SIGNIFICANT NATURAL AREAS OF THE TAUPŌ DISTRICT 2019

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SIGNIFICANT NATURAL AREAS OF THE TAUPŌ DISTRICT 2019

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Project Team:
Sarah Beadel - Project management, technical advice, peer review
Jo McQueen - Project management, peer review
Fiona Wilcox - Report author, site assessments
Ella Buckley - Report author, site assessments
Sam Shaw - Site assessments
Mathew Brown - Site assessments
Tanja Kozelj - GIS
Kaja Krevs - GIS
Ziga Novak - GIS
Lynette Deacon - GIS

Prepared for:
Taupō District Council

Reviewed and approved for release by:

Sarah Beadel
Director
Wildland Consultants Ltd

99 SALA STREET, WHAKAREWAREWA, 3010, P.O. BOX 7137, TE NGAE, ROTORUA 3042
Ph 07-343-9017; Fax 07-343-9018, email ecology@wildlands.co.nz, www.wildlands.co.nz

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1. INTRODUCTION

District Councils are required to identify and protect areas of significant ecological value on land under their administration. In 1998, the Department of Conservation compiled a database of ecological information and maps for the natural areas in Taupō District, informed in part by an aerial survey. Natural areas were delineated onto 1:50,000 topographic maps (hard copy only). In 1999, Wildland Consultants were commissioned by Taupō District Council to undertake a desktop project to revise, update, and expand the Department of Conservation information. Ecological information and ecological significance assessments for these natural areas were captured in a Microsoft Access database. A GIS layer was prepared based on digital aerial photographs or digital topographical maps when no photographs were available. This GIS layer was updated and revised at least once between 1999 and 2009 when 2007/08 digital aerial photographs which cover the entire Taupō District were available.

Following Council consultation with landowners and shareholders, field surveys of parts of some natural areas were undertaken between 2000 and 2009. The information gathered during the work between 1999 and 2007 was used to inform the 2007 Taupō District Plan. In 2009, a desktop review and update of the Microsoft Access database of Significant Natural Areas (SNAs) in the Taupō District was undertaken (Wildland Consultants 2009a). The update included an assessment of the ecological significance of each site against the Taupō District Council criteria, an update of the threat classifications to threatened species, and incorporation of information collected during site surveys undertaken between 2000 and 2009. Some sections of the 2007 Taupō District Plan were updated in 2013 using information gathered during the 2009 SNA review.

In 2014, Taupō District Council commissioned Wildland Consultants to undertake a desktop project to collate the 2009 site information in the Microsoft Access database into a Word document for all previously identified SNAs in the operative Taupō District Plan. The 2014 update aligned the site information numbering with the numbering of sites within the GIS database. Minor updates to site sheets were made, such as spelling corrections (which was a consequence of the sites previously being contained in a Microsoft Access database). A small number of site sheets were updated with further information where field inspection of the site or part of the site had been undertaken in the intervening period. All geothermal site sheets were changed to ensure that all site sheets referred to the Waikato Regional Council geothermal report (Wildland Consultants 2014b). The MS Access database and the GIS layer were not updated at this time and it was outside of scope of the 2014 project to identify new sites or likely new sites or undertake any literature search for new information.

This report provides an assessment of all SNAs within the Taupō District. This includes updates to the ecological information of any SNAs identified in the 2007 District Plan, reporting on any expansion or reduction in area of known sites in the 2007 District Plan, identification and mapping of any new, or likely new sites,

mapping of all sites onto 2017 aerial photographs[1], and provision of site information sheets with summaries of key information for all SNAs and likely SNAs within the Taupō District. The site information sheets include an assessment of each site against the updated Waikato Regional Council criteria for assessing SNAs as published in the 2016 Waikato Regional Council Regional Policy Statement (Waikato RPS). The information contained within this report should be read with an understanding that the assessments were undertaken as a desktop only exercise relying on existing information; a very limited number of sites were assessed from a distance from public vantage points (such as roads) to help inform the assessments. This report is intended to comprise a stand-alone report which will summarise all existing information on SNAs in the Taupō District to negate the need to search previous SNA reviews and information sources.

2. METHODS

Taupō District Council requires an up-to-date document that includes information on all SNAs and likely SNAs[2] within the Taupō District for the revised Taupō District Plan. Recent aerial photographs, readily available literature, readily available digital mapping information sources, and a small amount of field surveys from publicly accessible vantage points were used to prepare up-to-date accurate ecological assessments of natural areas within the Taupō District. Details of data and methodology used to describe, assess, and map sites is given below.

2.1 Literature review

Existing literature on the indigenous biodiversity of the Taupō District was searched and reviewed to ensure that the most up-to-date ecological information available for significance assessment was utilised. The information utilised for undertaking and/or reviewing site assessments included published and unpublished reports, online data sets, GIS data sets, and hard copy data sets. Professional knowledge held by the ecologists working on the project was also utilised for relevant sites.

Site information sheets were written using these information sources to ensure the ecological values, vegetation composition, fauna records, known and likely threats to each site reflected the most up-to-date available information for each site.

2.2 Regions

The Taupō District lies predominantly in the Waikato Region, however some of the district is within the Bay of Plenty Region, and small areas are within the Hawke's Bay and Manawatu-Wanganui (Horizons) Regions (Figure 1). With agreement from all Regional Councils, all sites were assessed using the Waikato Regional Council

[1] 2017 aerial photographs were not available for a long, narrow section of the district near the western boundary. For this area, sites were mapped onto 2012-2013 aerial photographs which will require updating in the future when 2017 aerial photographs are available.

[2] Waikato RPS terminology for Significant Natural Areas (SNAs) and likely Significant Natural Areas (SNAs) is used for this review (Wildland Consultants 2019a). Likely SNAs are equivalent to potential SNAs in the Bay of Plenty.

Criteria as published in the 2016 Waikato RPS (Appendix 1). New or likely SNA sites identified and mapped in this project that fell within the Bay of Plenty Region were also assessed against Bay of Plenty RPS criterion (see Appendix 2).

Note that the Horizons Regional Council One Plan does not contain any specific criteria relating to identification of SNAs within the Horizons Region, however Horizons One Plan does identify Outstanding Natural Features or Landscapes (ONFLs). Horizons One Plan seeks to manage the use of areas of indigenous vegetation and habitat through providing descriptions of vegetation and habitat types which are 'Rare', 'Threatened', or 'At Risk' within the Horizons Region and provides rules around activities and consenting within those areas. Should development works be proposed for the portion of a site which is located within the Horizons Region, the applicant should contact the Horizons Regional Council and refer to the Horizons One Plan for the relevant rules and potential consenting requirements.

2.3 Site assessment against significance criteria

For all sites, or likely sites, identified during this project, the most up-to-date information available was used to describe and assess significance. For sites where no or insufficient information was available, field survey is required to identify ecological values and confirm significance of the site. These sites have been labelled as likely significant due to lack of information (see Volume 2, Section 2).

In 2016, the Waikato Regional Council (WRC) published a new Regional Policy Statement (RPS). As part of the updated RPS, the guidelines for assessing SNAs was also updated (Wildland Consultants 2019a). The updated guidelines included addition of one new criterion (Criterion 2), and updates/revisions to the wording and application of several other criteria. The guidelines were used to provide guidance and consistency on the application of the criteria to all sites. The official updating of the guidelines lagged behind the assessment of sites for this project. Therefore, the guidelines for assessment used in this project differ slightly from the published version (Wildland Consultants 2019a) for Criterion 4. Potential historic ecosystems and criterion provided in Appendix 1 of Wildland Consultants (2019a) were not available and thus were not used for assessment of this criteria. Criterion 4 was assessed against Leathwick *et al.* (1995) for each ecological district with the Taupō District (Section 2.6 provides further discussion on significance assessment).

There are parallels between most of the criteria contained within the Bay of Plenty RPS and the criteria in the Waikato RPS. Consequently, sites which meet at least one criterion when assessed against the Waikato RPS criteria, also met one or more criterion when assessed against the Bay of Plenty RPS criteria.

2.4 Site mapping

The following bullet points outline the mapping methodology used for this project:

- GIS data was compiled for the entire Taupō District to utilise all possible relevant mapping sources for identifying SNAs and likely SNAs in the district. The GIS layers utilised for identifying sites and boundaries of sites were:

- Waikato Regional Aerial Photography Service (WRAPS) 2017 aerial photographs.
- WRAPS 2012-2013 aerial photographs.
- Existing Taupō SNA sites (Wildland Consultants 2009a).
- Department of Conservation Bioweb records for flora and fauna.
- LENZ Threatened Environment Classification (LENZ Level 4).
- Land Cover Database Version 4 (Landcare Research 2015).
- Waikato Regional Council Wetland Probability (Waikato Regional Council 2012b).
- Waikato Potential Historic Ecosystems (Waikato Regional Council 2012b).
- Department of Conservation-administered areas.
- QEII covenants.
- Nga Whenua Rāhui Kawenata.
- Waikato Regional Council geothermal areas within Taupō District (Wildland Consultants 2014b).
- Waikato Regional Council Biovege 2012.
- Bay of Plenty Frost Flat Extents (BOPRC 2017).
- Bay of Plenty Wetland Extents GIS layer (BOPRC 2007).
- Bay of Plenty Priority Biodiversity Sites GIS layer (BOPRC 2016).
- Waikato oblique aerial photography.

- All 304 sites that are mapped in the current Taupō District Plan were remapped at a scale of 1:5,000 onto the most recent aerial photographs available and then reassessed for significance. For most sites the mapping was undertaken on WRAPS 2017 aerial photographs, however for a portion of the District near the western boundary there is no imagery in the WRAPS 2017 dataset (Figure 2). For areas with missing imagery in WRAPS 2017, aerial photographs from WRAPS 2012-2013 were used for mapping and assessment (see Appendix 3 for a list of sites which were assessed using WRAPS 2012-2013). During the remapping process, site boundaries were digitized at a scale of between 1;2,000 and 1:4,000 with the minimum detectable signal of three metres, minimum digitised area of 250 square metres, and a minimum gap of 100 square metres.

- Inclusion of known SNAs and amendments to the boundaries of known SNAs has been undertaken as a desktop only exercise based on the extent of indigenous vegetation and habitats visible on aerial photographs. Although some sites have been subject to an appeals process, the current mapping of sites has been based on aerial photography evidence only, and does not relate to previous appeal decisions. These amendments included addition of some areas and deletion of some areas:
  - Areas were removed from known sites if the vegetation appeared to comprise exotic dominated vegetation that was easily identifiable as such. For example, blackberry shrubland, pasture, or plantation forest.

