Council Briefing

Date: **Thursday 04 July 2019**

Time: **10.30 am**

Venue: **Northern Wairoa War Memorial Hall – 37 Hokianga Road, Dargaville**

Significant Natural Areas Mapping

Meeting: **Council Briefing**

Date of meeting: **04 July 2019**

Reporting officer: **Paul Waanders, District Planner**

Purpose/Ngā whāinga

This briefing is to inform the Council on the progress of the Significant Natural Areas (SNA's) project with Wildland consultants.

Context/Horopaki

Section 6(c) of the Resource Management Act 1991 (RMA) deems the "protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna" as a matter of national importance.

In the Regional Policy Statement 2016 (RPS) Policy 4.4.1: Monitoring and Protecting Significant Ecological Areas and Habitats, territorial authorities are instructed to avoid adverse effects in the coastal environment and avoid, remedy or mitigate adverse effects of subdivision, use and development outside the coastal environment on areas of indigenous biodiversity. Appendix 5 of the RPS outlines the significance criteria to be applied. In Method 4.4.3 all territorial authorities are instructed to amend their District Plan to give effect to the provisions of the RPS which includes the mapping of these SNAs. (**Attachment A**)

Discussion/Ngā kōrerorero

The three Northland territorial authorities entered into a Memorandum of Understanding (MOU) to work together on the SNA project with the Far North District Council (FNDC) as the lead agent. Wildland consultants were appointed to map each district's SNAs as Stage One of the project.

The SNA project

The project is divided into 3 stages

Stage 1

Task A: Literature Review

Task B: Define Methodology Used to Assess Significance (Attachment C)

Task C: Preliminary Mapping of SNAs in Each District

Stage 2

Task A: Targeted Ground Truthing

Task B: Mana Whenua and Specialist Engagement

NB: *Kaipara District Council staff are currently undertaking this as part of Stage 1*

Task C: Refine and Validate

Task D: Planning and Evaluation Workshop

Task E: Draft Provision Peer Review

Stage 3

Community and stakeholder engagement, section 32 reports and hearings will follow the completion of mapping and the review processes of Stage 2.

Stage 3 will be initiated by Council staff, with each district relying on their own district specific maps, ground truthing and reviews.

(**Attachment B** Extracts from study proposal)

Financial implications

Kaipara District Council (KDC) has contracted Wildland consultants for a total cost of $210K for a simplified, “no frills” report. The other two councils chose to pay $285K for “extras” in their report. The division of cost across each Council is done on a pro rata basis and anticipated number of sites. FNDC is therefore paying 40% of the costs whilst Whangarei District Council (WDC) and KDC are each paying 30% of costs. KDC opted for the “no frills” version because the extra expenditure was not able to be justified in terms of the outputs. The savings of $20K provides KDC an opportunity to utilise its District Plan review budget more efficiently and strategically.

Stage 1 -- to be financed from the 2018/19 budget

A total cost for Stage 1 was estimated at **$63K** for KDC. An additional **$7.5K** however, has been allocated to the project to enable some drive-by site visits to help familiarise staff and Mana Whenua with the methodology used by Wildland consultants to assess areas as significant. This budget costs is brought forward from Stage 2.

Stage 2 ---- starting in the 2019/20 Financial year

Task A: Targeted Ground Truthing

The costs for this activity is $1,400/day + $150/site/report. At this stage no total cost is stated as it is not clear how many sites have to be visited. Guestimate is that 100 sites are to be visited over 15 days which will cost **$11K** per Council.

Council staff will need to follow up on site visits by engaging affected landowners. This includes investigations to identify properties and affected landowners, as well as participating in property visits.

Task B: Mana Whenua and Specialist Engagement

Estimated KDC cost is **$7.5K (see Stage 1 cost above)** plus this Stage 2 Council briefing at a cost of **$1.7K.**

The following three tasks in Stage 2 will be determined by the number of additional investigations and public discussions after the public have an opportunity to respond to the proposals. A decision will be made if this engagement will be one-on-one or at a public drop-in session.

Task C: Refine and Validate

Task D: Planning and Evaluation Workshop

Task E: Draft Provision Peer Review

Combined estimated cost for the three tasks is about **$3K** dependent on the number and times the consultants need to meet at a cost of $1.7K per three-hour engagement

Stage 3

Engagement, Section 32 and hearings. The cost of the consultants will be calculated at a fee per hour for their specialist inputs.

The total cost of the Plan development could be in the vicinity of **$100K** for KDC.

Policy implications

This work has to be undertaken in terms of the provisions of the RMA especially in terms of the new function of territorial authorities with regards to “the control of any actual or potential effects of the use, development, or protection of land, including for the purpose of maintenance of indigenous biodiversity” in section 31(1)(b)(iii) of the RMA.

The instruction in the RPS provides a set of criteria to meet when applying methodology to SNAs and how to achieve the requirements of the RMA.

It is expected that the National Policy Statement on Indigenous Biodiversity (NPSIB) will be made operative in July 2019 which requires all authorities to give effect to this NPS. The Wildland methodology follows the requirements of the Proposed NPSIB and will likely ensure the District Plan will comply with the NPSIB.

Statutory requirements

The RPS requires that territorial authorities undertake plan changes to incorporate SNAs in their District Plan two years after the RPS becomes operative. KDC would have needed to do this by 2018, which could not be done because of lack of mapping and data. KDC is providing NRC progress reports in response to the urgency expressed by NRC to complete a required plan change. KDC is not able to incorporate a plan change until the comprehensive review is completed and a proposed plan is approved for consultation.

Next steps/E whaiake nei

Wildland consultants will keep Council informed on progress and expected further work to be undertaken. (**Attachment D** presentation)

Staff are requesting that when completed, Council allows all maps and associated information to be released to the affected landowners and interested parties for their comments.

In order to complete the study, Council is informed that an additional $16K will be utilised from the 2019/20 financial year budget. The plan change will be undertaken as part of the comprehensive review. Wildland or other ecologists’ expertise input to that activity will be required.

A timeline is provided with this report. (**Attachment E**)

Attachments/Ngā tapiritanga

	Title
A	Extract from RPS
B	Extract from SNA Proposal
C	Guidelines and Criteria for SNA’s
D	Significant Natural Areas Presentation
E	Timeline Gantt Chart

Paul Waanders, 20 June 2019

4.4.1 Policy – Maintaining and protecting significant ecological areas and habitats

(1) In the coastal environment, avoid adverse effects, and outside the coastal environment avoid, remedy or mitigate adverse effects of subdivision, use and development so they are no more than minor on:

(a) Indigenous taxa that are listed as threatened or at risk in the New Zealand Threat Classification System lists;

(b) Areas of indigenous vegetation and habitats of indigenous fauna, that are significant using the assessment criteria in Appendix 5;

(c) Areas set aside for full or partial protection of indigenous biodiversity under other legislation.

(2) In the coastal environment, avoid significant adverse effects and avoid, remedy, or mitigate other adverse effects of subdivision, use and development on:

(a) Areas of predominantly indigenous vegetation;

(b) Habitats of indigenous species that are important for recreational, commercial, traditional or cultural purposes;

(c) Indigenous ecosystems and habitats that are particularly vulnerable to modification, including estuaries, lagoons, coastal wetlands, dunelands, intertidal zones, rocky reef systems, eelgrass, northern wet heathlands, coastal and headwater streams, floodplains, margins of the coastal marine area and freshwater bodies, spawning and nursery areas and saltmarsh.

(3) Outside the coastal environment and where clause (1) does not apply, avoid, remedy or mitigate adverse effects of subdivision, use and development so they are not significant on any of the following:

(a) Areas of predominantly indigenous vegetation;

(b) Habitats of indigenous species that are important for recreational, commercial, traditional or cultural purposes;

(c) Indigenous ecosystems and habitats that are particularly vulnerable to modification, including wetlands, dunelands, northern wet heathlands, headwater streams, floodplains and margins of freshwater bodies, spawning and nursery areas.

(4) For the purposes of clause (1), (2) and (3), when considering whether there are any adverse effects and/or any significant adverse effects:

(a) Recognise that a minor or transitory effect may not be an adverse effect;

(b) Recognise that where the effects are or maybe irreversible, then they are likely to be more than minor;

(c) Recognise that there may be more than minor cumulative effects from minor or transitory effects.

(5) For the purpose of clause (3) if adverse effects cannot be reasonably avoided, remedied or mitigated then it maybe appropriate to consider the next steps in the mitigation hierarchy i.e. biodiversity offsetting followed by environmental biodiversity compensation, as methods to achieve Objective 3.4.

4.4.3 Method – Statutory plans and strategies

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(2) Subject to Method 4.4.3(3), within two years after the Regional Policy Statement becomes operative the district councils shall amend district plans to the extent needed to ensure the plans implement Policy 4.4.1 on land outside of the beds of rivers and lakes, wetlands, and the coastal marine area. Methods of implementation include:

- *(a) Controls on the disturbance of land and the clearance of vegetation; and*
- *(b) Controls on the introduction or keeping of species with recognised pest potential.*

(3) In implementing Policy 4.4.1 regional and district plans shall:

- *(a) Allow activities undertaken for the purposes of pest control or habitat maintenance or enhancement;*
- *(b) Consider biodiversity offsets in appropriate circumstances;*
- *(c) Allow the maintenance and use of existing structures including infrastructure; and*
- *(d) Not unreasonably restrict the existing use of production land, including forestry.*

Appendix 5 - Areas of significant indigenous vegetation and significant habitats of indigenous fauna in terrestrial, freshwater and marine environments

An area of indigenous vegetation or habitat(s) of indigenous fauna is significant if it meets one or more of the following criteria:

Note:
i) These criteria are intended to be applied by suitably qualified and experienced ecologists.
ii) The meaning of underlined italicised terms are described in ' ***Appendix 5 Definitions*** *'.*

1. Representativeness

(a) Regardless of its size, the *ecological site* is largely indigenous vegetation or habitat of indigenous fauna that is representative, typical or characteristic of the natural diversity at the relevant and recognised ecological classification and scale to which the *ecological site* belongs:
   i. If the *ecological site* comprises largely indigenous vegetation types; and
   ii. Is typical of what would have existed circa 1840; or
   iii. Is represented by faunal assemblages in most of the guilds expected for the habitat type; or

(b) The *ecological site*
   i. Is a large example of indigenous vegetation or habitat of indigenous fauna, or
   ii. Contains a combination of landform and indigenous vegetation and habitat of indigenous fauna, that is considered to be a good example of its type at the relevant and recognised ecological classification and scale.

2. Rarity / distinctiveness

(a) The *ecological site* comprises indigenous ecosystems or indigenous vegetation types that:
   i. Are either Acutely or Chronically Threatened[27] land environments associated with LENZ Level 4[28]); or
   ii. Excluding wetlands, are now less than 20% of their original extent; or
   iii. Excluding *man made wetlands*, are examples of the wetland classes[29] that either otherwise trigger Appendix 5 criteria or exceed any of the

[27] Guide for Users of the Threatened Environment Classification, August 2007, Authors: Walker S, Cieraad E, Grove P, Lloyd K, Myers S, Park T, Porteous T, for Landcare Research New Zealand Ltd.
[28] Landcare Research in Land Environments New Zealand (LENZ).
[29] Johnson P., Gerbeaux P. 2004. Wetland types in New Zealand. Department of Conservation, Wellington.

following area thresholds[30] (boundaries defined by Landcare delineation tool[31]);

a) Saltmarsh greater than 0.5 hectare in area; or
b) Shallow water (lake margins and rivers) greater than 0.5 hectare in area; or
c) Swamp greater than 0.4 hectare in area; or
d) Bog greater than 0.2 hectare in area; or
e) Wet Heathlands greater than 0.2 hectare in area; or
f) Marsh; Fen; Ephemeral wetlands or Seepage / flush greater than 0.05 hectares in area.

(b) Indigenous vegetation or habitat of indigenous fauna that supports one or more indigenous taxa that are threatened, at risk, data deficient or uncommon, either nationally or at the relevant ecological scale.

(c) The *ecological site* contains indigenous vegetation or an indigenous taxon that is:

i. Endemic to the Northland-Auckland region; or
ii. At its distributional limit within the Northland region;

(d) The *ecological site* contains indigenous vegetation or an association of indigenous taxa that:

i. Is distinctive of a restricted occurrence; or
ii. Is part of an *ecological unit* that occurs on an originally rare ecosystem[32]; or
iii. Is an indigenous ecosystem and vegetation type that is naturally rare or has developed as a result of an unusual environmental factor(s) that occur or are likely to occur in Northland; or
iv. Is an example of nationally or regionally rare habitat as recognised in the New Zealand Marine Protected Areas Policy.

3. Diversity and pattern

(a) Indigenous vegetation or habitat of indigenous fauna that contains a high diversity of:

i. Indigenous ecosystem or habitat types; or
ii. Indigenous taxa;

(b) Changes in taxon composition reflecting the existence of diverse natural features or ecological gradients; or

(c) Intact ecological sequences.

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[30] The area thresholds for wetlands types in these criteria have been developed by ecologists to act as a trigger to identify indigenous wetlands, which due to their scale alone are likely to have significant biodiversity value above this size threshold. Wetlands of a smaller size may also be considered significant if other criteria are met (such as the presence of threatened species).

[31] Landcare Research, March 2014. A vegetation tool for wetland delineation in New Zealand http://www.landcareresearch.co.nz/__data/assets/pdf_file/0003/71949/vegetation_tool_wetland_delineation.pdf

[32] New Zealand's historically rare terrestrial ecosystems set in a physical and physiognomic framework Peter A. Williams, Susan Wiser, Bev Clarkson and Margaret C. Stanley December 2007, Landcare Research (Williams et al 2007).
Landcare Research hold a database of naturally rare (also known as 'originally or historically rare' or 'naturally uncommon') ecosystems and this excludes permanently wet areas of water bodies and below mean high water springs: http://newzealandecology.org/nzje/2829.pdf. On request Landcare Research can confirm where these ecosystems are known to be present.

4. **Ecological context**

(a) Indigenous vegetation or habitat of indigenous fauna is present that provides or contributes to an important ecological linkage or network, or provides an important buffering function; or

(b) The *ecological site* plays an important hydrological, biological or ecological role in the natural functioning of riverine, lacustrine, palustine, esturine, plutonic (including karst), geothermal or marine system; or

(c) The *ecological site* is an important habitat for critical life history stages of indigenous fauna including breeding / spawning, roosting, nesting, resting, feeding, moulting, refugia or migration staging point (as used seasonally, temporarily or permanently).

Appendix 5 Definitions

Ecological site: the area under assessment comprising one or more ecological units. Ecological sites are comparable with each other at relevant and recognised scales within the landscape. Current ecological classification systems include the ecological districts framework, freshwater biogeographical units and LENZ, and are expected to evolve in terrestrial, freshwater and marine environments as new information and technology develops.

Ecological unit: Any combination of indigenous vegetation types (or suite of interrelated types) plus the landform they occur on. The Ecological Unit may include exotic vegetation types where they support indigenous fauna.

Man made wetlands: These are wetlands developed deliberately by artificial means or have been constructed on sites where:
a) Wetlands have not occurred naturally previously; and
b) The current vegetation cover cannot be delineated as indigenous wetland; or
c) Man made wetlands have been previously constructed legally.

Man made wetlands do not include *induced wetlands*; *reverted wetlands* or wetlands created for conservation purposes for example as a requirement of resource consent.

Examples of man made wetlands include wetlands created and subsequently maintained principally for or in connection with:
a) Effluent treatment and disposal systems; or
b) Stormwater management; or
c) Water storage; or
d) Other artificial wetlands and water bodies including or open drainage channels (that have been legally established) such as those in drainage schemes).

These may contain emergent indigenous vegetation such as mangroves, rushes and sedges.

Induced wetlands: These are wetlands that have formed naturally on ecological sites where wetlands did not previously exist, as a result of human activities such as construction of roads, railways, bunds etc. While such wetlands have not been constructed for a specific purpose, they can be considered to be artificial in many cases given they arise through physical alteration of hydrology through mechanical human modification.

However these should be assessed on their ecological merits i.e. are not excluded from any Appendix 5 significance criteria.

Reverted wetlands: Where a wetland reverts over time (e.g. stock exclusion allows a wetland to revert to a previous wetland state). In this instance, the wetland has not been purposefully constructed by mechanical change to hydrological conditions. Indigenous wetlands of this sort should be treated as natural wetlands and not excluded from any Appendix 5 significance criteria.

3. PROPOSED METHODS

The following methodology is proposed, however, we are happy to revise this to suit the needs of the Council. The following methodology has been prepared to ensure that the project meets the Council's requirements, is completed in a timely manner, within budget, and ensures that all approvals are obtained.

Stage 1 - Desktop Assessment

- Meet with Council representatives to confirm project scope, timelines and finalise methodology.

A) Literature Review:

Undertake a literature search, and contact key agencies, to gather all relevant information on Northland including information from:

- PNAP reports and shapefiles
- Existing Council held GIS layers
- Landcare Trust management areas
- Wetland maps, including all wetlands identified as "Northland's top wetlands" by Wildlands (2011) for Northland Regional Council.
- Wildlands kauri mapping layers
- Council bush and wetland protection covenants
- Conservation community group reporting on management areas
- DOC management area reports
- DOC Conservation Management Strategy
- Significant Ecological Areas (SEA) database NRC
- Recent aerial photography images including NRC imagery
- Sites of International Significance for birds (international dataset)
- 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 Council, Northland Regional Council, Landcare Research, QEII Trust and Department of Conservation (DOC)
- Wetland Maps (NRC)
- Previous Wildlands reports
- Fauna and flora databases
- Landcare Research reports
- Personal knowledge where possible
- Other previously published information and reports

The outcome of the literature review will be an understanding of the ecological characteristic of the Northland region and identification of any information gaps.

We will prepare a short report that includes a summary of the ecological characteristics of the Northland region, information gaps, and a list of information sources for further stages of the project.

We will complete a draft of this report by February 2019 for comment and questions, with the report finalised after these have been incorporated.

B) Methodology

Regional Policy Statement Policy 4.4.1 directs a tiered management approach providing the highest level of protection to ecosystems, habitats and species most at risk of irreversible loss, which will be identified using the criteria identified in Appendix 5 of the RPS.

