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2 May 2022

Kāpiti Coast District Council  
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Attention: Jason Holland

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Dear Jason,

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## **KĀPITI COAST DISTRICT PLAN REVIEW TREE MODIFICATION RULE 3A.2.2.1(A)**

### **Introduction**

The Kāpiti Coast District Plan is undergoing a limited review to address aspects of the plan that are not functioning in the way that was intended. One of these aspects relates to Controlled Activity Rule ECO-R6 of the Kāpiti Coast Proposed District Plan that is:

1. *The modification of indigenous vegetation must be limited to:*

- a) *modification of vegetation that is damaged, dead or dying; or has sustained storm damage; or is fatally diseased such that:*
  - i. *the indigenous vegetation is no longer independently viable or presents a risk of serious harm to people or property or risks damaging surrounding protected vegetation; and*
  - ii. *an arborist who has attained the New Zealand Qualifications Authority National Certificate in Arboriculture Level 4 or equivalent qualification has certified in writing that Condition (i) above is met.*

The full text of Rule ECO-R6 is provided in Table 1-1. below.

A resource consent application<sup>1</sup> was received by Kāpiti Coast District Council (KCDC) for the removal of 123 protected indigenous trees from within an Ecological Site in Waikanae on the basis that:

*"All vegetation proposed to be removed meets the criteria set out within Rule 3A.2.2<sup>2</sup> and is either dead or fatally diseased such that it is no longer independently viable as assessed by an arborist who has attained the NZQA National Certificate in Arboriculture Level 4"*

The full Ecosystems and Indigenous Biodiversity chapter from Operative District Plan is provided in Appendix A.

Given the matters of control specified in the rule, the Council was required to **grant** a resource consent to modify (remove) 104 trees within the Ecological Site. KCDC sought independent arboriculture advice and the 19 remaining trees were considered to be still viable.

A 45-lot residential subdivision consent application<sup>3</sup> was soon lodged with the KCDC for the same site following the granting of the resource consent to remove the 104 indigenous trees. The application shows the survey plan was prepared while the controlled activity consent to remove the trees was still being processed by the KCDC.

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<sup>1</sup> Resource consent reference RM200102.

<sup>2</sup> Note, the pre-National Planning Standards reference for Rule ECO-R6 was 3A.2.2.

<sup>3</sup> Resource consent reference RM200227.

Table 1-1 Full text of Controlled Activity Rule ECO-R6 Kāpiti Coast District Plan

<p><b>ECO-R6</b></p>	<p>The <i>modification</i> of any <i>indigenous vegetation</i>, that is:</p> <ol style="list-style-type: none"> <li>located within an ecological site listed in <a href="#">Schedule 1</a>; or</li> <li>a key indigenous <i>tree</i> listed in <a href="#">ECO-Table 1</a> and exceeds either of the maximum size criteria diameter or <i>height</i> (excluding <i>trees</i> planted by humans); or</li> <li>a <i>key indigenous tree</i> listed in <a href="#">Schedule 2</a>; or</li> <li>a <i>rare and threatened vegetation species</i> listed in <a href="#">Schedule 3</a>; or</li> <li>in or within 20 metres of a <i>waterbody</i> or the coastal marine area where it not within the <i>urban environment</i>, (excluding planted vegetation);</li> </ol> <p>is a <i>controlled activity</i> within the following <i>zones</i> and <i>precincts</i>:</p> <ul style="list-style-type: none"> <li>General Residential Zone</li> <li>Ngārara Development Area</li> <li>Waikanae North Development Area</li> <li>Airport Zone</li> <li>Town Centre Zone</li> <li>Metropolitan Centre Zone</li> <li>Hospital Zone</li> <li>General Industrial Zone</li> <li>Local Centre Zone</li> <li>Mixed Use Zone</li> <li>Rural Lifestyle Zone</li> <li>Rural Eco-Hamlet Precinct</li> <li>Future Urban Zone</li> <li>Open Space Zone</li> </ul>				
<p>Controlled Activity</p>	<table> <tr> <th data-bbox="327 1081 981 1131">Standards</th><th data-bbox="981 1081 1441 1131">Matters of Control</th></tr> <tr> <td data-bbox="327 1131 981 2022"> <p>1. The <i>modification of indigenous vegetation</i> must be limited to:</p> <ol style="list-style-type: none"> <li><i>modification</i> of vegetation that is damaged, dead or dying; or has sustained storm damage; or is fatally diseased such that: <ol style="list-style-type: none"> <li>the <i>indigenous vegetation</i> is no longer independently viable or presents a <i>risk</i> of serious harm to people or property or risks damaging surrounding protected vegetation; and</li> <li>an arborist who has attained the New Zealand Qualifications Authority National Certificate in Arboriculture Level 4 or equivalent qualification has certified in writing that Condition (i) above is met; or</li> </ol> </li> <li><i>Modification</i> of planted <i>indigenous vegetation</i> where the applicant can demonstrate that it was not planted for ecological restoration or enhancement purposes or as a <i>biodiversity offset</i>.</li> </ol> <p><b>Note:</b> For <i>notable trees</i> listed in <a href="#">Schedule 8</a> see <a href="#">TREE-R2</a>, <a href="#">TREE-R3</a>, and <a href="#">TREE-R4</a>.</p> <p><b>Criteria for notification</b> The written approval of persons will not be required and applications under this rule will not be served on any person or notified.</p> </td><td data-bbox="981 1131 1441 2022"> <ol style="list-style-type: none"> <li>The extent and method of vegetation removal.</li> <li>The location and timing of planting of any plant species to compensate for the loss of vegetation.</li> <li>Any remedial work necessary to restore the site after the <i>modification</i> activity is complete.</li> <li>Public safety.</li> <li>Measures to avoid, remedy or mitigate <i>effects</i> on <i>tāngata whenua</i> values.</li> </ol> </td></tr> </table>	Standards	Matters of Control	<p>1. The <i>modification of indigenous vegetation</i> must be limited to:</p> <ol style="list-style-type: none"> <li><i>modification</i> of vegetation that is damaged, dead or dying; or has sustained storm damage; or is fatally diseased such that: <ol style="list-style-type: none"> <li>the <i>indigenous vegetation</i> is no longer independently viable or presents a <i>risk</i> of serious harm to people or property or risks damaging surrounding protected vegetation; and</li> <li>an arborist who has attained the New Zealand Qualifications Authority National Certificate in Arboriculture Level 4 or equivalent qualification has certified in writing that Condition (i) above is met; or</li> </ol> </li> <li><i>Modification</i> of planted <i>indigenous vegetation</i> where the applicant can demonstrate that it was not planted for ecological restoration or enhancement purposes or as a <i>biodiversity offset</i>.</li> </ol> <p><b>Note:</b> For <i>notable trees</i> listed in <a href="#">Schedule 8</a> see <a href="#">TREE-R2</a>, <a href="#">TREE-R3</a>, and <a href="#">TREE-R4</a>.</p> <p><b>Criteria for notification</b> The written approval of persons will not be required and applications under this rule will not be served on any person or notified.</p>	<ol style="list-style-type: none"> <li>The extent and method of vegetation removal.</li> <li>The location and timing of planting of any plant species to compensate for the loss of vegetation.</li> <li>Any remedial work necessary to restore the site after the <i>modification</i> activity is complete.</li> <li>Public safety.</li> <li>Measures to avoid, remedy or mitigate <i>effects</i> on <i>tāngata whenua</i> values.</li> </ol>
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In light of the granting of the above-mentioned resource consents, KCDC is concerned that the rule (ECO-R6) is not being used as intended, which is resulting in potentially perverse outcomes. Concerns are primarily that the actual and potential effects on significant indigenous biodiversity and habitats of indigenous fauna that may be authorised under the rule may be contrary to the plan's objectives and policies, the RMA, and the Regional Policy Statement.

## Scope of works

KCDC has requested that Cardno now Stantec undertake a review of rule ECO-R6 to investigate the potential adverse ecological effects that may result from the current rule, and to provide recommendations on a potentially more appropriate approach from an ecology perspective that would ensure potentially perverse outcomes on significant indigenous biodiversity are prevented in the future. Copies of the abovementioned resource consents were provided to Cardno now Stantec to provide real-world examples of the issue identified with the district plan provisions.

Cardno now Stantec is to provide an understanding the values that may be affected by the potentially perverse use of ECO-R6, such as the presence of threatened species and effects on other healthy components of the site such as vines and epiphytes. The advice addresses whether a scale of effects element should be introduced and whether the rule should apply within an Ecological Site at all. KCDC would also appreciate a discussion on whether an ecological assessment should be required and whether a definition of 'independently viable' may be needed to better support this rule.

District plan policy on the Management Approach to Biodiversity Protections<sup>4</sup> seeks to avoid where practicable the modification of significant indigenous vegetation, in particular all indigenous vegetation within Ecological Sites. To do this, a re-assessment of this controlled activity rule against the Natural Environment Objectives and Policies, the RMA, and the Regional Policy Statement particularly for Ecological Sites needs to be undertaken.

As a real-world example is available to evaluate in the form of the abovementioned resource consent, our advice draws on this and focuses on the potential unanticipated ecological and biodiversity outcomes that may result from similar resource consents being granted in the future.

## Case Study - Description of ecological site affected by granted resource consent

The district plan describes the ecological values within the affected Ecological Site (Table 1-2).

This Ecological Site spans two properties (Figure 1-1).

The site subject to the resource consent for the removal of 104 protected indigenous trees is shown on Figure 1-1.

Approximately 27,000 m<sup>2</sup> (2.7 hectares) of Ecological Site K189 falls within the subject site.

Table 1-2 Brief ecological description of Ecological Site K189.

K189	Ngarara Road, Waikanae	Between Ngarara Road and Park Avenue, Waikanae 1,772,533 E 6,035,444 N	4.27 ha Foxton (4.27ha)	Kanuka treeland, wetland	Regenerating early successional forest type induced to treeland due to clearance and grazing, wetland is dominated by exotics; 1 kahikatea and 1 rimu in canopy; At Risk-Naturally Uncommon dwarf mistletoe ( <i>Korthalsella salicornioides</i> ) and common skink ( <i>Not Threatened</i> ) reported; acutely threatened land environment. Potential for restoration given moderate size but would require major effort removal of grazing, gaps in canopy planted, animal and plant pests controlled. Foxton ED RAP(2)-1	<b>Overall: Yes</b> RPS23a: Yes RPS23ab: Yes RPS23c: No RPS23d: No RPS23e: Unknown
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The rear portion of the subject site (nearest the new State Highway 1; SH1) is zoned as General Rural and the remainder of the subject site that contains the K189 is zoned as General Residential. There are several areas of Open Space adjacent to the subject site and a small area of Future Urban Zone.

<sup>4</sup> Policy ECO-P3.





Figure 1-1 Extent of Ecological Site K189 and the case-study subject site

The district plan also identifies that the subject site is within Special Amenity Landscape (SAL19) and is fully within the Coastal Environment and in the PREC48 - Rural Dunes Precinct.

The topography of the subject site is undulating dunes alternating with hollows. Much of the area comprises grassland, but the hollow in the middle portion of the site includes some treeland and wetland within Ecological Site K189 (Table 1-2).

### Ecological values

Ecological sites have been identified based on ecological values sufficient to meet Section 6(c) of the Resource Management Act (RMA 1991) – Matters of National Importance; and Greater Wellington Regional Council (GWRC) Regional Policy Statement for Wellington (RPS, GWRC 2015) Policy 23. This Ecological Site meets two of the RPS Policy 23 criteria; RPS23a representativeness and RPS23b rarity.

The undulating topography of the property reflects its history as part of the largest dune system in New Zealand (Foxton Ecological District; McEwen 1987). Wetlands and wet hollows occurred between the dunes. Less than 5% indigenous vegetation remains in this ecological district after clearance by both Māori and Europeans.