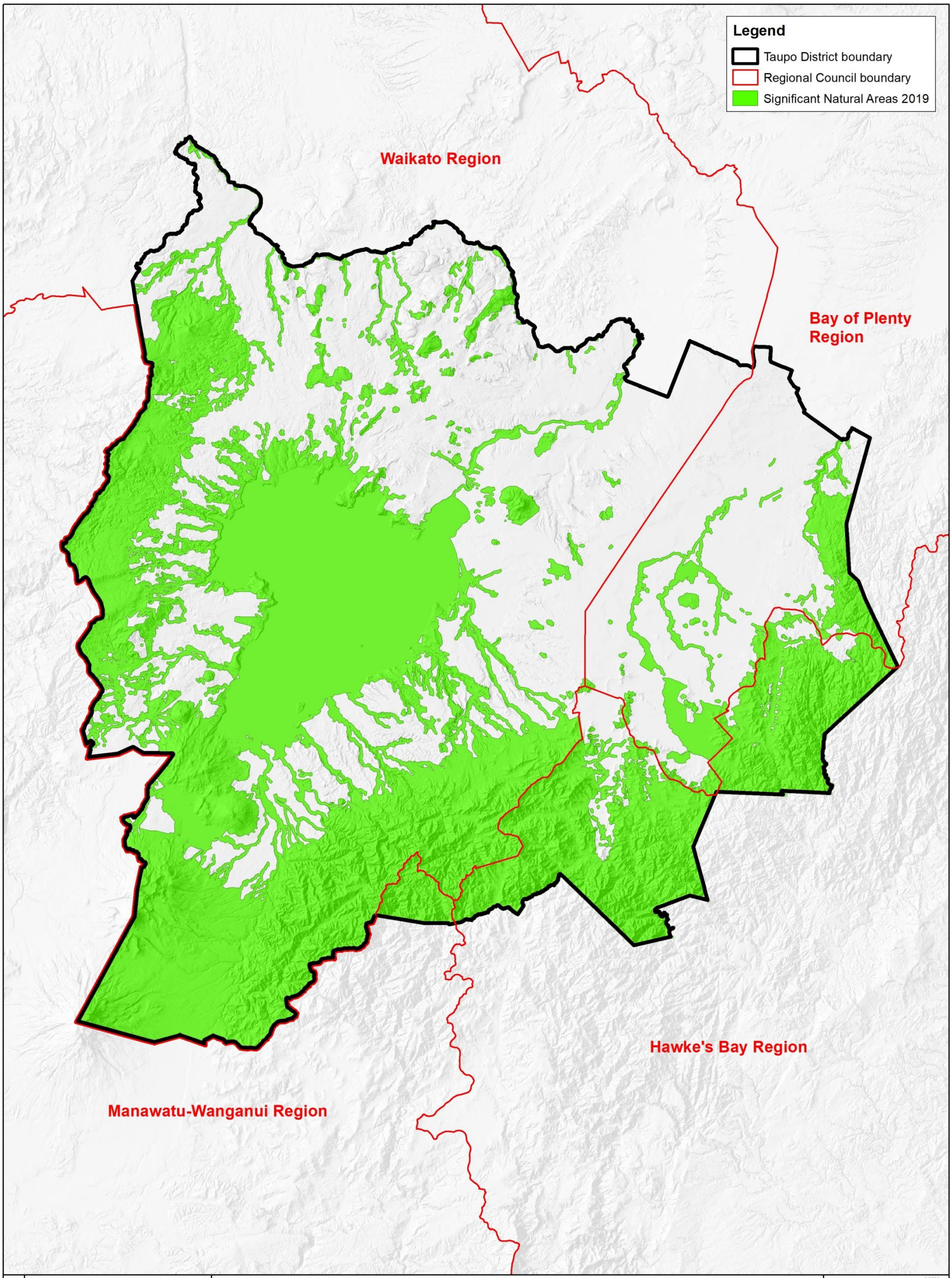
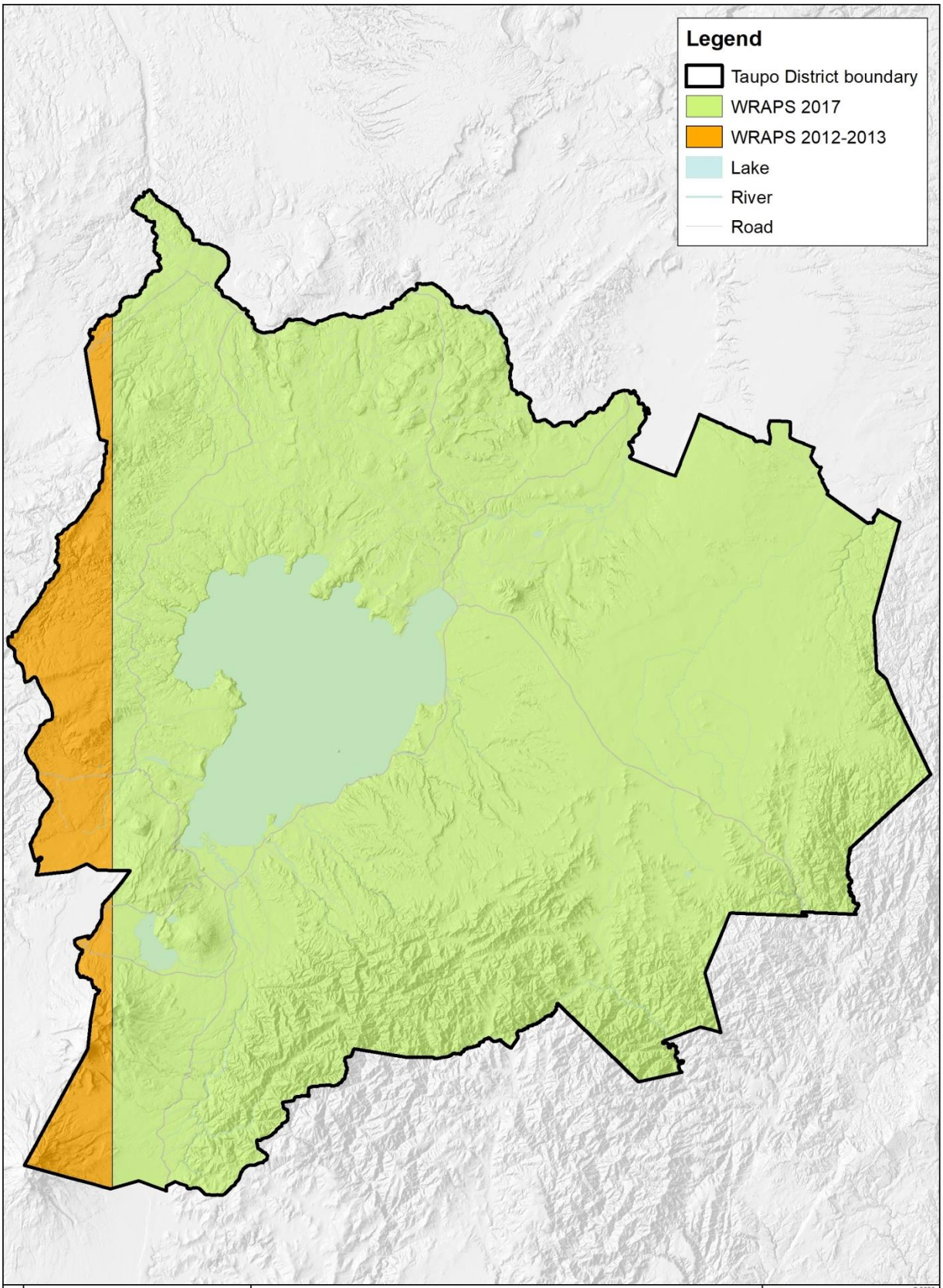


Figure 1: Significant Natural Areas and Regional District Boundaries, Taupō District



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Data Acknowledgment
This map contains data which is licensed by LINZ for re-use under the Creative Commons Attribution 4.0 International licence.

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Client: Taupō District Council
Ref: 01 1999
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File: Figure_WRAPS.mxd

Figure 2: Extent of WRAPS 2017 (aerial photographs) within Taupō District.

0 10,000 20,000 m

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Scale: 1:560,000
Date: 12/02/2020
Cartographer: TK
Format: A4

- Areas were added to existing sites where there was contiguous vegetation which appeared to comprise indigenous-dominated vegetation of similar or identical composition to that contained within the existing site. This methodology meant that some small areas of unprotected indigenous vegetation were included in SNAs that otherwise mainly comprised protected natural areas.
- Comments were made within the site information sheet about reasons for changes to site boundaries for known sites. If a change was identified, the 2009 site boundaries and photographs were consulted to determine whether the change appeared to be the result of real change (e.g. real gain in vegetation or real loss of vegetation) or whether the refining of the boundaries was likely to be due to better quality aerial photographs (artefactual change).

- Where it was appropriate to do so, and original site boundaries did not make ecological sense, some sites in the current Taupō District Plan were merged. A list of sites that were merged is provided in Appendix 4.

- In addition to amending boundaries of known sites, areas of indigenous vegetation/habitats outside of existing SNAs were scrutinised to determine whether other SNAs or likely SNAs could be identified based on the better-quality aerial photographs available. If a new SNA or likely SNA was identified, boundaries of these sites were mapped. Most of the new sites identified during this process are likely to be sites which were previously present but were not visible on older aerial photographs, or which appeared to comprise exotic dominated vegetation on older aerial photographs. These sites were identified as a high priority for field assessment in the GIS attribute table.

- New sites include geothermal sites which had not previously been included in the Taupō SNA schedule, and streams, rivers, and hydro-lakes. Generally geothermal sites were created as their own, stand-alone site however, in a few instances, the geothermal areas were added to existing sites, for example indigenous vegetation alongside the Waikato River, near Orakeikorako.

- During mapping and identification of sites, a GIS attribute table was created. This attribute table contains the following information:

Attribute Name	Description
Site Number	New number starting at 1000.
Site Name	Name for site. Where applicable the same name that was in current usage by TDC in 2019 was used.
Area	Measured in hectares.
NZ Transverse Mercator Easting	Coordinates of the centroid for an SNA.
NZ Transverse Mercator Northing	Coordinates of the centroid for an SNA.
Geothermal site	Y/N.
WRC Criterion 1	Y/N/Likely. Whether the site meets, does not meet, or is likely to meet WRC Criterion 1.
WRC Criterion 2	Y/N/Likely Whether the site meets, does not meet, or is likely to meet WRC Criterion 2.
WRC Criterion 3	Y/N/Likely Whether the site meets, does not meet, or is likely to meet WRC Criterion 3.
WRC Criterion 4	Y/N/Likely Whether the site meets, does not meet, or is likely to meet WRC Criterion 4.
WRC Criterion 5	Y/N/Likely Whether the site meets, does not meet, or is likely to meet WRC Criterion 5.

Attribute Name	Description
WRC Criterion 6	Y/N/Likely Whether the site meets, does not meet, or is likely to meet WRC Criterion 6.
WRC Criterion 7	Y/N/Likely Whether the site meets, does not meet, or is likely to meet WRC Criterion 7.
WRC Criterion 8	Y/N/Likely Whether the site meets, does not meet, or is likely to meet WRC Criterion 8.
WRC Criterion 9	Y/N/Likely Whether the site meets, does not meet, or is likely to meet WRC Criterion 9.
WRC Criterion 10	Y/N/Likely Whether the site meets, does not meet, or is likely to meet WRC Criterion 10.
WRC Criterion 11	Y/N/Likely Whether the site meets, does not meet, or is likely to meet WRC Criterion 11.
Overall Significance	Y/N or Likely.
Fieldwork required to confirm boundaries	Y/N.
Fieldwork required to confirm significance	Y/N.
Any additional comments	Any additional comments.
Assessment undertaken by	Who undertook the assessment.
Assessment completed on	Date assessment completed.

- Individual site maps were created for each site to accompany the site information sheets within this report.

2.5 Site descriptions and assessments

A site information sheet was prepared for each site assessed as significant or likely to be significant. The site sheets include information on the ecological values of the site and known or likely threats to the site. An example site sheet with definitions of the headings is presented below.

At the top of each sheet, information is provided on the protection status, extent of the site, altitudinal range, ecological district, bioclimatic zones, and whether the site contains any geothermal habitat or features.

Following this, there is a table within the site sheet which lists descriptions of vegetation and habitat types, and landforms present at the site. Records of Nationally Threatened, At Risk, or regionally uncommon plant species or features of vegetation present at the site are presented in the "flora" section of the main table on the site sheets. There are similar sections for "fauna", threats or pressures that the site may be subject to, and additional notes/comments. Each site sheet also includes a statement on changes to the site boundaries, if any, since the last boundary update using 2007/2008 aerial photographs, and a list of which Waikato Regional Council significance criteria are met, along with a brief justification if not previously mentioned elsewhere on the site information sheet. A glossary of common plant and animal names used on the site sheets is provided in Appendix 5.

Site maps are presented with each site sheet in Volume 2.

SITE NAME

Site Number:	Number of site, as shown on GIS layer and site map in 2019[1].
Protection Status:	Protected (type of protection) and/or unprotected.
Area (ha):	Total extent of site in hectares.
Altitude Range (m):	Range of altitude within the site, in metres above sea level, from the lowest to highest point.
Ecological District:	Ecological District within which the site occurs. If a site is in multiple ecological districts, all of the ecological districts within which the site occurs are listed.
Bioclimatic Zone:	For example: lowland, submontane.
Geothermal site:	Does this site contain any geothermal habitat or features? Yes/No

VEGETATION TYPE	**LANDFORM**
Vegetation types as determined from existing information and/or aerial photographs.	Landform as determined from existing information and/or aerial photographs.
(Reference to sources used for vegetation types)	

Flora:	Key botanical features of the site. Notes on threatened or uncommon plant species which are known to be present or have been previously recorded at the site. In some cases, dated records are included in this section as an indication of what has previously been recorded at the site. The text has been composed in a way which indicates whether the species are likely to remain, or if this is unknown.	
Fauna:	Notes on threatened or uncommon animal species which are known to be present or have been previously recorded at the site. In some cases, dated records are included in this section as an indication of what has previously been recorded at the site. The text has been composed in a way which indicates whether the species are likely to remain, or if this is unknown.	
Threats/Modifications/ Vulnerability (desktop assessment):	Threats which have been recorded at the site or are likely to threaten the ecological values of the site.	
Notes/comments:	Additional relevant notes or comments about the site.	
Site Changes since 2007/08:	Information on artefactual and/or real changes to the site boundaries which have been observed based on comparison of WRAPS 2017 and WRAPS 2013 aerial photographs, if any. Real changes are actual changes which have occurred, such as vegetation clearance and conversion to exotic plantation forestry or pasture, or re-establishment of indigenous vegetation following planting or retirement from grazing or plantation forestry. Artefactual changes are those which do not represent real change on the ground, and include improvements in mapping accuracy due to better quality aerial photographs.	
Significant:	Yes or Likely based on assessment against the WRC criteria as listed below.	
Significance Assessment:	**Criteria Met**	**Justification**
	Criterion number	A brief explanation of the reason(s) why the site meets this criterion[2].
	Criterion number	A brief explanation of the reason(s) why the site meets this criterion[2].
Assessment for Significance Based On:	Sources of information used to make the significance assessment.	
Assessment Date:	Date on which the site assessment was undertaken.	
References:	References about the site and/or records from the site. Species threat classifications are not listed here because they are provided in the main report.	

[1] Note that this is a new numbering system as per client request and does not align with any previous SNA numbers.

