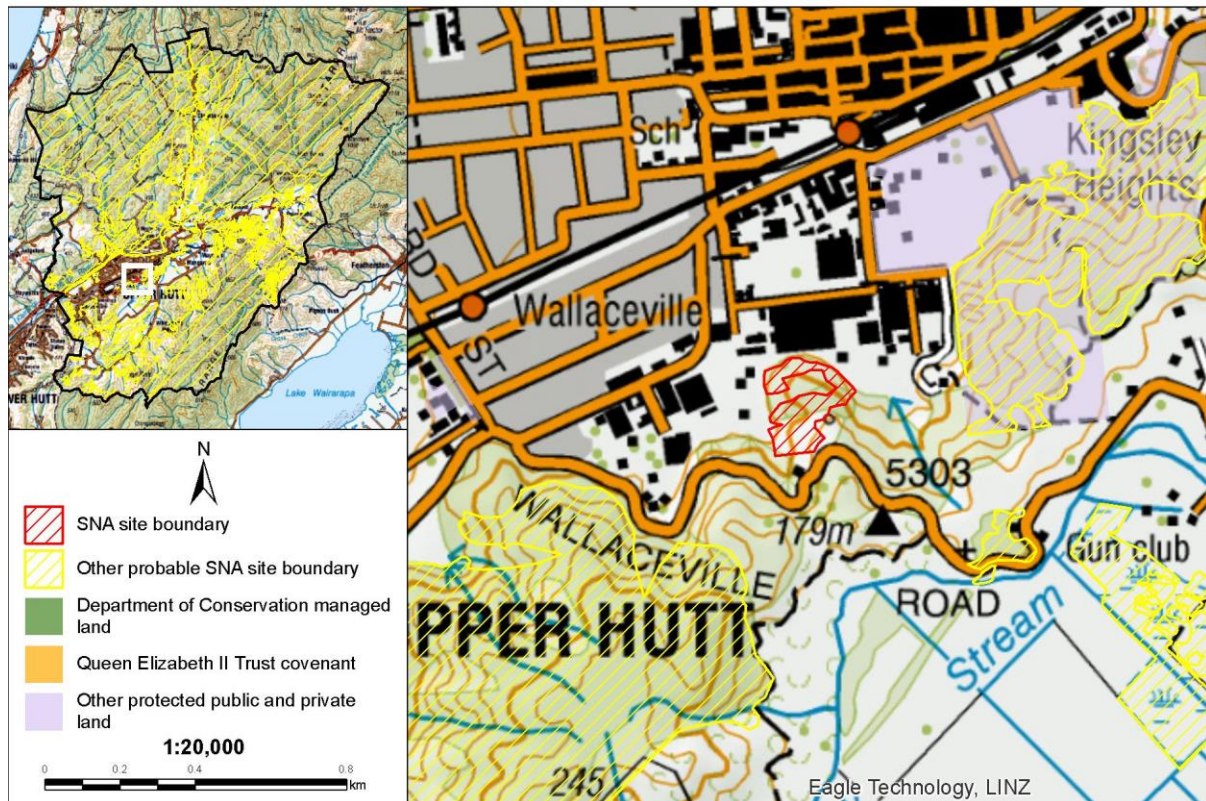
Adjacent Vegetation and Habitats: Industrial site, road, exotic scrub.

Notes on Overall Condition: Includes water reservoir, access track, eastern parts early successional stage scrub.

Potential Land Management Issues: Impacts of fire (adjacent area burned January 2013), variety of pest plant species.

Sources of Information for this Site ^{Note#:} Boffa Miskell Ltd 2008b.

Context Site Number: UH054 Site Name: Wallaceville Road beech forest and scrub



ASSESSED BY

Assessment Techniques: Species database, aerial imagery, road side viewing.

Assessed By: Helen White (Date 2/07/2018)

Reviewed By: Steve Rate (Date 1/8/2018)

NOTES

Please note that this statement is based on information available at the time of writing. No site visits were undertaken on private land. Due to the changing nature of ecosystems and surrounding land use, future assessment of the Significant Natural Area may be necessary to reflect any changes in knowledge, values, or boundaries that may influence its assessment as ecologically significant.

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An Explanatory Note is available in Appendix 9, which provides more information about how each of the above fields was collated or assessed.

Alexander Road beech forest

INTRODUCTION

Site Name: Alexander Road beech forest
Site Number: UH055
Site Location: Alexander Road, Trentham.
Site Area: 71.84 ha.
Current Protection Status: Site has no legal protection.
Protection Type: Not applicable.

Site Map

Site Number: UH055

Site Name: Alexander Road beech forest



— SNA site boundary

— Other probable SNA site boundary

— District boundary

- - Ecological District boundary

Site Summary: This site, located to the south of Alexander Road, comprises high value remnant hard beech forest on hillslopes that range from 70 to 240 metres above sea level. Other plant species present include mānuka (*Leptospermum scoparium*; At Risk-Declining ^{Note##}), kāmahī, tōtara (*Podocarpus totara*; of local interest), and kahikatea (*Dacrycarpus dacrydioides*; of local interest) on the lower slopes. Several Threatened and At Risk plant species have been recorded at the site in addition to mānuka: *Peraxilla tetrapetala* (At Risk-Declining), *Thelymitra ixioides* (At Risk-Naturally Uncommon), *Molloybas cryptanthus* (At Risk-Naturally Uncommon), and *Pterostylis tasmanica* (Threatened-Nationally Vulnerable). It is part of the bird corridor along the Eastern Hutt Hills, and bush falcon (*Falco novaeseelandiae ferox*; At Risk-Recovering) have been recorded adjacent and may utilise habitat within this site.

IMPORTANT FEATURES

Threatened Indigenous Flora:	Mānuka (<i>Leptospermum scoparium</i> ; At Risk-Declining ^{Note##}), <i>Peraxilla tetrapetala</i> (At Risk-Declining), <i>Thelymitra ixioides</i> (At Risk-Naturally Uncommon), <i>Molloybas cryptanthus</i> (At Risk-Naturally Uncommon), <i>Pterostylis tasmanica</i> (Threatened-Nationally Vulnerable).
Threatened Indigenous Fauna:	No rare or uncommon fauna species recorded. Bush falcon (<i>Falco novaeseelandiae ferox</i> ; At Risk-Recovering) is known from neighbouring properties and is likely using the site.
Threatened Land Environments:	More than 0.5 hectares on Acutely Threatened land environments (<10% indigenous cover remaining).
Rare Habitats:	No rare habitats or communities known.
Geological Features:	Wallaceville Quaternary Swamp (Regionally important)

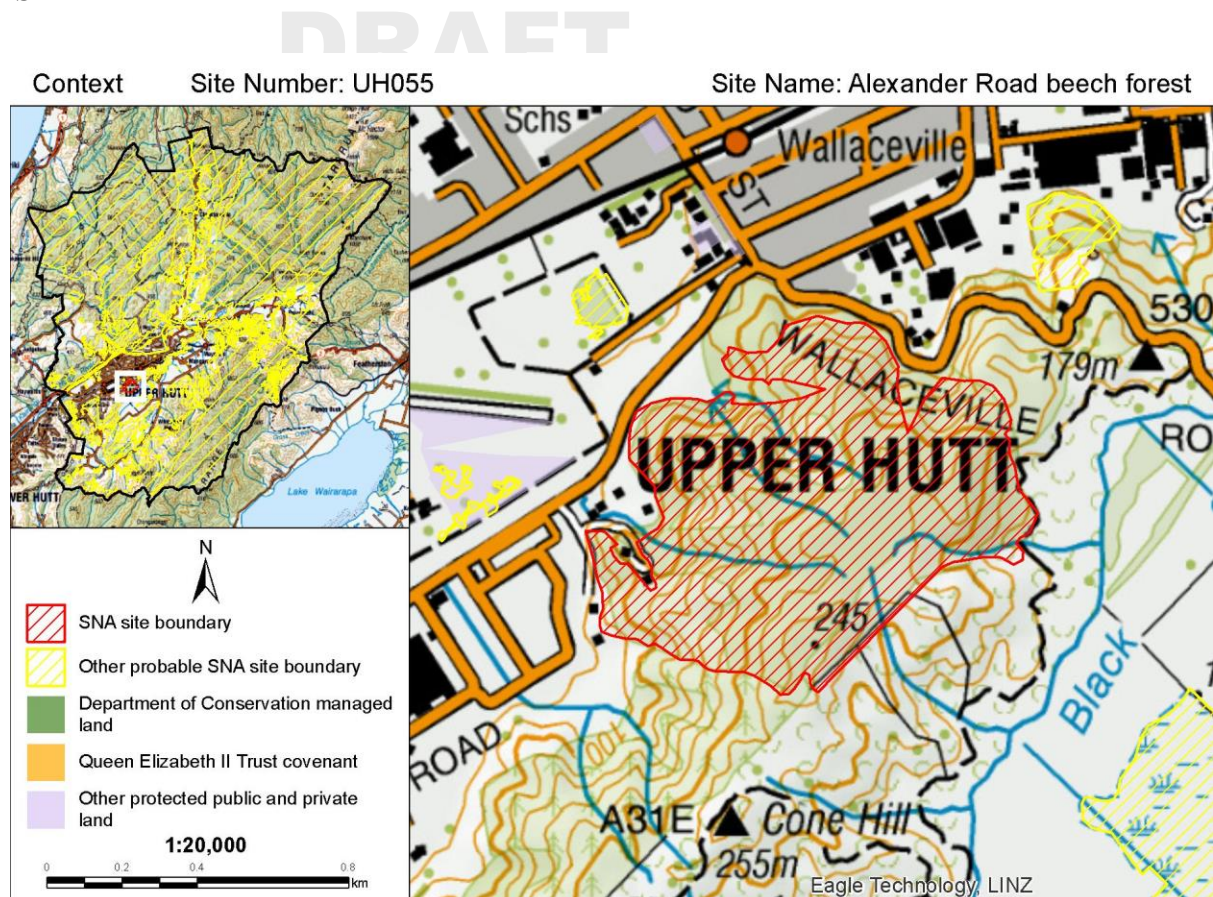
SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	The vegetation at this site is representative of Singers and Rogers (2014) vegetation type: MF20-Hard beech forest, which has less than 20% protected in Wellington region.
RPS23b: Rarity	Yes	One Threatened and four At Risk ^{Note##} plant species. Includes indigenous vegetation on land environments with less than 10% indigenous vegetation cover remaining. Geological features: Wallaceville Quaternary Swamp (Regionally important).
RPS23c: Diversity	Yes	Typical range of species present for this habitat type.
RPS23d: Ecological Context	Yes	This site is part of the bird corridor along the Eastern Hutt Hills. Provides connectivity between the Hutt Valley and Whitemans Valley. Remnant podocarps likely provide a seasonal food source for indigenous forest birds.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

Ecological District:	Tararua, Wellington
Ecological Domain(s):	61 Wainuiomata - Hutt - Kaitoke.
Digital Scale:	1:9,000
Altitude Range:	60-250 m a.s.l.
Grid Reference:	NZTM E1773003 N5443741
Adjacent Vegetation and Habitats:	Grorse, pasture, plantation forest, urban.
Notes on Overall Condition:	Includes wilding pine.
Potential Land Management Issues:	Control of wilding pines.
Sources of Information for this Site ^{Note#:}	DOC Bioweb, Boffa Miskell Ltd 2008b, Kenny and Hayward 1996.

**ASSESSED BY**

Assessment Techniques:	Aerial imagery, species databases.
Assessed By:	Helen White (Date 2/07/2018)
Reviewed By:	Steve Rate (Date 1/8/2018)

NOTES

Please note that this statement is based on information available at the time of writing. No site visits were undertaken on private land. Due to the changing nature of ecosystems and surrounding land use, future assessment of the Significant Natural Area may be necessary to reflect any changes in knowledge, values, or boundaries that may influence its assessment as ecologically significant.

An Explanatory Note is available in Appendix 9, which provides more information about how each of the above fields was collated or assessed.

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Mānuka (*Leptospermum scoparium*) has a national-level threat classification of At Risk-Declining, as per de Lange *et al.* 2018. Mānuka is a Myrtaceae species which is at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of mānuka has been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of mānuka at this site does not trigger the rarity criteria because the species is currently common and widespread in the local environment.

Grants Bush and floodplain remnants

INTRODUCTION

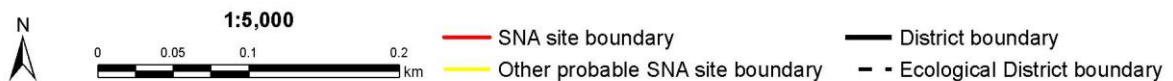
Site Name:	Grants Bush and floodplain remnants
Site Number:	UH056
Site Location:	Near Alexander Road, northeast of the Trentham Race Course.
Site Area:	2.24 ha.
Current Protection Status:	Site is partially legally protected.
Protection Type:	DOC covenant over open space values, natural character of land, indigenous flora and fauna. Grants Bush is now owned by UHCC and the DOC covenant has been removed.

DRAFT

Site Map

Site Number: UH056

Site Name: Grants Bush and floodplain remnants



Site Summary:

This site includes three small remnants of floodplain forest referred to as Grants Bush and the Floodplain Remnant which are protected by a Department of Conservation covenant. The Grants Bush remnant contains semi-mature regenerating floodplain forest, comprised of beech, kahikatea (*Dacrycarpus dacrydioides*; of local interest), tōtara (*Podocarpus totara*; of local interest), tarata, māhoe, and poroporo. Grants Bush is fenced and has a regenerating understorey. The Floodplain Remnant covenant comprises tōtara treeland over pasture grassland and ivy, with less frequent mataī (*Prumnopitys taxifolia*), and occasional miro (*Prumnopitys ferruginea*), rimu (*Dacrydium cupressinum*; of local interest), black maire (*Nestegis cunninghamii*), and cabbage trees (*Cordyline australis*). The area nearest the racecourse contains a small grove of black beech (*Fuscospora solandri*) trees.

IMPORTANT FEATURES

Threatened Indigenous Flora:	No rare plant species are known from the site. However site contains five podocarp species, which are of local interest.
Threatened Indigenous Fauna:	No rare fauna are known from the site, but the site may provide habitat for the bush falcon (<i>Falco novaeseelandiae ferox</i> ; At Risk-Recovering) which has been recorded nearby.
Threatened Land Environments:	More than 0.5 hectares on Acutely Threatened land environments (<10% indigenous cover remaining).
Rare Habitats:	Valley floor forest is uncommon in the Hutt Valley.
Geological Features:	None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

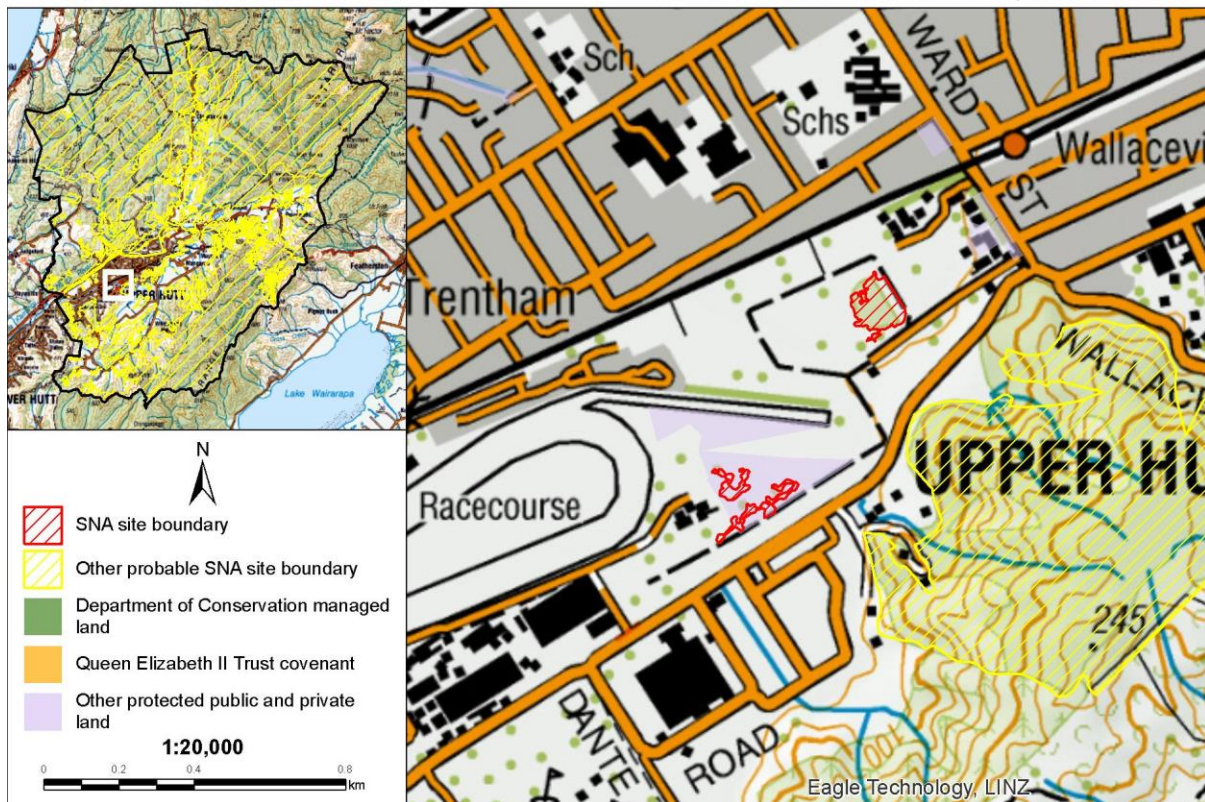
RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	The vegetation at this site is representative valley floor vegetation which is rare in the Wellington region and includes mature podocarps.
RPS23b: Rarity	Yes	Entirely located on Threatened land environments with <10% vegetation cover remaining.
RPS23c: Diversity	No	A modified, remnant that is likely to have a reduced diversity of ecological units.
RPS23d: Ecological Context	No	Relatively isolated, small remnant patches.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

Ecological District:	Wellington
Ecological Domain(s):	61 Wainuiomata - Hutt - Kaitoke.
Digital Scale:	1:5,000
Altitude Range:	55-60 m a.s.l.
Grid Reference:	NZTM E1772325 N5444101
Adjacent Vegetation and Habitats:	Pasture, residential, racecourse.
Notes on Overall Condition:	Pest plant species particularly on the perimeter of remnants. Exotic tree species include pine, macrocarpa, hawthorne, <i>Cupressus</i> sp. and Japanese cedar. Pest plant control is currently being undertaken.
Potential Land Management Issues:	Residential development, fencing, dumping of weeds, pest plant management, cats.

Sources of Information for this Site^{Note#}: Wildland consultants 2017; Lowe 2015.

Context Site Number: UH056 Site Name: Grants Bush and floodplain remnants



ASSESSED BY

Assessment Techniques: Species database, aerial imagery, road side viewing.
Assessed By: Helen White (Date 7/02/2018)
Reviewed By: Steve Rate (Date 1/8/2018)

NOTES

Please note that this statement is based on information available at the time of writing. No site visits were undertaken on private land. Due to the changing nature of ecosystems and surrounding land use, future assessment of the Significant Natural Area may be necessary to reflect any changes in knowledge, values, or boundaries that may influence its assessment as ecologically significant.

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Trentham Memorial Park forest

INTRODUCTION

Site Name: Trentham Memorial Park forest
Site Number: UH057
Site Location: On Ferguson Drive between Barton Avenue and Brentwood Street, Upper Hutt.
Site Area: 14.24 ha.
Current Protection Status: Site has no legal protection.
Protection Type: Not applicable.

Site Map

Site Number: UH057

Site Name: Trentham Memorial Park forest



1:6,000



— SNA site boundary

— Other probable SNA site boundary

— District boundary

- - Ecological District boundary



Site Summary: This site comprises two areas of lowland podocarp/broadleaf forest, which enclose sections of the Moehau and Mawaihakona Streams. Barton's Bush, the larger of the two forest remnants, contains three emergent and of local interest species: mātai (*Prumnopitys taxifolia*), tōtara (*Podocarpus totara*), and pukatea (*Laurelia novae-zelandiae*); over a tall canopy of tītoki (*Alectryon excelsus*), ribbonwood (*Plagianthus regius*), karaka (*Corynocarpus laevigatus*), kahikatea (*Dacrycarpus dacrydioides*), and tawa (*Beilschmiedia tawa*). White mistletoe (*Tupeia antarctica*; At Risk-Declining) and green mistletoe (*Ileostylus micranthus*) are known from Barton's Bush. The smaller fragment, Domain Bush, is comprised of emergent ribbonwood, tōtara, and kahikatea over a canopy of tawa, lemonwood (*Pittosporum eugenioides*), kaikōmako (*Pennantia corymbosa*), and tītoki. At least eight bird species have been recorded inhabiting the site, including bush falcon (*Falco novaeseelandiae ferox*; At Risk-Recovering). Wainuia landsnails and copper skink (*Oligosoma aeneum*; Not Threatened) have also been recorded at the site.

IMPORTANT FEATURES

Threatened Indigenous Flora:	White mistletoe (<i>Tupeia antarctica</i> ; At Risk-Declining) and <i>Teucrium parvifolium</i> (At Risk-Declining). Also green mistletoe/pirita (<i>Ileostylus micranthus</i> ; regionally uncommon).
Threatened Indigenous Fauna:	An unknown species of Wainuia land snail is reported from the site; all Wainuia species are listed as either Threatened, At Risk or Data Deficient. Bush falcon (<i>Falco novaeseelandiae ferox</i> ; At Risk-Recovering) and copper skink (<i>Oligosoma aeneum</i> ; Not Threatened) have been recorded at the site, and bellbird (<i>Anthornis melanura melanura</i> ; regionally uncommon) has been recorded nearby.
Threatened Land Environments:	More than 0.5 hectares on Acutely Threatened land environments (<10% indigenous cover remaining).
Rare Habitats:	Valley floor forest is uncommon in the Hutt Valley. The vegetation is representative of Singers and Rogers (2014) vegetation type: MF7-Tawa, kāmahi, podocarp forest which has less than 30% remaining in the Wellington region.
Geological Features:	None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	The vegetation at this site is representative of Singers and Rogers (2014) vegetation type: MF7-Tawa, kāmahi, podocarp forest, of which less than 30% of the original extent remains in the Wellington region, and less than 20% is protected in Upper Hutt District.
RPS23b: Rarity	Yes	Two At Risk plant species and one regionally uncommon plant species, and one At Risk bird species. Includes indigenous vegetation on land environments with less than 10% indigenous vegetation cover remaining.
RPS23c: Diversity	Yes	Forest has good natural diversity of plant and animal species.

RPS Policy 23 Criteria	Achieved	Assessment
RPS23d: Ecological Context	Yes	Located near several other forest sites, including Trentham Scenic Reserve (350 m to the northwest), Keith George Memorial Park KNE site (2km to the south-west) and Wi Tako KNE site (1.5km to the south). The site is forms part of a network of sites, allowing mobile bird species to travel through the Hutt Valley.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

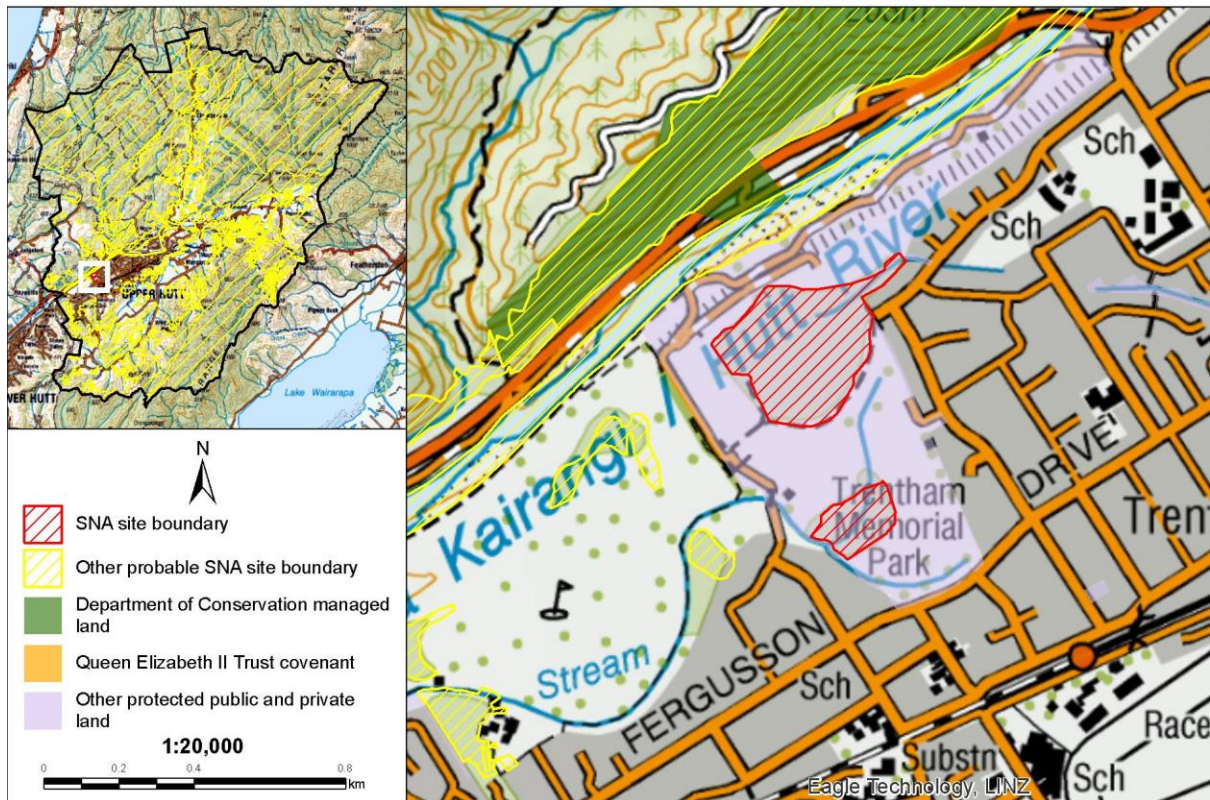
SITE CONTEXT AND OTHER INFORMATION

Ecological District:	Wellington
Ecological Domain(s):	61 Wainuiomata - Hutt - Kaitoke.
Digital Scale:	1:6,000
Altitude Range:	45-45 m a.s.l.
Grid Reference:	NZTM E1770350 N5444673
Adjacent Vegetation and Habitats:	Playing fields, recreational areas, residential properties.
Notes on Overall Condition:	Current restoration activities occurring in the forest and along Moehau stream, include replanting and pest plant and pest animal control activities. Both areas of forest are fenced; Barton's bush is also fenced internally along the tracks. Rubbish is dumped over the fences by members of the public. Flood prevention and debris capture structures in the Moehau Stream may prevent indigenous fish species from accessing the stream from the Te Awa Kairangi/Hutt River.
Potential Land Management Issues:	Pest plant and pest animal control, revegetation (particularly along Moehau Stream), human activities, including managing the dumping of rubbish.
Sources of Information for this Site ^{Note#}:	GWRC 2014c; Mahlfeld <i>et al.</i> 2010; Google Earth, Historical aerials.

Context

Site Number: UH057

Site Name: Trentham Memorial Park forest



ASSESSED BY

Assessment Techniques: Species database, aerial imagery, road side viewing.
Assessed By: Helen White (Date 7/03/2018)
Reviewed By: Steve Rate (Date 1/8/2018)

NOTES

Please note that this statement is based on information available at the time of writing. No site visits were undertaken on private land. Due to the changing nature of ecosystems and surrounding land use, future assessment of the Significant Natural Area may be necessary to reflect any changes in knowledge, values, or boundaries that may influence its assessment as ecologically significant.

An Explanatory Note is available in Appendix 9, which provides more information about how each of the above fields was collated or assessed.

The full list of data sources and references used to assess sites is listed in the main body of the report under REFERENCES and also in the EXPLANATORY NOTES in Appendix 9. Aerial photography (2017 colour) was used to view and evaluate all sites, additional sources such as historic aerial photography in Google Earth, was used to inform site values and improve site boundaries.

Royal Wellington Golf Club forest

INTRODUCTION

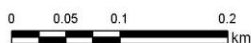
Site Name: Royal Wellington Golf Club forest
Site Number: UH058
Site Location: Golf Road, Heretaunga.
Site Area: 7.14 ha.
Current Protection Status: Site is partially legally protected.
Protection Type: Wildlife refuge

Site Map Site Number: UH058

Site Name: Royal Wellington Golf Club forest



1:7,000



— SNA site boundary

— Other probable SNA site boundary

— District boundary

- - Ecological District boundary

Site Summary: This site comprises some of the last remnants of river plain podocarp forest, which enclose sections of the Moehau and Mawaihakona Streams. Canopy species in the four small remnants within the Royal Wellington Golf Course are likely similar to those of the adjacent Barton's Bush, comprising tōtara, kahikatea, tawa, and tītoki. All of the Royal Wellington Golf Course is a wildlife refuge, initially gazetted in the 1920s under the Animal Protection and Game Act (1921) and was then re-gazetted as a wildlife refuge under the Wildlife Act 1953 (DOC R27103) (Boffa Miskell Ltd 2008). The site includes all or part of Urban Tree Groups 124, 126, and 176 as listed in Chapter 27A of the Upper Hutt District Plan.

IMPORTANT FEATURES

Threatened Indigenous Flora:	No rare plant species are known from the site. Kahikatea (<i>Dacrycarpus dacrydioides</i>), tōtara (<i>Podocarpus totara</i>) are of local interest.
Threatened Indigenous Fauna:	No rare fauna are known from the site. Bush falcon (<i>Falco novaeseelandiae ferox</i> ; At Risk-Recovering), whitehead (<i>Mohoua albicilla</i> ; At Risk-Declining), and bellbird (<i>Anthornis melanura melanura</i> ; regionally uncommon) have been recorded nearby.
Threatened Land Environments:	More than 0.5 hectares on Acutely Threatened land environments (<10% indigenous cover remaining).
Rare Habitats:	Valley floor forest is uncommon in the Hutt Valley. The vegetation is representative of Singers and Rogers (2014) vegetation type: MF7-Tawa, kāmahi, podocarp forest which has less than 30% remaining in the Wellington region.
Geological Features:	None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

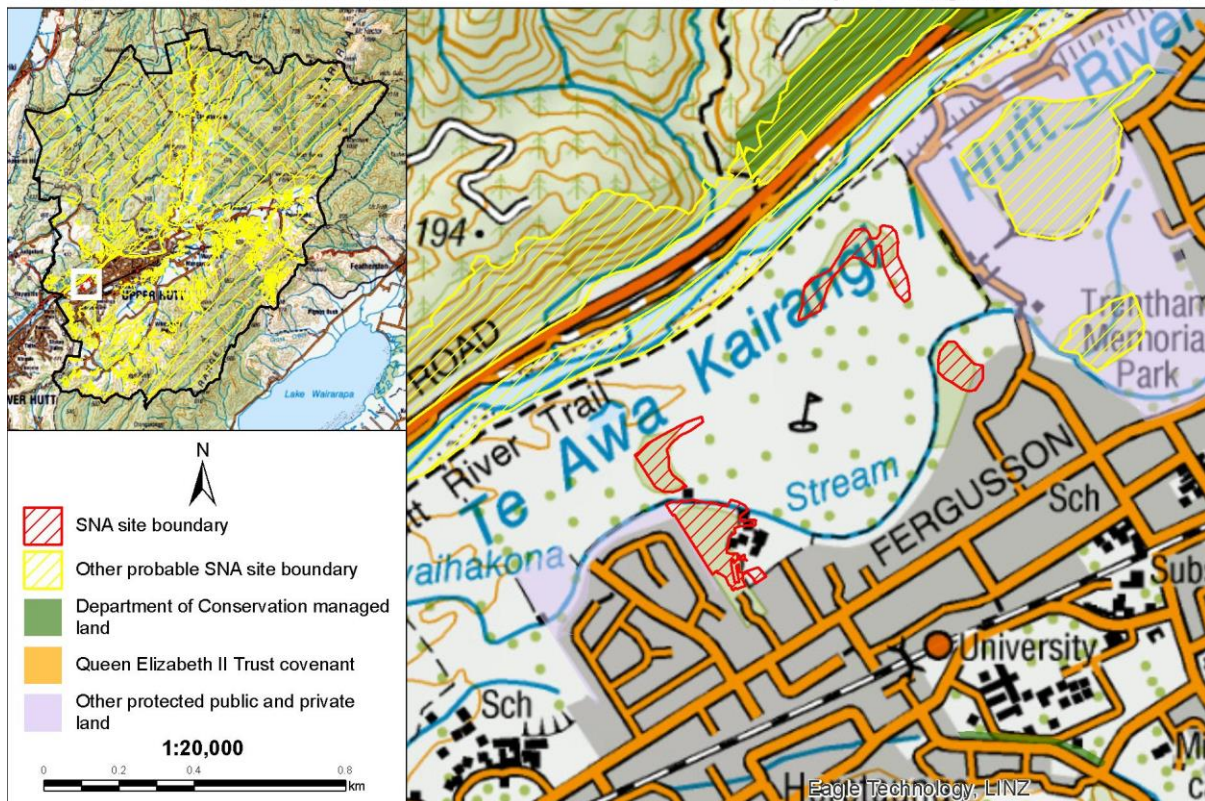
RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	The vegetation at this site is representative of Singers and Rogers (2014) vegetation type: MF7-Tawa, kāmahi, podocarp forest, of which less than 30% of the original extent remains in the Wellington region, and less than 20% is protected in Upper Hutt District.
RPS23b: Rarity	Yes	Entirely located on Threatened land environments with <10% vegetation cover remaining.
RPS23c: Diversity	No	A modified, remnant that is likely to have a reduced diversity of ecological units.
RPS23d: Ecological Context	Yes	Located near several other forest sites, including Trentham Memorial Park forest (250 m to the northeast), Keith George Memorial Park KNE site (300 m to the northwest) and Trentham Scenic Reserve (300 m to the north). The site is forms part of a network of sites, allowing mobile bird species to travel through the Hutt Valley.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

Ecological District: Wellington
Ecological Domain(s): 61 Wainuiomata - Hutt - Kaitoke.
Digital Scale: 1:7,000
Altitude Range: 40-45 m a.s.l.
Grid Reference: NZTM E1769612 N5444077
Adjacent Vegetation and Habitats: Pasture, residential.
Notes on Overall Condition: Some exotic species present.
Potential Land Management Issues: Loss of natural hydrology patterns (no flooding anymore) and severe edge effects.
Sources of Information for this Site ^{Note#:} <http://www.rwgc.co.nz/>
 Boffa Miskell Ltd 2008.

DRAFT

Context Site Number: UH058 Site Name: Royal Wellington Golf Club forest



ASSESSED BY

Assessment Techniques: Species database, aerial imagery.
Assessed By: Helen White (Date 2/07/2018)
Reviewed By: Steve Rate (Date 1/8/2018)

NOTES

Please note that this statement is based on information available at the time of writing. No site visits were undertaken on private land. Due to the changing nature of ecosystems and surrounding land use, future assessment of the Significant Natural Area may be necessary to reflect any changes in knowledge, values, or boundaries that may influence its assessment as ecologically significant.

An Explanatory Note is available in Appendix 9, which provides more information about how each of the above fields was collated or assessed.

The full list of data sources and references used to assess sites is listed in the main body of the report under REFERENCES and also in the EXPLANATORY NOTES in Appendix 9. Aerial photography (2017 colour) was used to view and evaluate all sites, additional sources such as historic aerial photography in Google Earth, was used to inform site values and improve site boundaries.

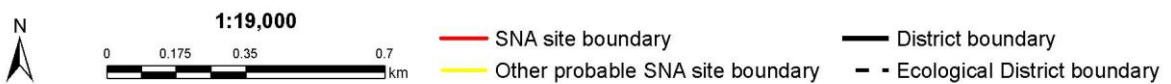
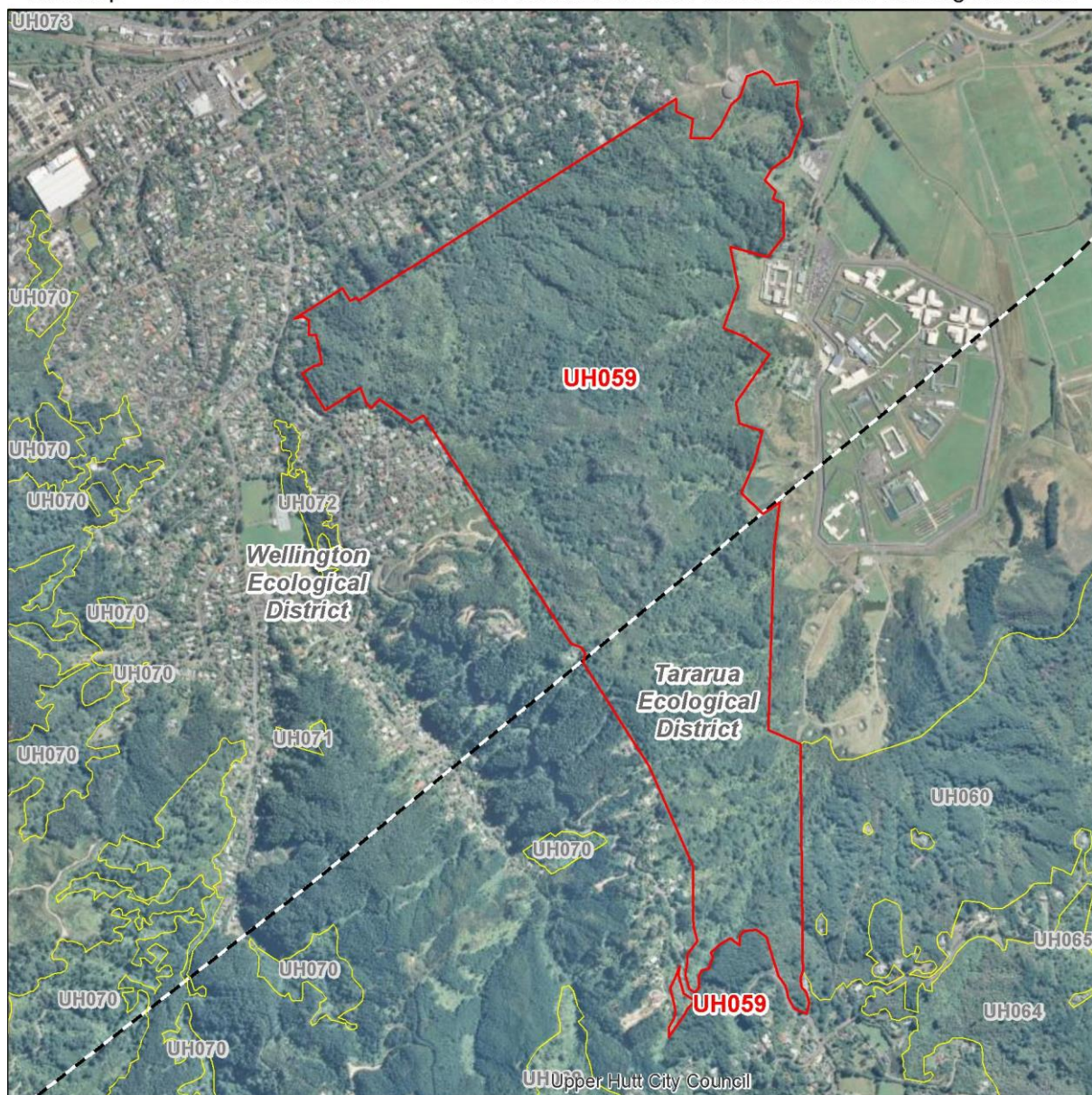
DRAFT

Ecclesfield Reserve and Wi Tako Ngatata KNE

INTRODUCTION

Site Name: Ecclesfield Reserve and Wi Tako Ngatata KNE
Site Number: UH059
Site Location: 31 Blue Mountains Road, Silverstream.
Site Area: 160.22 ha.
Current Protection Status: Site is partially legally protected.
Protection Type: Wi Tako - Indigenous ownership; Ecclesfield - unsure. DOC covenant.

Site Map Site Number: UH059 Site Name: Ecclesfield Reserve and Wi Tako Ngatata KNE



Site Summary: This SNA comprises Ecclesfield Reserve and GWRC's Wi Tako Ngatata KNE site. The vegetation comprises hard beech and black beech (*Fuscospora truncata* and *Fuscospora solandri*) and tawa (*Beilschmiedia tawa*) forest, with mānuka (*Leptospermum scoparium*; At Risk-Declining^{Note##}) and kāmahī scrub (*Weinmannia racemosa*). Kahikatea (*Dacrycarpus dacrydioides*; of local interest) and swamp maire (*Syzygium maire*; Threatened-Nationally Critical^{Note##}) are present in the valleys and lower slopes. Wi Tako Gahnia Wetland can be found on the southwest facing slope at the end of Chichester Drive. Northern rātā (*Metrosideros robusta*; Threatened-Nationally Vulnerable^{Note##}), *Pterostylis puberula* (Threatened-Nationally Vulnerable), *Peraxilla tetrapetala* (At Risk-Declining), *Caladenia alata* (At Risk-Naturally Uncommon), and *Pterostylis foliata* (At Risk-Naturally Uncommon) have been recorded at this site. Birds recorded include the At Risk-Recovering bush falcon (*Falco novaeseelandiae ferox*), At Risk-Declining North Island rifleman (*Acanthisitta chloris granti*), and whitehead (*Mohoua albicilla*), the At Risk-Relict red-crowned parakeet (*Cyanoramphus novaezealandiae*), and the regionally uncommon tomtit (*Petroica macrocephala toitoi*) and bellbird (*Anthornis melanura*). Ornate skink (*Oligosoma ornatum*, At Risk Declining) and barking gecko (*Naultinus punctatus*; At Risk-Declining) have been recorded at the site. Predator control is being undertaken over approximately 70% of the area.

IMPORTANT FEATURES

- Threatened Indigenous Flora:** Northern rātā (*Metrosideros robusta*; Threatened-Nationally Vulnerable^{Note##}), swamp maire (*Syzygium maire*; Threatened-Nationally Critical^{Note##}), *Pterostylis puberula* (Threatened-Nationally Vulnerable), *Peraxilla tetrapetala* (At Risk-Declining), mānuka (*Leptospermum scoparium*; At Risk-Declining^{Note##}), *Caladenia alata* (At Risk-Naturally Uncommon), *Pterostylis foliata* (At Risk-Naturally Uncommon), and kahikatea (*Dacrycarpus dacrydioides*; of local interest) have been recorded at this site.
- Threatened Indigenous Fauna:** Birds recorded include the At Risk-Recovering bush falcon (*Falco novaeseelandiae ferox*), At Risk-Declining North Island rifleman (*Acanthisitta chloris granti*), and whitehead (*Mohoua albicilla*), the At Risk-Relict red-crowned parakeet (*Cyanoramphus novaezealandiae*), and the regionally uncommon tomtit (*Petroica macrocephala toitoi*) and bellbird (*Anthornis melanura*). Ornate skink (*Oligosoma ornatum*, At Risk Declining) and barking gecko (*Naultinus punctatus*; At Risk-Declining) have been recorded at the site. Ngahere gecko (*Mokopirirakau* "southern North Island" At Risk-Declining) and long-tailed cuckoo (*Eudynamys taitensis*; At Risk-Naturally Uncommon) have been recorded nearby.
- Threatened Land Environments:** More than 0.5 hectares on Acutely Threatened land environments (<10% indigenous cover remaining).
- Rare Habitats:** Freshwater wetlands are nationally rare, with less than 10% of their original extent remaining
- Geological Features:** None known.

SIGNIFICANCE ASSESSMENT

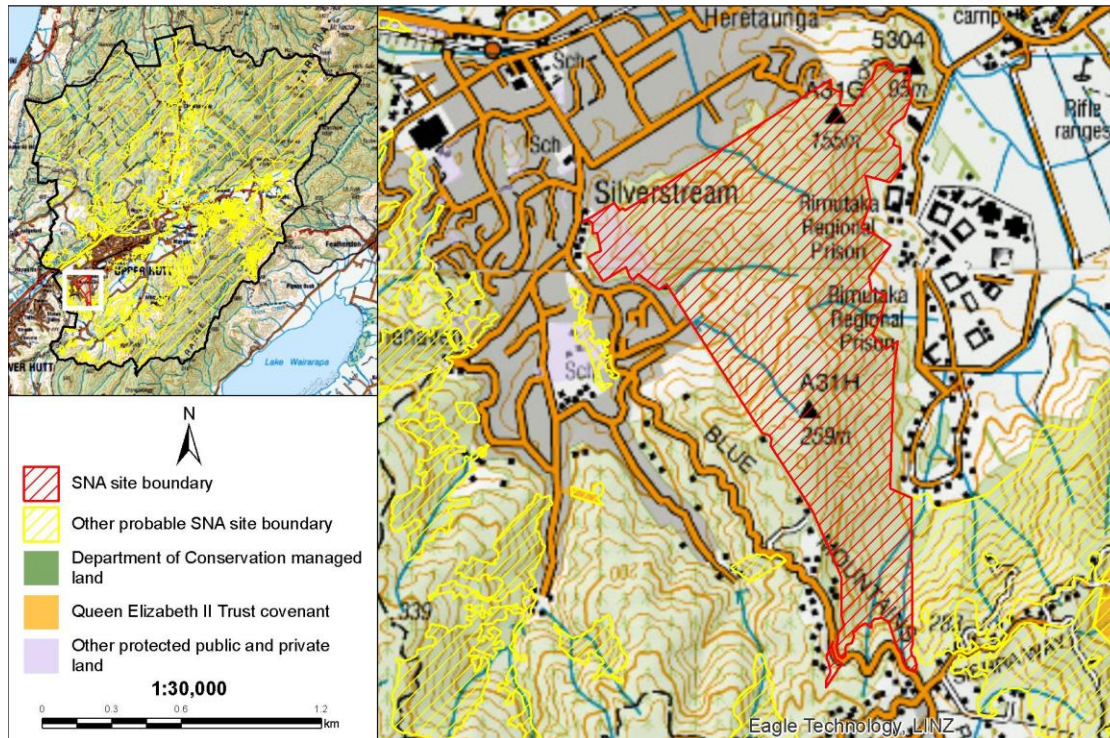
This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	The vegetation at this site is representative of Singers and Rogers (2014) vegetation type: MF20-Hard beech forest, which has less than 20% protected in Wellington region. Also contains a wetland that is representative of the original wetland types.
RPS23b: Rarity	Yes	Three Threatened and three At Risk Plant species, on At Risk lizard species, four At Risk bird species and one regionally uncommon bird species. Indigenous vegetation within land environments where <10% or 10-20% vegetated area remains. Freshwater wetlands are nationally rare (<10% of their original extent remains) and a regionally uncommon habitat type.
RPS23c: Diversity	Yes	High diversity of plant species present, spanning low lying valleys to ridges, and includes a wetland.
RPS23d: Ecological Context	Yes	Contiguous with the Blue Mountains ranges forest and scrub.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

Ecological District:	Wellington, Tararua
Ecological Domain(s):	61 Wainuiomata - Hutt - Kaitoke.
Digital Scale:	1:19,000
Altitude Range:	60-285 m a.s.l.
Grid Reference:	NZTM E1770006 N5441795
Adjacent Vegetation and Habitats:	Indigenous forest, residential.
Notes on Overall Condition:	Some gorse, pine trees, and other woody pest plants present; pest animals present.
Potential Land Management Issues:	Wilding or older pines appear to have been poisoned, bait stations cover approximately 70% of the site, restoration planting required.
Sources of Information for this Site ^{Note#:}	DOC Bioweb, White 2001, DOC 1996, Wellington Botanical Society.

Context Site Number: UH059 Site Name: Ecclesfield Reserve and Wi Tako Ngatata KNE



ASSESSED BY

Assessment Techniques: Species database, aerial imagery, road side viewing.
Assessed By: Helen White (Date 19/06/2018)
Reviewed By: Steve Rate (Date 1/8/2018)

NOTES

Please note that this statement is based on information available at the time of writing. No site visits were undertaken on private land. Due to the changing nature of ecosystems and surrounding land use, future assessment of the Significant Natural Area may be necessary to reflect any changes in knowledge, values, or boundaries that may influence its assessment as ecologically significant.

An Explanatory Note is available in Appendix 9, which provides more information about how each of the above fields was collated or assessed.

The full list of data sources and references used to assess sites is listed in the main body of the report under REFERENCES and also in the EXPLANATORY NOTES in Appendix 9. Aerial photography (2017 colour) was used to view and evaluate all sites, additional sources such as historic aerial photography in Google Earth, was used to inform site values and improve site boundaries.

Swamp maire, northern rātā, and mānuka have national-level threat classifications as per de Lange *et al.* 2018; Swamp maire (*Syzygium maire*; Threatened-Nationally Critical), northern rātā (*Metrosideros robusta*; Threatened-Nationally Vulnerable), and mānuka (*Leptospermum scoparium*; At Risk-Declining). They are Myrtaceae species which are at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of swamp maire and northern rātā have been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of swamp maire or northern rātā at this site does not trigger the rarity criteria because the species are currently widespread in the local environment.

Blue Mountains North forest and scrub

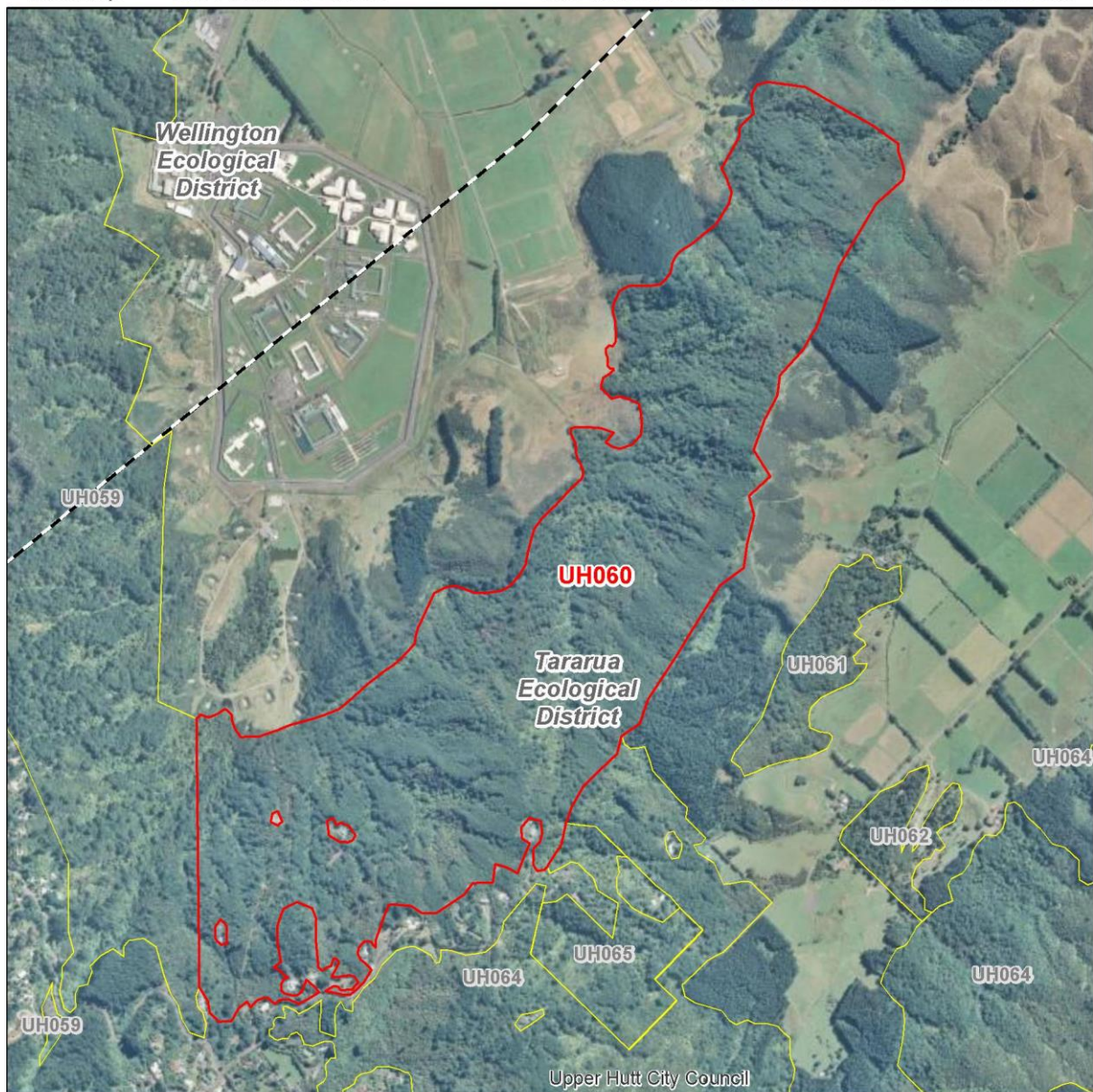
INTRODUCTION

Site Name: Blue Mountains North forest and scrub
Site Number: UH060
Site Location: Katherine Mansfield Drive, Blue Mountains.
Site Area: 112.35 ha.
Current Protection Status: Site has no legal biodiversity protection.
Protection Type: Not applicable.

Site Map

Site Number: UH060

Site Name: Blue Mountains North forest and scrub



1:16,000



— SNA site boundary

— District boundary

— Other probable SNA site boundary

- - Ecological District boundary



Site Summary: This large site extends from the Wi Taka KNE to the east and south along the crest of the ridgeline spanning the north of the Mangaroa River Valley. The site is contiguous with QEII covenants 5/07/296 and 5/07/604 (UH065), and Blue Mountains Southeast Forest and Scrub (UH064). There are large areas of remnant hard beech, black beech and red beech forest with occasional hīnau (*Elaeocarpus dentatus*; of local interest), miro (*Prumnopitys ferruginea*), putaputawētā (*Carpodetus serratus*), and māpou (*Myrsine australis*). The vegetation in the valleys and low lying areas includes a stand of tawa, and small pockets of wetland forest, with tree species of local interest: kahikatea (*Dacrycarpus dacrydioides*), tōtara (*Podocarpus totara*), rimu (*Dacrydium cupressinum*) and white maire (*Nestegis lanceolata*). Areas in advanced stages of regeneration include kāmahī-māhoe-broadleaved species forest and mānuka (*Leptospermum scoparium*; At Risk-Declining ^{Note##}) forest with emergent beech. Five-finger, patē, tarata, treeferns, kōtukutuku, lancewood, and rewarewa are common, as are wilding pines.

IMPORTANT FEATURES

Threatened Indigenous Flora:	Threatened-Nationally Critical: swamp maire (<i>Syzygium maire</i>); Threatened-Nationally Vulnerable: Kānuka (<i>Kunzea robusta</i> ^{Note##}), and rātās (<i>Metrosideros robusta</i> , <i>M. perforata</i> , and <i>M. fulgens</i> ^{Note##}), and At Risk-Declining: mānuka (<i>Leptospermum scoparium</i> ^{Note##}) are known from the site. Of local interest: hīnau (<i>Elaeocarpus dentatus</i>), miro (<i>Prumnopitys ferruginea</i>), kahikatea (<i>Dacrycarpus dacrydioides</i>), tōtara (<i>Podocarpus totara</i>), rimu (<i>Dacrydium cupressinum</i>), nīkau (<i>Rhopalostylis sapida</i>), kiekie (<i>Freycinetia banksii</i>), and white maire (<i>Nestegis lanceolata</i>).
Threatened Indigenous Fauna:	No fauna records are available for the site. Species recorded near the site include the At Risk-Declining lizards Ngahere gecko (<i>Mokopirirakau</i> 'southern North Island'), barking gecko (<i>Naultinus punctatus</i>), the At Risk-Declining whitehead (<i>Mohoua albicilla</i>) and North Island rifleman (<i>Acanthisitta chloris granti</i>), the At Risk-Recovering bush falcon (<i>Falco novaeseelandiae ferox</i>), the At Risk-Naturally Uncommon long-tailed cuckoo (<i>Eudynamys taitensis</i>), and the regionally uncommon bellbird (<i>Anthornis melanura</i>) and pied tomtit (<i>Petroica macrocephala toitoi</i>). The site includes several tributaries of an unnamed stream that passes through the Rimutaka Prison site, which provides habitat for the Not Threatened shortfin eel (<i>Anguilla australis</i>) and banded kōkopu (<i>Galaxias fasciatus</i>).
Threatened Land Environments:	More than one hectares on Chronically Threatened land environments (10-20% indigneous cover remaining).
Rare Habitats:	Freshwater wetlands are nationally rare, with less than 10% of their original extent remaining.
Geological Features:	None known.