The property and the surrounding area are classified in the highest Threatened Land Environment classification (less than 10% indigenous cover left; Walker *et al.* 2015).

Indigenous ecosystems in dune systems were identified as national priorities for protection (Ministry for the Environment 2007).

It is estimated that only 10% of the original coverage of wetlands remains in New Zealand, that there is less than 3% of the original extent of wetland remaining in the Wellington Region and that this continues to decline further (Ausseil *et al.* 2008, 2017).

The GWRC Proposed Natural Resources Plan (pNRP) identifies in the definition of natural wetlands, that all natural wetlands will meet the representativeness and rarity criteria listed in Policy 23 of the Regional Policy Statement 2013 and therefore meet the definition of significant natural wetland.

K189 is described as kānuka treeland. This is confirmed to be *Kunzea amathicola*<sup>5</sup>, a species that is currently classified as Threatened–Nationally Vulnerable (de Lange *et al.* 2018), and classified as At Risk – Declining (de Lange *et al.* 2013) previously before the arrival of myrtle rust (*Austropuccinia psidii*). The increased threat ranking is because myrtle rust presents an additional threat to all myrtle species including this species.

Kānuka is also host for a species of dwarf mistletoe *Korthalsella salicornioides* which is classified as Threatened–Nationally Critical.

No species list is available for the subject site or K189 on the New Zealand Plant Conservation Network. Nearby plant lists include Nga Manu with 72 indigenous species including 3 Threatened plant species (Mitcalfe and Horne 2000) and 133 species including 12 Threatened and 8 At Risk plant species (WEA Field Group Wellington 1989) and Lion Downs Bush with 37 plant species (Anonymous 1972).

At least 90 indigenous plant species are recorded from the vicinity on iNaturalist including nationally and regionally threatened species such as: Taurepo (*Rhabdothamnus solandri*), large-leaved milk tree (*Streblus banksia*), swamp maire (*Syzygium maire*), green mistletoe (*Ileostylus micranthus*), climbing rātā (*Metrosideros fulgens*) and akatea (*Metrosideros perforata*). Nearby areas include 15 epiphytic and climbing plant species, 12 fern species, 13 orchid species and 3 podocarp species, and more than 200 indigenous fauna species.

There is a record in the Department of Conservation herpetofauna database of northern grass skink (*Oligosoma polychroma*) within K189 in the subject site, and various other species are known from within 5 km of the site and/or the subject site provides suitable habitat for these lizard species (Table 1-3).

Table 1-3 Lizard species that could occur at the case study site, their likelihood of occurrence and habitat requirements.

Scientific name	Common name	Conservation Status <sup>6</sup>	Likelihood of occurrence	Habitat requirements <sup>7</sup>
<i>Oligosoma polychroma</i>	Northern grass skink	Not threatened	High – reported from the site	Sand dunes, grasslands, herbfields, wetlands, rocky areas including rock piles and scree, and scrub. From the coast up to at least 1800 m above sea level. Seral scrub. May live on ground, among rocks or among low dense vegetation; 'striped' form favours grass habitats.
<i>Naultinus punctatus</i>	Barking gecko	At Risk – Declining	High – reported within 2 km, likes manuka and kānuka.	Arboreal species that uses forest and scrub, including manuka/kānuka shrubland. Known from lowland areas.
<i>Oligosoma ornatum</i>	Ornate skink	At Risk – Declining	High – reported within 2 km, and habitat is suitable.	Forest or open areas with deep leaf litter or rank grass, or stable cover such as deep rock piles.
<i>Woodworthia maculatus</i>	Raukawa gecko	Not Threatened	High – reported within 5 km, found beneath flaky bark on dead standing trees.	Arboreal and terrestrial species that inhabits forest trees. Retreat sites are beneath loose bark or in deep hollows, often on standing dead trees. Also in creviced rock outcrops, bluffs and rock tumbles, including associated scrubby vegetation, in open or scrubby areas. And on coastlines among driftwood and boulders banks, including associated dense vegetation such as pohuehue, often down to high-tide line. rank grass
<i>Oligosoma zelandicum</i>	Glossy brown skink	At Risk – Declining	Low – no records within 5 km, but habitat is suitable.	Densely vegetated and typically damp habitats in lowland areas, including forest, scrub, farmland and coastlines, including among pohuehue on boulder banks. Seral scrub and rank grass.

<sup>5</sup> <https://www.inaturalist.org/observations/104537870> - the trees on Waikanae Pony Club land.

<sup>6</sup> Lizard threat classification as per Hitchmough *et al.* (2021).

<sup>7</sup> From [Atlas of the amphibians and reptiles of New Zealand: Atlas \(doc.govt.nz\)](#).

Scientific name	Common name	Conservation Status <sup>6</sup>	Likelihood of occurrence	Habitat requirements <sup>7</sup>
<i>Oligosoma aeneum</i>	Copper skink	At Risk – Declining	Low – no records within 5 km, but habitat is suitable.	Forest and open or shaded areas with adequate groundcover such as logs, rocks or long grass or deep leaf litter. Also encountered in urban areas: compost heaps, rock gardens etc. Occurs close to the high-tide line in coastal situations.
<i>Mokopirirakau</i> 'Southern North Island'	Ngahere gecko	At Risk – Declining	Low – no records within 5 km.	Arboreal species that occurs in forest and shrublands. Generally found on trunks and larger branches of trees, but occasionally found nearer to ground in shrubs or ferns, or in creviced clay banks.

It is likely that some of the species that have been observed nearby also occur within that part of K189 affected by tree clearance authorised under the resource consent. The controlled activity rule ECO-R6 did not require an ecological assessment to be made or supplied with the resource consent application on how these species will be affected by the loss of their habitat (the trees to be removed), in particular the rare plant species, areas of wetland, epiphytic and climbing plant species and indigenous fauna species, and less mobile species such as lizards.

### Site visit

A brief visit was undertaken to the neighbouring property on 8 January 2022 which enabled part of the site to be viewed. The area was more diverse than was expected from an area that is being grazed. This was primarily because of areas of wetland and a remnant understorey.

### Policy overview

A brief overview of the relevant policy requirements for the management of indigenous biodiversity is provided below.

#### Resource Management Act 1991 (RMA)

The protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna is a Matter of National Importance under section 6(c) of the RMA. The district plan identifies and applies protection to significant indigenous fauna through its rule and policy framework.

Section 31 identifies that one of the functions of the Council in giving effect to the RMA is the control of any actual or potential effects of the use, development, or protection of land for the purpose of the maintenance of indigenous biological diversity.

#### New Zealand Coastal Policy Statement 2010 (NZCPS)

The protection of indigenous biodiversity in the *coastal environment* is managed by Policy 11 of the New Zealand Coastal Policy Statement 2010 (NZCPS) as follows:

#### **Policy 11 Indigenous biological diversity (biodiversity)**

*To protect indigenous biological diversity in the coastal environment:*

(a) *avoid adverse effects of activities on:*

- (i) *indigenous taxa that are listed as threatened or at risk in the New Zealand Threat Classification System lists;*
- (ii) *taxa that are listed by the International Union for Conservation of Nature and Natural Resources as threatened;*
- (iii) *indigenous ecosystems and vegetation types that are threatened in the coastal environment, or are naturally rare;*



- (iv) *habitats of indigenous species where the species are at the limit of their natural range, or are naturally rare;*
  - (v) *areas containing nationally significant examples of indigenous community types; and*
  - (vi) *areas set aside for full or partial protection of indigenous biological diversity under other legislation; and*
- (b) *avoid significant adverse effects and avoid, remedy or mitigate other adverse effects of activities on:*
  - (i) *areas of predominantly indigenous vegetation in the coastal environment;*
  - (ii) *habitats in the coastal environment that are important during the vulnerable life stages of indigenous species;*
  - (iii) *indigenous ecosystems and habitats that are only found in the coastal environment and are particularly vulnerable to modification, including estuaries, lagoons, coastal wetlands, dunelands, intertidal zones, rocky reef systems, eelgrass and saltmarsh;*
  - (iv) *habitats of indigenous species in the coastal environment that are important for recreational, commercial, traditional or cultural purposes;*
  - (v) *habitats, including areas and routes, important to migratory species; and*
  - (vi) *ecological corridors, and areas important for linking or maintaining biological values identified under this policy*

Many ecological sites, including K189 are within the existing identified extent of the coastal environment in the district plan.

### **National Policy Statement for Freshwater Management 2020 (NPS-FM)**

The National Policy Statement for Freshwater Management (NPS-FM; MfE 2020)<sup>8</sup> and the National Environmental Standards-Freshwater (NES-F; RMA 2020) have increased the protection of natural wetlands. The draft Essential Freshwater Interpretation Guidance: Wetlands Definitions (MfE 2021a) clarifies that there is no minimum size limit as to what constitutes a wetland and that degraded wetlands and wetlands dominated by exotic species are still considered to be natural wetlands.

Under the NES-F the following activities are non-complying activities if they are not for the purpose of wetland restoration or maintenance of existing structures and utilities:

- (a) vegetation clearance within, or within a 10 m setback from, a natural wetland:
- (b) earthworks within, or within a 10 m setback from, a natural wetland:
- (c) the taking, use, damming, diversion, or discharge of water within, or within a 100 m setback from, a natural wetland.
- b) Works within a wetland, or changes to wetland hydrology within 200 m of a wetland are currently prohibited activities under the NES.

Implementation of the NES-F and the pNRP falls under the jurisdiction of the Regional Council. These statutory documents are relevant as the example resource consent includes activities that are managed under them – specifically the removal of indigenous vegetation from within an adjacent to a wetland.

### **Regional Policy Statement for the Wellington Region 2013 (RPS)**

The district plan must give effect to the RPS. Decisions on resource consents must have regard to the RPS. The most relevant provisions of the RPS are:

#### **Objective 16**

*Habitats with significant biodiversity values are maintained and restored to a healthy functioning state.*

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<sup>8</sup> Published: 1 August 2020 and came into force from 3 September 2020.

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

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

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

**Policy 24: Protecting indigenous ecosystems and habitats with significant indigenous biodiversity values – district and regional plans**

*District and regional plans shall include policies, rules and methods to protect indigenous ecosystems and habitats with significant indigenous biodiversity values from inappropriate subdivision, use and development.*

**Policy 47: Managing effects on indigenous ecosystems and habitats with significant indigenous biodiversity values – consideration**

*When considering an application for a resource consent, notice of requirement, or a change, variation or review of a district or regional plan, a determination shall be made as to whether an activity may affect indigenous ecosystems and habitats with significant indigenous biodiversity values, and in determining whether the proposed activity is inappropriate particular regard shall be given to:*

- (a) maintaining connections within, or corridors between, habitats of indigenous flora and fauna, and/or enhancing the connectivity between fragmented indigenous habitats;*
- (b) providing adequate buffering around areas of significant indigenous ecosystems and habitats from other land uses;*
- (c) managing wetlands for the purpose of aquatic ecosystem health;*
- (d) avoiding the cumulative adverse effects of the incremental loss of indigenous ecosystems and habitats;*
- (e) providing seasonal or core habitat for indigenous species;*
- (f) protecting the life supporting capacity of indigenous ecosystems and habitats;*
- (g) remedying or mitigating adverse effects on the indigenous biodiversity values where avoiding adverse effects is not practicably achievable; and*



- (h) *the need for a precautionary approach when assessing the potential for adverse effects on indigenous ecosystems and habitats.*

Although Policy 47 ceases to have effect once policies 23 and 24 are in place in an operative district or regional plan, items (a) to (h) remain relevant and useful parameters against which to assess a resource consent.