[2] Note that Threatened flora and fauna present are not relisted in this justification statement but rather are provided in the sections above.

2.6 Analyses of extent of losses/gains to sites listed in the 2007 Taupō District Plan

Site boundary changes since 2007/2008, if any, were noted for each site, based on existing information and WRAPS 2012-2013 or 2017 aerial photography. Changes were categorised as real or artefactual changes. Real changes were actual changes, such as increased area of indigenous vegetation, or vegetation clearance, e.g. conversion to exotic plantation forestry or pasture. Artefactual changes were changes that may not represent real change on the ground, and included improvements in mapping accuracy due to better quality aerial photographs. The magnitude of real decreases or increases in the extent of sites was calculated (including the number of sites affected and the total loss in hectares). Likely causes and overall patterns of loss and degradation are discussed further in Section 3.

2.7 Threatened species, habitats, and environments classification assessments

The threat classification documents which list indigenous species at risk, or threatened with extinction have been updated one or two times since 2009 for most taxonomic groups. In addition to updated rankings for Threatened species, a range of reports have been published in recent years which describe vegetation and habitat types, and land systems which are either threatened, naturally uncommon, or support vegetation types which are under-represented in current protected area networks within any given region. All these reports and classification systems were used to inform the assessment of SNAs or likely SNAs during this review (Table 1). Assessment of Criterion 4 used Wildland Consultants 2009c which was based on Leathwick *et al.* (1995) for each ecological district.

The conservation status of species within the Myrtaceae family have recently been elevated due to the potential threat posed by myrtle rust (*Austropuccinia psidii*) which arrived in New Zealand in May 2017. Myrtle rust is a fungal disease which infects plants from the Myrtaceae family and has potentially devastating effects. There is currently no known cure for myrtle rust. These changes to the conservation status were made as a precautionary measure based on the potential threat of myrtle rust to the New Zealand Myrtaceae and associated species.

For the purposes of the Taupō District SNA assessment two Myrtaceae species were included geothermal kānuka (*Kunzea tenuicaulis*) (now classed as Threatened-Nationally Endangered and previously classified as At Risk-Naturally Uncommon in 2013 (de Lange *et al.* 2013)) and pōhutukawa (*Metrosideros excelsa*) (now classed as Threatened-Nationally Vulnerable and which is regionally uncommon in Taupō District - see DOC 1997 & 1998) were considered to meet Criterion 3 of the Waikato Regional Council's significance criteria (Waikato Regional Council 2016). Other species in the Myrtaceae family including mānuka (*Leptospermum scoparium*) and kānuka (*Kunzea robusta* and *K. serotina*) have wide distributions and are common within a range of habitats within the Taupō District. These species were therefore not considered to meet Criteria 3.

A list of the relevant publications for each taxonomic group, ecosystem, or other habitat type which were utilised for this review are presented in Table 2 below[1]. Subsequent assessments or reviews of sites should use the most up-to-date publications available at the time of the assessment.

Table 1: Threat ranking documents for indigenous species, vegetation types, habitat types, ecosystem types, and land systems used during review of Taupō Significant Natural Areas.

Taxonomic Group, Habitat Type, Ecosystem Type	Relevant Ranking Document(s)
Amphibians	Burns *et al.* 2018
Bats	O'Donnell *et al.* 2018
Birds	Robertson *et al.* 2017
Earthworms	Buckley *et al.* 2015
Freshwater fish	Dunn *et al.* 2018
Freshwater invertebrates	Grainger *et al.* 2018
Fungi and lichenised fungi	de Lange *et al*. 2018b
Hornworts and liverworts	de Lange *et al*. 2015
Hymenoptera	Ward *et al.* 2017
Lepidotera	Hoare *et al.* 2017
Macroalgae,	Wendy *et al.* 2019
Mosses	Rolfe *et al.* 2016
Onychophora	Trewick *et al.* 2018
Orthoptera	Trewick *et al.* 2016
Powelliphanta	Hitchmough *et al.* 2007
Plants	de Lange *et al.* 2018a
Reptiles	Hitchmough *et al.* 2016
Historically rare ecosystems	Williams *et al.* 2007
Naturally uncommon ecosystems	Holdaway *et al.* 2012
Vegetation extent by Ecological District	Leathwick *et al.* 1995; Wildland Consultants 2009c

2.8 Field assessments

New sites, and sites where little information was available, were prioritised for field survey. Some sites which were visible from publicly accessible areas within the Taupō District were inspected from a distance as part of the field assessments, which were undertaken over two days in April 2019. Nineteen sites were viewed from publicly accessible land, such as road sides, to help inform the assessment of the site. The information gathered from the field inspections was used to either alter site boundaries or adjust significance status as required. It was outside the scope of the current project to contact landowners and request access to update ecological, vegetation composition, and threat information of sites not visible from publicly accessible areas. Consequently, there are sites which have been assessed as being 'likely significant' due to a lack of information on which to undertake an accurate significance assessment. These sites are listed in Volume 2, Section 2). All sites listed in Volume 2, Section 1 meet the criteria for significance, based on this desktop assessment.

[1] The 'Threatened and regionally uncommon species of the Waikato Region' (Overdyck 2019) was not completed when this current project was undertaken was done, so was not used for the assessment of regionally uncommon species.

2.9 Geothermal sites

All sites have been classified as being geothermal or not geothermal based on the inventory of current distribution and extent of geothermal vegetation in the Waikato Region and Bay of Plenty Regions (Wildland Consultants 2014b, 2016c). Geothermal sites which do not contain any significant geothermal vegetation (and thus are not included in Wildland Consultants 2014b) have not been included in the classification of a geothermal site. Sites which contain geothermal vegetation in part are classified as geothermal.

3. SUMMARY OF KEY FINDINGS

A total of 293 SNAs and eight likely SNAs have been identified within the Taupō District (see Volume 2 for a list of all significant sites and Volume 2, Section 2 for a list of all likely significant sites, and the site assessment sheets for details of each site). Approximately 240 of the SNAs comprise predominantly terrestrial habitats, 124 contain wetland habitats, 28 sites contain geothermal habitat, and *c.*63 sites comprise predominantly aquatic habitat (e.g. lakes, rivers, or streams). All SNAs from the 2009 review were identified as being significant or likely significant. Of the 293 SNAs identified in this assessment, 45 are new sites mapped and described for the first time as Taupō District Significant Natural Areas. These 'new' sites include areas previously known to be significant but not previously included within the District Plan as SNAs such as geothermal areas and hydro lakes. Many of these new sites (29 sites, 64.4%) are identified as requiring field survey to confirm and/or determine significance and boundaries (these are identified in the GIS attribute table, and in Appendix 6).

Of the 293 SNAs identified and described in this report, 148 sites (51%) are protected either entirely or partially via formal mechanisms (DOC-managed land, QEII covenants, Ngā Whenua Rāhui Kawenata, or Taupō District Council covenants, covering 170,456 hectares (see Table 2) with the remainder (145 sites, 49%) located on private, unprotected land. The total area of SNAs which are unprotected is 155,553 hectares (48%).

Table 2: Protection status of Significant Natural Areas in the Taupō District.

Protection Status	Total Protected Area of all Sites (ha)	Number of Sites[1]
Department of Conservation managed land	161,380	130
Queen Elizabeth II covenant	210	10
Ngā Whenua Rāhui Kawenata	8,666	11
Taupō District Council covenant	147	29
Taupō District Council covenant and Department of Conservation managed land (overlapping)	53	2
Total Protected Area	**170,456**	

[1] Some sites contained multiple forms of protection. Therefore, the sum of the number of sites protected in this table will be greater than the number of sites protected.

One hundred and eleven SNA sites are entirely located within the Taupō Ecological District (38%), with 23% (66 sites) located in the Atiamuri Ecological District, 10% (29 sites) located in the Kāingaroa Ecological District, 6% (17 sites) located in the Tongariro Ecological District, 2% (seven sites) located in the Pureora Ecological District, and 2% (seven sites) located in the Kaimanawa Ecological District (Table 3, Figure 2).

Table 3: Number of Significant Natural Areas in the Ecological Districts of Taupō District.

Ecological District Name	Number of Sites Entirely Located in Ecological District	Number of Sites Partially Located in Ecological District[1]	Total Area in Ecological District (ha)
Atiamuri	66	11	6223
Ikawhenua	0	2	422
Kaimanawa	7	16	108,596
Kāingaroa	29	19	10,672
Taumaranui	0	7	196
Taupō	111	38	13,5930
Tokoroa	0	3	6
Tongariro	17	15	48,309
Moawhango	0	2	537
Pureora	7	9	8,306
Whirinaki	0	3	6,816

The area of the Taupō District contained within the Moawhango, Ikawhenua, Tokoroa, and Taumaranui Ecological Districts is very small and SNAs contained within these ecological districts are all part of much larger sites, the bulk of which are located in other Local Authority and Ecological Districts.

Whilst most of the SNAs (249 sites, 85%) , and all eight likely SNAs, located within the Taupō District are located within the Waikato Region (see Appendix 7), a number of sites are either partially, or wholly located within the Bay of Plenty Region (39 sites, 13.3%), the Hawkes Bay Region (20 sites, 6.8%), or the Manawatu-Wanganui Region (2 sites, 0.6%) (Figure 1, Table 4).

Table 4: Number of Significant Natural Areas in the Taupō District in each region.

Significant Natural Areas (SNAs)	Waikato Region	Bay of Plenty Region	Manawatu-Wanganui Region	Hawke's Bay Region
Existing SNAs	210	34	2	19
New SNAs	39	5	0	1
Total[2]	**249**	**39**	**2**	**20**

[1] Some sites are located in multiple Ecological Districts. Therefore, the sum of the number of sites partially located in Ecological Districts will be greater the number of SNA's.

[2] Some sites are in multiple regions. Therefore, the sum of the number of SNAs in this table will be greater than the number of SNAs.

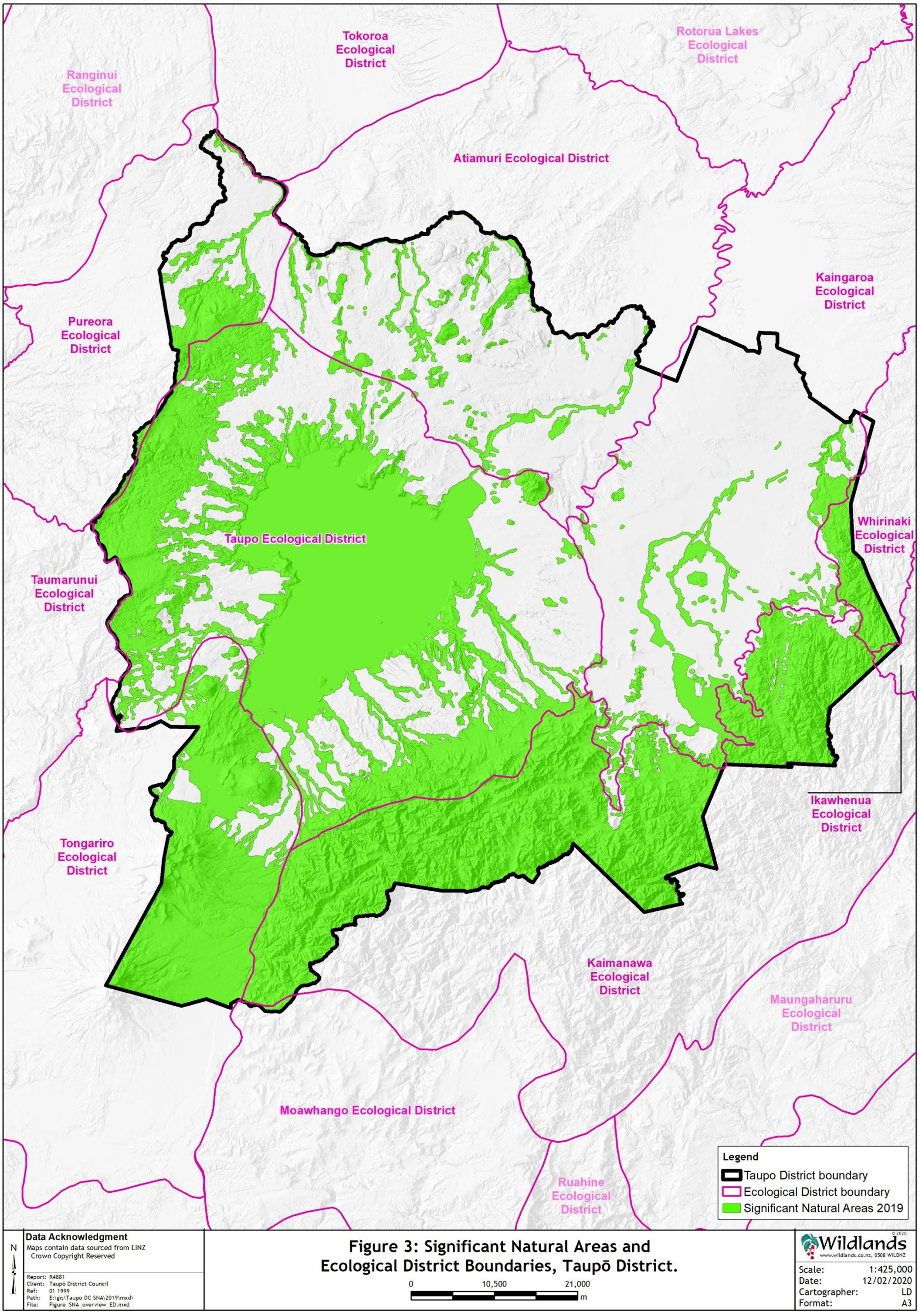

Figure 3: Significant Natural Areas and Ecological District Boundaries, Taupō District.