In this stage, we are required to establish a clear methodology to identify the areas that meet the significant indigenous vegetation and significant habitats of indigenous fauna criteria. Sites that are not found to be significant may also be classed (and attributes identified to address Policy 4.4.1(2) and (3) of the RPS.

The methodology must be based on Appendix 5 of the RPS, however, other statutory documents and triggers should be considered as part of this process. It is important to note that the methodology (and resulting report) will be used to inform the Council's Section 32 reports and must be robust and defensible as it may be challenged and end up, for example, being heard by the Environment Court.

We will develop guidelines for the application of ecological significance criteria for indigenous vegetation and habitats of indigenous fauna, meeting all the policy requirements of the RPS, including, but not limited to:

- Responsibilities 1.6.
- Issues 2.2.
- Objectives 3.4 & 3.15(d).
- Policy 4.4.
- Methods 4.4.1, 4.4.2, 4.4.3, 4.4.2, 4.7 .1 (k) & 6.1.4.
- Policy 6.1.1.
- Appendix 5.

Other relevant statutory requirements will also be met or referred to, such as the the proposed National Policy Statement for Indigenous Biodiversity, which is currently being developed by the Ministry for the Environment. This policy statement is intended to provide national guidelines on the implementation of Section 6(c) of the RMA. It will also establish criteria for identifying significant natural areas and will be considered to ensure the project aligns with this developing policy statement, to minimise the risk of

this project being inconsistent with any new national direction. To that end, Wildlands has been involved in research to support the creation of the NPS (see introduction), and thus are ideally placed to ensure a consistent approach.

We have written guidelines for the application of ecological significance criteria for a range of councils, including Environment Canterbury, Waikato Regional Council and New Plymouth District Council:

Wildland Consultants 2013: Ecological significance criteria for indigenous vegetation and habitats of indigenous fauna and wetlands in Canterbury. *Wildland Consultants Ltd Contract Report No. 2289i.* Prepared for Environment Canterbury. 22 pp.

Wildland Consultants 2009: Updated system for evaluation of ecological significance in the Waikato Region, based on Townsend *et al.* 2008. *Wildland Consultants Ltd Contract Report No. 2190.* 5 pp.

Wildland Consultants 2007: Criteria for evaluating the ecological significance of natural areas in New Plymouth District. *Wildland Consultants Ltd Contract Report No. 1623.* Prepared for New Plymouth District Council. 31 pp.

These guidelines will be primarily written for the benefit of practicing ecologists, as the key people making site assessments under the ecological significance criteria, and the guidelines will contain technical information that ecologists will be familiar with.

A table will be produced, providing definitions and guidelines specific to the Northland Region, and will look similar to the example in Table 1 from Canterbury.

The guidelines will also consider the current threat classification of New Zealand's indigenous plants by de Lange *et al.* (2018)[1]. In this classification, all Myrtaceae species have been classified as either 'Threatened' or 'At Risk' due to the threat that myrtle rust poses. This means that it would be possible to classify grazed areas of kānuka with no other ecological values as being significant, which is not the intent of this protection process. Assessments of Myrtaceae species will take account of wider issues such as community component, extent, ecological linkages and representation on particular landforms. A common-sense approach will be applied to the production of the guidelines to deal with this.

A short report will be produced at the end of this step, which contains the guidelines for assessment, which are defendable and robust, and which will stand scrutiny in Environment Court.

We will complete a draft of this report by February 2019 for comment and questions, with the report finalised after these have been incorporated.

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1 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., Breitwiser 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.

C) Preliminary mapping and significance assessment

Defining the spatial extent of the sites is an important aspect of this project in terms of understanding the extent of and management of the Region's significant natural areas.

Stage 1c will require us to test the methodology established under Stage 1b, and provide preliminary mapping of the established significant natural areas. The following will also be considered:

- That the format is compatible with the councils' platforms [ArcGIS]. We will work with the councils' GIS staff to ensure that their information requirements (e.g. format) are met.
- That the scales of maps are appropriate for their intended use.
- That spatial mapping will be an important tool for consultation which will occur as part of stages two and three.
- Additional data sets that may be required to give context to the mapping, e.g. territorial boundaries, legal protection boundaries (e.g. DOC, QEII, private and district council covenants) New Zealand Freshwater Fish Database and BioWeb (DOC administered). These will have been identified and obtained in Stage A above.
- That the cost of sourcing existing information and datasets has been included as part of the offer of works.

Significance assessments will be undertaken as a desktop exercise in conjunction with mapping to produce an ArcGIS layer containing the information for each site (see Appendix 1 for an example of list of fields to be completed for each site in the GIS attribute table).

There are a number of different ways in which this process can be undertaken, which results in different costs to Council.

The option below describes the most cost-effective option (Option 1). For each identified area we will:

- Map the site on GIS layer, using the latest aerial photographs available.
- Map the site at a scale appropriate for its intended use.
- Assign the site a suitable name, such as nearest road or feature, ecosystem type and unique suffix if required (e.g. Smith Road Wetland A) and a unique number (e.g. SNA001). Use existing site names where available and appropriate.
- Collate relevant information on the potential biodiversity values of the site from the sources listed above (and any others).

- Complete natural area spreadsheet (attributes to be agreed with client, to include significance criteria) for each site (example provided in Appendix 1).

- Assess the site against each of the significance criteria, identifying whether (and why) it meets a particular criteria, capturing this in the spreadsheet.

- Based on that assessment, identify whether the site is significant and provide a justification.

- If the site is not deemed significant, retain information collected to date and record 'Not Significant' in the appropriate field in the spreadsheet.

- Identify those sites that are likely to be significant, but for which there is insufficient information to fully assess significance and record 'Likely Significant' in the appropriate field in the spreadsheet. These sites will become a high priority for a site visit.

- Also, denoting sites that are significant, but where boundaries require field checking. These will also be a priority for a site visit.

- Identify attributes to be captured in GIS, and ensure that this is undertaken.

- Site significance rankings will be internally peer reviewed.

- A report of findings will be produced, along with appropriate GIS layers (including attribute tables) which will detail the following for each Council:
  - An outline of methods used, a summary of key findings (e.g. number of wetland sites for example), and future steps (which will include a list of sites that require field survey).
  - All other site information will be contained within a separate spreadsheet document.

- By April 2019, provide a draft report and site mapping (as GIS shape files and attribute table) on the above, which researches and assesses all sites of potentially significant indigenous vegetation and potentially significant habitats of indigenous fauna of the Northland area, as found through a desktop assessment. The draft report will be provided to each Council for comment and questions. A final version of each report for each district will be provided after client comments have been incorporated.

List of fields to be completed for each site in the GIS attribute/spreadsheet table.

Attribute Name	Description
Site Number	Unique site number (e.g. UH001).
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	Measured in hectares.
NZ Transverse Mercator Easting	Coordinates of the centroid for a probable SNA
NZ Transverse Mercator Northing	Coordinates of the centroid for a probable SNA
Ecological District	
Local Authority	e.g. Far North District Council
Map number	For hard copy map book if provided.
Vegetation types	Vegetation types listed here
Flora	Threatened or At Risk flora present listed here
Fauna	Threatened or At Risk fauna present listed here
Special features	List of any other known special features e.g. threatened ecosystem types or geological features
Criterion a) Representativeness	Y/N
Criterion a) Justification	Justification statement
Criterion b) Rarity	Y/N
Criterion b) Justification	Justification statement
Criterion c) Diversity	Y/N
Criterion c) Justification	Justification statement
Criterion d) Ecological context	Y/N
Criterion d) Justification	Justification statement
Overall Significance	Y/N or likely to be significant.
Fieldwork required (priority)	Whether field work is required to confirm site significance, or to confirm site boundaries.
Any additional comments	Any additional comments.
Assessment undertaken by	Who undertook the assessment.
Assessment completed on	Date assessment completed.
References	

Option 2 describes the most comprehensive reporting option. An example is provided in Appendix 4.

- A report of findings will be produced, along with appropriate GIS layers (including attribute tables) which will detail the following for each Council:
  - An outline of methods used, a summary of key findings (e.g. number of wetland sites for example), and future steps (including a list of sites that require field survey).
  - Site name, location, area and any other information needed to identify the site.
  - For each site, a site map, including a topographical location map and SNA site boundaries overlaid on the most recent aerial photograph available, and including property boundaries for each SNA site. A site description sheet is also included for each site.
  - How the site meets (or does not meet) each of the significance criteria specified in Appendix 5 of the RPS.
  - Specific elements of significance, referring to supporting records, reports and other information whilst avoiding any reference to specific threatened or endangered species that are present and collectable or details of any other confidential matter;

- Whether a site visit is required to accurately determine the above.

- By April 2019, provide a draft report and site mapping (as GIS shape files and attribute table) on the above, which researches and assesses all sites of potentially significant indigenous vegetation and potentially significant habitats of indigenous fauna of the Northland area, as found through a desktop assessment. The draft report will be provided to each Council for comment and questions. A final version of each report for each district will be provided after client comments have been incorporated.

Stage 2 - Ground-truthing

A) Targeted ground-truthing

Priorities for field visits will have been determined in Stage 1, and high priority sites will be those where boundaries are difficult to determine on aerial photographs, or where there is a lack of information on which to assess significance, or information is out-dated and the site is likely to have changed considerably.

The proportion of sites that should be ground-truthed are those that are deemed to be of high priority for field inspection in Stage 1. The actual number of field inspections undertaken will be dependent on gaining landowner permission. To this end, it may be of value to contact all landowners in the first instance, but prioritise timing of field inspections for the higher priority sites first. Field visits will be organised so that they are undertaken in blocks of time, in close geographic locations so that our team can travel and undertake these efficiently without high travel costs. Where sites are very difficult to apply significance to, a senior team member may undertake the field visit. Where there are likely to be difficulties with the landowners, we suggest that a member from the relevant Council accompanies Wildlands staff.

We also suggest an additional stage at this point (prior to any landowner site inspections), as an option, to inspect sites with boundary issues from public areas. This will increase the confidence of the mapping of a number of sites, without the steps (and costs) involved in gaining landowner permission. The steps for this stage would include:

- View selected sites from road margins or high points or adjacent public land (do not enter private land).

- Update site boundaries, site information, and significance assessments based on above field inspections (include update of site information etc for any lower priority sites that could be assessed from vantage points accessed in the point above).

- Review which areas still require more information and which of those require access to one or more properties (note it may be possible to visit one private property with a good vantage point(s) to assess a site rather than all private properties within which the site occurs).

Our steps in the ground-truthing of private land include:

- Provide input into the development of a template of a letter to send to landowners to facilitate land access permission as required. This could include a map or maps of the SNAs, or parts of SNAs, on each landowners property (maps would also show property boundaries). See Appendix 2 for an example from Rotorua Lakes District.

- As site visits are requested by landowners, Wildlands and Council will liaise and prepare a schedule of properties for field inspection, clustering properties located near to each other on the same day, including inspection of the same SNA site within the clusters to maximise field inspection and reporting efficiencies. Inspection schedules would also identify mutually suitable days between Council and Wildlands staff for when the field inspections can be undertaken, if Council staff will attend site visits.

- Council or Wildlands will follow-up with landowners (via phone, email, or letter) to arrange a time to undertake the property inspection (including gathering relevant health and safety information from the landowner around entering their property). If Council is arranging landowner inspections, then to facilitate this Wildlands would supply a list of days/weeks when Wildlands ecologists are available to undertake field inspection.

- A Wildlands ecologist will undertake site/property inspections (along with one Council staff representative, if required).

- Wildlands ecologists will assess the significance of the SNA site, and/or make boundary adjustments as appropriate, based on property inspection findings. Boundary changes will only be made to the portion of the SNA that lies within the property inspected. Where multiple landowners request site visits for boundary adjustments/significance assessments for the same SNA, all attempts will be made to undertake these inspections during one trip, to reduce time requirements. Site inspections will also include discussions with landowners, where they are present during inspections, around practical advice for management of the SNA, such as options for retention and enhancement of the ecological values. During site inspections, any Council-related policy or rule matters will be directed to the Council staff in attendance, if Council staff are present. Information on other SNAs or other parts of SNA visible during site inspections on other properties will also be captured. This can be used to refine the SNA layer at the end of the field work.

- Note any additions to SNAs would need to go through the same process as the above regarding notifying landowners, whilst reduction in size of SNAs does not require that, although justifications would be required to be documented as other stakeholders such as Department of Conservation, regional councils, and Forest and Bird may query changes to the SNA layer.

- A template will be created to record site inspection findings, which is practical and fit for purpose, easily communicated to landowners, and still

robust enough to meet RMA requirements. This could be in the format of an excel spreadsheet, GIS metadata table, or some other database format. See Appendix 2 for an example from New Plymouth District.

- The above template and GIS layer will be updated following the field inspection as appropriate. If required, sites found to be 'Not Significant' could be deleted from the GIS layer (with the record moved to the register of sites assessed but not found to be significant). Record of the date of field inspection and the part of the site assessed will be recorded. Boundary changes will be made in the GIS layer as appropriate, and changes recorded.

- The results of the site assessment and any subsequent change to the site's significance status or boundaries, will be presented in a table format (Excel spreadsheet) in a suitable format for providing to landowners. Council can then provide these assessments directly to the individual landowner as required. See Appendix 3 for an example from South Waikato District.

Wildlands have used the above methods very effectively in many similar SNA projects that achieve good outcomes.

B) Tangata Whenua and Specialist Engagement

Engaging Tangata Whenua at an early stage in the process not only recognises the importance of partnerships but also provides for a historic and cultural lens which may identify information gaps. It is envisioned that this stage will also provide an opportunity for the engagement of local specialists, e.g. DOC staff, who have an understanding of the local context.

We suggest that this stage (Stage 2B) is undertaken in conjunction with Stage 1 so that local specialists can inform the mapping of the sites. Early engagement with Tangata Whenua during stage 1 will also usefully inform the mapping, and will open the engagement process so that ground-truthing of sites can occur. There will also be less amending of the process, resulting in cheaper solutions, if engagement occurs early.

We suggest that a programme of engagement workshops is developed in the first phase of the project. These should be held in various geographical locations throughout the area, and include marae and local farmers. Forestry companies should also be engaged. Wildlands senior staff would attend these workshops to provide technical support to Council staff.

Wildlands senior staff will also be available for meetings with Council planning review team when required.

C) Refine and Validate

This step provides an opportunity for the councils to review work completed by Wildlands to date to ensure that all aspects of Policy 4.4.1 have been addressed adequately.

Wildlands are available to provide technical support for this stage. We can compile a brief summary report for the Council at this time, if required, outlining information such as background, methods, number of properties inspected, number of SNA sites assessed, number found not to be significant, and any other relevant information.

D) Preliminary Planning and Evaluation Workshop

The councils are required to give effect to Method 4.4.3.2 of the RPS which requires the amendment of district plans to ensure implementation of Policy 4.4.1. A policy framework that acknowledges the tiered management approach, as well as rules to manage any adverse effects resulting from land use and subdivision on the significant natural areas will be required.

Stage 2d will be led by the councils but will require technical input from Wildlands as required. We have included staff within our team who have provided advice to many councils throughout New Zealand on district plan policy frameworks.

E) Draft Provisions

The councils to write the plan provision.

Stage 2e may require technical input or a peer review from Wildlands. Our team includes staff capable of providing technical input and peer review as required.

Stage 3 - Engagement

Engagement with the public is an important stage of this project. It will provide an opportunity for landowners who have been identified as being affected by the resulting significant natural areas mapping and proposed management framework. This will allow them to voice any concerns with the mapping or proposed provisions. It will also provide an additional opportunity for further ground-truthing if appropriate.

Stage three of the project will predominantly be led by the councils but will require support and technical input from Wildlands.

We have outlined a methodology within Stage 2a for landowner engagement, which should be combined with public workshops as outlined in 2b. We are more than happy to discuss this aspect in more detail with the councils, drawing on our extensive experience in the process. Our information will be presented to Council in such a way that it can easily be translated to a mixed media platform, i.e. PowerPoint, GIS, printed document or video recording for use as part of the consultation process.

Our approach accounts for the fact that only FNDC is committed to the entire project. With the production of reports at each stage, the other councils will have the ability to stop at the completion of any stage.

We propose to provide:

- One draft report outlining the results of the literature review which will become the background for subsequent stages - this will be undertaken at the regional level. Report will be finalised on feedback from all councils.
- One draft report on application of the significance criteria - this will ensure these are applied consistently across all councils. Report will be finalised on feedback from all councils.
- Preliminary mapping and significance assessment will be undertaken across all councils, but a report will be prepared for each Council. This means that the project can hold at this point, and a desktop assessment will be complete for each Council.
- Field inspections can then be undertaken for councils that wish to undergo this process at this stage.

3.1 Key deliverables

- Guidelines for significant assessments.
- GIS shape files and attribute table
- Mixed media presentation.
- Reports.

4. TIMELINE

We suggest the following timeline (for discussion with councils):

Key Milestone	Date
Set up key stakeholder meetings.	Week of 26 November 2018.
Project set up, discussion on scope and refinement of methodology.	4 December 2018.
Meet with key stakeholders (e.g. Department of Conservation and tangata whenua).	December 2018.
Confirm which reporting option Councils wish to use	11 December 2018.
Undertake literature review.	By February 2019.
Write guidelines for significance assessment. Provide the draft methodology. This may result in a peer review form a third party such as DOC or Regional Council.	Draft by end of January 2019.
Drive-by reconnaissance (if Councils choose this option)	January 2019.
Peer review of significance assessment.	Complete by 16 February 2019, i.e. Council to provide all peer review feedback back to Wildlands by 16 February 2019. (Note that the significance assessments - see key milestone below - cannot start until this report is finalised and the criteria for significance assessment is set.)
Undertake mapping and significance assessments. Use ArcGIS to map indigenous biodiversity, and identified significant natural areas (in accordance with Appendix 5 of the RPS and the endorsed methodology) with polygons and/or points. Attributes should be available for each polygon and/or point identified significant natural areas should detail the triggered criteria.	Begin December (mapping component); begin site updates and assessments end February/March once significance assessment guidelines completed; complete draft by 30 May (assessments only, not report; timeline dependent on peer review of significance assessment report happening in a timely fashion).
Guidelines for significance assessment final report.	23-28 February 2019.
Mixed media presentation. Present information in such a way that it can easily be translated to a mixed media platform, i.e. PowerPoint, GIS, printed document or video recording for use as part of the consultation process.	March 2019.
Present workshops at community halls and marae throughout the region.	April-May 2019.
Provide a report on the desktop analysis for each Council. The report should detail the methodology used to identify and map indigenous biodiversity and significant natural areas. It should address the requirements of Policy 4.4.1 of the RPS. It should identify the engagement process, the results of which should be reflected in the report, specifically in terms of needs for further ground-truthing. The report should also make recommendations for management of the significant natural areas including addressing Policies 4.4.5 and 4.7.2.	Draft report 30 June 2019 with a final report two weeks after receiving comments from client.
Undertake ground-truthing.	Letters to landowners out August 2019, with a field programme following that, dependent on land access.
Report of landowner inspections.	Ongoing.
Update GIS layer, sites, and report based on ground-truthing.	Finalise on completion of field programme.