For the case study the removal of trees will result in:

- (a) Removal of connections and corridors between and within habitats of indigenous flora and fauna.
- (b) Removes an area of significant indigenous ecosystems and habitats and also removes the buffer to the other part of the Ecological Site on the adjacent property. It fails to provide adequate buffering to K189.
- (c) The loss of an area of wetland. It is anticipated that aquatic ecosystem health of the wetlands, including on the adjacent property, will be significantly and adversely affected by the proposed works. The value of the wetlands could not be assessed, acknowledged or protected under ECO-R6 Matters of Control.
- (d) Ongoing cumulative adverse effects of the incremental loss of indigenous ecosystems and habitats, including threatened species.
- (e) Loss of important indigenous habitat. There was no assessment if the trees and area to be removed provide seasonal or core habitat for indigenous species. Small remnants of indigenous vegetation in highly modified urban or rural landscapes are often disproportionately of greater importance to indigenous fauna than their size might suggest.
- (f) The loss of life supporting capacity of indigenous ecosystems and habitats.
- (g) An overall loss of indigenous biodiversity and ecosystems as no mitigation of effects was proposed.
- (h) A failure to apply precautionary approach when assessing the potential for adverse effects on indigenous ecosystems and habitats.

### **Proposed Natural Resources Plan for the Wellington Region (pNRP)**

Rules R104 to R108 in the pNRP seek to protect and restrict activities in wetlands including replacement of existing structures and restoration activities. The take, use, damming or diverting water into, within, or from the significant natural wetland, or the take and use of water within 50 m of the significant natural wetland, land disturbance including excavation and deposition and reclamation (including and drainage or diverting of water to an extent that the area affected ceases to have the characteristics of a significant natural wetland) are non-complying activities.

The NPS-FM, NES-F and the pNRP seek to ensure that any areas of wetland have been appropriately defined and assessed. If works cannot avoid a wetland, then any proposed loss of natural wetland needs to be sufficiently offset (both the extent and the values). Implementation of these statutory documents fall under the jurisdiction of regional councils.

### **Potential effects of the removal of indigenous vegetation under controlled activity rule ECO-R6**

Using the example of the controlled activity resource consent granted for the removal of 104 protected indigenous trees, the removal of those trees from the part of Ecological Site K189 on the subject property will result in:

- > Further loss of already rare vegetation types including:
  - Indigenous vegetation in the Foxton Ecological District.
  - Indigenous vegetation in a Threatened Land Environment classification with less than 10% indigenous cover left.

- Wetland.
- Coastal dune forest.
- > Further loss of already rare species including:
  - *Kunzea amathicola* (Threatened–Nationally Vulnerable).
  - *Korthalsella salicornioides* (Threatened-Nationally Critical).
  - Potentially loss of other rare species as no ecological survey has been undertaken.
- > Increased fragmentation and loss of connectivity between Ecological Sites.
- > Increased edge effects for the remaining area of K189 – likely to result in further degradation (cumulative effects).
- > Loss of canopy will affect understorey species including wetland species.
- > Loss of canopy trees will affect the hydrology within the wetland (cumulative effects).
- > Vegetation removal within or within 20 m of a wetland.
- > Loss of natural character in the coastal environment.
- > Loss of habitat for indigenous fauna, especially important for less mobile species such as lizards.
- > Loss of habitat for epiphytic and climbing plant species.
- > Potentially loss of habitat of other nationally and regionally threatened species.
- > Removal of trees can destabilise surrounding trees, and increase wind throw.
- > Clearing and felling of trees can result in collateral damage such as dragging down other trees or branches of other trees, pulling indigenous vines out of the canopy, and damage to the understorey.

The subject site is proposed to be developed and this will likely require earthworks within the rootzone of the remaining trees. This has the potential for further adverse ecological effects including:

- > Further vegetation clearance.
- > Changes to the hydrology of the wetland.
- > Damage and cutting through large roots causing ill health or death of trees and plants, including outside the works footprint.
- > Drying of the soil near cut faces causing ill health or death of trees and plants, including outside the works footprint.
- > Deposition and compaction of soil on top of roots causing ill health or death of trees and plants, including outside the works footprint.
- > Changes to subsoil and surface hydrology causing ill health or death of trees and plants, including outside the works footprint.
- > Increased edge effects resulting in drying out and other changes in the habitat and species composition.
- > Increased edge habitat enabling rapidly colonising exotic and pest plant species to establish including penetrating more interior parts of the site.
- > Trimming or other modification of trees and shrubs causing ill health or death of trees and plants.
- > The limit of the extent of vegetation clearance and earthworks needs to be carefully and robustly identified on the ground to prevent accidentally clearing a larger area.
- > Construction equipment and tools if not cleaned properly prior to arrival at the site can import viable pest plants material (seeds, plant fragments) resulting in greater abundance of pest plants or novel to the property pest plants.
- > Soil and gravel and other such material introduced to site can also introduce viable pest plants material and novel species.

The activities under the resource consent are non-complying activities under various legal mechanisms if they occur in a wetland (these other legal mechanisms are not under the jurisdiction of KCDC). The actual and potential adverse effects on indigenous biodiversity that will result from the exercise of the resource consent also appear to be at odds with the requirements of in the RMA, the NZCPS, and the RPS identified above.

The above does not include a full assessment of potential adverse effects on the ecological values of the site that would result under the 45-lot residential subdivision consent for this site.

The controlled activity resource consent granted to remove 104 protected indigenous trees from within the ecological site demonstrates the existing rule provides an avenue that can be used to avoid the requirement to consider the adverse ecological effects of the removal of significant indigenous vegetation as part of their development plans. This can result in significant adverse effects.

. KCDC was not able to consider the ecological effects and the policy framework for the removal of the trees due to the controlled activity status, and the standards and matters of control under the rule being insufficient to address these matters.

Controlled activities must be granted provided that the matters of control have been satisfied, and should be limited to activities where the actual and potential adverse effects are limited and well understood. ECO-R6 in its current form does not include any matters that would prevent the adverse ecological effects outlined above, and is clearly open to be used in a manner that can result in significant adverse effects on indigenous biodiversity that is inconsistent with the intent of the rule, and the requirements of the RMA and other statutory planning documents to maintain indigenous biodiversity.

## Issues with granting the consent

The following is an evaluation of the ecological issues identified when reviewing the controlled activity resource consent issued by the KCDC and the information supporting the application.

The Objectives and Policies of the district plan advocate for protection and enhancement of significant indigenous vegetation. However, under the controlled activity rule KCDC was unable to meaningfully consider these objectives and policies nor other important ecological aspects as outlined above and identified in the description for K189 – such as wetland, loss of rare species, ecosystems and habitats and ecological landscape effects.

The applicant was not required to demonstrate any application of the “Management Approach to Biodiversity Protection” required by Policy ECO-P2 of the district plan, due to the controlled activity status and the specific standards and matters of control retained by the KCDC under rule ECO-R6.

KCDC Rule ECO-R7e. regulates trimming or modification of any indigenous vegetation that is in or within 20 metres of a waterbody. However, the controlled activity status of rule ECO-R6 overrides this requirement. This means that no other KCDC rules can be triggered to enable the consideration of the ecological effects of modification of significant indigenous vegetation if all controlled activity standards of Rule ECO-R6 are met.

### Rule ECO-R6 - Matters of control

This section only reviews ecological matters of control.

#### 1. The extent and method of vegetation removal.

There was inadequate evaluation provided in the resource consent application of the extent of vegetation removal. It is not clear from the report if the 123 trees that were sought for removal comprise all of the trees on the site or only a proportion. The only matters that appeared to have been considered were the number of trees to be removed, with the following matters not considered:

- The extent of area of Ecological Site to be affected. The total area to be affected was not clarified in the application, thus it was unclear if all, or only part of, the vegetation within the Ecological Site on the subject property (2.7 hectares) was to be affected. Ecological Site K189 on the subject property comprises over half of Ecological Site K189 (4.27 hectares).
- The effects on the wetland, or on the remnant of Ecological Site K189 on the adjacent property.
- How many trees would remain once the ‘unviable’ trees were removed, and the long-term viability of the remaining trees and vegetation.

- The effects on threatened fauna (especially less mobile species such as lizards) and flora.
- Ecological landscape matters such as connectivity.

The total number of trees to be removed from an Ecological Site on the basis of being 'no longer viable' could potentially comprise all trees and thus the ecological effects would be far from negligible. Moreover, dead and dying trees still provide valuable ecological services that are discussed in more detail below.

The applicant indicated that the proposal to remove dead or fatally diseased trees from within the ecological site would have positive effects for creating more area for regenerative vegetation to establish. This failed to address all the other adverse ecological effects outlined previously. In my opinion the overall effect of the modification of trees within K189 will be substantially negative.

#### *Further information*

Further information was sought from the applicant with regards to extent and method of vegetation removal. The response was:

*"The methods used to remove the vegetation will be climbing and rigging where required and controlled felling techniques to enable the Arborist Team to protect other trees and undergrowth. The heavy machinery used will be truck and chipper and a 4wd ute. To limit damage to tree roots by way of compaction, the heavy machinery use will be limited to the existing farm track. Branches will be chipped to mulch and could be left onsite or removed, same for the heavy wood. The Arborist Team could process to rings for firewood or leave in manageable pieces and they could be left or removed as per the consent holder's preference."*

#### *Conditions*

Council included a range of conditions to minimise potential adverse effects as far as possible at the subject site given that the Matters of Control limited what could be assessed. These conditions included:

- > Identifying specific trees that were to be retained as they were considered to be still viable.
- > The requirement to undertake a drone survey for dwarf mistletoe, and advice that trees that host dwarf mistletoe (*Korthalsella salicornioides*) are to be retained.
- > The trees to be modified can only be accessed on foot and no motorised vehicles are to access Ecological Site K189.
- > Modification of trees will need to be supervised by a suitably qualified arborist.
- > A requirement to undertake a survey for nesting birds during the peak breeding season and limitations on tree modification whilst At Risk or Threatened species are nesting.
- > That trees to be modified must be climbed and dismantled unless it is unsafe to do so, with all major limbs and trunk sections rope lowered to ground level and placed to minimise damage to surrounding vegetation and site disturbance.
- > All wood and cut vegetation is to be left on site and placed as directed by an arborist.

The Advice Notes in the KCDC resource consent approval outline the ecological values and rarity of the site. KCDC recommends that the applicant should obtain expert ecological advice to balance the arborists' assessments, which do not contain any appraisal of the subject trees' ecological value or of the adverse ecological effects of modification. Although KCDC cannot require this through conditions, it is recommended as the most environmentally responsible and appropriate course of action in consideration of the ecological site's values and integrity

#### *Potential adverse effects from conditions*

Dwarf mistletoe is, as the name implies, a very small plant and difficult to see. The mature length is often less than 10 cm (de Lange 2022d), and in areas lacking possum and rodent control there may only be haustoria<sup>9</sup> left with the fleshy parts of the plant eaten off. Haustoria may not even protrude outside the tree, or could be small knob-like projections. Despite the requirement for a drone survey, given the small size of these plants, there still is a real risk that trees that host dwarf mistletoe may be removed.

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<sup>9</sup> The knob-like root structure that parasitic angiosperms use to penetrate the host plant.



It is not clear from the conditions if the felled trees and limbs will be chipped or left entire. Chipping and cutting of the trees has the potential to damage or kill fauna such as lizards that may inhabit the trees. All native lizards are 'absolutely protected' under the Wildlife Act (1953, s63 (1) (c)). To avoid and minimise adverse effects on indigenous lizards, lizard-sensitive clearance protocols should have been adopted, searches for lizards undertaken and an application made to the Department of Conservation for a Wildlife Authority to relocate lizards should they occur at the site. It would be best for lizards if the felled trees and limbs are left more or less entire so that lizards can escape or adopt these areas as new refuges.