Twenty-eight (28) sites are entirely located within the Bay of Plenty Region and 11 sites are partially located within the Bay of Plenty Region. The SNA sites (or parts of sites) that fall within the Bay of Plenty Region are listed in Appendix 8. Five new sites (SNAs 1285, 1288, 1289, 1290 and 1299) were identified and mapped in the Bay of Plenty Region in 2019 and these were assessed against the Bay of Plenty RPS criteria.

Two sites are partially located within the Manawatau-Wanganui Region. The SNA sites (or parts of sites) that fall within the Horizons Region are listed in Appendix 9.

Seven sites are entirely located within the Hawkes Bay Region and 13 sites are partially located within the Hawkes Bay Region. The SNA sites (or parts of sites) that fall within the Hawkes Bay region are listed in Appendix 10.

3.1 Changes to site boundaries

As a result of the mapping exercise during the current review, only four existing sites did not have their boundaries amended in some way. Changes to site boundaries were categorised as real or artefactual changes.

Real losses and gains represent actual changes to the extent of areas of significant indigenous vegetation and habitats of indigenous fauna. Real changes resulted in the net loss of *c.*18 hectares of vegetation between 2008/09 and 2017. Real losses occurred across 112[1] sites and affected a total area of 353 hectares. Most of this loss was attributed to conversion to pasture, with lesser amounts attributed to conversion to exotic plantation forest and habitat loss to wilding pines (Table 5). Real gain occurred across 63[2] sites and affected a total area of *c.*335 hectares. Most of this gain was attributed to naturally regenerating vegetation, with lesser amounts attributed to restoration plantings (Table 6). Real loss and gain analysis for each region is presented in Table 7.

Table 5: Number of sites and extents affected by real loss between 2008/09 and 2017.

Type of Real Loss	Reason for Site Boundary Adjustment	Number of Sites	Total Site Area Affected (ha)
Vegetation clearance	Conversion to pasture	23	130.68
	Conversion to exotic plantation forest	28	102.42
	Conversion to residential and urban areas	5	1.77
	Conversion to managed lawns	5	0.55
	Cleared for vehicle tracks, road extension/widening	19	27.04
	Indigenous vegetation sprayed during wilding pine control	5	18.99
	Construction of walking trails	3	0.45
	Other	15	9.81
Other	Area now dominated by wilding pines	9	61.36

[1] Some sites contained both real changes and artefactual changes. Therefore the total number of sites which had changes to site boundaries will be less than the sum of sites with real changes and sites with artefactual changes.

[2] Some sites are in multiple regions. Therefore, the sum of the number of SNAs in this table will be greater than the number of SNAs.

Table 6: Number of sites and extents affected by real gain between 2008/09 and 2017.

Type of Real Gain	Reason for Site Boundary Adjustment	Number of Sites	Total Site Area Affected (ha)
Vegetation addition	Restoration planting	4	15.13
	Retired area of exotic plantation forest	7	122.4
	Naturally regenerating vegetation	52	307.6

Artefactual change resulted in the net gain of *c.*8,250 hectares to sites between 2008/09 and 2017. These changes in the most part do not represent real change on the ground, and most changes are the result of improvements in mapping accuracy due to better quality aerial photographs.

Table 7: Analysis of areas affected by real changes between 2008/09 and 2017.

Loss/ Gain	Type of Change	Reason for Site Boundary Adjustment	Bay of Plenty Region (ha)	Hawke's Bay Region (ha)	Waikato Region (ha)	Total Site Area Affected (ha)
Loss	Vegetation clearance (loss)	Conversion to pasture	0	22.54	108.05	130.59
		Conversion to exotic plantation forest	48.09	1.38	52.96	102.43
		Conversion to residential and urban areas	0	0.11	1.67	1.78
		Conversion to managed lawns	0	0	0.55	0.55
		Cleared for vehicle tracks, road extension/widening	0	1.41	25.63	27.04
		Indigenous vegetation sprayed during wilding pine control	5.69	8.13	5.17	18.99
		Construction of walking trails	0	0	0.45	0.45
		Other	2.77	0.30	6.74	9.81
	Other (loss)	Canopy now dominated by wilding pines	44.31	1.40	15.65	61.36
		Total	**100.86**	**35.27**	**216.87**	**353**
Gain	Vegetation addition (gain)	Restoration planting	0	0	15.13	15.13
		Retired area of exotic plantation forest	0.94	0	11.30	12.24
		Naturally regenerating vegetation	55.73	23.49	228.38	307.60
		Total	**56.67**	**23.49**	**254.81**	**334.97**

4. FUTURE STEPS

All sites which were identified as 'likely' significant require field assessment to determine whether they meet the relevant significance criteria. These sites should be field checked as a priority to determine vegetation/habitat types present, fauna values, and potential threats to the continued existence of these sites. In order to accurately identify the values required to confirm significance, on-site field visits should be undertaken rather than site checks from publicly accessible vantage points. This avenue of field survey would require landowner consultation and consent, and

development of a field assessment programme in conjunction with a suitably qualified and experienced ecologist(s).

It would also be valuable to undertake field assessment of sites which have limited existing information available, sites which may contain areas of non-significant vegetation, and for sites where information used for significance assessments is 20 or more years old. These sites are of lower priority than those described above but would increase confidence that all areas mapped as significant are relatively accurate.

As mentioned in Section 2.4, 2017 aerial photographs were not available for a small part of the Taupō District. When new aerial photographs are available for this part of the district, site boundaries within this part of the district should be updated onto the new aerial photographs to ensure site boundaries are as accurate as can be achieved as a desktop exercise.

The current study aligns well with the Draft Policy Statement on Indigenous Biodiversity (2019), and depending on the final statement, this study should only require relatively minor amendments to comply, including reassessment of all likely significant sites against more stringent rarity criteria.

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WAIKATO REGIONAL POLICY STATEMENT 2016
CRITERIA FOR SIGNIFICANT NATURAL AREAS

Table 11-1: Criteria for determining significance of indigenous biodiversity

Previously assessed site	
1.	It is indigenous vegetation or habitat for indigenous fauna that is currently, or is recommended to be, set aside by statute or covenant or by the Nature Heritage Fund, or Ngā Whenua Rāhui committees, or the Queen Elizabeth the Second National Trust Board of Directors, specifically for the protection of biodiversity, and meets at least one of criteria 3-11.
Ecological values	
2	In the Coastal Marine Area, it is indigenous vegetation or habitat for indigenous fauna that has reduced in extent or degraded due to historic or present anthropogenic activity to a level where the **ecological sustainability** of the ecosystem is threatened.
3.	It is vegetation or habitat that is currently habitat for indigenous species or associations of indigenous species that are: • classed as threatened or at risk, or • **endemic** to the Waikato region, or • at the limit of their natural range.
4.	It is indigenous vegetation, habitat or ecosystem type that is under-represented (20% or less of its known or likely original extent remaining) in an Ecological District, or Ecological Region, or nationally.
5.	It is indigenous vegetation or habitat that is, and prior to human settlement was, nationally uncommon such as geothermal, chenier plain, or karst ecosystems, hydrothermal vents or cold seeps.
6.	It is wetland habitat for indigenous plant communities and/or indigenous fauna communities (excluding exotic rush/pasture communities) that has not been created and subsequently maintained for or in connection with: • waste treatment; • wastewater renovation; • hydro electric power lakes (excluding Lake Taupō); • water storage for irrigation; or • water supply storage; unless in those instances they meet the criteria in Whaley et al. (1995).
7.	It is an area of indigenous vegetation or naturally occurring habitat that is large relative to other examples in the Waikato region of similar habitat types, and which contains all or almost all indigenous species typical of that habitat type. Note this criterion is not intended to select the largest example only in the Waikato region of any habitat type.
8.	It is aquatic habitat (excluding artificial water bodies, except for those created for the maintenance and enhancement of biodiversity or as mitigation as part of a consented activity) that is within a stream, river, lake, groundwater system, wetland, intertidal mudflat or estuary, or any other part of the coastal marine area and their margins, that is critical to the self sustainability of an indigenous species within a catchment of the Waikato region, or within the coastal marine area. In this context "critical" means essential for a specific component of the life cycle and includes breeding and spawning grounds, juvenile nursery areas, important feeding areas and migratory and dispersal pathways of an indigenous species. This includes areas that maintain connectivity between habitats.
9.	It is an area of indigenous vegetation or habitat that is a healthy and representative example of its type because: • its structure, composition, and ecological processes are largely intact; and • if protected from the adverse effects of plant and animal pests and of adjacent land and water use (e.g. **stock**, discharges, erosion, sediment disturbance), can maintain its ecological sustainability over time.
10.	It is an area of indigenous vegetation or habitat that forms part of an **ecological sequence**, that is either not common in the Waikato region or an ecological district, or is an exceptional, representative example of its type.
Role in protecting ecologically significant area	
11.	It is an area of indigenous vegetation or habitat for indigenous species (which habitat is either naturally occurring or has been established as a mitigation measure) that forms, either on its own or in combination with other similar areas, an ecological buffer, linkage or corridor and which is necessary to protect any site identified as significant under criteria 1-10 from external adverse effects.

BAY OF PLENTY REGIONAL POLICY STATEMENT CRITERIA FOR SIGNIFICANT NATURAL AREAS

BAY OF PLENTY REGIONAL POLICY STATEMENT: APPENDIX F, SET 3* and *GUIDELINES - Natural area is 'significant' if it meets one or more the criteria (i.e. at least one 'H' or several 'M' for any of these).

Representativeness

3.1 "Indigenous vegetation or habitat of indigenous fauna that contains associations of indigenous species representative, typical, or characteristic of the natural diversity of the region or any relevant ecological districts."

H Best *OR* relatively large *OR* good quality example of vegetation/habitat in the ecological district; *OR* only example of a type which was formerly more extensive.

M Similar to other areas that occur elsewhere in relevant ecological district.

L Degraded, small; better quality examples exist elsewhere in ecological district.

Rarity or Distinctive Features

3.2 "Indigenous vegetation or habitat of indigenous fauna supports an indigenous species or associations of species threatened, or rare nationally, regionally, or within the relevant ecological district."

H Nationally Threatened species present (includes Nationally Critical, Nationally Endangered, Nationally Vulnerable; see de Lange *et al.* 2018); *OR* several nationally At Risk species present.

M Nationally At Risk or Data Deficient species present (includes Declining, Recovering, Relict, Naturally Uncommon, Data Deficient) *OR* species considered rare or threatened in the region or ecological district.

L No rare or threatened species known to be present.

3.3 "Indigenous vegetation or habitat of indigenous fauna can contribute to the maintenance or recovery of a species threatened, or rare nationally, regionally, or within the relevant ecological district."

H Potentially key habitat for a threatened species *OR* Likely to already be habitat for a threatened species, though not recorded (e.g. because same species has been recorded from very nearby in similar habitat, to which this area is complementary).

M Potentially habitat that can contribute to maintaining or recovering a threatened species.

L Not potential habitat for a threatened species.

3.4 "Indigenous vegetation or habitat of indigenous fauna is distinctive, of restricted occurrence, or at the limits of its natural distribution range, or has developed as a result of factors such as natural geothermal activity, historical cultural practices, altitude, water table, or soil type."

H Nationally distinctive (e.g. nationally rare vegetation or habitat type; national species distribution limit).

M Regionally distinctive (e.g. unusual vegetation or habitat type within region; only or one of few populations of species within region)

L Typical vegetation or habitat type.

3.5 "Indigenous vegetation or habitat of indigenous fauna that is one of the largest remaining examples of its type within the region or any relevant ecological district."

H Yes - one of largest examples of type in region (e.g. 1 of 3).

M Yes - one of largest examples of type in ecological district (but also represented in other ecological districts).

L Moderate or small size example of type.

3.6 "Indigenous vegetation or habitat of indigenous fauna is significantly reduced in area and is degraded but retains key natural ecosystem functions (for example hydrology) and has a high potential for restoration."

H High restoration potential (e.g. reasonably large but moderately degraded example, however retains key ecosystem functions).

M Moderate restoration potential (e.g. highly degraded example, however retains key ecosystem functions).

L Little potential for restoration without large investment in restoring ecosystem function (e.g. restoring hydrology).

N/A Indigenous vegetation or habitats of indigenous fauna not significantly reduced in area, or not degraded, or requiring little or no restoration effort.