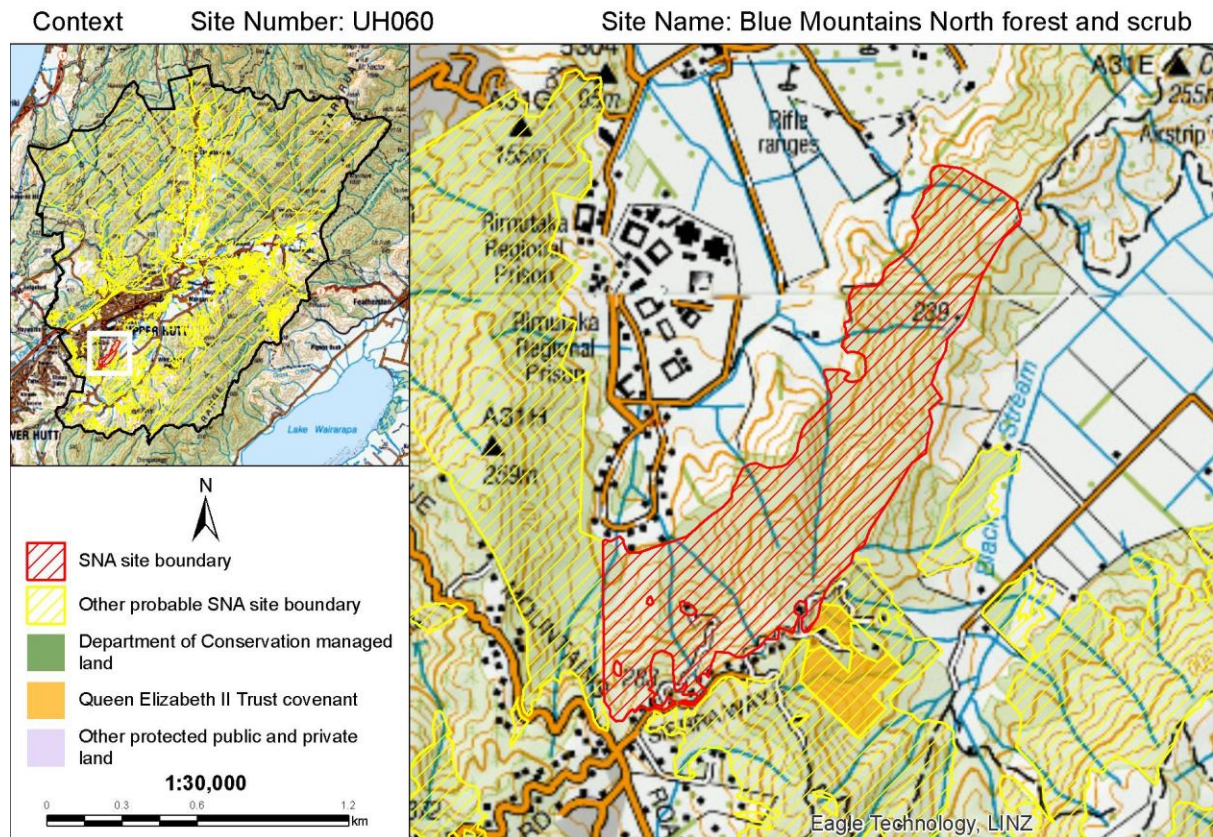
SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	The vegetation at this site is representative of Singers and Rogers (2014) vegetation type: MF20-Hard beech forest, which has less than 20% protected in Wellington region.
RPS23b: Rarity	Yes	Swamp forests are nationally rare (<10% of their original extent remains) and a regionally uncommon habitat type. Five Threatened and one At Risk plant species ^{Note##} . Includes indigenous vegetation on land environments with 10-20% indigenous vegetation cover remaining.
RPS23c: Diversity	Yes	Modified, but includes at least four habitat types.
RPS23d: Ecological Context	Yes	A large site that helps improve connectivity from Wi Tako SR and the Hutt Valley through Whitemans Valley to the Rimutaka Range. Contiguous with UH046-QEII covenant 5/07/604 and UH054-QEII covenant 5/07/604. Includes indigenous riparian buffers.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

Ecological District:	Tararua
Ecological Domain(s):	61 Wainuiomata - Hutt - Kaitoke.
Digital Scale:	1:16,000
Altitude Range:	65-305 m a.s.l.
Grid Reference:	NZTM E1771320 N5441303
Adjacent Vegetation and Habitats:	Pasture, plantation forest, residential development, prison.
Notes on Overall Condition:	The site contains tracks, roads, wilding pine, and macrocarpa; any visible buildings larger than five m ² have been excluded from the SNA.
Potential Land Management Issues:	Impacts of residential development, plantation forestry activities.
Sources of Information for this Site ^{Note#}:	DOC Bioweb, Boffa Miskell Ltd 2008b, Wassilieff and Clark 1986, Google Earth, Hanford 2010, Wildland Consultants 2013, MWH 2014, Wildland Consultants 2014.



ASSESSED BY

Assessment Techniques: Species database, aerial imagery, road side viewing.
Assessed By: Helen White (Date 20/06/2018)
Reviewed By: Steve Rate (Date 1/8/2018)

NOTES

Please note that this statement is based on information available at the time of writing. No site visits were undertaken on private land. Due to the changing nature of ecosystems and surrounding land use, future assessment of the Significant Natural Area may be necessary to reflect any changes in knowledge, values, or boundaries that may influence its assessment as ecologically significant.

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Swamp maire, various rātā species, kānuka, and mānuka have national-level threat classifications as per de Lange *et al.* 2018; Swamp maire (*Syzygium maire*; Threatened-Nationally Critical), Threatened-Nationally Vulnerable kānuka (*Kunzea robusta*), northern rata (*Metrosideros robusta*), white rata (*M. perforata*), and orange rata (*M. fulgens*), and mānuka (*Leptospermum scoparium*; At

Risk-Declining). They are Myrtaceae species which are at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of these species have been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of these species at this site does not trigger the rarity criteria because the species are currently widespread, and some common, in the local environment.

DRAFT

Blue Mountain Bush swamp forest

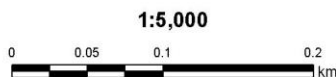
INTRODUCTION

Site Name: Blue Mountain Bush swamp forest
Site Number: UH061
Site Location: Katherine Mansfield Dr, Whitemans Valley.
Site Area: 7.70 ha.
Current Protection Status: Site has no legal protection.
Protection Type: Not applicable.

Site Map

Site Number: UH061

Site Name: Blue Mountain Bush swamp forest



— SNA site boundary

— District boundary

— Other probable SNA site boundary

- - Ecological District boundary

Site Summary: This site comprises two very small wetlands separated by indigenous forest. The northern wetland is dominated by kahikatea (*Dacrycarpus dacrydioides*; of local interest) and *Gahnia xanthocarpa*, with rimu (*Dacrydium cupressinum*; of local interest), tōtara (*Podocarpus totara*; of local interest) and beech. The southern wetland is dominated by five finger-mānuka-whekī shrubland (mānuka; *Leptospermum scoparium*; At Risk-Declining^{Note##}). The wetland is a moderately-degraded example of swamp forest that would once have been common within the Tararua Ecological District. The site is located on land environments with less than 10% indigenous vegetation cover remaining. The site also supports a natural diversity of indigenous plant species. Blue Mountain Bush Swamp Forest is listed in GWRC's Proposed Natural Resources Plan for the Wellington Region Schedule F3: Identified significant natural wetlands, and the site is part of the regionally important geological feature: Wallaceville Quaternary Swamp.

IMPORTANT FEATURES

Threatened Indigenous Flora:	Mānuka (<i>Leptospermum scoparium</i> ; At Risk-Declining ^{Note##}), and three species of local interest kahikatea (<i>Dacrycarpus dacrydioides</i>), rimu (<i>Dacrydium cupressinum</i>), and tōtara (<i>Podocarpus totara</i>).
Threatened Indigenous Fauna:	No rare fauna are known from the site.
Threatened Land Environments:	More than 0.5 hectares on Acutely Threatened land environments (<10% indigenous cover remaining).
Rare Habitats:	Freshwater wetlands are nationally rare, with less than 10% of their original extent remaining.
Geological Features:	Wallaceville Quaternary Swamp (Regionally important).

SIGNIFICANCE ASSESSMENT

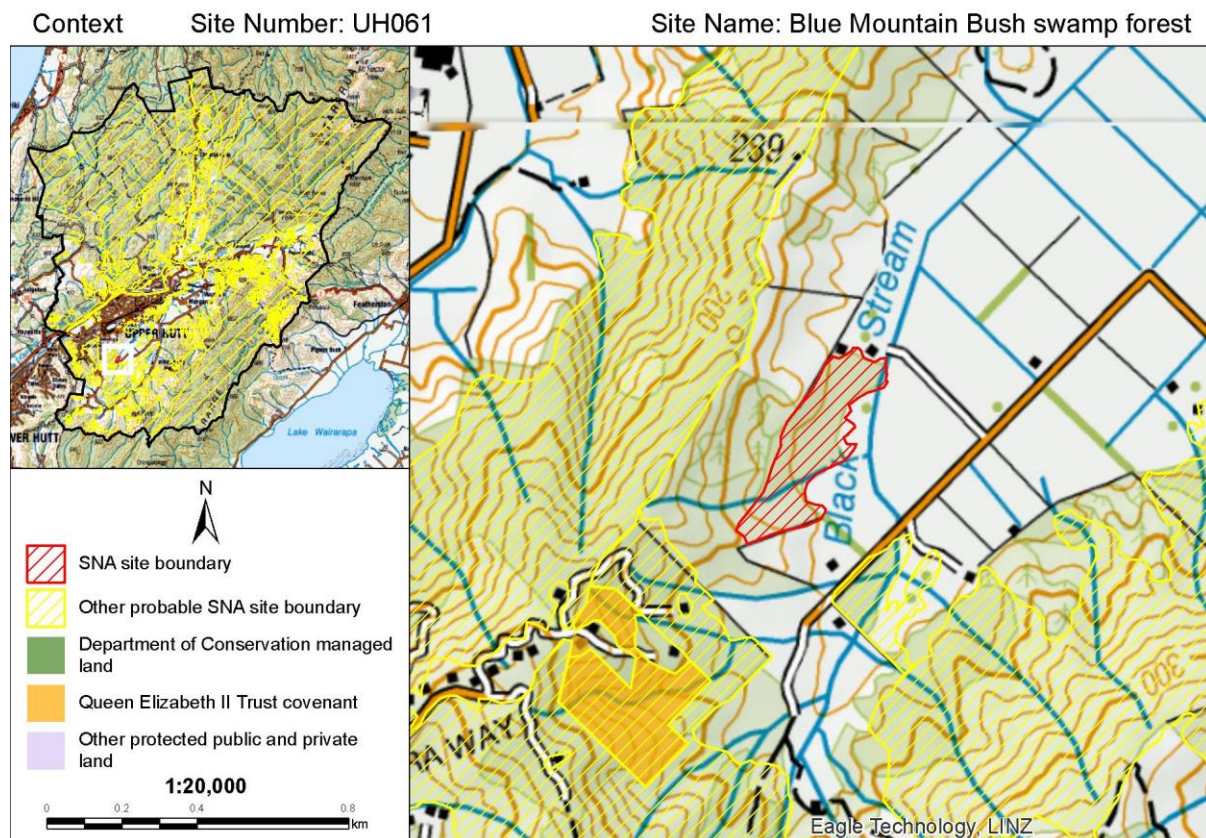
This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	Swamp forest is much reduced at a national and regional scale; this forest is representative of the original vegetation of swamp forests in lowland Tararua Ecological District.
RPS23b: Rarity	Yes	One At Risk-Declining plant species ^{Note##} . Freshwater wetlands are nationally rare (<10% of their original extent remains) and a regionally uncommon habitat type. Includes indigenous vegetation on land environments with less than 10% indigenous vegetation cover remaining. Geological features: Wallaceville Quaternary Swamp (Regionally important).
RPS23c: Diversity	Yes	The site supports a natural diversity of indigenous plant species.
RPS23d: Ecological Context	No	Separated from more extensive indigenous vegetation by pine plantation, but likely to provide stepping-stone habitat corridors across the valley.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

Ecological District: Tararua
Ecological Domain(s): 61 Wainuiomata - Hutt - Kaitoke.
Digital Scale: 1:5,000
Altitude Range: 150-200 m a.s.l.
Grid Reference: NZTM E1771957 N5441139
Adjacent Vegetation and Habitats: Pasture, plantation forest, houses.
Notes on Overall Condition: The site is moderately degraded as a result of hydrological modification and clearance of vegetation. The vegetation has also been affected by possum browse.
Potential Land Management Issues: Managing past and future impacts of drainage.
Sources of Information for this Site ^{Note#:} GWRC 2015b, Kenny and Hayward 1996, Wildland Consultants 2013.

DRAFT



ASSESSED BY

Assessment Techniques: Aerial imagery, species databases.
Assessed By: Helen White (Date 29/06/2018)

Reviewed By: Steve Rate (Date 1/8/2018)

NOTES

Please note that this statement is based on information available at the time of writing. No site visits were undertaken on private land. Due to the changing nature of ecosystems and surrounding land use, future assessment of the Significant Natural Area may be necessary to reflect any changes in knowledge, values, or boundaries that may influence its assessment as ecologically significant.

An Explanatory Note is available in Appendix 9, which provides more information about how each of the above fields was collated or assessed.

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Mānuka (*Leptospermum scoparium*) has a national-level threat classification of At Risk-Declining, as per de Lange *et al.* 2018. Mānuka is a Myrtaceae species which is at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of mānuka has been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of mānuka at this site does not trigger the rarity criteria because the species is currently common and widespread in the local environment.

Katherine Mansfield Drive fragment

INTRODUCTION

Site Name: Katherine Mansfield Drive fragment
Site Number: UH062
Site Location: Katherine Mansfield Drive, Blue Mountains.
Site Area: 4.46 ha.
Current Protection Status: Site has no legal protection.
Protection Type: Not applicable.

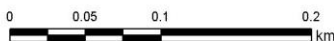
Site Map

Site Number: UH062

Site Name: Katherine Mansfield Drive fragment



1:5,000



— SNA site boundary

— District boundary

— Other probable SNA site boundary

- - Ecological District boundary

Site Summary: This area of indigenous forest on the valley floor is comprised of beech forest, in the area closest to the road, and kahikatea (*Dacrycarpus dacrydioides*; of local interest) treeland in the southeastern part of the site. The kahikatea remnant is grazed underneath and the understorey is in poor condition. Indigenous vegetation is present on land environments with less than 10%, and 10-20%, indigenous vegetation cover remaining. The site forms part of the regionally important geological features: Wallaceville Quaternary Swamp.

IMPORTANT FEATURES

Threatened Indigenous Flora: No rare plant species are known from the site. Kahikatea (*Dacrycarpus dacrydioides*) is of local interest.

Threatened Indigenous Fauna: No rare fauna are known from the site.

Threatened Land Environments: More than 0.5 hectares on Acutely Threatened land environments (<10% indigenous cover remaining).

Rare Habitats: Valley floor forest is uncommon in the Hutt Valley.

Geological Features: Wallaceville Quaternary Swamp (Regionally important).

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	This site contains a small fragment of vegetation representative of Singers and Rogers (2014) vegetation type: MF20-Hard beech forest which has less than 20% protected in Wellington. Kahikatea swamp forest and valley floor vegetation is uncommon in the Hutt Valley.
RPS23b: Rarity	Yes	Valley floor forest is uncommon in the Wellington region. Site almost entirely on Threatened land environments with <10% vegetation cover remaining. Geological features: Wallaceville Quaternary Swamp (Regionally important).
RPS23c: Diversity	No	Highly modified and grazed. Unlikely to have good natural diversity.
RPS23d: Ecological Context	Yes	Provides riparian buffer to a number of small tributaries of the Mangaroa River and mature kahikatea likely to provide seasonal food and habitat for birds.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

Ecological District: Tararua

Ecological Domain(s): 61 Wainuiomata - Hutt - Kaitoke.

Digital Scale: 1:5,000

Altitude Range: 155-165 m a.s.l.

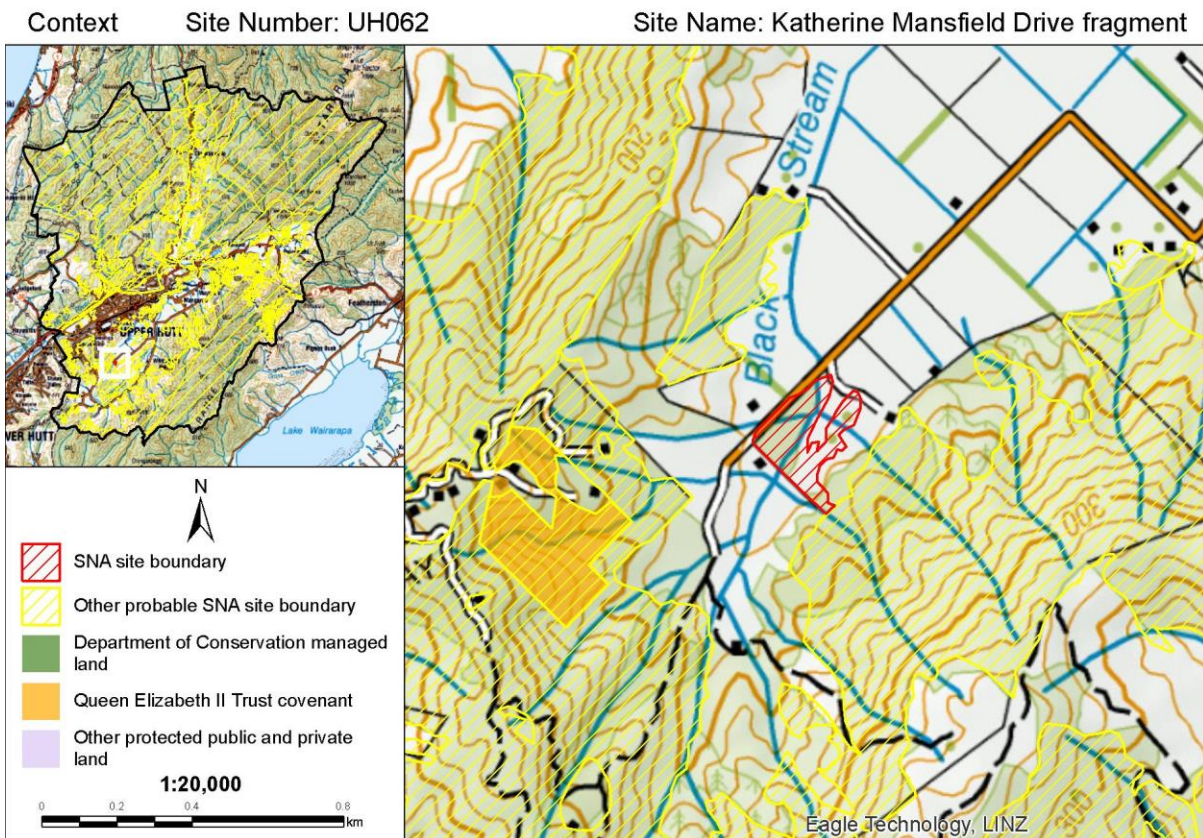
Grid Reference: NZTM E1772152 N5440738

Adjacent Vegetation and Habitats: Pasture, road.

Notes on Overall Condition: The eastern part of the site appears to be grazed, with pasture present in forest canopy gaps.

Potential Land Management Issues: Stock exclusion fencing.

Sources of Information for this Site ^{Note#:}: Google Earth, Kenny and Hayward 1996.



ASSESSED BY

Assessment Techniques: Species database, aerial imagery, partial road side viewing (large part not visible).

Assessed By: Helen White (Date 2/07/2018)

Reviewed By: Steve Rate (Date 1/8/2018)

NOTES

Please note that this statement is based on information available at the time of writing. No site visits were undertaken on private land. Due to the changing nature of ecosystems and surrounding land use, future assessment of the Significant Natural Area may be necessary to reflect any changes in knowledge, values, or boundaries that may influence its assessment as ecologically significant.

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DRAFT

Katherine Mansfield Swamp

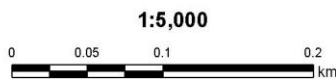
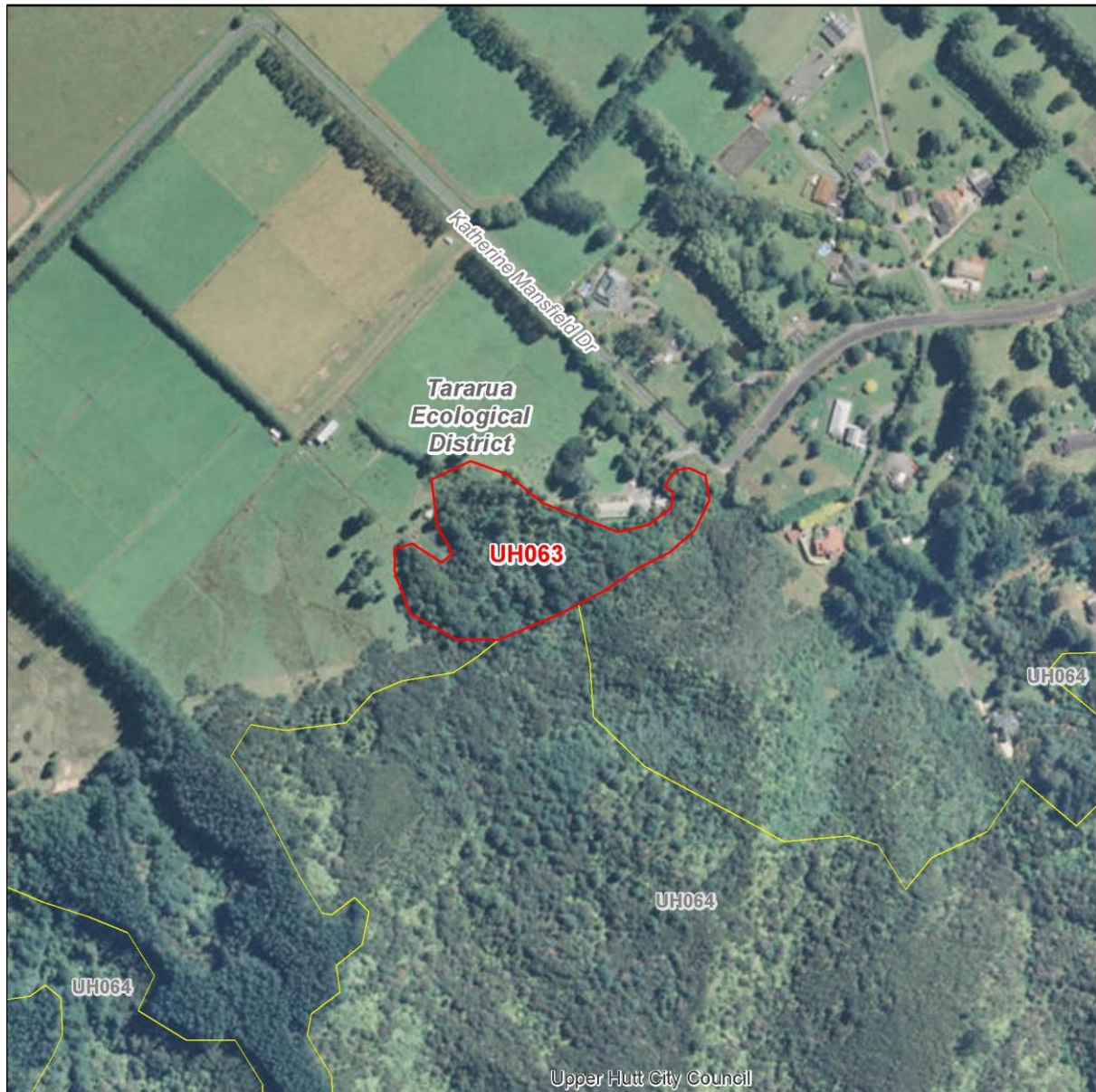
INTRODUCTION

Site Name: Katherine Mansfield Swamp
Site Number: UH063
Site Location: Katherine Mansfield Drive, Blue Mountains.
Site Area: 1.63 ha.
Current Protection Status: Site has no legal protection.
Protection Type: Not applicable.

Site Map

Site Number: UH063

Site Name: Katherine Mansfield Swamp



— SNA site boundary

— District boundary

— Other probable SNA site boundary

- - Ecological District boundary

Site Summary: This SNA comprises a small area of remnant kahikatea (*Dacrydium dacrydioides*; of local interest) swamp forest with mānuka (*Leptospermum scoparium*; At Risk-Declining ^{Note##}), tōtara (*Podocarpus totara*; of local interest), rimu (*Dacrydium cupressinum*; of local interest), cabbage trees, and blackberry. Includes indigenous vegetation on land environments with <10% indigenous cover remaining.

IMPORTANT FEATURES

Threatened Indigenous Flora:	Mānuka (<i>Leptospermum scoparium</i> ; At Risk-Declining ^{Note##}).
Threatened Indigenous Fauna:	No rare fauna are known from the site. The At Risk-Declining lizards Ngahere gecko (<i>Mokopirirakau</i> 'southern North Island'), and barking gecko (<i>Naultinus punctatus</i>) have been recorded nearby.
Threatened Land Environments:	More than 0.5 hectares on Acutely Threatened land environments with <10% indigenous cover remaining.
Rare Habitats:	Freshwater wetlands, including swamp forests, are nationally rare, with less than 10% of their original extent remaining.
Geological Features:	Wallaceville Quaternary Swamp (Regionally important).

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

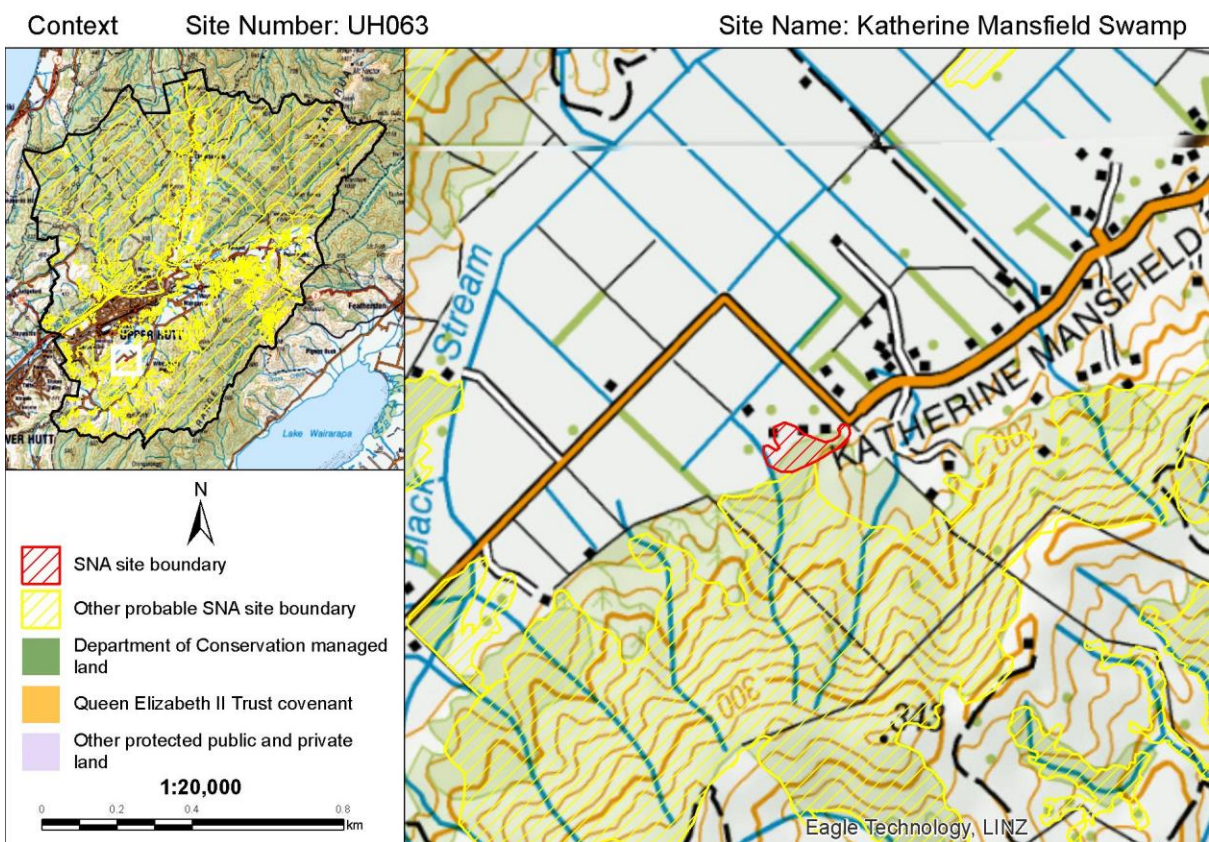
RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	This site contains a moderate quality example of representative kahikatea swamp forest and valley floor vegetation, which are uncommon in the Hutt Valley.
RPS23b: Rarity	Yes	One At Risk plant species ^{Note##} . Freshwater wetlands are nationally rare (<10% of their original extent remains) and a regionally uncommon habitat type. Indigenous vegetation on Threatened land environments with <10% vegetation cover remaining. Geological features: Wallaceville Quaternary Swamp (Regionally important).
RPS23c: Diversity	No	Likely to have reduced species diversity due to small size.
RPS23d: Ecological Context	Yes	Contiguous with more indigenous vegetation that extends to Wi Tako Ngatata reserve and an extensive tract of indigenous forest within UH068.01 and UH068.02 (Blue Mountains forest).
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

Ecological District:	Tararua
Ecological Domain(s):	61 Wainuiomata - Hutt - Kaitoke.
Digital Scale:	1:5,000

Upper Hutt District Plan - Significant Natural Area Assessment - Significance Statement

Altitude Range: 150-160 m a.s.l.
Grid Reference: NZTM E1773052 N5441194
Adjacent Vegetation and Habitats: Pasture, indigenous forest and scrub, driveway.
Notes on Overall Condition: Unknown.
Potential Land Management Issues: Unknown.
Sources of Information for this Site ^{Note#:}: Boffa Miskell Ltd 2011, Ausseil *et al.* 2008, Kenny and Hayward 1996.



ASSESSED BY

Assessment Techniques: Species database, aerial imagery, road side viewing.
Assessed By: Helen White (Date 29/06/2018)
Reviewed By: Steve Rate (Date 1/8/2018)

NOTES

Please note that this statement is based on information available at the time of writing. No site visits were undertaken on private land. Due to the changing nature of ecosystems and surrounding land use, future assessment of the Significant Natural Area may be necessary to reflect any changes in knowledge, values, or boundaries that may influence its assessment as ecologically significant.

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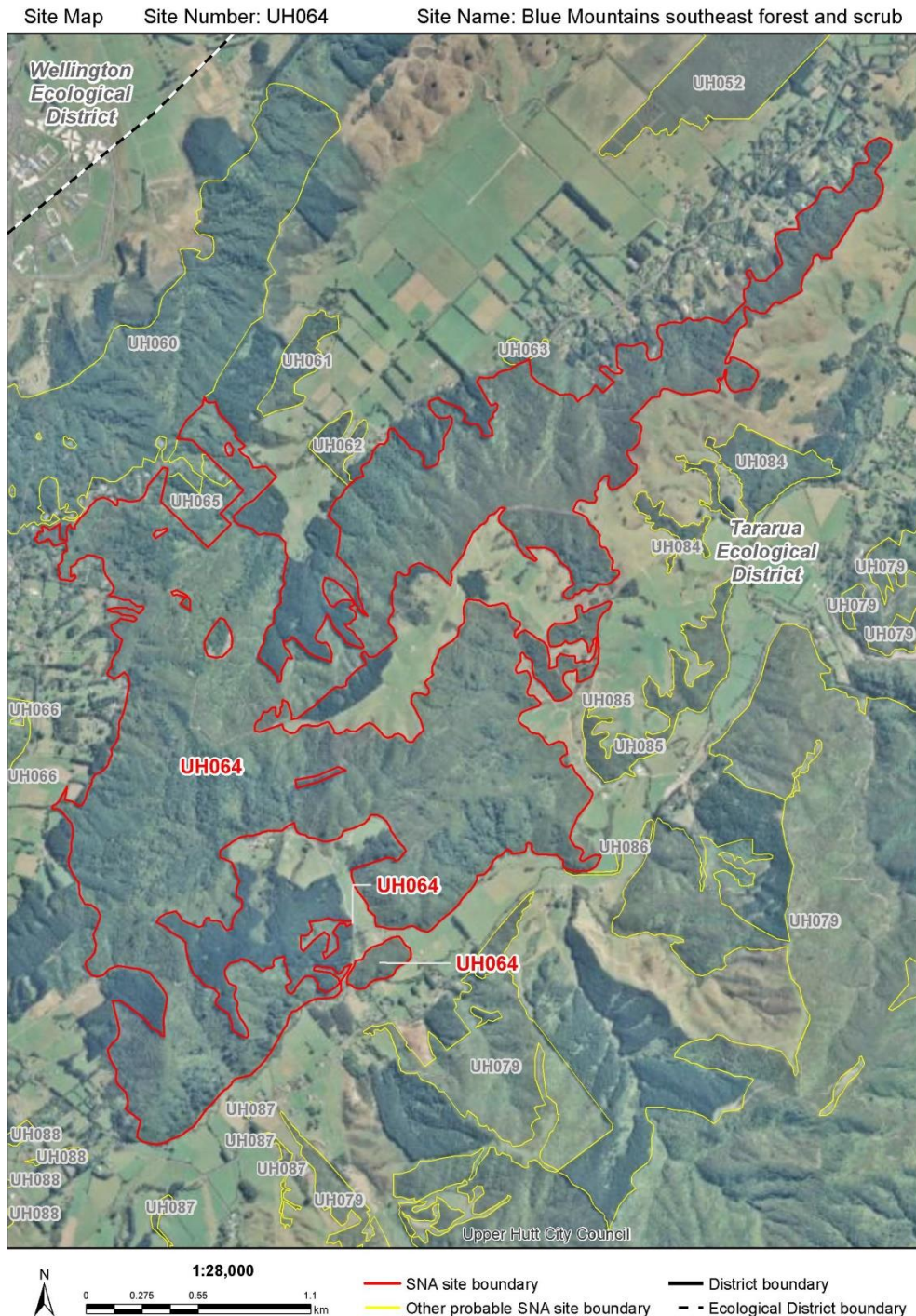
Mānuka (*Leptospermum scoparium*) has a national-level threat classification of At Risk-Declining, as per de Lange *et al.* 2018. Mānuka is a Myrtaceae species which is at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of mānuka has been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of mānuka at this site does not trigger the rarity criteria because the species is currently common and widespread in the local environment.

DRAFT

Blue Mountains southeast forest and scrub

INTRODUCTION

Site Name: Blue Mountains southeast forest and scrub
Site Number: UH064
Site Location: Katherine Mansfield Drive, Whitemans Valley Road, Blue Mountains Road.
Site Area: 528.26 ha.
Current Protection Status: Site is partially legally protected.
Protection Type: Esplanade strip.



Site Summary: This very large site includes the ranges from the east of Blue Mountains Road, north of Whitemans Valley, to the southwest of Katherine Mansfield Drive. It is contiguous with the Wi Tako Ngatata/Ecclesfield SR (UH059), Blue Mountains North Forest and Scrub (UH060), and two QEII covenants (5/07/296 and 5/07/604; UH065). This SNA includes large areas of remnant hard beech and black beech forest, and advanced stage regenerating kāmahi-māhoe-broadleaved species forest and mānuka forest (*Leptospermum scoparium*; At Risk-Declining^{Note##}) with emergent beech. Five-finger, patē, tarata, treeferns, kōtukutuku, lancewood, and rewarewa are also common, as are wilding pines. The site includes small remnants that contain kahikatea (*Dacrycarpus dacrydioides*), tōtara (*Podocarpus totara*), and rimu (*Dacrydium cupressinum*) on the lowland areas between spurs; these species are all of local interest. The site includes tributaries of the Mangaroa River, where At Risk-Declining longfin eel (*Anguilla dieffenbachia*), redfin bully (*Gobiomorphus huttoni*), inanga (*Galaxias maculatus*) have been recorded as well as shortfin eel, common bully, Cran's bully, and kōura. The forest provides habitat for Ngahere gecko (*Mokopirirakau* "southern North Island"; At Risk-Declining) and bush falcon (*Falco novaeseelandiae ferox*; At Risk-Recovering). Whitehead (*Mohoua albicilla*; At Risk-Declining), bellbird (*Anthornis melanura melanura*) and pied tomtit (*Petroica macrocephala toitoi*; both locally uncommon), barking gecko (*Naultinus punctatus*; At Risk-Declining), and long-tailed cuckoo (*Eudynamys taitensis*; At Risk-Naturally Uncommon) have been recorded nearby and may also utilise the SNA.

IMPORTANT FEATURES

Threatened Indigenous Flora:	At Risk-Declining species mānuka (<i>Leptospermum scoparium</i> ^{Note##}), and of local interest rimu (<i>Dacrydium cupressinum</i>), kahikatea (<i>Dacrycarpus dacrydioides</i>), and tōtara (<i>Podocarpus totara</i>).
Threatened Indigenous Fauna:	The At-Risk-Recovering bush falcon (<i>Falco novaeseelandiae ferox</i>) has been recorded at the site. Whitehead (<i>Mohoua albicilla</i> ; At Risk-Declining), bellbird (<i>Anthornis melanura melanura</i> ; locally uncommon) and pied tomtit (<i>Petroica macrocephala toitoi</i> ; locally uncommon), are known from neighbouring properties. Ngahere gecko (<i>Mokopirirakau</i> 'southern North Island'; At Risk-Declining) is known from the site. Barking gecko (<i>Naultinus punctatus</i> ; At Risk-Declining) and long-tailed cuckoo (<i>Eudynamys taitensis</i> ; At Risk-Naturally Uncommon) have been recorded near the site. The site includes tributaries of the Mangaroa River, where longfin eel (<i>Anguilla dieffenbachia</i> ; At Risk-Declining) and shortfin eel (<i>Anguilla australis</i>), common bully (<i>Gobiomorphus cotidianus</i>), Cran's bully (<i>Gobiomorphus basalis</i>), and redfin bully (<i>Gobiomorphus huttoni</i> ; At Risk-Declining), inanga (<i>Galaxias maculatus</i> ; At Risk-Declining) and kōura (<i>Paranephrops planifrons</i>) are known to occur.
Threatened Land Environments:	More than one hectare on Chronically Threatened land environments with 10-20% indigenous cover remaining.
Rare Habitats:	Valley floor forest is uncommon in the Hutt Valley.
Geological Features:	None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	This SNA includes primary beech forest remnants representative of Singers and Rodgers (2014) vegetation type: MF20-Hard beech forest, which has less than 20% protected in the Wellington region. In addition, small pockets of remnant swamp forest occur in the valleys that are representative of the original vegetation types.
RPS23b: Rarity	Yes	One At Risk plant species ^{Note##} one At Risk lizard species and one At Risk bird species. Indigenous vegetation on threatened land environments where 10-20% of type remains.
RPS23c: Diversity	Yes	Modified, but likely to have a natural diversity of species as it is large with high connectivity.
RPS23d: Ecological Context	Yes	A large site that helps improve connectivity from Wi Tako SR and the Hutt Valley through Whitemans Valley to the Rimutaka Range. Contiguous with UH010, UH068.01 and UH046 (QEII covenants 5/07/604 and 5/07/604).
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

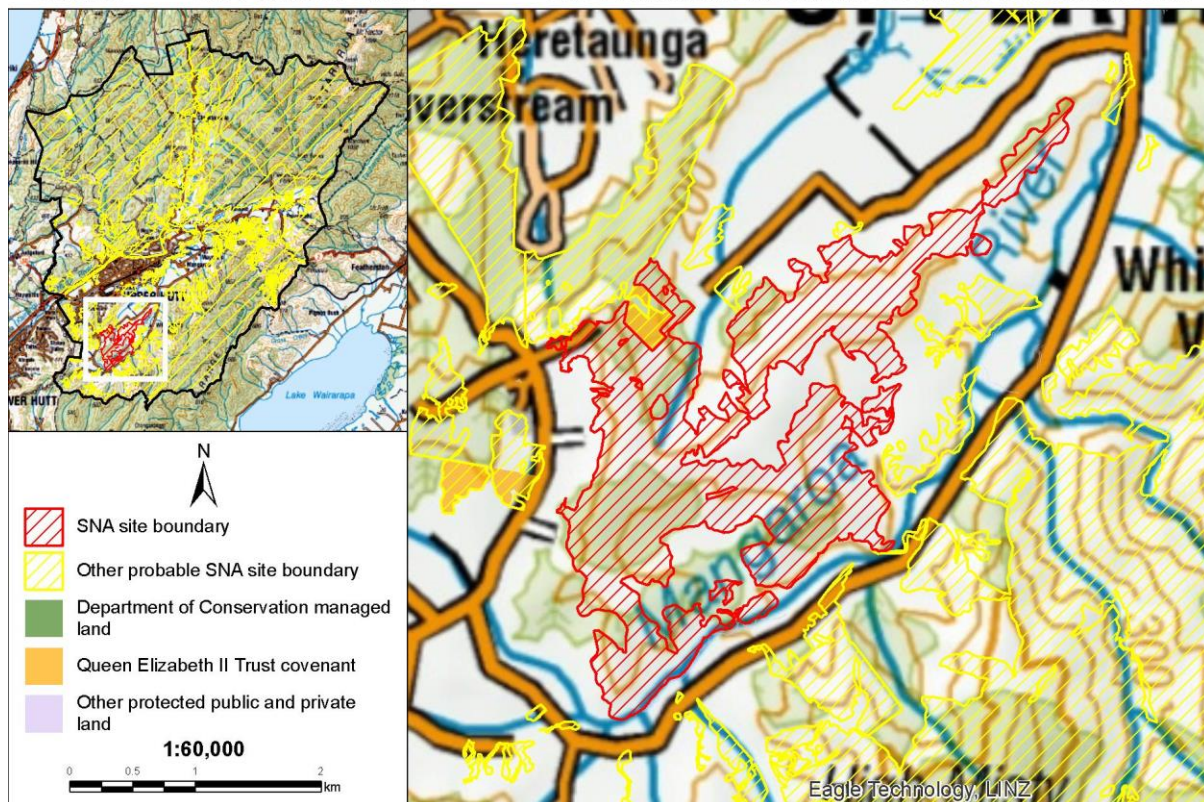
SITE CONTEXT AND OTHER INFORMATION

Ecological District:	Tararua
Ecological Domain(s):	61 Wainuiomata - Hutt - Kaitoke.
Digital Scale:	1:28,000
Altitude Range:	155-385 m a.s.l.
Grid Reference:	NZTM E1772242 N5439543
Adjacent Vegetation and Habitats:	Pasture, plantation forest, residential development, prison.
Notes on Overall Condition:	The site contains tracks, road, wilding pine, and macrocarpa. Visible buildings larger than five square metres have been excluded from the SNA as have stands of conifers.
Potential Land Management Issues:	Impacts of residential development, plantation forestry.
Sources of Information for this Site ^{Note#}:	DOC Bioweb, Boffa Miskell Ltd 2008b, Wassilieff and Clark 1986, Google Earth.

Context

Site Number: UH064

Site Name: Blue Mountains southeast forest and scrub



ASSESSED BY

Assessment Techniques: Species database, aerial imagery, road side viewing.
Assessed By: Helen White (Date 20/06/2018)
Reviewed By: Steve Rate (Date 1/8/2018)

NOTES

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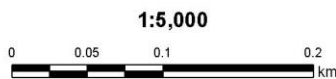
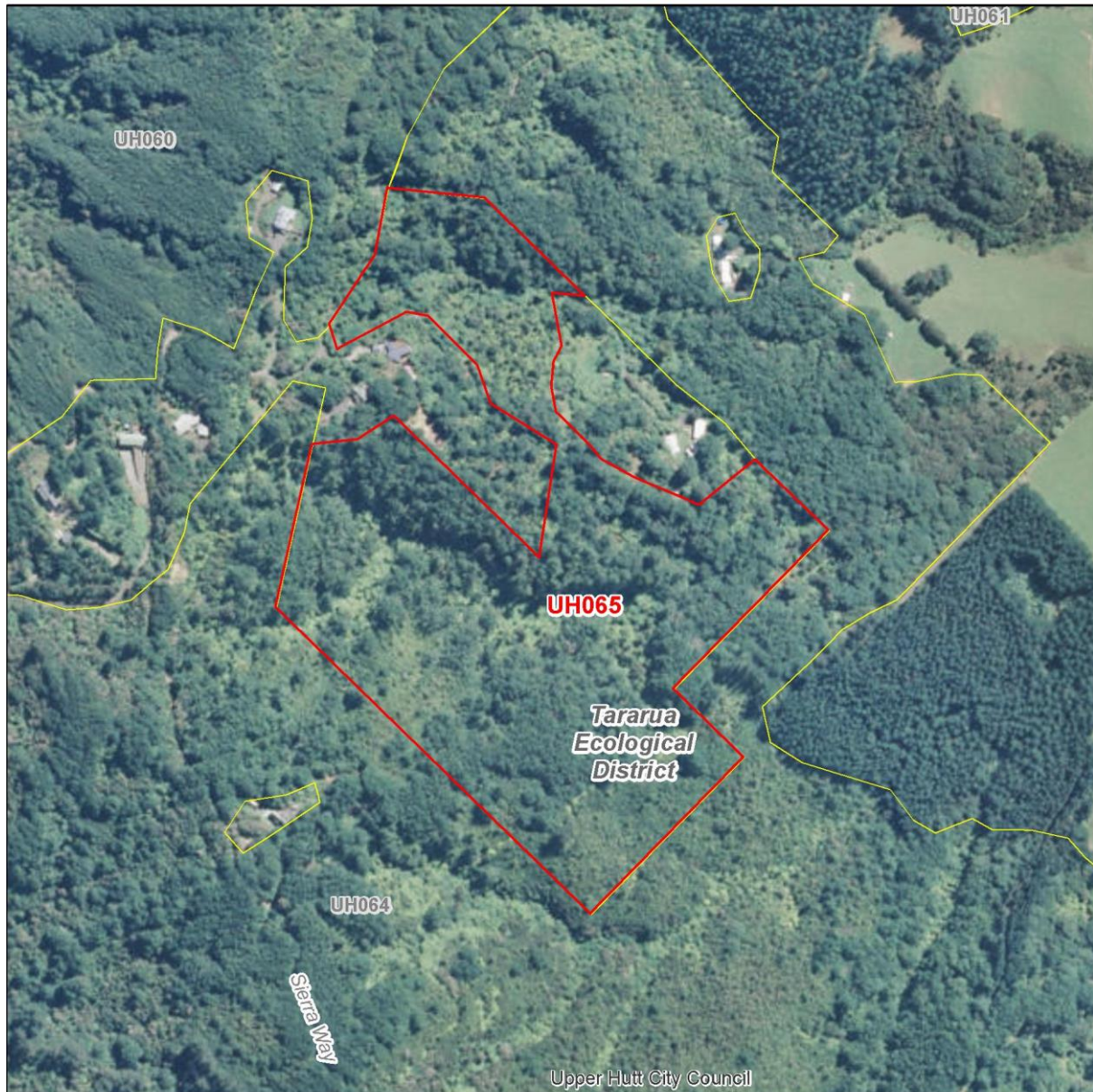
Mānuka (*Leptospermum scoparium*) has a national-level threat classification of At Risk-Declining, as per de Lange *et al.* 2018. Mānuka is a Myrtaceae species which is at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of mānuka has been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of mānuka at this site does not trigger the rarity criteria because the species is currently common and widespread in the local environment.

QEII 5/07/296 and QEII 5/07/604 beech forest

INTRODUCTION

Site Name: QEII 5/07/296 and QEII 5/07/604 beech forest
Site Number: UH065
Site Location: Blue Mountain Ranges, off Sierra Way.
Site Area: 9.57 ha.
Current Protection Status: Site is fully legally protected.
Protection Type: QEII covenant.

Site Map Site Number: UH065 Site Name: QEII 5/07/296 and QEII 5/07/604 beech forest



— SNA site boundary

— District boundary

— Other probable SNA site boundary

- - Ecological District boundary

Upper Hutt District Plan - Significant Natural Area Assessment - Significance Statement

Site Summary: This site is near Sierra Way in the Blue Mountains. It comprises primary and secondary red beech and black beech forest with a small tributary of the Mangaroa River. It includes two QEII covenants, 5/07/296 and 5/07/604, that are contiguous with two large SNAs (UH060 and UH064).

IMPORTANT FEATURES

Threatened Indigenous Flora: No rare plant species are known from the site.

Threatened Indigenous Fauna: No rare fauna are known from the site. Bush falcon (*Falco novaeseelandiae ferox*; At Risk-Recovering) has been recorded nearby.

Threatened Land Environments: More than five hectares on Critically Under protected land environments (>20% protection).

Rare Habitats: No rare habitats or communities known.

Geological Features: None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	This site is likely to contain vegetation that is representative of the Singers and Rogers (2014) vegetation type: MF20-Hard beech forest, which has less than 20% is protected in the Wellington region.
RPS23b: Rarity	No	No rare features known.
RPS23c: Diversity	Yes	Likely to have a natural diversity.
RPS23d: Ecological Context	Yes	Together with contiguous sites UP010 - Wi Tako Ngatata /Ecclesfield SR, UH068.01 and UH068.02 - Blue Mountains Forest and scrub, this site is part of a large area of indigenous forest and scrub between the Hutt Valley, Blue Mountains, and Whitemans Valley. A stream and riparian buffer is within the site.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

Ecological District: Tararua

Ecological Domain(s): 61 Wainuiomata - Hutt - Kaitoke.

Digital Scale: 1:5,000

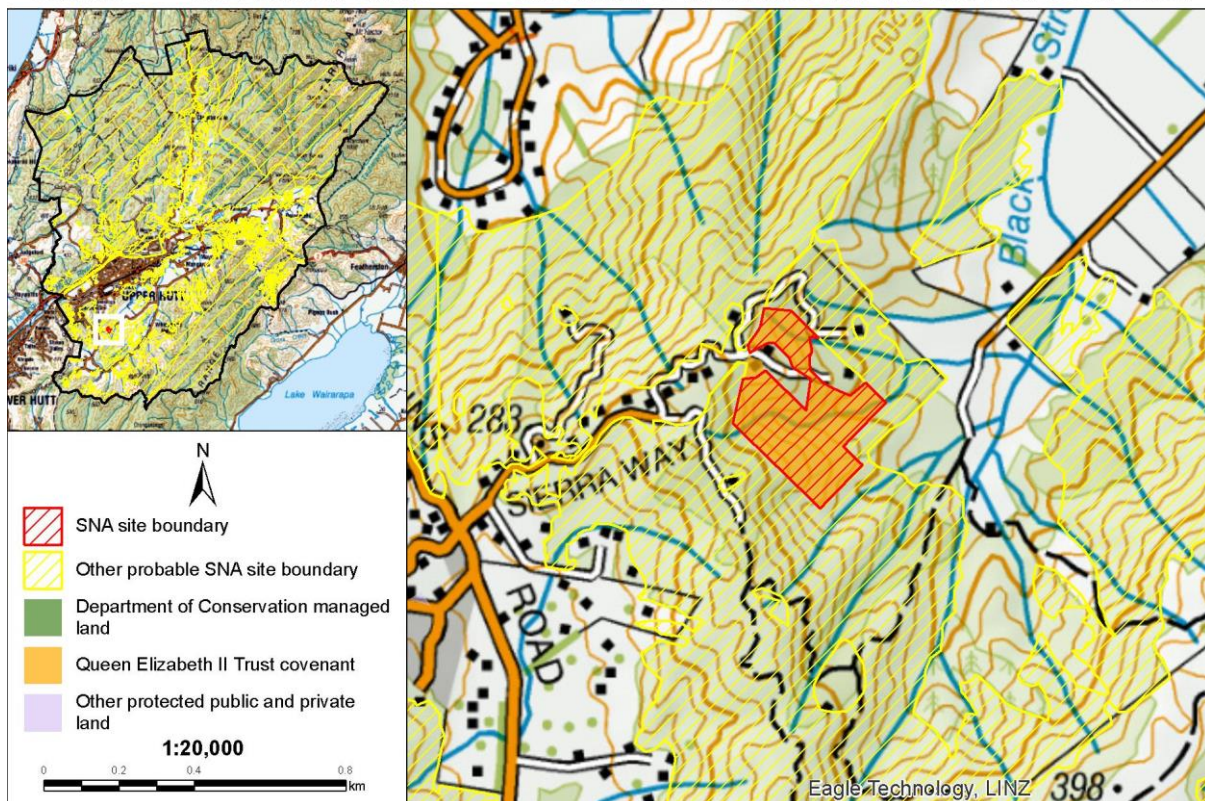
Altitude Range: 185-295 m a.s.l.

Grid Reference: NZTM E1771466 N5440483

Adjacent Vegetation and Habitats: Indigenous forest, residential.

Notes on Overall Condition: Unknown.
Potential Land Management Issues: Unknown.
Sources of Information for this Site ^{Note#:} Boffa Miskell Ltd 2008, Google Earth.

Context Site Number: UH065 Site Name: QEII 5/07/296 and QEII 5/07/604 beech forest



ASSESSED BY

Assessment Techniques: Species database, aerial imagery, road side viewing.
Assessed By: Helen White (Date 20/06/2018)
Reviewed By: Steve Rate (Date 1/8/2018)

NOTES

Please note that this statement is based on information available at the time of writing. No site visits were undertaken on private land. Due to the changing nature of ecosystems and surrounding land use, future assessment of the Significant Natural Area may be necessary to reflect any changes in knowledge, values, or boundaries that may influence its assessment as ecologically significant.

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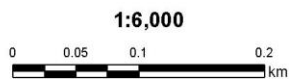
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Blue Mountains Road West and QEII 5/07/328 forest

INTRODUCTION

Site Name: Blue Mountains Road West and QEII 5/07/328 forest
Site Number: UH066
Site Location: Blue Mountains Road, Blue Mountains.
Site Area: 21.09 ha.
Current Protection Status: Site is partially legally protected.
Protection Type: QEII covenant.

Site Map Site Number: UH066 Site Name: Blue Mountains Road West and QEII 5/07/328 forest



— SNA site boundary

— Other probable SNA site boundary

— District boundary

- - Ecological District boundary

Site Summary: This site is located west of Blue Mountains Road, north of intersection with Whitemans Valley Road. It includes QEII covenant 5/07/328. Regenerating forest at the site contains mānuka (*Leptospermum scoparium*; At Risk-Declining^{Note##}), three species of local interest; kahikatea (*Dacrycarpus dacrydioides*), rimu (*Dacrydium cupressinum*), and tōtara (*Podocarpus totara*), as well as patē, kohuhu, rangiora, karamu, and wilding pine. The site provides potential habitat for whitehead (*Mohoua albicilla*; At Risk-Declining), bush falcon (*Falco novaeseelandiae ferox*; At Risk-Recovering), long-tailed cuckoo (*Eudynamys taitensis*; At Risk-Naturally Uncommon), bellbird (*Anthornis melanura melanura*; regionally uncommon), tomtit (*Petroica macrocephala toitoi*; regionally uncommon), and North Island brown kiwi (*Apteryx mantelli*; At Risk-Declining) which has been reintroduced to a nearby site. The site includes a tributary of the Mangaroa River, which provides habitat for longfin eel (*Anguilla dieffenbachia*; At Risk-Declining) and shortfin eel (*Anguilla australis*), common bully (*Gobiomorphus cotidianus*), Cran's bully (*Gobiomorphus basalis*). At Risk-Declining redfin bully (*Gobiomorphus huttoni*), and inanga (*Galaxias maculatus*); as well as kōura (*Paranephrops planifrons*) are known to occur downstream of the site. Pacific gecko (*Dactylocnemis pacificus*; At Risk-Relict) and Ngahere gecko (*Mokopirirakau* southern "North Island"; At Risk-Declining) have been reported at neighbouring site, UH067.