## **2. The location and timing of planting of any plant species to compensate for the loss of vegetation.**

Initially the applicant did not propose to mitigate for the loss of the 'unviable' trees as the proposed activity did not represent net loss of living or healthy vegetation on the application site.

KCDC included a condition that prior to modification the applicant shall obtain from a suitably qualified ecologist and submit for Council approval a restoration plan for Ecological Site K189 to compensate for the loss of vegetation. Once approved, the applicant must implement the plan within 12 months of modification starting.

Ideally the minimum standard for such a restoration plan should be to achieve no net loss of biodiversity and preferably a net gain.

The current risk to the health of K189 is from stock grazing. Fencing the whole area to exclude stock would have been desirable.

The KCDC Advice Notes identify that exclusion of livestock and reduction in pest animal numbers as a consequence of urban development will kick-start regeneration beneath the old trees. Therefore, removing a large number of these trees would be a destructive intervention.

## **3. Any remedial work necessary to restore the site after the modification activity is complete.**

No remedial work was proposed by the applicant to restore the site after the modification activity was completed. The reason given was that the trees are located within an ecological site and that remedial works would further disturb the ecological site and remaining healthy vegetation and result in additional damage.

Remedial work could have included control of pest plant species as these may become more prevalent with the opening up of the canopy. If undertaken carefully this type of remedial work would result in little additional damage of indigenous ecosystem values.

As outlined above, KCDC required that a planting be developed and undertaken as part of the subdivision consent.

## **Adherence to national and regional policy**

The consequences of retaining Rule ECO-R6 in its current form is that it will not be consistent with:

- > RMA S6(c) significant indigenous vegetation and significant habitats of indigenous fauna.
- > RMA S7(d) the intrinsic values of ecosystems.
- > The requirements of Policies 23, 24 and 47 of the RPS.
- > The requirements of Policy 11 of the NZCPS.

The case study resource consent identified a range of potential adverse ecological effects that cannot be addressed under the current controlled activity rule. Thus, this rule appears to be contrary to the following Kāpiti Coast District Objectives and Policies:

- > DO-02 – To improve indigenous biological diversity and ecological resilience.
- > ECO-P1 – negates the protocols to assess and identification of habitats and vegetation with significant biodiversity values.
- > ECO-P2 – fails to enforce the Management Approach to Biodiversity Protection.
- > ECO-P3 – fails to ensure the maintenance of indigenous biodiversity.

- > ECO-P4 – fails to encourage enhancement of rare and threatened vegetation species and Ecological Sites.

On the basis of the identified unanticipated consequences resulting from the implementation of the controlled activity rule, it is clear the adverse effects that can result under the status quo are significant and are inconsistent with the requirements of the Act and the statutory planning documents.

## Issues with the arborists reports

The following is an evaluation of two arborist reports; one that supported the resource consent application and other the peer review requested by KCDC. These are reviewed to provide a real-world demonstration of the ecological matters that can be overlooked or misunderstood, and the issues that can arise from the controlled activity rule requiring arborist advice, rather than ecological advice for matters that may have significant adverse effects on protected significant indigenous biodiversity and habitats.

### Arborist for the applicant

The *Kunzea* species is misidentified in the arborist report (Darbyshire 2020). *Kunzea ericoides* only occurs in northern South Island, not at all in the North Island (de Lange 2020b) and this has been known since 2014 (de Lange 2014). The species that occurs at the site is *Kunzea amathicola* and this species will never reach the height stature and form that the other *Kunzea* native to the Kāpiti Coast achieves (*Kunzea robusta*; de Lange 2022c). *Kunzea amathicola* is also more amenable to growing in wetland areas compared to *Kunzea robusta* (Figure 1-2).

Tree health assessments should be appropriate for the type of tree and the environment. It is not appropriate to expect lush symmetrical trees and tree canopies with lovely straight upright trunks in windswept coastal environments where stock graze the understory. Species such as coastal kānuka often have patchy and/or open canopies (Figure 1-2 and Figure 1-3).



Figure 1-2 Wind-swept but viable *Kunzea amathicola* in a grazed wetland area south of Hokio Beach (October 2017).



Figure 1-3 Short-stature (less than 1 metre tall) *Kunzea amathicola* with patchy wind-swept canopy on the coastal cliffs at Pukerua Bay (March 2019). Stock do not have access to this site.

Table 1-4 summarises the health of the trees as noted by Darbyshire (2020). In total, 55 of the 123 trees are described as Dead. The remaining 69 are considered ‘unviable’ for a range of reasons. The assessment appears to have been made solely on the state of the trunk of the tree, not the canopy.

In comparison, the USDA Forest Health Monitoring Publications<sup>10</sup> are largely focussed on the quality and vigour of the canopy, with limited attention to potential faults in the trunk (and then mainly for timber harvesting purposes; Dunn 1999).

Species such as cabbage trees (not identified as to species in the arborist report but probably *Cordyline australis*), māhoe (*Melicytus ramiflorus*) and kānuka can live for decades with even large hollows and areas of rot. Thus, it seems unlikely that they are no longer viable, especially after viewing the photos in the arborists report and viewing trees from the neighbouring property.

A tree leaning over, especially in windy coastal conditions, does not necessarily imply that it is no longer viable (Figure 1-2).

The photographs in Darbyshire (2020) do not include images of the canopy and therefore it is difficult to ascertain if the trees are dead or diseased or ‘unviable’. Often parts of the canopy of trees in the background are visible in these photos and these portions of canopy look as I would expect under these coastal conditions for these species.

Figure 1-4 shows part of the canopy of Ecological Site K189. This canopy is not as healthy and intact as on the adjacent property (Figure 1-6), but in my opinion would still be viable for many years, especially if the area is fenced off and pest plants controlled.

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<sup>10</sup> <https://www.fs.fed.us/foresthealth/publications/fhm/fhm-publications.shtml>.





Figure 1-4 View into the case study site from the adjoining property. Pink flagging tape can be seen on some trees, and was part of the method used to assess trees as described in the resource consent application. Many of the trees with flagging tape appear to be appropriately healthy for the species.



Figure 1-5 Part of the *Carex* wetland is visible in this view into the case study site from the adjoining property.





Figure 1-6 Ecological Site K189 on adjoining property is not grazed and has a healthy tree canopy and a natural little dune wetland. The cessation of grazing on the neighbouring application site has the potential to result in a similar healthy ecosystem.

Table 1-4 Summary of issued identified in the applicant's arborist report (Darbyshire 2020).

Issue Identified	Kānuka ( <i>Kunzea ericoides</i> )	Cabbage tree	Māhoe
<b>Total number of trees</b>	<b>114</b>	<b>4</b>	<b>5</b>
Dead	49	2	4
Split storm damage			1
Structurally unsound-Hollow	1	2	
Hazardous Unsustainable lean. Remaining trunk viable.	1		
Storm Damage			
Tree in decline. Structurally Unsound.	1		
Unviable	63		
<b>Subcategories for: Kānuka (<i>Kunzea ericoides</i>)</b>			
<b>Dead</b>			
Dead	32		
Dead Standing	1		
Dead Stump	3		
Dead Tree	10		
Ganoderma	1		
Storm Damage	1		
<b>Unviable</b>			
Significant rot hollow at base - structurally unsound	1		
Considerable hollow Cracks	1		
Considerable hollow Significant rot	1		
Structurally unsound Hollows	1		
Unsustainable Lean	4		
Considerable Hollow Structurally unsound	1		
Ganoderma	9		
Rot at Base	1		
Tree in decline	9		
Hollow at base	1		
Rot pockets Unsustainable Lean	2		
Ganoderma Tree in Decline	2		
Rot Pockets Hollows	1		
Compromised structure			
Compromised Base Unsustainable Lean	1		
Exposed Roots - Hollows Underground Unstable Bank	1		
Structurally Unsound	4		
Exposed Roots Tree in Decline	1		
Included Stems Considerable Rot	1		
Considerable Rot Hollow	1		
Unstable Base	1		
Structurally Unsound Storm Damage	1		
Structurally Unsound Storm Damage - Rot Pockets	1		
Structurally Unsound Rot Pockets	3		
Structurally Unsound Unsustainable Lean - Rot	1		
Structurally Unsound - Unsustainable Lean Rot	1		
Half fallen Roots Exposed - Unsustainable Lean	1		
Rot	1		
Structurally Unsound			
Co-joined Stem Fallen & Snagged	1		
Structurally Unsound - Included Stems Storm Damage	1		
Rot	1		
Split Trunk	1		
Split/Fractured Unsustainable Lean	1		
Split Ganoderma	1		
Split	1		
Fractured Rot			
Prior Felling Fallen - (re rooted)	1		
Storm Damage Tree in Decline	1		
Included forks Stress Fractures - Instability	1		

## Arborist for KCDC

Partridge (2020) undertook a site visit and peer review of initial tree assessments (Darbyshire 2020) for KCDC.

Partridge (2020) used the Mattheck Visual Tree Assessment (VTA) methodology and experience to assess the trees on the subject site. This is a method to assess urban trees, not forest or naturally established treeland (as will be discussed further).

Partridge (2020) noted additional species on the site including an exceptional quality mātai (*Prumnopitys taxifolia*) worthy of being designated a Notable Tree, and kaikōmako (*Pennantia corymbosa*) that were not reported in Darbyshire (2020). Partridge (2020) estimates that most of the kānuka are aged between 60 and 90 years old and that many are in poor condition with defects such as decay, root lift, and broken branches being common. They note that intensive grazing may have compacted and damaged soil and roots leading to instability and poor tree form which is exasperated by browsing.

Partridge (2020) does not identify the species of kānuka on the site, but from the description of “failure to attain a larger structure” appears to assume it is a species other than *Kunzea amathicola*. *Kunzea amathicola*, as explained previously, does not grow as tall or large as *Kunzea robusta*. Partridge (2020) also indicates that close canopy proximity likely limits the ability of individual trees to attain a larger structure with stronger roots. To me this indicates that the canopy of this area is nearly closed – which in one aspect that confirms viability of a vegetation type.

There is a lack of succession with recruitment limited or absent likely due to grazing pressure, apart from in wetland areas. Partridge (2020) identified wetlands, as did the applicant but potential adverse effects on rare and ecologically very valuable wetland were not required to be considered under Rule ECO-R6 in its current form. It is unknown whether the applicant has, or intends to comply with the regional consent and national requirements that manage wetlands.

I agree with Partridge (2020) that trees with defects such as ‘rot at the base’, affected by fungi such as ‘Ganoderma’, have ‘hollows’, ‘leans’, ‘exposed roots’, or are ‘in decline’ may yet remain upright and alive for many years. I also agree that this depends on the extent of those defects, their effect upon the health or structural integrity of the tree, and the tree species’ usual lifespan. Veteran trees that live for hundreds of years generally have many such defects, and as trees age, they often shed upper branches and are affected by decay.

I concur with Partridge (2020) that it would be useful to establish a definition of ‘viable’ for trees. However, both the Australian Standard 4970 Protection of Trees on Development Sites and the British Standard 5837 Trees in Relation to Construction relate to protection of trees on development sites to reduce risks to human habitation and infrastructure, such as falling on a person, house, power pylons, or uprooting a road or house foundations. In my opinion these documents are not applicable to maintaining the health of natural vegetation within Ecological Sites.

Additionally, dead, dying, and damaged trees are important components of a natural ecosystem. Death and decay are a natural process, Ecological Sites should not be managed as gardens with all deadwood and understorey vegetation removed.

## Appropriateness of using urban tree assessments

Visual tree assessment protocols used by arborist have all been developed to assess the health of trees and risk of damage to property and people in urban environments, not forest settings. The risk that is being assessed is how likely is it that a tree will break and fall on property and people – not how likely is it that the tree will survive past 5 years.