Diversity and Pattern

3.7 "Indigenous vegetation or habitats of indigenous fauna which contains a high diversity of indigenous ecosystem or habitat types or changes in species composition, reflecting the existence of diverse natural features (for example landforms, soil types or hydrology), or communities along an ecological gradient."

H More than two landforms or bioclimatic zones; or more than 7 mainly indigenous vegetation/habitat classes.

M More than one landform or bioclimatic zone; or 4-7 mainly indigenous vegetation/habitat classes.

L Only one landform and bioclimatic zone; or 1-3 mainly indigenous vegetation/habitat classes.

Naturalness

3.8 "Indigenous vegetation or habitat of indigenous fauna is in a natural state or healthy condition, or is in an original condition."

H Low-level or nil human-related disturbance (e.g. weeds, pests, logging, fire, dumping, development) - includes secondary vegetation established following natural disturbance.

M Moderate level of human-related disturbance, for example relatively good quality secondary vegetation developed following human disturbance, low levels of selective logging 20 or more years earlier.

L Exotic/induced/heavily disturbed.

Ecological Context

3.9 "Indigenous vegetation or habitat of indigenous fauna contributes to the ecological viability of adjoining natural areas and biological communities, by providing or contributing to an important ecological linkage or network, or providing a buffer from adjacent land uses."

H Provides an ecological linkage/corridor function or buffer to an adjoining natural area of high overall ecological significance *OR* one of only a few examples of existing or potential key ecological linkages within the ecological district (e.g. only stream with riparian vegetation which reaches harbour).

M Provides an ecological linkage/corridor function or buffer to an adjoining natural area of moderate or low overall ecological significance; *OR* an example of an ecological linkage or buffer which is not common within the ecological district.

L An isolated natural area, without linkage or buffer functions *OR* an example of a linkage or buffer that is common.

3.10 "Indigenous vegetation or habitat of indigenous fauna provides habitat for indigenous species at key stages of their life cycle."

H Yes - critical to the self-sustainability of an indigenous species (e.g. feeding, breeding or roosting site, such as for indigenous fish species or migratory birds (national and international).

M Yes - provides habitat for indigenous species at key stages of their life cycle.

L Not known to provide habitat for indigenous species at key stages in their life cycle.

Viability and Sustainability

3.11 "Indigenous vegetation or habitat of indigenous fauna is of sufficient size and compact shape and has the capacity to maintain its ecological viability over time."

H Large size (relative to similar vegetation/habitat in region) *OR* primarily compact, no major constrictions.

M Moderate size (relative to similar vegetation/habitat in region) *OR* irregular or convoluted.

L Small size (relative to similar vegetation/habitat in region) *OR* highly convoluted or discontinuous.

3.12 "Indigenous vegetation or habitat of indigenous fauna supports intact habitats and healthy functioning ecosystems."

H Intact and healthy; able to remain ecological viable with low or minimal management effort.

M Contains elements of a functioning ecosystem, but requires management intervention to be ecologically viable in long term.

L Degraded; requires considerable management effort to render ecologically viable.

3.13 "Indigenous vegetation or habitat of indigenous fauna is of sufficient size and compact shape to resist changes initiated by external agents." (Same as 3.11, but relatively larger)

H Large size (relative to similar vegetation/habitat in region) *OR* primarily compact, no major constrictions.

M Moderate size (relative to similar vegetation/habitat in region) *OR* irregular or convoluted.

L Small size (relative to similar vegetation/habitat in region) *OR* highly convoluted or discontinuous.

SIGNIFICANT NATURAL AREAS MAPPED USING 2012-2013 WRAPS

SNA Number	SNA Name	Part or Entire Site was Assessed Using Aerial Photographs from WRAPS 2012-2013
1246	Pouākani Tree Walk	Entire site.
1118	Te Hiapo/Tihipotaka Stewardship Land	Entire site.
1021	Hauhungaroa 1D1 Block Stewardship Land	Entire site.
1142	Pt Pureora CP (Whenuakura Ecological Area)	Entire site.
1041	Kuratau River Chadwick Flood Plain Fragments	Entire site.
1154	Pt Pureora Conservation Park (Southern Block)	Entire site.
1160	Waikino Stream Wetland	Entire site.
1087	Maungatangaroa Falls Forest	Entire site.
1088	Kuratau River Wetlands	Entire site.
1275	Rumata Road Wetlands	Entire site.
1219	Waituhi Kuratau Scenic Reserve (Part)	Entire site.
1276	Moerangi Forest Remnants	Entire site.
1096	Papakai Forest	Entire site.
1228	Rumata Road Scrub	Entire site.
1205	Waituhi- Kuratau Forest	Entire site.
1282	Ketetahi Hot Springs Alpine Thermal Zone	Entire site.
1145	Waituhi Ecological Covenant	Entire site.
1210	Rotoaira Road Scrub	Entire site.
1095	Kuratau River Flood Plain Fragments	Entire site.
1238	Pt Pureora Conservation Park (Northern Block)	Part of site.
1169	Pureora Mountain Ecological Area	Part of site.
1244	Mangatahae Stream	Part of site.
1193	Pouākani Scenic Reserve	Part of site.
1217	Tihoi Forest	Part of site.
1132	Pihanga Scenic Reserve	Part of site.
1144	Te Raina Forest	Part of site.
1048	Lake Rotoaira	Part of site.
1079	Kaharua-Kararamea-Tihia Massif	Part of site.
1273	Lake Rotokura and Wetlands	Part of site.
1092	Ngatokotoko Stream and Mangaongoki Stream Stewardship Land	Part of site.
1225	Waiwhaanga Stream Forest	Part of site.
1227	Wairehu Stream Riparian Strip	Part of site.
1106	Tongariro National Park	Part of site.
1111	Pt Pureora CP (Waihaha Ecological Area)	Part of site.
1100	Kuratau River Riparian Strip and Lake	Part of site.
1215	Whanganui and Waikino Streams Forest	Part of site.
1112	Buried Forest and Waimonoa Ecological Area	Part of site.
1226	Waiharuru Stream Forest	Part of site.

LIST OF SITES MERGED AS PART OF THE 2019 SNA REVIEW

Site Number	Site Name	Names (Wildland Consultants 2014a) of Sites Merged	SNA Number (from Wildland Consultants 2014a) of Merged Sites	All or Part
1012	Motuoapa Headland and Te Matapuna Wetland	Motuoapa Headland and Wetland	78	All
		Waimarino River Recreation Reserve	200	All
		Waimarino River Riparian Strip and Stump Bay	141	Part
		Te Anoputarua Point Marginal Strip	201	All
1014	Morunga and Graces Scenic Reserves	Kaharua-Kakaramea-Tihia Massif	143	Part
		Rotomoho Conservation Area	177	All
		Morunga Scenic Reserve	178	All
		Morunga Significant Natural Area	319	All
		Pukawa Significant Natural Area	320	All
		Graces Scenic Reserve	179	All
		Kaharua-Kakaramea-Tihia Massif	143	Part
1016	Admirals and Paurini Reserves	Admirals Recreation Reserve	287	All
		Admirals Scenic Reserve	311	All
		Paurini Scenic Reserve	290	All
1024	Mihianga Stream	Prefect Road	27	All
		Mihanga Stream Stewardship Area	228	All
1039	Aratiatia Rapids Scenic Reserve	Aratiatia Conservation Area	307	All
		Aratiatia Rapids Scenic Reserve	238	All
1044	Waitetoko Scenic Reserve and Mission Bay Recreation Reserve	Mission Bay Recreation Reserve	241	All
		Waitetoko Scenic Reserve	227	All
1047	Kokomoka Forest	Kokomoka Forest	204	All
		kokomoka Protective Covenant	184	All
1065	Bracey Road Wetland	Hemlock Road Wetland	2	All
		Bracey Road Wetland	29	Part
1070	Oruatua Recreation Reserve	Monowharangi Bay Recreation Reserve	226	All
		Oruatua Recreation Reserve	192	All
1078	Tongariro River	Tongariro River Marginal Strip	284	Part
		Shaw Reach Stewardship Area	283	Part
		Crescent Recreation	285	Part
1089	Opepe	Opepe	82	All
		Opepe	83	All
1092	Ngatokotoko Stream and Mangaongoki Stream Stewardship Land	Ngatokotoko Stream Stewardship Land	146	All
		Mangaongoki Stream Stewardship Land	154	All
		Mangaongoki Stream Marginal Strip	153	All
1101	Motuoapa Wetland	Motuoapa Wetland	17	All
		Orutua Recreation Reserve	308	Part
1104	Tokaanu Thermal Park	Tokaanu Thermal Park	236	All
		Maunganamu Wetland	43	All
1105	Mangakino/Kakahe Marginal Strip	Mangakino/kakahe Marginal Strip	171	All
		Mangakino Stream Marginal Strip	278	Part
1106	Tongariro National Park	Tongariro National Park	259	All
		Tongariro National Park Te Tatu Pounamu	250	All
		Tongariro National Park (Tukino Ski Field)	269	All
		Tongariro Conservation Area	301	All
1107	Mangakino and	Mangakino Stream Marginal Strip	278	Part

Site Number	Site Name	Names (Wildland Consultants 2014a) of Sites Merged	SNA Number (from Wildland Consultants 2014a) of Merged Sites	All or Part
	Orangotanoa Stream Marginal Strip	Mangakino Stream Marginal Strip	255	All
		Orangitanoa Stream Marginal Strip	163	All
1109	Otangimoana Stewardship Area	Kokomoka-Whakatau Covenant	165	All
		Otangimoana Stewardship Area	164	All
1111	Pt Pureora CP (Waihaha Ecological Area)	Hauhungaroa Ridge	106	All
		Pt Pureora CP (Waihaha EA)	144	All
		Oruapuraho Stream Stewardship Land	167	All
		Otupoto/Pikopiko Stream Stewardship Area	172	All
1112	Buried Forest and Waimonoa Ecological Area	Buried Forest Area	316	All
		Waimoana Ecological Area (Pt Pureora Cons Park)	225	All
1113	Māroa Road Forest	Maroa Road Forest	22	All
		Maroa Road Forest	21	All
1133	Taupahi Scenic Reserve and Tahawai Conservation Area	Taupahi Scenic Reserve	286	Part
		Tahawai Conservation Area	296	Part
1135	Stump Bay	Stump Bay Scenic Reserve	310	All
		Stump Bay Conservation Area	192	All
		Waimarino River Riparian Strip and Stump Bay	141	Part
		Waiotaka Scenic Reserve	197	Part
		Shaw Reach Marginal Strip	282	Part
1155	South Taupo Wetland Complex: Waihi Wetland	South Taupo Wetland Complex: Waihi Wetland	46	All
		Tokaanu Stream Recreation Reserve	151	All
1163	Tongariro River Riparian Strip	Tongariro River Riparian Strip	142	All
		Tongariro River Scenic Reserve	222	All
1164	Tokaanu Conservation Area	Tokaanu Conservation Area	239	All
		Delta Recreation Reserve	145	All
1165	Lake Whakamaru Margins	Whakamaru Marginal Strip	203	All
		Maraemanuka Stream	68	Part
1185	Tram Road Riparian	Tram Road Riparian	48	All
		Tram Road Riparian	39	All
		Bracey Road Wetland	29	Part
1199	Waitahanui River	Waitahanui River	125	All
		Waitahanui River & Mangakahakaha	254	All
		Waitahanui Scenic Reserve	242	Part
1212	Waiotaka River	Waiotaka River Terrace Peat Bog	120	All
		Waimarino River Riparian Strip and Stump Bay	141	Part
		Waiotaka Scenic Reserve	197	Part
1214	Rangitaiki River Margin	Rangitaiki River Marginal Strip	147	All
		Rangitaiki Stewardship Area	214	All
		Rangitaiki River Scrub	73	All
1223	Rotuakui Significant Natural Area	Rotuakui Significant Natural Area	128	All
		Rotuakui Road Bush	257	All
1230	Whirinaki Forest Park; Otupaka Ecological Area	Whirinaki Forest Park; Otupaka EA	190	All
		Whirinaki Forest Park; Forest Corp Covenant	221	All
1243	Mangakowhiriwhiri Stream	Mangakowhiriwhiri Stream	33	All
		Mangakowhiriwhiri Stream Conservation Area	202	All
1244	Mangatahae Stream	Mangatatahae Stream	80	All
		Mangakino Stream Marginal Strip	230	All
		Mangakino Stream Marginal Strip	265	All
1268	Wheao Mangakaretu Covenant	Wheo Mangakaretu Covenant	159	All
		Wheo Covenant	160	All