IMPORTANT FEATURES

- Threatened Indigenous Flora:** Mānuka (*Leptospermum scoparium*; At Risk-Declining^{Note##}). Of local interest: tōtara (*Podocarpus totara*), rimu (*Dacrydium cupressinum*) and kahikatea (*Dacrycarpus dacrydioides*).
- Threatened Indigenous Fauna:** A North Island brown kiwi (*Apteryx mantelli*; At Risk-Declining) has been reported at the site boundary, a plausible sighting since the reintroduction of kiwi to the Rimutaka Forest Park in 2006. Whitehead (*Mohoua albicilla*; At Risk-Declining), bush falcon (*Falco novaeseelandiae ferox*; At Risk-Recovering), long-tailed cuckoo (*Eudynamys taitensis*; At Risk-Naturally Uncommon), bellbird (*Anthornis melanura melanura*; regionally uncommon), and tomtit (*Petroica macrocephala toitoi*; regionally uncommon) have been recorded nearby. . The site includes a tributary of the Mangaroa River, where longfin eel (*Anguilla dieffenbachia*; At Risk-Declining) and shortfin eel (*Anguilla australis*), common bully (*Gobiomorphus cotidianus*), Cran's bully (*Gobiomorphus basalis*), redfin bully (*Gobiomorphus huttoni*; At Risk-Declining), inanga (*Galaxias maculatus*; At Risk-Declining), and kōura (*Paranephrops planifrons*) are known to occur downstream of the site. Pacific gecko (*Dactylocnemis pacificus*; At Risk-Relict) and Ngahere gecko (*Mokopirirakau* southern "North Island"; At Risk-Declining) have been reported at a neighbouring site (UH055).
- Threatened Land Environments:** More than 0.5 hectares on Chronically Threatened land environments, with 10-20% indigenous vegetation remaining.
- Rare Habitats:** No rare habitats or communities known.
- Geological Features:** None known.

SIGNIFICANCE ASSESSMENT

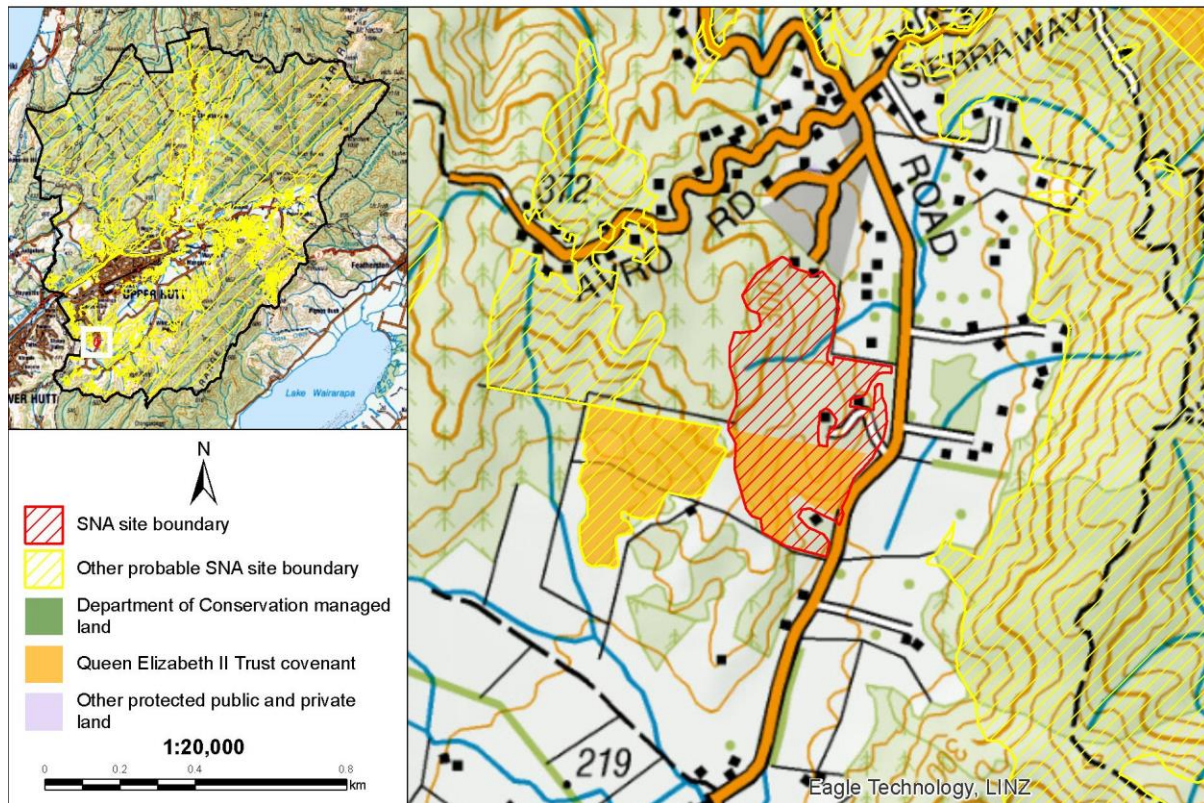
This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	Late succession broadleaved scrub is representative of current vegetation types.
RPS23b: Rarity	Yes	One At Risk plant species ^{Note##} and one At Risk bird species. Includes more than 0.5 ha but less than 1 ha of indigenous vegetation on land environments with 10-20% vegetation cover remaining.
RPS23c: Diversity	Yes	Likely to have a natural diversity.
RPS23d: Ecological Context	Yes	Part of series of forest remnants in the Blue Mountains Valley. Likely steeping stone habitat between large tracks of remnant forest.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

Ecological District:	Tararua
Ecological Domain(s):	61 Wainuiomata - Hutt - Kaitoke.
Digital Scale:	1:6,000
Altitude Range:	225-335 m a.s.l.
Grid Reference:	NZTM E1770408 N5439365
Adjacent Vegetation and Habitats:	Pasture, indigenous forest, plantation forest.
Notes on Overall Condition:	Old mans beard and wilding pines present.
Potential Land Management Issues:	Pest plant management.
Sources of Information for this Site ^{Note#}:	Google Earth, Historic aerial imagery.

Context Site Number: UH066 Site Name: Blue Mountains Road West and QEII 5/07/328 forest



ASSESSED BY

Assessment Techniques: Species database, aerial imagery, road side viewing.
Assessed By: Helen White (Date 25/06/2018)
Reviewed By: Steve Rate (Date 1/8/2018)

NOTES

Please note that this statement is based on information available at the time of writing. No site visits were undertaken on private land. Due to the changing nature of ecosystems and surrounding land use, future assessment of the Significant Natural Area may be necessary to reflect any changes in knowledge, values, or boundaries that may influence its assessment as ecologically significant.

An Explanatory Note is available in Appendix 9, which provides more information about how each of the above fields was collated or assessed.

The full list of data sources and references used to assess sites is listed in the main body of the report under REFERENCES and also in the EXPLANATORY NOTES in Appendix 9. Aerial photography (2017 colour) was used to view and evaluate all sites, additional sources such as historic aerial photography in Google Earth, was used to inform site values and improve site boundaries.

Mānuka (*Leptospermum scoparium*) has a national-level threat classification of At Risk-Declining, as per de Lange *et al.* 2018. Mānuka is a Myrtaceae species which is at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of mānuka has been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of mānuka at this site does not trigger the rarity criteria because the species is currently common and widespread in the local environment.

QEII 5/07/649 forest and wetland

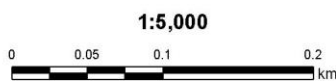
INTRODUCTION

Site Name: QEII 5/07/649 forest and wetland
Site Number: UH067
Site Location: Blue Mountains Road, Blue Mountains.
Site Area: 9.87 ha.
Current Protection Status: Site is fully legally protected.
Protection Type: QEII covenant.

Site Map

Site Number: UH067

Site Name: QEII 5/07/649 forest and wetland



— SNA site boundary

— District boundary

— Other probable SNA site boundary

- - Ecological District boundary

Site Summary: This QEII covenant is located near Blue Mountains Road just north of intersection with Whitemans Valley Road. Includes indigenous vegetation on land environments with 10-20% indigenous vegetation remaining. May contain a freshwater wetland, which is a nationally rare habitat type, with less than 10% of their original extent remaining. Pacific gecko (*Dactylocnemis pacificus*, At Risk-Relict) and Ngahere gecko (*Mokopirirakau* southern "North Island", At Risk-Declining) have been recorded at the site. The site provides potential habitat for whitehead (*Mohoua albicilla*; At Risk-Declining), bush falcon (*Falco novaeseelandiae ferox*; At Risk-Recovering), long-tailed cuckoo (*Eudynamys taitensis*; At Risk-Naturally Uncommon), bellbird (*Anthornis melanura melanura*; regionally uncommon), pied tomtit (*Petroica macrocephala toitoi*; regionally uncommon), and North Island brown kiwi (*Apteryx mantelli*; At Risk-Declining) which are known from neighbouring sites.

IMPORTANT FEATURES

Threatened Indigenous Flora:	No rare plant species are known from the site.
Threatened Indigenous Fauna:	Pacific gecko (<i>Dactylocnemis pacificus</i> ; At Risk-Relict) and Ngahere gecko (<i>Mokopirirakau</i> southern "North Island"; At Risk-Declining) have been recorded at the site. North Island brown kiwi (<i>Apteryx mantelli</i> ; At-Risk-Declining) has been reported at a neighbouring site, which is plausible as kiwi were reintroduced to Rimutaka Forest Park in 2006. Bush falcon (<i>Falco novaeseelandiae ferox</i> ; At Risk-Recovering), whitehead (<i>Mohoua albicilla</i> ; At Risk-Declining), long-tailed cuckoo (<i>Eudynamys taitensis</i> ; At Risk-Naturally Uncommon), bellbird (<i>Anthornis melanura melanura</i> ; regionally uncommon), and pied tomtit (<i>Petroica macrocephala toitoi</i> ; regionally uncommon) are known from neighbouring sites.
Threatened Land Environments:	More than 0.5 hectares on Chronically Threatened land environments (10-20% indigenous vegetation remaining).
Rare Habitats:	Freshwater wetlands are nationally rare, with less than 10% of their original extent remaining.
Geological Features:	None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	The forest at this site is likely to be representative of Singers and Rogers (2014) vegetation type: MF20-Hard beech forest, of which less than 20% is protected in the Wellington region. Wetlands are likely to be representative of the original wetland vegetation.
RPS23b: Rarity	Yes	Two At Risk lizard species have been recorded at the site. Includes more than 0.5 ha but less than 1 ha of indigenous vegetation on land environments with 10-20% vegetation cover remaining. May contain a freshwater wetland, which is a nationally rare habitat type, with less than 10% of their original extent remaining.
RPS23c:	Yes	Forest likely to have a natural diversity.

RPS Policy 23 Criteria	Achieved	Assessment
Diversity		
RPS23d: Ecological Context	Yes	Part of series of forest remnants associated with the Eastern Hutt Hills UH001.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

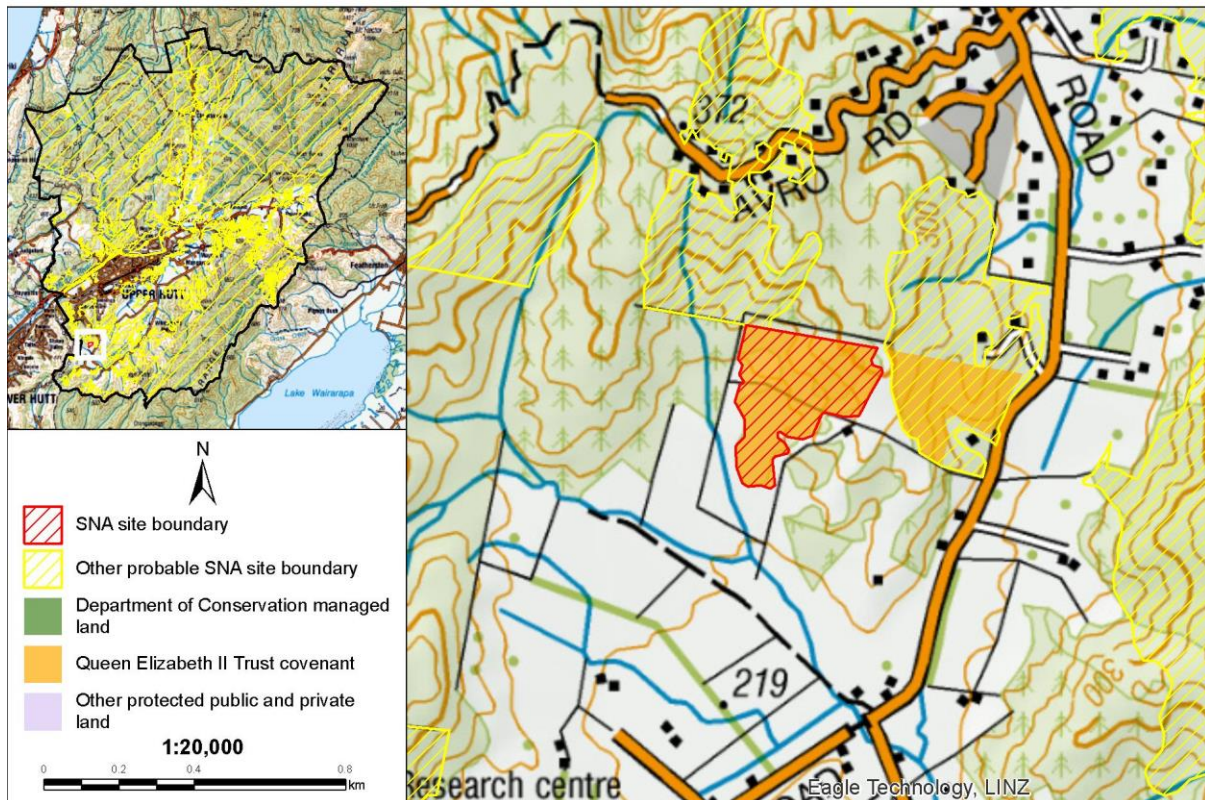
SITE CONTEXT AND OTHER INFORMATION

Ecological District:	Tararua
Ecological Domain(s):	61 Wainuiomata - Hutt - Kaitoke.
Digital Scale:	1:5,000
Altitude Range:	225-315 m a.s.l.
Grid Reference:	NZTM E1769983 N5439192
Adjacent Vegetation and Habitats:	Pasture, indigenous forest, plantation forest.
Notes on Overall Condition:	Unknown.
Potential Land Management Issues:	Unknown.
Sources of Information for this Site^{Note#}:	Google Earth.

Context

Site Number: UH067

Site Name: QEII 5/07/649 forest and wetland



ASSESSED BY

Assessment Techniques: Species database, aerial imagery, road side viewing.
Assessed By: Helen White (Date 20/06/2018)
Reviewed By: Steve Rate (Date 1/8/2018)

NOTES

Please note that this statement is based on information available at the time of writing. No site visits were undertaken on private land. Due to the changing nature of ecosystems and surrounding land use, future assessment of the Significant Natural Area may be necessary to reflect any changes in knowledge, values, or boundaries that may influence its assessment as ecologically significant.

An Explanatory Note is available in Appendix 9, which provides more information about how each of the above fields was collated or assessed.

The full list of data sources and references used to assess sites is listed in the main body of the report under REFERENCES and also in the EXPLANATORY NOTES in Appendix 9. Aerial photography (2017 colour) was used to view and evaluate all sites, additional sources such as historic aerial photography in Google Earth, was used to inform site values and improve site boundaries.

Wheelers Way forest

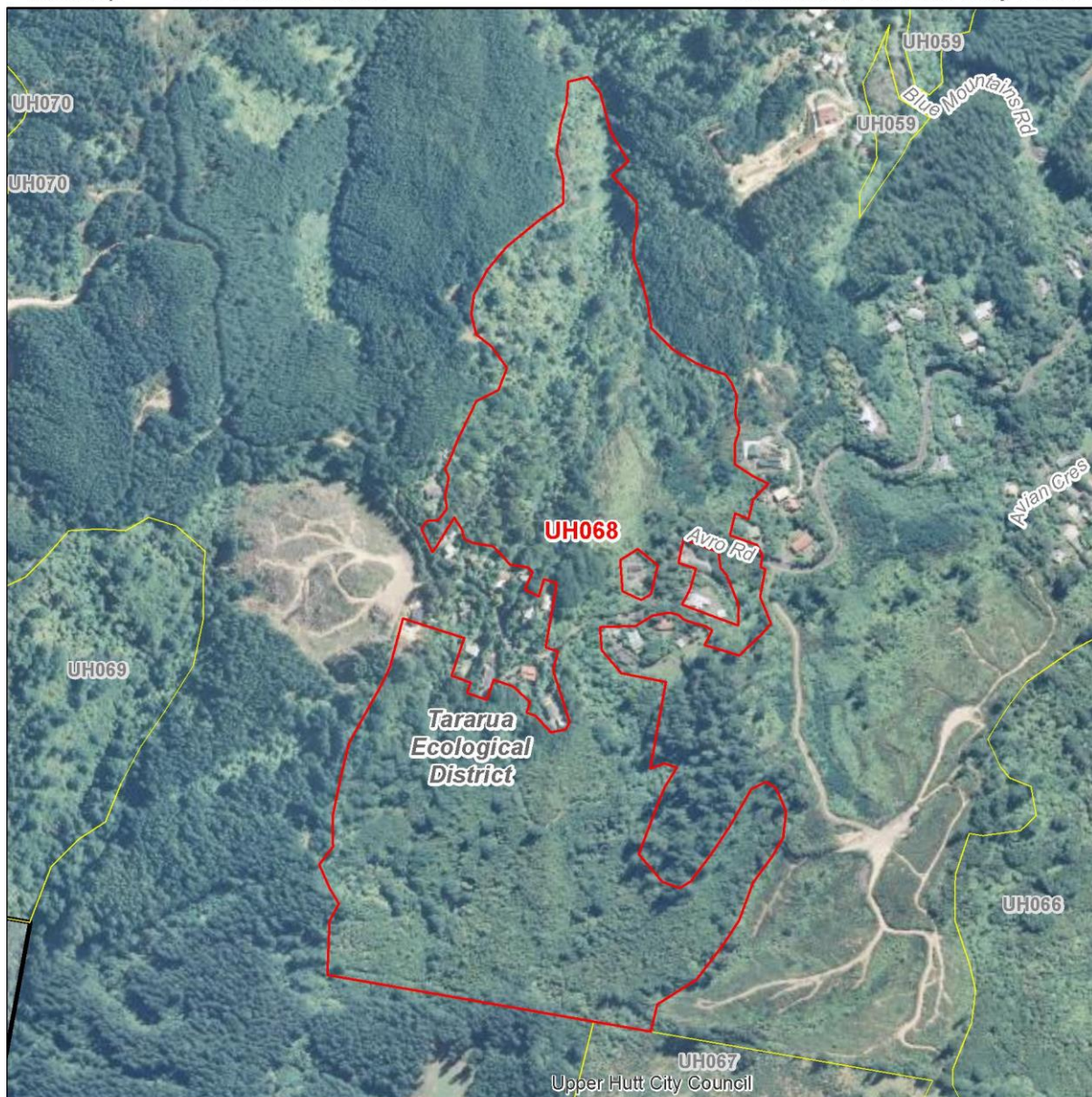
INTRODUCTION

Site Name: Wheelers Way forest
Site Number: UH068
Site Location: At the end of Avro Road and east of Wheelers Way.
Site Area: 22.66 ha.
Current Protection Status: Site has no legal protection.
Protection Type: Not applicable.

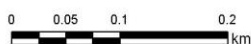
Site Map

Site Number: UH068

Site Name: Wheelers Way forest



1:7,000



— SNA site boundary

— Other probable SNA site boundary

— District boundary

- - Ecological District boundary



Site Summary: This area of mature beech forest and broadleaved scrub is bisected by Avro Road. The beech forest supports extensive epiphytic communities and a diverse understorey. Species present include mingimingi, pigeonwood, rangiora, kāmahi, hebe species, rewarewa, red māpou, miro (*Prumnopitys ferruginea*; of local interest), the Threatened-Nationally Vulnerable rātā (*Metrosideros fulgens*, *M. perforata*, *M. robusta* ^{Note##}) and (reportedly) red mistletoe (*Peraxilla tetrapetala*; At Risk-Declining). The areas of broadleaved scrub is comprised of regenerating broadleaved forest, containing māhoe, five-finger and *Coprosma* species. Supports a diversity of indigenous bird species, including bush falcon (*Falco novaeseelandiae ferox*; At Risk-Recovering), whitehead (*Mohoua albicilla*; At Risk-Declining), long-tailed cuckoo (*Eudynamys taitensis*; At Risk-Naturally Uncommon), and the regionally uncommon bellbird (*Anthornis melanura melanura*) and tomtit (*Petroica macrocephala*).

IMPORTANT FEATURES

Threatened Indigenous Flora:	Three Threatened-Nationally Vulnerable rātā species (<i>Metrosideros fulgens</i> , <i>M. perforata</i> , <i>M. robusta</i> ^{Note##}), red mistletoe (<i>Peraxilla tetrapetala</i> ; At Risk-Declining), and miro (<i>Prumnopitys ferruginea</i> ; of local interest) have been recorded at the site.
Threatened Indigenous Fauna:	Bush falcon (<i>Falco novaeseelandiae ferox</i> ; At Risk-Recovering), whitehead (<i>Mohoua albicilla</i> ; At Risk-Declining), long-tailed cuckoo (<i>Eudynamys taitensis</i> ; At Risk-Naturally Uncommon), and the regionally uncommon bellbird (<i>Anthornis melanura melanura</i>) and tomtit (<i>Petroica macrocephala</i>) have been recorded at the site. Three At Risk lizard species have been recorded near the site: Pacific gecko (<i>Dactylocnemis pacificus</i> ; At Risk-Relict), Ngahere gecko (<i>Mokopirirakau</i> southern "North Island"; At Risk-Declining), and barking gecko (<i>Naultinus punctatus</i> ; At Risk-Declining).
Threatened Land Environments:	More than five hectares on Critically Under protected land environments (>20% protection).
Rare Habitats:	No rare habitats or communities known.
Geological Features:	None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	This forest is likely to be representative of Singers and Rogers (2014) vegetation type: MF20-Hard beech forest, of which less than 20% is protected in the Wellington region. Late succession broadleaved scrub is representative of current vegetation types.
RPS23b: Rarity	Yes	Supports three Threatened ^{Note##} , and one At Risk plant species, and three At Risk and two regionally uncommon bird species.
RPS23c: Diversity	Yes	Forest types may have a natural diversity.
RPS23d: Ecological Context	Yes	In close proximity to a number of other SNA's in the Southern Hills Area.

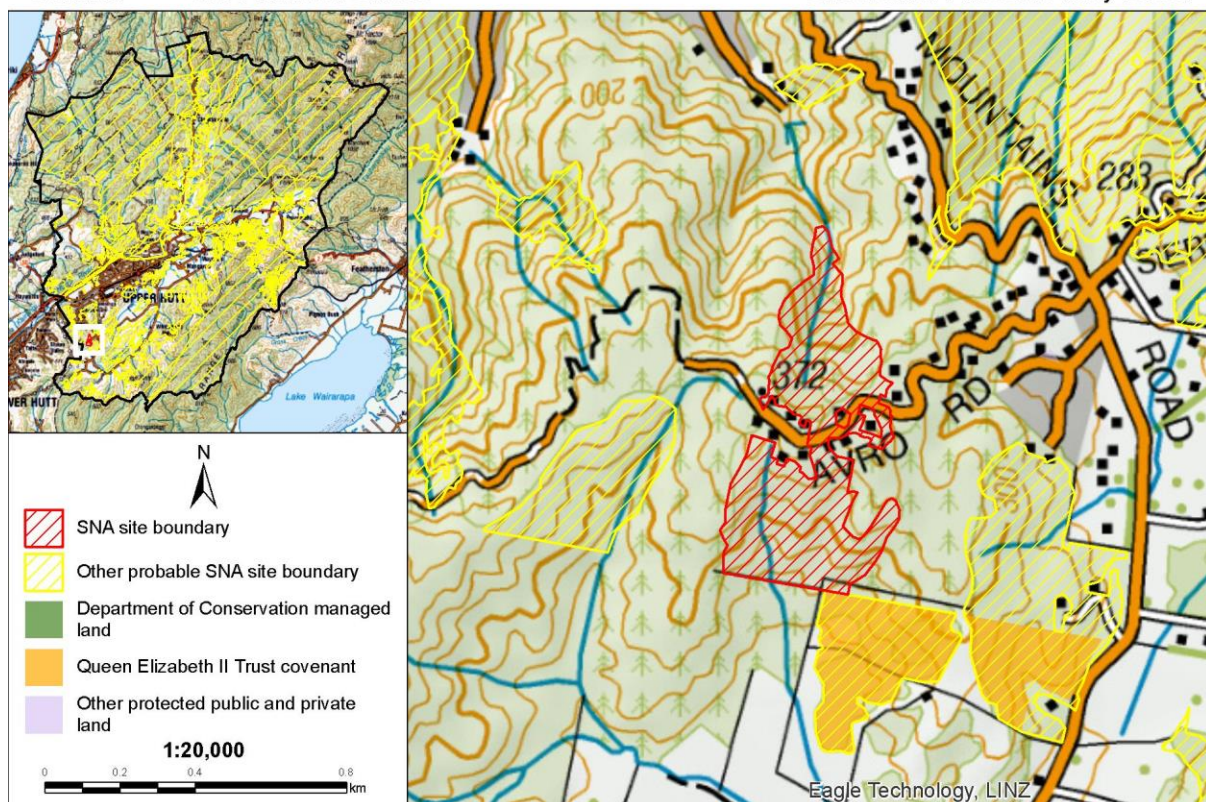
RPS Policy 23 Criteria	Achieved	Assessment
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

Ecological District: Tararua
Ecological Domain(s): 61 Wainuiomata - Hutt - Kaitoke.
Digital Scale: 1:7,000
Altitude Range: 200-370 m a.s.l.
Grid Reference: NZTM E1769817 N5439748
Adjacent Vegetation and Habitats: Pines, residential.
Notes on Overall Condition: Mostly contains mature beech forest, but also contains tradescantia and Japanese honeysuckle.
Potential Land Management Issues: Pest plant management.
Sources of Information for this Site ^{Note#:} Google Earth.

Context Site Number: UH068

Site Name: Wheelers Way forest



ASSESSED BY

Assessment Techniques: Species database, aerial imagery, partial road side viewing (large part not visible).
Assessed By: Helen White (Date 19/06/2018)
Reviewed By: Steve Rate (Date 1/8/2018)

NOTES

Please note that this statement is based on information available at the time of writing. No site visits were undertaken on private land. Due to the changing nature of ecosystems and surrounding land use, future assessment of the Significant Natural Area may be necessary to reflect any changes in knowledge, values, or boundaries that may influence its assessment as ecologically significant.

An Explanatory Note is available in Appendix 9, which provides more information about how each of the above fields was collated or assessed.

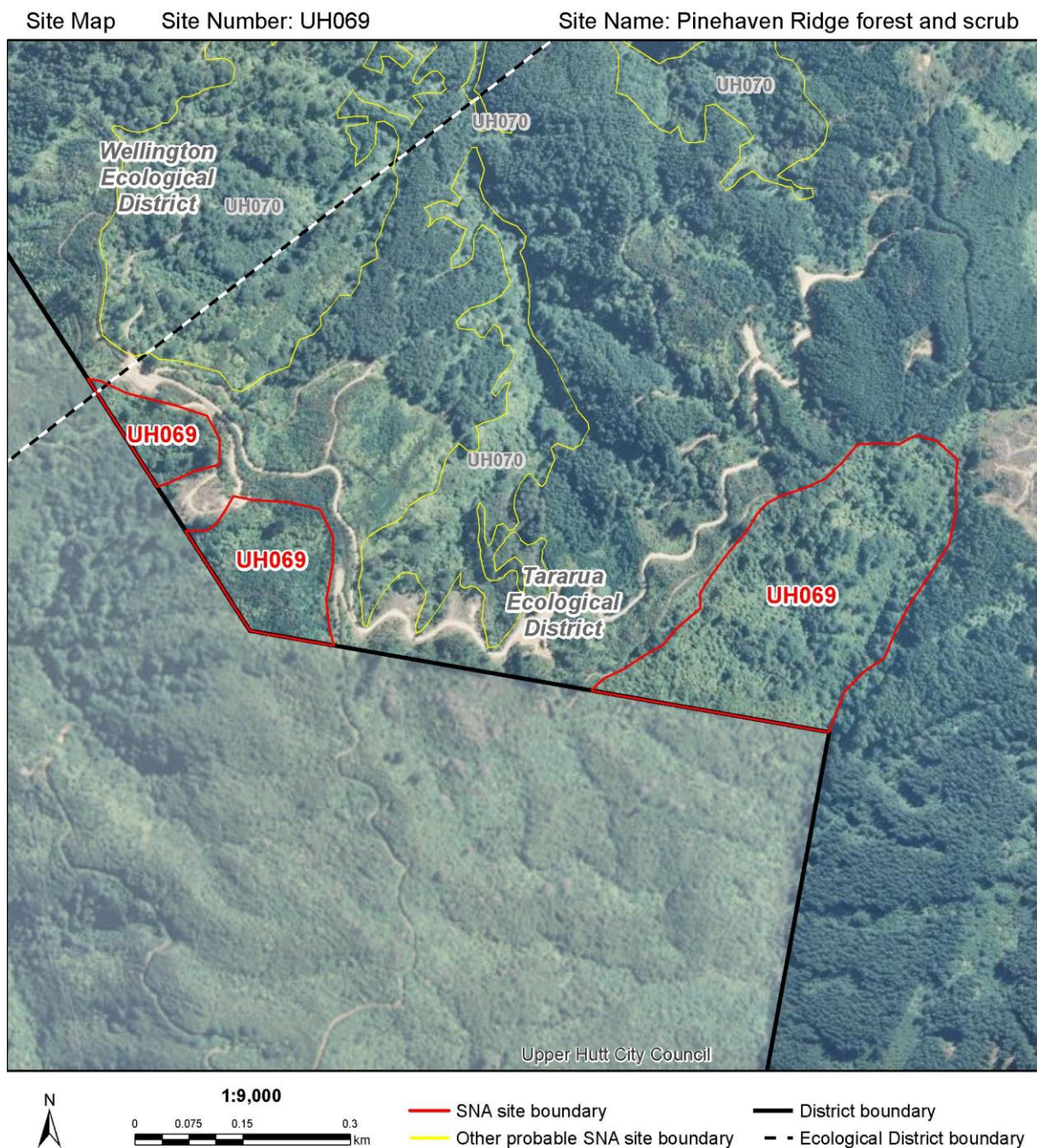
The full list of data sources and references used to assess sites is listed in the main body of the report under REFERENCES and also in the EXPLANATORY NOTES in Appendix 9. Aerial photography (2017 colour) was used to view and evaluate all sites, additional sources such as historic aerial photography in Google Earth, was used to inform site values and improve site boundaries.

The three rātā species have national-level threat classifications as per de Lange *et al.* 2018; northern rata (*Metrosideros robusta*), white rata (*M. perforata*), and orange rata (*M. fulgens*). They are Myrtaceae species which are at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of these species have been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of these species at this site does not trigger the rarity criteria because the species are currently widespread, and some common, in the local environment.

Pinehaven Ridge forest and scrub

INTRODUCTION

Site Name: Pinehaven Ridge forest and scrub
Site Number: UH069
Site Location: South of Pinehaven Road, Pinehaven.
Site Area: 14.88 ha.
Current Protection Status: Site has no legal protection.
Protection Type: Not applicable.



Site Summary: This site sits on the border with Hutt City to the east of Stokes Valley. These three small areas border Council-owned land to the northwest. The vegetation comprises broadleaved forest and scrub, with some beech forest to the east. Northern rātā (*Metrosideros robusta*; Threatened-Nationally Vulnerable ^{Note##}) has been reported from the site. Barking gecko (*Naultinus punctatus*; At Risk-Declining), Pacific gecko (*Dactylocnemis pacificus*; At Risk-Relict), bush falcon (*Falco novaeseelandiae ferox*; At Risk-Recovering), whitehead (*Mohoua albicilla*; At Risk-Declining), and long-tailed cuckoo (*Eudynamys taitensis*; At Risk-Naturally Uncommon), and the regionally uncommon bellbird (*Anthornis melanura melanura*) and pied tomtit (*Petroica macrocephala toitoi*) have been recorded near the site.

IMPORTANT FEATURES

Threatened Indigenous Flora:	Northern rātā (<i>Metrosideros robusta</i> ; Threatened-Nationally Vulnerable ^{Note##}).
Threatened Indigenous Fauna:	No rare fauna are known from the site, but barking gecko (<i>Naultinus punctatus</i> ; At Risk-Declining), Pacific gecko (<i>Dactylocnemis pacificus</i> ; At Risk-Relict), bush falcon (<i>Falco novaeseelandiae ferox</i> ; At Risk-Recovering), whitehead (<i>Mohoua albicilla</i> ; At Risk-Declining), and long-tailed cuckoo (<i>Eudynamys taitensis</i> ; At Risk-Naturally Uncommon), and the regionally uncommon bellbird (<i>Anthornis melanura melanura</i>) and pied tomtit (<i>Petroica macrocephala toitoi</i>) have been recorded near the site.
Threatened Land Environments:	More than 0.5 hectares on At Risk land environments (20-30% indigenous vegetation remaining).
Rare Habitats:	No rare habitats or communities known.
Geological Features:	None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

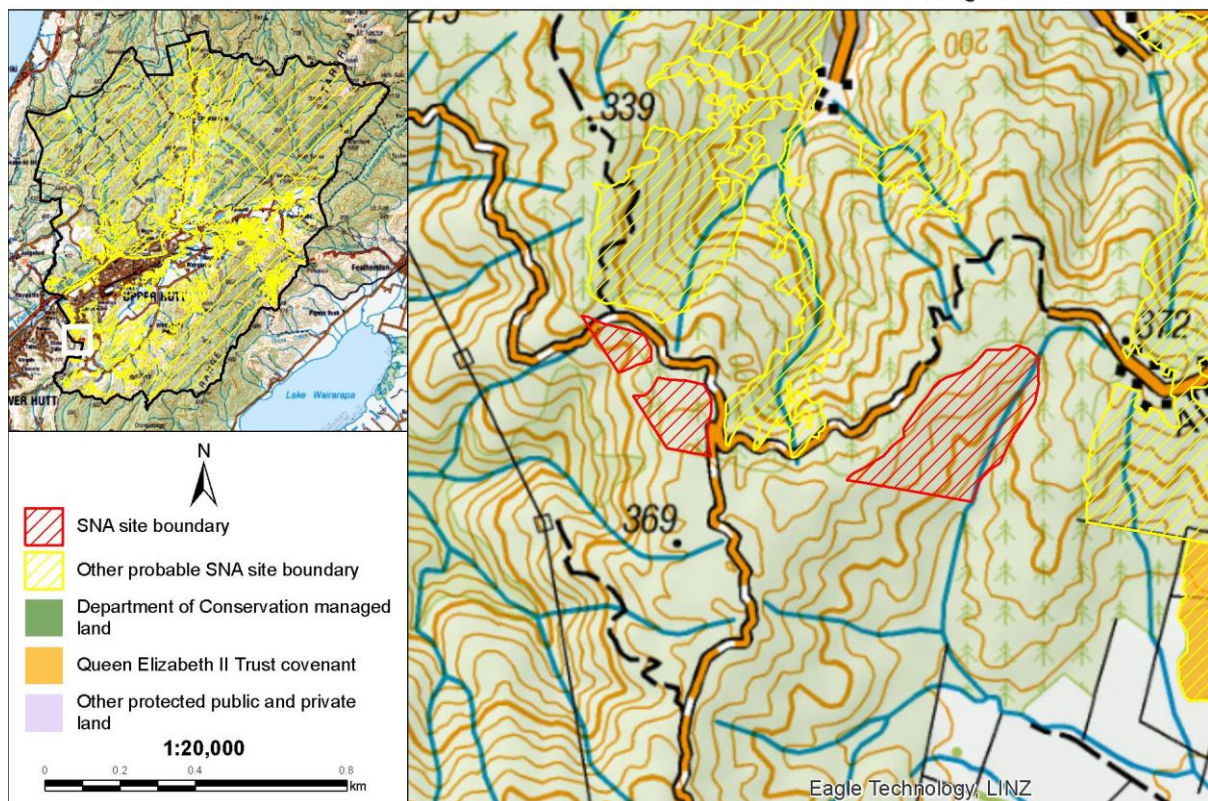
RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	This forest is likely to be representative of Singers and Rogers (2014) vegetation type: MF20-Hard beech forest, of which less than 20% is protected in the Wellington region. Late succession broadleaved forest is representative of current vegetation types.
RPS23b: Rarity	No	One Threatened plant species reported ^{Note##} .
RPS23c: Diversity	No	Modified, with likely reduced diversity of ecological units.
RPS23d: Ecological Context	Yes	Contiguous with indigenous vegetation to the east and south, including representative beech forest.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

Ecological District:	Tararua, Wellington
Ecological Domain(s):	61 Wainuiomata - Hutt - Kaitoke.
Digital Scale:	1:9,000
Altitude Range:	265-375 m a.s.l.
Grid Reference:	NZTM E1769021 N5439695
Adjacent Vegetation and Habitats:	Plantation forest, broadleaved forest and scrub.
Notes on Overall Condition:	Wildling conifers, vehicle track.
Potential Land Management Issues:	Control of wilding pines.
Sources of Information for this Site ^{Note#:}	DOC Bioweb, Google Earth.

DRAFT

Context Site Number: UH069 Site Name: Pinehaven Ridge forest and scrub

**ASSESSED BY**

Assessment Techniques:	Aerial imagery, species databases, partial road side viewing (large part not visible).
Assessed By:	Helen White (Date 11/07/2018)
Reviewed By:	Steve Rate (Date 1/8/2018)

NOTES

Please note that this statement is based on information available at the time of writing. No site visits were undertaken on private land. Due to the changing nature of ecosystems and surrounding land use, future assessment of the Significant Natural Area may be necessary to reflect any changes in knowledge, values, or boundaries that may influence its assessment as ecologically significant.

An Explanatory Note is available in Appendix 9, which provides more information about how each of the above fields was collated or assessed.

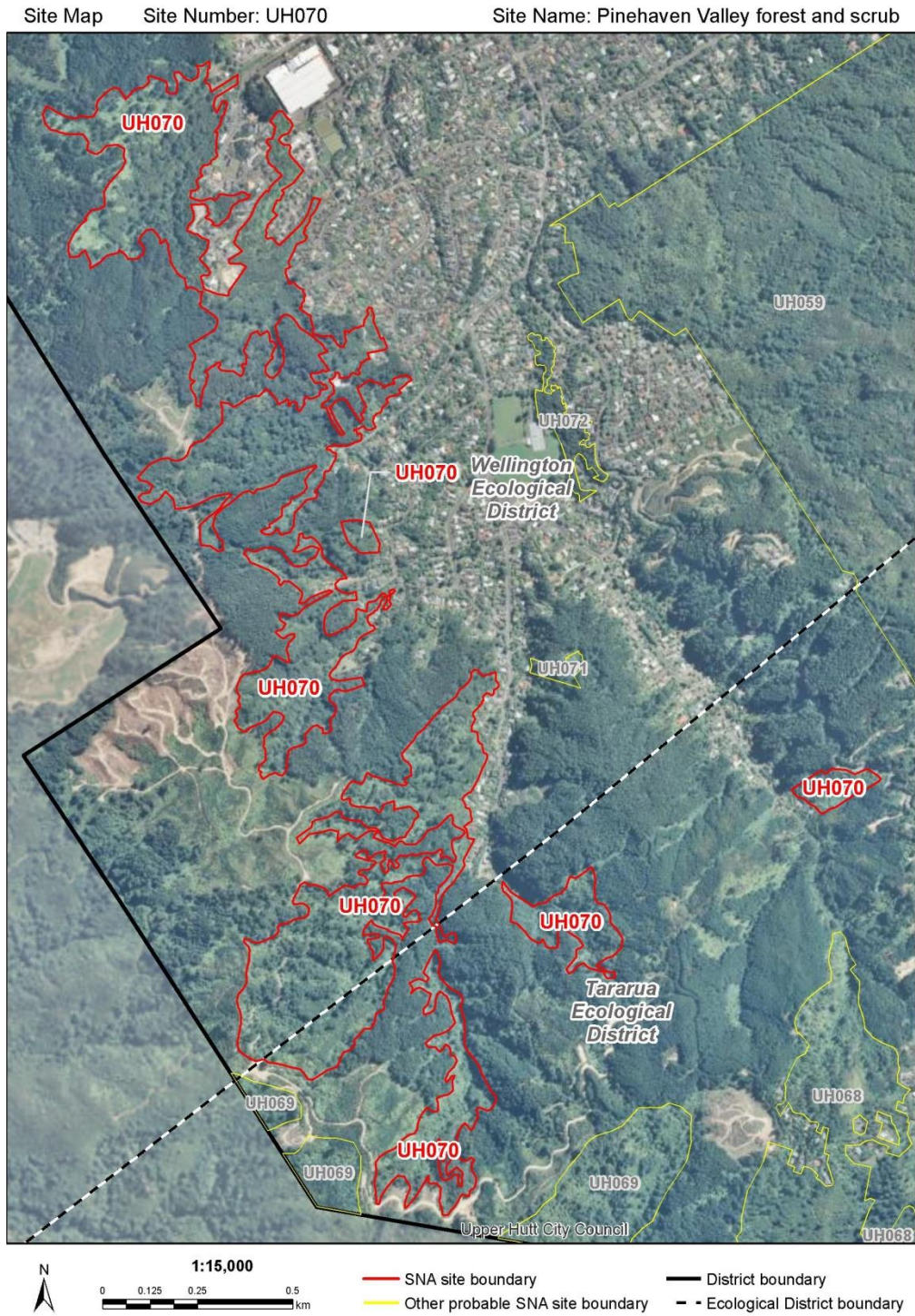
The full list of data sources and references used to assess sites is listed in the main body of the report under REFERENCES and also in the EXPLANATORY NOTES in Appendix 9. Aerial photography (2017 colour) was used to view and evaluate all sites, additional sources such as historic aerial photography in Google Earth, was used to inform site values and improve site boundaries.

Northern rātā has national-level threat classifications as per de Lange *et al.* 2018; Northern rātā (*Metrosideros robusta*; Threatened-Nationally Vulnerable). Northern rātā is a Myrtaceae species which are at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of northern rātā has been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of northern rātā at this site does not trigger the rarity criteria because the species are currently widespread in the local environment.

Pinehaven Valley forest and scrub

INTRODUCTION

Site Name: Pinehaven Valley forest and scrub
Site Number: UH070
Site Location: Area to the west of Pinehaven Road.
Site Area: 84.73 ha.
Current Protection Status: Site has no legal protection.
Protection Type: Not applicable.



Site Summary: A series of indigenous forest patches, separated by pine forest, which comprise kāmahī forest with emergent pine, primary beech forest with podocarp-northern rātā (*Metrosideros robusta*; Threatened-Nationally Vulnerable^{Note##}), and secondary beech forest with kāmahī, with wilding pines throughout. Other plant species recorded from this site include *Crassula ruamahanga* (At Risk-Naturally Uncommon), three podocarp species of local interest rimu (*Dacrydium cupressinum*), kahikatea (*Dacrycarpus dacrydioides*), tōtara (*Podocarpus totara*); as well as five-finger, mānuka (*Leptospermum scoparium*; At Risk-Declining^{Note##}), kohuhu, akeake, *Coprosma robusta*, māhoe, hīnau, patē, kauri, kōhutuhutu, hangehange, tutu, rangiora, pigeonwood, and cabbage tree. Provides habitat for indigenous lizards including the barking gecko (*Naultinus punctatus*; At Risk-Declining), Ngahere gecko (*Mokopirirakau* "southern North Island"; At Risk-Declining), northern grass skink (*Oligosoma polychroma*), and copper skink (*Oligosoma aeneum*). Pacific gecko (*Dactylocnemis pacificus*; At Risk-Relict), North Island rifleman (*Acanthisitta chloris granti*; At Risk-Declining), whitehead (*Mohoua albicilla*; At Risk-Declining), bush falcon (*Falco novaeseelandiae ferox*; At Risk-Recovering), long-tailed cuckoo (*Eudynamys taitensis*; At Risk-Naturally Uncommon), and the regionally uncommon bellbird (*Anthornis melanura melanura*) and pied tomtit (*Petroica macrocephala toitoi*) have all been recorded nearby and may also be present. Includes parts of Urban Tree Groups 293, 312, 357, 363, and 366 as listed in Chapter 27A of the Upper Hutt District Plan.

IMPORTANT FEATURES

Threatened Indigenous Flora:	Northern rātā (<i>Metrosideros robusta</i> ; Threatened-Nationally Vulnerable ^{Note##}), <i>Pterostylis puberula</i> (Threatened-Nationally Vulnerable), mānuka (<i>Leptospermum scoparium</i> ; At Risk-Declining ^{Note##}), and <i>Crassula ruamahanga</i> (At Risk-Naturally Uncommon) have been recorded at this site.
Threatened Indigenous Fauna:	Barking gecko (<i>Naultinus punctatus</i> ; At Risk-Declining), Ngahere gecko (<i>Mokopirirakau</i> "southern North Island"; At Risk-Declining), copper skink (<i>Oligosoma aenum</i> ; Not Threatened), and northern grass skink (<i>Oligosoma polychroma</i> ; Not Threatened) have been recorded at the site. Pacific gecko (<i>Dactylocnemis pacificus</i> ; At Risk-Relict), North Island rifleman (<i>Acanthisitta chloris granti</i> ; At Risk-Declining), whitehead (<i>Mohoua albicilla</i> ; At Risk-Declining), bush falcon (<i>Falco novaeseelandiae ferox</i> ; At Risk-Recovering), long-tailed cuckoo (<i>Eudynamys taitensis</i> ; At Risk-Naturally Uncommon), and the regionally uncommon bellbird (<i>Anthornis melanura melanura</i>) and pied tomtit (<i>Petroica macrocephala toitoi</i>) have been recorded nearby.
Threatened Land Environments:	More than five hectares on At Risk land environments (20-30% indigenous vegetation remaining).
Rare Habitats:	No rare habitats or communities known.
Geological Features:	None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	Late succession broadleaved forest is representative of current vegetation types.
RPS23b: Rarity	Yes	Two threatened and two At Risk plant species ^{Note##} and two At Risk lizard species.
RPS23c: Diversity	No	Appears modified and likely to have a reduced natural diversity.
RPS23d: Ecological Context	Yes	Likely to provide 'stepping stone' habitat for birds travelling through the Hutt Valley.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

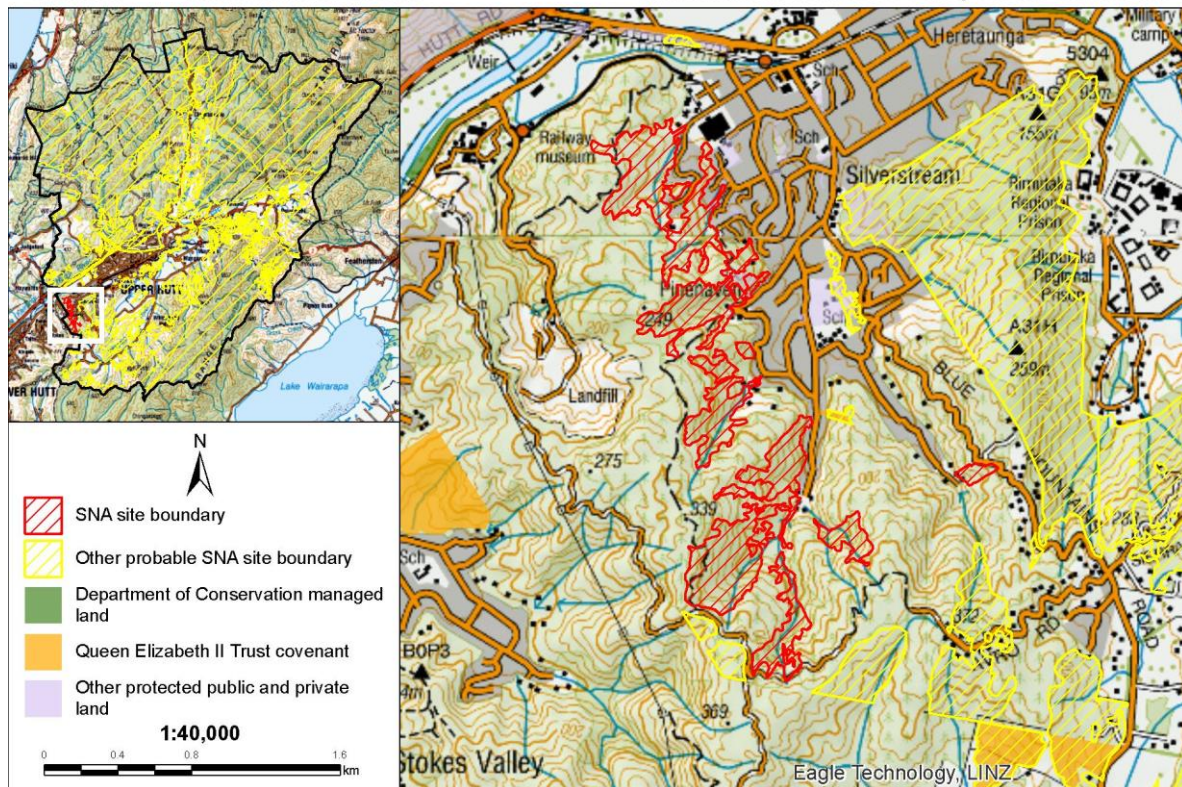
SITE CONTEXT AND OTHER INFORMATION

Ecological District:	Wellington, Tararua
Ecological Domain(s):	61 Wainuiomata - Hutt - Kaitoke.
Digital Scale:	1:15,000
Altitude Range:	55-345 m a.s.l.
Grid Reference:	NZTM E1768472 N5441149
Adjacent Vegetation and Habitats:	Pine stands, residential.
Notes on Overall Condition:	Wilding conifers, sycamore, and willow present.
Potential Land Management Issues:	Impacts of plantation forestry and pest plant management.
Sources of Information for this Site ^{Note#}:	Google Earth, Boffa Miskell 2015.

Context

Site Number: UH070

Site Name: Pinehaven Valley forest and scrub



ASSESSED BY

Assessment Techniques: Aerial imagery, historic images, road side viewing.
Assessed By: Helen White (Date 11/07/2018)
Reviewed By: Steve Rate (Date 1/8/2018)

NOTES

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Northern rātā and mānuka have national-level threat classifications as per de Lange *et al.* 2018; Northern rātā (*Metrosideros robusta*; Threatened-Nationally Vulnerable), and mānuka (*Leptospermum scoparium*; At Risk-Declining). Northern rātā and mānuka are Myrtaceae species which are at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of northern rātā and mānuka have been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of northern rātā or mānuka at this site does not trigger the rarity criteria because the species are currently widespread in the local environment.

QEII 5/07/469 beech forest

INTRODUCTION

Site Name: QEII 5/07/469 beech forest
Site Number: UH071
Site Location: Pinehaven Road, Pinehaven.
Site Area: 0.65 ha.
Current Protection Status: Site is partially legally protected.
Protection Type: QEII covenant.

Site Map

Site Number: UH071

Site Name: QEII 5/07/469 beech forest



1:5,000



— SNA site boundary

— Other probable SNA site boundary

— District boundary

- - Ecological District boundary



Site Summary: This small covenant is located on east-facing hillslopes in Pinehaven Road, Silverstream. It contains a small area of hard beech forest, with two podocarps of local interest; tōtara (*Podocarpus totara*), and rimu (*Dacrydium cupressinum*); as well as kōwhai, lancewood, rewarewa, five finger, tree fern, maire, kāmahī, patē, tawa, kānuka (*Kunzea robusta*; Threatened-Nationally Vulnerable ^{Note##}), mānuka (*Leptospermum scoparium*; At Risk-Declining ^{Note##}) and cabbage trees. The site includes parts of Urban Tree Groups 384 and 411 as listed in Chapter 27A of the Upper Hutt District Plan. An additional area of regenerating indigenous scrub is present within the pine plantations at the top of the ridge.

IMPORTANT FEATURES

Threatened Indigenous Flora:	Kānuka (<i>Kunzea robusta</i> ; Threatened-Nationally Vulnerable ^{Note##}), mānuka (<i>Leptospermum scoparium</i> ; At Risk-Declining ^{Note##}). Of local interest: rimu (<i>Dacrydium cupressinum</i>), tōtara (<i>Podocarpus totara</i>), maire (<i>Nestegis</i> species). At Risk-Declining plant: <i>Corybas cryptanthus</i> known from nearby site.
Threatened Indigenous Fauna:	No rare fauna are known from the site. Bird species known from nearby sites include the At Risk-Declining whitehead (<i>Mohoua albicilla</i>) and At Risk-Recovering New Zealand falcon (<i>Falco novaehollandiae ferox</i>). Lizards known from nearby sites include the At Risk-Declining barking gecko (<i>Naultinus punctatus</i>) and Ngahere gecko (<i>Mokopirirakau</i> "southern North Island").
Threatened Land Environments:	Less than 0.5 hectares on Chronically Threatened land environments (10-20% indigenous vegetation remaining).
Rare Habitats:	No rare habitats or communities known.
Geological Features:	None known.