The load, and thus risk of failure, to a common urban tree mainly comes from wind and is proportional to tree height and the load-carrying capacity of the stem cross-sections, which depends on their diameter. The older mature trees have higher basic stability due to increasing girth without increasing height. The more stable they are the more defects they can tolerate without becoming hazardous (Rinn 2018).

Even tiny radial increments lead to a significant annual growth of the load-carrying capacity and thus correspondingly higher basic stability. This explains the fact that mature trees can obviously tolerate significantly more and bigger defects without being more likely to break as compared to young (and even intact) trees. Countless numbers of mature trees, hollowed out for decades but surviving strong winds, prove this as a fact (Rinn 2018).

The *Kunzea amathicola* of the size and girth seen at the site will be many decades old, if not several centuries. Mean annual diameter growth for *Kunzea* on dunes in the Bay of Plenty was 3.0 mm/yr at Whale Island and 2.8 mm/yr at Thornton<sup>11</sup> (Smale 1994). *Kānuka* in east Otago<sup>12</sup> had more or less annual growth rings with a maximum growth rate of about 3.0 mm/yr (Allen *et al.* 1992). Extrapolating that to trees with diameters up to 200 mm gives an age of up to 300 years, which is considerably more than Partridge's (2020) estimate.

The One-Third Rule ( $t/R > 1/3$ ), that is central to many visual tree inspections, posited that as soon as the thickness of the outer intact shell-wall ( $t$ ) of a hollow or decayed tree stem is less than  $1/3$  of the local radius ( $R$ ), this stem section was supposed to be significantly more likely to break under wind loads. However, this rule should not be applied to trees that have an irregular cross-section, as most of the *Kunzea amathicola* have (Figure 1-4). The  $t/R$  ratios of such cross-sections do not provide relevant information for determining load-carrying capacity of the corresponding cross-sections (Rinn 2018).

Trees in natural ecosystems are often damaged and/or shaped by falling limbs and trees, strong winds, frosts, erosion, the location of light gaps and browsing by mammals and invertebrates. This does not necessarily reduce their long-term viability, despite not having a uniform, balanced, symmetrical appearance as assessed by the Visual Tree Assessment (Mattheck and Breloer 1994a, b) or the Basic Tree Risk Assessment<sup>13</sup>.

Thus, urban tree valuation methods are not suitable to assess trees in naturally established forests and treelands. It would be better to adopt a method that assesses the viability of trees in a forest situation such as USDA Forest Service (Dunn 1999).

Additionally, the methods used would not be suitable for non-tree vegetation types. The wording in ECO-R6 refers to indigenous vegetation, which also encompasses groundcover, understorey, subcanopy, climbers and epiphytes. Vegetation can also be non-woody, such as within a *Carex* wetland.

### Ecological value of dead and hollow trees

Dead and dying trees are an essential and important part of forest ecosystems. Dead trees and fallen wood play an important role in ecosystems by providing wildlife habitat, cycling nutrients, aiding plant regeneration, decreasing erosion, and influencing drainage and soil moisture and carbon storage, among other values (Wuerthner 2018). Dead standing trees can continue to be a structural part of an ecosystem for years to decades, the woody structure providing perches for fauna and plants and retaining some of the canopy functions. Decomposing parts of a tree provide rich habitat for fungi and invertebrates, which in turn are consumed by other species such as birds. The process of a tree falling or the crown dying back creates light gaps enabling other plants to grow and a toppled root plate creates new habitat and mixes the soil (Franklin *et al.* 1987). These are all expected natural successional processes in an ecosystem.

In New Zealand, hollow trees provide nesting holes for a range of indigenous bird species, bat roosts, hiding places for arboreal gecko and a wide range of invertebrates. Plants establish on fallen logs as these are nutrient rich locations and often have more light due to the creation of light gaps. The Department of Conservation promotes leaving fallen and illegally logged trees in-situ as these are an important source of nutrients. Nutrient retention and recycling will be even more important in relatively poor soils such as sand.

So dead, dying, and defective trees are a normal part of ecosystem processes. They should be left in the ecosystem unless there are really good reasons to remove them, such as the risk of widescale spread of disease or damage to property and people.

### Options

Tree modification rule ECO-R6 was never intended to be used to completely eliminate substantial areas of indigenous vegetation within an Ecological Site and all its associated values. As an extreme example, the rule in its current form would enable the removal of all 'unviable' trees or vegetation in Ecological Site K017-Tararua Ranges and foothills (41,273.09 ha).

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<sup>11</sup> In 1994 thought of as *Kunzea ericoides* var. *ericoides*, but most likely *Kunzea salterae* on Whale Island and *Kunzea toelkenii* at Thornton (de Lange 2014).

<sup>12</sup> In 1992 thought of as *Kunzea ericoides* but most likely *Kunzea robusta* (de Lange 2014).

<sup>13</sup> [https://www.isa-arbor.com/education/resources/BasicTreeRiskAssessmentForm\\_Print\\_2017.pdf](https://www.isa-arbor.com/education/resources/BasicTreeRiskAssessmentForm_Print_2017.pdf)



We understand the purpose of the rule was to provide a mechanism to remove vegetation that was anticipated to cause serious harm to either humans and human infrastructure or to the ecological values of the area (e.g. eliminate the spread of disease). Clearly the rule has been used for a purpose it was not intended, resulting in perverse outcomes including significant adverse effects on the environment.

The rule could be improved in various ways as described below. One or more of these options may be required to ensure that rule functions as intended<sup>14</sup>.

The current controlled activity rule ECO-R6 is provided in Table 1-1.

### Conclusions and Options for Potential Amendments to rule Eco-R6

The scale of adverse effects that can result from the use of Rule ECO-R6 appears to exceed those that were anticipated when the rule was prepared. The rule was intended to provide property owners with a reduced consenting pathway for the modification or removal of dangerous or diseased trees. As can be seen from the case study, the rule can also be used to modify vegetation at a scale where it will result in significant adverse effects on protected significant indigenous vegetation and habitats. Changes to the rule to address the significant adverse effects on indigenous biodiversity that can result from the status quo are needed.

We recommend amendments to rule ECO-R6 should be considered to address the following matters:

1. The number of trees that can be modified on a property within a specified time period. This would enable property owners to remove trees that present an imminent risk to the safety of people, property or the health of other indigenous vegetation. An example could be the removal of two trees within a five-year period as a controlled activity.
2. If controlled activity status is to be retained for the modification of indigenous vegetation, we recommend ecological advice is required with respect to:
  - a. the viability of the trees proposed for modification;
  - b. providing a description of the ecological values present;
  - c. the actual and potential effects on indigenous biodiversity values (including cumulative effects), and methods to ensure indigenous biodiversity is maintained.
  - d. Confirming the trees do not provide habitat for Threatened or At Risk species, or are not Threatened or At Risk species.
  - e. Methods to ensure planting and remedial work is undertaken to ensure that there is no net loss of biodiversity values, including cumulative and wider ecological effects.
  - f. Opportunities for the modified vegetation to provide positive ecological effects such as providing habitat for other indigenous species (i.e. leaving the felled vegetation on the site to provide habitat for indigenous fauna).
3. We also recommend the controlled activity rule should be reviewed/amended to:
  - a. Apply to indigenous *trees*, rather than *indigenous vegetation*, as in our view the rule should focus on the most significant risks to people, buildings, infrastructure and other vegetation. These risks are chiefly associated with trees rather than non-woody indigenous vegetation species.
  - b. Amend the matters of control to include methods to ensure the maintenance of indigenous biodiversity.
  - c. Require the imminent risk to existing infrastructure, buildings and human health and safety to be demonstrated rather than presumed due to the structural integrity or viability of a tree.
  - d. Provide for the removal of trees only if they are 'no longer viable' **and** pose a real and demonstrated risk to property and people (and potentially areas of significant vegetation).
  - e. Determine whether New Zealand Qualifications Authority National Certificate in Arboriculture Level 4 is a sufficient level of qualification for identifying risk. Level 5 may be more appropriate.

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<sup>14</sup> Note that I am an ecologist, not a policy analyst and the suggesting wording will require further consideration and refinement.

We also note there are two species of *Kunzea* that occur in the Kāpiti Coast District – these are currently listed on one line in ECO-Table 1 even though the species are quite different in size and threat status. We recommend updating ECO-Table 1 of the district plan to recognise this as follows:

Common Name	Species	Māori Name	Dimensions That Relate to Rules Diameter Height (m) (circumference in cm)	
White tea tree	<i>Kunzea robusta</i> or <i>Kunzea amathicola</i>	Kānuka	15.0 (47)	3
Coastal kānuka	<i>Kunzea amathicola</i>	Rawiritoa, kānuka	5.0 (15)	1
Kānuka	<i>Kunzea robusta</i>	Rawirinui, kānuka	15.0 (47)	3

Yours sincerely,



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# APPENDIX

# A

OPD OBJECTIVES, POLICIES AND RULES

Objectives, policies and rules to manage ecosystems and indigenous biodiversity in the Operative District Plan (OPD) for Kāpiti Coast District.

## ECO - Ecosystems and Indigenous Biodiversity

Biodiversity relates to the diversity of and within all living systems including the habitats of plants and animals. This section will focus on significant indigenous vegetation and significant habitats of indigenous fauna in accordance with section 6(c) of the Resource Management Act 1991 (RMA).

For the purposes of this Plan significant indigenous vegetation and significant habitats of indigenous fauna are grouped together into Ecological Sites, rare and threatened vegetation species, key indigenous tree species or notable trees. These features have been assessed, scheduled and/or mapped in the Plan.

In addition, general natural areas and features have provisions in this section which relate to the maintenance and enhancement of biodiversity values.

### Strategic Context

The primary Objectives that this chapter implements are:

- [DO-O1](#) - Tāngata Whenua;
- [DO-O2](#) - Ecology and Biodiversity;
- [DO-O3](#) - Development Management; and
- [DO-O11](#) - Character Amenity Values.

#### DO-O1 Tāngata Whenua

To work in partnership with the *tāngata whenua* of the District in order to maintain *kaitiakitanga* of the District's resources and ensure that decisions affecting the natural *environment* in the District are made in accordance with the principles of Te Tiriti o Waitangi (Treaty of Waitangi).

#### DO-O2 Ecology and Biodiversity

To improve indigenous biological diversity and ecological resilience through:

1. protecting areas of *significant indigenous vegetation* and *significant habitats of indigenous fauna*;
2. encouraging restoration of the ecological integrity of indigenous ecosystems;
3. enhancing the health of terrestrial and aquatic ecosystems; and
4. enhancing the *mauri* of *waterbodies*.

#### DO-O3 Development Management

To maintain a consolidated urban form within existing urban areas and a limited number of identified growth areas which can be efficiently serviced and integrated with existing townships, delivering:

1. urban areas which maximise the efficient end use of energy and integration with infrastructure;
2. a variety of living and working areas in a manner which reinforces the function and vitality of centres;
3. resilient communities where development does not result in an increase in risk to life or severity of damage to property from natural hazard events;
4. higher residential densities in locations that are close to centres and public open spaces, with good access to public transport;
5. management of development in areas of special character or amenity so as to maintain, and where practicable, enhance those special values;
6. sustainable natural processes including freshwater systems, areas characterised by the productive potential of the land, ecological integrity, identified landscapes and features, and other places of significant natural amenity;
7. an adequate supply of housing and areas for business/employment to meet the needs of the District's anticipated population which is provided at a rate and in a manner that can be sustained within the finite carrying capacity of the District; and
8. management of the location and effects of potentially incompatible land uses including any interface between such uses.