GUIDELINES FOR THE APPLICATION OF ECOLOGICAL SIGNIFICANCE CRITERIA FOR INDIGENOUS VEGETATION AND HABITATS OF INDIGENOUS FAUNA IN THE NORTHLAND REGION

providing outstanding ecological services to sustain and improve our environments

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R4899a

GUIDELINES FOR THE APPLICATION OF ECOLOGICAL SIGNIFICANCE CRITERIA FOR INDIGENOUS VEGETATION AND HABITATS OF INDIGENOUS FAUNA IN THE NORTHLAND REGION

Contract Report No. 4899a

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CONTENTS

1. INTRODUCTION

Section 6(c) of the RMA provides for the protection of significant indigenous vegetation and significance habitat of indigenous fauna as a matter of national importance, which are often referred to as Significant Natural Areas (SNAs). Implementing the section 6(c) obligation requires an understanding of which natural resources within a district or region are 'significant' (BCG 2018). Significance criteria are usually specified in the planning instruments of territorial authorities.

Wildland Consultants Ltd has been commissioned to identify, map, and assess the Significant Natural Areas within the three districts in Northland Region, i.e. Far North (FNDC), Whangarei (WDC), and Kaipara (KDC).

The Northland Regional Policy Statement (RPS) contains a set of criteria (Appendix 1) for the assessment of ecological significance of indigenous vegetation and habitats of indigenous fauna, with a twofold purpose:

- To enable local authorities and stakeholders to use consistent criteria for the determination of areas of significant indigenous vegetation or significant habitats of indigenous fauna; and/or
- To enable evaluative assessments to be made where studies have not been undertaken, in situations where there is a new proposal for subdivision, use or development (triggering a requirement for either a resource consent or a plan change).

In order to effectively and consistently assess the significance of areas of indigenous vegetation or habitat for indigenous fauna, guidelines are required for application of the set of significance criteria provided in the Northland RPS. This report provides overall guidelines to assist with assessments of ecological significance, and more detailed guidelines for each of Northland Region's operative criteria for the evaluation of significance.

Within the wider context of the Resource Management Act 1991, the significance criteria will assist in identifying the loss of terrestrial biodiversity in the Northland Region as well as identify, maintain, and enhance remaining natural habitats. This feeds into Objective 3 of the Draft National Statement on Indigenous Biodiversity (BCG 2018), which provides for the maintenance of indigenous biodiversity and the enhancement of ecosystems.

2. METHODS

Significance criteria in the Northland RPS, along with relevant sections of the RPS were reviewed relating to the assessment of ecologically significant sites, primarily relevant policies within regional policy statements and district plans. Guidelines for the application of significance criteria in identifying SNAs in other parts of the country were also reviewed. Wildland Consultants has previously produced significance criteria and guidelines for the application of significance criteria for Canterbury Region (Wildland Consultants 2013) and that report formed the basis o or

development of these guidelines. In addition, a review of the natural heritage of Northland (primarily from Protected Natural Areas Programme survey reports) was undertaken to develop Northland-specific examples to provide guidance on levels of significance when applying the RPS criteria.

A summary of the documents reviewed is provided in Table 1.

Table 1: Information reviewed during compilation of guidelines for the assessment of ecological significance.

Authority	Policy/Plan/Statement/Report	Year Published
Northland Regional Council	Northland Regional Policy Statement	2018
Northland Regional Council	Operative Water and Soil Plan	2014
Kaipara District Council	Kaipara District Plan	2013
Greater Wellington Regional Council	Proposed Wellington Regional Policy Statement	2013
West Coast Regional Council	West Coast Land and Riverbed Plan	2012
Caucus of Ecological Experts	West Coast Land and Riverbed Plan appeals	2010
Far North District Council	Far North District Plan	2009
Horizons Regional Council	End of Hearing Officer Report	2009
Bay of Plenty Regional Council	Bay of Plenty Regional Water and Land Plan	2008
Whangarei District Council	Whangarei District Plan	2007
Otago Regional Council	Regional Plan: Water for Otago	2004
Dunedin City Council	Dunedin City District Plan	2004
Waikato Regional Council	Technical Report TR2002/15	2002
Waikato Regional Council	Waikato Regional Policy Statement	2000
Auckland Regional Council	Auckland Regional Policy Statement	1999
Southland Regional Council	Regional Policy Statement for Southland	1997
Bay of Plenty Regional Council	Significance Geothermal Features	2016
New Plymouth District Council	New Plymouth District Plan	2005

3. SUMMARY OF REVIEW FINDINGS

3.1 Process for assessment of significance

Most regional and territorial authorities provide a framework and methods for evaluation of the ecological significance of sites by defining a range of significance criteria against which site values are to be assessed. In general, a site is considered to be significant if it meets one or more of the criteria in these criteria sets. Criteria sets vary between regions and districts, as does the extent of guidance given to those required to interpret the criteria. In many cases, no further guidance is given above and beyond the definition of each criterion provided in relevant plans. Poorly-worded or ambiguous criteria can lead to differences in interpretation.

All criteria-based approaches carry risks that significant areas of indigenous vegetation and/or habitats may not meet criteria thresholds if they are not well-defined or if they are not applied correctly. Explicit, well-defined criteria and guidelines are important for reducing potential ambiguity, which can hinder efficient and effective

resource management decision-making. Whatever the approach used, it is important that practitioners undertaking the assessments are well-qualified and experienced, and apply the criteria correctly.

Landholders, in the first instance, need to know where potential SNAs are located. In addition, they need to know when resource consents are needed for activities that could potentially affect significant areas of indigenous vegetation and significant habitats for indigenous fauna, notwithstanding the responsibility of the territorial authorities to maintain and preserve SNAs on private land. This should be addressed by advocacy and provision of publicly-available information when new policies are established.

3.2 Criteria sets for ecological significance

Criteria sets are generally based on the same or similar ecological principles, but are nuanced to serve the particular needs of a particular region or district. This is appropriate, and consistent with the criteria set developed for Northland Region, now operative in the Northland RPS. It is helpful to include guidance as to how significance criteria should be applied, and to ensure that they are applied consistently. This is more important for some criteria than others. Section 4 below provides an overview of the ecological context in Northland, Section 5 provides a framework within which guidelines for application of the specific criteria for Northland Region are provided in Section 6.

4. OVERVIEW OF NORTHLAND REGION VEGETATION COVER AND KEY ECOSYSTEMS

4.1 Land cover

The threatened environment classification is used to provide information on the context of loss and protection of indigenous biodiversity components identified on the ground. In conjunction with site surveys, it enables the identification of places that are priorities for formal protection against clearance and/or incompatible land uses, and for ecological restoration to restore linkages, buffers and lost species. The classification also provides a standardised national framework for assessment of biodiversity representativeness and protection (Cieraad *et al*. 2015). Remaining indigenous vegetation in the first two categories of the classification (land environments with less than 20% indigenous cover remaining) has been identified in national conservation policy as a national priority for biodiversity protection on private land (MfE 2007).

About 20 percent of Northland is classified as ‘Acutely Threatened’ (eight percent) or ‘Chronically Threatened’ (12 percent) land environments which is within the first National Priority for protection of rare and threatened indigenous biodiversity on private land (Ministry for the Environment 2007a&b). ‘Acutely Threatened’ and ‘Chronically Threatened’ land environments are highly modified with less than 20 percent indigenous vegetation, and the vegetation that does remain is typically highly fragmented and often degraded. On the other hand, large areas of inland parts of Northland Region are classified as ‘Critically Underprotected’ with greater than

30 percent of the original indigenous vegetation remaining of which less than 10 percent is protected within either public or private conservation areas (Walker *et al.* 2015).

Despite the relatively moderate loss of vegetation compared to other parts of the country much of these areas of 'Critically Underprotected' land in Northland comprise large expanses of exotic grassland with small fragments of indigenous vegetation scattered throughout this area.

The extent of threatened land environments within Northland varies greatly between ecological districts. For example, more than five percent of Poutō Ecological District is considered to be highly threatened, but only 0.8 percent of Te Paki comprises threatened land environments (due to the extent of indigenous vegetation remaining). Kaipara Ecological District has experienced the greatest loss of indigenous cover with large areas classified at 'Acutely Threatened', 'Chronically Threatened', or 'At Risk' (Walker *et al.* 2015).

The pattern of remaining indigenous vegetation and habitats across Northland is far from uniform. These geographical differences mean that significant examples of vegetation and habitat in a highly modified part of the Region will often be smaller and less intact than comparable vegetation/habitat types in those parts of Northland that retain most of their natural values. This regional variation in the pattern of remaining indigenous vegetation and habitats is reflected in the examples that have been chosen to illustrate the guidelines in Section 5.

Despite the loss of indigenous vegetation cover across Northland, the Region still contains many significant biodiversity features. A selection of important northern ecosystems and habitats are briefly described in the sections below.

4.2 Kauri forest

Kauri (*Agathis australis*) forests are restricted to northern New Zealand, north of 38°S (Ecroyd 1982) and support unique and distinctive assemblages of plant species (Wyse *et al*. 2013). Northland contains some of the best representative examples of kauri forest, such as Waipoua Forest Park within Tutamoe Ecological District. Waipoua Forest is the largest contiguous tract of indigenous forest in Northland, contains the largest individual kauri in the country, and supports the largest population of North Island brown kiwi (*Apteryx mantelli*) in New Zealand (Miller & Holland 2008).

4.3 Heathlands

Heathlands are ecosystems where extremely low-fertility soils drive the composition of the vegetation and also result in low vegetation height . In Northland, heathlands can be either well-drained (dry) or seasonally waterlogged (wet), and are frequently associated with, and in some cases maintained by, high frequency of fires (Clarkson *et al.* 2011). Gumlands are a type of wet heathland that have now been reduced to several thousand hectares in extent (Clarkson *et al.* 2011). Gumlands which have not been induced by fire are also recognised as a historically rare ecosystem type (Williams *et al.* 2007). Northland Region now contains most of the remaining

gumland habitat type in New Zealand. An explanation of how dry heathlands and gumlands are differentiated is provided in Appendix 2.

Worldwide, heathlands are of high conservation value, supporting diverse and distinctive animal and plant communities, but are threatened by destruction and fragmentation, e.g. Taylor 1978; Gimingham 1981. In New Zealand, gumlands support a suite of at least 24 threatened plants (de Lange *et al*. 2018) and provide critical habitat for a diverse range of orchid, invertebrate, and lizard species. Gumlands are also known to support a high species richness of Lepidoptera (Hoare 2011).

Heathlands, including gumlands, are under ongoing threat in Northland, with continued conversion to other land uses, such as agriculture and forestry, and, in some locations, significant modification by invasive pest plants.

4.4 Coastal ecosystems

Coastal ecosystems are a significant feature of Northland and comprise dunelands, forest, and estuaries. Bream Head within Manaia Ecological District contains the best example of coastal pōhutukawa (*Metrosideros excelsa*) forest in northern New Zealand (Goldwater and Beadel 2010). The numerous harbours, estuaries and mudflats (e.g. Kaipara Harbour and Poutō estuaries) provide internationally and nationally important feeding and roosting habitat for wading birds such as kuaka/bar-tailed godwit (*Limosa lapponica*), ngutuparore/wrybill (*Anarhynchus frontalis*), tuturiwhatu/northern New Zealand dotterel (*Charadrius obscurus*), and banded dotterel (*Charadrius bicinctus*).

Extensive dunelands are present at Poutō Peninsula in Kaipara Ecological District, Ahipara in Ahipara Ecological District, the far north in Te Paki and Aupōuri Ecological Districts, as well as smaller dunelands such as Ocean Beach in Manaia Ecological District.

4.5 Wetlands and lakes

Wetlands

Like much of New Zealand, wetland extent in Northland has been greatly reduced through drainage and excavation for the development of farmland. As at 2008, Northland had approximately 8.7% remaining of its historic wetland extent, compared with a national average of 10 percent (Ausseil *et al.* 2008). Some areas of extensive freshwater wetlands remain on sand dunes, floodplains, and where streams have been ponded by lava flows. Wetlands on the sand dunes of Poutō Peninsula cover 638 hectares and are ranked as the highest value wetland in Northland (Wildland Consultants 2011). The Poutō dune wetlands are regarded as the "best remaining example of a large, relatively unmodified sand dune system including, freshwater and dune slack wetlands in Kaipara Ecological District, the best and most pristine example of a dune system with wetlands in New Zealand, and also one of the most extensive.

At Waitangi Forest in Kerikeri Ecological District, wetlands cover 114 hectares and comprise mosaics of many different wetland types in ponded lava flows and have high

habitat values for indigenous fauna (Conning & Miller 1999). Lake Omapere (in its pre-human state) would have been a much larger example, but is now largely a lake (A. Townsend, Department of Conservation, pers. comm. 2019).

The relatively unmodified Motatau wetland complex in Tangihua Ecological District is one of the largest and most significant mineralised freshwater wetland systems in Northland (Goldwater *et* al. 2009). Significant swamp forest also occurs along the Manganui River Complex in Tokatoka Ecological District, which is perhaps the best example of riverine flood forest in the whole of the North Island (Champion & Townsend 2008).

Lakes

Northland has more than 400 dune lakes, within old sand dune systems mostly on the west coast between the Te Hiku (formerly Aupōuri) and Poutō peninsulas. Dune lakes are one of the rarest and most threatened aquatic habitats in the world and are a distinctive feature of Northland's natural areas. They are often dynamic, with fluctuating water levels and shorelines that are frequently changed by shifting sand dunes (NRC 2019). Northland represents a large proportion of warm, lowland lakes that still retain relatively good water quality. Perhaps the most outstanding character of these lakes is the currently limited impacts of invasive species on their biota, which is unparalleled in any other region of mainland New Zealand (Champion and de Winton 2012). Dune lakes support a wide range of indigenous plants and animals, including uncommon endemic freshwater fish such as the dune lake galaxias (*Galaxias* "dune lakes"; 'At Risk-Naturally Uncommon') and dwarf inanga (*G. gracilis*; 'Taxonomically Indistinct'), which are only found in some Northland dune lakes.

Seven volcanic lakes are present in Northland, the largest of which is Omāpere, covering over 1,200 hectares. Only five shoreline lakes and three geothermal lakes occur within the Region, with the first group widely distributed around the coast, and the second clustered together on an inland site at Ngāwhā near Kaikohe (Leathwick 2018),

4.6 Te Paki Ecological District

Te Paki Ecological District deserves a special mention given its location at the northern extremity of the North Island and the fact it contains a high diversity of plant and fauna species, including many endemic taxa (including 39 endemic land snail taxa and 29 endemic plant taxa (de Lange *et al*. 2018), 26 of which are endemic to the Surville Cliffs) (Lux *et al*. 2009). Virtually all natural areas in the ecological district are of national conversation value with several areas being of international significance.

Unlike many other ecological districts, particularly in the North Island, over 75% of Te Paki Ecological District is covered by some form of indigenous vegetation, with the vast majority regenerating after modification from predominantly natural and human-induced fires and cultivation and agricultural activities (Lux *et al*. 2009). Natural areas of Te Paki Ecological District comprise large contiguous tracts, which create linkages and sequences with and between different habitat types such as

shrubland, wetlands, and dunelands. A striking feature of the Ecological District is the presence of large, unmodified wetlands buffered by catchments that are fully vegetated with indigenous plants.

5. SIGNIFICANCE CRITERIA GUIDELINES FOR NORTHLAND

5.1 RPS criteria

Ecological significance criteria set out in Appendix 5 of the Northland RPS carry statutory weight and incorporate four matters (see Appendix 1 of this report for the full criteria set):

- Representativeness
- Rarity/distinctiveness
- Diversity and pattern
- Ecological context

These criteria follow those set out in Appendix 1 of the Draft National Statement on Indigenous Biodiversity (BCG 2018): *Criteria for identifying significant natural areas in accordance with Policy 4*.

Each criterion is associated with one or several criteria tailored to the Northland Region. The criteria are consistent with the four national priorities for the protection of indigenous biodiversity on private land (MfE and DOC 2007a&b).

From a planning perspective, it is important that the criteria will satisfy the requirements of Section 32 of the RMA, which is integral to ensuring transparent, robust decision-making in Resource Management Act (RMA) plans, plan changes and policy statements. The Section 32 process helps to demonstrate that the objectives, policies and methods of proposed RMA planning documents have been well tested against the purpose of the RMA, together with the anticipated benefits of introducing new regulation outweigh the anticipated costs and risks. Iwi/Māori, the community, and key stakeholders can be involved throughout the policy development process.

5.2 Who are the guidelines written for?

These guidelines will be primarily used to guide the Northland SNA review being undertaken by Wildland Consultants for FNDC, KDC, and WDC. However, the guidelines will also be of benefit to other practicing ecologists, as they will be the key people making site assessments using the ecological significance criteria in the operative Northland RPS. The guidelines contain technical information that ecologists will be familiar with.

These guidelines sit outside the Northland RPS and have no statutory weight, unlike the criteria. The usefulness of this is that the guidelines can be updated (for example if new biodiversity assessment tools become available) without the necessity to go through a formal plan change process.