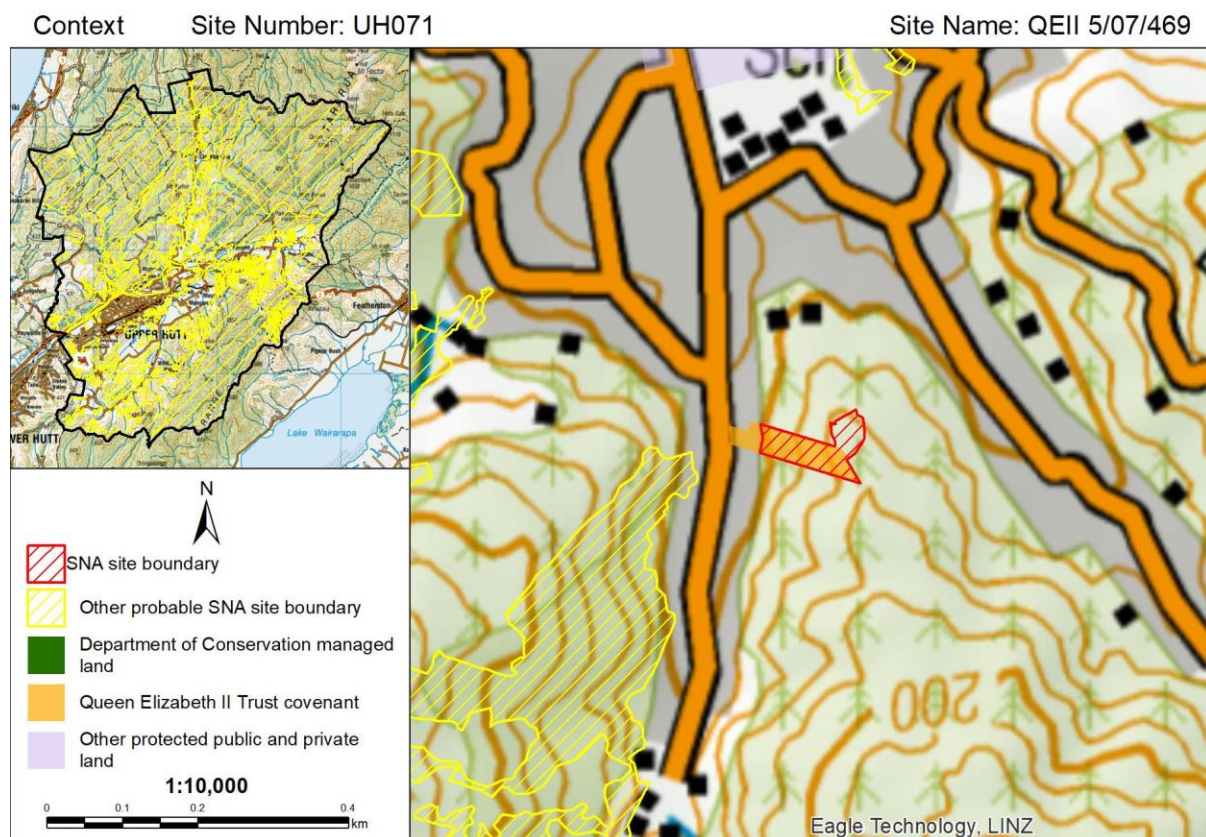
SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	This forest is representative of Singers and Rogers (2014) vegetation type: MF20-Hard beech forest, of which less than 20% is protected in the Wellington region.
RPS23b: Rarity	No	One Threatened and one At Risk plant species ^{Note##} .
RPS23c: Diversity	No?	Unknown.
RPS23d: Ecological Context	No	Small and surrounded by plantation forest, and does not provide core habitat for protected or threatened species.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

Ecological District:	Wellington
Ecological Domain(s):	61 Wainuiomata - Hutt - Kaitoke.
Digital Scale:	1:5,000
Altitude Range:	90-155 m a.s.l.
Grid Reference:	NZTM E1769108 N5441031
Adjacent Vegetation and Habitats:	Plantation forest, residential.
Notes on Overall Condition:	Some exotic species present, including wilding pines.
Potential Land Management Issues:	Control of wilding pines, and pest plant species.
Sources of Information for this Site ^{Note#:}	Google Earth, historic aerial imagery.

**ASSESSED BY**

Assessment Techniques:	Aerial imagery, species databases.
Assessed By:	Helen White (Date 11/07/2018)
Reviewed By:	Steve Rate (Date 1/8/2018)

NOTES

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Kānuka and mānuka have national-level threat classifications as per de Lange *et al.* 2018; kānuka (*Kunzea robusta*; Threatened-Nationally Vulnerable), and mānuka (*Leptospermum scoparium*; At Risk-Declining). They are Myrtaceae species which are at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of these species have been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of these species at this site does not trigger the rarity criteria because the species are currently widespread and common in the local environment.

Pinehaven Reserve forest

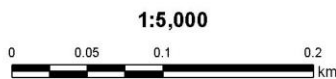
INTRODUCTION

Site Name: Pinehaven Reserve forest
Site Number: UH072
Site Location: Between Pine Haven Reserve and Blue Mountains Road.
Site Area: 2.24 ha.
Current Protection Status: Site is partially legally protected.
Protection Type: UHCC park.

Site Map

Site Number: UH072

Site Name: Pinehaven Reserve forest



— SNA site boundary

— Other probable SNA site boundary

— District boundary

- - Ecological District boundary

Site Summary: This beech forest remnant is located on the slope above Pinehaven Reserve. Plant species present include hard beech, black beech, kāmahī, rewarewa, rimu (*Dacrydium cupressinum*; of local interest) and hīnau (*Elaeocarpus dentatus*; of local interest). This SNA includes indigenous vegetation on land environments with less than 10%, and 10-20%, indigenous vegetation cover remaining. The site provides habitat for forest birds, including the regionally uncommon pied tomtit (*Petroica macrocephala toitoi*) and bellbird (*Anthornis melanura melanura*). It includes part of Urban Tree Groups 93 and 99 as listed in Chapter 27A of the Upper Hutt District Plan.

IMPORTANT FEATURES

Threatened Indigenous Flora:	Of local interest: rimu (<i>Dacrydium cupressinum</i>) and hīnau (<i>Elaeocarpus dentatus</i>).
Threatened Indigenous Fauna:	Birds known from this site include the regionally uncommon pied tomtit (<i>Petroica macrocephala toitoi</i>) and bellbird (<i>Anthornis melanura</i>). Lizards known from nearby sites include the At Risk-Declining barking gecko (<i>Naultinus punctatus</i>) and ornate skink (<i>Oligosoma ornatum</i>). Bush falcon (<i>Falco novaeseelandiae ferox</i> ; At Risk-Recovering) and whitehead (<i>Mohoua albicilla</i> ; At Risk-Declining) have also been recorded nearby.
Threatened Land Environments:	More than 0.5 hectares on Acutely Threatened land environments (<10% indigenous cover remaining).
Rare Habitats:	No rare habitats or communities known.
Geological Features:	None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	The vegetation is representative of Singers and Rogers (2014) vegetation type: MF20-Hard beech forest, which has less than 20% protected in the Wellington region.
RPS23b: Rarity	Yes	Two regionally uncommon bird species reported. Indigenous vegetation on land environments with <10% indigenous cover left.
RPS23c: Diversity	No	A narrow site, affected by residential uses, has reduced the natural diversity within this site.
RPS23d: Ecological Context	No	A relatively small isolated site.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

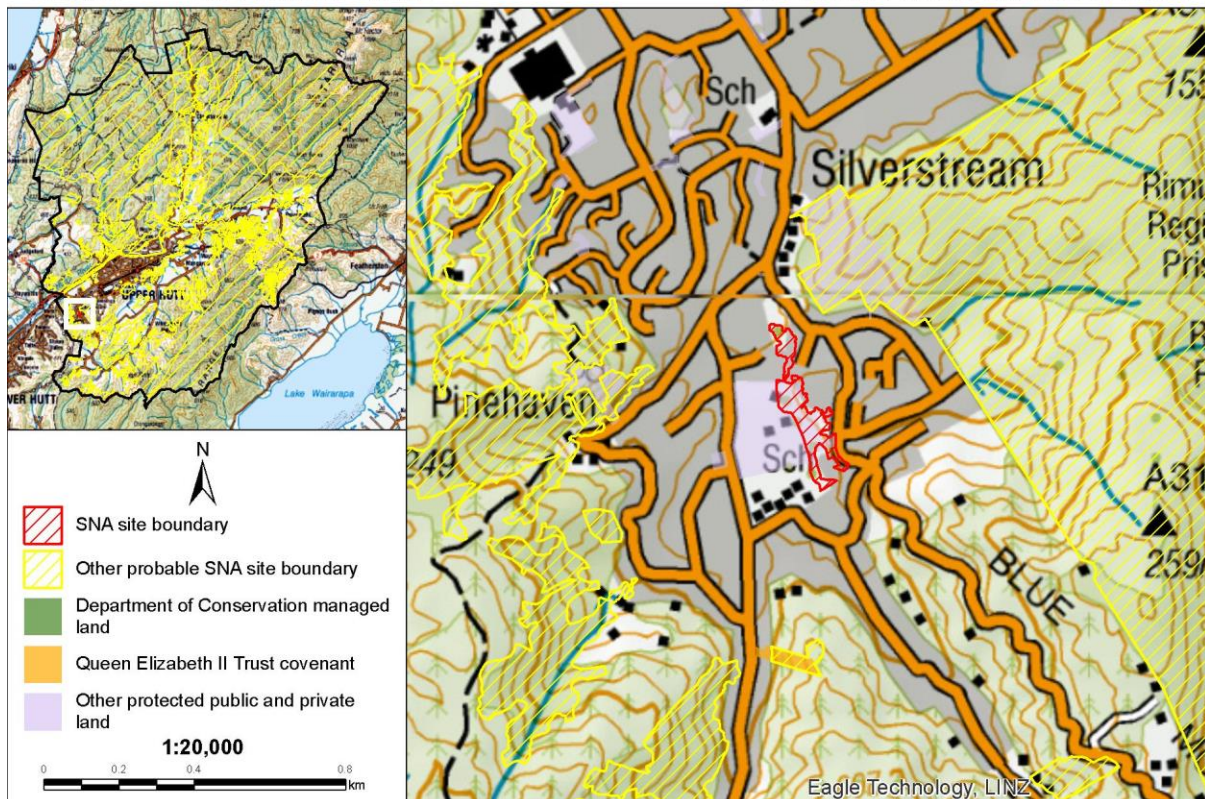
Ecological District: Wellington
Ecological Domain(s): 61 Wainuiomata - Hutt - Kaitoke.
Digital Scale: 1:5,000
Altitude Range: 60-90 m a.s.l.
Grid Reference: NZTM E1769118 N5441692
Adjacent Vegetation and Habitats: Residential, recreation reserve.
Notes on Overall Condition: Unknown.
Potential Land Management Issues: Management of pest plants and pest animals in residential areas.
Sources of Information for this Site ^{Note#:} Google Earth, historic aerial imagery.

DRAFT

Context

Site Number: UH072

Site Name: Pinehaven Reserve forest



ASSESSED BY

Assessment Techniques: Species database, aerial imagery, road side viewing.
Assessed By: Helen White (Date 19/06/2018)
Reviewed By: Steve Rate (Date 2/8/2018)

NOTES

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DRAFT

Fergusson Drive wetland and scrub

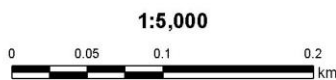
INTRODUCTION

Site Name: Fergusson Drive wetland and scrub
Site Number: UH073
Site Location: South of Fergusson Drive, west of Field Street and north of the railroad.
Site Area: 0.61 ha.
Current Protection Status: Site is partially legally protected.
Protection Type: UHCC park. Partially NZRail and partially road reserve.

Site Map

Site Number: UH073

Site Name: Fergusson Drive wetland and scrub



— SNA site boundary

— Other probable SNA site boundary

— District boundary

- - Ecological District boundary



Site Summary: This small area contains a young kahikatea (*Dacrycarpus dacrydioides*; of local interest) wetland, with broadleaved species and a small stream. Other plant species include mānuka (*Leptospermum scoparium*; At Risk-Declining ^{Note##}), māhoe, akeake, tarata, rewarewa, kohuhu, cabbage tree, hebe species, lacebark, *Coprosma* species, flax, *Muehlenbeckia australis*, poplar, and blackberry. Includes indigenous vegetation on land environments with less than 10% indigenous vegetation cover remaining.

IMPORTANT FEATURES

Threatened Indigenous Flora:	At Risk-Declining: Mānuka (<i>Leptospermum scoparium</i> ^{Note##}); Of local interest: kahikatea (<i>Dacrycarpus dacrydioides</i>).
Threatened Indigenous Fauna:	No rare fauna are known from the site. The following fish species may occur at this site if there is fish passage: the At Risk-Declining inanga (<i>Galaxias maculatus</i>), redfin bully (<i>Gobiomorphus huttoni</i>), and bluegill bully (<i>Gobiomorphus hubbsi</i>), and the Not Threatened common bully (<i>Gobiomorphus cotidianus</i>). Common indigenous and exotic birds are present, and bush falcon (<i>Falco novaeseelandiae ferox</i> ; At Risk-Recovering), whitehead (<i>Mohoua albicilla</i> ; At Risk-Declining), long-tailed cuckoo (<i>Eudynamys taitensis</i> ; At Risk-Naturally Uncommon), and the regionally uncommon bellbird (<i>Anthornis melanura melanura</i>) and tomtit (<i>Petroica macrocephala toitoi</i>) have been recorded nearby.
Threatened Land Environments:	More than 0.5 hectares on Acutely Threatened land environments (<10% indigenous cover remaining).
Rare Habitats:	Freshwater wetlands are nationally rare, with less than 10% of their original extent remaining.
Geological Features:	None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

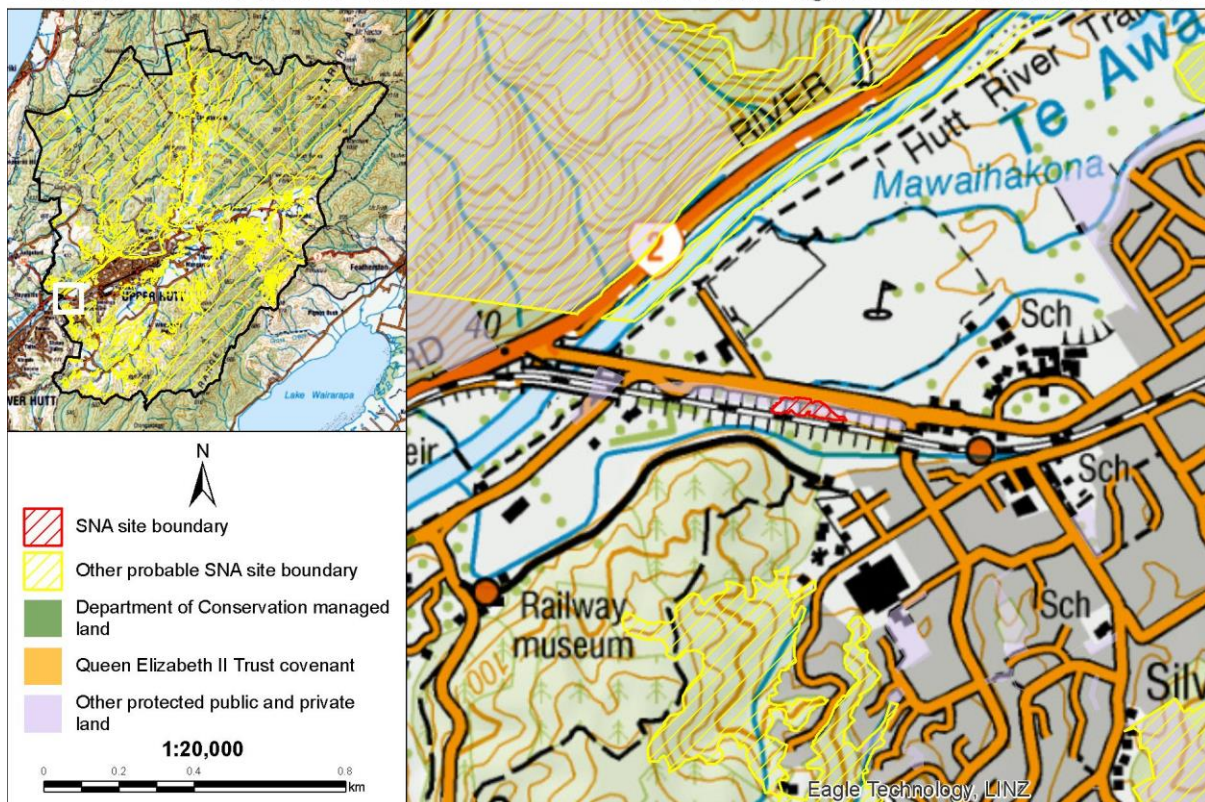
RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	The vegetation at this site has elements representative of Singers and Rogers (2014) vegetation type: WF2-Tōtara, mataī, ribbonwood forest, which has less than 30% remaining, and less than 20% protected in the Wellington region, in addition to wetland vegetation representative of current ecosystem diversity.
RPS23b: Rarity	Yes	Indigenous vegetation on land environments with <10% vegetation cover remaining. Wetlands are nationally rare. One At Risk-Declining plant species ^{Note##} .
RPS23c: Diversity	No	Too small and modified to contain a good diversity of species.
RPS23d: Ecological Context	No	Relatively small, isolated site.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

Ecological District: Wellington
Ecological Domain(s): 61 Wainuiomata - Hutt - Kaitoke.
Digital Scale: 1:5,000
Altitude Range: 35-35 m a.s.l.
Grid Reference: NZTM E1768232 N5443057
Adjacent Vegetation and Habitats: Recreation reserve, railroad, road.
Notes on Overall Condition: Whilst a relatively young podocap wetland, this SNA includes understorey vegetation. Blackberry present, and forest edges are mown.
Potential Land Management Issues: Pest plant management.
Sources of Information for this Site ^{Note#:} Google Earth, Historic aerial imagery.

DRAFT

Context Site Number: UH073 Site Name: Fergusson Drive wetland and scrub



ASSESSED BY

Assessment Techniques: Species database, aerial imagery, road side viewing.
Assessed By: Helen White (Date 18/06/2018)
Reviewed By: Steve Rate (Date 2/8/2018/2/8/2018)

NOTES

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Mānuka (*Leptospermum scoparium*) has a national-level threat classification of At Risk-Declining, as per de Lange *et al.* 2018. Mānuka is a Myrtaceae species which is at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of mānuka has been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of mānuka at this site does not trigger the rarity criteria because the species is currently common and widespread in the local environment.

Mahers Stream forest

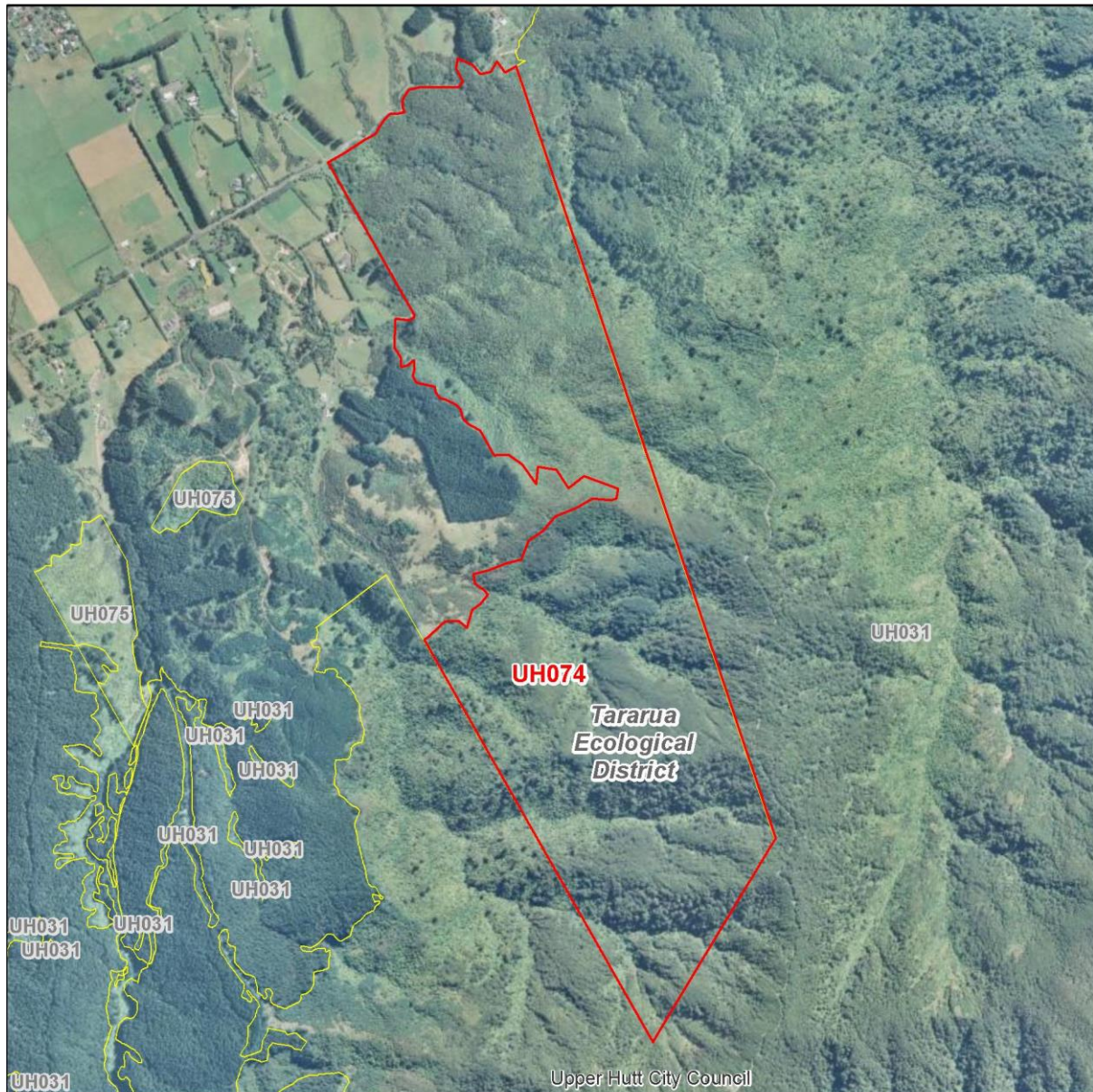
INTRODUCTION

Site Name: Mahers Stream forest
Site Number: UH074
Site Location: Colletts Road, Maymorn.
Site Area: 122.97 ha.
Current Protection Status: Site has no legal protection.
Protection Type: Not applicable.

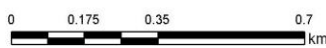
Site Map

Site Number: UH074

Site Name: Mahers Stream forest



1:18,000



— SNA site boundary

— District boundary

— Other probable SNA site boundary

- - Ecological District boundary



Site Summary: This site extends from the end of Colletts Road southeast towards Pakuratahi Forest. The site spans an altitudinal gradient from 185 to 750 metres above sea level. It is surrounded on three sides by GWRC's Pakuratahi Forest KNE site, which it buffers. Secondary forest comprising (black beech)-(rewarewa)/kāmahi-tarata-five finger forest, with occasional mamaku, māhoe, tawa, mānuka (*Leptospermum scoparium*; At Risk-Declining ^{Note##}), kōhūhū, putaputawētā, red māpou, pigeonwood, karamū, and whekī is present on hillslopes. There may also be primary forest present at higher elevations. This SNA is likely to provide habitat for some of the Threatened and At Risk species found in Pakuratahi Forest. Indigenous vegetation is present on slopes of high (21-30°) and very high (31-40°) steepness, which provides erosion protection, and protects the headwaters of Mahers Stream, a tributary of the Mangaroa River.

IMPORTANT FEATURES

Threatened Indigenous Flora:	Mānuka (<i>Leptospermum scoparium</i> ; At Risk-Declining ^{Note##}).
Threatened Indigenous Fauna:	No rare fauna are known from the site, but it is continuous with Pakuratahi Forest which provides habitat for numerous Threatened and At Risk bird species.
Threatened Land Environments:	More than one hectare on At Risk land environments (20-30% indigenous vegetation remaining).
Rare Habitats:	No rare habitats or communities known.
Geological Features:	None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	The vegetation at this site is likely to be representative of Singers and Rogers (2014) vegetation types: MF20-Hard beech forest, which has less than 20% protected in the Wellington region; and CLF9-Red beech, podocarp forest, CLF10-Red beech, silver beech forest and CLF11-2-Silver beech forest, which have less than 20% protected in Upper Hutt District. Regenerating scrub and forest is representative of current vegetation types.
RPS23b: Rarity	No	One At Risk plant species ^{Note##}
RPS23c: Diversity	Yes	Forests likely to contain a natural plant species diversity. Wide altitudinal gradient.
RPS23d: Ecological Context	Yes	Contiguous with and buffering indigenous vegetation in Pakuratahi Forest. Numerous tributaries of the Mahers Stream are buffered by this forest.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

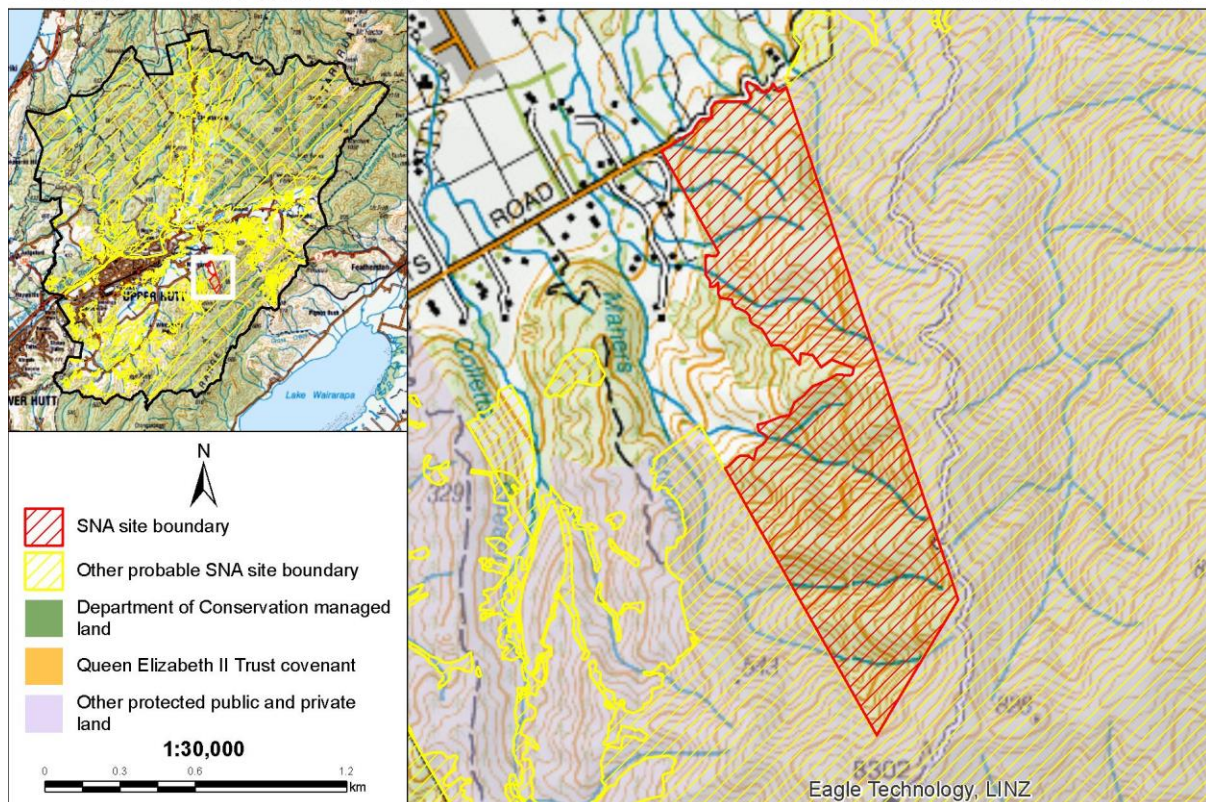
SITE CONTEXT AND OTHER INFORMATION

Ecological District: Tararua
Ecological Domain(s): 61 Wainuiomata - Hutt - Kaitoke; 62 Rimutaka (<550 metres); 63 Rimutaka (>550 metres).
Digital Scale: 1:18,000
Altitude Range: 180-740 m a.s.l.
Grid Reference: NZTM E1779871 N5444789
Adjacent Vegetation and Habitats: Indigenous forest, plantation forest, pasture.
Notes on Overall Condition: Contains occasional wilding pine and early succession scrub.
Potential Land Management Issues: Control of wilding pines.
Sources of Information for this Site ^{Note#:} Wildland Consultants 2008.

DRAFT

Context Site Number: UH074

Site Name: Mahers Stream forest



ASSESSED BY

Assessment Techniques: Species database, aerial imagery, road side viewing.
Assessed By: Helen White (Date 5/07/2018)
Reviewed By: Steve Rate (Date 2/8/2018)

NOTES

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Mānuka (*Leptospermum scoparium*) has a national-level threat classification of At Risk-Declining, as per de Lange *et al.* 2018. Mānuka is a Myrtaceae species which is at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of mānuka has been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of mānuka at this site does not trigger the rarity criteria because the species is currently common and widespread in the local environment.

Colletts Stream forest

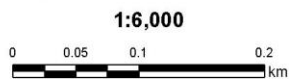
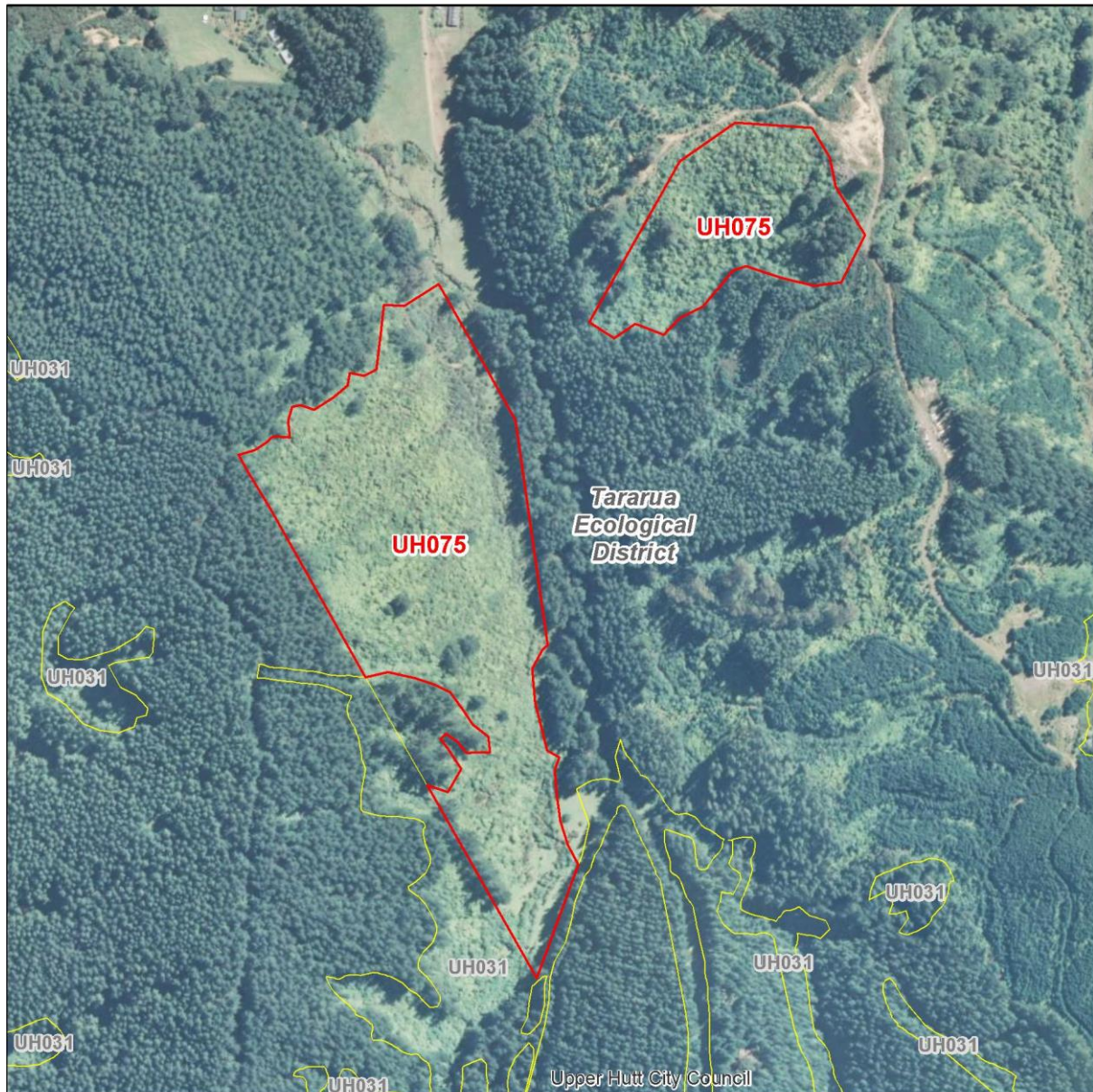
INTRODUCTION

Site Name: Colletts Stream forest
Site Number: UH075
Site Location: Colletts Road, Maymorn.
Site Area: 10.20 ha.
Current Protection Status: Site has no legal protection.
Protection Type: Not applicable.

Site Map

Site Number: UH075

Site Name: Colletts Stream forest



— SNA site boundary

— Other probable SNA site boundary

— District boundary

- - Ecological District boundary

Upper Hutt District Plan - Significant Natural Area Assessment - Significance Statement

Site Summary: This area of regenerating indigenous scrub is contiguous with a narrow band of indigenous gully vegetation (tree ferns, five-finger, māhoe) in GWRC's Pakuratahi Forest Key Native Ecosystem (KNE) site. It is mostly surrounded by plantation forest and has a few wilding pines present.

IMPORTANT FEATURES

Threatened Indigenous Flora:	No rare or uncommon plant species recorded.
Threatened Indigenous Fauna:	No rare or uncommon fauna species recorded.
Threatened Land Environments:	More than one hectare on At Risk land environments (20-30% indigenous vegetation remaining).
Rare Habitats:	No rare habitats or communities known.
Geological Features:	None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

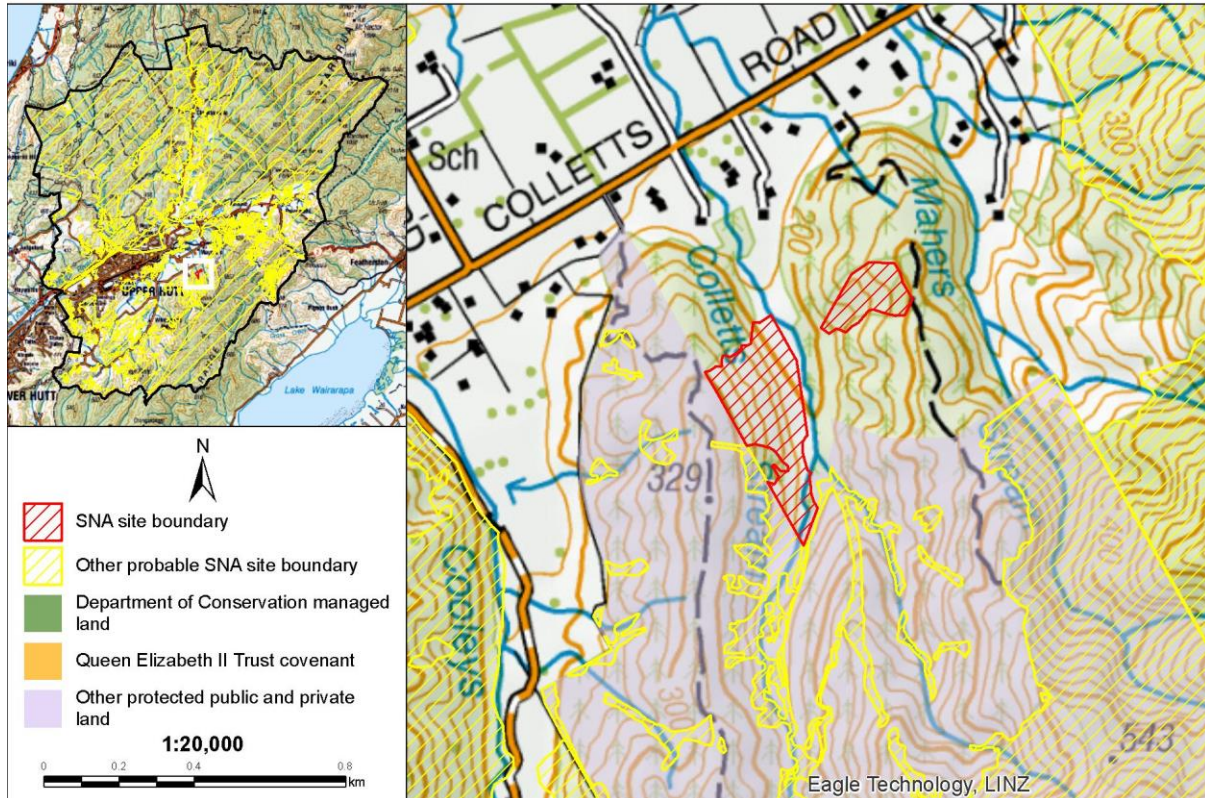
RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	Representative of successional broadleaved tree fern scrub in Upper Hutt City.
RPS23b: Rarity	No	No rare features known.
RPS23c: Diversity	No	Modified, with a likely reduced diversity of ecological units and species.
RPS23d: Ecological Context	Yes	Contiguous with indigenous vegetation in GWRC's Pakuratahi Forest KNE site; buffers Colletts Stream.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

Ecological District:	Tararua
Ecological Domain(s):	62 Rimutaka (<550 metres).
Digital Scale:	1:6,000
Altitude Range:	185-300 m a.s.l.
Grid Reference:	NZTM E1778710 N5444686
Adjacent Vegetation and Habitats:	Plantation forest, indigenous vegetation.
Notes on Overall Condition:	Some wilding conifers present.
Potential Land Management Issues:	Impacts of plantation forestry, and management of wilding pines.

Sources of Information for this Site ^{Note#:} Google Earth.

Context Site Number: UH075 Site Name: Colletts Stream forest



ASSESSED BY

Assessment Techniques: Species database, aerial imagery, partial road side viewing (large part not visible).
Assessed By: Helen White (Date 5/07/2018)
Reviewed By: Steve Rate (Date 2/8/2018)

NOTES

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Flux Road forest

INTRODUCTION

Site Name: Flux Road forest
Site Number: UH076
Site Location: Flux Road, Mangaroa.
Site Area: 0.67 ha.
Current Protection Status: Site has no legal protection.
Protection Type: Not applicable.

Site Map

Site Number: UH076

Site Name: Flux Road forest



1:5,000



— SNA site boundary

— District boundary

— Other probable SNA site boundary

- - Ecological District boundary

Site Summary: This small remnant of modified primary forest on the valley floor is dominated by kahikatea-tawa forest, which is buffered by macrocarpa trees. It includes indigenous vegetation on land environments with less than 10% indigenous vegetation cover remaining. The site provides habitat for birds and kahikatea (*Dacrycarpus dacrydioides*; local interest).

IMPORTANT FEATURES

Threatened Indigenous Flora: No rare plant species are known from the site but contains podocarps of local interest.

Threatened Indigenous Fauna: No rare fauna are known from the site.

Threatened Land Environments: More than 0.5 hectares on Acutely Threatened land environments (<10% indigenous cover remaining).

Rare Habitats: Valley floor forest is uncommon in the Hutt Valley.

Geological Features: None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	The vegetation in this remnant is representative of the Leathwick <i>et al.</i> (2012) vegetation type: Rimu/tawa-kāmahi forest, of which there is less than 30% remaining in the Wellington region, and less than 20% protected in the Wellington region or nationally.
RPS23b: Rarity	Yes	Valley floor forest is rare in Upper Hutt City District and Wellington region. Indigenous vegetation on Threatened land environments with <10% vegetation cover remaining.
RPS23c: Diversity	No	Likely to be modified with a reduced diversity of ecological units.
RPS23d: Ecological Context	No	Likely to act as a 'stepping stone' for birds travelling across the Mangaroa Valley. Mature kahikatea can provide seasonally important food for indigenous forest bird species.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

Ecological District: Tararua

Ecological Domain(s): 61 Wainuiomata - Hutt - Kaitoke.

Digital Scale: 1:5,000

Altitude Range: 140-140 m a.s.l.

Grid Reference: NZTM E1777642 N5445616

Adjacent Vegetation and Habitats: Pasture, macrocarpa trees.

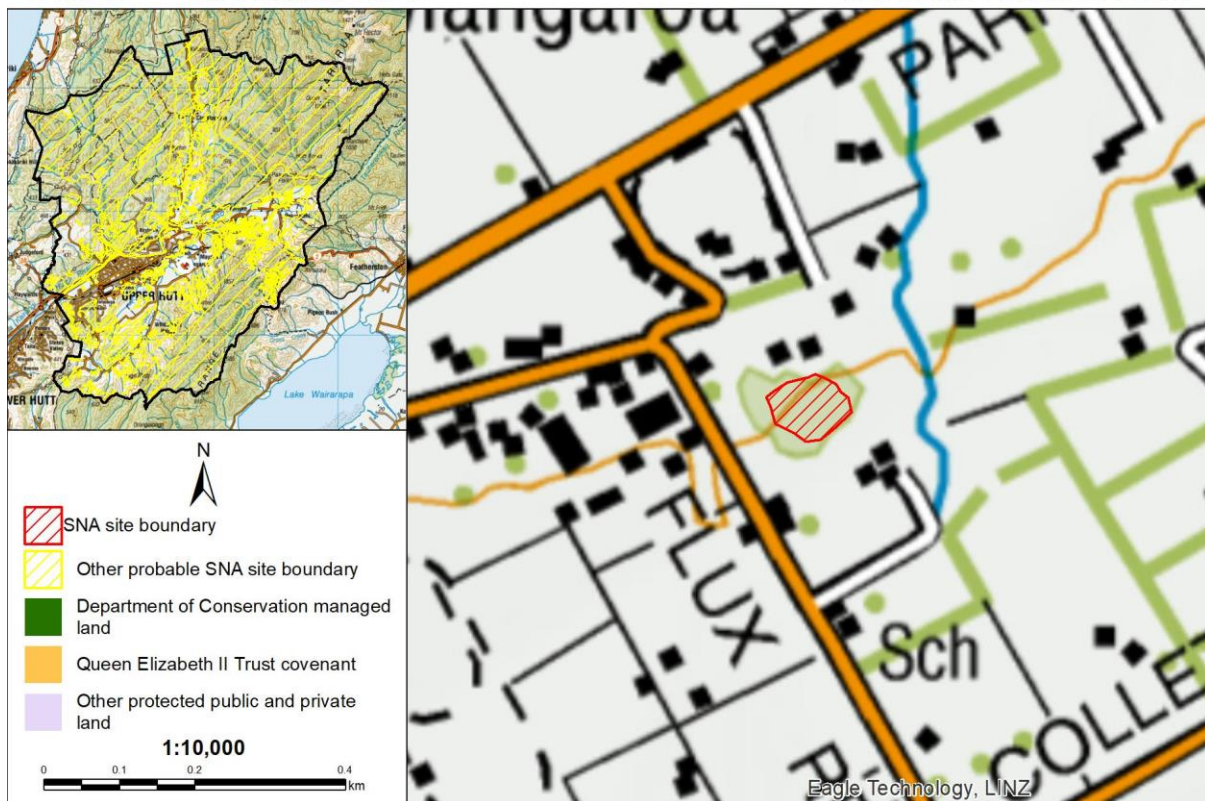
Notes on Overall Condition: Includes a mature forest canopy, but the condition of the understorey is unknown.

Potential Land Management Issues: Fencing may be required.

Sources of Information for this Site^{Note#}: Wildland Consultants 2008.

Context Site Number: UH076

Site Name: Flux Road Forest



ASSESSED BY

Assessment Techniques: Species database, aerial imagery, road side viewing.

Assessed By: Helen White (Date 4/07/2018)

Reviewed By: Steve Rate (Date 2/8/2018)

NOTES

Please note that this statement is based on information available at the time of writing. No site visits were undertaken on private land. Due to the changing nature of ecosystems and surrounding land use, future assessment of the Significant Natural Area may be necessary to reflect any changes in knowledge, values, or boundaries that may influence its assessment as ecologically significant.

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Mangaroa Swamp forest

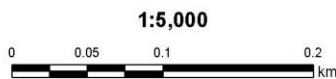
INTRODUCTION

Site Name: Mangaroa Swamp forest
Site Number: UH077
Site Location: Mangaroa Valley Road, Mangaroa.
Site Area: 0.57 ha.
Current Protection Status: Site is partially legally protected.
Protection Type: QEII covenant.

Site Map

Site Number: UH077

Site Name: Mangaroa Swamp forest



— SNA site boundary

— Other probable SNA site boundary

— District boundary

- - Ecological District boundary

Upper Hutt District Plan - Significant Natural Area Assessment - Significance Statement

Site Summary: This small remnant of modified primary forest on the valley floor is dominated by kahikatea (*Dacrycarpus dacrydioides*; of local interest) and tawa, surrounded by willows and pine. This site includes QEII covenant 5/07/550.

IMPORTANT FEATURES

Threatened Indigenous Flora: No rare plant species are known from the site, but kahikatea (*Dacrycarpus dacrydioides*) is of local interest.

Threatened Indigenous Fauna: No rare fauna are known from the site.

Threatened Land Environments: 0.5 hectares on land environments with >30% indigenous vegetation cover left and <10% protected.

Rare Habitats: Indigenous forest on alluvial plain is uncommon in the Tararua Ecological District.

Geological Features: None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	The vegetation at this site is likely to be representative of Singers and Roger (2014) vegetation type: WF2-Tōtara, mataī, ribbonwood forest, which has less than 30% remaining, and less than 20% protected, in the Wellington region.
RPS23b: Rarity	Yes	Indigenous riparian forest on alluvial plain is much reduced in Tararua ED. Indigenous vegetation on Threatened land environments with <10% vegetation cover remaining.
RPS23c: Diversity	No	Likely to have reduced species diversity due to small size.
RPS23d: Ecological Context	No	Potentially part of a habitat corridor (with Site UH024 Leonards Road) along the Cooleys Stream.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

Ecological District: Tararua

Ecological Domain(s): 61 Wainuiomata - Hutt - Kaitoke.

Digital Scale: 1:5,000

Altitude Range: 145-145 m a.s.l.

Grid Reference: NZTM E1777181 N5444941

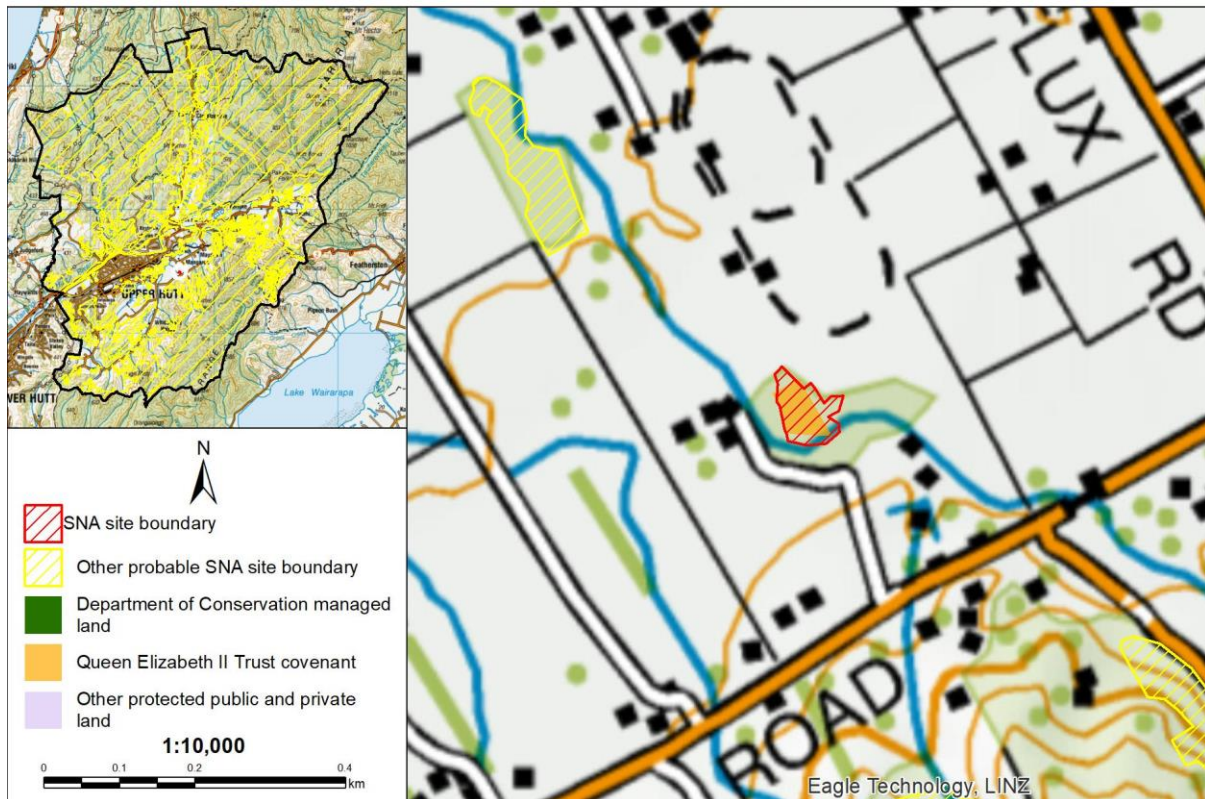
Adjacent Vegetation and Habitats: Pasture, exotic treeland.

Notes on Overall Condition: Small, fragmented.

Potential Land Management Issues: Impacts of further fragmentation.

Sources of Information for this Site ^{Note#:} Wildland Consultants 2008, Google Earth.

Context Site Number: UH077 Site Name: Mangaroa Swamp Forest



ASSESSED BY

Assessment Techniques: Species database, aerial imagery, road side viewing.

Assessed By: Helen White (Date 3/07/2018)

Reviewed By: Steve Rate (Date 2/8/2018)

NOTES

Please note that this statement is based on information available at the time of writing. No site visits were undertaken on private land. Due to the changing nature of ecosystems and surrounding land use, future assessment of the Significant Natural Area may be necessary to reflect any changes in knowledge, values, or boundaries that may influence its assessment as ecologically significant.

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Leonards Road forest

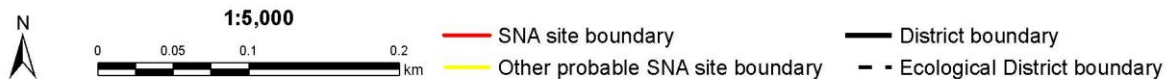
INTRODUCTION

Site Name: Leonards Road forest
Site Number: UH078
Site Location: Leonards Road, Mangaroa.
Site Area: 1.35 ha.
Current Protection Status: Site is partially legally protected.
Protection Type: Esplanade strip.

Site Map

Site Number: UH078

Site Name: Leonards Road forest



Site Summary: This site is a small remnant of modified primary forest on the valley floor dominated by kahikatea (*Dacrycarpus dacrydioides*; of local interest), tawa, tarata, tītoki, māhoe, five-finger. The site lies adjacent to a of Cooleys Stream, a tributary of the Mangaroa River, and forms part of a continuous (although largely exotic) vegetated riparian strip to Mangaroa forest swamp (UH029/QEII covenant 5/07/550).

IMPORTANT FEATURES

Threatened Indigenous Flora: No rare plant species are known from the site, but kahikatea (*Dacrycarpus dacrydioides*) is of local interest.

Threatened Indigenous Fauna: No rare fauna are known from the site.

Threatened Land Environments: More than 0.5 hectares on Acutely Threatened land environments (<10% indigenous cover remaining).

Rare Habitats: Indigenous forest on alluvial plain is uncommon in the Tararua Ecological District.

Geological Features: None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	The vegetation at this site is likely to be representative of Singers and Roger (2014) vegetation type: WF2-Tōtara, mataī, ribbonwood forest, which has less than 30% remaining, and less than 20% is protected in the Wellington region.
RPS23b: Rarity	Yes	Indigenous riparian forest on alluvial plain is much reduced in Tararua Ecological District. Includes indigenous vegetation on land environments with less than 10% indigenous vegetation cover remaining.
RPS23c: Diversity	No	Likely to have reduced ecosystem and species diversity due to small size.
RPS23d: Ecological Context	No	Potentially part of a habitat corridor (with Site UH029 Mangaroa swamp forest) along Cooleys Stream.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

Ecological District: Tararua

Ecological Domain(s): 61 Wainuiomata - Hutt - Kaitoke.

Digital Scale: 1:5,000

Altitude Range: 135-140 m a.s.l.

Grid Reference: NZTM E1776816 N5445266

Adjacent Vegetation and Habitats: Pasture, Cooleys Stream.

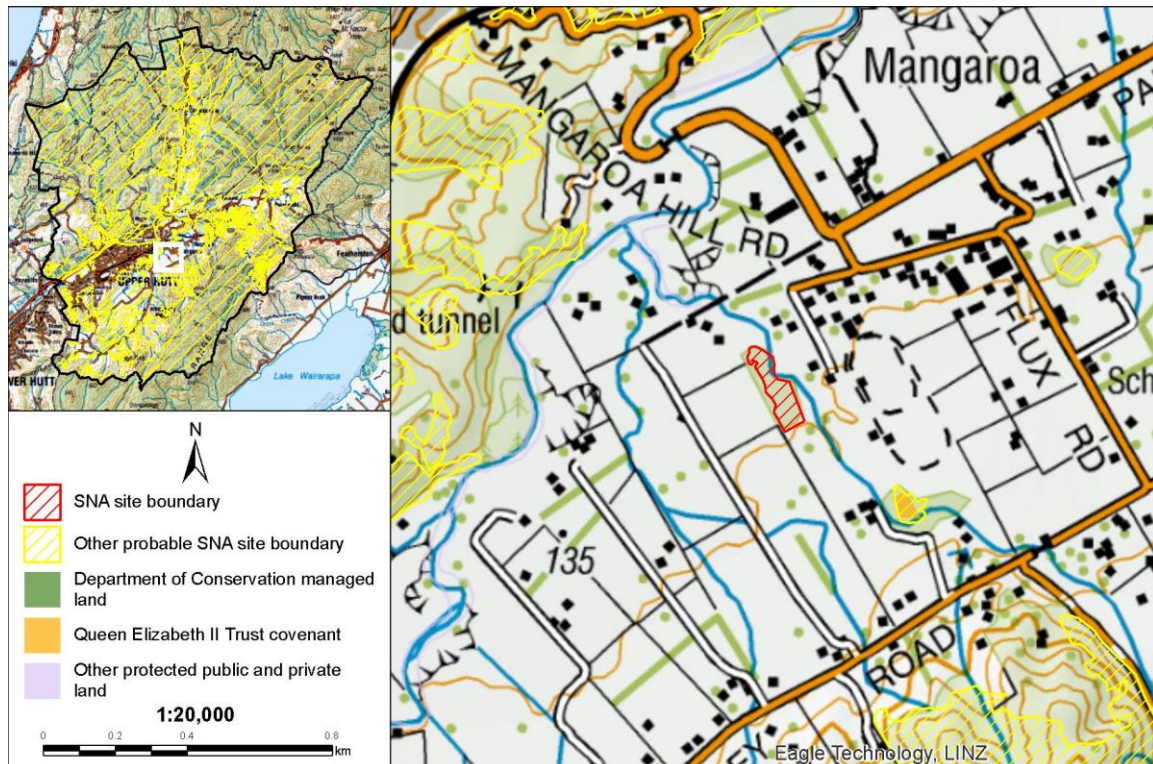
Notes on Overall Condition: Narrow, but contains riparian habitat.

Potential Land Management Issues: Unknown.

Sources of Information for this Site ^{Note#:} Wildland Consultants 2008.

Context Site Number: UH078

Site Name: Leonards Road forest



ASSESSED BY

Assessment Techniques: Species database, aerial imagery.