#### DO-O11 Character and Amenity Values

To maintain and enhance the unique character and amenity values of the District's distinct communities so that residents and visitors enjoy:

1. relaxed, unique and distinct village identities and predominantly low-density residential areas characterised by the presence of mature vegetation, a variety of built forms, the retention of landforms and unique community identities;
2. vibrant, lively *town centres* supported by higher density residential and mixed use areas;
3. neighbourhood *centres*, village communities and employment areas characterised by high levels of amenity, accessibility and convenience;
4. productive rural areas, characterised by openness, natural landforms, areas and corridors of *indigenous vegetation*, and *primary production activities*; and
5. well managed interfaces between different types of land use areas (e.g. between living, working and rural areas and between potentially conflicting land uses, so as to minimise adverse *effects*).

The rules in this chapter apply to all land and activities in all zones unless otherwise specified. Provisions in other chapters of the Plan may also be relevant.

## Policies

### ECO-P1 Criteria For Identification Of Significant Biodiversity

*Indigenous vegetation* and habitats of indigenous fauna in the District will be considered significant if they meet one or more of the following criteria:

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

### ECO-P2 Management Approach to Biodiversity Protection

Adverse effects, including cumulative effects, from subdivision, use and development on significant indigenous vegetation and significant habitats of indigenous fauna including aquatic ecosystems will be avoided, or where it cannot be avoided, remedied or mitigated in order to maintain the values and characteristics of the significant indigenous vegetation or significant habitats of indigenous fauna, including by:

1. avoiding where practicable the modification of significant indigenous vegetation, in particular all indigenous vegetation within *Ecological Sites*;
2. managing land use activities resulting in increased sediment and contaminant levels of surface water, including storm water, to reduce the likelihood of aquatic ecosystems being detrimentally affected;
3. creating and maintaining appropriate buffers around *Ecological Sites*, key indigenous trees and rare and threatened vegetation species, significant habitats of indigenous fauna including aquatic ecosystems to ensure that wider ecological processes are considered when making decisions about applications for subdivision and land use consent;
4. preventing where practicable the introduction or spread of exotic weed species and pest animals both terrestrial and aquatic;
5. enabling pest and weed management and passive recreational activities within *Ecological Sites* including the associated construction and maintenance of tracks (where the biodiversity gains from pest control will outweigh the loss of significant indigenous vegetation from track construction) and the construction and maintenance of fences at the margins of *Ecological Sites*;
6. providing for appropriate trimming of indigenous vegetation while avoiding inappropriate trimming of significant indigenous vegetation.
7. ensuring that subdivision which creates allotments which are entirely within an *Ecological Site* or which necessitate modification of any key indigenous tree species or rare and threatened vegetation species protects the values and characteristics of those areas.
8. ensuring that subdivision which creates boundaries that cut through any *Ecological Site*, or any key indigenous tree species or rare and threatened vegetation species, protects the values and characteristics of those areas.

### ECO-P3 Maintenance of indigenous biodiversity

Subdivision, land use and development shall be undertaken in a manner to maintain indigenous biodiversity within large areas of contiguous indigenous vegetation and riparian and coastal vegetation.

### ECO-P4 Enhancement

Where a subdivision or development is undertaken on land containing rare and threatened vegetation species, or an *Ecological Site*, enhancement of the *Ecological Site* or rare and threatened vegetation species will be encouraged.

### ECO-P5 Tāngata Whenua

To enable *tāngata whenua* to maintain and enhance their traditional relationship with the natural environment, while:

1. supporting the enhancement of the mauri of aquatic environments; and
2. having particular regard to the exercise of kaitiakitanga by *tāngata whenua* in the management of the District's resources.

### ECO-P6 Monitoring

Monitoring of levels of biodiversity in the District will be undertaken through:

1. periodic monitoring of the District's *indigenous vegetation* and habitats of indigenous fauna by desktop methods including aerial photography analysis, and site inspections;
2. monitoring of compliance with *resource consent conditions* affecting the District's *significant indigenous vegetation* and habitats of indigenous fauna;
3. complementing monitoring work undertaken by other relevant authorities or suitably qualified persons on the state of *environment* in the Kāpiti Coast District;
4. reviewing District Plan policies in response to *development* pressures, expressed community outcomes and environmental changes which may reduce the policies' effectiveness;
5. requiring that data for monitoring purposes is collected and analysed in a scientifically defensible manner; and
6. including monitoring and review conditions on *resource consents* where required for base level and performance monitoring and to implement adaptive management if unanticipated *effects* occur.

## Rules

<b>ECO-R1</b>	Any activity which is not otherwise specified as a Permitted, Controlled, Restricted Discretionary, Discretionary, or Non-complying activity in this chapter.
Permitted Activity	<b>Standards</b> <ol style="list-style-type: none"> <li>1. The activity complies with all permitted activity standards in this chapter.</li> </ol>
<b>ECO-R2</b>	<p><i>Trimming or modification of any indigenous vegetation within the following zones and precincts, except for indigenous vegetation covered by <a href="#">ECO-R3</a>, <a href="#">ECO-R6</a>, <a href="#">ECO-R7</a>, <a href="#">TREE-R2</a>, <a href="#">TREE-R3</a>, and <a href="#">TREE-R4</a> is a permitted activity:</i></p> <p>General Residential Zone Ngārara Development Area Waikanae North Development Area Airport Zone Town Centre Zone Metropolitan Centre Zone Hospital Zone General Industrial Zone Local Centre Zone Mixed Use Zone Rural Lifestyle Zone Rural Eco-Hamlet Precinct Future Urban Zone Open Space Zone</p>
Permitted Activity	<p><b>Note 1:</b> for <i>trimming and modification of indigenous vegetation</i> listed in Schedules <a href="#">1</a>, <a href="#">2</a>, <a href="#">3</a> and <a href="#">8</a>, and <a href="#">ECO-Table 1</a> see <a href="#">ECO-R3</a>, <a href="#">ECO-R6</a>, <a href="#">ECO-R7</a>, <a href="#">TREE-R2</a>, <a href="#">TREE-R3</a>, and <a href="#">TREE-R4</a>.</p> <p><b>Note 2:</b> "Indigenous vegetation" (see <i>NESPF</i> definition) clearance associated with <i>plantation forestry</i> activities carried out under the <i>NESPF</i> is excluded from this rule.</p>
<b>ECO-R3</b>	<p><i>Trimming of significant indigenous vegetation that is:</i></p> <ol style="list-style-type: none"> <li>1. located within an <i>Ecological Site</i> listed in <a href="#">Schedule 1</a>; or</li> <li>2. a <i>key indigenous tree</i> listed in <a href="#">ECO-Table 1</a> and exceeds either of the maximum size criteria diameter or height (excluding <i>trees</i> planted by humans); or</li> <li>3. a <i>key indigenous tree</i> listed in <a href="#">Schedule 2</a>; or</li> <li>4. is rare and threatened vegetation species listed in <a href="#">Schedule 3</a></li> </ol> <p><i>is a permitted activity within the following zones and precincts:</i></p> <p>General Residential Zone Ngārara Development Area Waikanae North Development Area Airport Zone Town Centre Zone Metropolitan Centre Zone Hospital Zone General Industrial Zone Local Centre Zone Mixed Use Zone Rural Lifestyle Zone Rural Eco-Hamlet Precinct Future Urban Zone Open Space Zone</p>



Permitted Activity	<p><b>Standards</b></p> <ol style="list-style-type: none"> <li>1. <i>Trimming</i> must be undertaken as specified in a) and b) below: <ol style="list-style-type: none"> <li>a. Any <i>trimming</i> must be limited to the pruning of vegetation that: <ol style="list-style-type: none"> <li>i. achieves compliance with the requirements of the Electricity (Hazards from Trees) Regulations 2003; or</li> <li>ii. is broken, deadwood or chronically diseased; or</li> <li>iii. does not form part of the main structure (the trunk or a primary structural limb) and: <ol style="list-style-type: none"> <li>a. is pruned up to 3m from a window of a <i>habitable room</i> including those used for hospital recovery but excluding those used for <i>visitor accommodation</i> which is not <i>temporary residential rental accommodation</i>; or</li> <li>b. is pruned up to 2m from the wall or roof of an existing permanent <i>building</i> (excluding <i>minor buildings</i>); or</li> <li>c. is restricting access along an existing <i>access leg</i>, right of way or <i>driveway</i>; or</li> </ol> </li> <li>iv. is carried out in accordance with a registered protective covenant under the Reserves Act 1977, Conservation Act 1986 or Queen Elizabeth the Second National Trust Act 1977; or Reserve Management Plan approved under the Reserves Act 1977; or</li> <li>v. is necessary to avoid an imminent threat to the safety of persons or damage to lawfully established <i>building</i> (excluding <i>minor buildings</i>) and</li> <li>vi. is necessary to provide for the ongoing safe and efficient operation and maintenance of telecommunications, radio communication and other <i>network utility</i>; and</li> </ol> </li> <li>b. All <i>trimming</i> must be undertaken to a growth point or branch union and in accordance with the New Zealand Arboricultural Association Incorporated Best Practice Guideline 'Amenity Tree Pruning' Version 3 dated April 2011 to avoid irreversible damage to the health of the <i>tree</i>.</li> </ol> </li> </ol> <p><b>Note 1:</b> The <i>Council</i> recommends that <i>trimming</i> is carried out by an arborist who has attained the New Zealand Qualifications Authority National Certificate in Arboriculture Level 4 or equivalent qualification.</p> <p><b>Note 2:</b> for <i>trimming</i> of <i>indigenous vegetation</i> listed as a <i>notable tree</i> in <a href="#">Schedule 8</a> see the <a href="#">Notable Trees chapter</a>.</p>
ECO-R4	<p><i>Trimming or modification of indigenous vegetation</i> that is within the Rural Production Zone, Rural Dunes Precinct, Natural Open Space Zone or a <i>River Corridor</i>.</p>
Permitted Activity	<p><b>Standards</b></p> <ol style="list-style-type: none"> <li>1. <i>Trimming or modification of indigenous vegetation</i> must not be carried out on any <i>indigenous vegetation</i> that: <ol style="list-style-type: none"> <li>a. is within an <i>Ecological Site</i> (<a href="#">Schedule 1</a>);</li> <li>b. is a <i>rare and threatened vegetation species</i> (<a href="#">Schedule 3</a>);</li> <li>c. is listed in the schedule of key <i>indigenous tree species</i> (<a href="#">ECO-Table 1</a>) and exceeds either of the maximum size criteria (diameter or <i>height</i>) (excluding planted vegetation) except that <a href="#">ECO-Table 1</a> shall not apply to <i>indigenous vegetation</i> in the Rural Hills Precinct; or</li> <li>d. forms a contiguous areas of more than 100m<sup>2</sup> (excluding planted vegetation); except that this contiguous area provision of more than 100m<sup>2</sup> of <i>indigenous vegetation</i> shall not apply within the Rural Hills Precinct; or</li> <li>e. is within 20 metres of a <i>waterbody</i> (including within the <i>waterbody</i> itself) or the coastal marine area excluding planted vegetation) except where required to restore or maintain <i>river crossing structures</i> or culverts to a maximum track width of 10 metres.</li> </ol> </li> <li>2. Except that Standard 1 of this rule does not apply where trimming or modification is: <ol style="list-style-type: none"> <li>a. necessary to enable weed management and pest control within the area of significant <i>indigenous vegetation</i>. For the purposes of this rule <i>trimming</i> and <i>modification</i> is limited to that necessary for: <ol style="list-style-type: none"> <li>i. the placement of traps and bait stations and to enable foot access to and between traps and bait stations;</li> <li>ii. to enable foot access for the removal or spraying / poisoning of plant pests;</li> <li>iii. for weed clearance within rivers where authorised by Greater Wellington Regional Council;</li> <li>iv. the maintenance of existing formed tracks used for pest and weed management purposes where <i>trimming</i> and <i>modification</i> may not extend beyond the formed width of the track;</li> </ol> </li> </ol> </li> </ol>