5.3 RPS policy context

Section 1.6 of Northland RPS sets out the responsibilities of local councils (i.e. regional and district) "for the control of the use of land to maintain indigenous biological diversity" as required by Section 62(1)(i) of the RMA. Northland Regional Council (NRC) is responsible for indigenous biodiversity in water bodies (including wetlands); in, on, or under the beds of rivers and lakes; in the coastal marine area. District Councils (i.e. FNDC, KDC & WDC) are responsible indigenous biological diversity on all land and surface waters in lakes and rivers.

The guidelines developed are for the three district councils within Northland Region and therefore matters relating to marine areas are beyond the scope of this project.

Section 2.2 of the RPS outlines the key issues/pressures on indigenous ecosystems and biodiversity in Northland Region. The four key pressures are summarised as follows:

- Effects on waterbodies from runoff including elevated levels of sediments, nutrients and faecal pathogens.
- Pest species including plants and animals.
- Modification and loss of wetlands.
- Habitat fragmentation.

Section 3.4 provides the objectives for the protection of indigenous biological diversity in Northland Region. The three objectives are to safeguard Northland's ecological integrity by:

- Protecting areas of significant indigenous vegetation and significant habitats of indigenous fauna;
- Maintaining the extent and diversity of indigenous ecosystems and habitats in the region; and
- Where practicable, enhancing indigenous ecosystems and habitats, particularly where this contributes to the reduction in the overall threat status of regionally and nationally threatened species.

Policy 4.4.1 provides the basis for maintaining and protecting significant ecological areas and habitats. There are five clauses within the policy related to avoiding, remedying or mitigating adverse effects on indigenous vegetation (significant or not) and habitat for indigenous fauna.

Clause 1 relates to 'Threatened' or 'At Risk' taxa, significant indigenous vegetation and habitats of indigenous fauna (as per the criteria in Appendix 5 of the RPS), and areas fully or partially protected.

Clauses 2 and **3** relate to areas in the coastal and outside the coastal environment respectively, including:

- Areas of predominantly indigenous vegetation sites of importance for recreational, commercial, traditional or cultural purposes.
- Ecosystems and habitats particularly vulnerable to modification.

Many of the ecosystems and habitats listed as vulnerable to modification are classified as naturally uncommon ecosystems (e.g. estuaries & margins of freshwater bodies) and will therefore trigger criteria for significance in Appendix 5. In addition, spawning and nursery areas for indigenous species are identified as vulnerable, which would also trigger significance criteria.

Clause 4 relates to identifying the adverse effects on the environment and is therefore a management issue. Management issues are not considered within these guidelines.

Clause 5 relates to the mitigation hierarchy and introduces biodiversity offsetting and environmental biodiversity compensation. As with Clause 4 this is a management issue and not covered within these guidelines.

5.4 Definitions

Appendix 5 of the RPS contains several definitions of relevance to the guidelines, including what constitutes natural versus human-made wetlands. These are also set out in Appendix 1 of this report.

The Northland RPS does not define 'indigenous vegetation'; however, all three Northland district plans have a definition for 'indigenous vegetation', and either 'wetland' (KDC) or 'indigenous wetland' (WDC, FNDC) in their respective district plans. Wetlands are also defined in the operative version of the Regional Water and Soil Plan as habitats that:

> *Include permanently or intermittently wet areas, shallow water, and land water margins that support a natural ecosystem of plants and animals that are adapted to wet conditions.*

This definition is identical to the Resource Management Act 1991 definition.

5.5 Scope of guidelines

As described above, the scope of the guidelines covers ecosystems and indigenous biodiversity within Northland Region. The guidelines need to reflect the ecosystem and indigenous biodiversity policy of the Northland RPS. The guidelines address ecological considerations only. Issues such as how indigenous biodiversity should be managed or protected are the responsibility of territorial local authorities. It is acknowledged, however, that there is a need to distinguish between habitats that are significant solely due to their use by highly mobile species (e.g. pine plantation, watercourses, small fragments of indigenous vegetation) as opposed to natural areas that are threatened or naturally uncommon in their own right, e.g. wetlands, heathlands, kauri forest. Accordingly, it will be more straightforward to apply different management approaches.

5.6 Scale of assessment

It is important to choose the correct scales for application of particular criteria and indicators. In some cases, the assessment can be made at more than one scale,

typically the relevant ecological district and Northland Region. In these cases, meeting the criterion at just one scale would be sufficient to trigger significance. In some cases, the criterion itself defines the appropriate scale. Appropriate scales of reference are provided for each indicator.

5.7 What constitutes a significant site?

A set of criteria for determining significance is presented within the Northland RPS and it is largely consistent with significance criteria used by other regional councils. A significant site should include the significant features, and also the connecting habitat and key ecological processes that help to maintain the significant features. The significant site would normally include all vegetation/habitat units that contain or constitute significant features, and any intervening or buffering indigenous habitat that helps to connect these units and form a more cohesive or compact site. Mosaics of indigenous vegetation may be included within the significant area because an assemblage of small areas, overall, can comprise a significant area.

The Northland RPS criteria provide clear size thresholds for wetlands including saltmarsh (0.5 hectares), shallow water (0.5 hectares), swamp, (0.4 hectares), bog (0.2 hectares), wet heathlands (0.2 hectares), and marsh, fen, and ephemeral wetlands or seepage/flush (0.05 hectares). It should be noted, however, that a wetland that is smaller than these can also be ecologically signifcant under another criterion.

Thresholds for other ecosystem types are not provided for and therefore need to be addressed at a scale considered appropriate. As demonstrated in the Northland prioritisation project (refer to Table 8), it is important not to overlook very small areas of indigenous habitat (Leathwick 2018). Even areas of *c.*1 hectare (excluding wetlands) will meet particular assessment criteria, e.g. representativeness, rarity.

Seral vegetation is often included in significant sites, as it commonly forms a stage in the development of mature vegetation and habitat, or may have significant value as habitat of indigenous fauna in its own right, or as a site buffer. Significant sites can be entirely seral where seral vegetation may comprise the only representative examples of indigenous vegetation remaining in highly modified parts of Northland Region, or where it provides important habitat for indigenous fauna, including 'Threatened' and 'At Risk' species and species at the limit of their natural range. Areas of exotic vegetation, for example pasture or gorse shrubland, are sometimes included in significant sites, as they may only detract from the significant values in a small way and, in many instances, would develop into indigenous vegetation over time.

Similarly, within a landscape context, connectivity is critical when assessing areas of vegetation (both indigenous and exotic). Some forest and scrub patches will be significant not so much because of their intrinsic value, but because of their landscape connectivity with adjacent natural areas that have high intrinsic value because of their condition or rarity (and also facilitating the movement of some fauna species). This includes, for example, patches of forest ecosystems that are widespread, but that play a particular role in protecting the catchments of high value lakes or river and stream segments (Leathwick 2018).

5.8 1840 as a reference baseline date

1840 is commonly used as a baseline date for the assessment of representativeness and is the date used for assessment of representativeness in the Northland RPS. The utility of an 1840 baseline is that there is generally some documented information available on the extent, structure, and composition of indigenous vegetation and habitat at that time, but major European settlement and clearance of indigenous vegetation and habitat had not yet taken place. In the Northland Region, seral vegetation types would have already been widespread at the 1840 baseline, as many of these were promoted and maintained by fires lit by Polynesian occupants in earlier times, e.g. fire-induced gumland heath. This means that it is valid for representative examples of indigenous vegetation and habitats to include successional vegetation. It is also potentially useful, nevertheless, to consider potential ecosystem extent as useful context when making these assessments.

5.9 Assessment of fauna habitat

Significant habitats of indigenous fauna can include both areas of indigenous or exotic vegetation, and aquatic habitats such as streams, rivers, ponds, lakes, lagoons, and estuaries. The key requirement is that the habitat must be important habitat for indigenous fauna. The indigenous fauna do not need to be 'Threatened' or 'At Risk' species; significant habitats of relatively common fauna should also be included in the assessment of important indigenous fauna habitat.

5.10 Application of the guidelines

Criteria are set out in Table 2, with separate columns inserted for the guidelines and examples. The guidelines provide clarification as to how each criterion should be interpreted, and also provide information sources that will assist with assessments. The examples illustrate how different types of indigenous vegetation in different parts of Northland Region would qualify against each criterion, using a decision-making process of "meets threshold/ does not meet threshold".

Where applicable, the examples have also been placed into high, moderate, or low categories to help illustrate the range of biodiversity composition and structure that makes a site significant or otherwise. This means that the guidelines can be used for processes other than assessment of significance, such as prioritising sites for management and undertaking State of the Environment (SOE) reporting. It is important to recognise that sites that receive "Low" ratings for some criteria can still be ecologically significant (as long as at least one criterion is met).

It is important to note that the examples provided are <u>not</u> exhaustive, and do not constitute the only examples of significant or non-significant sites. Many other kinds of indigenous vegetation and habitats of indigenous fauna could be classified as being significant using the RPS criteria.

Assessments of significance should assess site values against each of the criteria in Table 2. In doing so, the guidelines will help in the interpretation of each criterion, and ensure that the assessment is undertaken at the correct scale. For each assessment,

Table 2: Northland significance criteria from the RPS with associated guidelines and limited examples.

Criteria	Guidelines	Examples
1. Representativeness		
1(a)(i) & (ii) Regardless of its size, the *ecological site* is largely indigenous vegetation or habitat of indigenous fauna that is representative, typical or characteristic of the natural diversity at the relevant and recognised ecological classification and scale to which the *ecological site* belongs: 1(a)(i) if the *ecological site* comprises largely indigenous vegetation types and 1(a)(ii) is typical of what would have existed circa 1840.	This assessment is undertaken at the ecological district scale. Representative vegetation and habitats are those that are typical of those that would have been present at a baseline of 1840, i.e. prior to the bulk of European settlement. At this time, the Northland Region would already have been affected by fires lit by Polynesian settlers in earlier periods. This means that representative indigenous vegetation and habitats will include successional vegetation types such as gumland and mānuka/kānuka scrub. Indigenous vegetation types or indigenous fauna assemblages that are the most similar in composition and structure to those that would have been present in 1840 are ranked the highest. As most indigenous vegetation types and fauna assemblages have been modified to some extent, modified examples will often be the closest in composition and structure to the 1840 condition, and thus rank highly for representativeness.	**High representativeness value (meets threshold):** Good quality examples of: • Kauri forest in Tutamoe Ecological District; coastal forest at Bream Head, Manaia Ecological District, and Whangaruru North Head, Whangaruru Ecological District. • Large raupō-dominant wetland systems in Tangihua Ecological District. • Dunelands in Te Paki Ecological District, Aupōuri Ecological District, and Kaipara Ecological District. • Riverine and alluvial kahikatea forest, e.g. Manganui River. • Wet heathlands including large intact gumland systems, e.g. Lake Ohia, Kaimaumau-Motutangi Wetlands, Ahipara Plateau (refer to Appendix 2 for definitions). • Lower montane and cloud forest habitats of the Waima Range, Tutamoe Ecological District. **Moderate representativeness value (modified but meets threshold):** • Wet heathlands, including gumlands and ironstone heaths, with some invasion of woody species (e.g. Kerikeri Airport). • Moderate to large wetland systems with some exotic component, e.g. Rototuna forestry supports extensive wetlands characterised by raupō and sedgeland, but they have been invaded to varying extents by pampas and willow. • Small to moderate sized remnants of kānuka forest and scrub on dunes (e.g. Poutō peninsula) with some exotic component, e.g. small amounts of wilding pine and/or pampas. • Moderate to large inland forest and scrub remnants, e.g. Maungapohatu Bush, Hokianga Ecological District. **Low representativeness value (does not meet threshold for this criterion):** • Isolated wetlands dominated by raupō (noting that these systems may still meet other criteria such as rarity and size). • Grazed remnants of kānuka forest and scrub, e.g. Poutō Peninsula.
1(a)(i) & (iii) Regardless of its size, the *ecological site* is largely indigenous vegetation or habitat of indigenous fauna that is representative, typical or characteristic of the natural diversity at the	This assessment is undertaken at the ecological district or regional scale. This criterion relates specifically to the faunal assemblage of the site being assessed. The highest ranked sites would include habitats where the assemblage of a specific fauna group (e.g. beetles) was close to the composition and structure that would be expected, where representatives of the natural range of indigenous	**Highly typical and characteristics (meets threshold):** • Estuaries that support natural assemblages of shore and wading birds such as Poutō estuaries within the Kaipara Harbour, Parengarenga Harbour. • Forest providing habitat for bellbird (*Anthornis melanura*), kūkupa/kererū (*Hemiphaga novaeseelandiae*), tomtit (*Petroica macrocephala*) or toutoutwai (North Island robin; *P. longipes*) in addition to more widely distributed

Criteria	Guidelines	Examples
relevant and recognised ecological classification and scale to which the *ecological site* belongs: 1(a)(i) if the *ecological site* comprises largely indigenous vegetation types, and 1(a)(iii) is represented by faunal assemblages in most of the guilds expected for the habitat type.	vertebrate fauna groups are present (e.g. indigenous birds, lizards, frogs, bats, fish) or where the assemblage contains representatives of each of the feeding guilds of a single fauna group (e.g. among birds, nectivorous, frugivorous, herbivorous, and insectivorous species).	indigenous forest bird species (e.g. pīwakawaka/*Rhipidura fuliginosa*, tūī/*Prosthemadera novaeseelandiae*). • Freshwater wetlands providing habitat for a wide range of indigenous fauna, including species now uncommon or of restricted distribution such as Waitangi Wetlands, Kerikeri Ecological District, which are habitat for spotless crake, and Northland mudfish. **Low (does not meet threshold for this criterion):** • Habitats where only one or two widely distributed indigenous bird species are present (e.g. grey warbler (*Gerygone igata*) and fantail (*Rhipidura fuliginosa*).
1(b)(i) The *ecological site* is a large example of indigenous vegetation or habitat of indigenous fauna.	This assessment focuses on large examples of types of indigenous vegetation and habitats of indigenous fauna assessed at the ecological district scale. Whether the vegetation is a large example of its type will depend on the pattern of vegetation remaining in the relevant ecological district. For example, a one-hectare example of indigenous swamp forest in Kaipara Ecological District might be considered large, whereas one hectare of indigenous forest in Tutamoe Ecological District might be considered small.	High - very large sites (meets threshold): • Dunelands in Te Paki Ecological District and Aupōuri Ecological District. • Large raupō-dominant wetland systems in Tangihua Ecological District. • Extensive secondary forest, including coastal forest and kauri forest, in the Whangaruru Ecological District (e.g. Russell Forest) and Whangaroa Ecological District, e.g. North Whangaroa. **Moderate - moderately large sites (meets threshold):** • Dunelands in the Waipū Ecological District, Rototuna wetlands and saltmarsh in Kaipara Ecological District. **Low representative value (does not meet threshold for this criterion):** • Small areas of indigenous forest and scrub.
1(b)(ii) The *ecological site* contains a combination of landform and indigenous vegetation and habitat of indigenous fauna, that is considered to be a good example of its type at the relevant and recognised ecological classification and scale.	This assessment is made at the ecological district scale and relates to indigenous vegetation and habitat for indigenous fauna that is of good quality and not substantially degraded by anthropogenic activities or exotic species (pest plants and animals). The ecological site should be representative of vegetation types and habitat of indigenous fauna that currently occur in the ecological district and not only historically, i.e. prior to 1840.	**High value - good example of type (meets threshold):** • Russel State Forest in Kerikeri Ecological District, Valley floor to ridge forest in Puketi Forest in Puketi Ecological District. **Moderate example of type (meets threshold):** • Lowland forest in the Brynderwyn Ranges in Waipū Ecological District. **Low representative value (does not meet threshold for this criterion):** • Sites that are significantly degraded by stock, pest plants or pest animals or other anthropogenic activities.