Assessed By: Helen White (Date 3/07/2018)

Reviewed By: Steve Rate (Date 2/8/2018)

NOTES

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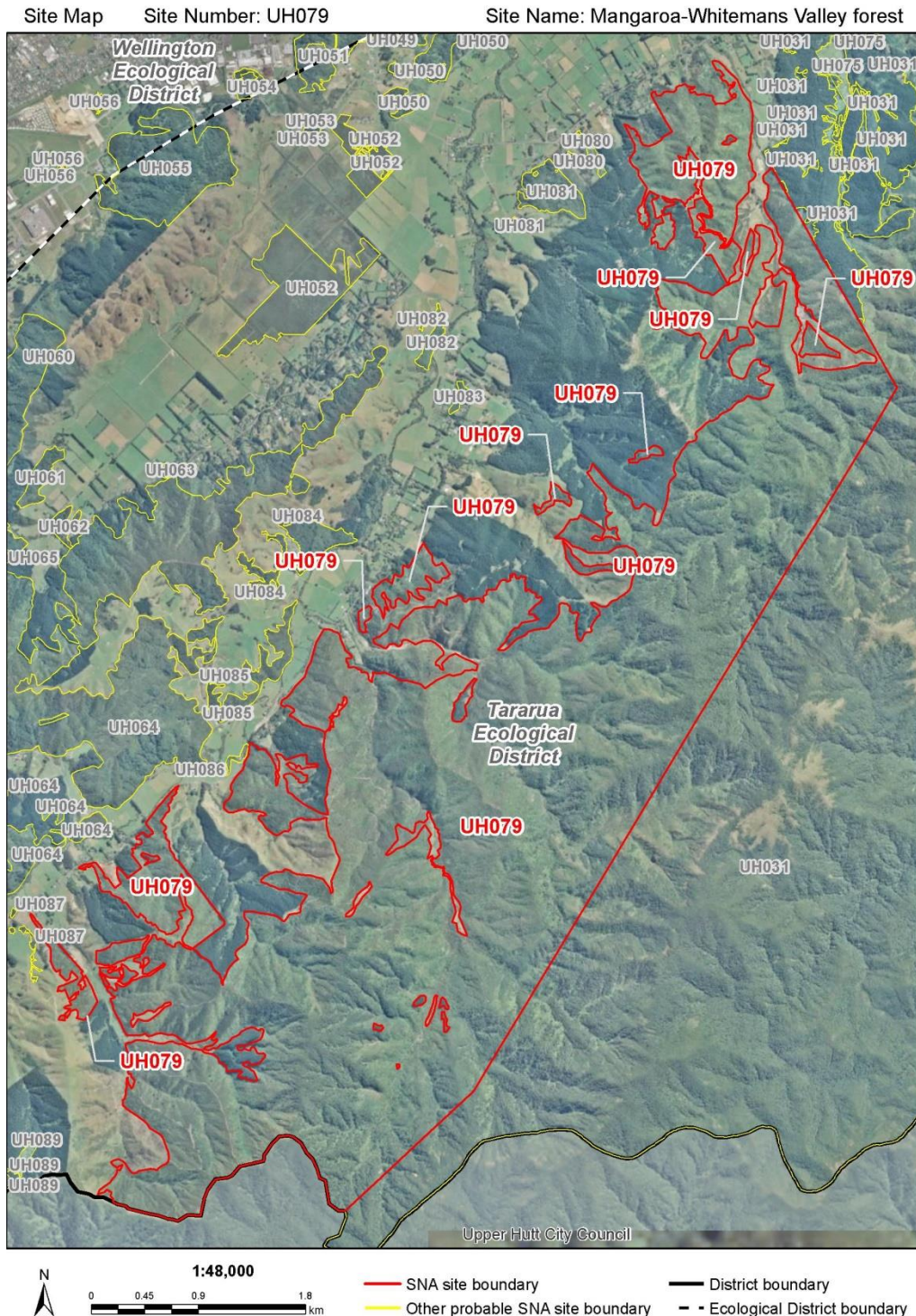
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Mangaroa-Whitemans Valley forest

INTRODUCTION

Site Name: Mangaroa-Whitemans Valley forest
Site Number: UH079
Site Location: Whitemans Valley Road, Whitemans Valley.
Site Area: 1,989.03 ha.
Current Protection Status: Site has no legal protection.
Protection Type: Not applicable.



Site Summary: This very large site is located on the western margins of Pakuratahi Forest. It contains mānuka scrub (*Leptospermum scoparium*; At Risk-Declining ^{Note##}) and indigenous broadleaved species scrub (māhoe, five-finger, kāmahi) in the northwestern and southern portions, and beech forest and broadleaved species forest near the northeastern boundary adjacent to Pakuratahi Forest. Many of the north-facing slopes have been cleared in the past, and now appear to be largely regenerating mānuka scrub, while the south-facing slopes and gullies appear to be primary forest. Other plant species in the regenerating forests include rangiora, lancewood, tarata, mingimingi, karamū, tutu, patē, red māpou, karamū, treeferns and rewarewa. Barking gecko (*Naultinus punctatus*; At Risk-Declining) has been recorded at the site. Although few records of indigenous bird occupation for this site exist, it borders, and shares continuous tracts of forest with the Pakuratahi forest and the Wainuiomata/Orongorongo Water Collection Area where bush falcon (*Falco novaeseelandiae ferox*; At Risk-Recovering), whitehead (*Mohoua albicilla*; At Risk-Declining), North Island rifleman (*Acanthisitta chloris granti*; At Risk-Declining), long-tailed cuckoo (*Eudynamys taitensis*; At Risk-Naturally Uncommon), and bellbird (*Anthornis melanura*; regionally uncommon) are known to occur. It also provides near continuous forest/scrub cover for the Narrow Neck Stream, Cooleys Stream, and Huia Stream catchments where the At Risk-Declining longfin eel (*Anguilla dieffenbachii*) and redfin bully (*Gobiomorphus huttoni*) have been recorded downstream of the site.

IMPORTANT FEATURES

Threatened Indigenous Flora:	Mānuka (<i>Leptospermum scoparium</i> ; At Risk-Declining ^{Note##}).
Threatened Indigenous Fauna:	At Risk-Declining species recorded at the site include barking gecko (<i>Naultinus punctatus</i>), longfin eel (<i>Anguilla dieffenbachii</i>), and redfin bully (<i>Gobiomorphus huttoni</i>). The At Risk-Declining Ngahere gecko (<i>Mokopirirakau</i> "southern North Island") and whitehead (<i>Mohoua albicilla</i>) have been recorded nearby. Bush falcon (<i>Falco novaeseelandiae ferox</i> ; At Risk-Recovering), North Island rifleman (<i>Acanthisitta chloris granti</i> ; At Risk-Declining), long-tailed cuckoo (<i>Eudynamys taitensis</i> ; At Risk-Naturally Uncommon), and bellbird (<i>Anthornis melanura</i> ; regionally uncommon) are known from adjacent areas.
Threatened Land Environments:	More than 0.5 hectares on Acutely Threatened land environments (<10% indigenous cover remaining).
Rare Habitats:	No rare habitats or communities known.
Geological Features:	None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	This site has vegetation representative of the current diversity in regenerating broadleaved and mānuka forests. Significant areas of remnant vegetation are also present likely to be representative of Singers and Rogers (2014) vegetation types: MF20-Hard beech forest, which has less than 20% protected in the Wellington region; and CLF9-Red beech, podocarp forest, and CLF11-2-Silver beech forest, which have less than 20% protected in Upper Hutt District.
RPS23b: Rarity	Yes	One At Risk plant species ^{Note##} , two At Risk lizard species, two At Risk fish species. Indigenous vegetation on land environments with <10% vegetation cover remaining.
RPS23c: Diversity	Yes	Northeastern areas are likely to contain natural diversity of ecosystems and species. Other areas comprise secondary vegetation.
RPS23d: Ecological Context	Yes	Contiguous with and buffering the western margins of the regionally significant Pakuratahi Forest and the Wainuiomata/Orongorongo Water Catchment area. Forested catchments buffers numerous tributaries of the Mangaroa River.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

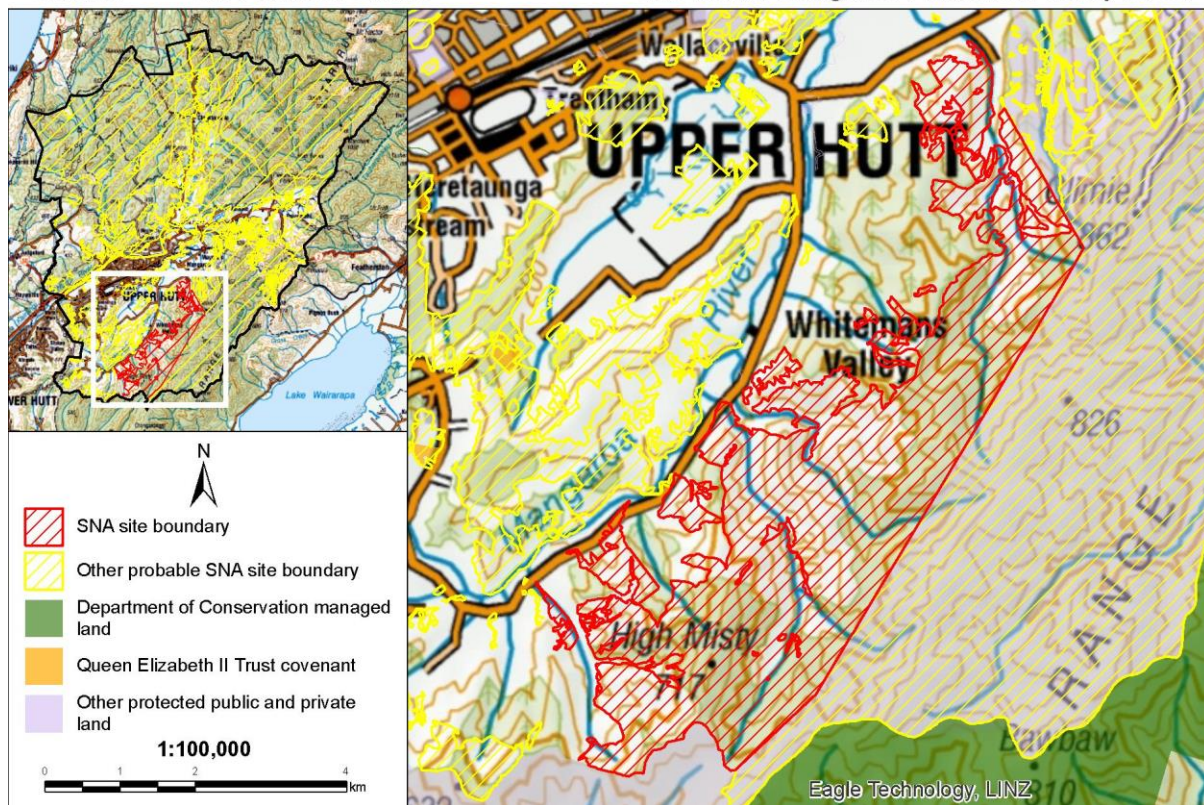
SITE CONTEXT AND OTHER INFORMATION

Ecological District:	Tararua
Ecological Domain(s):	61 Wainuiomata - Hutt - Kaitoke; 62 Rimutaka (<550 metres); 63 Rimutaka (>550 metres).
Digital Scale:	1:48,000
Altitude Range:	165-715 m a.s.l.
Grid Reference:	NZTM E1775723 N5438795
Adjacent Vegetation and Habitats:	Pasture, plantation forest, indigenous forest.
Notes on Overall Condition:	Northern and most of the southern parts of the site are early successional, as are many of the north-facing slopes, but many of the south-facing slopes and gullies contain more advanced forest and probably primary forest. There are tracks throughout and wilding pines are present along the western boundaries near pine plantations.
Potential Land Management Issues:	Vegetation clearance, impacts of plantation forestry, control of wilding pines.
Sources of Information for this Site ^{Note#}:	Wildland Consultants 2008, DOC Bioweb, NIWA 2015.

Context

Site Number: UH079

Site Name: Mangaroa-Whitemans Valley forest



ASSESSED BY

Assessment Techniques: Species database, aerial imagery, partial road side viewing (large part not visible).

Assessed By: Helen White (Date 5/07/2018)

Reviewed By: Steve Rate (Date 2/8/2018)

NOTES

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Mānuka (*Leptospermum scoparium*) has a national-level threat classification of At Risk-Declining, as per de Lange *et al.* 2018. Mānuka is a Myrtaceae species which is at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of mānuka has been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of mānuka at this site does not trigger the rarity criteria because the species is currently common and widespread in the local environment.

Mangaroa Valley Road scrub

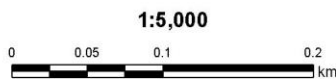
INTRODUCTION

Site Name: Mangaroa Valley Road scrub
Site Number: UH080
Site Location: 114/122 Mangaroa Valley Road, Mangaroa.
Site Area: 2.63 ha.
Current Protection Status: Site has no legal protection.
Protection Type: Not applicable.

Site Map

Site Number: UH080

Site Name: Mangaroa Valley Road scrub



— SNA site boundary

— District boundary

— Other probable SNA site boundary

- - Ecological District boundary

Site Summary: This site comprises broadleaved scrub, including mānuka (*Leptospermum scoparium*; At Risk-Declining ^{Note##}), gorse, and treeferns located near other regenerating forest remnants. This site has been included based on the presence of mature mānuka forest and protection of riparian margins of Mangaroa River tributaries. Much of this vegetation is more than 40 years old.

IMPORTANT FEATURES

Threatened Indigenous Flora: Mānuka (*Leptospermum scoparium*; At Risk-Declining) ^{Note##}.

Threatened Indigenous Fauna: No rare fauna are known from the site. Bellbird (*Anthornis melanura*; regionally uncommon) has been recorded nearby.

Threatened Land Environments: Less than five hectares on Better Protected and Less Reduced and <0.5 hectares on At Risk land environments (20-30% indigenous cover remaining).

Rare Habitats: No rare habitats or communities known.

Geological Features: None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	Mature mānuka forest is representative of early succession MF20, Hard beech forest and representative of current vegetation types.
RPS23b: Rarity	No	One At Risk plant species ^{Note##} .
RPS23c: Diversity	No	Modified, with likely reduced diversity of ecological units.
RPS23d: Ecological Context	Yes	The site is likely to be used by birds travelling across the Mangaroa Valley, but it is a narrow, fragmented site with likely strong edge effects. Provides riparian protection for tributaries of the Mangaroa River.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

Ecological District: Tararua

Ecological Domain(s): 61 Wainuiomata - Hutt - Kaitoke; 62 Rimutaka (<550 metres).

Digital Scale: 1:5,000

Altitude Range: 160-250 m a.s.l.

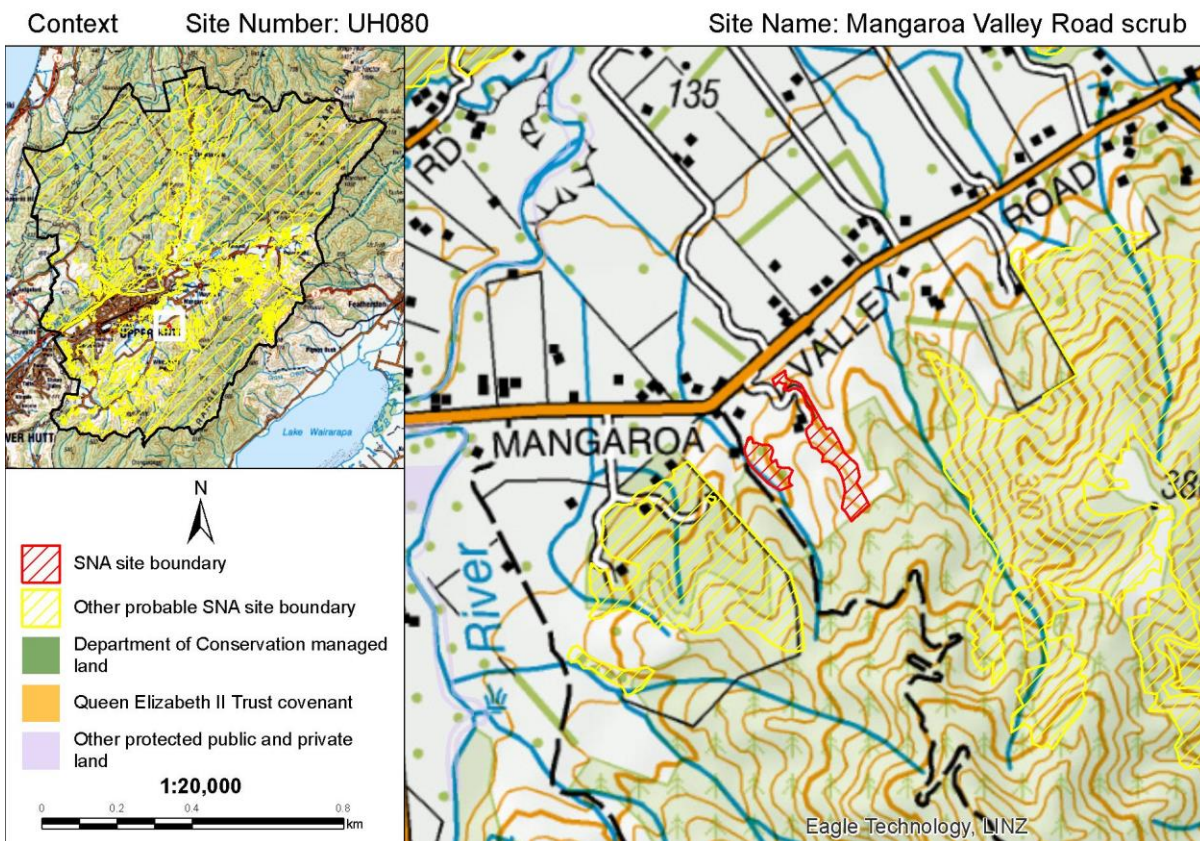
Grid Reference: NZTM E1776552 N5443826

Adjacent Vegetation and Habitats: Pasture, plantation forest, residential.

Notes on Overall Condition: The site is narrow, fragmented and surrounded by pasture and exotics, and likely adversely impacted by residential development.

Potential Land Management Issues: Manage impacts of residential development and pest plant species.

Sources of Information for this Site ^{Note#:} Wildland Consultants 2008, Google Earth.



ASSESSED BY

Assessment Techniques: Species database, aerial imagery, road side viewing.

Assessed By: Helen White (Date 5/07/2018)

Reviewed By: Steve Rate (Date 2/8/2018)

NOTES

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photography (2017 colour) was used to view and evaluate all sites, additional sources such as historic aerial photography in Google Earth, was used to inform site values and improve site boundaries.

Mānuka (*Leptospermum scoparium*) has a national-level threat classification of At Risk-Declining, as per de Lange *et al.* 2018. Mānuka is a Myrtaceae species which is at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of mānuka has been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of mānuka at this site does not trigger the rarity criteria because the species is currently common and widespread in the local environment.

DRAFT

Mangaroa Valley Road beech forest and scrub

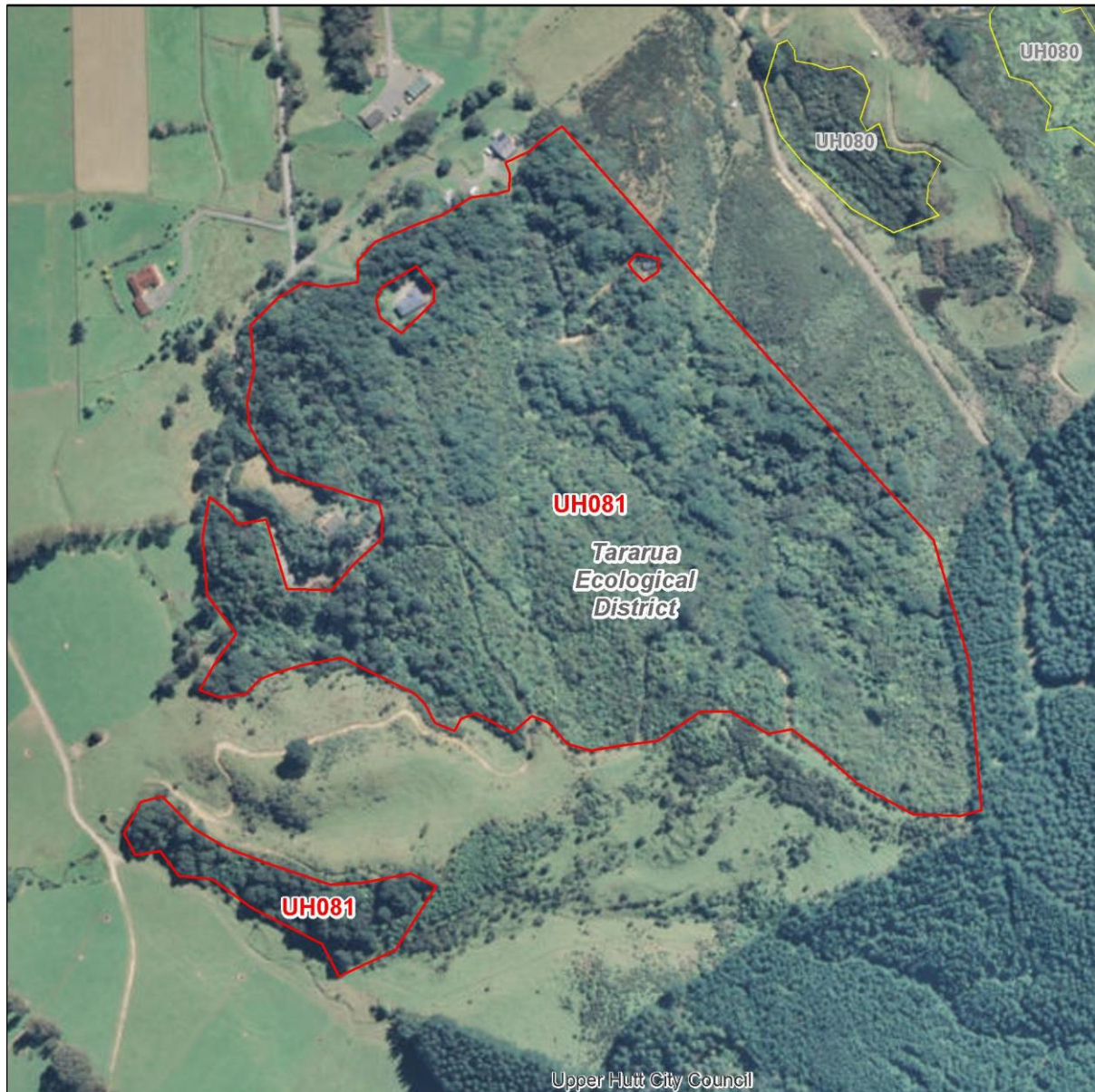
INTRODUCTION

Site Name: Mangaroa Valley Road beech forest and scrub
Site Number: UH081
Site Location: Mangaroa Valley Road, Mangaroa.
Site Area: 17.09 ha.
Current Protection Status: Site has no legal protection.
Protection Type: Not applicable.

Site Map

Site Number: UH081

Site Name: Mangaroa Valley Road beech forest and scrub



— SNA site boundary

— District boundary

— Other probable SNA site boundary

- - Ecological District boundary

Site Summary: This site comprises beech forest, with areas of broadleaved forest and scrub to the north and south. Plant species includes rimu (*Dacrydium cupressinum*; of local interest), māhoe, red māpou, kāmahī, mānuka (*Leptospermum scoparium*; At Risk-Declining^{Note##}), and tree ferns. It provides habitat for birds travelling across the Mangaroa Valley.

IMPORTANT FEATURES

Threatened Indigenous Flora: Mānuka (*Leptospermum scoparium*; At Risk-Declining^{Note##}).

Threatened Indigenous Fauna: No rare fauna are known from the site. Bellbird (*Anthornis melanura*; regionally uncommon) has been recorded nearby.

Threatened Land Environments: More than five hectares on Critically Under protected land environments (>20% protection).

Rare Habitats: No rare habitats or communities known.

Geological Features: None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	The vegetation is representative of Singers and Rogers (2014) vegetation type: MF20-Hard beech forest, which has less than 20% protected in the Wellington region.
RPS23b: Rarity	No	One At Risk plant species ^{Note##}
RPS23c: Diversity	No	Modified, with likely reduced diversity of ecological units.
RPS23d: Ecological Context	Yes	The site is likely to provide stepping-stone habitat and be used by birds travelling across the Mangaroa Valley.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

Ecological District: Tararua

Ecological Domain(s): 61 Wainuiomata - Hutt - Kaitoke; 62 Rimutaka (<550 metres).

Digital Scale: 1:5,000

Altitude Range: 150-290 m a.s.l.

Grid Reference: NZTM E1776236 N5443526

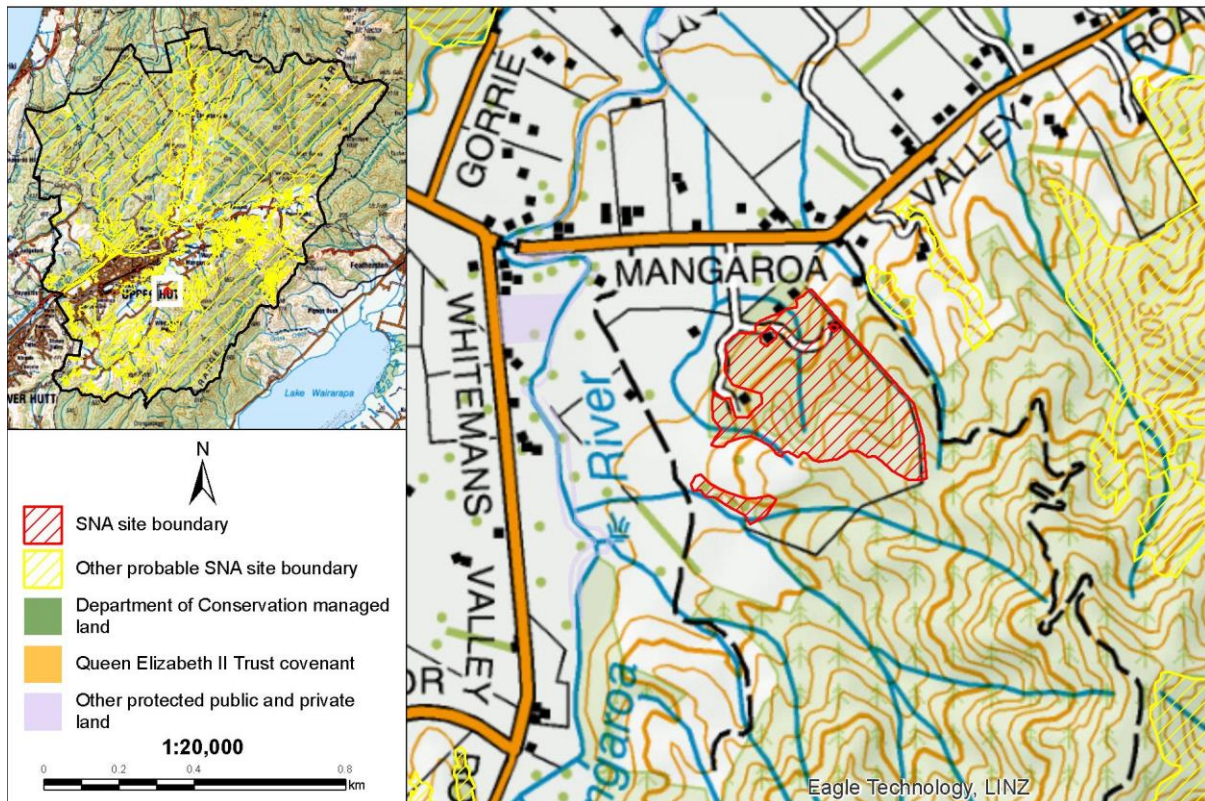
Adjacent Vegetation and Habitats: Pasture, plantation forest.

Notes on Overall Condition: Unknown.

Potential Land Management Issues: Unknown.

Sources of Information for this Site ^{Note#:}: Wildland Consultants 2008, Google Earth.

Context Site Number: UH081 Site Name: Mangaroa Valley Road beech forest and scrub



ASSESSED BY

Assessment Techniques: Species database, aerial imagery, road side viewing.
Assessed By: Helen White (Date 5/07/2018)
Reviewed By: Steve Rate (Date 2/8/2018)

NOTES

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Mānuka (*Leptospermum scoparium*) has a national-level threat classification of At Risk-Declining, as per de Lange *et al.* 2018. Mānuka is a Myrtaceae species which is at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of mānuka has been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of mānuka at this site does not trigger the rarity criteria because the species is currently common and widespread in the local environment.

DRAFT

Whitemans Valley Road broadleaved forest

INTRODUCTION

Site Name: Whitemans Valley Road broadleaved forest
Site Number: UH082
Site Location: Whitemans Valley Road, Whitemans Valley.
Site Area: 4.46 ha.
Current Protection Status: Site has no legal protection.
Protection Type: Not applicable.

Site Map

Site Number: UH082

Site Name: Whitemans Valley Road broadleaved forest



1:5,000



— SNA site boundary

— District boundary

— Other probable SNA site boundary

- - Ecological District boundary



Site Summary: Two small areas of broadleaved species forest are present on hillslopes alongside the Mangaroa River. Plant species present include tarata, māhoe, tōtara (*Podocarpus totara*; of local interest), beech, kahikatea (*Dacrycarpus dacrydioides*; of local interest), five-finger. The smaller remnant is separated from the larger by a farm track and grazed pasture. The forest buffers Mangaroa River for approximately 250 metres. Indigenous riparian vegetation is uncommon at lower elevations in this catchment.

IMPORTANT FEATURES

Threatened Indigenous Flora: No rare plant species are known from the site. Two species of local interest; tōtara (*Podocarpus totara*), and kahikatea (*Dacrycarpus dacrydioides*).

Threatened Indigenous Fauna: No rare or uncommon fauna species recorded.

Threatened Land Environments: Less than five hectares on Critically Under protected land environments (>20% protection).

Rare Habitats: Indigenous riparian vegetation is uncommon at lower elevations in this catchment.

Geological Features: None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	The vegetation is representative of Singers and Rogers (2014) vegetation type: MF20-Hard beech forest, which has less than 20% protected in the Wellington region.
RPS23b: Rarity	Yes	Indigenous riparian vegetation is uncommon at lower elevations in this catchment.
RPS23c: Diversity	No	Modified, with a likely reduced diversity of ecological units and species.
RPS23d: Ecological Context	Yes	Located alongside the Mangaroa River; likely to improve connectivity for birds travelling across Whitemans Valley.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

Ecological District: Tararua

Ecological Domain(s): 61 Wainuiomata - Hutt - Kaitoke.

Digital Scale: 1:5,000

Altitude Range: 160-215 m a.s.l.

Grid Reference: NZTM E1775229 N5442281

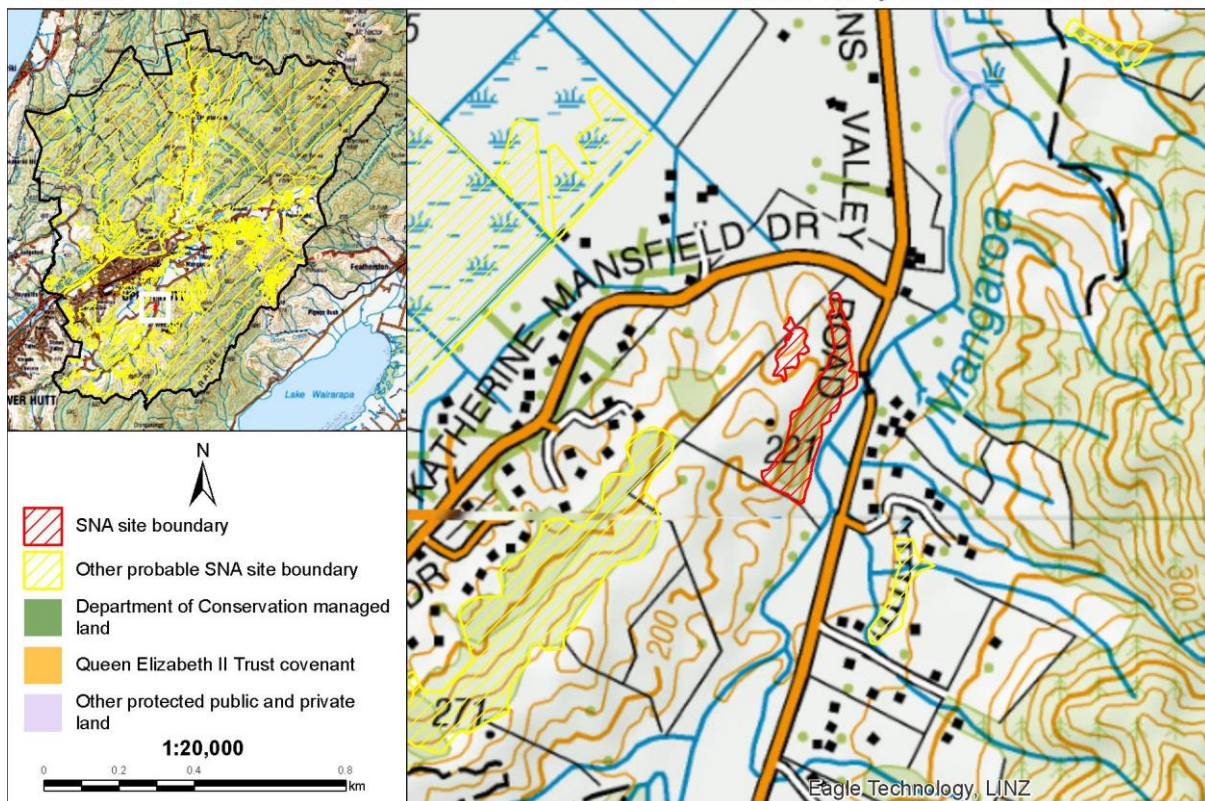
Adjacent Vegetation and Habitats: Pasture, Mangaroa River.

Notes on Overall Condition: Appears to be in reasonable condition.

Potential Land Management Issues: Unknown.

Sources of Information for this Site^{Note#}: Google Earth, Historic aerial imagery.

Context Site Number: UH082 Site Name: Whitemans Valley Road broadleaved forest



ASSESSED BY

Assessment Techniques: Species database, aerial imagery, road side viewing.

Assessed By: Helen White (Date 29/06/2018)

Reviewed By: Steve Rate (Date 2/8/2018)

NOTES

Please note that this statement is based on information available at the time of writing. No site visits were undertaken on private land. Due to the changing nature of ecosystems and surrounding land use, future assessment of the Significant Natural Area may be necessary to reflect any changes in knowledge, values, or boundaries that may influence its assessment as ecologically significant.

An Explanatory Note is available in Appendix 9, which provides more information about how each of the above fields was collated or assessed.

The full list of data sources and references used to assess sites is listed in the main body of the report under REFERENCES and also in the EXPLANATORY NOTES in Appendix 9. Aerial photography (2017 colour) was used to view and evaluate all sites, additional sources such as historic aerial photography in Google Earth, was used to inform site values and improve site boundaries.

Waipango Way forest

INTRODUCTION

Site Name: Waipango Way forest
Site Number: UH083
Site Location: Waipango Way.
Site Area: 1.49 ha.
Current Protection Status: Site has no legal protection.
Protection Type: Not applicable.

Site Map

Site Number: UH083

Site Name: Waipango Way forest



1:5,000



— SNA site boundary

— District boundary

— Other probable SNA site boundary

- - Ecological District boundary

Upper Hutt District Plan - Significant Natural Area Assessment - Significance Statement

Site Summary: This small area of remnant kahikatea (*Dacrycarpus dacrydioides*; of local interest) forest contains beech, kāmahi, five-finger, and māhoe. The site includes indigenous vegetation on land environments with 10-20% vegetation cover remaining.

IMPORTANT FEATURES

Threatened Indigenous Flora:	No rare plant species are known from the site, but contains (<i>Dacrycarpus dacrydioides</i>) of local interest.
Threatened Indigenous Fauna:	No rare or uncommon fauna species recorded.
Threatened Land Environments:	More than 0.5 hectares on Chronically Threatened land environments (10-20% indigenous cover remaining).
Rare Habitats:	No rare habitats or communities known.
Geological Features:	None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	This site contains podocarp forest on the valley floor that is representative of Singer and Rogers (2014) MF20-Hard beech forest, which has less than 20% protected in the Wellington region. In addition, there are small fragments of kahikatea forest on the flatlands which have elements representative of the original vegetation.
RPS23b: Rarity	Yes	Includes more than 0.5 ha but less than 1 ha of indigenous vegetation on land environments with 10-20% vegetation cover remaining.
RPS23c: Diversity	No	A small, fragmented site that is unlikely to have high diversity.
RPS23d: Ecological Context	Yes	Small site but provides connectivity across Whitemans Valley. Mature podocarps likely provide a seasonal food source for birds.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

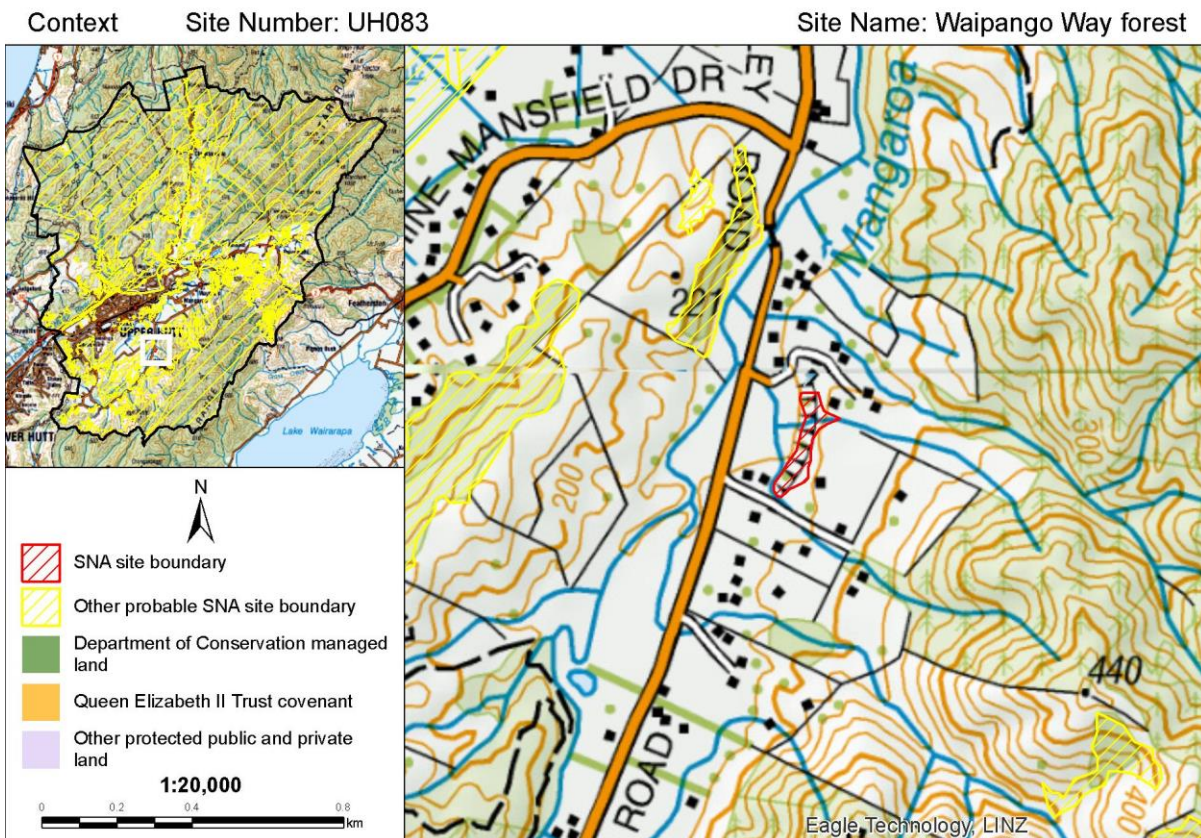
SITE CONTEXT AND OTHER INFORMATION

Ecological District:	Tararua
Ecological Domain(s):	61 Wainuiomata - Hutt - Kaitoke.
Digital Scale:	1:5,000
Altitude Range:	165-185 m a.s.l.
Grid Reference:	NZTM E1775463 N5441808
Adjacent Vegetation and Habitats:	Exotic trees including eucalyptus, pine and sycamore; rural residences; pasture.

Notes on Overall Condition: Contains mature podocarp species, but the condition of the understorey is unknown.

Potential Land Management Issues: Fencing may be required.

Sources of Information for this Site ^{Note#:}: Google Earth, Historic aerial imagery.



ASSESSED BY

Assessment Techniques: Species database, aerial imagery, road side viewing.

Assessed By: Helen White (Date 29/06/2018)

Reviewed By: Steve Rate (Date 2/8/2018)

NOTES

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DRAFT

Whitemans Valley Road forest - central

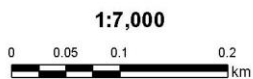
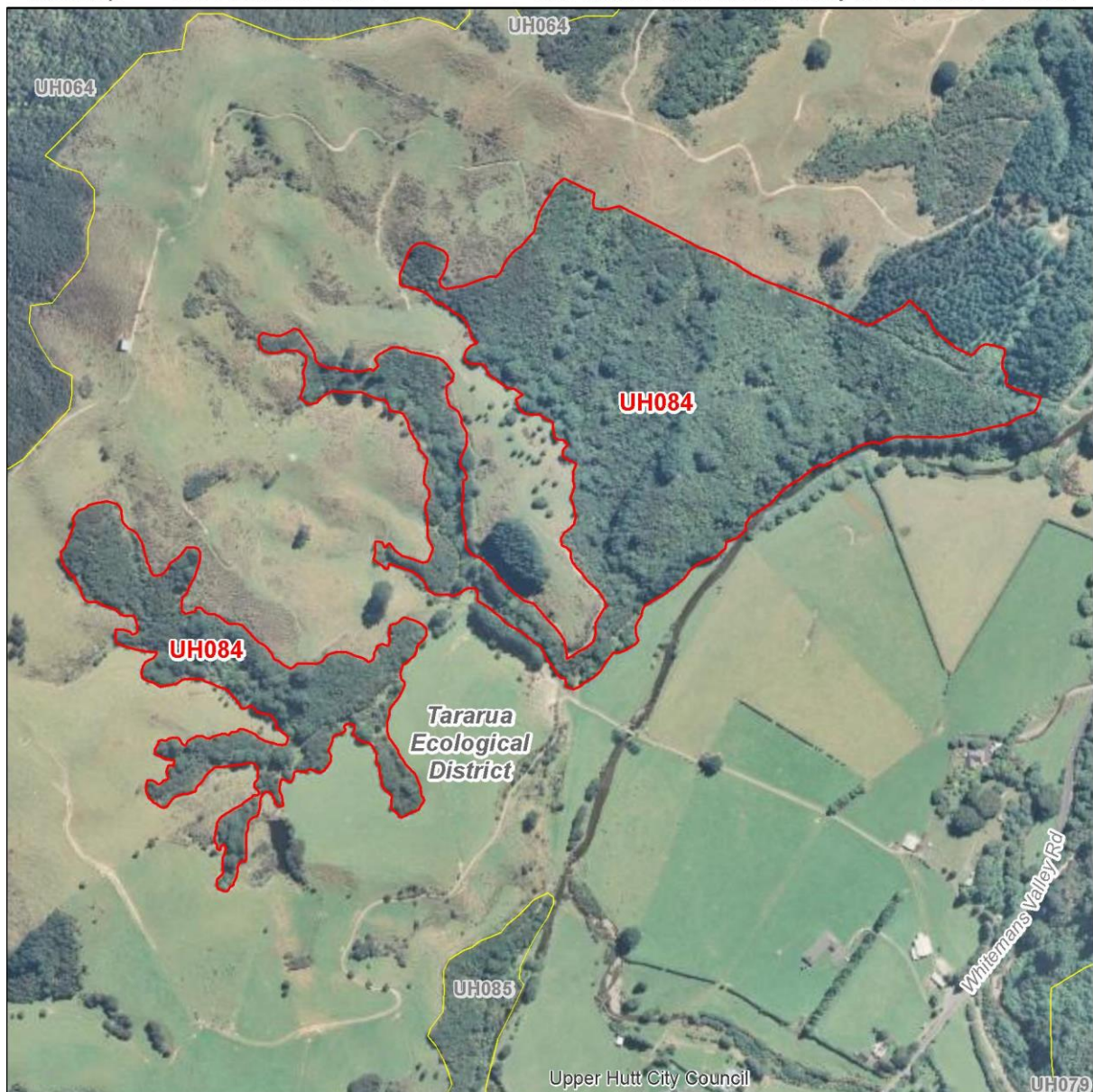
INTRODUCTION

Site Name: Whitemans Valley Road forest - central
Site Number: UH084
Site Location: Whitemans Valley Road, Whitemans Valley.
Site Area: 18.42 ha.
Current Protection Status: Site has no legal protection.
Protection Type: Not applicable.

Site Map

Site Number: UH084

Site Name: Whitemans Valley Road forest - central



- SNA site boundary
- Other probable SNA site boundary
- District boundary
- Ecological District boundary

Upper Hutt District Plan - Significant Natural Area Assessment - Significance Statement

Site Summary: This area of kāmahī-mānuka (*Leptospermum scoparium*; At Risk-Declining ^{Note##})-māhoe forest with beech and rimu (*Dacrydium cupressinum*; of local interest) is located on hillslopes above the Mangaroa River. Indigenous riparian vegetation is uncommon at lower elevations in this catchment.

IMPORTANT FEATURES

Threatened Indigenous Flora: Mānuka (*Leptospermum scoparium*; At Risk-Declining ^{Note##}) and rimu (*Dacrydium cupressinum*; of local interest).

Threatened Indigenous Fauna: No rare or uncommon fauna species recorded. Whitehead (*Mohoua albicilla*; At Risk-Declining) and the regionally uncommon bellbird (*Anthornis melanura melanura*) and pied tomtit (*Petroica macrocephala toitoi*) have been recorded nearby.

Threatened Land Environments: More than five hectares on Critically Under protected land environments (>20% protection).

Rare Habitats: Indigenous riparian vegetation is uncommon at lower elevations in this catchment.

Geological Features: None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	The vegetation at this site is representative of mid successional mānuka-broadleaved forest transitioning to beech forest, which contains elements representative of Singers and Rogers (2014) vegetation type: MF20-Hard beech forest, which has less than 20% protected in the Wellington region.
RPS23b: Rarity	Yes	Indigenous riparian vegetation is uncommon at lower elevations in this catchment. One At-Risk plant species is present in this site ^{Note##} .
RPS23c: Diversity	No	Modified, with a likely reduced diversity of ecological units and species.
RPS23d: Ecological Context	Yes	Located alongside the Mangaroa River; likely to improve connectivity for birds travelling across Whitemans Valley.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

Ecological District: Tararua

Ecological Domain(s): 61 Wainuiomata - Hutt - Kaitoke.

Digital Scale: 1:7,000

Altitude Range: 175-280 m a.s.l.

Grid Reference: NZTM E1774127 N5440543

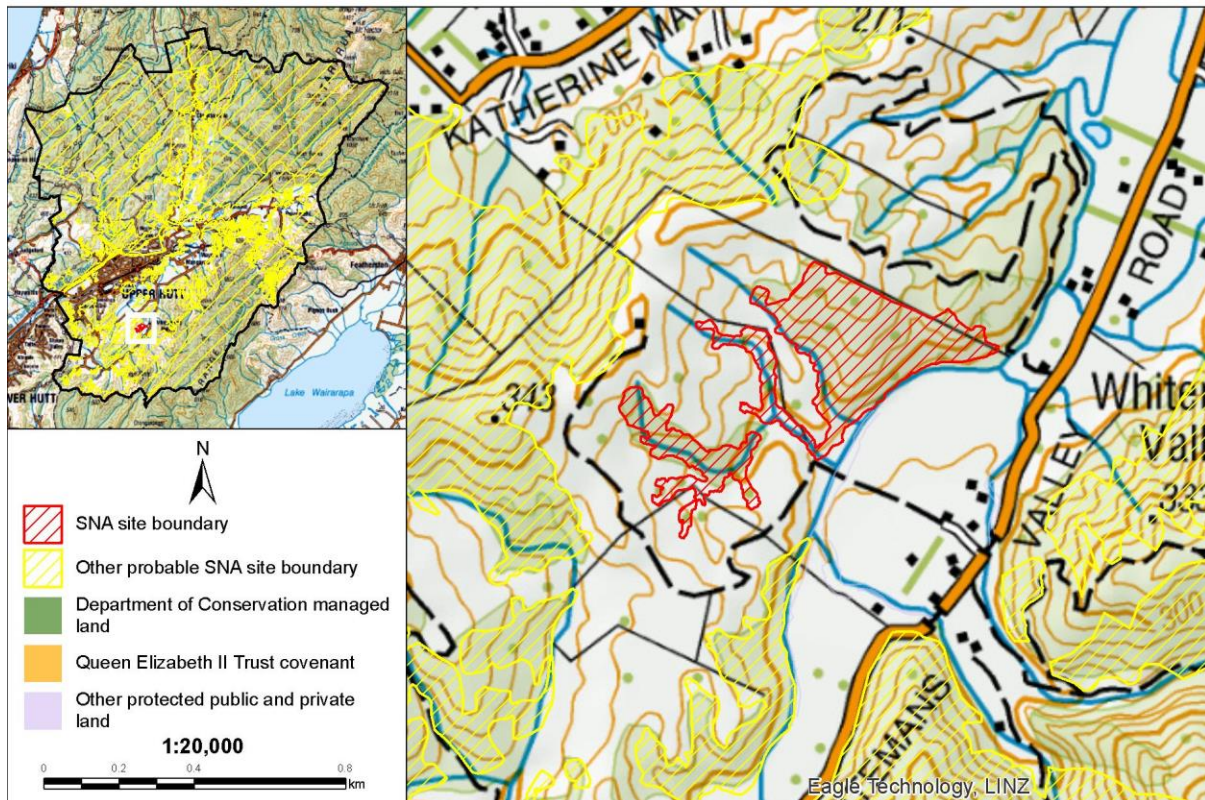
Adjacent Vegetation and Habitats: Pasture, Mangaroa River.

Notes on Overall Condition: Exotic pines present.

Potential Land Management Issues: Control of pine trees.

Sources of Information for this Site ^{Note#}: Google Earth, Historic aerial imagery.

Context Site Number: UH084 Site Name: Whitemans Valley Road forest - central



ASSESSED BY

Assessment Techniques: Species database, aerial imagery, road side viewing.

Assessed By: Helen White (Date 28/06/2018)

Reviewed By: Steve Rate (Date 2/8/2018)

NOTES

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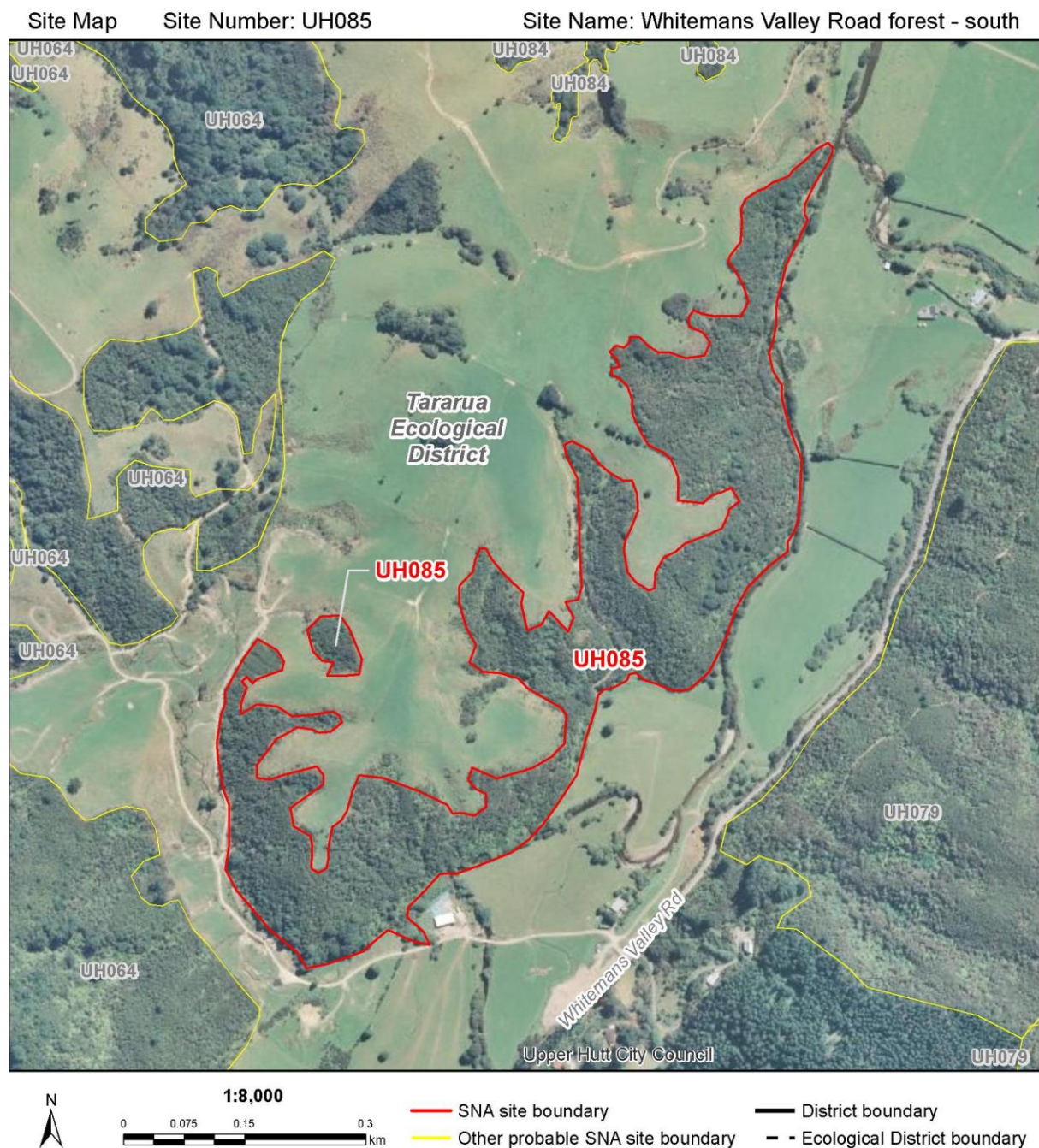
Mānuka (*Leptospermum scoparium*) has a national-level threat classification of At Risk-Declining, as per de Lange *et al.* 2018. Mānuka is a Myrtaceae species which is at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of mānuka has been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of mānuka at this site does not trigger the rarity criteria because the species is currently common and widespread in the local environment.

DRAFT

Whitemans Valley Road forest - south

INTRODUCTION

Site Name: Whitemans Valley Road forest - south
Site Number: UH085
Site Location: Whitemans Valley Road, Whitemans Valley.
Site Area: 18.47 ha.
Current Protection Status: Site has no legal protection.
Protection Type: Not applicable.