- v. within K017 only, the formation and maintenance of tracks no wider than 1.5m to provide access to traps and bait stations (for the avoidance of doubt such tracks may only be formed and maintained where servicing active pest management programmes);
- b. within the Rural Hills Precinct and necessary to enable fire control (provided that for fire control, *trimming* or *modification* does not extend by more than 2 meters in width from the edge of an existing fire break not exceeding 30m in width);
- c. necessary for the safe and efficient operation of any formed public *road*, private *access leg* or *driveway*, right of way, walkway or to maintain existing *farm tracks*;
- d. trimming for the ongoing safe and efficient operation and maintenance of telecommunication, radio communication and other *network utility structures*, provided that all *trimming* must be undertaken to a growth point or branch union and in accordance with the New Zealand Arboricultural Association Incorporate Best Practice Guideline 'Amenity Tree Pruning' Version 3 dated 2011 to avoid irreversible damage to the health of the *tree*;
- e. necessary to enable to the maintenance of *buildings* (excluding *minor buildings*) where the *trimming* or *modification* of vegetation is limited to within 3m from a window of a *habitable room* (including those used for hospital recovery but excluding those used for *visitor accommodation* which is not *temporary residential rental accommodation*) or 2m from a wall or roof of a *building* (excluding *minor buildings*);
- f. *trimming* or *modification* to achieve compliance with the requirements of the Electricity (Hazards from Trees) Regulations 2003;
- g. for a new fence (including post holes), where the purpose of the fence is to exclude stock and/or pests from the areas referred to in Standard 1 or contain stock in, or exclude pests from, areas not referred to in Standard 1, and for the maintenance of existing fences provided that the *trimming* or *modification* does not exceed 2 metres in width either side of the fenceline;
- h. involves only *indigenous vegetation* specifically planted as amenity planting within K017;
- i. of dead, diseased or dying vegetation and vegetation *modification*; where imminent danger exists to life or property;
- j. by *tāngata whenua* for traditional cultural practices that do not result in the removal, or death of any indigenous tree; or
- k. for flood protection, erosion control and *natural hazard* mitigation authorised as a *permitted activity* under [NH-FLOOD-R6](#).
- l. maintenance of existing *water pipes* provided that the *trimming* or *modification* does not exceed 1.0 metre in width either side of the *water pipe*.

**Note 1:** for *trimming* and *modification* of *indigenous vegetation* listed in Schedules [1](#), [2](#), [3](#), and [8](#) and [ECO-Table 1](#) see [ECO-R3](#), [ECO-R6](#), [ECO-R7](#), [TREE-R2](#), [TREE-R3](#), and [TREE-R4](#).

**Note 2:** "Indigenous vegetation" (see *NESPF* definition) clearance associated with *plantation forestry* activities carried out under the *NESPF* is excluded from this rule.

#### ECO-R5

Installation, maintenance and upgrading of underground *network utilities* within the drip line of *significant indigenous vegetation* in Schedules [1](#), [2](#) and [3](#) and [ECO-Table 1](#).

#### Permitted Activity

#### Standards

1. Drilling must be a minimum of 1m below the root zone; or
2. Hand dug trenches undertaken under the supervision of or by an arborist who has attained the New Zealand Qualifications Authority National Certificate in Arboriculture Level 4 or equivalent arboricultural qualification.

#### ECO-R6

The *modification* of any *indigenous vegetation*, that is:

- a. located within an Ecological Site listed in [Schedule 1](#); or
- b. a key indigenous *tree* listed in [ECO-Table 1](#) and exceeds either of the maximum size criteria diameter or *height* (excluding *trees* planted by humans); or
- c. a key indigenous *tree* listed in [Schedule 2](#); or
- d. a *rare and threatened vegetation species* listed in [Schedule 3](#); or
- e. in or within 20 metres of a *waterbody* or the coastal marine area where it not within the *urban environment*, (excluding planted vegetation);

is a *controlled activity* within the following *zones* and precincts:

General Residential Zone  
Ngārara Development Area  
Waikanae North Development Area  
Airport Zone  
Town Centre Zone  
Metropolitan Centre Zone  
Hospital Zone  
General Industrial Zone  
Local Centre Zone  
Mixed Use Zone  
Rural Lifestyle Zone

	Rural Eco-Hamlet Precinct Future Urban Zone Open Space Zone	
Controlled Activity	<p><b>Standards</b></p> <p>1. The <i>modification of indigenous vegetation</i> must be limited to:</p> <ol style="list-style-type: none"> <li><i>modification</i> of vegetation that is damaged, dead or dying; or has sustained storm damage; or is fatally diseased such that: <ol style="list-style-type: none"> <li>the <i>indigenous vegetation</i> is no longer independently viable or presents a <i>risk</i> of serious harm to people or property or risks damaging surrounding protected vegetation; and</li> <li>an arborist who has attained the New Zealand Qualifications Authority National Certificate in Arboriculture Level 4 or equivalent qualification has certified in writing that Condition (i) above is met; or</li> </ol> </li> <li><i>Modification</i> of planted <i>indigenous vegetation</i> where the applicant can demonstrate that it was not planted for ecological restoration or enhancement purposes or as a <i>biodiversity offset</i>.</li> </ol> <p><b>Note:</b> For <i>notable trees</i> listed in <a href="#">Schedule 8</a> see <a href="#">TREE-R2</a>, <a href="#">TREE-R3</a>, and <a href="#">TREE-R4</a>.</p> <p><b>Criteria for notification</b></p> <p>The written approval of persons will not be required and applications under this rule will not be served on any person or notified.</p>	<p><b>Matters of Control</b></p> <ol style="list-style-type: none"> <li>The extent and method of vegetation removal.</li> <li>The location and timing of planting of any plant species to compensate for the loss of vegetation.</li> <li>Any remedial work necessary to restore the site after the <i>modification</i> activity is complete.</li> <li>Public safety.</li> <li>Measures to avoid, remedy or mitigate <i>effects</i> on <i>tāngata whenua</i> values.</li> </ol>
ECO-R7	<p><i>Trimming or modification of any indigenous vegetation that:</i></p> <ol style="list-style-type: none"> <li>is within an <i>Ecological Site</i> (<a href="#">Schedule 1</a>);</li> <li>a <i>key indigenous tree</i> (<a href="#">ECO-Table 1</a>) (excluding <i>trees</i> planted by humans);</li> <li>is a <i>key indigenous tree</i> (<a href="#">Schedule 2</a>);</li> <li>is a <i>rare and threatened vegetation species</i> (<a href="#">Schedule 3</a>);</li> <li>is in or within 20 metres of a <i>waterbody</i> or the coastal marine area where it is not within an <i>urban environment</i> (excluding planted vegetation);</li> </ol> <p>and does not meet the <i>permitted activity</i> standards in <a href="#">ECO-R3</a>, and is not a <i>controlled activity</i> under <a href="#">ECO-R6</a>, is a <i>restricted discretionary activity</i> within the following zones and precincts:</p> <p>General Residential Zone  Ngārara Development Area  Waikanae North Development Area  Airport Zone  Town Centre Zone  Metropolitan Centre Zone  Hospital Zone  General Industrial Zone  Local Centre Zone  Mixed Use Zone  Rural Lifestyle Zone  Rural Eco-Hamlet Precinct  Future Urban Zone  Open Space Zone</p>	
Restricted Discretionary Activity	<p><b>Standards</b></p> <p><b>Note:</b> For <i>trees</i> listed as a <i>notable tree</i> in <a href="#">Schedule 8</a> see <a href="#">TREE-R2</a>, <a href="#">TREE-R3</a>, and <a href="#">TREE-R4</a>.</p>	<p><b>Matters of Discretion</b></p> <ol style="list-style-type: none"> <li><i>Effects</i> on: <ol style="list-style-type: none"> <li>biodiversity values;</li> </ol> </li> </ol>

		<ul style="list-style-type: none"> <li>b. visual, urban character and <i>amenity values</i>;</li> <li>c. the <i>natural character</i> of the <i>coastal environment</i>;</li> <li>d. public safety;</li> <li>e. any vegetation loss.</li> <li>f. <i>Tāngata whenua</i> values.</li> </ul>
<b>ECO-R8</b>	Modification of any <i>significant indigenous vegetation</i> to provide for a <i>residential building</i> , <i>minor residential unit</i> and associated <i>accessory buildings</i> (excluding <i>minor buildings</i> ) on a <i>site</i> where K017 covers more than 90% of the total area of that <i>site</i> , within a single <i>building platform</i> (one <i>building platform</i> per <i>allotment</i> ).	
Restricted Discretionary Activity	<b>Standards</b> <ol style="list-style-type: none"> <li>This rule shall only be applicable to the following properties: <ul style="list-style-type: none"> <li>LOT 1 DP 79075</li> <li>PT SEC 4 BLK III KAITAWA SD</li> <li>PT SEC 15 BLK I AKATARAWA SD</li> <li>NGĀRARA WEST C 18 SEC 2 BLKS II III AKATARAWA</li> <li>LOT 2 DP 79075</li> <li>PT LOT 1 DP 58689</li> <li>LOT 4 DP 419643</li> <li>SEC 6 DP 500 BLK VII KAITAWA SD</li> <li>LOT 2 DP 91308 BLK I TAUNGATA SD</li> <li>NGĀRARA WEST C4 BLK XIII KAITAWA SD</li> <li>PT SECS 14 &amp; 15 BLK IV KAITAWA SD LOT 1 DP 84368</li> <li>NGĀRARA WEST C 20 BLK II AKATARAWA SD</li> <li>SUBDIVISION B PT SECS 41 NGĀRARA WEST C BLOCK LOT 1 DP 3433</li> <li>LOT 2 DP 3433</li> <li>SECTIONS 9 10 BLK VII KAITAWA SD</li> <li>SEC 7 DP 500 BLK VII KAITAWA SD</li> <li>PT SEC 7 BLK VIII KAITAWA SD</li> <li>SEC 59 BLK X KAITAWA SD</li> <li>SEC 13 BLK I AKATARAWA SD</li> <li>LOT 2 DP 54995; and</li> <li>LOT1 DP 80188</li> </ul> </li> <li>The <i>building platform</i> created must involve no more than 500m<sup>2</sup> of <i>indigenous vegetation modification</i>.</li> <li>Unless access is provided by an existing access track, the <i>building platform</i> must be located within 500m of the <i>formed vehicle access</i> or right of way to the <i>site</i>.</li> </ol>	<b>Matters of Discretion</b> <ol style="list-style-type: none"> <li><i>Effects</i> biodiversity values;</li> <li><i>Effects</i> on <i>Tāngata whenua</i> values;</li> <li><i>Effects</i> on <i>indigenous vegetation</i> and habitat loss, with regard given to: <ul style="list-style-type: none"> <li>locating the <i>building platform</i> and aligning the access track so that the comparatively most significant (in the context of the <i>site</i>) vegetation and habitats are avoided;</li> <li>minimising the width of the access track and associated <i>indigenous vegetation modification</i> to the extent necessary to provide safe vehicular access between the <i>road</i> and <i>building platform</i>.</li> </ul> </li> <li>Ecological values, with regard to minimising the extent of <i>earthworks</i> required to form the <i>building platform</i> and access track.</li> </ol>
<b>ECO-R9</b>	<i>Plantation forestry</i> harvesting-on land within <i>Ecological Sites</i> .	
Restricted Discretionary Activity	<b>Standards</b> <ol style="list-style-type: none"> <li>No more than 10ha of any contiguous area used for <i>plantation forestry</i> shall be harvested in any one calendar year.</li> </ol>	<b>Matters of Discretion</b> <ol style="list-style-type: none"> <li>The degree of compliance with the Kāpiti Coast District Council Subdivision and</li> </ol>