Criteria	Guidelines	Examples
2. Rarity/Distinctiveness		
2(a)(i) The *ecological site* comprises indigenous ecosystems or indigenous vegetation types that are either 'Acutely Threatened' or 'Chronically Threatened' Land Environments associated with LENZ Level 4.	This assessment is made at the national scale of Level IV LENZ environment. The Threatened Environment Classification (Walker *et al.* 2015) provides information on land environments which retain less than 20% of their original indigenous cover, i.e. 'Acutely Threatened' and 'Chronically Threatened'.	**High values for rarity/distinctiveness (meets threshold):** • Indigenous vegetation within the site that occurs on 'Acutely Threatened' or 'Chronically Threatened' land environments as per LENZ Level IV, e.g. Ruakaka River forest remnants in the Waipū Ecological District and the Awanui River forest remnants in Aupōuri Ecological District. • **Does not meet threshold:** • No part of the site is situated on 'Acutely Threatened' or 'Chronically Threatened' land environments as per LENZ Level IV.
2(a)(ii) The *ecological site* comprises indigenous ecosystems or indigenous vegetation types that excluding wetlands, are now less than 20% of their original extent.	This assessment is made at the scale of the Northland Region, the relevant ecological district, and/or Level IV LENZ environment. Any example of an indigenous vegetation type or fauna habitat that is reduced to less than 20% of its original extent at any one or more of these scales would meet the threshold of this indicator.	**Ecosystems/vegetation types that are below 20% of their original extent (meet threshold):** • Coastal forest (e.g. Bream Head); gumlands, wet heathlands (including gumland); riparian kahikatea forest; dunelands. • **Ecosystems/vegetation types with over 20% remaining (does not meet threshold):** • Inland totara forest on hills. • Kānuka forest, e.g. Opua Forest, Kerikeri ED and Russell Forest in Whangaruru Ecological District.
2(a)(iii) The *ecological site* comprises indigenous ecosystems or indigenous vegetation types that excluding *man made wetlands*, are examples of the wetland classes that either ~~otherwise~~[1] trigger any other criteria or exceed any of the area thresholds.	This criterion refers to wetlands dominated by indigenous vegetation that meet any other criteria within the RPS or exceed minimum area thresholds for wetland types as follows: saltmarsh (0.5 hectares), shallow water (0.5 hectares), swamp (0.4 hectares), bog (0.2 hectares), wet heathlands (0.2 hectares) and, marsh, fen, and ephemeral wetlands or seepage/flush (0.05 hectares). Wetland boundaries should be delineated using the Landcare Research/Manaaki Whenua wetland delineation tool.	**Good wetlands (meets threshold):** • A wetland that exceeds the relevant threshold for its class, or meets any one or more of the other criteria within the RPS. There are numerous examples of wetlands that meet the minimum size thresholds for their type. • **Does not meet threshold:** • A wetland smaller than the relevant threshold for its class that does not meet any of the other criteria within the RPS.
2(b) Indigenous vegetation or habitat of indigenous fauna that supports one or more indigenous taxa that are threatened, at risk, data deficient or uncommon, either nationally or at the	This criterion refers to the presence of 'Threatened', 'At Risk', 'Data Deficient' or uncommon species. It should be assessed at a regional and national scale. A higher threshold is justifiable for mobile indigenous fauna such as birds and bats, as they tend not to depend on a single habitat patch, whereas the persistence of plants and less mobile fauna such as many invertebrates, lizards and some	**High rarity value for threatened taxa (meets threshold):** • Indigenous Plants and Fauna with Restricted Ranges: site contains one or more species that are 'Threatened' or 'At Risk' according to the threat system classification of Townsend et al. (2008); or are uncommon to the Northland Region. • Sites supporting flax snail, e.g. Te Paki. • All wetlands with Northland mudfish in the Kaikohe and Kerikeri Ecological

[1] Wording taken from Northland RPS

Criteria	Guidelines	Examples
relevant ecological scale.	fish species depends heavily on the maintenance of specific sites. National threat classifications of indigenous species are reviewed at approximately three-yearly intervals, but different groups tend to be reviewed at different times. The most recent threat classification for each species group should be referred to. Information on local rarity is likely to be available from the Department of Conservation, Regional and District Councils, and from PNAP survey reports. Note: All species within Myrtaceae have been classified as 'Threatened' or 'At Risk', including those that are relatively common in many areas (e.g. kānuka/*Kunzea robusta*, mānuka/*Leptospermum scoparium* var. *scoparium*, and rātā (*Metrosideros* spp.) species, due to the potential threat posed by myrtle rust. If one or more of these species is present at a site expert discretion should be applied and the site should not be classified as significant purely on the presence of one of those species. Several of the Myrtaceae present in Northland were previously classified as 'Threatened', 'At Risk' or regionally significant prior to myrtle rust being present in New Zealand. For example, Bartlett's rātā (*Metrosideros bartlettii*) is only known from three forest remnants near Spirits Bay and clearly triggers this criterion for significance. Likewise, regionally significant Myrtaceae include carmine rātā (*M. carminea*), southern rātā (*M. umbellata*), pōhutukawa × northern rātā hybrids (*M. excelsa* × *M. robusta*), *M. fulgens* (yellow flower), and maire tawake (*Syzygium maire*). Kauri has been classified as 'Threatened-Nationally Vulnerable' due to the threat posed by the kauri dieback. This is a precautionary approach; if kauri is present at a site expert discretion should be applied and the site should not be classified as significant purely on the presence of kauri.	Districts. • Waima Forest - supports the only known population of *Ackama nubicola*. • Surville cliffs - many threatened endemic species adapted to ultramafic soils. • Lake Ohia - high diversity of threatened plant species including *Phylloglossum drummondii* (Threatened-Nationally Endangered), and the orchid *Calochilus* herbaceous (Threatened-Nationally Critical). • Whirinaki skink - only known from one hectare at Bream Head, Manaia Ecological District. • Mobile Indigenous Fauna: site contains one or more species that are 'Threatened' or 'At Risk' according to the threat system classification of Townsend et al. 2008. • Offshore islands that support 'Threatened' or 'At Risk' sea bird species. • Larger forest and shrubland tracts in the Kerikeri and Whangaruru Ecological Districts that are habitat for North Island brown kiwi. **Low rarity value for threatened taxa (does not meet threshold for this criterion):** • Site contains no 'Threatened', 'At Risk', or regionally significant species.
2(c)(i) The *ecological site* contains indigenous vegetation or an indigenous taxon that is endemic to the	This criterion refers to the presence of taxa classified as endemic to Northland-Auckland Region and therefore applied at the regional scale.	**High value for endemism (meets threshold):** • Site contains one or more species, or a vegetation type that are endemic to the Northland-Auckland region. For example: - Kauri snail (*Paraphanta busbyi*)

Criteria	Guidelines	Examples
Northland-Auckland region.		- Flax snail at Bream Head - Whirinaki skink - only known from one hectare at Bream Head, Manaia Ecological District • Many land snail species are endemic to small areas of Northland, such as Allodiscus camelinus which is endemic to a forest remnant on Mount Camel (Aupōuri Ecological District), and Hyalolaoma "Waimatenui" endemic to Mount Hikurangi (Whangarei Ecological District). • *Ackama nubicola, Coprosma waima, Olearia crebra* - all endemic to high peaks in Waima Forest. • *Veronica flavida* - endemic to upland forest in western Northland, from near Kaitaia, south to Tangihua. • *Veronica rivalis* - endemic to riverbanks in central Northland, from Waipoua Forest in the west to Kerikeri in the east. • Low value for endemism (does not meet threshold): no species endemic to the Northland-Auckland region occurs at the site.
2(c)(ii) The *ecological site* contains indigenous vegetation or an indigenous taxon that is at its distributional limit within the Northland region.	This criterion refers to the presence of taxa or vegetation type classified as at or near to its distributional limit in Northland Region and is therefore applied at the regional scale. A higher threshold is justifiable for mobile indigenous fauna such as birds and bats, as they tend not to depend on a single habitat patch, whereas the persistence of plants and less mobile fauna such as many invertebrates, lizards and some fish species depends heavily on the maintenance of specific sites. Information on distributional limits is likely to be available from the Department of Conservation, Regional and District Councils, and from PNAP survey reports.	**High value for distributional limits (meets threshold):** • Site contains one or more species or vegetation types that reach their distributional limit within Northland. • Te Paki Ecological District is at the northern tip of the North Island, thus • a significant proportion of New Zealand's endemic species reach their • northern limit of distribution here. The only opportunities for species • to occur further north in New Zealand are on the Three Kings and • Kermadec Islands. Species that reach their northern limit in Te Paki Ecological District include kauri, tānekaha, kawaka, the podocarps rimu, kahikatea, tōtara. • Hall's tōtara, miro, matai, manoao, and many broadleaf species such as • taraire, tawa, tītoki, and whauwhaupaku. • The high peaks of western Northland (primarily in the Tutamoe Ecological District) are the northern limit for a suite of plant species of montane or cloud forest habitats, including *Blechnum fluviatile, Dracophyllum traversii* and *Ascarina lucida*. • Mangonui is the northern limit for hard beech (*Fuscospora truncata*), Maungataniwha Ecological District. • Taraire forest reaches its northern distribution limit at Spirits Bay, Te Paki Ecological District. • Wet mixed podocarp forest reaches its northern distribution limit at Radar Bush, Te Paki Ecological District. • Forested hill country in Waipu Ecological District from North River south to the Brynderwyn Range is the northern limit for Hochstetter's frog in New Zealand. • Flax snail (*Placostylus* spp.) which is restricted to Northland reaches its southern limit in Whangaruru Ecological District.

Criteria	Guidelines	Examples
		Low rarity value for distributional limits (does not meet threshold for this criterion): • Site contains no species or vegetation types that reach their distributional limit within Northland.
2(d)(i) The *ecological site* contains indigenous vegetation or an association of indigenous taxa that is distinctive [or] of a restricted occurrence.	This criterion should be applied at the ecological district, regional, and national scales.	**High distinctiveness value for indigenous vegetation or taxa (meets threshold):** Examples include: • Gumlands. • Cloud forest on Hauturu, Tutamoe Ecological District. • Lowland swamp forest remnants with *Astelia grandis* and *Syzygium maire* (e.g Puhipuhi, Whangaruru Ecological District). • Surville Cliff ultramafics. • Wet heathland on ironstone (e.g. Kerikeri Airport) **Low distinctiveness value for indigenous vegetation or taxa (does not meet threshold for this criterion):** • A site that doesn't contain vegetation or association of taxa that is distinctive or of restricted occurrence e.g. kānuka/mānuka scrub and forest.
2(d)(ii) The *ecological site* contains indigenous vegetation or an association of indigenous taxa that is part of an *ecological unit* that occurs on an originally rare ecosystem.	This assessment refers to any unusual natural biotic or abiotic characteristics of a site which contribute to its value, for example vegetation associated with unusual landforms such as dune slacks or gumlands. 'Originally rare' ecosystems should be assessed at the national scale classified by Williams *et al.* (2007). Twenty-eight are known to occur in Northland Region: **Rare indigenous ecosystems and vegetation types known or** likely **in Northland** **Coastal** **Active sand dunes** **Coastal rock stacks** Shell barrier beaches **Coastal turfs** Stony beach ridges **Shingle beaches** **Stable sand dunes** **Dune deflation hollows** Coastal cliffs on quartzose rocks	**High rarity value (meets threshold):** • 'Ultramafic seacliffs' such as Surville Cliffs are classified as historically rare ecosystems. The soils of Surville Cliffs at the northern tip of Te Hiku (formerly Aupōuri) Peninsula are sub-tropical laterites, derived from serpentine, and are unique. These serpentine soils have been created by the underling geology comprising Ophiolite which is an ultramafic rock, i.e. high in toxic heavy metals. These conditions have given rise to a unique assemblage of endemic plant species that are able to tolerate the toxic heavy metals such as *Veronica punicea, Carex ophiolitica*, and *Pittosporum serpentinum*. • Seabird-burrowed soils (Moturoa Islands). • Waimango Lagoon, Aupōuri Ecological District. • Ephemeral wetlands ponded by lava flows (Te Taro Pond, Kerikeri Ecological District). • Wet heathlands (e.g. Kerikeri Airport gumland, Kerikeri Ecological District. **Low distinctiveness value for indigenous vegetation or taxa (does not meet threshold for this criterion):** • The site does not occur on an originally rare ecosystem.

Criteria	Guidelines	Examples
	Coastal cliffs on acidic rocks **Basic coastal cliffs & rock outcrops** Calcareous coastal cliffs **Ultra-basic sea-cliffs** **screes & rock outcrops** **Seabird guano deposits** **Seabird-burrowed soils** **Marine mammal rookeries & haul-outs** damp sand-plains **Dune slacks** **Damp sand plains** **Wetlands** **Lake margins** **Bogs** **Lagoons** **Estuaries** **Seepages & flushes (including soda springs)** **Ephemeral wetlands including wet heathlands** *Note: Habitat that delineates as wetland and is wet heathland (including gumland and ironstone heathland) are included in wetlands because it is recognised that they are seasonally wet and are often mosaics including other low fertility habitat such as bogs and heathland.* **Inland** **Volcanic debris flows** **Volcanic boulder- fields** Basic cliffs scarps and tors **Ultra-basic hills** **Cloud forests** Vegetation on extremely low fertility soils **Geothermal systems** **Heated (dry) ground** Fumeroles Geothermal streamsides **Hydrothermally altered (now cool) ground**	

Criteria	Guidelines	Examples
	Subterranean or semi-subterranean **Cave entrances** Caves and cracks in karst Sinkholes Subterranean basalt fields	
2(d)(iii) The *ecological site* contains indigenous vegetation or an association of indigenous taxa that is an indigenous ecosystem and vegetation type that is naturally rare or has developed as a result of an unusual environmental factor(s) that occur or are likely to occur in Northland.	This criterion is applied at the regional scale and relates to the entire assemblage of taxa at a site. The assemblages may comprise plant or fauna species, although in most cases they will relate to plants.	**High value for naturally rare ecosystem or vegetation type (meets threshold):** • Fire induced gumland/heathland. • Waiomio Limestone Caves. • Exposures of subfossil kauri forests and stumps, with associated wetland flora at Lake Ohia margins. • Basalt karst at Waiere boulders in Kaikohe Ecological District. **Low value for naturally rare ecosystem or vegetation type (does not meet threshold for this criterion):** • No distinctive features present at the site.
2(d)(iv) The *ecological site* contains indigenous vegetation or an association of indigenous taxa that is an example of nationally or regionally rare habitat as recognised in the New Zealand Marine Protected Areas Policy.	This criterion is applied at the national and regional scale. The coastal marine environment is the responsibility of regional councils and is therefore outside of the scope of these guidelines. Northland Regional Council has already identified Significant Ecological Areas in the Proposed Regional Plan within the coastal and marine areas.	
3. Diversity and Pattern		
3(a)(i) Indigenous vegetation or habitat of indigenous fauna that contains a high diversity of indigenous ecosystem or habitat types.	This assessment is made at the scale of Northland Region and the relevant ecological district. Diversity is the number of indigenous habitats or ecosystem types contained within an area. Changes in the distribution and abundance of habitats across the site is driven by underlying variation in the environment, e.g. aspect differences, natural disturbance, altitudinal change, soil characteristics. It can be represented by successional sequences, vegetation mosaics, and ecological gradients. High habitat diversity allows ecological processes (e.g. dispersal, nutrient transfer) to operate and resources (e.g. nesting and	**High diversity of indigenous ecosystems or habitats (meets threshold):** • Twenty-four vegetation types on the Ahipara Massif (Ahipara Ecological District) including coastal cliffs, dunes, sand flats, swamps, hillslope forest, and gumland plateaus. • Altitudinal changes in vegetation on Tutamoe Range - includes cloud forest at its summit together with areas of swamp forest. • Te Paki dunes and wetland complex - extensive areas of duneland that form a sequence with high quality wetland and lagoon systems, e.g. Paranoa Swamp, Waitahora Lagoon and Waitahora Lakes Wetland Complex, which is a large wetland complex that supports many Threatened, At Risk, and regionally significant plant and animal species.

Criteria	Guidelines	Examples
	feeding habitat) to be shared across different ecosystems.	**Moderate diversity of indigenous ecosystems or habitats (meets threshold):** • Bream Head coastal forest - intact transition from pōhutukawa-dominant forest at sea level to mixed broadleaved species at higher altitudes. **Low (does not meet threshold for this criterion):** • Isolated patches of kānuka, e.g. Poutō Peninsula. • Small, isolated patches of raupō reedland that support only a few plant species. (noting that they could still meet other criteria, e.g. rarity).
3(a)(ii) Indigenous vegetation or habitat of indigenous fauna that contains a high diversity of indigenous taxa.	This assessment is made at the scale of Northland Region and the relevant ecological district. Diversity is the number of indigenous taxa contained in an area. Like habitats should be compared with like because diversity differs markedly between different habitats, e.g. indigenous sand dune vegetation has relatively low species diversity compared with indigenous broadleaved forest vegetation. Changes in the distribution and abundance of species across the site is driven by underlying variation in the environment, e.g. aspect differences, natural disturbance, altitudinal change, soil characteristics. High species diversity provides for greater interaction between species.	**High taxa diversity value (meets threshold):** • Surville Cliffs. • Te Paki duneland and wetland complexes. • Bream Head coastal forest. • Large, intact areas of gumland, e.g. Lake Ohia. • Large tracts of inland forest on hills, e.g. Puketi Forest, Tangihua Forest, Waima Forest. • Offshore islands, e.g. Poor Knights, Hen and Chickens - good example of interaction of tuatara and seabirds. **Moderate taxa diversity value (meets threshold):** • Areas of gumland that may have been adversely affected by invasive woody species. • Large, relatively intact area of kānuka on dunes, e.g. Poutō Peninsula. **Low taxa diversity value (does not meet threshold for this criterion):** • Small remnants of kānuka; raupō-dominant wetlands.
3(b) Changes in taxon composition reflecting the existence of diverse natural features or ecological gradients.	Changes in the distribution and abundance of species across the site, and is driven by underlying variation in the environment, e.g. aspect differences, natural disturbance, altitudinal change, soil characteristics. It can be represented by successional sequences, vegetation mosaics, and ecological gradients. This criterion may overlap substantially with Criteria 3(a)(i) and 3(c).	**High diversity of natural features or gradients (meets threshold):** • Saltmarsh to freshwater wetland, to riparian forest, e.g. Mangataipa Scenic Reserve, Hokianga Ecological District. **Moderate diversity of natural features or gradients (meets threshold):** • Forest tracts with transitions from lowland to lower montane forest, e.g. Mangakahia Forest, Tangihua Ecological District. **Low diversity of natural features or gradients (does not meet threshold for this criterion):** • Forest areas of similar altitude and geology with one or few vegetation types.
3(c) Intact ecological sequences.	Ecological sequences are spatial changes in occurrences of taxa, typically across environmental gradients. An example of an intact ecological sequence is the change in	**High value for intact ecological sequences (meets threshold):** • Te Paki dunes and wetland complex - extensive areas of duneland that form a sequence with high quality wetland and lagoon systems.