Site Summary: This site contains mānuka (*Leptospermum scoparium*; At Risk-Declining ^{Note##}) forest and scrub on hillslopes above the Mangaroa River. Other plant species present include beech, rewarewa, rimu (*Dacrydium cupressinum*; of local interest), red māpou, five-finger, and mature kahikatea (*Dacrycarpus dacrydioides*; of local interest) trees on the flat. There is a sparse understorey in some areas, indicating that some grazing occurs. Areas of dead mānuka have been removed, which may indicate that the landowners are actively clearing this vegetation. Indigenous riparian vegetation is uncommon at lower elevations in this catchment

IMPORTANT FEATURES

Threatened Indigenous Flora:	Mānuka (<i>Leptospermum scoparium</i> ; At Risk-Declining ^{Note##}) and podocarp species of local interest; rimu (<i>Dacrydium cupressinum</i>), and kahikatea (<i>Dacrycarpus dacrydioides</i>).
Threatened Indigenous Fauna:	No rare or uncommon fauna species recorded. Two At Risk lizard species have been recorded near the site: barking gecko (<i>Naultinus punctatus</i>) and Ngahere gecko (<i>Mokopirirakau</i> "southern North Island").
Threatened Land Environments:	More than five hectares on Critically Under protected land environments (>20% protection).
Rare Habitats:	Indigenous riparian vegetation is uncommon at lower elevations in this catchment.
Geological Features:	None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	The vegetation at this site is representative of mid successional mānuka-broadleaved forest transitioning to beech forest, which contains elements representative of Singers and Rogers (2014) vegetation type: MF20-Hard beech forest, which has less than 20% protected in the Wellington region.
RPS23b: Rarity	Yes	Indigenous riparian vegetation is uncommon at lower elevations in this catchment. One At-Risk plant species is present in this site ^{Note##} .
RPS23c: Diversity	No	Modified, with a likely reduced diversity of ecological units and species.
RPS23d: Ecological Context	Yes	Located alongside the Mangaroa River; likely to improve connectivity for birds travelling across Whitemans Valley.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

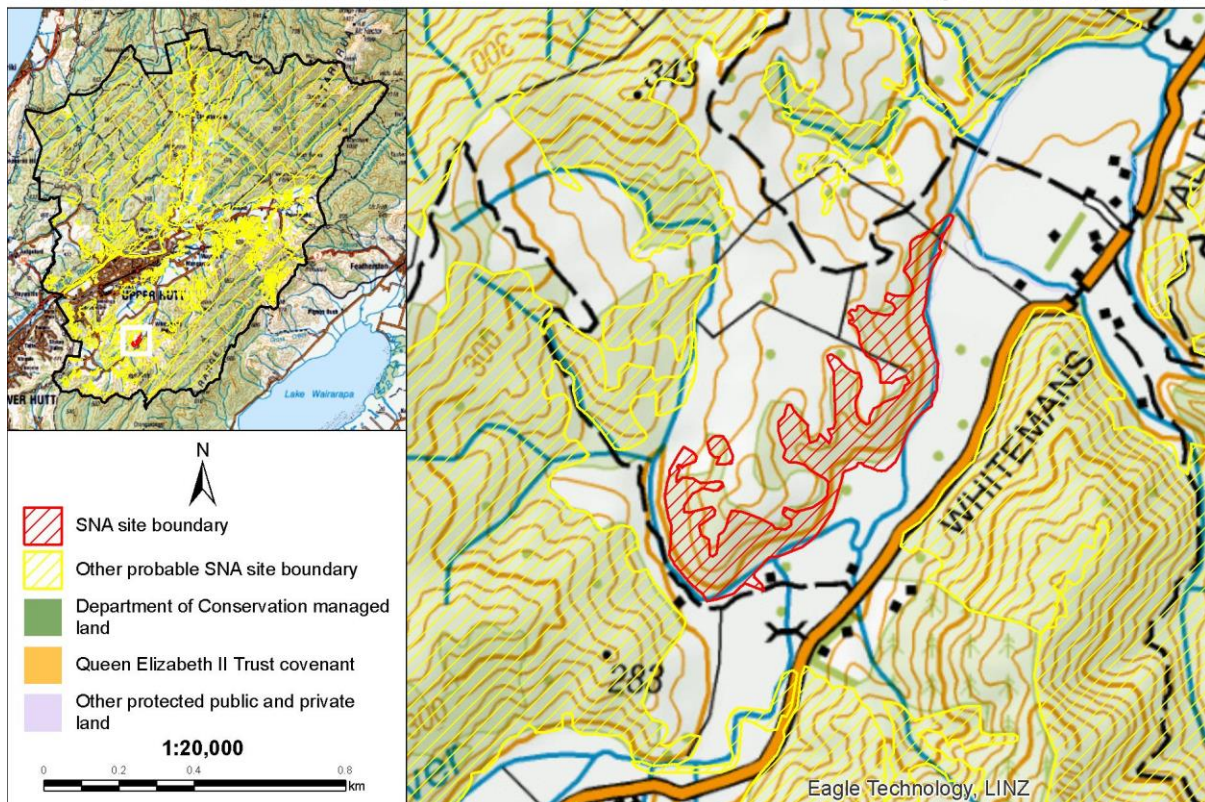
SITE CONTEXT AND OTHER INFORMATION

Ecological District: Tararua
Ecological Domain(s): 61 Wainuiomata - Hutt - Kaitoke.

Upper Hutt District Plan - Significant Natural Area Assessment - Significance Statement

Digital Scale: 1:8,000
Altitude Range: 180-260 m a.s.l.
Grid Reference: NZTM E1773757 N5439503
Adjacent Vegetation and Habitats: Pasture, Mangaroa River.
Notes on Overall Condition: A farm track bisects the site.
Potential Land Management Issues: Fencing may be required.
Sources of Information for this Site ^{Note#:}: Google Earth, Historic aerial imagery.

Context Site Number: UH085 Site Name: Whitemans Valley Road forest - south



ASSESSED BY

Assessment Techniques: Species database, aerial imagery, road side viewing.
Assessed By: Helen White (Date 28/06/2018)
Reviewed By: Steve Rate (Date 2/8/2018)

NOTES

Please note that this statement is based on information available at the time of writing. No site visits were undertaken on private land. Due to the changing nature of ecosystems and surrounding land use,

future assessment of the Significant Natural Area may be necessary to reflect any changes in knowledge, values, or boundaries that may influence its assessment as ecologically significant.

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Mānuka (*Leptospermum scoparium*) has a national-level threat classification of At Risk-Declining, as per de Lange *et al.* 2018. Mānuka is a Myrtaceae species which is at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of mānuka has been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of mānuka at this site does not trigger the rarity criteria because the species is currently common and widespread in the local environment.

DRAFT

Mangaroa River riparian scrub

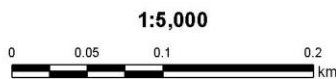
INTRODUCTION

Site Name: Mangaroa River riparian scrub
Site Number: UH086
Site Location: Whitemans Valley Road.
Site Area: 1.79 ha.
Current Protection Status: Site has no legal protection.
Protection Type: Not applicable.

Site Map

Site Number: UH086

Site Name: Mangaroa River riparian scrub



— SNA site boundary

— Other probable SNA site boundary

— District boundary

- - Ecological District boundary

Site Summary: This site includes fenced indigenous riparian vegetation alongside approximately 500 metres of the Mangaroa River. The site includes mānuka (*Leptospermum scoparium*; At Risk-Declining ^{Note##}) scrub and a small kahikatea (*Dacrycarpus dacrydioides*; of local interest) remnant. Included as the area has recently been revegetated with indigenous species and will improve in quality over time. Also protects the riparian margin of the Mangaroa River and provides connectivity between other Significant Natural Areas and along the river.

IMPORTANT FEATURES

Threatened Indigenous Flora:	Mānuka (<i>Leptospermum scoparium</i> ; At Risk-Declining ^{Note##}) and kahikatea (<i>Dacrycarpus dacrydioides</i> ; of local interest)
Threatened Indigenous Fauna:	No Threatened, At Risk, or regionally uncommon animal species are known from this site. At Risk-Declining freshwater fish species longfin eel (<i>Anguilla dieffenbachia</i>), redfin bully (<i>Gobiomorphus huttoni</i>) and inanga (<i>Galaxias maculatus</i>) are known from the Mangaroa River and could be inhabiting the site. Two At Risk lizard species have been recorded near the site: barking gecko (<i>Naultinus punctatus</i>) and Ngahere gecko (<i>Mokopirirakau</i> "southern North Island").
Threatened Land Environments:	More than 0.5 hectares on Acutely Threatened land environments (<10% indigenous cover remaining).
Rare Habitats:	Less than 30% remaining of Singers and Rogers (2014) MF7 - Tawa kāmahī, podocarp forests remain in the Wellington region.
Geological Features:	None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

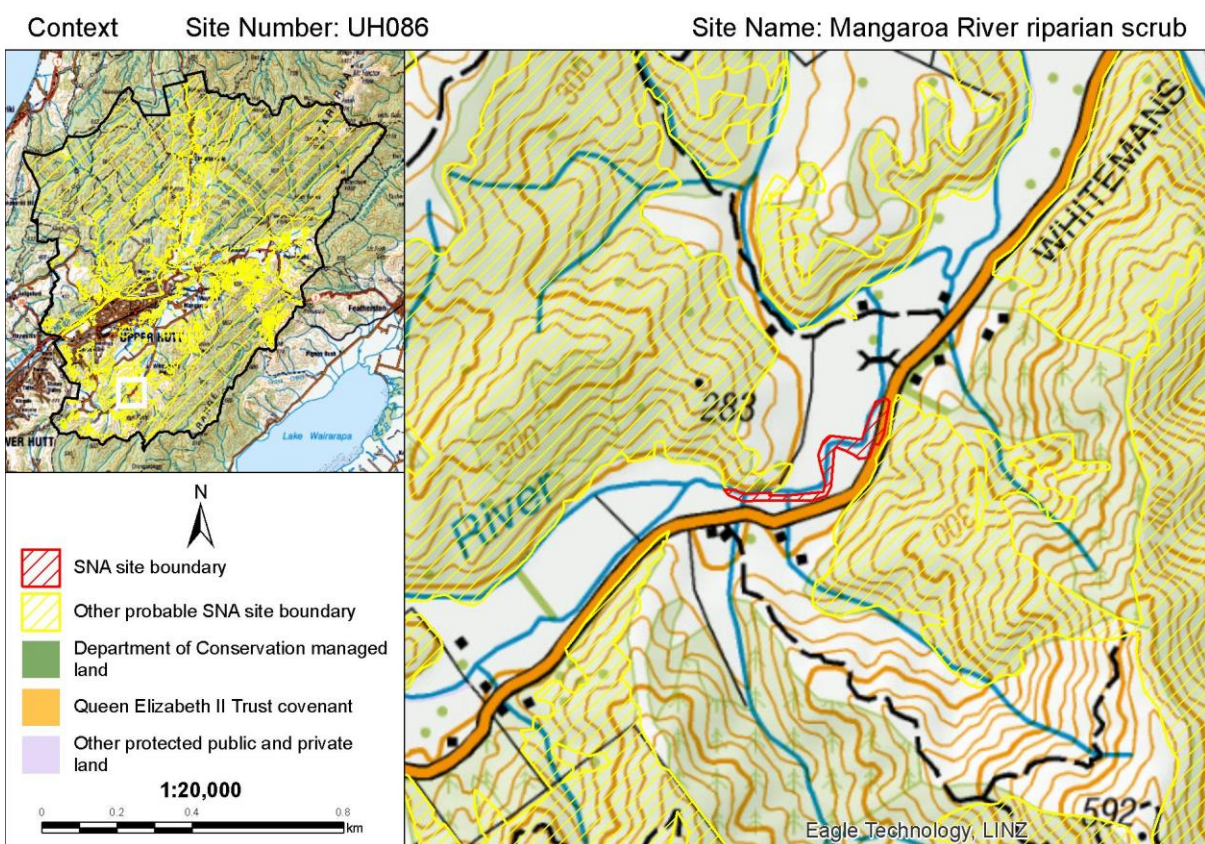
RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	No	This site contains limited elements representative of Singers and Rogers (2014) MF7-Tawa, kāmahī, podocarp forest.
RPS23b: Rarity	Yes	Contains one At Risk plant species ^{Note##} . Threatened land environments with <10% indigenous vegetation cover remaining.
RPS23c: Diversity	No	Has a reduced natural diversity of indigenous flora and fauna.
RPS23d: Ecological Context	Yes	Protects margins of a stream; contiguous with Blue Mountains Forest and Scrub and provides connectivity to Mangaroa-Whitemans Valley forest.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

Ecological District: Tararua
Ecological Domain(s): 61 Wainuiomata - Hutt - Kaitoke.

Upper Hutt District Plan - Significant Natural Area Assessment - Significance Statement

Digital Scale: 1:5,000
Altitude Range: 190-195 m a.s.l.
Grid Reference: NZTM E1773552 N5438743
Adjacent Vegetation and Habitats: Pasture, indigenous vegetation.
Notes on Overall Condition: The site includes recently revegetated riparian areas which are fenced off from stock. The understorey is likely to be highly modified.
Potential Land Management Issues: Risk of pest plants in understorey now that stock excluded.
Sources of Information for this Site ^{Note#}: Google Earth, Historic aerial imagery.



ASSESSED BY

Assessment Techniques: Aerial imagery, road side viewing.
Assessed By: Helen White (Date 12/07/2018)
Reviewed By: Steve Rate (Date 2/8/2018)

NOTES

Please note that this statement is based on information available at the time of writing. No site visits were undertaken on private land. Due to the changing nature of ecosystems and surrounding land use,

Upper Hutt District Plan - Significant Natural Area Assessment - Significance Statement

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Mānuka (*Leptospermum scoparium*) has a national-level threat classification of At Risk-Declining, as per de Lange *et al.* 2018. Mānuka is a Myrtaceae species which is at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of mānuka has been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of mānuka at this site does not trigger the rarity criteria because the species is currently common and widespread in the local environment.

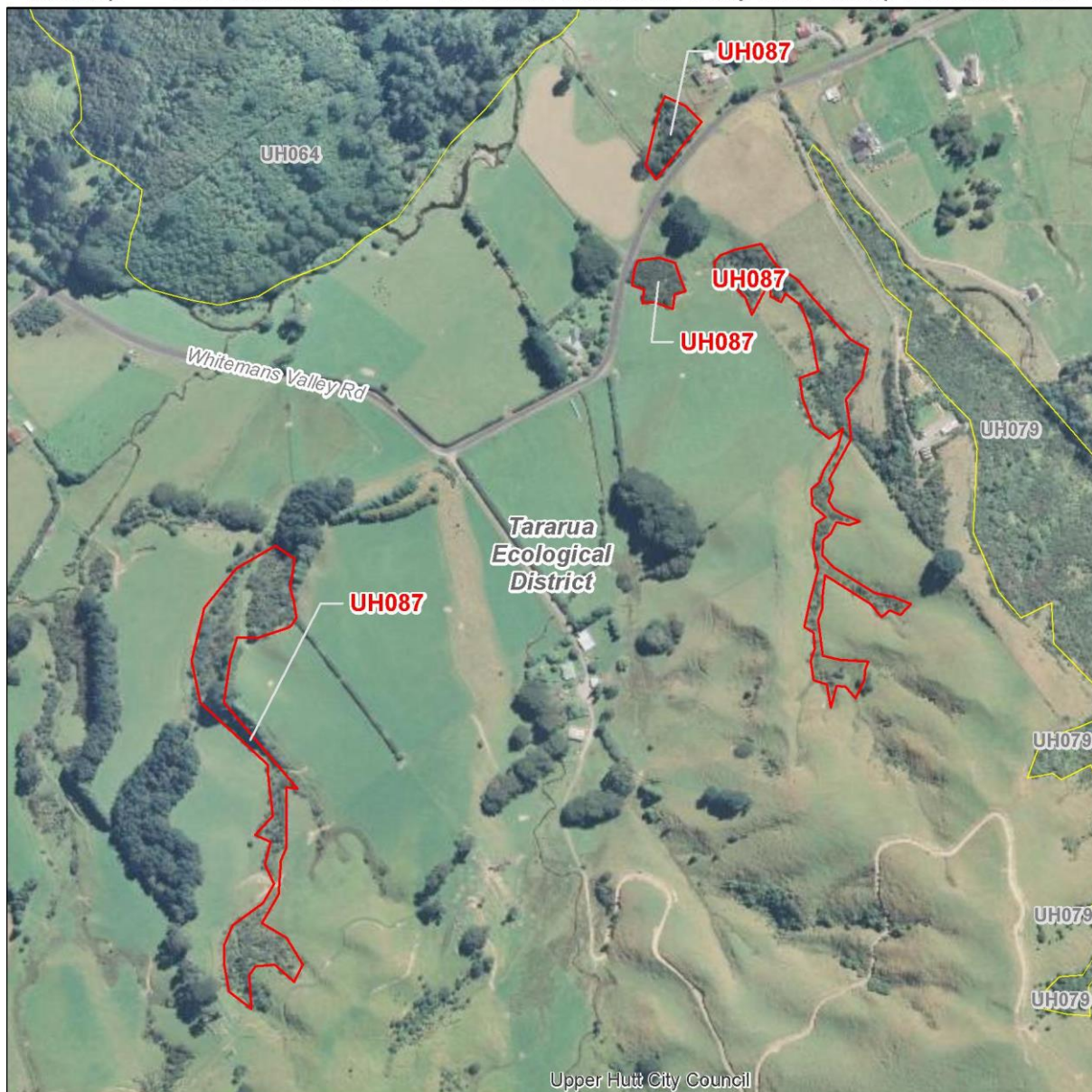
DRAFT

Whitemans Valley Road swamp forest and scrub

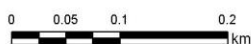
INTRODUCTION

Site Name: Whitemans Valley Road swamp forest and scrub
Site Number: UH087
Site Location: Whitemans Valley Road, North of Russels Road.
Site Area: 3.59 ha.
Current Protection Status: Site has no legal protection.
Protection Type: Not applicable.

Site Map Site Number: UH087 Site Name: Whitemans Valley Road swamp forest and scrub



1:7,000



— SNA site boundary

— Other probable SNA site boundary

— District boundary

- - Ecological District boundary

Site Summary: This small site includes three small areas of mānuka (*Leptospermum scoparium*; At Risk-Declining ^{Note##}) wetland, and a remnant swamp forest, including kahikatea (*Dacrycarpus dacrydioides*; of local interest) at the southern end of Whitemans Valley Road. More than 0.5 hectares on the indigenous vegetation at the site is on land environments that have less than 10% indigenous vegetation cover remaining nationally.

IMPORTANT FEATURES

Threatened Indigenous Flora: Mānuka (*Leptospermum scoparium*; At Risk-Declining ^{Note##}), and kahikatea (*Dacrycarpus dacrydioides*; of local interest)

Threatened Indigenous Fauna: No rare fauna are known from the site. The regionally uncommon pied tomtit (*Petroica macrocephala toitoi*) has been recorded nearby.

Threatened Land Environments: More than 0.5 hectares on Acutely Threatened land environments (<10% indigenous cover remaining).

Rare Habitats: Less than 30% remaining of Singers and Rogers (2014) MF7 - Tawa kāmahi, podocarp forests remain in the Wellington region.

Geological Features: None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	This site is likely to contain representative vegetation. Wetlands are rare at a national and regional scale.
RPS23b: Rarity	Yes	Wetlands are a threatened ecosystem type. One At Risk plant species ^{Note##} . Includes indigenous vegetation on land environments with less than 10% indigenous vegetation cover remaining.
RPS23c: Diversity	No	Has a reduced natural diversity of indigenous flora and fauna.
RPS23d: Ecological Context	No	A number of small fragmented vegetation patches. May provide habitat and linkage for birds.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

Ecological District: Tararua

Ecological Domain(s): 61 Wainuiomata - Hutt - Kaitoke.

Digital Scale: 1:7,000

Altitude Range: 215-265 m a.s.l.

Grid Reference: NZTM E1771591 N5437053

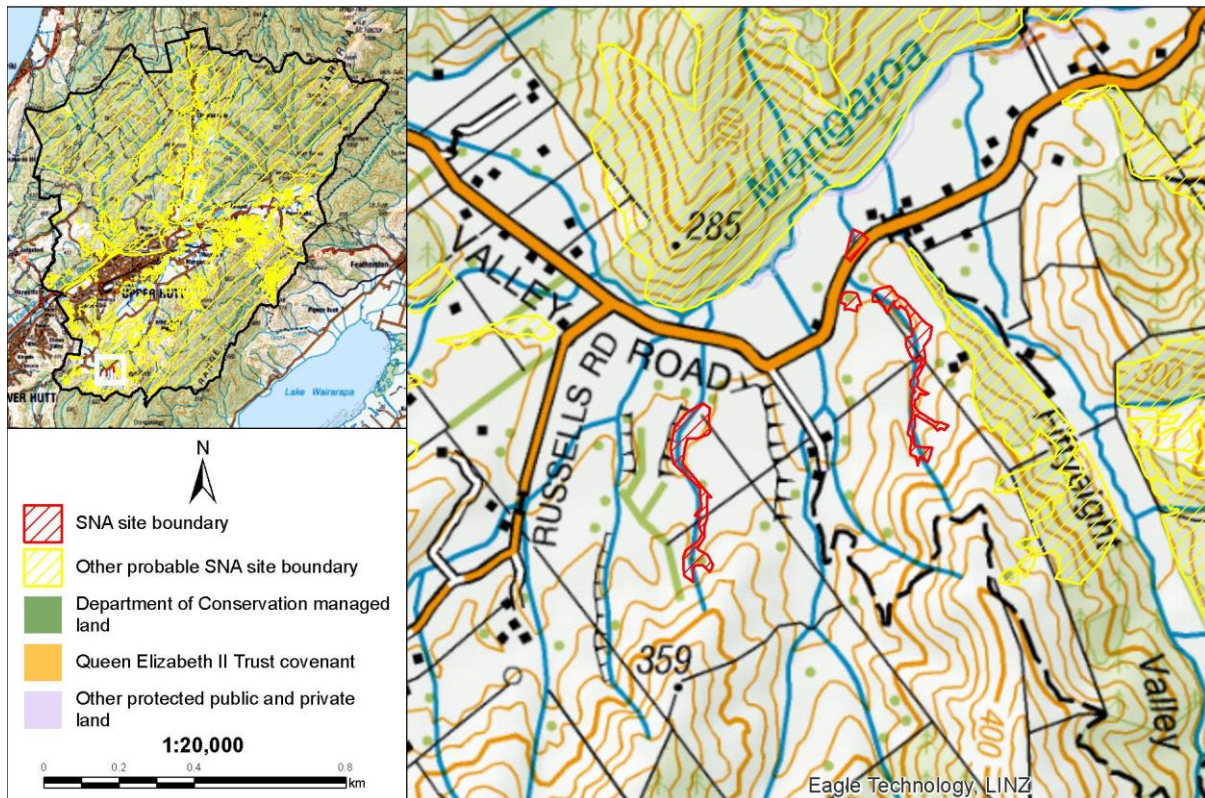
Adjacent Vegetation and Habitats: Pasture, residential.

Notes on Overall Condition: Degraded, but includes some characteristic wetland vegetation.

Potential Land Management Issues: Unfenced and likely to be grazed. Fencing required.

Sources of Information for this Site ^{Note#:}: Google Earth, historic aerial imagery.

Context Site Number: UH087 Site Name: Whitemans Valley Road swamp forest and scrub



ASSESSED BY

Assessment Techniques: Aerial imagery, road side viewing.
Assessed By: Helen White (Date 12/07/2018)
Reviewed By: Steve Rate (Date 2/8/2018)

NOTES

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photography (2017 colour) was used to view and evaluate all sites, additional sources such as historic aerial photography in Google Earth, was used to inform site values and improve site boundaries.

Mānuka (*Leptospermum scoparium*) has a national-level threat classification of At Risk-Declining, as per de Lange *et al.* 2018. Mānuka is a Myrtaceae species which is at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of mānuka has been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of mānuka at this site does not trigger the rarity criteria because the species is currently common and widespread in the local environment.

DRAFT

Johnson's Road wetlands and scrub

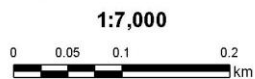
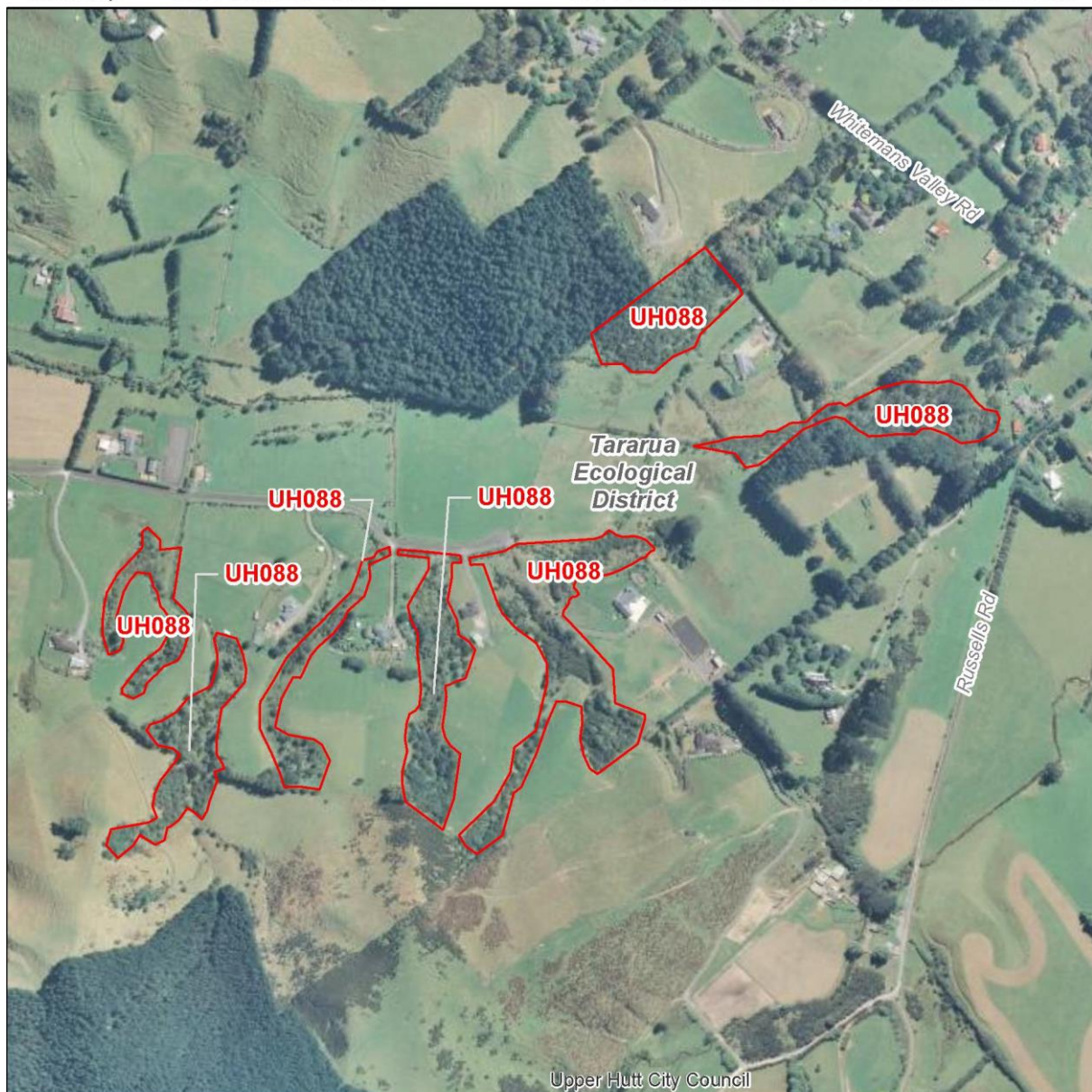
INTRODUCTION

Site Name: Johnson's Road wetlands and scrub
Site Number: UH088
Site Location: Johnsons Road, Whitemans Valley.
Site Area: 7.42 ha.
Current Protection Status: Site has no legal protection.
Protection Type: Not applicable.

Site Map

Site Number: UH088

Site Name: Johnson's Road wetlands and scrub



— SNA site boundary

— Other probable SNA site boundary

— District boundary

- - Ecological District boundary

Site Summary: Johnson's Road Wetland comprises six wetland areas located on the valley floor along Johnsons Road to the junction of Russells Road and Whitemans Valley Road. Much of this site is listed in GWRC's Proposed Natural Resources Plan for the Wellington Region Schedule F3: Identified significant natural wetlands. Freshwater wetlands are nationally rare (<10% of their original extent remains) and a regionally uncommon habitat type. This site includes indigenous vegetation on land environments with >10% vegetation remaining. Plant species include mānuka (*Leptospermum scoparium*; At Risk-Declining ^{Note##}), sedges, rushes, cabbage tree, flax, karamū, wineberry, and small tōtara (*Podocarpus totara*; of local interest). At least one area appears to be fenced and revegetated, although other areas may be of a poorer quality.

IMPORTANT FEATURES

Threatened Indigenous Flora:	Mānuka (<i>Leptospermum scoparium</i> ; At Risk-Declining ^{Note##}), and tōtara (<i>Podocarpus totara</i> ; of local interest).
Threatened Indigenous Fauna:	No rare fauna are known from the site. The regionally uncommon pied tomtit (<i>Petroica macrocephala toitoi</i>) has been recorded nearby.
Threatened Land Environments:	More than 0.5 hectares on Acutely Threatened land environments (<10% indigenous cover remaining).
Rare Habitats:	Freshwater wetlands are nationally rare, with less than 10% of their original extent remaining.
Geological Features:	None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	This site has wetlands of low and of unknown quality but likely have elements characteristic for Tararua Ecological District. Only 10% of the original extent of freshwater wetlands remains nationally.
RPS23b: Rarity	Yes	Freshwater wetlands are nationally rare (<10% of their original extent remains) and a regionally uncommon habitat type and on Threatened land environments with <10% vegetation cover remaining. One At Risk plant species ^{Note##} .
RPS23c: Diversity	No	Likely to be reduced due to modified nature.
RPS23d: Ecological Context	Yes	Isolated within pasture with limited connectivity through ephemeral streams. Vegetation buffers wetlands and streams.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

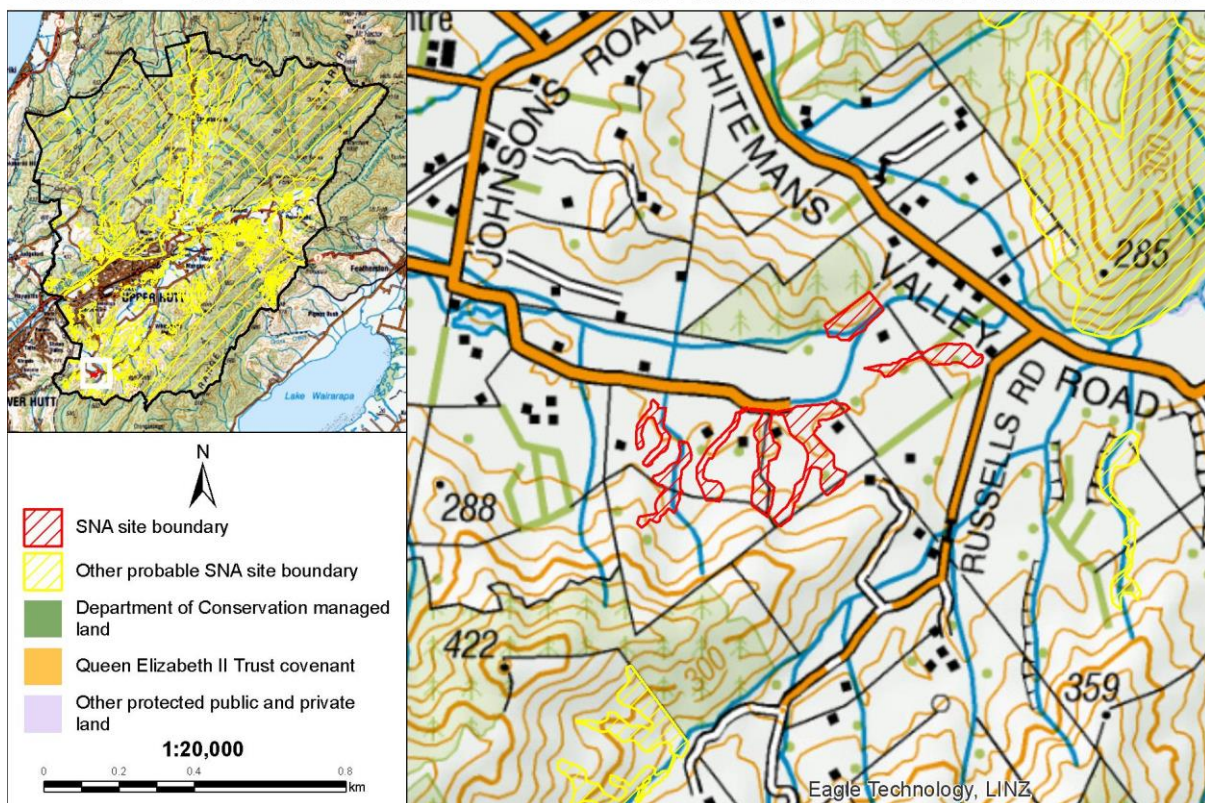
SITE CONTEXT AND OTHER INFORMATION

Ecological District:	Tararua
Ecological Domain(s):	61 Wainuiomata - Hutt - Kaitoke; 62 Rimutaka (<550 metres).

Upper Hutt District Plan - Significant Natural Area Assessment - Significance Statement

Digital Scale: 1:7,000
Altitude Range: 215-270 m a.s.l.
Grid Reference: NZTM E1770406 N5437062
Adjacent Vegetation and Habitats: Pasture.
Notes on Overall Condition: The site appears to be mostly fenced, but some exotic species are present, including eucalyptus, holly, pasture, willow, narrow, and the site is surrounded by pasture.
Potential Land Management Issues: Control of pest plant species.
Sources of Information for this Site ^{Note#:} Ausseil *et al.* 2008, Boffa Miskell 2011, Google Earth.

Context Site Number: UH088 Site Name: Johnson's Road wetlands and scrub



ASSESSED BY

Assessment Techniques: Aerial imagery, road side viewing.
Assessed By: Helen White (Date 13/07/2018)
Reviewed By: Steve Rate (Date 2/8/2018)

NOTES

Please note that this statement is based on information available at the time of writing. No site visits were undertaken on private land. Due to the changing nature of ecosystems and surrounding land use, future assessment of the Significant Natural Area may be necessary to reflect any changes in knowledge, values, or boundaries that may influence its assessment as ecologically significant.

An Explanatory Note is available in Appendix 9, which provides more information about how each of the above fields was collated or assessed.

The full list of data sources and references used to assess sites is listed in the main body of the report under REFERENCES and also in the EXPLANATORY NOTES in Appendix 9. Aerial photography (2017 colour) was used to view and evaluate all sites, additional sources such as historic aerial photography in Google Earth, was used to inform site values and improve site boundaries.

Mānuka (*Leptospermum scoparium*) has a national-level threat classification of At Risk-Declining, as per de Lange *et al.* 2018. Mānuka is a Myrtaceae species which is at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of mānuka has been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of mānuka at this site does not trigger the rarity criteria because the species is currently common and widespread in the local environment.

DRAFT

Devine forest

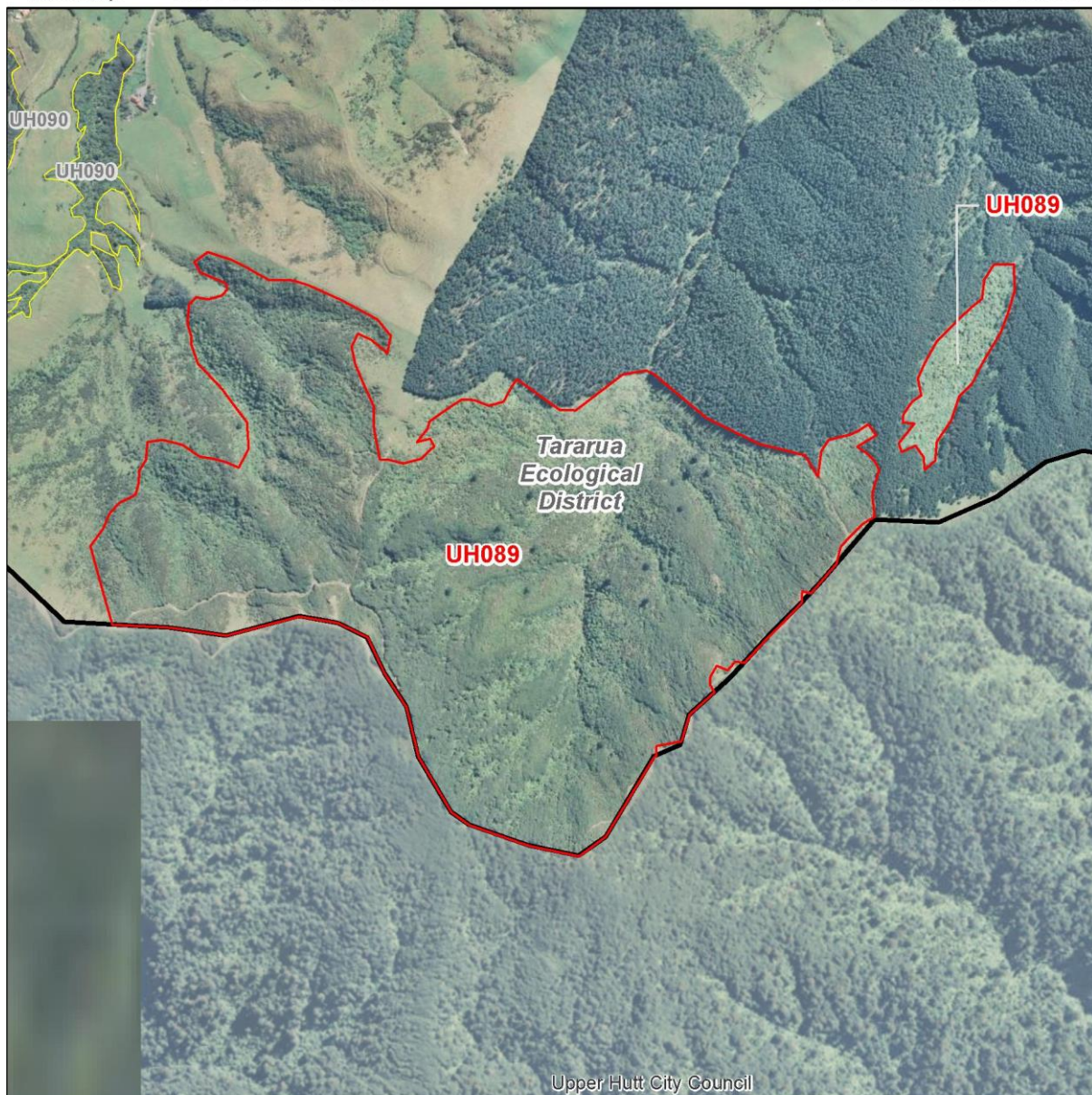
INTRODUCTION

Site Name: Devine forest
Site Number: UH089
Site Location: South of Russels Road, Upper Whitemans Valley.
Site Area: 73.20 ha.
Current Protection Status: Site has no legal protection.
Protection Type: Not applicable.

Site Map

Site Number: UH089

Site Name: Devine forest



— SNA site boundary

— Other probable SNA site boundary

— District boundary

- - Ecological District boundary

Site Summary: This site is located on the border with Hutt City District and is contiguous with Wainuiomata/Orongorongo Water Collection Area and Wainuiomata Mainland Island, and likely acts as a buffer to these sites. It comprises regenerating beech forest and mānuka (*Leptospermum scoparium*; At Risk-Declining ^{Note##}) -broadleaved scrub on north-facing hillslopes. The site spans an altitudinal range of 350 to 600 metres above sea level and surrounds a tributary of the upper Mangaroa River.

IMPORTANT FEATURES

Threatened Indigenous Flora:	Mānuka (<i>Leptospermum scoparium</i> ; At Risk-Declining ^{Note##})
Threatened Indigenous Fauna:	No rare fauna are known from the site. Long-tailed cuckoo (<i>Eudynamys taitensis</i> ; At Risk-Naturally Uncommon), North Island rifleman (<i>Acanthisitta chloris granti</i> ; At Risk-Declining), New Zealand pipit (<i>Anthus novaeseelandiae novaeseelandiae</i> ; At Risk-Declining), whitehead (<i>Mohoua albicilla</i> ; At Risk-Declining), bush falcon (<i>Falco novaeseelandiae ferox</i> ; At Risk-Recovering), and the regionally uncommon bellbird (<i>Anthornis melanura melanura</i>) and pied tomtit (<i>Petroica macrocephala toitoi</i>) have been recorded nearby.
Threatened Land Environments:	More than five hectares on Critically Under protected land environments (>20% protection).
Rare Habitats:	No rare habitats recorded
Geological Features:	None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	Early successional forests have limited elements representative of original vegetation types. Pockets of gully vegetation are likely to be primary forest representative of Singers and Rogers (2014) MF20-Hard beech forest which has less than 20% protected in the Wellington region, and CLF11-3-Silver beech, kāmahi forest, which has less than 20% protected in Upper Hutt District.
RPS23b: Rarity	No	Contains one At Risk plant species ^{Note##} .
RPS23c: Diversity	Yes	Likely to have a natural diversity of ecological units, ecosystems, and species.
RPS23d: Ecological Context	Yes	Buffers Wainuiomata Mainland Island and Wainuiomata/Orongorongo Water Collection Area; buffers a tributary of upper Mangaroa River.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

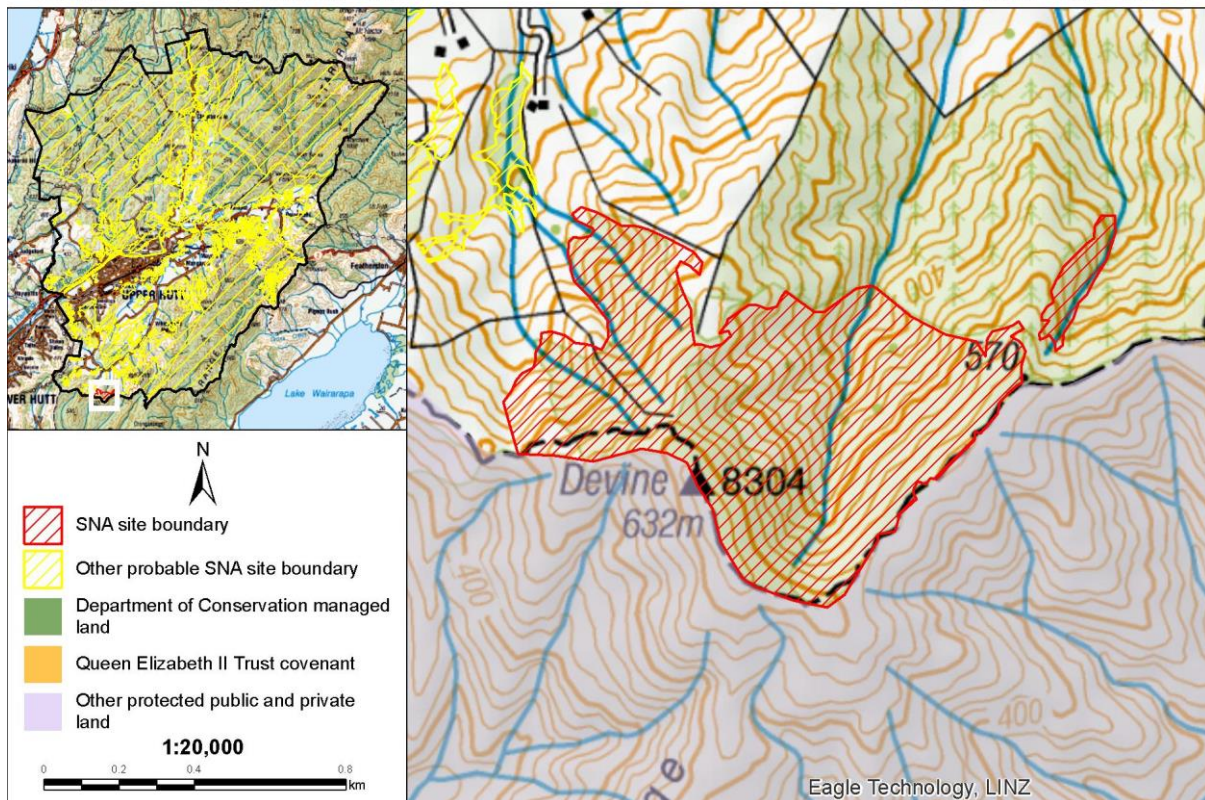
SITE CONTEXT AND OTHER INFORMATION

Ecological District: Tararua

Upper Hutt District Plan - Significant Natural Area Assessment - Significance Statement

Ecological Domain(s): 62 Rimutaka (<550 metres).
Digital Scale: 1:12,000
Altitude Range: 335-635 m a.s.l.
Grid Reference: NZTM E1771030 N5435108
Adjacent Vegetation and Habitats: Indigenous forest, plantation forest, pasture.
Notes on Overall Condition: Contains wilding conifers, tracks, open areas with pasture.
Potential Land Management Issues: Control of wilding pines.
Sources of Information for this Site ^{Note#:}: Google Earth, Historic aerial imagery.

Context Site Number: UH089 Site Name: Devine forest



ASSESSED BY

Assessment Techniques: Aerial imagery, species databases.
Assessed By: Helen White (Date 28/06/2018)
Reviewed By: Steve Rate (Date 2/8/2018)

NOTES

Please note that this statement is based on information available at the time of writing. No site visits were undertaken on private land. Due to the changing nature of ecosystems and surrounding land use, future assessment of the Significant Natural Area may be necessary to reflect any changes in knowledge, values, or boundaries that may influence its assessment as ecologically significant.

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Mānuka (*Leptospermum scoparium*) has a national-level threat classification of At Risk-Declining, as per de Lange *et al.* 2018. Mānuka is a Myrtaceae species which is at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of mānuka has been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of mānuka at this site does not trigger the rarity criteria because the species is currently common and widespread in the local environment.

DRAFT

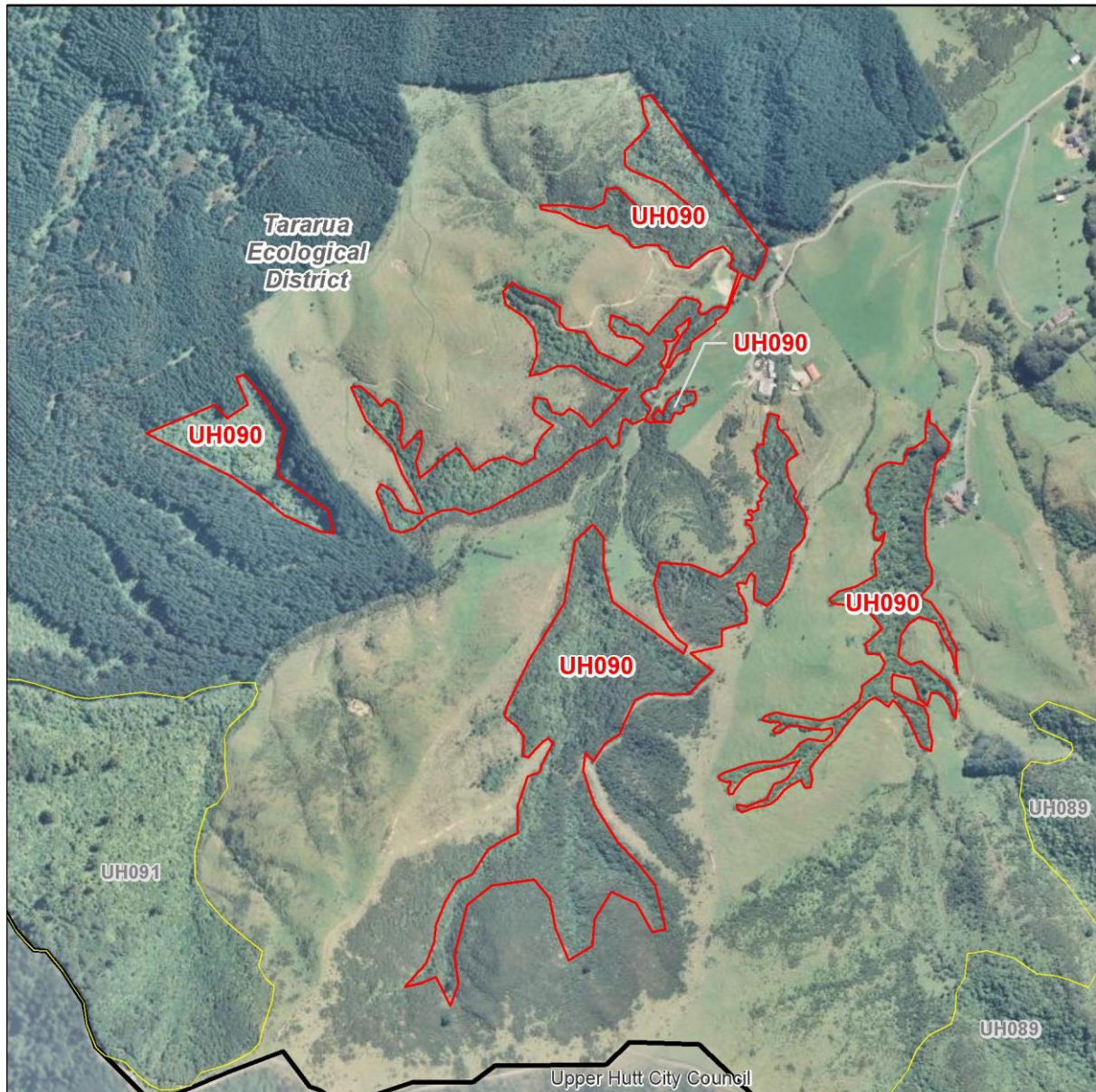
Devine scrub

INTRODUCTION

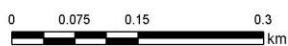
Site Name: Devine scrub
Site Number: UH090
Site Location: South of Russels Road, Upper Whitemans Valley.
Site Area: 20.55 ha.
Current Protection Status: Site has no legal protection.
Protection Type: Not applicable.

Site Map Site Number: UH090

Site Name: Devine scrub



1:9,000



— SNA site boundary

— Other probable SNA site boundary

— District boundary

- - Ecological District boundary

Site Summary: This relatively large area of regenerating broadleaved scrub, mānuka scrub (*Leptospermum scoparium*; At Risk-Declining ^{Note##}), gorse scrub and areas of forest is located on north-facing upper hillslopes adjacent to Wainuiomata Mainland Island. The eastern-most area is comprised of kāmahī forest with rimu (*Dacrydium cupressinum*; of local interest) and kahikatea (*Dacrycarpus dacrydioides*; of local interest). The site spans an altitudinal range from 260 to 520 metres above sea level and surrounds a tributary of upper Mangaroa River. North Island rifleman (*Acanthisitta chloris granti*; At Risk-Declining), New Zealand pipit (*Anthus novaeseelandiae novaeseelandiae*; At Risk-Declining), whitehead (*Mohoua albicilla*; At Risk-Declining), bush falcon (*Falco novaeseelandiae ferox*; At Risk-Recovering), long-tailed cuckoo (*Eudynamys taitensis*; At Risk-Naturally Uncommon), and the regionally uncommon bellbird (*Anthornis melanura melanura*) and pied tomtit (*Petroica macrocephala toitoi*) have been recorded nearby.

IMPORTANT FEATURES

Threatened Indigenous Flora:	Mānuka (<i>Leptospermum scoparium</i> ; At Risk-Declining ^{Note##}), and rimu (<i>Dacrydium cupressinum</i> ; of local interest) and kahikatea (<i>Dacrycarpus dacrydioides</i> ; of local interest).
Threatened Indigenous Fauna:	No rare fauna are known from the site. North Island rifleman (<i>Acanthisitta chloris granti</i> ; At Risk-Declining), New Zealand pipit (<i>Anthus novaeseelandiae novaeseelandiae</i> ; At Risk-Declining), whitehead (<i>Mohoua albicilla</i> ; At Risk-Declining), bush falcon (<i>Falco novaeseelandiae ferox</i> ; At Risk-Recovering), long-tailed cuckoo (<i>Eudynamys taitensis</i> ; At Risk-Naturally Uncommon), and the regionally uncommon bellbird (<i>Anthornis melanura melanura</i>) and pied tomtit (<i>Petroica macrocephala toitoi</i>) have been recorded nearby.
Threatened Land Environments:	More than five hectares on Critically Under protected land environments (>20% protection).
Rare Habitats:	No rare habitats recorded
Geological Features:	None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

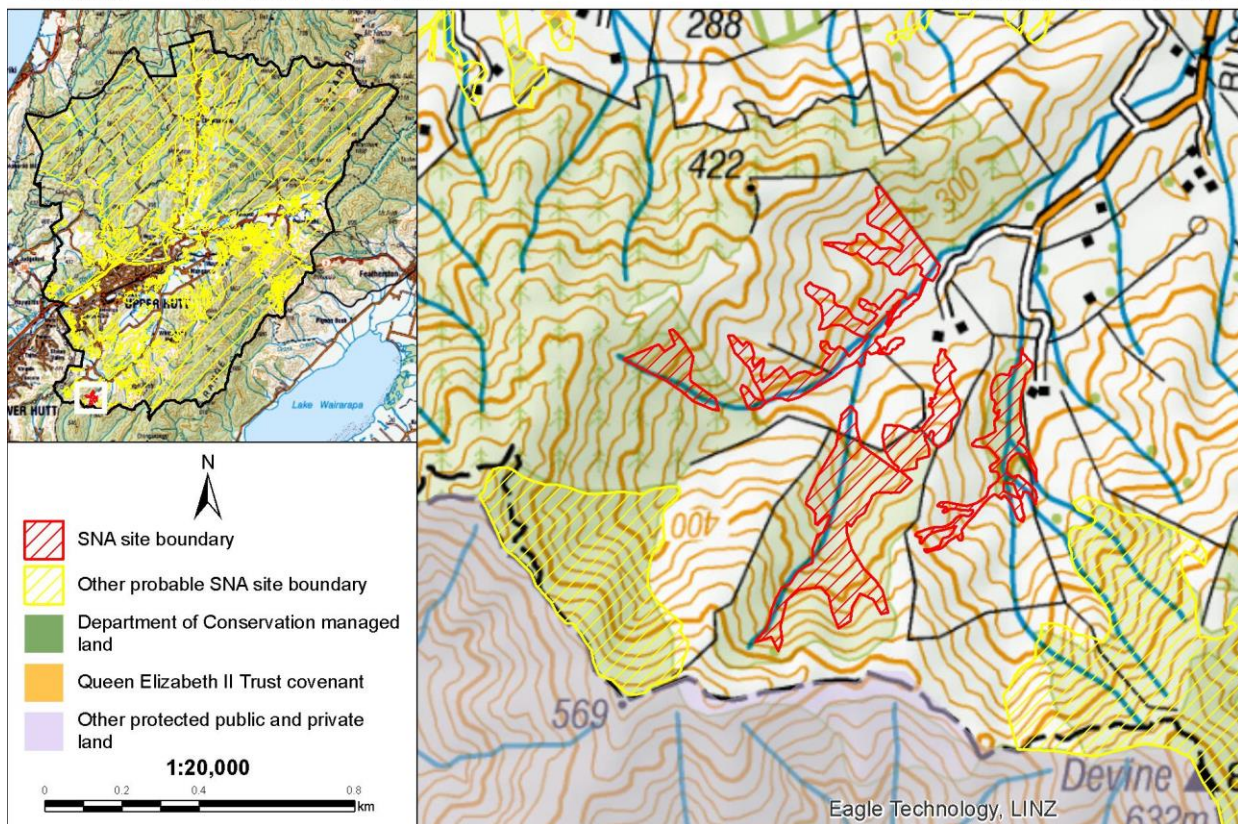
RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	Includes vegetation representative of Singers and Rogers (2014) vegetation type: MF20-Hard beech forest, which has less than 20% protected in the Wellington region.
RPS23b: Rarity	No	One At Risk plant species ^{Note##} .
RPS23c: Diversity	Yes	Likely to have a natural diversity of ecological units, ecosystems, and species
RPS23d: Ecological Context	Yes	Buffers Wainuiomata Mainland Island and Wainuiomata/Orongorongo Water Collection Area; buffers a tributary of upper Mangaroa River.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.

RPS Policy 23 Criteria	Achieved	Assessment
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

Ecological District: Tararua
Ecological Domain(s): 61 Wainuiomata - Hutt - Kaitoke; 62 Rimutaka (<550 metres).
Digital Scale: 1:9,000
Altitude Range: 250-475 m a.s.l.
Grid Reference: NZTM E1769951 N5435809
Adjacent Vegetation and Habitats: Pasture, plantation forest.
Notes on Overall Condition: Tracks, open areas with pasture, gorse on margins.
Potential Land Management Issues: Unknown.
Sources of Information for this Site ^{Note#:} Google Earth.

Context Site Number: UH090 Site Name: Devine scrub



ASSESSED BY

Assessment Techniques: Aerial imagery, species databases, partial road side viewing (large part not visible).
Assessed By: Helen White (Date 28/06/2018)
Reviewed By: Steve Rate (Date 2/8/2018)

NOTES

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Mānuka (*Leptospermum scoparium*) has a national-level threat classification of At Risk-Declining, as per de Lange *et al.* 2018. Mānuka is a Myrtaceae species which is at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of mānuka has been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of mānuka at this site does not trigger the rarity criteria because the species is currently common and widespread in the local environment.