APPENDIX 5

LIST OF COMMON NAMES USED IN THE TEXT

VASCULAR PLANT SPECIES

Common Name	Scientific Name
Agapanthus	*Agapanthus praecox*
Alder	*Alnus glutinosa*
Apple	*Malus ×domestica*
Arrow bamboo	*Pseudosasa japonica*
Arrow grass	*Triglochin striata*
Bamboo	*Phyllostachys* sp.
Banksia	*Banksia integrifolia*
Barberry	*Berberis glaucocarpa*
Blackberry	*Rubus fruticosus* agg.
Black beech	*Fuscospora solandri*
Black maire	*Nestegis cunninghamii*
Black pine	*Pinus nigra*
Black wattle	*Acacia mearnsii*
Bog pine	*Halocarpus bidwilli*
Broadleaf/ kāpuka	*Griselinia littoralis*
Broad-leaved fleabane	*Erigeron sumatrensis*
Broom	*Cytisus scoparius*
Browntop	*Agrostis capillaris*
Buddleia	*Buddleja davidii*
Buffalo grass	*Stenotaphrum secundatum*
Bush lawyer	*Rubus cissoides* agg.
Canadian pondweed	*Elodea canadensis*
Catsear	*Hypochoeris radicata*
Chinese privet	*Ligustrum sinense*
Climbing spindleberry	*Celastrus orbiculatus*
Cocksfoot	*Dactylis glomerata*
Coral lichen	*Cladia retipora*
Cotoneaster	*Cotoneaster glaucophyllus*
Crack willow	*Salix fragilis*
Creeping bent	*Agrostis stolonifera*
Cretan brake	*Pteris cretica*
Danthonia	*Rytidosperma* sp.
Douglas fir	*Pseudotsuga menziesii*
Dwarf mistletoe	*Korthalsella salicornioides*
Egeria	*Egeria densa*
Eucalyptus	*Eucalyptus* species
False acacia	*Robinia pseudoacacia*
Geothermal kānuka	*Kunzea tenuicaulis*
Giant spike sedge	*Eleocharis sphacelata*
Gorse	*Ulex europaeus*
Grape vine	*Vitis vinifera*
Grey willow	*Salix cinerea*
Gypsywort	*Lycopus europaeus*
Hall's totara	*Podocarpus laetus*
Hangehange	*Geniostoma ligustrifolium*
Harakeke, flax	*Phormium tenax*
Hard tussock	*Festuca novae-zelandiae*
Haumakaroa/haumangōroa	*Raukaua simplex*

Common Name	Scientific Name
Hawkweed/hieracium	*Hieracium pilosella*
Hawthorn	*Crataegus monogyna*
Heather	*Calluna vulgaris*
Hen and chicken fern	*Asplenium bulbiferum*
Heruheru	*Leptopteris superba*, *L hymenophylloides*, and *L. hymenophylloides* × *L. superba*
Himalayan honeysuckle	*Leycesteria formosa*
Hinau	*Elaeocarpus dentutus*
Holly	*Ilex aquifolium*
Horoeka	*Pseudopanax crassifolius*
Horopito	*Pseudowintera colorata*
Hornwort	*Ceratophyllum demersum*
Hound's tongue fern	*Microsorum pustulatum*
Hukihuki/swamp coprosma	*Coprosma tenuicaulis*
Hūpiro	*Coprosma foetidissima*
Indian doab	*Cynodon dactylon*
Ivy	*Hedera helix*
Japanese honeysuckle	*Lonicera japonica*
Japanese wineberry	*Rubus phoenicolasius*
Kahikatea	*Dacrycarpus dacrydioides*
Kaikōmako	*Pennantia corymbosa*
Kāmahi	*Weinmannia racemosa*
Kanono	*Coprosma grandifolia*
Kānuka	*Kunzea robusta/Kunzea serotina*
Karaka	*Corynocarpus laevigatus*
Karamū	*Coprosma robusta*
kāramuramu (glossy karamū)	*Coprosma lucida*
Kāretu	*Hierochloe redolens*
Khasia berry	*Cotoneaster simonsii*
Kiekie	*Freycinetia banksii*
King fern	*Ptisana salicina*
Kiokio	*Blechnum novae-zelandiae*
Kōhūhū	*Pittosporum tenuifolium*
Koromiko	*Hebe stricta*
Kōtukutuku (fuchsia)	*Fuchsia excorticata*
Kōwhai	*Sophora microphylla*/*Sophora tetraptera*
Kāpūngāwhā/lake clubrush	*Schoenoplectus tabernaemontani*
Lodgepole pine	*Pinus contorta*
Lotus	*Lotus pedunculatus*
Lowland ribbonwood	*Plagianthus regius*
Lupin	*Lupinus arboreus*
Māhoe	*Melicytus ramiflorus*
Maire	*Nestegis* species
Rōroro/narrow-leaved maire	*Nestegis montana*
Makomako (wineberry)	*Aristotelia serrata*
Mamaku	*Cyathea medullaris*
Mānuka	*Leptospermum scoparium*
Māpou	*Myrsine australis*
Maritime pine	*Pinus pinaster*
Mataī	*Prumnopitys taxifolia*
Mexican water lily	*Nymphaea mexicana*
Mingimingi	*Leucopogon fasciculatus*
Miro	*Prumnopitys ferruginea*
Monoao	*Dracophyllum subulatum*
Montbretia	*Crocosmia* ×*crocosmiiflora*
Montpellier broom	*Teline monspessulana*
Mountain anisotome	*Anisotome aromatica*

Common Name	Scientific Name
Mountain beech	*Fuscospora cliffortioides*
Mountain horopito	*Pseudowintera colorata*
Mountain makomako	*Aristotelia fruticosa* var. *microphylla*
Mountain toatoa	*Phyllocladus alpinus*
Mountain wineberry	*Aristotelia fruticosa*
Narrow-leaved carpet grass	*Axonopus fissifolius*
Native fireweed	*Senecio* spp.
Ngaio	*Myoporum laetum*
Northern rātā	*Metrosideros robusta*
Oioi	*Apodasmia similis*
Ongaonga	*Urtica ferox*
Ornamental cherry	*Prunus sp.*
Oxygen weed	*Egeria densa*
Pākau	*Pneumatopteris pennigera*
Pampas	*Cortaderia selloana*
Parsley fern	*Botrychium australe*
Pātōtara	*Leucopogon fraseri* s.s.
Patē	*Schefflera digitata*
Pekapeka	*Celmisia gracilenta*
Periwinkle	*Vinca major*
Pigeonwood	*Hedycarya arborea*
Pinātoro	*Pimelea prostrata*
Pines	*Pinus* species
Pink pine	*Halocarpus biformis*
Pōhue	*Calystegia sepium*
Pōhutukawa	*Metrosideros excelsa*
Pōkākā	*Elaeocarpus hookerianus*
Ponga	*Cyathea dealbata*
Poplar	*Populus* species
Prickly mingimingi	*Leptecophylla juniperina var. juniperina*
Puka	*Muehlenbeckia australis*
Pūrei	*Carex secta* and *Carex virgata*
Purua grass	*Bolboschoenus fluviatilis*
Putaputawētā	*Carpodetus serratus*
Pyracantha	*Pyracantha coccinea*
Radiata pine	*Pinus radiata*
Ragwort	*Jacobaea vulgaris*
Rangiora	*Brachyglottis repanda*
Rārahu	*Pteridium esculentum*
Raukawa	*Raukaua edgerleyi*
Raupō	*Typha orientalis*
Rautāwhiri	*Pittosporum colensoi*
Red beech	*Fuscospora fusca*
Red mistletoe	*Peraxilla tetrapetala*
Red tussock	*Chionochloa rubra* subsp. *rubra* var. *rubra*
Rewarewa	*Knightia excelsa*
Ribbonwood	*Plagianthus regius* subsp. *regius*
Rice cutgrass	*Leersia oryzoides*
Rimu	*Dacrydium cupressinum*
Ryegrass	*Lolium perenne*
Scarlett mistletoe	*Peraxilla colensoi*
Scots pine	*Pinus sylvestris*
Silver beech	*Lophozonia menziesii*
Silver birch	*Betula pendula*
Silver pine	*Manoao colensoi*
Silver poplar	*Populus alba* 'Nivea'
Silver tussock	*Poa cita*

Common Name	Scientific Name
Snowberry	*Gaultheria* sp.
Soft rush	*Juncus effusus* var. *effusus*
Spanish heath	*Erica lusitanica*
Spearwort	*Ranunculus flammula*
Square sedge	*Lepidosperma australe*
Strawberry tree	*Arbutus unedo*
Supplejack	*Ripogonum scandens*
Swamp kiokio	*Parablechnum minus*
Swamp millet	*Isachne globosa*
Swamp nettle	*Urtica perconfusa*
Swamp willow weed	*Persicaria maculosa*
Sweet briar	*Rosa rubiginosa*
Sweet vernal	*Anthoxanthum odoratum*
Sycamore maple	*Acer pseudoplatanus*
Tall fescue	*Schedonorus arundinaceus*
Tānekaha	*Phyllocladus trichomanoides*
Tangle fern	*Gleichenia dicarpa*
Tarata (lemonwood)	*Pittosporum eugenioides*
Tasmanian blackwood	*Acacia melanoxylon*
Tauhinu	*Pomaderris amoena*
Tawa	*Beilschmiedia tawa*
Tawheowheo	*Quintinia serrata*
Tawiniwini	*Gaultheria antipoda*
Tī kōuka (cabbage tree)	*Cordyline australis*
Toatoa	*Phyllocladus toatoa*
Toetoe	*Austroderia fulvida/Austroderia toetoe*
Toro	*Myrsine salicina*
Tōtara	*Podocarpus totara*
Tūrutu	*Dianella nigra*
Tufted hair grass	*Deschampsia cespitosa*
Tutu	*Coriaria arborea*
Umbrella fern	*Sticherus cunninghamii*
Victorian waratah	*Telopea oreades*
Water fern	*Histiopteris incisa*
Water pepper	*Persicaria hydropiper*
Water plantain	*Alisma plantago-aquatica*
Water purslane	*Ludwigia palustris*
Whaririki (mountain flax)	*Phormium cookianum* subsp. *hookeri*.
Whauwhaupaku (five finger)	*Pseudopanax arboreus*
Whekī	*Dicksonia squarrosa*
Whekī-ponga	*Dicksonia fibrosa*
White maire	*Nestegis lanceolata*
White mistletoe	*Tupeia antartica*
Willow	*Salix* species
Wire rush	*Empodisma minus*
Yellow mistletoe	*Alepis flavida*
Yellow flag	*Iris pseudacorus*
Yorkshire fog	*Holcus lanatus*

FAUNA SPECIES

Common Name	Scientific Name
Australasian coot	*Fulica atra australis*
Australasian shoveler	*Anas rhynchotis variegata*
Australian magpie	*Gymnorhina tibicen*
Banded dotterel	*Charadrius bicinctus bicinctus*
Banded rail	*Gallirallus philippensis assimilis*
Black shag	*Phalacrocorax sulcirostris*
Black swan	*Cygnus atratus*
Black-backed gull	*Larus dominicanus dominicanus*
Black-billed gull	*Larus bulleri*
Brown skink	*Oligosoma zelandicum*
Brown teal	*Anas chlorotis* "North Island"
Brown trout	*Salmo trutta*
California quail	*Callipepla californica bunnescens*
Caspian tern	*Hydroprogne caspia*
Catfish	*Ameiurus nebulosus*
Chaffinch	*Fringilla coelebs*
Common bully	*Gobiomorphus cotidianus*
Common gecko	*Woodworthia maculata*
Common skink	*Oligosoma n. polychroma*
Common smelt	*Retropinna retropinna*
Dunnock	*Prunella modularis*
Elegant gecko/Auckland green gecko	*Naultinus elegans*
Eurasian blackbird	*Turdus merula*
Feral cat	*Felis catus*
Forest gecko	*Mokopirirakau granulatus*
Goldfinch	*Carduelis carduelis*
Goldfish	*Carassius auratus*
Green bell frog	*Litoria aurea*
Greenfinch	*Carduelis chloris*
Grey duck	*Anas superciliosa*
Grey teal	*Anas gracilis*
Grey warbler/riroriro	*Gerygone igata*
Hare	*Lepus europaeus*
House sparrow	*Passer domesticus*
Kāhu/Australasian harrier	*Circus approximans*
Kākāriki	*Cyanoramphus auriceps*
Kererū	*Hemiphaga novaeseelandiae*
Korimako/bellbird	*Anthornis melanura melanura*
Kōtare	*Todiramphus sanctus vagans*
Kōaro	*Galaxias brevipinnis*
Kōura	*Paranephrops planifrons*
Little black shag	*Phalacrocorax sulcirostris*
Little shag	*Phalacrocorax melanoleucos brevirostris*
Longfin eel	*Anguilla dieffenbachii*
Long-tailed bat	*Chalinolobus tuberculatus*
Long-tailed cuckoo	*Eudynamys taitensis*
Mallard	*Anas platyrhynchos*
Marsh crake	*Porzana pusilla affinis*
Miromiro (pied tomtit)	*Petroica macrocephala toitoi*
Mouse	*Mus musculus*
Myna	*Acridotheres tristis*
New Zealand dabchick	*Poliocephalus rufopectus*
New Zealand falcon (kārearea)	*Falco novaeseelandiae*
New Zealand freshwater mussel	*Echyridella menziesi*