Criteria	Guidelines	Examples
	plant species composition from the sea shore through to coastal forest comprising saline wetland, brackish wetland and freshwater wetland to low-stature scrub and into forest. Intact ecological sequences are uninterrupted sequences where natural environmental gradients are maintained.	• Duneland-coastal kānuka forest sequence on Poutō Peninsula. **Moderate value for intact ecological sequences (meets threshold):** • Full sequences with less intact components. Vegetation types or invertebrate assemblages with a moderate degree of species richness for their type. e.g. transitions from mangroves and saltmarsh in the Bay of Islands to coastal forest remnants. **Low value for intact ecological sequences (does not meet threshold for this criterion):** • Ecologically isolated vegetation types with low species richness for their type (e.g. patches of isolated remnants of grazed kānuka forest, exotic-dominated sand dune vegetation backed by pasture).
4. Ecological Context		•
4(a) Indigenous vegetation or habitat of indigenous fauna is present that provides or contributes to an important ecological linkage or network, or provides an important buffering function.	The degree to which an area of indigenous habitat or vegetation links to other such areas or contributes to local ecological processes. Such areas have a significant ecological function if they are within the flying distance for most indigenous bird species (i.e. from their habitat areas) or if they provide a buffer from adverse effects such as predation, disturbance, or pollution. The intention of this criterion is to ensure that the ecological functions of areas of indigenous vegetation are taken into consideration. The criterion places buffering, or ecological linkages to maintain ecological processes in the surrounding environment at a higher priority than sites which are poorly buffered and do not contribute to the functioning of surrounding ecosystems. The values of the site itself may be relatively low (e.g. a small area of indigenous scrub) but its context may give the site a higher value (e.g. the scrub links two large and high value forest remnants). Degraded vegetation and habitat can nevertheless potentially have important ecological context value.	**High value for ecological linkage, buffer, or network (meets threshold):** • Continuous riparian forest; wetlands with direct links to river systems; forest areas that are important for kiwi dispersal; vegetation buffering wetlands from external influences such as sedimentation and excessive nutrient inputs; and regenerating kānuka forest surrounding old growth podocarp-hardwood forest. Also: • Bream Head coastal forest - likely to provide an important stepping stone/linkage between the mainland and the Hen and Chicken Islands. • Indigenous forest corridors alongside rivers in the Kerikeri Ecological District that links larger areas of kiwi habitat. • Tangihua Forest, Puketi Forest, Russell Forest. **Moderate value for ecological linkage, buffer, or network (may meet threshold):** • Moderate to large remnants of kānuka and secondary forest within a pastoral landscape or exotic forest provide linkages to larger tracts of indigenous forest. **Low value for ecological linkage, buffer, or network (unlikely to meet threshold for this criterion):** • Smaller and/or degraded remnants that are geographically isolated from larger areas of habitat. Note that many covenanted sites are very small and isolated, and are therefore unlikely to meet this criterion.
4(b) The *ecological site* plays an important	The assessment is made at the scale of Northland Region or the relevant ecological district. This criterion seeks to	**Important wetland functions (meets threshold):** • Extensive floodplain swamp forest wetlands in the Manganui River Complex in

Criteria	Guidelines	Examples
hydrological, biological or ecological role in the natural functioning of riverine, lacustrine, palustine, estuarine, plutonic (including karst), geothermal or marine system.	identify examples of wetlands that provide wider benefits to areas and ecosystems beyond their immediate boundaries.	Tokatoka Ecological District. • Wetlands on a river floodplain that are hydrologically connected to a river. • Riparian wetlands on streams that flow into a coastal lagoon. • Wetlands that provide an important seed source for other wetlands in the catchment. **Low wetland functionality (unlikely to meet threshold for this criterion):** • An isolated valley floor swamp in the catchment of a small second order stream. • Small ephemeral wetlands on terraces with no hydrological connections to streams or rivers. • Toe slope fens in intensively-farmed catchments, recognising that the size threshold may be met if the sites are characterised predominantly by indigenous vegetation.
4(c) The *ecological site* is an important habitat for critical life history stages of indigenous fauna including breeding/ spawning, roosting, nesting, resting, feeding, moulting, refugia or migration staging point (as used seasonally, temporarily or permanently).	This criterion places importance on areas of vegetation or habitat that provide important habitat for indigenous fauna. This can apply to common fauna, so long as the habitat is an important one, for example, an area of forest that supports a large number of indigenous species of avifauna or large numbers of particular species. Many indigenous fauna species congregate on a seasonal or daily basis and these congregation sites will often be important and rank as significant under this criterion.	**High fauna habitat value (meets threshold):** • Any site that supports seabird colonies, e.g. ōi (grey-faced petrel; *Pterodroma macroptera*) at Bream Head and Cape Reinga; spawning sites for indigenous fish, high tide bird roosts in estuaries, wetlands with habitat for black mudfish or Northland mudfish (*Neochanna heleios*); exotic trees that provide known roosting habitat for long-tailed bats (*Chalinolobus tuberculatus*). The Draft National Policy Statement on Indigenous Biodiversity suggests that exotic plantation forests should not be classified as being significant (BCG 2018). It is recognised, however, that exotic habitats in Northland can provide important habitat and corridors for mobile fauna, e.g. long-tailed bats in pine plantations and North Island brown kiwi in exotic forest and orchards in Kerikeri Ecological District. Rather than SNA status, such known habitats could potentially be subject to different District Plan provisions. For example, they might require: - Monitoring and maintenance to ensure that values are maintained or enhanced. - Changes to other land uses could become discretionary or non-complying. **Moderate fauna habitat value (meets threshold):** • For example, small saline-freshwater ecotones that supports vegetation used by inanga as spawning habitat, e.g. oioi salt meadow grading into *Bolboschoenus* and associated freshwater riparian sedges and grasses. **Low fauna habitat value (does not meet threshold for this criterion):** • Intensively grazed exotic pasture.

the assessor should list the reasons why the site does or does not qualify against each criterion and indicator. This will help to reduce the subjectivity of the assessment, and allow a peer reviewer to assess its accuracy. Some of the criteria and indicators overlap to a degree, but each should be assessed independently.

6. CONCLUSIONS

Northland Region is large and diverse, and contains many features of considerable value for indigenous biodiversity. These features include large tracts of indigenous forest including kauri forest, wetland complexes, regenerating scrub and shrubland, large harbours and estuaries, wet heathlands (including gumland), and extensive coastal ecosystems including forests and dunelands. On the other hand, indigenous vegetation and habitats have been lost from large parts of the Region, and often only tiny remnants remain of originally extensive ecosystems. Significance criteria therefore need to be associated with guidelines that ensure appropriate interpretation, and that appropriate thresholds are used in different parts of the Region.

A review of the guidance provided with significance criteria sets used elsewhere in New Zealand showed wide variation between different districts and regions, although common features were present in the guidance provided for the criteria sets developed most recently. These include detailed interpretation of criteria using additional text and examples.

Guidelines and examples provided in this report should assist with appropriate application of the criteria set within Northland Region.

ACKNOWLEDGMENTS

This project was undertaken for Far North District Council, Whangarei District Council, and Kaipara District Council. Useful comments on the draft report were provided by Lisa Forrester (Northland Regional Council), Andrew Townsend (Department of Conservation), James Griffin (Northland Regional Council), Paul Waanders (Kaipara District Council), and Alice Holsted (Far North District Council).

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NORTHLAND RPS CRITERIA SET FOR SIGNIFICANT INDIGENOUS VEGETATION AND SIGNIFICANT HABITATS OF INDIGENOUS FAUNA IN TERRESTRIAL, FRESHWATER AND MARINE ENVIRONMENTS

An area of indigenous vegetation or habitat(s) of indigenous fauna is significant if it meets one or more of the following criteria:

Note:
i) These criteria are intended to be applied by suitably qualified and experienced ecologists.
ii) The meaning of underlined italicised terms is described in ***'Definitions'.***

1. Representativeness

(a) Regardless of its size, the *ecological site* is largely indigenous vegetation or habitat of indigenous fauna that is representative, typical or characteristic of the natural diversity at the relevant and recognised ecological classification and scale to which the *ecological site* belongs:
   i. if the *ecological site* comprises largely indigenous vegetation types; and
   ii. is typical of what would have existed circa 1840; or
   iii. is represented by faunal assemblages in most of the guilds expected for the habitat type; or

(b) The *ecological site*
   i. is a large example of indigenous vegetation or habitat of indigenous fauna, or
   ii. contains a combination of landform and indigenous vegetation and habitat of indigenous fauna, that is considered to be a good example of its type at the relevant and recognised ecological classification and scale.

2. Rarity/distinctiveness

(a) The *ecological site* comprises indigenous ecosystems or indigenous vegetation types that:
   i. are either Acutely or Chronically Threatened[1] land environments associated with LENZ Level[2]); or
   ii. excluding wetlands, are now less than 20% of their original extent; or
   iii. excluding *man made wetlands*, are examples of the wetland classes[3] that either otherwise trigger Appendix 5 criteria or exceed any of the following area thresholds[4] (boundaries defined by Landcare delineation tool[5]);

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1 Walker S., Cieraad E., and Barringer J. 2015: The threatened environment classification for New Zealand 2012: a guide for users. Landcare Research Report LC2184. Landcare Research, Lincoln. 27 pp.

2 Landcare Research in Land Environments New Zealand (LENZ).

3 Johnson P. and Gerbeuax P. 2004: Wetland types in New Zealand. Department of Conservation, Wellington, New Zealand.

4 The area thresholds for wetlands types in these criteria have been developed by ecologists to act as a trigger to identify indigenous wetlands, which due to their scale alone are likely to have significant biodiversity value above this size threshold. Wetlands of a smaller size may also be considered significant if other criteria are met (such as the presence of threatened species).

5 Clarkson B.R. 2013: A Vegetation tool for wetland delineation in New Zealand. *Landcare Contract Report No. LC1793*. Prepared for Meridian Energy Ltd. 62 pp.

a) Saltmarsh greater than 0.5 hectare in area; or
b) Shallow water (lake margins and rivers) greater than 0.5 hectare in area; or
c) Swamp greater than 0.4 hectare in area; or
d) Bog greater than 0.2 hectare in area; or
e) Wet Heathlands greater than 0.2 hectare in area; or
f) Marsh; Fen; Ephemeral wetlands or Seepage/flush greater than 0.05 hectares in area.

(b) Indigenous vegetation or habitat of indigenous fauna that supports one or more indigenous taxa that are threatened, at risk, data deficient or uncommon, either nationally or at the relevant ecological scale.

(c) The *ecological site* contains indigenous vegetation or an indigenous taxon that is:
i. Endemic to the Northland-Auckland region; or

ii. At its distributional limit within the Northland region;

(d) The *ecological site* contains indigenous vegetation or an association of indigenous taxa that:
i. is distinctive of a restricted occurrence; or
ii. is part of an *ecological unit* that occurs on an originally rare ecosystem[1]; or
iii. is an indigenous ecosystem and vegetation type that is naturally rare or has developed as a result of an unusual environmental factor(s) that occur or are likely to occur in Northland; or
iv. is an example of nationally or regionally rare habitat as recognised in the New Zealand Marine Protected Areas Policy.

3. Diversity and pattern

(a) Indigenous vegetation or habitat of indigenous fauna that contains a high diversity of:
i. Indigenous ecosystem or habitat types; or
ii. Indigenous taxa;

(b) Changes in taxon composition reflecting the existence of diverse natural features or ecological gradients; or
(c) Intact ecological sequences.

4. Ecological context

(a) Indigenous vegetation or habitat of indigenous fauna is present that provides or contributes to an important ecological linkage or network, or provides an important buffering function; or
(b) The *ecological site* plays an important hydrological, biological or ecological role in the natural functioning of riverine, lacustrine, palustrine, estuarine, plutonic (including karst), geothermal or marine system; or
(c) The *ecological site* is an important habitat for critical life history stages of indigenous fauna including breeding / spawning, roosting, nesting, resting, feeding, moulting, refugia or migration staging point (as used seasonally, temporarily or permanently).

[1] Williams P.A., Wiser S., Clarkson B. and Stanley M.C. 2007: New Zealand's historically rare terrestrial ecosystems set in a physical and physiognomic framework. *New Zealand Journal of Ecology 31(2)*, 119-128 pp.
Landcare Research hold a database of naturally rare (also known as 'originally or historically rare' or 'naturally uncommon') ecosystems and this excludes permanently wet areas of water bodies and below mean high water springs. On request Landcare Research can confirm where these ecosystems are known to be present.

Definitions

Ecological site: the area under assessment comprising one or more ecological units. Ecological sites are comparable with each other at relevant and recognised scales within the landscape. Current ecological classification systems include the ecological districts framework, freshwater biogeographical units and LENZ, and are expected to evolve in terrestrial, freshwater and marine environments as new information and technology develops.

Ecological unit: Any combination of indigenous vegetation types (or suite of interrelated types) plus the landform they occur on. The Ecological Unit may include exotic vegetation types where they support indigenous fauna.

Man-made wetlands*:* These are wetlands developed deliberately by artificial means or have been constructed on sites where:

a) Wetlands have not occurred naturally previously; and
b) The current vegetation cover cannot be delineated as indigenous wetland; or
c) Man-made wetlands have been previously constructed legally.

Man-made wetlands do not include *induced wetlands*; *reverted wetlands* or wetlands created for conservation purposes for example as a requirement of resource consent.

Examples of man-made wetlands include wetlands created and subsequently maintained principally for or in connection with:

a) Effluent treatment and disposal systems; or
b) Stormwater management; or
c) Water storage; or
d) Other artificial wetlands and water bodies including or open drainage channels (that have been legally established) such as those in drainage schemes).

These may contain emergent indigenous vegetation such as mangroves, rushes and sedges.

Induced wetlands: These are wetlands that have formed naturally on ecological sites where wetlands did not previously exist, as a result of human activities such as construction of roads, railways, bunds etc. While such wetlands have not been constructed for a specific purpose, they can be considered to be artificial in many cases given they arise through physical alteration of hydrology through mechanical human modification.

However, these should be assessed on their ecological merits i.e. are not excluded from any Appendix 5 significance criteria.

Reverted wetlands: Where a wetland reverts over time (e.g. stock exclusion allows a wetland to revert to a previous wetland state). In this instance, the wetland has not been purposefully constructed by mechanical change to hydrological conditions.

Indigenous wetlands of this sort should be treated as natural wetlands and not excluded from any Appendix 5 significance criteria.

NORTHLAND REGIONAL COUNCIL SUMMARY OF WET HEATHLANDS (INCLUDING GUMLANDS) IN NORTHLAND

Source: Lisa Forest, unpubl. Document, Northland Regional Council

NORTHERN HEATHLANDS

What is a Heathland?

Northern heathlands are plant communities on extremely infertile soils characterised by stunted woody plants with small leathery leaves, rush-like plants and ferns. Variations in plant communities are mainly related to soil type, drainage and past fires. Heathlands occur in many countries. In New Zealand they embrace a medley of habitats from pakihi on the West Coast of the South Island to the gumlands and dry heathlands of the Far North.

Heathland can be divided into well-drained or seasonally wet sites. Often heathlands are a mosaic of different sites with low fertility plant species. Wet heathlands are prone to waterlogging but are usually parched dry in summer. These sites are dominated by plants which tolerate wet conditions and are therefore classified as wetlands but, unlike many other wetland types they form little peat because of the seasonal nature of the waterlogging. In Northland the drainage in wet heathland is impeded by formation of a pan, usually of either silica or ironstone. Heathlands on ironstone soils are less common than gumlands. which are associated with silica clay pans that formed under ancient kauri forest.

Heathlands, especially on drier sites, are prone to fires which help to maintain them. Fires clear vegetation and further deplete the soils of nutrients when rain washes away any nutrients in the ash.

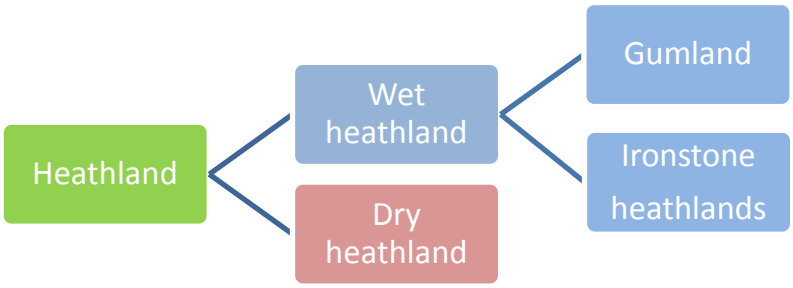


Figure 1: Common heathland types of Northland.

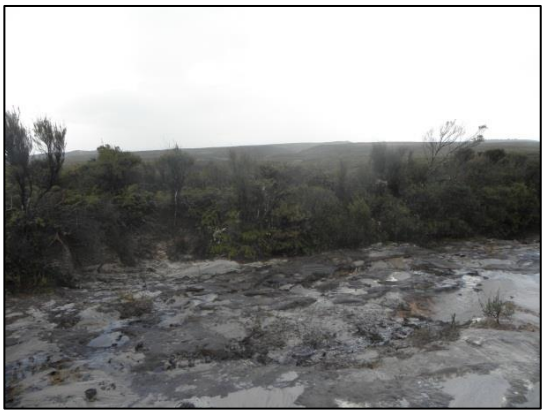
What is a Gumland?

A gumland is a rare wet heathland type confined to Northland, Auckland and Coromandel north of latitude 37 deg S. Gumlands formed where kauri once grew and occur from sea level to over 300m a.s.l. They are found on flat to rolling land and contain deposits of kauri gum from successions of kauri forests which grew hundreds or thousands of years ago. Gumlands are characteristically mosaics of vegetation which reflect underlying soil drainage, nutrient levels and recent disturbance. Gumland vegetation is therefore often found with drier heathland and sometimes with low fertility wetlands (bogs) in the permanently wet hollows. Disturbance, breakage or erosion of the silica pan can expose more fertile material beneath changing the drainage and favouring regeneration of forest species. Less commonly, soil profiles show evidence of two or even more kauri induced pans.

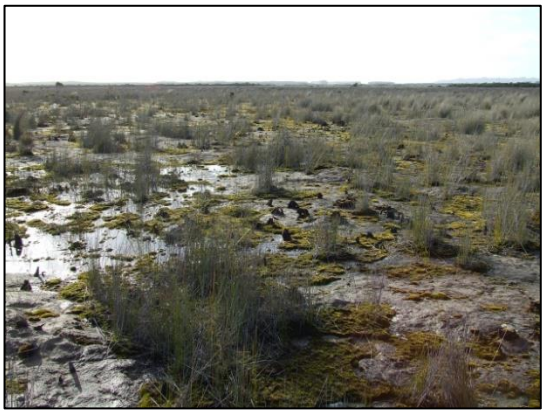
How Do Gumlands Form?

Kauri drops acid litter. Over generations of trees the acidity causes nutrients and organic materials to leach out of the soil leaving behind silica-rich pale greyish subsoil. This is called a podzol and can be localised under individual kauri trees (egg cup podzols). Many Northland soils have been influenced by kauri from the weakly podzolised soils of much of Northland's hill country to the strongly podzolised soils of Wharekohe, Kara and the rolling country west of Kaikohe.Over time the podzolised layer becomes almost pure silica and this cements to become a hard pan which is impermeable to water and causes the surface waterlogging that characterises gumlands as wetlands. Podzols (gumland soils) can occur over a number of different sedimentary or sand soil types. Some of these soils contain iron which may oxidise as a crust under the pan.