Peak 569 forest and scrub

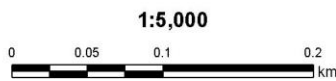
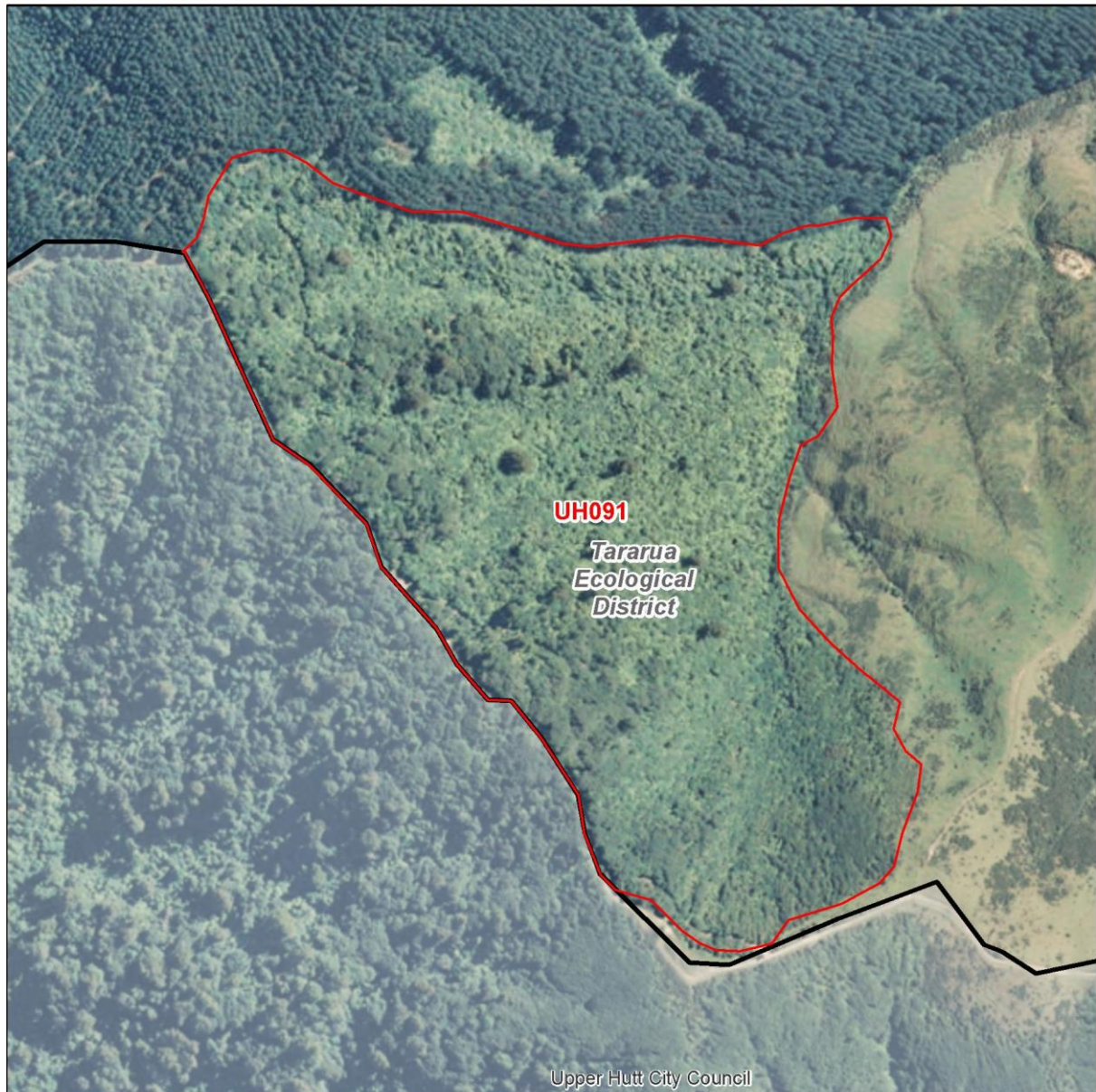
INTRODUCTION

Site Name: Peak 569 forest and scrub
Site Number: UH091
Site Location: South of Russell Road, Upper Whitemans Valley.
Site Area: 17.26 ha.
Current Protection Status: Site has no legal protection.
Protection Type: Not applicable.

Site Map

Site Number: UH091

Site Name: Peak 569 forest and scrub



— SNA site boundary

— Other probable SNA site boundary

— District boundary

- - Ecological District boundary



Site Summary: This site is located on the boundary with Hutt City and is contiguous with the Wainuiomata Mainland Island. Vegetation mainly comprises indigenous secondary forest and scrub, but contains some beech and podocarp species. Five At Risk bird species recorded nearby, including long-tailed cuckoo (*Eudynamys taitensis*; At Risk-Naturally Uncommon), North Island rifleman (*Acanthisitta chloris granti*; At Risk-Declining), New Zealand pipit (*Anthus novaeseelandiae novaeseelandiae*; At Risk-Declining), whitehead (*Mohoua albicilla*; At Risk-Declining), bush falcon (*Falco novaeseelandiae ferox*; At Risk-Recovering), and the regionally uncommon bellbird (*Anthornis melanura melanura*) and pied tomtit (*Petroica macrocephala toitoi*).

IMPORTANT FEATURES

Threatened Indigenous Flora:	No rare plant species are known from the site
Threatened Indigenous Fauna:	No rare fauna are known from the site. Long-tailed cuckoo (<i>Eudynamys taitensis</i> ; At Risk-Naturally Uncommon), North Island rifleman (<i>Acanthisitta chloris granti</i> ; At Risk-Declining), New Zealand pipit (<i>Anthus novaeseelandiae novaeseelandiae</i> ; At Risk-Declining), whitehead (<i>Mohoua albicilla</i> ; At Risk-Declining), bush falcon (<i>Falco novaeseelandiae ferox</i> ; At Risk-Recovering), and the regionally uncommon bellbird (<i>Anthornis melanura melanura</i>) and pied tomtit (<i>Petroica macrocephala toitoi</i>) have been recorded nearby.
Threatened Land Environments:	More than five hectares on Critically Under protected land environments (>20% protection).
Rare Habitats:	No rare habitats or communities known.
Geological Features:	None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	Regenerating forest at this site is likely to be representative of the original forest, and forest succeeding to, Singers and Rogers (2014) vegetation type: MF8-Kāmahī, broadleaved, podocarp forest which has less than 20% protected in Upper Hutt District.
RPS23b: Rarity	No	No rare features known.
RPS23c: Diversity	No	Secondary vegetation, with reduced diversity of ecological units and species
RPS23d: Ecological Context	Yes	Contiguous with and buffering Wainuiomata Mainland Island and small waterways.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

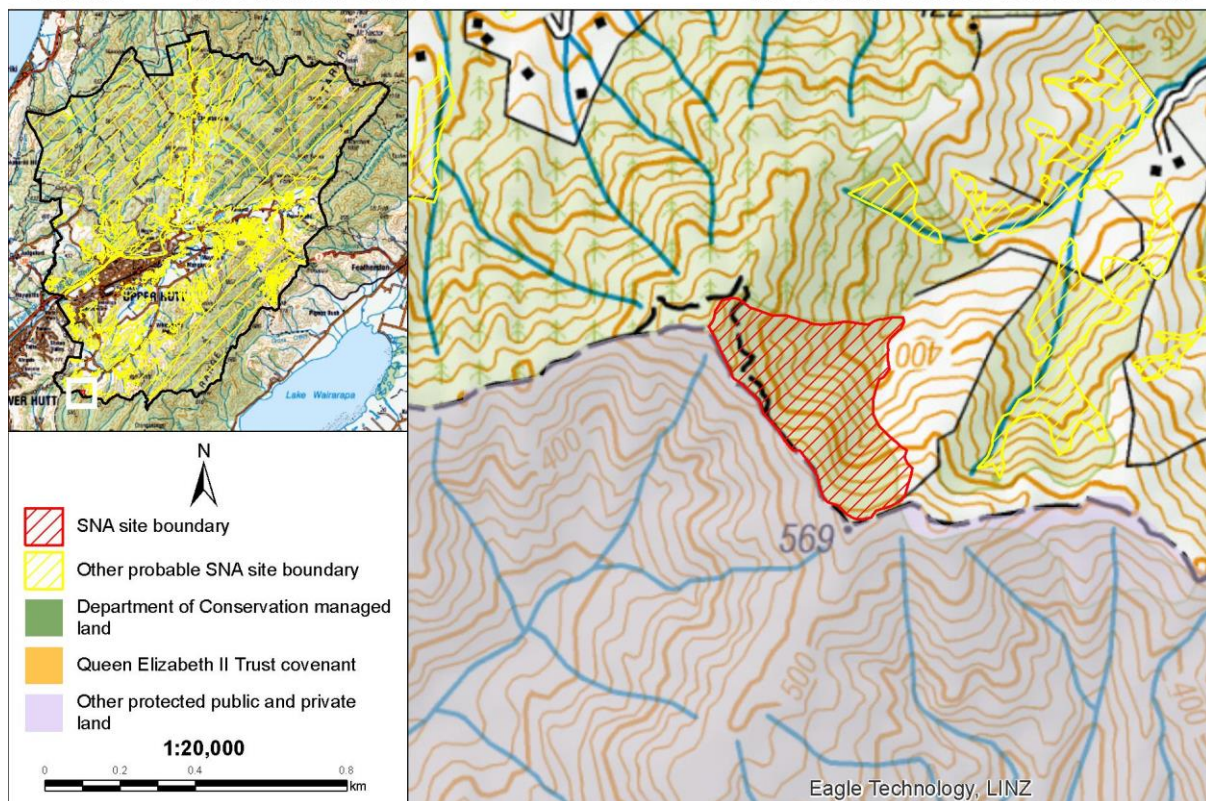
Ecological District: Tararua
Ecological Domain(s): 62 Rimutaka (<550 metres).
Digital Scale: 1:5,000
Altitude Range: 345-570 m a.s.l.
Grid Reference: NZTM E1769254 N5435436
Adjacent Vegetation and Habitats: Pasture, indigenous forest, plantation forest.
Notes on Overall Condition: Largely unknown, but contains a track along the south-eastern extent of the site.
Potential Land Management Issues: Largely unknown, but pine harvesting may impact on the sites values.
Sources of Information for this Site ^{Note#:} Google Earth, historic aerial imagery.

DRAFT

Context

Site Number: UH091

Site Name: Peak 569 forest and scrub



ASSESSED BY

Assessment Techniques: Species database, aerial imagery, partial road side viewing (large part not visible).
Assessed By: Helen White (Date 28/06/2018)
Reviewed By: Steve Rate (Date 2/8/2018)

NOTES

Please note that this statement is based on information available at the time of writing. No site visits were undertaken on private land. Due to the changing nature of ecosystems and surrounding land use, future assessment of the Significant Natural Area may be necessary to reflect any changes in knowledge, values, or boundaries that may influence its assessment as ecologically significant.

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DRAFT

Tvl Road wetland

INTRODUCTION

Site Name: Tvl Road wetland
Site Number: UH092
Site Location: Tvl Road.
Site Area: 1.14 ha.
Current Protection Status: Site has no legal protection.
Protection Type: Not applicable.

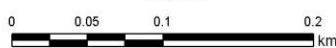
Site Map

Site Number: UH092

Site Name: Tvl Road wetland



1:5,000



— SNA site boundary

— District boundary

— Other probable SNA site boundary

- - Ecological District boundary

Site Summary: This small wetland is bisected by Tvl Road. The vegetation comprises mānuka (*Leptospermum scoparium*; At Risk-Declining^{Note##}), flax, *Carex secta*, raupō, and *Carex geminata*, and reportedly contains *Gahnia rigida* (regionally uncommon). Much of the canopy is exotic, and includes willows and macrocarpa. The site includes indigenous vegetation on land environments with less than 10% indigenous vegetation cover remaining. Bush falcon (*Falco novaeseelandiae*; At Risk-Recovering) has been recorded at the site.

IMPORTANT FEATURES

Threatened Indigenous Flora:	Mānuka (<i>Leptospermum scoparium</i> ; At Risk-Declining ^{Note##}) and the regionally rare sedge, <i>Gahnia rigida</i> has been recorded from the site.
Threatened Indigenous Fauna:	Bush falcon (<i>Falco novaeseelandiae</i> ; At Risk-Recovering) has been recorded at the site. Barking gecko (<i>Naultinus punctatus</i> ; At Risk-Declining) has been recorded near the site.
Threatened Land Environments:	More than 0.5 hectares on Chronically Threatened land environments (10-20% indigenous cover remaining).
Rare Habitats:	Freshwater wetlands are nationally rare, with less than 10% of their original extent remaining.
Geological Features:	None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	No	This site contains some elements that are representative of wetland systems.
RPS23b: Rarity	Yes	Wetlands are a threatened ecosystem type. One At Risk ^{Note##} and one regionally rare plant and one At Risk bird species. Includes more than 0.5 ha but less than 1 ha of indigenous vegetation on land environments with 10-20% vegetation cover remaining.
RPS23c: Diversity	No	Has a below average diversity of indigenous wetland species.
RPS23d: Ecological Context	No	Small, relatively isolated site.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

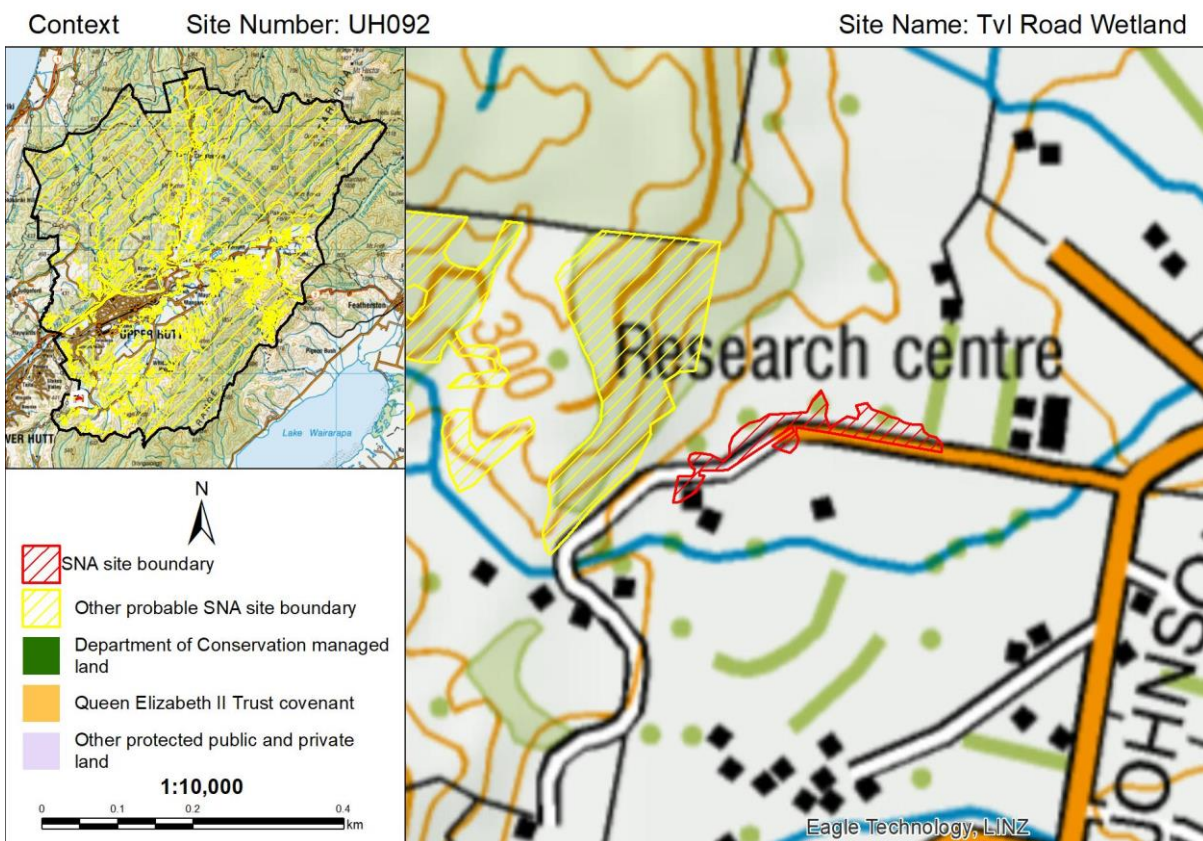
Ecological District:	Tararua
Ecological Domain(s):	61 Wainuiomata - Hutt - Kaitoke.
Digital Scale:	1:5,000
Altitude Range:	230-240 m a.s.l.
Grid Reference:	NZTM E1769178 N5438036

Adjacent Vegetation and Habitats: Road, pasture, macrocarpa.

Notes on Overall Condition: The area to the south of the road is fenced off but contains pasture grasses. The area north of Tvl Road is not fenced, but there is a canopy of macrocarpa trees and willow trees. The site provides habitat for bird species.

Potential Land Management Issues: Road runoff, native canopy restoration, fencing to exclude stock.

Sources of Information for this Site ^{Note#:}: Google Earth, historic aerial imagery.



ASSESSED BY

Assessment Techniques: Species database, aerial imagery, road side viewing.

Assessed By: Helen White (Date 25/06/2018)

Reviewed By: Steve Rate (Date 2/8/2018)

NOTES

Please note that this statement is based on information available at the time of writing. No site visits were undertaken on private land. Due to the changing nature of ecosystems and surrounding land use, future assessment of the Significant Natural Area may be necessary to reflect any changes in knowledge, values, or boundaries that may influence its assessment as ecologically significant.

An Explanatory Note is available in Appendix 9, which provides more information about how each of the above fields was collated or assessed.

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Mānuka (*Leptospermum scoparium*) has a national-level threat classification of At Risk-Declining, as per de Lange *et al.* 2018. Mānuka is a Myrtaceae species which is at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of mānuka has been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of mānuka at this site does not trigger the rarity criteria because the species is currently common and widespread in the local environment.

DRAFT

Tvl Road scrub

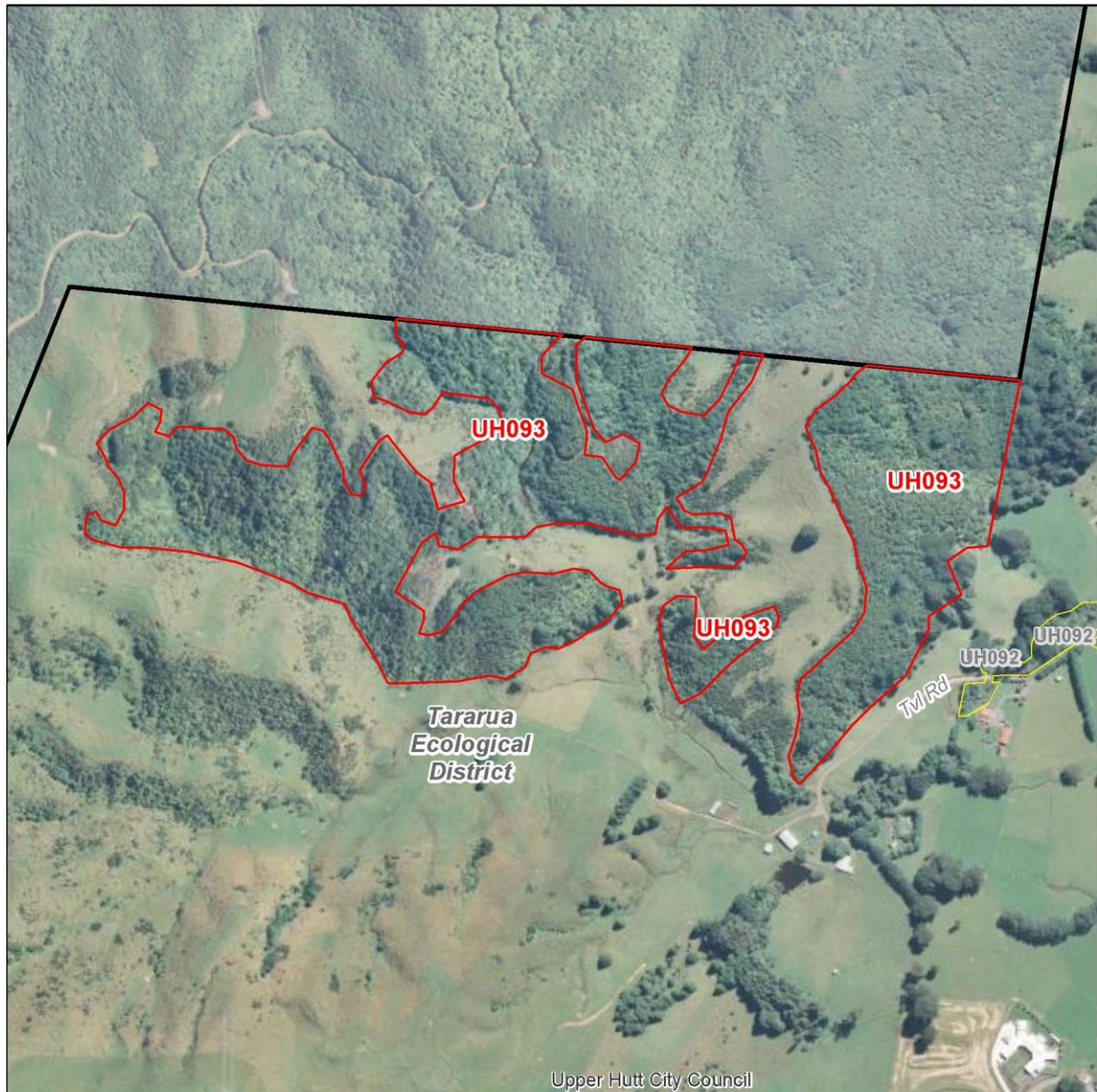
INTRODUCTION

Site Name: Tvl Road scrub
Site Number: UH093
Site Location: Tvl Road, Whitemans Valley.
Site Area: 17.23 ha.
Current Protection Status: Site has no legal protection.
Protection Type: Not applicable.

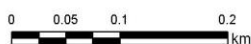
Site Map

Site Number: UH093

Site Name: Tvl Road scrub



1:7,000



— SNA site boundary

— Other probable SNA site boundary

— District boundary

- - Ecological District boundary

Site Summary: This site comprises regenerating indigenous forest and scrub that is contiguous with a larger area of indigenous vegetation in Hutt City (LH001- Eastern Hutt Hills-includes QEII 5/07/549). Plant species include kāmahi, patē and rimu (*Dacrydium cupressinum*; of local interest). Barking gecko (*Naultinus punctatus*, At Risk Declining) has been recorded at this site, and there are multiple bush falcon (*Falco novaeseelandiae ferox*; At Risk-Recovering) records nearby, suggesting that the site may provide habitat for this species.

IMPORTANT FEATURES

Threatened Indigenous Flora: No rare or uncommon plant species recorded, but rimu (*Dacrydium cupressinum*; of local interest) occurs at this site.

Threatened Indigenous Fauna: Barking gecko (*Naultinus punctatus*, At Risk-Declining) have been recorded at the site. Bush falcon (*Falco novaeseelandiae ferox*; At Risk-Recovering) has been recorded nearby.

Threatened Land Environments: More than five hectares on Critically Under protected land environments (>20% protection).

Rare Habitats: No rare habitats or communities known.

Geological Features: None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	Late succession broadleaved scrub is representative of current vegetation types, and also contains some elements representative of Singers and Rogers (2014) vegetation type: MF20-Hard beech forest which has less than 20% protected in Wellington region.
RPS23b: Rarity	Yes	One At Risk lizard species, and potentially one At Risk bird species.
RPS23c: Diversity	Yes	Likely to contain a natural diversity of species.
RPS23d: Ecological Context	Yes	Buffers a larger area of indigenous vegetation in Hutt City.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

Ecological District: Tararua

Ecological Domain(s): 61 Wainuiomata - Hutt - Kaitoke; 62 Rimutaka (<550 metres).

Digital Scale: 1:7,000

Altitude Range: 250-405 m a.s.l.

Grid Reference: NZTM E1768617 N5438165

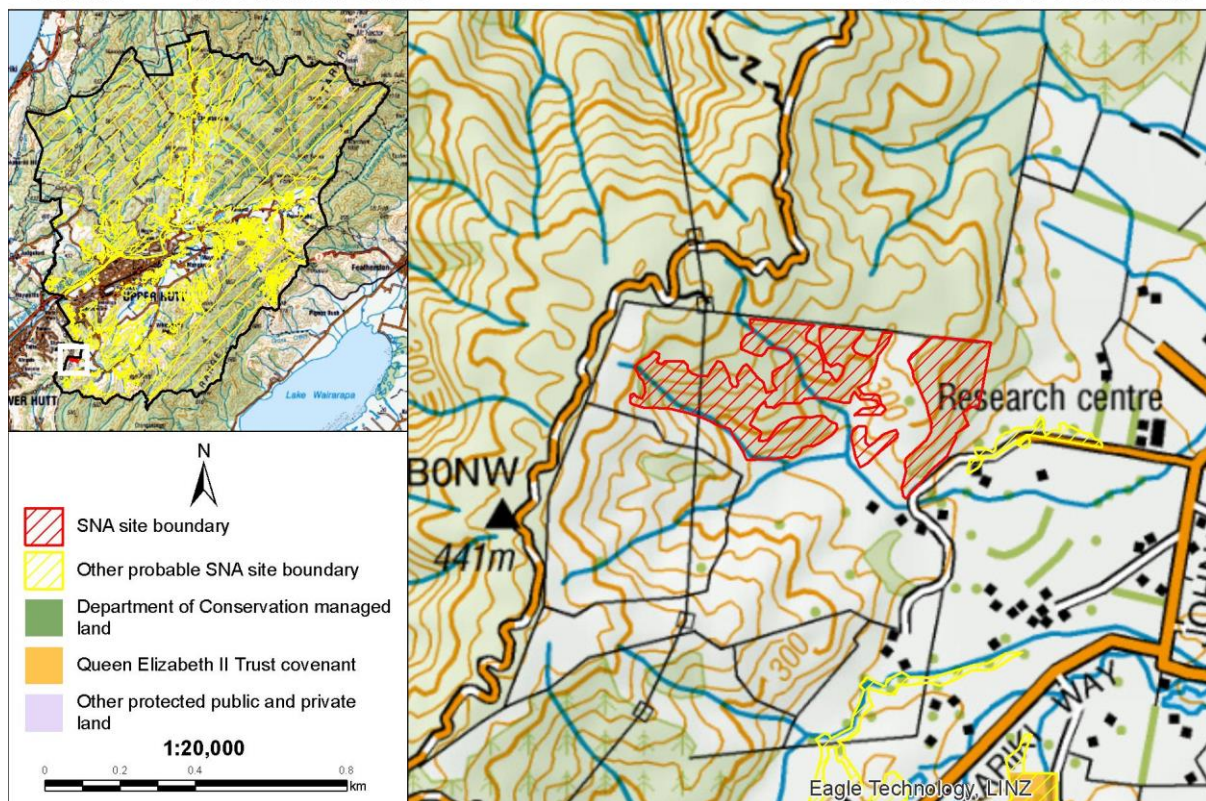
Adjacent Vegetation and Habitats: Pasture, indigenous forest, macrocarpa.

Notes on Overall Condition: Tracks, gaps in forest canopy, and some pasture present.

Potential Land Management Issues: Unknown.

Sources of Information for this Site ^{Note#}: Google Earth, Historic aerial imagery.

Context Site Number: UH093 Site Name: Tvl Road scrub



ASSESSED BY

Assessment Techniques: Species database, aerial imagery, road side viewing.

Assessed By: Helen White (Date 25/06/2018)

Reviewed By: Steve Rate (Date 2/8/2018)

NOTES

Please note that this statement is based on information available at the time of writing. No site visits were undertaken on private land. Due to the changing nature of ecosystems and surrounding land use, future assessment of the Significant Natural Area may be necessary to reflect any changes in knowledge, values, or boundaries that may influence its assessment as ecologically significant.

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DRAFT

Kākāriki Way wetlands

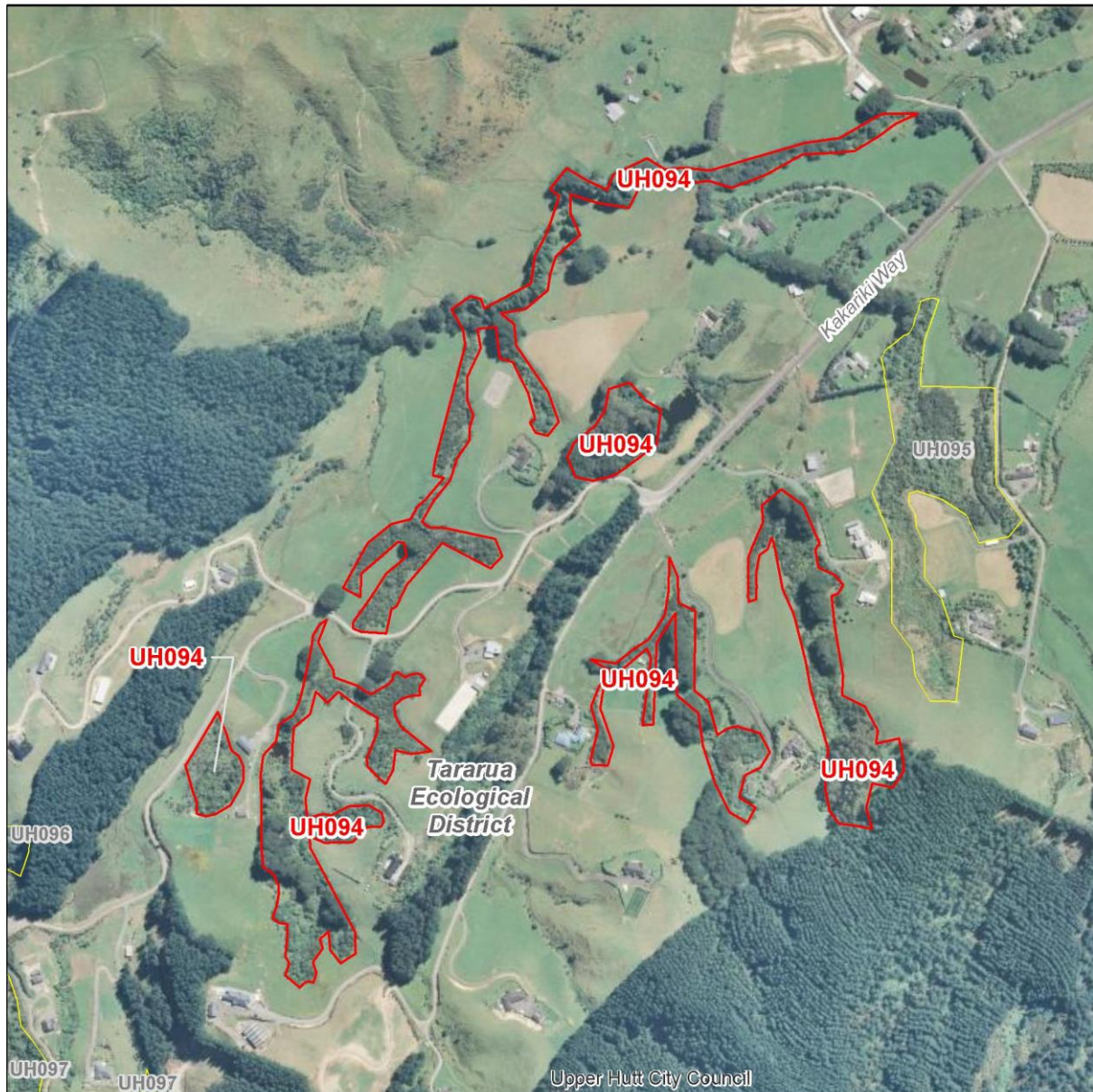
INTRODUCTION

Site Name: Kākāriki Way wetlands
Site Number: UH094
Site Location: Kākāriki Way.
Site Area: 10.44 ha.
Current Protection Status: Site has no legal protection.
Protection Type: Not applicable.

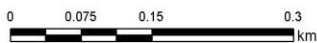
Site Map

Site Number: UH094

Site Name: Kākāriki Way wetlands



1:8,000



— SNA site boundary

— District boundary

— Other probable SNA site boundary

- - Ecological District boundary

Site Summary: This site comprises a network of vegetated wetlands and riparian zones around a tributary of the Mangaroa River. Species known from the site include rimu (*Dacrydium cupressinum*; of local interest), kahikatea (*Dacrycarpus dacrydioides*; of local interest) and mānuka (*Leptospermum scoparium*; At Risk-Declining^{Note##}), sedges, kāmahī and treefern. Much of the area appears fenced, but contains some pasture grass and likely non-indigenous tree species. Freshwater wetlands are nationally rare, with less than 10% of their original extent remaining. The site contains land environments with <10% indigenous cover remaining. NZ bush falcon (*Falco novaeseelandiae*; At Risk-Recovering) has been recorded at the site.

IMPORTANT FEATURES

Threatened Indigenous Flora: Mānuka (*Leptospermum scoparium*; At Risk-Declining^{Note##}), and of local interest rimu (*Dacrydium cupressinum*), and kahikatea (*Dacrycarpus dacrydioides*).

Threatened Indigenous Fauna: Bush falcon (*Falco novaeseelandiae*; At Risk-Recovering) has been recorded at the site. No fish records exist for this tributary, but historical records in the neighbouring tributary include the At Risk-Declining inanga (*Galaxias maculatus*) and longfin eel (*Anguilla dieffenbachia*).

Threatened Land Environments: More than 0.5 hectares on Acutely Threatened land environments (<10% indigenous cover remaining).

Rare Habitats: Freshwater wetlands are nationally rare, with less than 10% of their original extent remaining.

Geological Features: None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

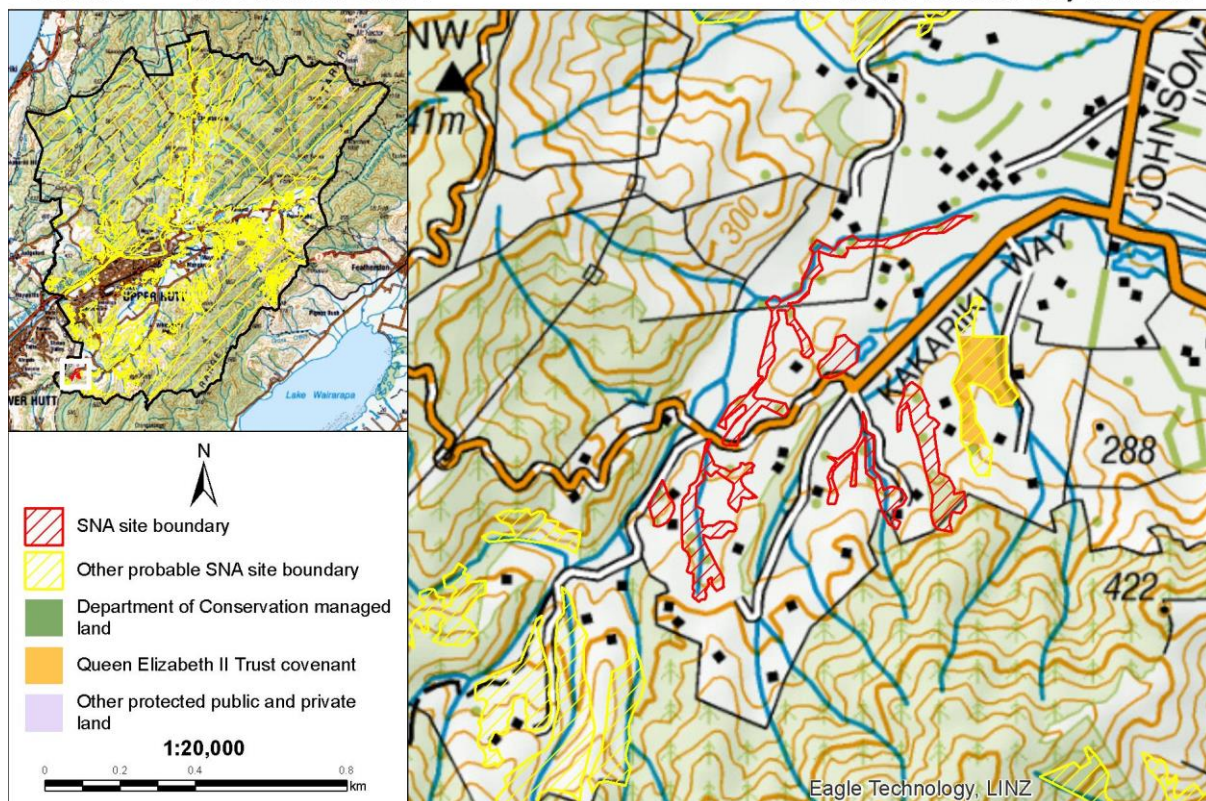
RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	These sites are likely to be representative of current wetland ecosystem types in the Wellington region. Wetlands are rare at a national and regional scale.
RPS23b: Rarity	Yes	Freshwater wetlands are nationally rare (<10% of their original extent remains) and a regionally uncommon habitat type. One At Risk plant species ^{Note##} and one At Risk bird species are known from this site. Includes indigenous vegetation on land environments with less than 10% indigenous vegetation cover remaining.
RPS23c: Diversity	No	Has a below average wetland species diversity.
RPS23d: Ecological Context	Yes	A small network of vegetated wetland and riparian zones. Buffers waterways from adjacent landuse impacts.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

Ecological District: Tararua
Ecological Domain(s): 61 Wainuiomata - Hutt - Kaitoke; 62 Rimutaka (<550 metres).
Digital Scale: 1:8,000
Altitude Range: 230-295 m a.s.l.
Grid Reference: NZTM E1768717 N5436892
Adjacent Vegetation and Habitats: Pasture.
Notes on Overall Condition: Degraded, but includes some characteristic wetland vegetation.
Potential Land Management Issues: Partially fenced, stock exclusion fencing may be required.
Sources of Information for this Site ^{Note#:} Google Earth, historic aerial imagery.

Context Site Number: UH094

Site Name: Kākāriki Way wetlands



ASSESSED BY

Assessment Techniques: Species database, aerial imagery, road side viewing.
Assessed By: Helen White (Date 26/06/2018)
Reviewed By: Steve Rate (Date 2/8/2018)

NOTES

Please note that this statement is based on information available at the time of writing. No site visits were undertaken on private land. Due to the changing nature of ecosystems and surrounding land use, future assessment of the Significant Natural Area may be necessary to reflect any changes in knowledge, values, or boundaries that may influence its assessment as ecologically significant.

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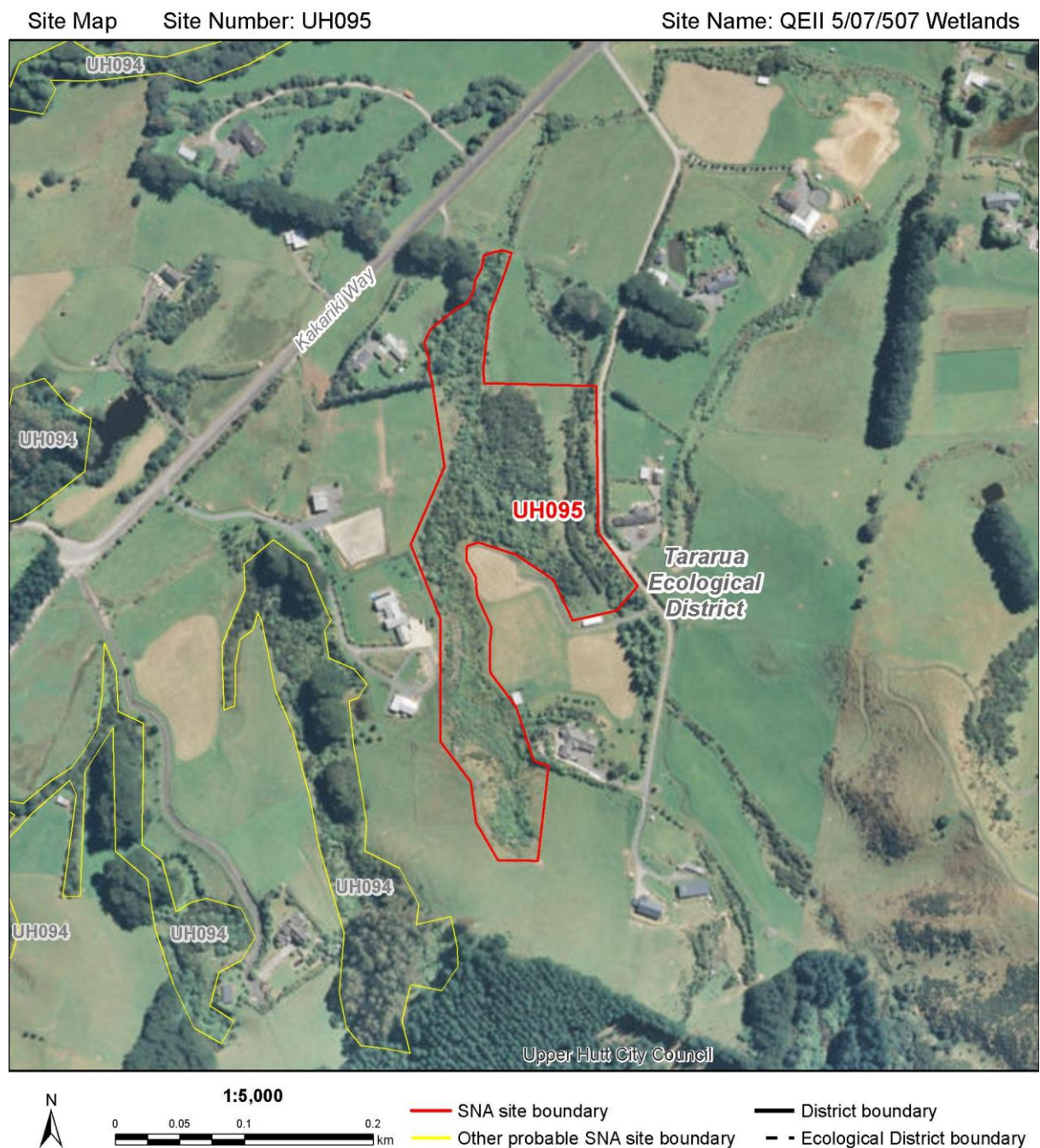
Mānuka (*Leptospermum scoparium*) has a national-level threat classification of At Risk-Declining, as per de Lange *et al.* 2018. Mānuka is a Myrtaceae species which is at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of mānuka has been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of mānuka at this site does not trigger the rarity criteria because the species is currently common and widespread in the local environment.

DRAFT

QEII 5/07/507 Wetlands

INTRODUCTION

Site Name: QEII 5/07/507 Wetlands
Site Number: UH095
Site Location: Kākāriki Way, Whitemans Valley.
Site Area: 3.44 ha.
Current Protection Status: Site is partially legally protected.
Protection Type: QEII covenant.



Site Summary: This site includes QEII covenant 5/07/507 and is part of a larger network of remnant wetlands and riparian zones along Kākāriki Way, Whitemans Valley. It contains indigenous scrub and a wetland along a stream. Plant species include mānuka (*Leptospermum scoparium*; At Risk-Declining^{Note##}), hebe species, toetoe, kohuhu, and cabbage tree. Freshwater wetlands are nationally rare, with less than 10% of their original extent remaining. The site contains indigenous vegetation on land environments with less than 10% indigenous vegetation cover remaining.

IMPORTANT FEATURES

Threatened Indigenous Flora:	Mānuka (<i>Leptospermum scoparium</i> ; At Risk-Declining ^{Note##})
Threatened Indigenous Fauna:	No rare fauna are known from the site. No fish records exist for this tributary, but historical records in the neighbouring, and connected tributary include At Risk-Declining: inanga (<i>Galaxias maculatus</i>), and longfin eel (<i>Anguilla dieffenbachia</i>).
Threatened Land Environments:	More than 0.5 hectares on Acutely Threatened land environments (<10% indigenous cover remaining).
Rare Habitats:	Freshwater wetlands are nationally rare, with less than 10% of their original extent remaining.
Geological Features:	None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	These sites are likely to be representative of current wetland ecosystem types in the Wellington region. Wetlands are rare at a national and regional scale.
RPS23b: Rarity	Yes	Freshwater wetlands are nationally rare (<10% of their original extent remains) and a regionally uncommon habitat type. One At Risk plant species ^{Note##} . Includes indigenous vegetation on land environments with less than 10% indigenous vegetation cover remaining.
RPS23c: Diversity	No	Likely to have a reduced diversity
RPS23d: Ecological Context	Yes	Isolated in pasture, but likely to be connected to nearby wetlands seasonally via an ephemeral stream.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

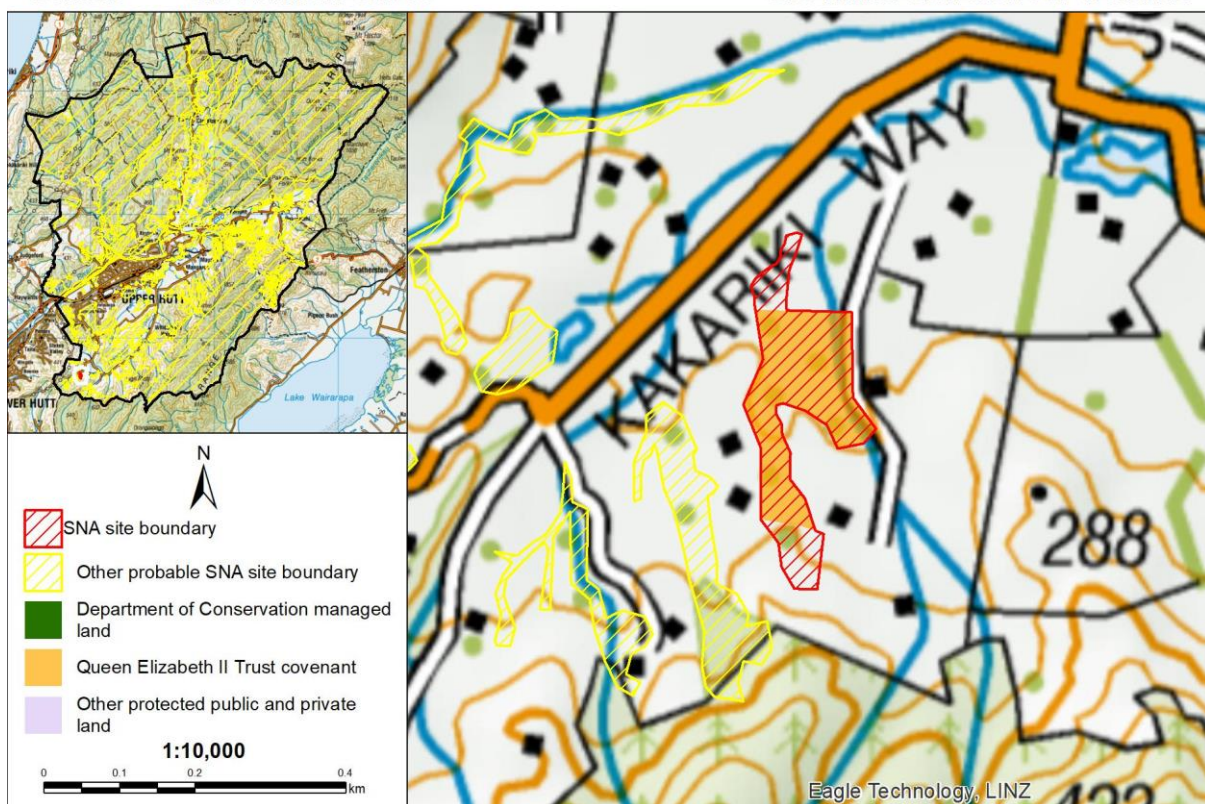
SITE CONTEXT AND OTHER INFORMATION

Ecological District:	Tararua
Ecological Domain(s):	61 Wainuiomata - Hutt - Kaitoke; 62 Rimutaka (<550 metres).
Digital Scale:	1:5,000

Upper Hutt District Plan - Significant Natural Area Assessment - Significance Statement

Altitude Range: 230-270 m a.s.l.
Grid Reference: NZTM E1769167 N5437023
Adjacent Vegetation and Habitats: Pasture, residential.
Notes on Overall Condition: Unknown.
Potential Land Management Issues: Unknown.
Sources of Information for this Site ^{Note#:}: Google Earth.

Context Site Number: UH095 Site Name: QEII 5/07/507 Wetlands



ASSESSED BY

Assessment Techniques: Species database, aerial imagery.
Assessed By: Helen White (Date 26/06/2018)
Reviewed By: Steve Rate (Date 2/8/2018)

NOTES

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Mānuka (*Leptospermum scoparium*) has a national-level threat classification of At Risk-Declining, as per de Lange *et al.* 2018. Mānuka is a Myrtaceae species which is at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of mānuka has been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However, the presence of mānuka at this site does not trigger the rarity criteria because the species is currently common and widespread in the local environment.

DRAFT

Kākāriki Way forest

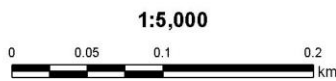
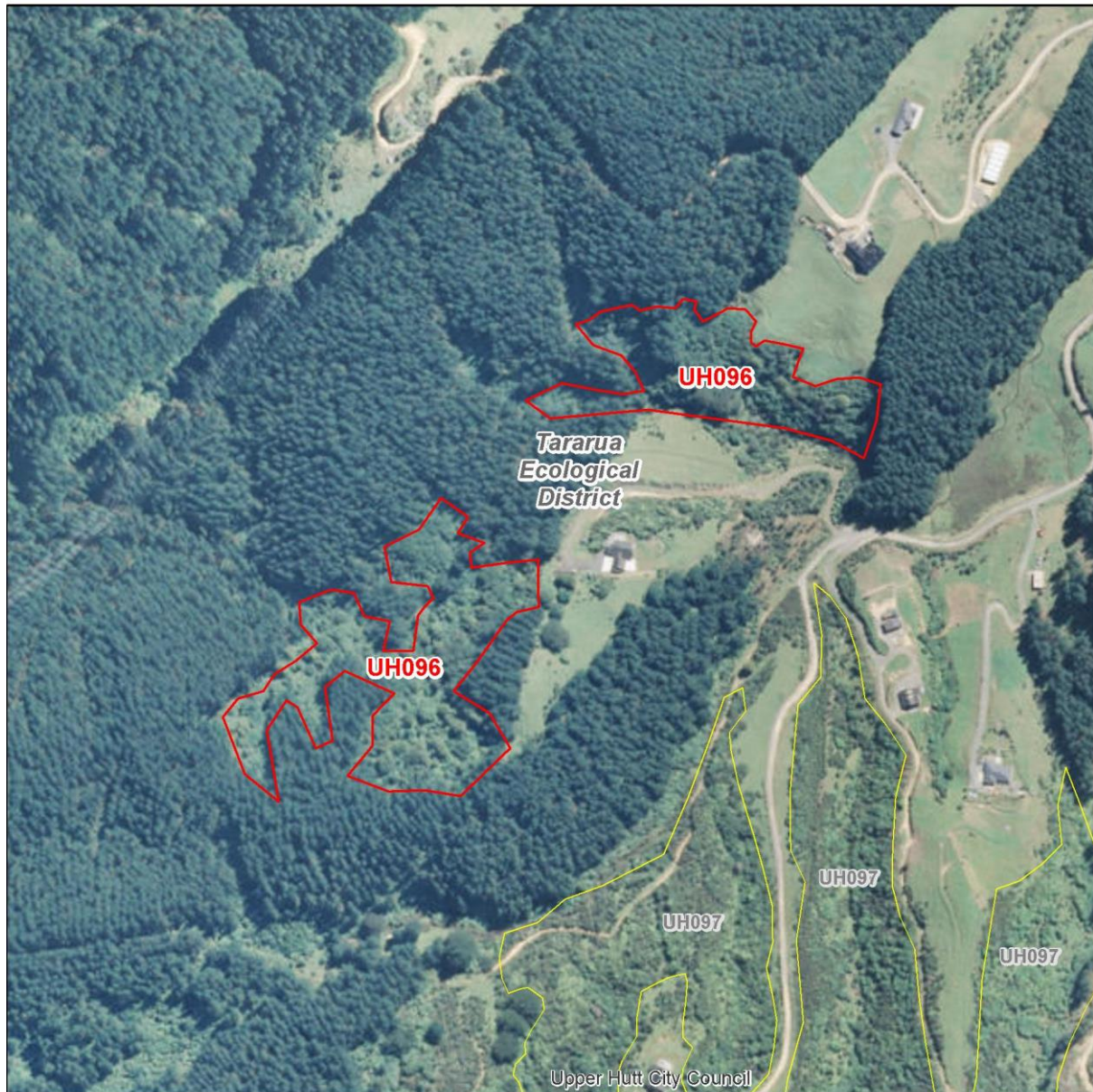
INTRODUCTION

Site Name: Kākāriki Way forest
Site Number: UH096
Site Location: End of Kākāriki Way.
Site Area: 3.59 ha.
Current Protection Status: Site has no legal protection.
Protection Type: Not applicable.

Site Map

Site Number: UH096

Site Name: Kākāriki Way forest



— SNA site boundary

— Other probable SNA site boundary

— District boundary

- - Ecological District boundary

Upper Hutt District Plan - Significant Natural Area Assessment - Significance Statement

Site Summary: Two small blocks of remnant and regenerating broadleaved forest, surrounded by pine plantations and including kāmahi and rimu (*Dacrydium cupressinum*; of local interest).

IMPORTANT FEATURES

Threatened Indigenous Flora: No rare flora are known from the site, but one species of local interest, rimu (*Dacrydium cupressinum*).

Threatened Indigenous Fauna: No rare fauna are known from the site.

Threatened Land Environments: More than 0.5 hectares on indigenous vegetation on At Risk land environments (20-30% indigenous vegetation cover remaining)

Rare Habitats: No rare habitats or communities known.

Geological Features: None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	Late succession broadleaved scrub is representative of current vegetation types, and is likely to contain elements representative of Singers and Rogers (2014) vegetation type: MF20-Hard beech forest which has less than 20% protected in Wellington region, and MF7-Tawa, kāmahi, podocarp forest, of which less than 30% remains in the Wellington region, and less than 20% is protected, in Upper Hutt District.
RPS23b: Rarity	No	No rare features known.
RPS23c: Diversity	No	Has a reduced diversity.
RPS23d: Ecological Context	Yes	Stepping stone habitat that is contiguous with pine forest that connects to the Wainuomata Mainland Island.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

Ecological District: Tararua

Ecological Domain(s): 61 Wainuomata - Hutt - Kaitoke; 62 Rimutaka (<550 metres).

Digital Scale: 1:5,000

Altitude Range: 270-355 m a.s.l.