Common Name	Scientific Name
New Zealand pipit	*Anthus novaeseelandiae novaeseelandiae*
New Zealand scaup	*Aythya novaeseelandiae*
North Island brown kiwi	*Apteryx mantelli*
North Island fernbird	*Bowdleria punctata vealeae*
North Island kākā	*Nestor meridionalis septentrionalis*
North Island kōkako	*Callaeas cinerea wilsoni*
North Island rifleman	*Acanthisitta chloris granti*
North Island robin	*Petroica longipes*
Ornate skink	*Oligosoma ornata*
Pacific gecko	*Dactylocnemis pacificus*
Paradise shelduck	*Tadorna variegata*
Pheasant	*Phasianus colchicus*
Pied shag	*Phalacrocorax varius varius*
Pied stilt	*Himantopus himantopus leucocephalus*
Pied tit	*Petroica macrocephala toitoi*
Pīwakawaka (North Island fantail)	*Rhipidura fuliginosa placabilis*
Possum	*Trichosurus vulpecula*
Pūkeko	*Porphyrio melanotus melanotus*
Rainbow trout	*Oncorhynchus mykiss*
Red deer	*Cervus elaphus scoticus*
Red-billed gull	*Larus novaehollandiae scopulinus*
Rudd	*Scardinius erythrophthalmus*
Shining cuckoo	*Chrysococcyx lucidus lucidus*
Shortfin eel	*Anguilla australis*
Short-tailed bat	*Mystacina* sp.
Sika deer	*Cervus nippon*
Silvereye (tauhou)	*Zosterops lateralis lateralis*
Small-scaled skink	*Oligosoma microlepis*
Song thrush	*Turdus philomelos*
Speckled skink	*Oligosoma infrapunctatum*
Spotless crake	*Porzana tabuensis tabuensis*
Spur-winged plover	*Vanellus miles novaehollandiae*
Tūī	*Prosthemadera novaeseelandiae novaeseelandiae*
Wellington green gecko	*Naultinus punctatus*
Whio	*Hymenolaimus malacorhynchos*
White-faced heron	*Egretta novaehollandiae*
Whitehead	*Mohoua albicilla*
Yellow-crowned kākāriki	*Cyanoramphus auriceps*
Yellowhammer	*Mohoua ochrocephala*

LIST OF SITES REQUIRING FIELD SURVEY TO CONFIRM SIGNIFICANCE

Site Number	Site Name	Field Survey Recommended to Confirm Boundaries	Field Survey Recommended to Confirm Significance
1001	Maunganamu Hill		Y
1029	Karaitiana Blocks	Y	
1038	Mangamutu Stream and Wioratene		Y
1042	Airstrip Shrubland	Y	Y
1059	Monterey Road Forest		Y
1066	Maroanui Private Reserve		Y
1074	Tereina Road Swamp	Y	
1076	Lake Whakamaru	Y	
1083	Otukou Scrub and Shrubland	Y	Y
1090	Kokueriki Stream		Y
1095	Kuratau River Flood Plain Fragments		Y
1105	Mangakino/Kakahe Stream Marginal Strip		Y
1107	Mangakino and Orangotanoa Stream Marginal Strip		Y
1115	Waitahanui Wetland (Mangamutu Swamp)	Y	
1135	Stump Bay	Y	
1145	Waituhi Ecological Covenant	Y	
1152	Waikato River Riparian Strip	Y	
1158	Te Ponganga Saddle Road Forest	Y	
1165	Lake Whakamaru Margins	Y	Y
1204	Orakeikorako	Y	
1207	Whanganui Bay Catchment	Y	
1208	Paerata Road Geothermal Area	Y	
1210	Rotoaira Road Scrub	Y	Y
1211	Waikato River Conservation Area	Y	
1225	Waiwhaanga Stream Forest		Y
1227	Wairehu Stream Riparian Strip	Y	
1228	Rumata Road Scrub	Y	Y
1234	Pulham Road Forest		Y
1239	Lake Atiamuri	Y	
1240	Lake Maraetai	Y	
1241	Lake Maraetai Margins	Y	
1242	Lake Ohakuri	Y	
1244	Mangatahae Stream	Y	
1243	Mangakowhiriwhiri Stream	Y	Y
1245	Ongarahu Stream	Y	
1247	Waikato River-Aratiatia-Taupo	Y	
1249	Lake Aratiatia	Y	
1250	Waikato River - Ohakuri-Aratiatia	Y	
1253	Tirohanga Road Wetland and Geothermal	Y	
1254	Kaahu Road Scrub	Y	Y
1256	Waiwhakarewaumu Stream	Y	Y
1258	Pakuri Forest Remnant	Y	Y
1264	Bancroft Road Forest		Y
1272	Poutu Canal Wetland	Y	Y

Site Number	Site Name	Field Survey Recommended to Confirm Boundaries	Field Survey Recommended to Confirm Significance
1273	Lake Rotokura and Wetlands	Y	Y
1274	Whareroa Stream and Wetlands	Y	Y
1275	Rumata Road Wetlands		Y
1276	Moerangi Forest Remnants	Y	Y
1277	Mangahouhounui Stream		Y
1278	Omori Wetland		Y
1283	Tongariro and Lake Rotoaira Link		Y
1285	Tarawa Beech		Y
1287	Otaketake Stream Scenic Reserve Extensions	Y	Y
1288	Rangitaiki Forest Remnants		Y
1289	Grassy Creek Lagoon Wetland		Y
1290	Dry Creek Frost Flats		Y
1295	Western Bay Road Wetland		Y

SIGNIFICANT NATURAL AREAS LOCATED WITHIN THE TAUPŌ DISTRICT WHICH ARE LOCATED WITHIN WAIKATO REGION

Site Number	Site Name	Total Site Area (ha)	Area of the Site Within the Waikato Region (ha)
1001	Maunganamu Hill[1]	17	17
1002	Burma Road Wetland[1]	15	15
1004	Huka Falls Scenic Reserve[1]	131	131
1005	Mine Point[1]	21	21
1006	Mine Bay Lease Scenic Reserve[1]	285	285
1007	Hinemaiaia Scenic Reserve[1]	129	129
1008	Hatepe Recreation Reserve[1]	80	80
1009	Mangakowhitiwhiti River Forest and Frost Flat[1]	452	452
1010	Kotukutuku Stream Scenic Reserve[1]	196	196
1011	Karangahape Headland[1]	739	739
1012	Motuoapa Headland and Te Matapuna Wetland[1]	290	290
1013	Motuoapa Scenic Reserve[1]	17	17
1014	Morunga and Graces Scenic Reserves[1]	94	94
1015	National Trout Centre[1]	20	20
1016	Admirals and Paurini Reserves[1]	92	92
1018	Mt Tauhara[1]	1,173	1,173
1020	Orutua Conservation Area[1]	32	32
1021	Hauhungaroa 1D1 Block Stewardship Land[1]	1,156	1,156
1022	Ivan Swan Forest[1]	87	87
1024	Mihianga Stream[1]	263	263
1025	Horehore Block Forest[1]	610	610
1026	Kawakawa Bay Scenic Reserve[1]	878	878
1027	Kemp Road Forest[1]	91	91
1028	Otanepae Station Road Forest[1]	419	419
1038	Mangamutu Stream and Wioratene[1]	139	139
1039	Aratiatia Rapids Scenic Reserve[1]	209	209
1041	Kuratau River Chadwick Flood Plain Fragments[1]	71	71
1042	Airstrip Shrubland[1]	123	123
1043	Marotiri Road Forest[1]	84	84
1044	Waitetoko Scenic Reserve and Mission Bay Recreation Reserve[1]	84	84
1046	Kaimanawa Forest Park[2]	58,472	44,777
1048	Lake Rotoaira[1]	1,561	1,561
1050	Awaroa Recreation Reserve[1]	4	4
1051	Koporonui Stream Scenic Reserve[1]	48	48
1052	Broadlands Road Scenic Reserve[1]	48	48
1053	Karapiti (Craters of the Moon) [1]	55	55
1054	Karapiti Forest[1]	0	0
1055	Tongariro National Park (Pihanga Block) [1]	5,180	5,180
1056	Omori Bush and Oxidation Pond Wetland[1]	25	25
1058	Kiwitahi Back Forest[1]	88	88
1059	Monterey Road Forest[1]	27	27

Site Number	Site Name	Total Site Area (ha)	Area of the Site Within the Waikato Region (ha)
1060	Oruanui Road Swamp[1]	9	9
1061	Marotiritiri Wetland[1]	17	17
1062	Mill Road Wetland[1]	25	25
1063	Forest Road Wetland[1]	68	68
1064	Oruanui Forest[1]	67	67
1065	Bracey Road Wetland[1]	86	86
1066	Maroanui Private Reserve[1]	388	388
1067	Kawakawa Bay Forest[1]	1,277	1,277
1068	Lake Rotongaio[1]	1,119	1,119
1069	Moututere Scenic Reserve[1]	169	169
1070	Oruatua Recreation Reserve[1]	61	61
1072	Okama Stream[1]	90	90
1074	Tereina Road Swamp[1]	152	152
1073	Uanui Creek[3]	30	30
1075	Lake Waipapa[1]	52	52
1076	Lake Whakamaru[1]	264	264
1077	Maraemanuka Stream[1]	59	59
1078	Tongariro River Marginal Strip[1]	142	142
1079	Kaharua-Kararamea-Tihia Massif[1]	4,090	4,090
1081	Hauwai Stream Riparian Strip[1]	72	72
1082	Mauiui Forest[1]	354	354
1083	Otukou Scrub and Shrubland[1]	165	165
1084	Kaahu Scenic Reserve[1]	78	78
1085	Ngatamariki Hot Springs Scenic Reserve[1]	2	2
1086	Omori Stream and Scenic Reserve[1]	75	75
1087	Maungatangaroa Falls Forest[1]	513	513
1088	Kuratau River Wetlands[1]	240	240
1089	Opepe[1]	50	50
1090	Kokueriki Stream[1]	43	43
1091	Opepe Bush Scenic and Historic Reserve[1]	221	221
1092	Ngatokotoko Stream and Mangaongoki Stream Stewardship Land[1]	274	274
1093	Arataki Stream Stewardship Land	25	25
1094	Kotukutuku Stream[1]	273	273
1095	Kuratau River Flood Plain Fragments[1]	4	4
1096	Papakai Forest[1]	195	195
1097	Little Creek Forest[1]	125	125
1098	Lake Rotokawa Conservation Area[1]	262	262
1099	Otaketake Stream Scenic Reserve[1]	474	474
1100	Kuratau River Riparian Strip and Lake[1]	1,026	1,026
1101	Motuoapa Wetland[1]	83	83
1102	Kakaho Road Stream Shrubland[1]	72	72
1103	Marotiritiri Forest[1]	144	144
1104	Tokaanu Thermal Park[1]	57	57
1105	Mangakino/Kakahe Stream Marginal Strip[1]	182	182
1106	Tongariro National Park[2]	29,011	29,007
1107	Mangakino and Orangotanoa Stream Marginal Strip[1]	373	373
1108	Okaia Stream Scenic Reserve[1]	51	51
1110	Hingarae Scenic Reserve[1]	750	750
1111	Pt Pureora CP (Waihaha Ecological Area) [1]	12,452	12,452
1112	Buried Forest and Waimonoa Ecological Area[1]	8,006	8,006
1113	Māroa Road Forest[1]	39	39
1115	Waitahanui Wetland (Mangamutu Swamp)[1]	262	262

Site Number	Site Name	Total Site Area (ha)	Area of the Site Within the Waikato Region (ha)
1116	Pukuriri Lagoon[1]	5	5
1117	Tiraki Stream Shrubland[1]	80	80
1118	Te Hiapo/Tihipotaka Stewardship Land[1]	928	928
1119	Wairoa Road Reservoir Bush[1]	41	41
1120	Te Tiringa Road Block[1]	510	510
1121	Spencer Road Forest[1]	85	85
1122	Pakuri Scenic Reserve[1]	32	32
1123	Rangatira Point Scenic Reserve[1]	124	124
1124	Otumaheke Stream (part of Tauhara-Taupo) [1]	4	4
1125	Waipahihi Botanical Reserve[1]	31	31
1126	Tirohanga Scenic Reserve[1]	145	145
1127	Waikato River Riparian Strip (Umukuri Stream) [1]	42	42
1128	Whakaroa Point Recreation Reserve[1]	360	360
1129	Te Kauwae Point Headland[1]	90	90
1130	Waihora Stream Scenic Reserve[1]	501	501
1131	Rangitukua Scenic Reserve[1]	277	277
1132	Pihanga Scenic Reserve[1]	38	38
1133	Taupahi Scenic Reserve and Tahawai Conservation Area[1]	13	13
1134	Tongariro River No. 2 Scenic Reserve[1]	81	81
1135	Stump Bay[1]	855	855
1136	Whakaipo Bay Scenic Reserve[1]	546	546
1137	Tataeuaua Stream Scenic Reserve[1]	99	99
1141	Tauhara Mountain Scenic Reserve[1]	37	37
1142	Pt Pureora CP (Whenuakura Ecological Area) [1]	1,324	1,324
1143	Wairango Lookout Bush[2]	64	14
1144	Te Raina Forest[1]	1,661	1,661
1145	Waituhi Ecological Covenant[1]	1	1
1146	Te Kiri o Hine Kai Stream Catchment/Wairoa Hill[1]	40	40
1147	Pihanga Wetland[1]	42	42
1148	Whakaiapo Bush[1]	20	20
1149	Pukerimu Hill[1]	14	14
1150	Ruahakune Bush[1]	22	22
1151	Motutaiko Island[1]	14	14
1152	Waikato River Riparian Strip	37	37
1153	Waipapa Forest[1]	84	84
1154	Pt Pureora Conservation Park (Southern Block) [1]	1,943	1,943
1155	South Taupo Wetland Complex: Waihi Wetland[1]	34	34
1156	Takapau Forest[1]	328	328
1157	Pear Road Wetland[1]	2	2
1158	Te Ponganga Saddle Road Forest[1]	708	708
1159	River Road Wetland[1]	7	7
1160	Waikino Stream Wetland[1]	9	9
1161	Okuta Bay Bush[1]	29	29
1163	Tongariro River Riparian Strip[1]	1,010	1,010
1164	Tokaanu Conservation Area[1]	427	427
1165	Lake Whakamaru Margins[1]	82	82
1166	Waihaha River Catchment[1]	569	569