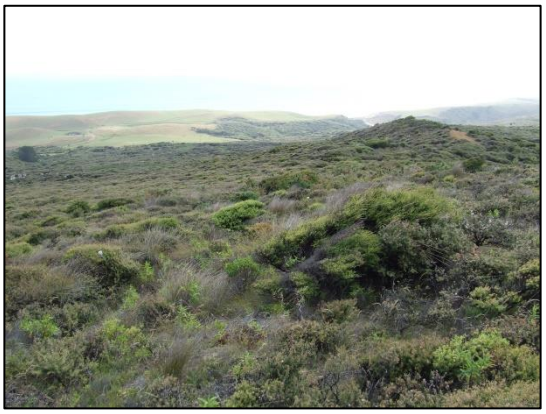
An egg cup podzol formed under a (former) kauri on Te Kopuru sand soil - Omamari Station.



Gumland on the Ahipara Plateau showing eroding hardpan with a layer of peat and wetland vegetation on top.



Exposed gumland pan and kauri peg roots on the bed of Lake Ohia. Past changes in sea level have contributed to waterlogging of the soil profile.



Heathland near Waimamaku.

Ironstone Heathlands

Ironstone heathlands are induced by extreme weathering (laterisation) of iron and aluminium to produce an ironstone pan with a clay layer beneath, e.g. Okaihau soils. Because of the pan the drainage is impeded and the surface of the ground may be waterlogged. Infertility and poor drainage give rise to wetland vegetation which is similar in character to gumland. The biggest example of this occurs around Kerikeri Airport.

Dry Heathland

Fire induced and also very low fertility soils like sands.

Why are Heathlands Rare?

Heathlands contain unique and diverse plant communities and are suffering widespread habitat loss and extinctions both in New Zealand and overseas. In New Zealand gumlands once covered more than 300,000 hectares but today little more than a few thousand hectares remain. Some heathlands probably originated after Polynesian settlement and were maintained by repeated fires. Gumlands were further modified by European gum digging which supported a large industry exporting kauri gum to Europe and North America where it was used for manufacture of paints, varnishes and linoleum. Nearly all of the major areas of gumland were worked over for gum and still bear the scars of old drains and gum holes. After the Second World War improved farming techniques allowed areas of low fertility heathland to be developed for agriculture, forestry and other land uses. Development continues today.

What are the Main Threats to Heathland?

Nutrient enrichment from agriculture, forestry and horticulture are a major threat to low fertility habitats because an increase in soil fertility favours different plant communities. The other main threat is weed invasion especially of nitrogen fixing woody exotic plants such as gorse and wattle, which also increase soil fertility. Prickly hakea is the most common heathland weed and invasion by wildling pines is becoming more noticeable. Development of heathlands still continues today. A number of coastal townships such as Mangawhai and Whatuwhiwhi are built over heathlands and there is still pressure on these coastal heathland sites for subdivision.

What Effect has Fire had on Heathland?

There is little doubt that fire frequency increased after the arrival of humans in New Zealand leading to the expansion of heathland onto soils capable of supporting forest. However there is evidence that there were large areas of heathland before the arrival of man and datings of ancient kauri stumps and roots on the Ahipara Plateau confirm this. In the absence of fire it is likely that the vegetation on the better drained and more fertile soils will succeed to forest. For the less fertile and poorer drained sites growth rates are so slow that succession to forest is unlikely even with long intervals between fires.

Some species in heaths are adapted to cope with fire. The rush-like sedges, *Machaerina*, *Lepidosperma* and *Schoenus*, all resprout from underground rhizomes so post-fire communities are often dominated by these plants. Manuka has woody fruits which release seeds after a burn and seeds of plants such as kumerahou survive fire in the seed bank. Burns are often patchy so some plants are able to colonise by wind dispersal from unburnt areas. Unfortunately fire also favours some of the fire-adapted exotic plants such as hakea and gorse.

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Significant Natural Areas (SNAs)

Northland Region

2019

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Wildland Consultants Ltd

- Rotorua 'Head Office'; other offices in Auckland, Hamilton, Tauranga, Whakatane, Wellington, Christchurch, Dunedin, Gisborne.
- Projects throughout New Zealand: ecological restoration, survey and monitoring, technical advice and solutions.

Mission Statement

Providing outstanding ecological services to sustain and improve our environments.

To provide high quality and cost-effective ecological information, advice, and technical services to enable clients to achieve sustainable management and enhancement of indigenous biodiversity, ecosystems, and resources.

Overview

- Why are we identifying and mapping significant natural areas (SNAs)?
- Preliminary stages – literature review, prepare significance criteria guidelines
- Mapping:
  - collated existing Geographic Information Systems (GIS) layers as reference
  - inspecting aerial photographs
  - desktop mapping of all sites in the Northland Region.
- Assessing all sites against the criteria to determine if they meet the criteria – examples of sites, site sheets and maps, and attribute spreadsheet
- Next steps

Northland's Biodiversity

- Parts of Northland have been extensively modified, although large tracts of indigenous forest remain together with threatened ecosystems such as dune lakes and gumlands.

- Northland supports many endemic invertebrate and plant species, and is a stronghold for North Island brown kiwi.

- Ongoing pressures from pest species, diseases (e.g. kauri dieback, myrtle rust), agriculture, and urban development. This reflects the general decline in biodiversity in Aotearoa/New Zealand. In rural landscapes, the losses are often small but cumulative – "death by a thousand cuts."

- Critical that significant indigenous habitats are identified to facilitate avoidance of further biodiversity loss.

The purpose of this project

- Under the Resource Management Act (RMA) 1991 local councils are required to provide for "the protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna" (RMA: Section 6(c)) as a matter of national importance.

- In order to address this matter, councils need to identify and assess the significance of areas of indigenous vegetation and areas of indigenous fauna habitat on private and publicly owned land, termed Significant Natural Areas (SNAs).

- Significant Natural Areas in Northland are areas of indigenous vegetation and habitat for indigenous fauna that meet criteria for significance within the Northland Regional Policy Statement (RPS).

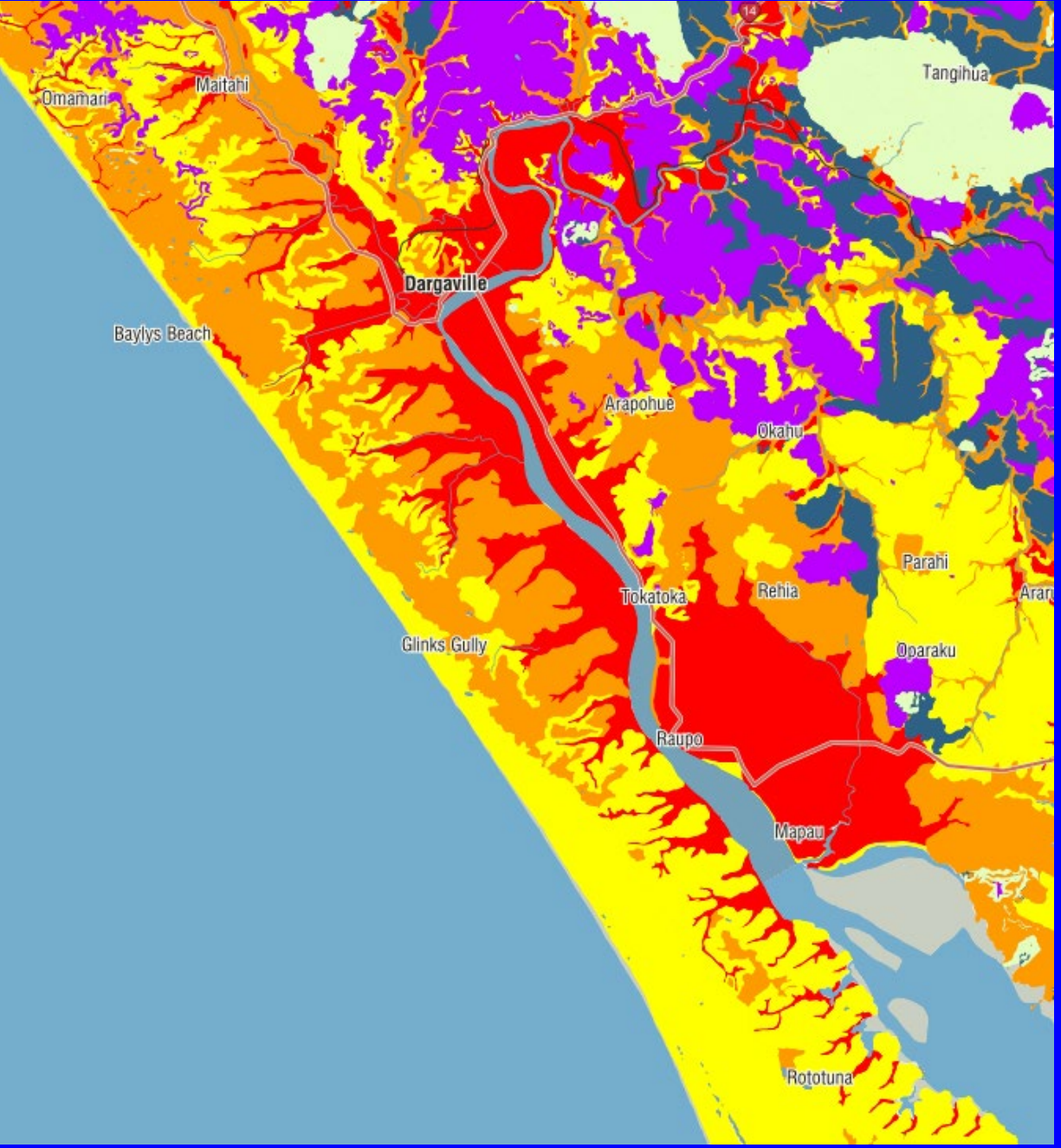
Kaipara District

- Covers 311,709 hectares on the south-west coast of the Northland Region. Includes all of Kaipara and Otamatea Ecological Districts and some of six other EDs: Rodney (Northland), Tangihua, Tokatoka, Tutamoe, Waipū, and Whāngārei

- Greatest losses of indigenous terrestrial ecosystems have occurred in the Kaipara District. Retains only 16% of its former indigenous cover; however, compared to most other parts of Northland, it has retained a relatively large area of wetland habitat (*c*.29%).

- Kaipara District has 34,219 hectares (11% of total area) classified at 'Acutely Threatened' and 63,468 hectares (20.4%) classified as 'Chronically Threatened' (Walker *et al.* 2015).

- Forty-seven 'Threatened' and 63 'At Risk' vascular plant species as per de Lange *et al.* (2018) are known from Kaipara District



- Red areas = ‘Acutely Threatened’ land environments. Environments with < 10 % indigenous cover left. In these environments, the loss of habitats for indigenous species has been greatest in the past, e.g. alluvial flats. Little indigenous biodiversity remains in these environments.

- Orange areas = Chronically Threatened land environments. Environments with 10-20% indigenous cover left. Indigenous biodiversity in these environments has been severely reduced and remaining habitats are sparsely distributed in the landscape.

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SNAs within public and private ownership in the Northland region

- Area of SNAs on Council owned land = 3,531hectares
- Area of SNAs on land administered by the Department of Conservation = 177,830 hectares
- Area of SNAs on private owned land = 230,621 hectares

District	Private	Council	DOC
Far North District	152,693	2,704	105,012
Whangarei District	48,495	310	57,314
Kaipara District	29,432	494	15,277

Kaipara's special natural features

Coastal forest. Maunganui Bluff, Aranga.

Dune lakes. Shag Lake, Omamari.

Kauri forest, Waipoua.

Wetlands (bogs) in consolidated dunes near Aranga.

Kaipara's special natural features

Dune lake, Aranga.

Remnant of mature taraire forest, Aranga.

Duneland, Omamari.

Remnant kahikatea forest on alluvial flats near Dargaville.

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Literature Review

Prior to mapping and assessing potential significant natural areas, Wildlands has prepared a literature review on the Northland region.

The outcome of the literature review was an understanding of the ecological characteristics of the Northland region and identification of any information gaps.

The objectives of the review for each district were to:

- Prepare a list of informative sources for the project
- Describe the ecological characteristics
- Quantify the amount of different landcover types
- Break down each District into the five Threatened Land Environments as per Walker *et al*. (2015)
- Summarise the number of nationally and regionally significant taxa
- Identify information gaps
- Summary of biodiversity of each Ecological District.

Key Knowledge Gaps

- Many of these reports are relatively old (20+ years), which means recent land use and modifications are not captured in these documents.
- Over the last 20-35 years many natural areas in Northland have been mapped and described in Protected Natural Area Programme reports, and these have been prepared for each ecological district.
- Some Protected Natural Area Programme sites have been cleared, drained or extensively modified. Conversely, some areas of pasture or gorse have reverted to indigenous vegetation.
- There are other more recent databases of subsets of areas.
- There are many natural areas that are not mapped or documented in any existing data sets.
- Limited knowledge of cryptic fauna, e.g. lizards, land snails and other invertebrates.
- Large areas likely to be under-surveyed for threatened taxa, e.g. lizards and long-tailed bats.
- Currently lacking up-to-date lists identifying regionally significant plants and animals.

Significance Criteria

Significance criteria are based on Appendix 5 of the Northland Regional Policy Statement.

Four criteria are:

- Representativeness, e.g. indigenous vegetation that is typical of what would have existed circa 1840.
- Rarity/distinctiveness, e.g. presence of threatened habitat types or threatened indigenous taxa.
- Diversity and pattern, e.g. intact ecological sequences.
- Ecological context, e.g. site provides important ecological linkage or network, or provides and important buffering function.

Wildlands has provided a finalised version of the significance guidelines, which is currently being used to assess potential SNAs.

Examples of Potential SNAs

Forest remnant identified in the PNAP survey for Tokatoka Ecological District.

Forest remnants identified in the PNAP survey for Waipu Ecological District.

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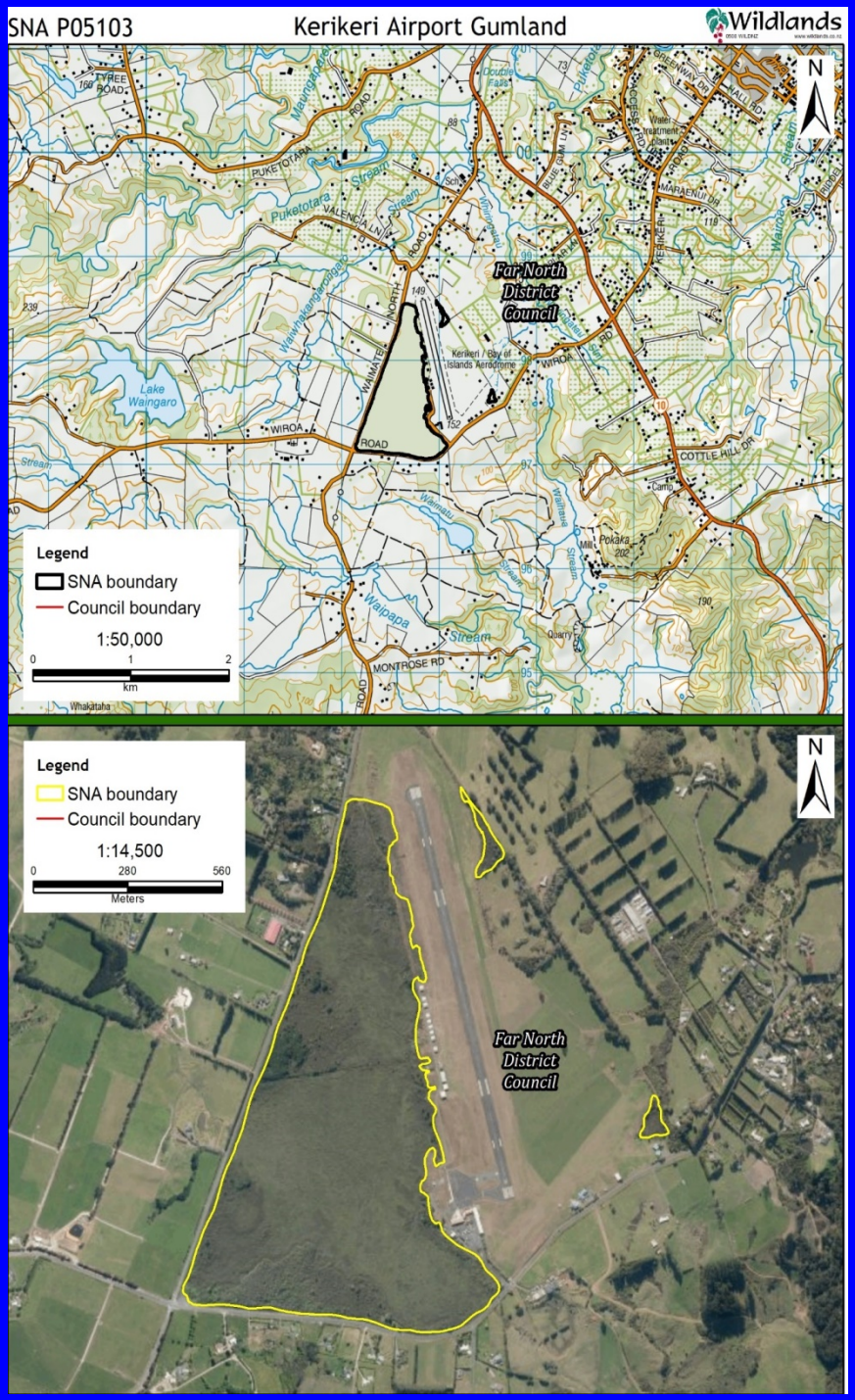

Example of SNA Site Map

Each map includes:

- Site boundary
- Unique identifier number
- Site name
- Aerial photograph
- Topographic map

Forest remnant identified in the PNAP survey for Tokatoka Ecological District.

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Mapping methodology

Wildlands GIS team prepares a series of A0 sized sheets (in PDF format) for each District.

Ecologists inspect each sheet and draw edits and make comments.

The GIS team make those edits in QGIS, which are then checked by the ecologists before being finalised.

Mapping edits most commonly include:

- Boundary adjustments to include indigenous vegetation or exclude exotic vegetation.
- Adding smaller remnants to the same SNA as a larger ‘parent site’.
- Identifying sites that would benefit from ground-truthing.