Grid Reference: NZTM E1767844 N5436505

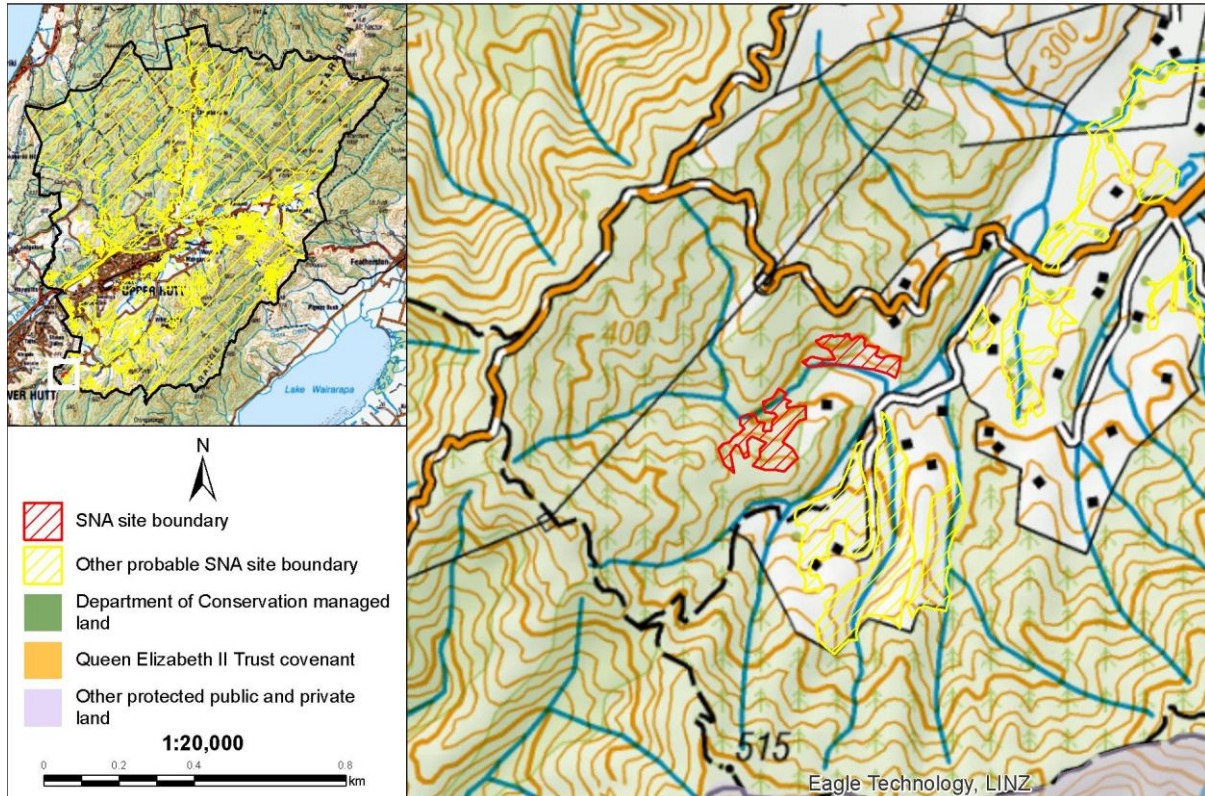
Adjacent Vegetation and Habitats: Pine plantation, pasture, houses.

Notes on Overall Condition: Unknown.

Potential Land Management Issues: A resource consent has been granted in the eastern most block - 184 Kakariki Way.

Sources of Information for this Site^{Note#}: Google Earth, Historic aerial imagery.

Context Site Number: UH096 Site Name: Kākāriki Way forest



ASSESSED BY

Assessment Techniques: Species database, aerial imagery, road side viewing.
Assessed By: Helen White & Astrid van Meeuwen-Dijkgraaf (Date 26/06/2018)
Reviewed By: Steve Rate (Date 2/8/2018)

NOTES

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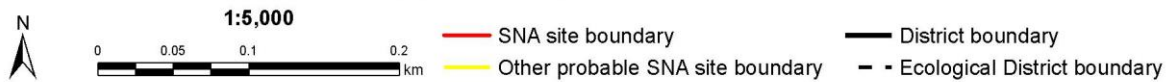
Kākāriki Way scrub

INTRODUCTION

Site Name: Kākāriki Way scrub
Site Number: UH097
Site Location: End of Kākāriki Way.
Site Area: 12.03 ha.
Current Protection Status: Site has no legal protection.
Protection Type: Not applicable.

Site Map Site Number: UH097

Site Name: Kākāriki Way scrub



Upper Hutt District Plan - Significant Natural Area Assessment - Significance Statement

Site Summary: This SNA includes fingers of indigenous vegetation extending from pine plantations. The vegetation is comprised of early succession forest, such as low stature māhoe, mānuka (*Leptospermum scoparium*; At Risk-Declining^{Note##}), treefern and gorse. The central block includes a tributary of the Mangaroa River.

IMPORTANT FEATURES

Threatened Indigenous Flora: Mānuka (*Leptospermum scoparium*; At Risk-Declining)^{Note##}.

Threatened Indigenous Fauna: No rare fauna are known from the site.

Threatened Land Environments: More than five hectares on At Risk land environments (20-30% indigenous vegetation remaining).

Rare Habitats: No rare habitats or communities known.

Geological Features: None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	Early successional forest has limited elements representative of pre-human vegetation types, but is representative of the current diversity.
RPS23b: Rarity	No	One At Risk plant species ^{Note##} .
RPS23c: Diversity	No	Modified, with likely reduced diversity of ecological units.
RPS23d: Ecological Context	Yes	Stepping stone habitat that is contiguous with pine forest that connects to the Wainuomata Mainland Island.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

Ecological District: Tararua

Ecological Domain(s): 61 Wainuomata - Hutt - Kaitoke; 62 Rimutaka (<550 metres).

Digital Scale: 1:5,000

Altitude Range: 270-385 m a.s.l.

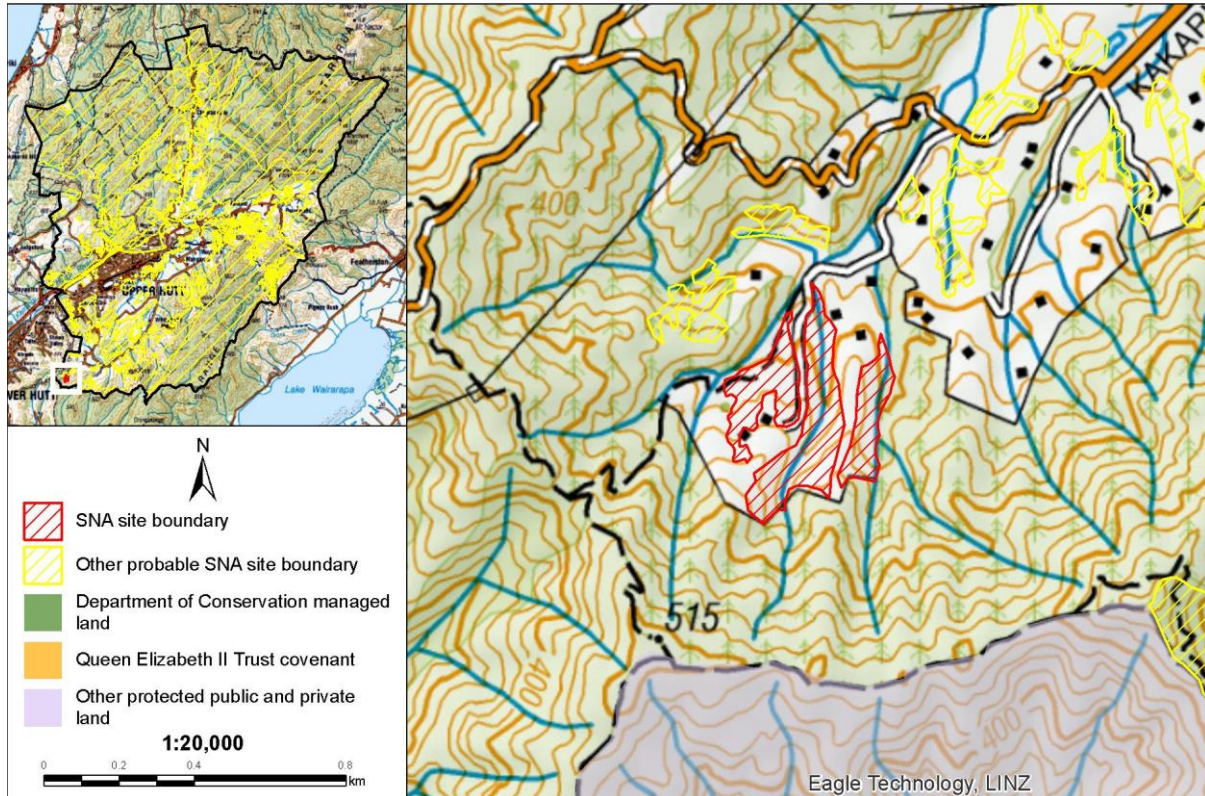
Grid Reference: NZTM E1768049 N5436134

Adjacent Vegetation and Habitats: Pine plantation, pasture, houses.

Notes on Overall Condition: Unknown.

Potential Land Management Issues: Unknown.
Sources of Information for this Site ^{Note#:}: Google Earth, Historic aerial imagery.

Context Site Number: UH097 Site Name: Kākāriki Way scrub



ASSESSED BY

Assessment Techniques: Species database, aerial imagery, road side viewing.
Assessed By: Helen White & Astrid van Meeuwen-Dijkgraaf (Date 26/06/2018)
Reviewed By: Steve Rate (Date 2/8/2018)

NOTES

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Mānuka (*Leptospermum scoparium*) has a national-level threat classification of At Risk-Declining, as per de Lange *et al.* 2018. Mānuka is a Myrtaceae species which is at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of mānuka has been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However the presence of mānuka at this site does not trigger the rarity criteria because the species is currently common and widespread in the local environment.

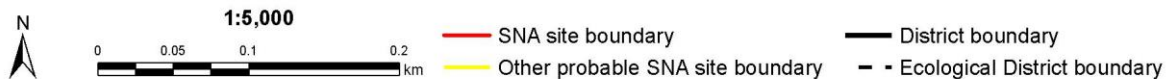
DRAFT

Agate Grove forest and scrub remnant

INTRODUCTION

Site Name: Agate Grove forest and scrub remnant
Site Number: UH098
Site Location: Between Akatarawa Road and Birchville School.
Site Area: 1.17 ha.
Current Protection Status: Site is partially legally protected.
Protection Type: UHCC park.

Site Map Site Number: UH098 Site Name: Agate Grove forest and scrub remnant



Site Summary: This site comprises a small remnant of tawa forest with beech and podocarp species, including tōtara (*Podocarpus totara*; of local interest) and kahikatea (*Dacrycarpus dacrydioides*; of local interest), as well as other broadleaved species, including māhoe, karamū, and kawakawa. This site contains indigenous vegetation on land environments with less than 10% indigenous vegetation cover remaining.

IMPORTANT FEATURES

Threatened Indigenous Flora: No rare plant species are known from the site, but does include two species of local interest; tōtara (*Podocarpus totara*) and kahikatea (*Dacrycarpus dacrydioides*).

Threatened Indigenous Fauna: No rare fauna are known from the site.

Threatened Land Environments: More than 0.5 hectares on Acutely Threatened land environments (<10% indigenous cover remaining).

Rare Habitats: Valley floor forest is uncommon in the Hutt Valley.

Geological Features: None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	The vegetation at this site is representative of Singers and Rogers (2014) vegetation types: MF20-Hard beech forest, which has less than 20% protected in the Wellington region.
RPS23b: Rarity	Yes	Contains indigenous vegetation on land environments with less than 10% indigenous vegetation cover remaining.
RPS23c: Diversity	Yes	Contains a good diversity of species, including species which are indicative of primary forests.
RPS23d: Ecological Context	No	Relatively small site, but may provide connectivity between either side of the Hutt Valley.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

SITE CONTEXT AND OTHER INFORMATION

Ecological District: Tararua, Wellington

Ecological Domain(s): 61 Wainuiomata - Hutt - Kaitoke.

Digital Scale: 1:5,000

Altitude Range: 85-85 m a.s.l.

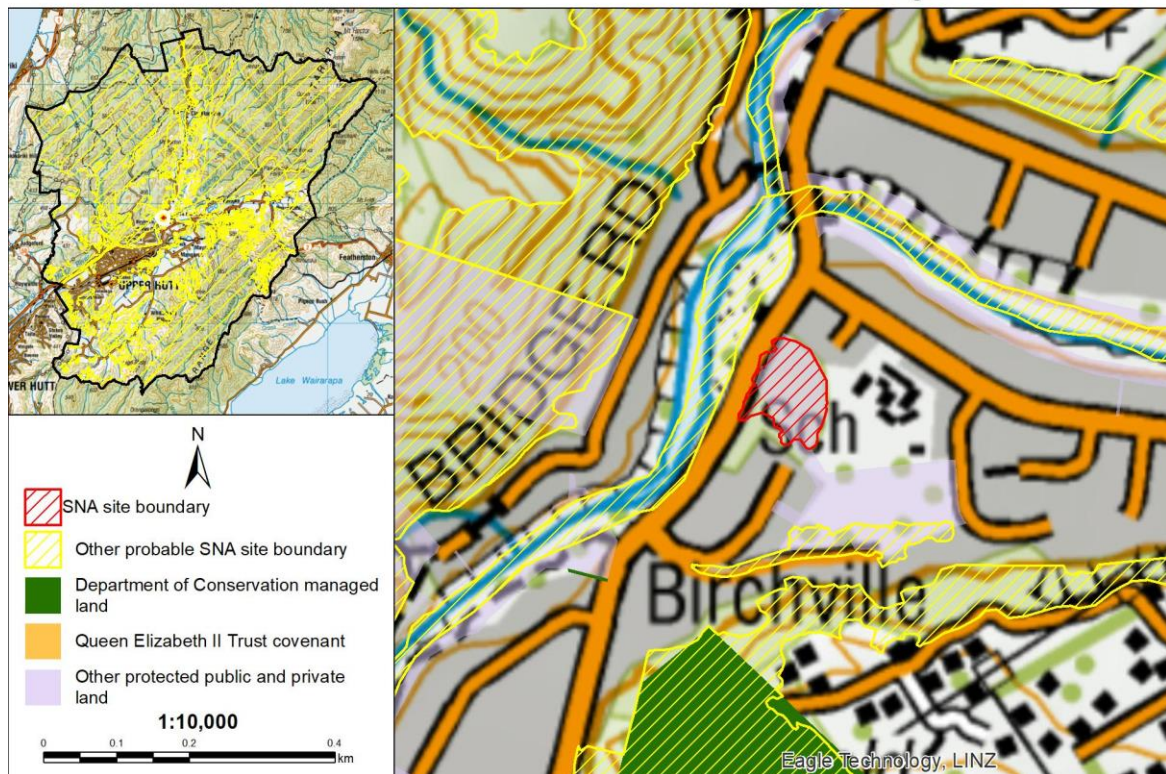
Grid Reference: NZTM E1776219 N5448842

Adjacent Vegetation and Habitats: Residential, Birchville School.

Notes on Overall Condition: Unknown.
Potential Land Management Issues: Unknown.
Sources of Information for this Site ^{Note#:}: Google Earth.

Context Site Number: UH098

Site Name: Agate Grove Remnant



ASSESSED BY

Assessment Techniques: Aerial imagery, road side viewing.
Assessed By: Keely Paler (Date 27/06/2018)
Reviewed By: Steve Rate (Date 2/8/2018)

NOTES

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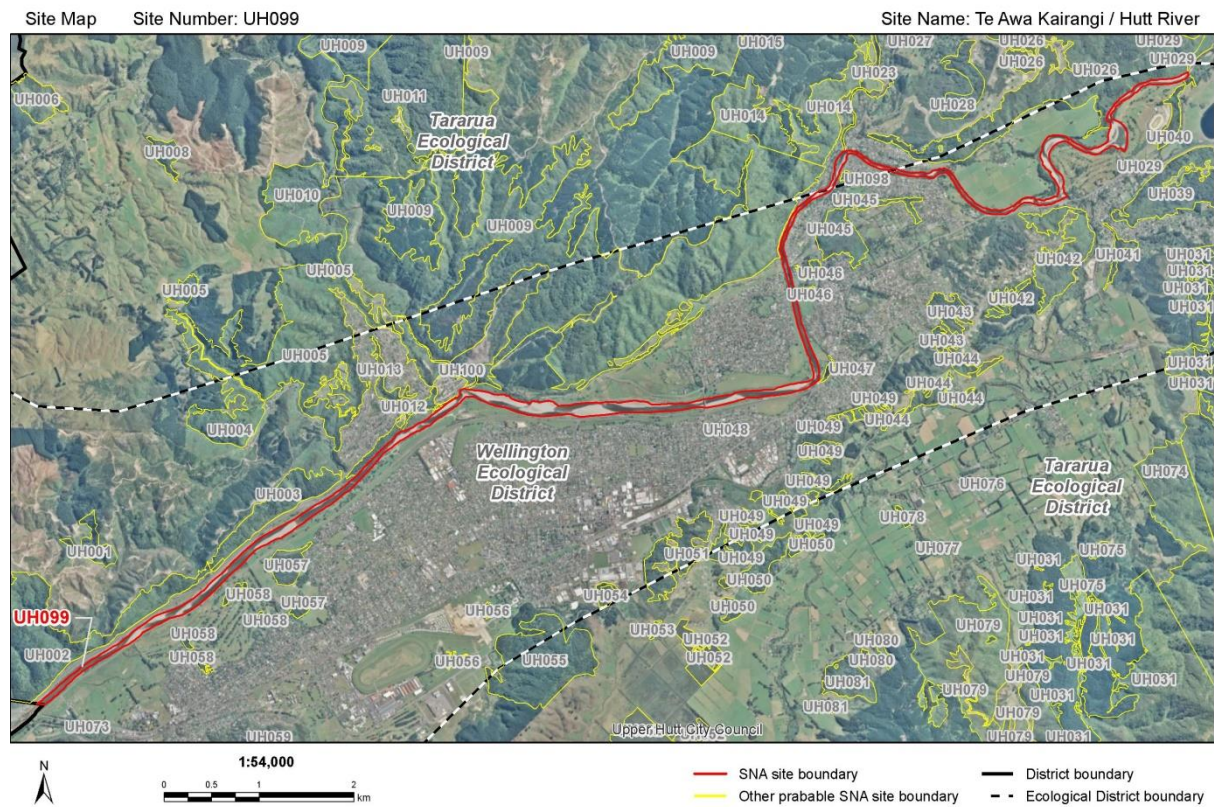
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Te Awa Kairangi / Hutt River

INTRODUCTION

Site Name: Te Awa Kairangi / Hutt River
Site Number: UH099
Site Location: Between Kaitoke Regional Park and the boundary with Lower Hutt.
Site Area: 117.80 ha.
Current Protection Status: Site is partially legally protected.
Protection Type: UHCC park.



Site Summary: This site includes the Te Awa Kairangi/Hutt River and associate gravel upstream as far as Kaitoke Regional Park. This site supports a diversity of bird species including the the Threatened-Nationally Vulnerable Caspian tern (*Hydroprogne caspia*), the At Risk-Declining whitehead (*Mohoua albigilla*), the At Risk-Naturally Uncommon black shag (*Phalacrocorax carbo novaehollandiae*) and royal spoonbill (*Platalea regia*), the At Risk-Recovering variable oystercatcher (*Haematopus unicolor*) and bush falcon (*Falco novaeseelandiae ferox*), long-tailed cuckoo (*Eudynamys taitensis*; At Risk-Naturally Uncommon), and the regionally uncommon bellbird (*Anthornis melanura melanura*). Additionally there are a number of indigenous fish species recorded in this river, including lamprey (*Geotria australis*; Threatened-Nationally Vulnerable); the At Risk-Declining bluegill bully (*Gobiomorphus hubbsi*), dwarf galaxias (*Galaxias divergens*), redfin bully (*Gobiomorphus huttoni*), giant kōkopu (*Galaxias argenteus*), inanga (*Galaxias maculatus*), kōaro (*Galaxias brevipinnis*), and longfin eel (*Anguilla dieffenbachii*); as well as the Not Threatened common bully (*Gobiomorphus cotidianus*), Cran's bully (*Gobiomorphus basalis*), giant bully (*Gobiomorphus gobioides*), and shortfin eel (*Anguilla australis*). This site is representative of a semi-braided river (braided Rivers are a nationally Endangered ecosystem type), and contains the Wellington Fault, and Harcourt Park Faulted Terraces (rare geological landform)

IMPORTANT FEATURES

Threatened Indigenous Flora:	No rare plant species are known from the site.
Threatened Indigenous Fauna:	Birds recorded include the Threatened-Nationally Vulnerable Caspian tern (<i>Hydroprogne caspia</i>), the At Risk-Declining whitehead (<i>Mohoua albigilla</i>), the At Risk-Naturally Uncommon black shag (<i>Phalacrocorax carbo novaehollandiae</i>) and royal spoonbill (<i>Platalea regia</i>), the At Risk-Recovering variable oystercatcher (<i>Haematopus unicolor</i>) and bush falcon (<i>Falco novaeseelandiae ferox</i>), long-tailed cuckoo (<i>Eudynamys taitensis</i> ; At Risk-Naturally Uncommon), and the regionally uncommon bellbird (<i>Anthornis melanura melanura</i>). Other Threatened, At Risk, and regionally uncommon bird species recorded nearby. Freshwater fish recorded at the site are the Threatened-Nationally Vulnerable lamprey (<i>Geotria australis</i>) and the At Risk-Declining bluegill bully (<i>Gobiomorphus hubbsi</i>), longfin eel (<i>Anguilla dieffenbachii</i>) and redfin bully (<i>Gobiomorphus huttoni</i>).
Threatened Land Environments:	More than 0.5 hectares on Acutely Threatened land environments (<10% indigenous cover remaining).
Rare Habitats:	Semi-braided river. Braided Rivers are a nationally Endangered ecosystem type.
Geological Features:	Wellington Fault, Harcourt Park Faulted Terraces (rare geological landform)

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	No	Very little indigenous, representative vegetation remains, and the current river is probably not representative of its natural flow.
RPS23b: Rarity	Yes	Contains the Wellington Fault, Harcourt Park Faulted Terraces (rare geological landform). Records for one Threatened, six At Risk and one regionally rare bird species, and one Threatened and three At Risk freshwater fish species. Flows through areas that contain land environments with less than 10% indigenous vegetation remaining.
RPS23c: Diversity	Yes	Still retains good diversity of fish species.
RPS23d: Ecological Context	Yes	Important connectivity along the Te Awa Kairangi/Hutt River between the sea and headwater habitats that are largely forested.
RPS23e: Tangata Whenua Values	Yes	Ngāti Toa Rangatira; Schedule B in the Proposed Natural Resources Plan-Ngā Taonga Nui a Kiwa (Policies P1 and P20); H-Contact recreation and Māori use. wāhi tapu (battle site), mahinga kai.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

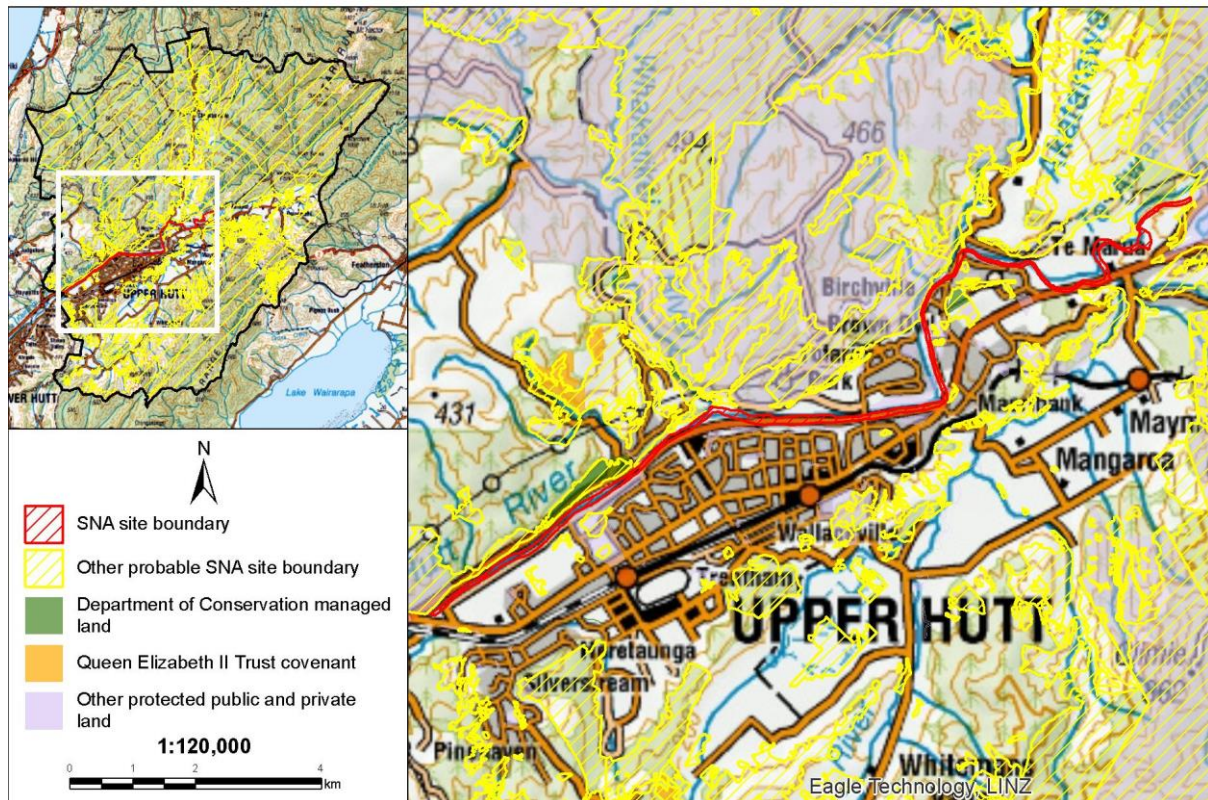
SITE CONTEXT AND OTHER INFORMATION

Ecological District:	Wellington, Tararua
Ecological Domain(s):	61 Wainuiomata - Hutt - Kaitoke; 58 Tararua (<550 metres)
Digital Scale:	1:54,000
Altitude Range:	35-120 m a.s.l.
Grid Reference:	NZTM E1773914 N5446768
Adjacent Vegetation and Habitats:	Road and rail infrastructure, residential parks and housing.
Notes on Overall Condition:	Water course has been modified by erosion protection measures.
Potential Land Management Issues:	Sediment and contaminant input from surrounding land use.
Sources of Information for this Site ^{Note#}:	Freshwater fish database, Google Earth, eBird 2017, Kenny and Hayward 1996.

Context

Site Number: UH099

Site Name: Te Awa Kairangi / Hutt River



ASSESSED BY

Assessment Techniques: Aerial imagery, species databases.
Assessed By: Astrid van Meeuwen-Dijkgraaf (Date 1/08/2018)
Reviewed By: Steve Rate (Date 2/8/2018)

NOTES

Please note that this statement is based on information available at the time of writing. No site visits were undertaken on private land. Due to the changing nature of ecosystems and surrounding land use, future assessment of the Significant Natural Area may be necessary to reflect any changes in knowledge, values, or boundaries that may influence its assessment as ecologically significant.

An Explanatory Note is available in Appendix 9, which provides more information about how each of the above fields was collated or assessed.

The full list of data sources and references used to assess sites is listed in the main body of the report under REFERENCES and also in the EXPLANATORY NOTES in Appendix 9. Aerial photography (2017 colour) was used to view and evaluate all sites, additional sources such as historic aerial photography in Google Earth, was used to inform site values and improve site boundaries.

Whakatikei River

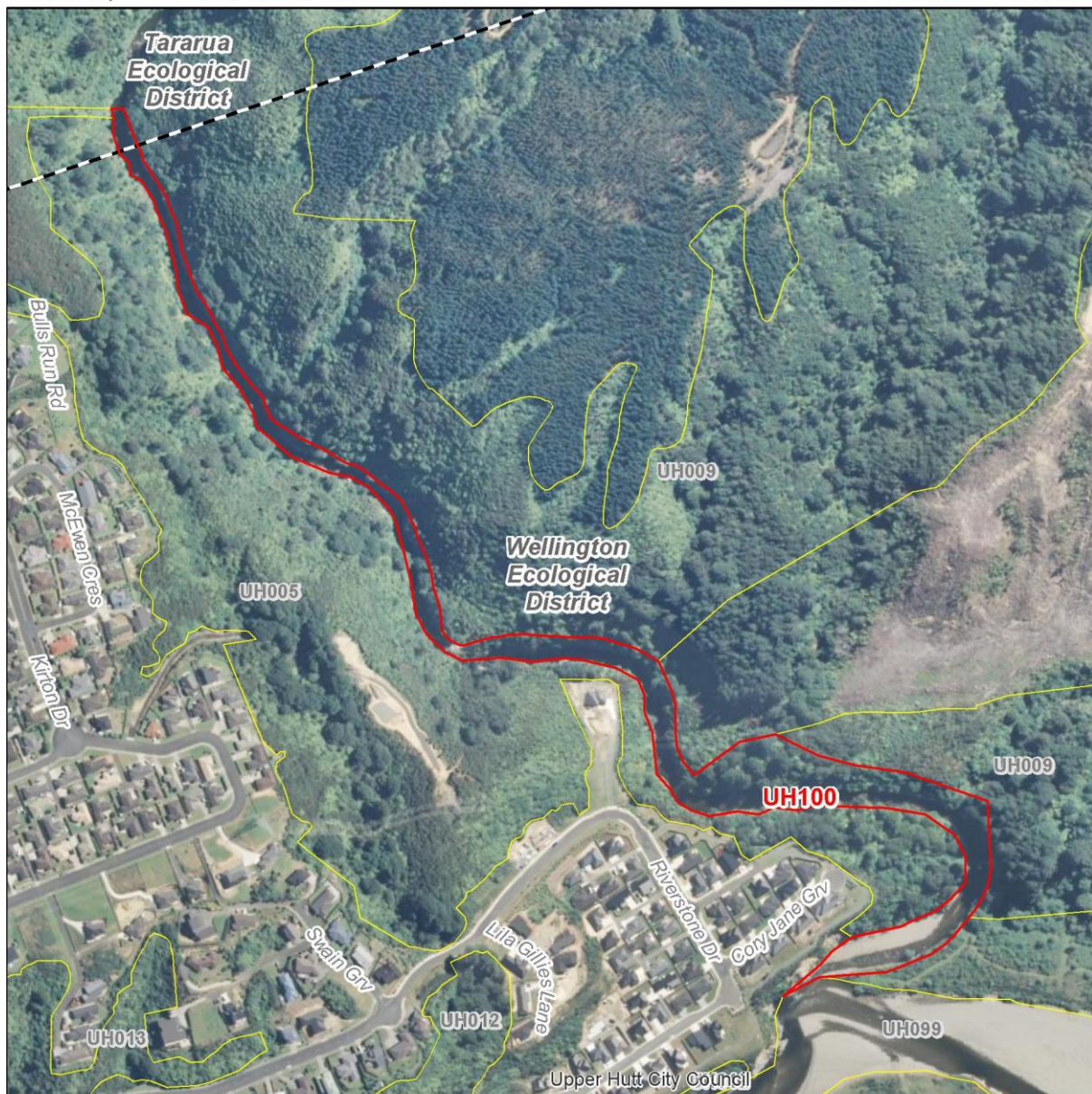
INTRODUCTION

Site Name: Whakatikei River
Site Number: UH100
Site Location: A 1.3 km reach above the confluence of the Te Awa Kairangi/Hutt River and Whakatikei River.
Site Area: 3.33 ha.
Current Protection Status: Site is partially legally protected.
Protection Type: GWRC water collection area.

Site Map

Site Number: UH100

Site Name: Whakatikei River



1:6,000



— SNA site boundary

— Other probable SNA site boundary

— District boundary

- - Ecological District boundary



Site Summary: The Whatatiki River is an approximately 15 kilometre long river which flows generally southeast from its sources close to the west coast, five kilometres southeast of Paekakariki. It flows through and adjacent to a range of other SNA such as UH009-Akatarawa Forest KNE and UH005-North Moonshine Hill Road. The reach of Whakatiki River downstream of the Akatarawa Forest KNE has been included in this SNA as the river and riparian vegetation either side of the river is important to protect habitat of indigenous aquatic species, connectivity for migrating fish species, and instream values of the Whakatiki River and Te Awa Kairangi/Hutt River. The catchment is known to provide habitat for three At Risk-Declining fish species including koaro (*Galaxias brevipinnis*), longfin eel (*Anguilla dieffenbachia*), and redfin bully (*Gobiomorphus huttoni*) and Not Threatened kōura (*Paranephrops*) and Introduced and naturalised brown trout (*Salmo trutta*). Bird records for this reach include grey duck (*Anas superciliosa*; Threatened-Nationally Critical); At Risk-Declining whitehead (*Mohoua albicilla*) and New Zealand pipit (*Anthus novaeseelandiae novaeseelandiae*); long-tailed cuckoo (*Eudynamys taitensis*; At Risk-Naturally Uncommon); and regionally sparse bellbird (*Anthornis melanura melanura*), and pied tomtit (*Petroica macrocephala toitoi*).

IMPORTANT FEATURES

Threatened Indigenous Flora:	No rare plant species are known from the site.
Threatened Indigenous Fauna:	Grey duck (<i>Anas superciliosa</i> ; Threatened-Nationally Critical); At Risk-Declining whitehead (<i>Mohoua albicilla</i>) and New Zealand pipit (<i>Anthus novaeseelandiae novaeseelandiae</i>); long-tailed cuckoo (<i>Eudynamys taitensis</i> ; At Risk-Naturally Uncommon); and regionally sparse bellbird (<i>Anthornis melanura melanura</i>), and pied tomtit (<i>Petroica macrocephala toitoi</i>). Bird species known from nearby include the At Risk whitehead, New Zealand pipit, long-tailed cuckoo, and black shag, and the regionally uncommon bellbird and tomtit. Three At Risk-Declining fish species including koaro (<i>Galaxias brevipinnis</i>), longfin eel (<i>Anguilla dieffenbachia</i>), and redfin bully (<i>Gobiomorphus huttoni</i>) and Not Threatened kōura (<i>Paranephrops</i>) and Introduced and naturalised brown trout (<i>Salmo trutta</i>).
Threatened Land Environments:	More than 0.5 hectares on Acutely Threatened land environments (<10% indigenous cover remaining).
Rare Habitats:	No rare habitats or communities known
Geological Features:	None known.

SIGNIFICANCE ASSESSMENT

This site meets the following Regional Policy Statement Policy 23 Criteria:

RPS Policy 23 Criteria	Achieved	Assessment
RPS23a: Representativeness	Yes	Indigenous forest and scrub on both sides of the bank for most of this reach, and river flows and connectivity are expected to be relatively unmodified.
RPS23b: Rarity	Yes	One Threatened-Nationally Critical, three At Risk-Declining and two regionally sparse bird species and three At Risk-Declining fish species are known from this reach of the Whakatikei River. Flows through areas that contain less than 10% indigenous vegetation remaining.
RPS23c: Diversity	Yes	Still retains good diversity of fish species.
RPS23d: Ecological Context	Yes	Important connectivity between the Te Awa Kairangi/Hutt River and headwater habitats that are largely forested.
RPS23e: Tangata Whenua Values	Unknown	Not assessed.
Overall Significance	Yes	This site meets one or more RPS Policy 23 Criteria.

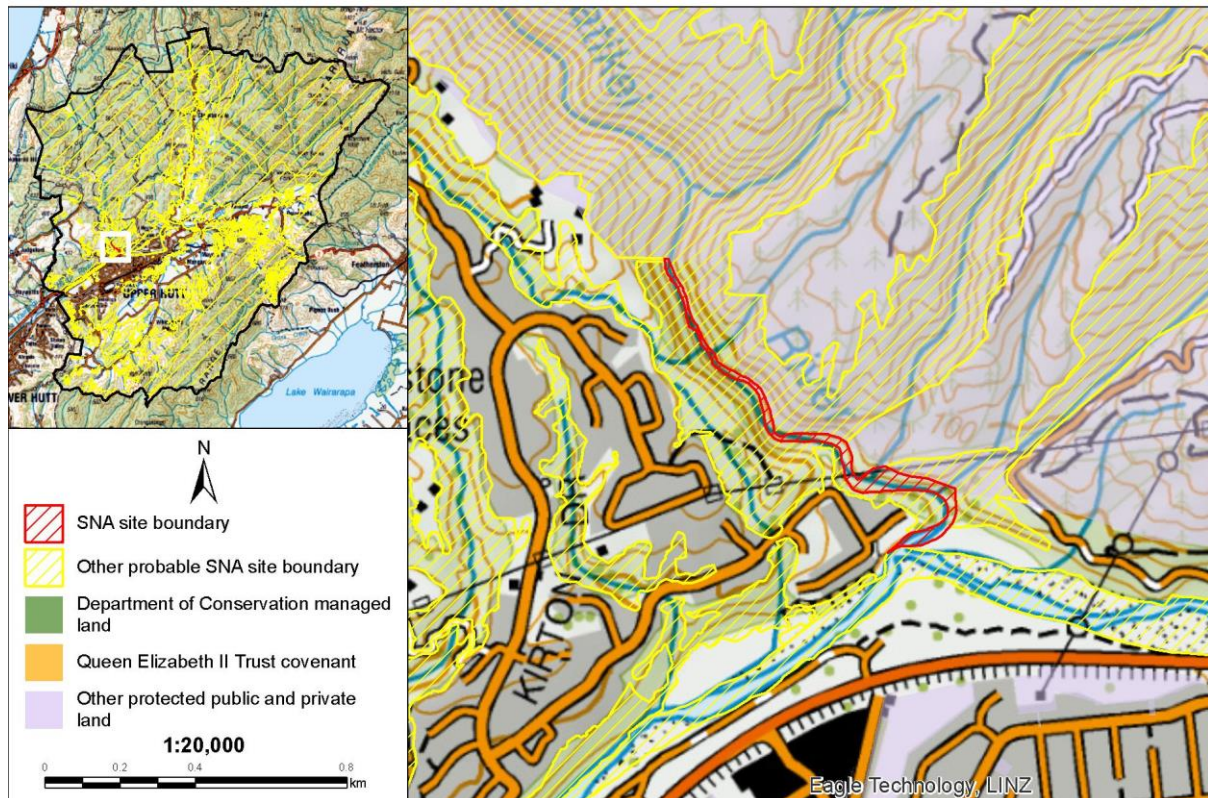
SITE CONTEXT AND OTHER INFORMATION

Ecological District:	Wellington, Tararua
Ecological Domain(s):	58 Tararua (<550 metres)
Digital Scale:	1:6,000
Altitude Range:	50-160 m a.s.l.
Grid Reference:	NZTM E1772028 N5446884
Adjacent Vegetation and Habitats:	Pine forest, beech forest, residential housing and development.
Notes on Overall Condition:	Expected to have high water quality.
Potential Land Management Issues:	Sediment and contaminant input from surrounding land use, in particular pine felling sediment and slash.
Sources of Information for this Site ^{Note#}:	Freshwater fish database, Google Earth, eBird 2017.

Context

Site Number: UH100

Site Name: Whakatikei River



ASSESSED BY

Assessment Techniques: Aerial imagery, species databases.
Assessed By: Astrid van Meeuwen-Dijkgraaf (Date 1/08/2018)
Reviewed By: Steve Rate (Date 2/8/2018)

NOTES

Please note that this statement is based on information available at the time of writing. No site visits were undertaken on private land. Due to the changing nature of ecosystems and surrounding land use, future assessment of the Significant Natural Area may be necessary to reflect any changes in knowledge, values, or boundaries that may influence its assessment as ecologically significant.

An Explanatory Note is available in Appendix 9, which provides more information about how each of the above fields was collated or assessed.

The full list of data sources and references used to assess sites is listed in the main body of the report under REFERENCES and also in the EXPLANATORY NOTES in Appendix 9. Aerial photography (2017 colour) was used to view and evaluate all sites, additional sources such as historic aerial photography in Google Earth, was used to inform site values and improve site boundaries.

LIST OF SITES WHICH REQUIRE FURTHER FIELD SURVEY TO CONFIRM ECOLOGICAL VALUES AND ASSESS SIGNIFICANCE

There were uncertainties in the assessments of the following sites, where a field survey within the site would be beneficial to confirm the site descriptions, significance identification, and occasionally the site boundaries.

Confirmation Required of Vegetation Types and Management Issues				
UH020	Chilly Stream forest	36.62	Tararua	1778945E, 5459673N
UH067	QEII 5/07/649 forest and wetland	9.87	Tararua	1769983E, 5439192N
Site No.	Site Name	Size (ha)	Ecological District	Grid Reference
Confirmation Required of Vegetation Types and Management Issues				
UH067	QEII 5/07/649 forest and wetland	9.87	Tararua	1769983E, 5439192N
Confirmation Required regarding Species Composition and Level of Diversity Which May Change Significance				
UH010	Bulls Run Road forest east	55.0083	Tararua	1770474, 5448552
UH019	Cloustonville Park riparian forest and scrub	15.3990	Tararua	1778756, 5458837
UH051	Maidstone Park forest and scrub	30.3853	Wellington, Tararua	1774430, 5444862
UH071	QEII 5/07/469 beech forest	0.6469	Wellington	1769108, 5441031
Confirmation Required of the Condition of Site and any Management Issues				
UH008	Bulls Run Road forest west	7.0554	Tararua	1769062, 5449077
UH015	Gratton's Wetland	1.7149	Tararua	1775255, 5450514
UH020	Chilly Stream forest	36.62	Tararua	1778945E, 5459673N
UH022	Akatarawa-Tararua Forest	703.2817	Tararua	1780887, 5460940
UH032	Marchant Road forest	10.6224	Tararua	1787435, 5451573
UH034	Farm Creek riparian scrub	11.9409	Tararua	1786013, 5451407
UH038	Pakuratahi Stream riparian scrub	30.064	Tararua	1784454, 5449278
UH043	Gentian forest and scrub	15.6887	Wellington	1777289, 5447349
UH063	Katherine Mansfield Swamp	1.632	Tararua	1773052, 5441194
UH065	QEII 5/07/296 and QEII 5/07/604 beech forest	9.5731	Tararua	1771466, 5440483
UH072	Pinehaven Reserve forest	2.2426	Wellington	1769118, 5441692
UH076	Flux Road forest	0.6722	Tararua	1777642, 5445616
UH078	Leonards Road forest	1.3508	Tararua	1776816, 5445266
UH081	Mangaroa Valley Road beech forest and scrub	17.0929	Tararua	1776236, 5443526
UH082	Whitemans Valley Road broadleaved forest	4.4601	Tararua	1775229, 5442281
UH083	Waipango Way forest	1.4895	Tararua	1775463, 5441808
UH090	Devine scrub	20.5545	Tararua	1769951, 5435809
UH091	Peak 569 forest and scrub	17.2643	Tararua	1769254, 5435436
UH093	Tvl Road scrub	17.2348	Tararua	1768617, 5438165
UH095	QEII 5/07/507 Wetlands	3.4431	Tararua	1769167, 5437023
UH096	Kākāriki Way forest	3.5878	Tararua	1767844, 5436505
UH097	Kākāriki Way scrub	12.0264	Tararua	1768049, 5436134
UH098	Agate Grove forest and scrub remnant	1.1691	Tararua, Wellington	1776219, 5448842

Site No.	Site Name	Size (ha)	Ecological District	Grid Reference
Part of the Site not Visible From Public View Points				
UH001	Mt Cecil Road scrub	37.68	Wellington	1767197E, 5444638N
UH004	Moon Ridge Road forest and scrub	40.20	Wellington, Tararua	1769642E, 5446484N
UH014	Birchville scrub	97.73	Tararua	1775850E, 5449823N
UH016	Karapoti Road scrub	27.11	Tararua	1776493E, 5452409N
UH017	Western Akatarawa forest	910.00	Tararua	1777301E, 5457429N
UH026	Fairview forest and scrub	387.65	Tararua, Wellington	1778404E, 5450717N
UH027	Akatarawa River scrub	2.79	Tararua	1777104E, 5450439N
UH040	Stock Car Wetland	7.91	Wellington	1779668E, 5449495N
UH042	Mt Mārua Hillside forest and scrub	44.16	Wellington	1778393E, 5447989N
UH068	Wheelers Way forest	22.66	Tararua	1769817E, 5439748N
UH069	Pinehaven Ridge forest and scrub	14.88	Tararua, Wellington	1769021E, 5439695N
UH075	Colletts Stream forest	10.20	Tararua	1778710E, 5444686N
UH079	Mangaroa-Whitemans Valley forest	1989.03	Tararua	1775723E, 5438795N
UH090	Devine scrub	20.55	Tararua	1769951E, 5435809N
UH091	Peak 569 forest and scrub	17.26	Tararua	1769254E, 5435436N
Most or None of the Site not Visible From Public View Points				
UH006	West Moonshine Hill Road scrub	35.27	Tararua	1767326E, 5449444N
UH007	Cooks Road scrub	62.08	Tararua	1768623E, 5451038N
UH008	Bulls Run Road forest west	7.06	Tararua	1769062E, 5449077N
UH010	Bulls Run Road forest east	55.01	Tararua	1770474E, 5448552N
UH015	Gratton's Wetland	1.71	Tararua	1775255E, 5450514N
UH022	Akararawa-Tararua Forest	703.28	Tararua	1780887E, 5460940N
UH024	Frances Stream forest and scrub	67.53	Tararua	1779062E, 5456498N
UH025	Cloustonville scrub and forest	429.58	Tararua	1778933E, 5453820N
UH032	Marchant Road forest	10.62	Tararua	1787435E, 5451573N
UH034	Farm Creek riparian scrub	11.94	Tararua	1786013E, 5451407N
UH058	Royal Wellington Golf Club forest	7.14	Wellington	1769612E, 5444077N
UH074	Mahers Stream forest	122.97	Tararua	1779871E, 5444789N
UH078	Leonards Road forest	1.35	Tararua	1776816E, 5445266N
UH089	Devine forest	73.20	Tararua	1771030E, 5435108N

EXPLANATORY NOTE

This explanation sheet has been prepared to support understanding the content contained within the individual Significant Natural Area (SNA) site description statements.

TITLE: SITE NAME

INTRODUCTION

Site Name:	Combination of existing reserve names or other known topographical features and predominant vegetation or habitat type.
Site Number:	Sequential three-digit number starting with UH.
Site Location:	Brief description of where it is.
Site Area:	Total Area in hectares. Only terrestrial areas greater than 0.5 hectares or wetlands of any size have been assessed.
Current Protection Status:	Note that there are a range of legal protection mechanisms, and not all of these mechanisms are for the purpose of protecting ecological or biological values. Some have another primary purpose but can still provide ecological or biological benefits (e.g. Scenic Reserve). Site is fully legally protected - entire site is legally protected. Site is partially legally protected - only part of the site is legally protected. Site has no legal protection - the site is not legally protected.
Protection Type:	Legal protection type and name of reserve if known. Reserve types can include: Queen Elizabeth II Covenant; Conservation Covenant; Hutt City Council owned; Regional Park; or list reserve type (e.g. Esplanade Reserve, Scenic Reserve, Scientific Reserve, Conservation Area etc)
Map figure:	On recent (2017) aerial image of site with probable Significant Natural Area boundary overlaid
Site Summary:	Brief description of the vegetation and habitat within the site and any important features.

IMPORTANT FEATURES

Threatened Indigenous Flora:	List species known from or likely to occur within the site and their threat status. Threat ranking for species as per the relevant document(s) published in the New Zealand Threat Classification Series. The threat of extinction for each group of species is reviewed roughly every five years and a new threat ranking issued. The most recent species threat classifications references are provided at the end of this information sheet.
Threatened Indigenous Fauna:	List species known from or likely to occur within the site and their threat status. Threat ranking for species as per the relevant document(s) published in the New Zealand Threat Classification Series. The threat of extinction for each group of species is reviewed roughly every five years and a new threat ranking issued. The most recent species threat classifications references are provided at the end of this information sheet.

Threatened Land Environments:

The Threatened Environment Classification (TEC) is a combination of three national databases: Land Environments New Zealand (LENZ), Land Cover Database (LCDB4), and the protected areas network. It shows how much indigenous vegetation remains within land environments, and how past vegetation loss and legal protection are distributed across New Zealand's landscape. TEC is most appropriately applied to help identify places that are priorities for formal protection against clearance and/or incompatible land-uses, and for ecological restoration to restore lost species, linkages and buffers (Cieraad et al. 2015). References provided at the end of this information sheet.

Rare habitats:

List rare habitat types and justification of why these habitats are considered to be rare. References provided at the end of this information sheet.

Geological features:

Any geological features known from the site including name and importance as listed in the New Zealand Geopreservation Inventory Series. References provided at the end of this information sheet.

SIGNIFICANCE ASSESSMENT

Assessment against the following criteria in Policy 23 of the Greater Wellington Regional Policy Statement (2013).

RPS23 criteria:	Achieved:	Assessment:
RPS23a: Representativeness	Yes or No	<p><i>The ecosystems or habitats that are typical and characteristic examples of the full range of the original or current natural diversity of ecosystem and habitat types in a district or in the region, and:</i></p> <p>(iii) <i>are no longer commonplace (less than about 30% remaining); or</i></p> <p>(iv) <i>are poorly represented in existing protected areas (less than about 20% legally protected).</i></p> <p>Representative is always with reference to a biodiversity type, and is usually referenced to a baseline condition of that type (often chosen as at 1840). RPS Policy 23 refers to the full range of the original or current natural diversity, indicating both a time element and a species and habitat diversity element. Singers and Rogers (2014) was used for regional scale assessment, and Leathwick <i>et al.</i> (2012) for national scale assessment.</p>
RPS23b: Rarity	Yes or No	<p><i>The ecosystem or habitat has biological or physical features that are scarce or threatened in a local, regional or national context. This can include individual species, rare and distinctive biological communities and physical features that are unusual or rare.</i></p> <p>Threatened includes any Threatened or At Risk level under a national classification system. The relevant references for national classification systems are included in the references section below.</p>
RPS23c:	Yes or No	<i>The ecosystem or habitat has a natural diversity of</i>

RPS23 criteria:	Achieved:	Assessment:
Diversity		<p><i>ecological units, ecosystems, species and physical features within an area.</i></p> <p>Diversity has to be evaluated relative to the particular ecosystem or habitat type; some may be naturally more diverse than other types. It should also be evaluated relative to the pre-human base-line condition and the other remaining similar ecosystems and habitats.</p>
RPS23d: Ecological context	Yes or No	<p><i>Ecological context of an area: the ecosystem or habitat:</i></p> <p>(i) <i>enhances connectivity or otherwise buffers representative, rare or diverse indigenous ecosystems and habitats; or</i></p> <p>(ii) <i>provides seasonal or core habitat for protected or threatened indigenous species.</i></p> <p>Based on the criteria for ecological context in the West Coast Regional Council vs Friends of Shearer Swamp and other parties where the site makes important contributions. GWRC Policy 23 criteria refers to the relationship of a site to “<i>representative, rare or diverse ecosystems</i>”, thus it would generally make sense and be appropriate for these buffers or connections to be included with the ‘representative, rare or diverse ecosystem’ site. It is not appropriate to identify a site as significant solely on its role as a buffer or corridor.</p>
RPS23e: Tangata Whenua values	Unknown or Yes	<p><i>Tangata whenua values: the ecosystem or habitat contains characteristics of special spiritual, historical or cultural significance to tangata whenua, identified in accordance with tikanga Māori.</i></p> <p>Yes if there is information about known features of importance to Maori.</p>
Overall significance	Significant	<p>This site meets one or more RPS23 criteria. Sites that failed to meet significance have been removed from the data.</p>

SITE CONTEXT AND OTHER INFORMATION

Ecological District:

New Zealand has been divided in a number of ecological districts. An ecological district is a local part of New Zealand where the topographical, geological, climatic, soil and biological features, including the broad cultural pattern, produce a characteristic landscape and range of biological communities (Mc Ewen 1987). Initially 268 ecological districts within 85 ecological regions were defined, but there have been subsequent changes to some ecological districts.

Ecological Domain(s):

Ecological Domains, also known as eco-domains, combine information on geology, geomorphology, meteorology, biology, and human use of natural resources with expert knowledge of the ecological processes and characteristics of the region. This method resulted in a mosaic of more than 60 eco-domains. These are areas that have unity within themselves

	but are distinct from each other over the Greater Wellington region (Greater Wellington Regional Council 2002).
Digital Scale:	The scale of the 2017 aerial image with the Significant Natural Area boundary illustrated.
Altitude Range:	The altitudinal range from the lowest point of the Significant Natural Area to the highest measured in metres above sea level (m a.s.l.).
Grid Reference:	Coordinates of the calculated centre of the Significant Natural Area using in the New Zealand Transverse Mercator projection.
Adjacent vegetation and habitats:	List of vegetation, habitat and other land use types adjacent to the site as determined from aerial photography and/or site visits.
Notes on Overall Condition:	Any known factors that may contribute to the long term maintenance of a site or eventual decline. Examples are pest and weed control, or lack thereof if there are known issues.
Potential Land Management Issues:	Activities within or close to the Significant Natural Area that have the potential to affect ecological or biodiversity values within the site.
References:	Citations for the references used to compile the information for a particular Significant Natural Area. The full list of references is provided below and in the main report.
Ecological Context Map Figure:	On topographic background with probable Significant Natural Area boundary overlaid and showing the context of other Significant Natural Areas or legally protected areas in the surrounding landscape.

ASSESSED BY

Assessment techniques:	A list of assessment techniques used to compile information about the site which can include one or more of the following: Literature review, species database, aerial imagery, road side viewing, desktop, landowner site visit, landowner supplementary information.
Assessed by:	Name of person who undertook the assessment and date of most recent assessment.
Reviewed by:	Name of person who undertook the internal Wildlands peer review and date of most recent review.

This section lists the pertinent references that are used or inform national and regional threat classification systems. Additionally there may be references that were used to identify values within a specific Significant Natural Area; these are not included below. Where used for a particular SNA there will be a list of citations (abbreviated notation of Author name and date). The full list of SNA-specific references are included in an appendix of the main report.

References for Threatened Species Classification

- Andrew I.G., Macfarlane R.P, Johns P.M., Hitchmough R.A. and Stringer I.A.N. 2012: The conservation status of New Zealand Diptera. *New Zealand Entomologist* 35: 99-102.
- Baker C.S., Chilvers B.L., Childerhouse S., Constantine R., Currey R., Mattlin R., Van Helden A., Hitchmough R., and Rolfe J. 2016: Conservation status of New Zealand marine mammals, 2013. *New Zealand Threat Classification Series 14*. Department of Conservation, Wellington. 18 pp.
- Buckley T.R., Boyer S., Bartlam R., Hitchmough R., Rolfe J., and Stringer I. 2015: Conservation status of New Zealand earthworms, 2014. *New Zealand Threat Classification Series 10*. Department of Conservation, Wellington. 10 pp.
- Buckley T.R., Hitchmough R., Rolfe J., and Stringer I. 2016: Conservation status of New Zealand stick insects, 2014. *New Zealand Threat Classification Series 15*. Department of Conservation, Wellington. 3 pp.

- Buckley T.R., Palma R.L., Johns P.M., Gleeson D.M., Heath A.C.G., Hitchmough R.A. and Stringer I.A.N. 2012: The conservation status of small or less well known groups of New Zealand terrestrial invertebrates. *New Zealand Entomologist* 35: 137-143.
- de Lange P.J., Rolfe J.R., Barkla J.W., Courtney S.P., Champion P.D., Perrie L.R., Beadel S.M., Ford K.A., Breitwieser I., Schönberger I., Hindmarsh-Walls R., Heenan P.B. and Ladley K. 2018: Conservation status of New Zealand indigenous vascular plants, 2017. *New Zealand Threat Classification Series 22*. Department of Conservation, Wellington. 82 pp.
- de Lange P.J., Galloway D.J., Blanchon D.J., Knight A., Rolfe J.R., Crowcroft G.M., and Hitchmough R. 2012: Conservation status of New Zealand lichens. *New Zealand Journal of Botany* 50: 303-363.
- de Lange P.J., Glenny D., Braggins J., Renner M., von Konrat M., Engel J., Reeb C., and Rolfe J. 2015: Conservation status of New Zealand hornworts and liverworts, 2014. *New Zealand Threat Classification Series 11*. Department of Conservation, Wellington. 31 pp.
- Freeman D., Schnabel K., Marshall B., Gordon D., Wing S., Tracey D., and Hitchmough R.A. 2014: Conservation status of New Zealand marine invertebrates, 2013. *New Zealand Threat Classification Series 9*. 20 pp.
- Goodman J.M., Dunn N.R., Ravenscoft P.J., Allibone R.M., Boubée J.A.T., David B.O., Griffiths M., Ling N., Hitchmough R., and Rolfe J.R. 2014: Conservation status of New Zealand freshwater fish, 2013. *New Zealand Threat Classification Series 7*. Department of Conservation, Wellington. 12 pp.
- Grainger N., Collier K., Hitchmough R., Harding J., Smith B., and Sutherland D. 2014: Conservation status of New Zealand freshwater invertebrates, 2013. *New Zealand Threat Classification Series 8*. Department of Conservation, Wellington. 28 pp.
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