Site Number	Site Name	Total Site Area (ha)	Area of the Site Within the Waikato Region (ha)
1167	Otupoto/Pikopiko Stream Stewardship Area[1]	26	26
1168	Waihaha Scenic Reserve[1]	667	667
1169	Pureora Mountain Ecological Area[1]	828	828
1170	Kai Puhea Te Puhi Ngahere[1]	12	12
1175	Upper Wairakei Stream (Geyser Valley) [1]	9	9
1176	Waipouwerawera Stream Conservation Area[1]	49	49
1177	Crown Park Recreation Reserve[1]	2	2
1178	River Road Lake and Wetland[1]	2	2
1181	House Forest[1]	25	25
1182	Te Pouwhakatutu Reservoir Forest[1]	40	40
1183	Waipakipaki Stream[1]	3	3
1184	Poihipi Road Forest[1]	48	48
1185	Tram Road Riparian[1]	56	56
1186	Pakuri Block[1]	85	85
1187	Waipapa Maori Reserve[1]	107	107
1188	Tutukau Forest[1]	945	945
1189	Woody's Track Bush[1]	73	73
1190	Pahikohuru River[1]	1,872	1,872
1191	Waipehi Stream Complex[1]	1,570	1,570
1192	Waitetoko Stream[1]	165	165
1193	Pouākani Scenic Reserve[1]	87	87
1194	Waikato River Riparian Forest[1]	211	211
1195	Whakamaru Conservancy Area[1]	16	16
1196	Tauranga-Taupo River Mt Dowding Block[2]	15,200	6,972
1199	Waitahanui River[1]	1,296	1,296
1200	Waitahanui Scenic Reserve[1]	35	35
1201	Te Rautehuia[1]	9	9
1202	Whangamata Stream Scenic Reserve[1]	23	23
1203	Whangamata Bay Headland	170	170
1204	Orakeikorako[1]	10	10
1205	Waituhi- Kuratau Forest[1]	179	179
1206	Tererengaongaio Stream Marginal Strip[1]	91	91
1207	Whanganui Bay Catchment[1]	487	487
1208	Paerata Road Geothermal Area[1]	3	3
1209	Te Kokomiko Point, Poukura Pa Bush, Wharf[1]	670	670
1210	Rotoaira Road Scrub[1]	68	68
1211	Waikato River Conservation Area[1]	45	45
1212	Waiotaka River[1]	784	784
1213	Waimarino River Riparian Strip[1]	491	491
1215	Whanganui and Waikino Streams Forest[1]	503	503
1217	Tihoi Forest	2,255	2,255
1218	Tauranga-Taupo River[1]	829	829
1219	Waituhi Kuratau Scenic Reserve (Part) [1]	849	849
1220	Poutū River Marginal Strip[1]	72	72
1221	Te Kohatu Bush Ecological Covenant[1]	56	56
1222	Aratiatia Rapids Recreation Reserve[1]	15	15
1223	Rotuakui Significant Natural Area[1]	79	79
1224	Paetataramoa Stream Forest[1]	59	59
1225	Waiwhaanga Stream Forest[1]	27	27
1226	Waiharuru Stream Forest[1]	306	306
1227	Wairehu Stream Riparian Strip[1]	218	218
1228	Rumata Road Scrub[1]	90	90

Site Number	Site Name	Total Site Area (ha)	Area of the Site Within the Waikato Region (ha)
1229	Waihi Road Recreation Reserve[1]	2	2
1231	Proposed Tihoi WMR[1]	94	94
1232	Titiraupenga Forest[1]	1,950	1,950
1233	Crown Road[1]	21	21
1234	Pulham Road Forest[1]	32	32
1235	Tatua Road Valley[1]	30	30
1236	Otara Stream Catchment Forest[1]	133	133
1237	Kawakawa Bay Conservation Area[1]	48	48
1238	Pt Pureora Conservation Park (Northern Block) [1]	884	884
1239	Lake Atiamuri[1]	78	78
1240	Lake Maraetai[1]	163	163
1241	Lake Maraetai Margins[1]	45	45
1242	Lake Ohakuri[1]	334	334
1243	Mangakowhiriwhiri Stream[1]	215	215
1244	Mangatahae Stream[1]	666	666
1245	Ongarahu Stream[1]	48	48
1246	Pouākani Tree Walk[1]	8	8
1247	Waikato River-Aratiatia-Taupo[1]	63	63
1248	Waiteti Stream[3]	77	77
1249	Lake Aratiatia[1]	51	51
1250	Waikato River - Ohakuri-Aratiatia[1]	482	482
1251	Valley View Forest Remnant[1]	25	25
1252	Te Rautehuia Stream[1]	2	2
1253	Tirohanga Road Wetland and Geothermal[1]	5	5
1254	Kaahu Road Scrub[1]	11	11
1255	Pokuru Road Wetland[3]	3	3
1256	Waiwhakarewaumu Stream[1]	24	24
1257	Puketapu Road Wetlands[1]	37	37
1258	Pakuri Forest Remnant[1]	18	18
1259	Kaiapo Bay Scenic Reserve[1]	272	272
1261	Waipahihi Valley	3	3
1262	Wainui Bush[1]	10	10
1263	Spa Thermal Park[1]	3	3
1264	Bancroft Road Forest[1]	69	69
1265	Kathleen Springs[1]	0	0
1266	Whakaipo Bay Recreation Reserve[1]	87	87
1267	Wairango Forest Remnants[1]	18	18
1269	Waikino Scenic Reserve[1]	448	448
1270	Te Hāpua Bay Scenic Reserve[1]	217	217
1271	Rangipō North Blocks[1]	10,958	10,958
1272	Poutu Canal Wetland[1]	9	9
1273	Lake Rotokura and Wetlands[1]	5	5
1274	Whareroa Stream and Wetlands[1]	96	96
1275	Rumata Road Wetlands[1]	181	181
1276	Moerangi Forest Remnants[1]	302	302
1277	Mangahouhounui Stream	164	164
1278	Omori Wetland[1]	15	15
1279	Pukekaikiore Bush[1]	98	98
1280	Motuoapa Conservation Area[1]	24	24
1281	Kuhara Footstool Bush[1]	110	110
1282	Ketetahi Hot Springs Alpine Thermal Zone[1]	35	35
1283	Tongariro and Lake Rotoaira Link[1]	104	104
1284	Te Toke Wetland[1]	24	24
1286	Opawa Bush Scientific Reserve[1]	27	27

Site Number	Site Name	Total Site Area (ha)	Area of the Site Within the Waikato Region (ha)
1287	Otaketake Stream Scenic Reserve Extensions[1]	80	80
1292	Mangakahakaha[2]	80	4
1291	Waituhi[3]	24	24
1293	Lake Taupō[1]	61,411	61,411
1294	Mountain Road[1]	0	0
1295	Western Bay Road Wetland[1]	3	3
1296	Spring Valley[3]	2	2
1297	Fail Road Gully[3]	22	22
1298	Makawe Stream Wetlands[1]	39	39
1301	Oraukura Forest[3]	34	34
1302	Maunganamu Scrub[3]	43	43

1. Entire site is within the Waikato Region.
2. Part of this site is within the Waikato Region.
3. Likely Significant Natural Areas. All occur entirely within the Waikato Region.

SIGNIFICANT NATURAL AREAS LOCATED WITHIN THE TAUPŌ DISTRICT WHICH ARE LOCATED WITHIN THE BAY OF PLENTY REGION

Site Number	Site Name	Total Site Area (ha)	Area of the Site Within the Bay of Plenty Region (ha)
1000	Kotara-Otangimoana Covenant[1]	7	7
1003	Matea Road Stewardship Area[1]	285	285
1017	Edgecumbe Covenant[1]	52	52
1029	Karaitiana Blocks[2]	2,661	956
1030	Motukuri Protective Covenant[1]	3	3
1031	Kanuka Remnant[1]	6	6
1032	Kokomoka Margin A[1]	18	18
1033	Kokomoka Margin B[1]	6	6
1034	Kokomoka Margin C[2]	6	0
1035	Matea Road Kanuka[1]	3	3
1036	Matea Road Wetland[1]	28	28
1037	Iwitahi Native Orchid Reserve[1]	16	16
1040	Matea Road Frost Flat[1]	32	32
1045	Motukuri-Boundary Road Bog[1]	37	37
1047	Kokomoka Forest[2]	4,694	487
1049	Onepu Protective Covenant[1]	6	6
1057	Lake Pouarua Wetland[1]	188	188
1080	Otangimoana Headwaters Secondary Scrub[1]	44	44
1109	Otangimoana Stewardship Area[1]	1,030	1,030
1143	Wairango Lookout Bush[2]	64	51
1162	Whirinaki Forest Park; Te Kohu Ecological Area[2]	5,262	3,572
1172	Waipai Covenant[1]	9	9
1173	Rangitaiki Conservation Area[2]	5,919	2,778
1174	Cross Road Frost Flat Covenant/Pine Milling Road/Pukeroa Bush[2]	100	96
1179	Lochinver Station North Fragments[2]	121	91
1180	Lochinver North Frost Flats[1]	58	58
1197	Rīpia River Catchment[2]	22,937	570
1214	Rangitaiki River Margin[1]	722	722
1216	Rangitaiki River Wetlands[1]	264	264
1230	Whirinaki Forest Park; Otupaka Ecological Area[1]	3,959	3,959
1268	Wheao Mangakaretu Covenant[1]	530	530
1285	Tarawa Beech[1]	12	12
1288	Rangitaiki Forest Remnants[1]	53	53
1289	Grassy Creek Lagoon Wetland[1]	7	7
1290	Dry Creek Frost Flats[1]	23	23
1292	Mangakahakaha[2]	80	21
1299	Otamatea Swamp[1]	6	6

1. Entire site is within the Bay of Plenty Region.
2. Part of this site is within the Bay of Plenty Region.

SIGNIFICANT NATURAL AREAS LOCATED WITHIN THE TAUPŌ DISTRICT WHICH ARE LOCATED WITHIN HORIZONS REGION

Site Number	Site Name	Total Site Area (ha)	Area of the Site Within the Horizons Region (ha)
1046	Kaimanawa Forest Park[2]	58,472	23
1196	Tauranga-Taupo River Mt Dowding Block[2]	15,200	4,770

2. Part of this site is within the Horizons Region.

SIGNIFICANT NATURAL AREAS LOCATED WITHIN THE TAUPŌ DISTRICT WHICH ARE LOCATED WITHIN HAWKE'S BAY REGION

Site Number	Site Name	Total Site Area (ha)	Area of the Site Within the Hawke's Bay Region (ha)
1023	Opoto Scenic Reserve[1]	108	108
1029	Karaitiana Blocks[2]	2,661	1,705
1034	Kokomoka Margin C[2]	6	6
1046	Kaimanawa Forest Park[2]	58,472	13,672
1047	Kokomoka Forest[2]	4,694	4,206
1138	Pt Pine Milling Protective Covenant[2]	44	29
1139	Waipunga Falls Scenic Reserve[1]	45	45
1140	Waipunga River[1]	316	316
1162	Whirinaki Forest Park; Te Kohu Ecological Area[2]	5,262	1,691
1171	Pohokura Forest[1]	1,724	1,724
1173	Rangitaiki Conservation Area[2]	5,919	3,141
1174	Cross Road Frost Flat Covenant/ Pine Milling Road/Pukeroa Bush[2]	100	4
1179	Lochinver Station North Frost Flats[2]	121	30
1196	Tauranga-Taupo River Mt Dowding Block[2]	15,200	3,459
1197	Rīpia River Catchment[2]	22,944	22,374
1198	Waipunga Forest[1]	11,474	11,474
1260	Runanga Armed Constabulary Historic Reserve[1]	12	12
1292	Mangakahakaha[2]	80	55
1300	Tahurua Road Fens[1]	5	5

1. Entire site is within the Hawke's Bay Region.
2. Part of this site is within the Hawke's Bay Region.

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