Example of mapping edits

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Note
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Goldie
Options
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DOC
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3.11 X 46.81 inch

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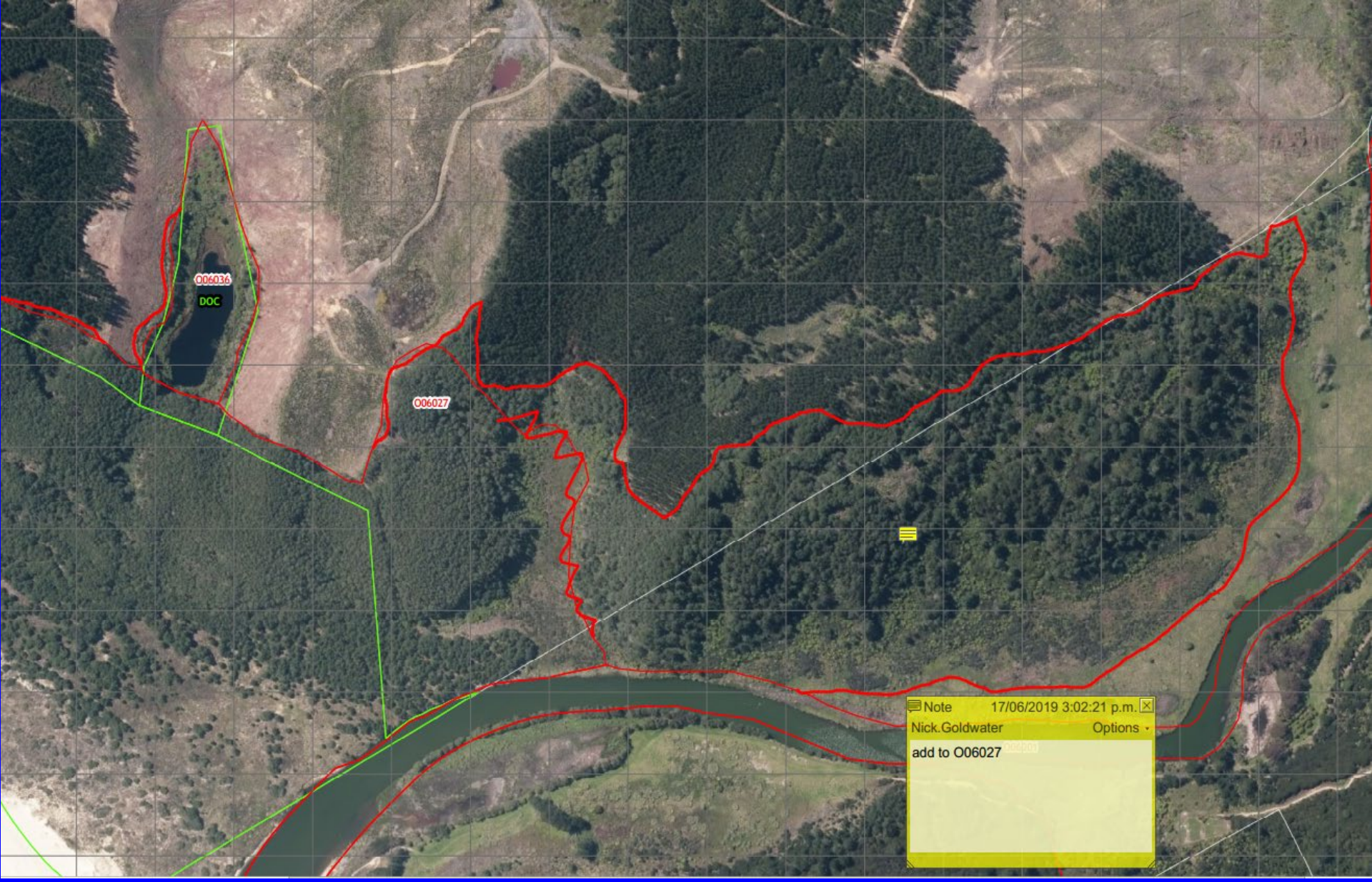
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Assessing Significance in the Field

Degraded wetland with some indigenous component.

Small unfenced forest remnant.

Assessing Significance in the Field

Small swamp dominated by indigenous plant species.

Not significant (<4,000 m^2)

Degraded bog dominated by indigenous plant species.

Significant (>2,000 m^2)

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Significant?

Yes. Part of significant natural area identified in Manaia Ecological District – Ocean Beach Recreation Reserve and Surrounds.


Significant?
No. Not included as a Protected Natural Areas Programme in the Tutomoe Ecological District survey, but this could change as the indigenous vegetation develops.

Significant?

No. Patches of indigenous treeland are not included.

Drive by surveys

Objectives of the surveys:

(i) to check boundaries that may not look correct on the maps
(ii) confirm new sites that may not be currently be mapped as SNAs, (e.g. wetlands)
(iii) confirm the status of existing SNAs that may have since been degraded by, for example, weeds and/or drainage, i.e. are they still SNAs?

Surveys completed for Kaipara and Far North in early June.
Survey for Whangarei to be completed in July/August.

What did we find?

- Wetlands and dune lakes not being mapped.
- Mature riverine forest (totara-dominated) not mapped.
- Remnants of mature broadleaved forest not mapped.
- Small but intact remnants of alluvial not mapped.
- Moderate-sized remnants of kanuka scrub not mapped.
- Lack of consistency between sites.

Indigenous wetland, Glinks Gully.

Riverine forest, Taipuha.

Alluvial kahikatea forest, near Matakohe.

Raupō reedland, Omamari.

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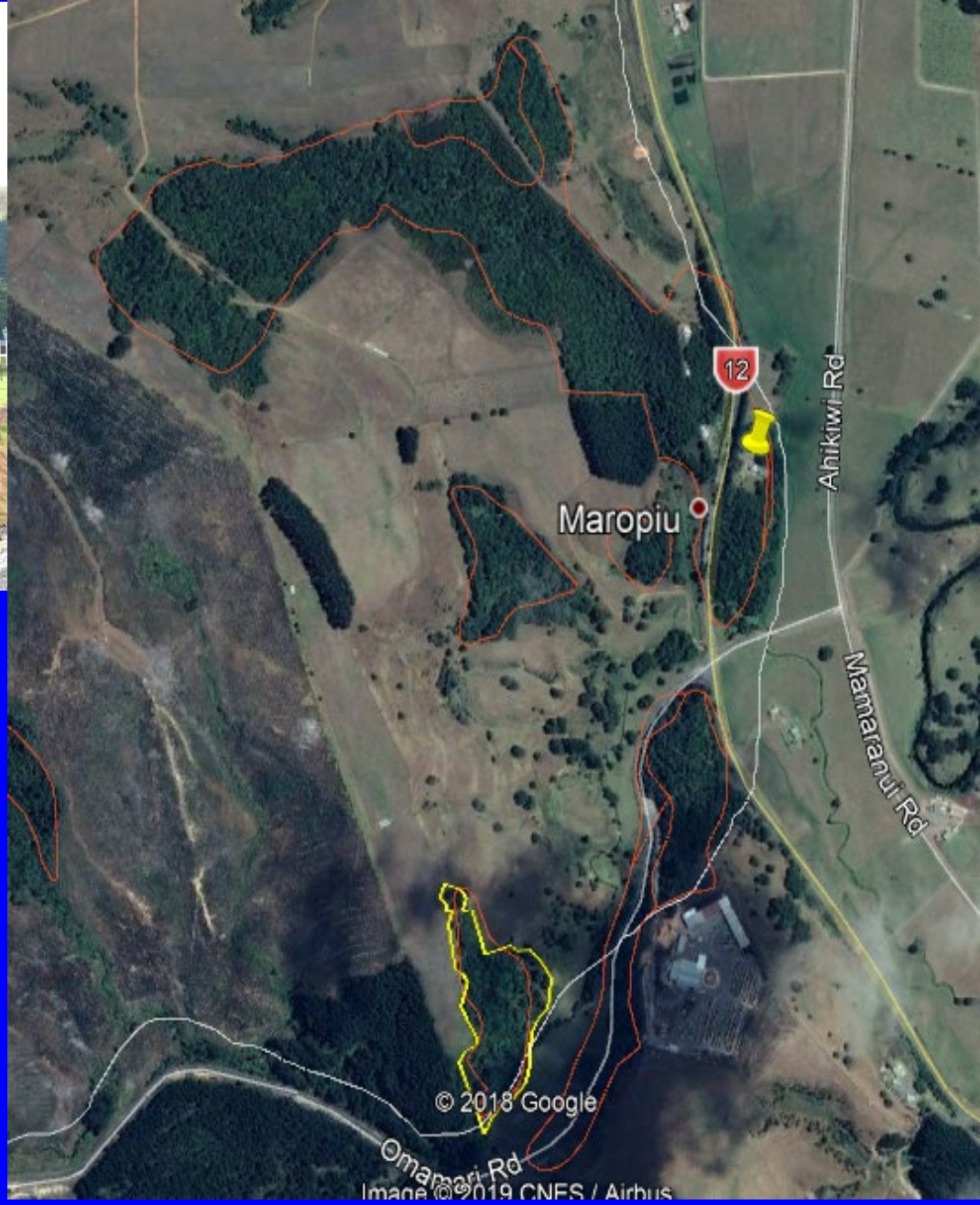
Representative example of kauri-podocarp-broadleaved forest that should be included as an SNA. State Highway 12, Maropiu.



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Next Steps …

- At the completion of the assessment, Wildlands will provide Councils with a GIS layer containing all potential significant natural areas.
- Process after this has yet to be determined by each Council, but could follow the steps outlined below.
- Layer overlaid onto properties, and property owners notified by each Council.
- Property owners can then get in touch with Council to request a site visit.
- On request of the owner, Wildlands to undertake ground-truthing surveys of sites or parts of sites that:
  (a) cannot be properly assessed using aerial photography and background literature; or
  (b) sites that property owners may disagree are significant natural areas (site visit will determine if site is significant and whether or not boundary changes are required).

ASSESSMENT OF NORTHLAND'S INDIGENOUS BIODIVERSITY WORK PROGRAMME - DRAFT TIMELINE (28 MAY 2019)

Task	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20
Contract signed																								
Project team meeting - all parties																								
Meet with key stakeholders																								
Councils to confirm which reporting option they wish to use																								
Undertake literature review																								
Write guidelines for significance assessment.																								
Peer review guidelines significance assessment																								
Finalise guidelines for significance assessment																								
Drive-by reconnaissance (if this option chosen)																								
Undertake mapping and signficance assessments (start dependent on completion of significance assessment guidelines)																								
Provide a generic powerpoint which can be adapted for use by each Council for presentations to councillors etc as required																								
Present workshops at community halls and marae throughout each region - to be confirmed																								
Finalise report of desktop analysis																								
Send out letters to landowners for field work.																								
Undertake ground-truthing based on landowner responses																								
Update GIS layer, sites, and report based on ground-truthing																								

Policy Status Report

Meeting: **Kaipara District Council Briefing**
Date of meeting: **04 July 2019**
Reporting officer: **Kathie Fletcher, Policy Manager**

Purpose/Ngā whāinga

To inform Council on current policy development and priorities within the Policy Team.

Context/Horopaki

This report is to provide a brief update on the status of significant projects which are currently being worked on by the Policy Team. This is to keep the Council informed on progress and where our current priorities lay.

It is timely as we move into the next financial year and Council elections, to provide this status report as a stocktake of the policy work we are doing.

Discussion/Ngā kōrerorero

Document	Comment	Priority level
Bylaws		
Consolidated General Bylaw	Working on final drafting amendments. Will need a plain English review and final legal overview before ready to consult on.	**High**
Trade Waste Bylaw	Bylaw has been drafted. Content is being tested and discussed amongst waters, regulatory and policy teams.	**Medium**
Stormwater Bylaw	Draft bylaw being discussed amongst waters, regulatory and policy teams.	**Low**
Policies		
Te Reo Policy	This is a new initiative for Council to consider. The Policy will seek to provide a consistent approach to how Council use Te Reo to provide for and enhance the partnership between Mana Whenua and Council, while acknowledging cultural identity and connections in Kaipara.	**Low**
Internal and Independent Commissioners Policy	Completing track changes based on Regulatory Working Group and Council's feedback. Need to consult with key staff to check draft policy is operational. Will then take back to Regulatory Working Group for final overview before taking to Council meeting.	**High**
Environmental Awards Policy	Draft policy for ET and Council discussion.	**Medium**

Document	Comment	Priority level
Earthquake Prone Building Policy	Complete draft policy for Council discussion.	**Low**
Strategies		
Freedom Camping	Options being explored as to whether Council should have a policy, strategy or bylaw. More information to consider has come to the attention of staff. At this stage we are thinking it is a strategy we need, taking into consideration PGF wharves project and infrastructure opportunities, walking and cycling strategy, general asset management plans and draft toilet strategy.	**Medium**
Reserves and Open Spaces Strategy (ROSS)	Draft ROSS being prepared to workshop with Council.	**High**
Mana Whenua partnerships		
Kaipara Moana Treaty Negotiations	Ongoing.	**High**
Te Uri o Hau Memorandum of Understanding	With Te Uri O Hau Trust Board for final overview, will then come to ET and Council for any amendments or agreement to re-sign.	**High**
Te Roroa Mana Enhancing Agreement	Suggested changes by Council to be discussed with Te Roroa.	**High**
Marine and Coastal Area Act (MACA) claims	Starting to attend hearings on claims. A lot more work to come.	**Medium**
Climate Change		
Zero Carbon Bill submission	Contribution to Tai Tokerau Climate Change Working Group submission to central government on adaptation provisions on Bill.	**High**
Tai Tokerau Climate Change Adaptation Strategy and Communications Plan	Contributing to the drafting of these documents.	**High**
Kaipara District Council Climate Change Adaptation Strategy and Communications Plan	Begin drafting these documents	**High**
Kaipara District Council Key Messages	Complete messages, workshop with CC Steering group and Council.	**High**
District Plan Review		
District Plan review - planning, prioritising and budget allocation	Internal planning being conducted to ensure that budgets are prioritised and allocated appropriately for next stage of work programme.	**High**

Document	Comment	Priority level
Spatial planning	AR Associates contracted to undertake spatial planning for Dargaville, Maungaturoto and Kaiwaka. Work has begun, data sharing and community engagement planning underway. Mangawhai spatial planning will be conducted by Campbell Brown Ltd.	**High**
Mana Whenua rohe tours	Progressing logistics planning for tours and Mana Whenua participation in the review. Tours commence in November 2019. Three day trip with Te Uri O Hau visiting landscapes/sites of significance and marae (25/11, 26/11, 27/11), one day trip with Te Roroa visiting landscapes/sites of significance and marae (22/11). Will capture stories on film and feedback on DP changes and future provisions involving key hapu, iwi and marae representatives in DP review.	**High**
Outstanding Natural Features	Discussion paper outlining potential policy direction being drafted for discussion with Council.	**Medium**
Significant Natural Areas	Ground-truthing of methodology with staff and Mana Whenua completed. Mapping of areas near completion. Report from Wildlands due in November.	**High**
Environmental Engineering Standards	Complete options on how the revised standards may be referenced in future plan.	**Medium**
Heritage Planning	Identify all heritage and social infrastructure in Kaipara.	**Medium**
Effectiveness and Efficiency Report	Draft a report to assess current DP anomalies and issues.	**Medium**
Taharoa Domain		
Monitoring and assessment of the implementation of the Kai Iwi Lakes (Taharoa Domain) Reserve Management Plan 2016	Participate in a workshop with the Taharoa Domain Governance Committee to assess progress on the management actions within the Reserve Management Plan.	**Medium**
Dune Lakes Galaxias Working Group	Support administration and research programme.	**Medium**
Provincial Growth Fund		
Northland Water Storage and Use	The Policy Team continue to be engaged in the Project Management Group. Council is represented on the Project Steering Group by its Chief Executive.	**High**
Kaipara Kick Start	Membership on Advisory Groups.	**Medium**

Document	Comment	Priority level
Pending matters		
Dome Valley landfill resource consent	Collate resource consent application documentation and prepare for a discussion with Council re position on KDC submitting on consent application.	**Medium**
Positive Ageing Policy	Research options.	**Low**
Children's Well-being Policy	Research options.	**Low**
RMA Amendments	Research implications for regulatory, planning and policy.	**Low**
Monitoring Policy	Design an internal policy monitoring regime.	**Low**

The Policy Team's focus has been on providing on sound policy rather than quick policy. It is hoped with two new senior policy planner/analysts that the Team will be able to drive the delivery of reliable and well-researched policy while gaining more traction on these projects.

Next steps/E whaiake nei

Complete drafting of high priority documents and discuss with Council, either in a briefing, workshop or as part of the Regulatory Working and Climate Change Steering Groups.

Kathie Fletcher, 18 June 2019

Contract 918 Mangawhai Wastewater Treatment Plant Upgrade 2018

Meeting: **Council Briefing**
Date of meeting: **04 July 2019**
Reporting officer: **Donnick Mugutso, Waters and Waste Manager**

Purpose/Ngā whāinga

To provide an update on the current progress of the planned upgrade of the Mangawhai Wastewater Treatment Plant (MWWTP) which forms part of the Mangawhai Community Wastewater Scheme (MCWWS).

Discussion/Ngā kōrerorero

The MWWTP is being upgraded to accommodate expected growth in the next 10 years.

The Cyclic Activated Sludge System (CASS) tanks (which receive the initial effluent from the community and removes the majority of solid material) is at capacity.

A design has been approved which will allow for the installation of extra aeration within the existing tanks and a fourth blower and associated pipework. This is predicted to provide sufficient capacity within the MWWTP to 2029 – an additional 70 connections per year for 10 years.

Other constraints, such as the treatment disposal, are also being addressed.

Good progress is being made with procurement well advanced:

- Site management will be undertaken by Broadspectrum.
- Masons Engineering has been engaged for installation of Blowers and associated pipework.
- Electrical services from McKays Ltd for all connection and SCADA works.
- Blowers from Howden Australia have been procured and expected late July 2019.
- Aeration system from Masons Engineering procured and expected August 2019.

The programme has been adjusted to align with changes to the maintenance contract (transferring to Broadspectrum). This will reduce programme and operational risk as it will be the responsibility of the contractors to manage the flows through the plant and maintain high quality standards throughout the upgrade construction.

Next steps/E whaiake nei

Continue with engagement of Contractors and finalise a programme of works with Broadspectrum.

Donnick Mugutso, Waters and Waster Manager, 24 June 2019