	<div>2. No harvesting of <i>plantation forestry</i> shall be undertaken within 20 metres of any river whose bed has an average width of 3 metres or more where the river flows through or adjoins the forestry plantation.</div> <div>3. Each <i>site</i> containing a <i>plantation forest</i> activity shall have a <i>vehicle access</i> designed and built for the entry and exit of fire fighting vehicles and shall meet the following minimum requirements:</div> <div><div>a. 2.5 metres in width</div><div>b. 2.8 metres in height clearance (i.e. clear from vegetation, <i>buildings</i> and structures.)</div></div> <div>4. A fire plan shall be completed for all forestry blocks prior to harvesting by the forest owner or harvesting company and certified by the Council's Rural Fire Officer prior to commencing any <i>plantation forest</i> harvesting.</div> <div><b>Note:</b> <i>Council</i> will accept, as compliance with this standard, activities which are demonstrated to be consistent with the New Zealand Environmental Code of Practice for Plantation Forestry.</div>	<div>Development Principles and Requirements 2012.</div> <div>2. <i>Effects on historic heritage</i> and landscape values.</div> <div>3. Ecological <i>effects</i>.</div> <div>4. Visual and amenity <i>effects</i>.</div> <div>5. Traffic and transportation <i>effects</i>.</div> <div>6. Noise and nuisance <i>effects</i>.</div>
<b>ECO-R10</b>	Trimming or modification of <i>indigenous vegetation</i> that is within the Rural Production Zone, Rural Dunes Precinct, Natural Open Space Zone or a <i>River Corridor</i> that does not comply with one or more of the <i>permitted activity</i> standards in <a href="#">ECO-R4</a> .	
Restricted Discretionary Activity	<b>Standards</b>	<b>Matters of Discretion</b> <div><div>1. Consideration of the <i>effects</i> of the standard not met.</div><div>2. <i>Effects</i> on the <i>indigenous vegetation</i> and/or habitats of indigenous fauna including:<div><div>a. habitat loss;</div><div>b. biodiversity values;</div><div>c. visual and <i>amenity values</i>;</div></div></div><div>3. Measures to avoid, remedy or mitigate adverse <i>effects</i>.</div></div>
<b>ECO-R11</b>	Installation, maintenance and upgrading of underground <i>network utilities</i> within the drip line of <i>indigenous vegetation</i> in Schedules <a href="#">1</a> , <a href="#">2</a> , <a href="#">3</a> or <a href="#">ECO-Table 1</a> that does not comply with one or more of the <i>permitted activity</i> standards in <a href="#">ECO-R5</a> .	
Restricted Discretionary Activity	<b>Standards</b>	<b>Matters of Discretion</b> <div><div>1. Consideration of the <i>effects</i> of the standard not met.</div><div>2. <i>Effects</i> on the <i>indigenous vegetation</i> or habitats of indigenous fauna.</div><div>3. Measures to avoid, remedy or mitigate adverse <i>effects</i>.</div></div>
<b>ECO-R12</b>	Any activity which is identified as a restricted discretionary <i>activity</i> which does not comply with one or more of the relevant standards.	
Discretionary Activity	Note: This Rule does not apply to <i>earthworks</i> associated with activities permitted under <a href="#">NH-FLOOD-R4</a> , <a href="#">NH-FLOOD-R6</a> and <a href="#">NH-FLOOD-R7</a> .	
<b>ECO-R13</b>	<i>Buildings</i> (excluding <i>minor buildings</i> ) in and within 5 metres of an <i>Ecological Site</i> which are not a <i>restricted discretionary activity</i> under <a href="#">ECO-R8</a> .	
Discretionary Activity		
<b>ECO-R14</b>	<i>Planting of shelter belts</i> within <i>Ecological Sites</i> , or <i>geological feature</i> .	
Discretionary Activity		
<b>ECO-R15</b>	Planting of <i>plantation forestry</i> within <i>Ecological Sites</i> except replanting within 2 calendar years from completing harvesting of a plantation forest existing at the time of notification of this District Plan.	
Discretionary Activity		
See also - <a href="#">EW-R8</a> for earthworks within an Ecological Site.		

ECO-Table 1 - Key Indigenous Tree Species by Size	Dimensions That Relate to Rules				
	Common Name	Species	Māori Name	Diameter	Height (m)
				(circumference in cm)	
	Black maire	<i>Nestegis cunninghamii</i>	Maire rau nui	15.0 (47)	4
	Black pine	<i>Prumnopitys taxifolia</i>	Mataī	15.0 (47)	4



Broadleaf	Griselinia lucida	Puka	15.0 (47)	4
Brown pine	Prumnopitys ferruginea	Miro	15.0 (47)	4
Cabbage Tree	Cordyline australis	Ti kōuka	30.0 (95)	4
Cork Tree	Entelea arborescens	Whau	15.0 (47)	4
Hīnau	Elaeocarpus dentatus	Hīnau	15.0 (47)	4
Kaikōmako	Pennantia corymbosa	Kaikōmako	15.0 (47)	3
Kāmahi	Weinmannia racemosa	Kāmahi	15.0 (47)	4
Kohekohe	Dysoxylum spectabile	Kohekohe	15.0 (47)	4
Kōwhai	Sophora microphylla	Kōwhai	30.0 (95)	4
Lacebark	Hoheria sextylosa	-	15.0 (47)	4
Large leaved milk tree	Stebulus banksii	Turepo	15.0 (47)	4
Marbleleaf	Carpodetus serratus	Putaputaweta	15.0 (47)	4
Narrow leaved lacebark	Hoheria angustifolia	-	15.0 (47)	4
Narrow-leaved maire	Nestegis montana	Maire kōtae or rōro	15.0 (47)	4
New Zealand honeysuckle	Knightia excelsa	Rewarewa	15.0 (47)	4
New Zealand myrtle	Lophomyrtus bullata	Ramarama	15.0 (47)	4
New Zealand myrtle	Lophomyrtus obcordata	Rōhutu	15.0 (47)	4
Nikau	Rhopalostylis sapida	Nikau	15.0 (47)	4
Northern Rātā	Metrosideros robusta	Rātā	15.0 (47)	4
Pigeonwood	Hedycarya arborea	Porokaiwhiri	15.0 (47)	4
Poataniwha	Melicope simplex	Poataniwha	15.0 (47)	4
Pōkākā	Elaeocarpus hookerianus	Pōkākā	15.0 (47)	4
Pukatea	Laurelia novaezealandiae	Pukatea	15.0 (47)	4
Red mapou	Myrsine australis	Matipo	15.0 (47)	3
Red Pine	Dacrydium cupressinum	Rimu	15.0 (47)	4
Ribbonwood	Plagianthus regius	Mānatu	15.0 (47)	4
Small leaved milk tree	Strebilus heterophyllus	Turepo	15.0 (47)	4
Swamp maire	Syzygium maire	Maire tawake	15.0 (47)	4
Tawa	Beilschmiedia tawa	Tawa	15.0 (47)	4
Tea tree	Leptospermum scoparium	Mānuka	15.0 (47)	3
Thin-leaved coprosma	Coprosma areolata	-	15.0 (47)	3
Titoki	Alectryon excelsus	Titoki	15.0 (47)	4
Toro	Myrsine salicina	Toro	15.0 (47)	4
Tōtara	Podocarpus tōtara	Tōtara	30.0 (47)	4
Tree fuchsia	Fuchsia excorticata	Kōtukutuku	15.0 (47)	4
Wharangi	Melicope ternata	Wharangi	15.0 (47)	3
White maire	Nestegis lanceolata	Maire rauriki	15.0 (47)	4
White Pine	Dacrycarpus dacrydioides	Kahikatea	15.0 (47)	4
White tea tree	Kunzea robusta or Kunzea amathicola	Kānuka	15.0 (47)	3
Whiteywood	Melicytus ramiflorus	Māhoe	30.0 (95)	4
Wire netting brush	Corokia cotoneaster	Korokio tāra	15.0 (47)	3

ECO-Table 2 - Principles to be Applied When Proposing and Considering Biodiversity Offsets		Principles to be Applied When Proposing and Considering Biodiversity Offsets		
	1	<b>Adherence to the mitigation hierarchy:</b>		
		<p><i>Biodiversity offsets</i> will only be considered where they are used to offset the anticipated significant residual adverse biodiversity <i>effects</i> of activities on <i>significant indigenous vegetation</i> or <i>significant habitats of indigenous fauna</i> after appropriate avoidance, minimisation and mitigation actions have occurred in accordance with the following mitigation hierarchy set out in Policy <a href="#">NE-P3</a>:</p> <ol style="list-style-type: none"> <li>avoiding as far as practicable, and where total avoidance is not practicable, minimising adverse <i>effects</i>;</li> <li>requiring remediation where adverse <i>effects</i> cannot be avoided;</li> <li>requiring mitigation where adverse <i>effects</i> on the areas identified above cannot be avoided or remediated; and</li> <li>where residual adverse <i>effects</i> remain that are more than minor, consider the appropriateness of using of <i>biodiversity offsets</i> through protection, restoration and enhancement actions to achieve no net loss and preferably a net gain in indigenous biodiversity values.</li> </ol> <p>Any proposal will:</p> <ol style="list-style-type: none"> <li>document the appropriate measures taken to avoid, remedy or mitigate any adverse <i>effects</i> of the activity on biodiversity; and</li> </ol>		

	<p>b. demonstrate that the biodiversity offset addresses the residual adverse <i>effects</i> of the activity.</p>
2	<p>No net biodiversity loss:</p> <p>Any proposals for <i>biodiversity offsets</i> will provide measurable positive <i>effects</i> on biodiversity at the <i>subject site</i>, or where appropriate, close to the <i>subject site</i> or within the ecological district, which can reasonably be expected to result in no net loss and preferably a net gain of biodiversity.</p> <p>No net loss of biodiversity is determined with respect to species composition (e.g. individual species or species groups), habitat structure (e.g. vegetation tiers), ecosystem health (e.g. nutrient cycling rates), and cultural use values (e.g. valued habitats or species).</p> <p>The offset is applied so that the ecological values being achieved through the offset are the same or similar to those being lost.</p> <p>Any proposals for <i>biodiversity offset</i> will demonstrate that:</p> <ol style="list-style-type: none"> <li>an explicit calculation of loss and gain has been undertaken and that demonstrates the manner in which no net loss or a net gain of biodiversity can be achieved; and</li> <li>the <i>biodiversity offset</i> design and implementation should include provisions for addressing sources of uncertainty and risk of failure in delivering the biodiversity offset.</li> </ol>
3	<p>Additional conservation outcomes:</p> <p>Any proposal for biodiversity offset will demonstrate that actions undertaken as a <i>biodiversity offset</i> are additional to what would otherwise occur, including that they are additional to any remediation or mitigation undertaken in relation to the adverse effects of the activity.</p>
4	<p>Limits to what can be offset:</p> <p>Biodiversity offsetting is inappropriate when an activity has the potential to cause adverse <i>effects</i>, or residual adverse <i>effects</i>, on an area:</p> <ol style="list-style-type: none"> <li>where the biodiversity values of that area are highly vulnerable or irreplaceable; or</li> <li>where there is no appropriate site, knowledge, proven methods, expertise or mechanism available to design and implement an adequate <i>biodiversity offset</i>.</li> </ol>
5	<p>Landscape context:</p> <p>Any proposals for <i>biodiversity offsets</i> will:</p> <ol style="list-style-type: none"> <li>be designed and implemented in a landscape context, i.e. with a demonstrated understanding of both the donor and recipient sites role, or potential role in the ecological context of the area.</li> <li>take into account available information on the full range of biological, social and cultural values of biodiversity and supports an ecosystem-scale approach; and</li> <li>take into account other likely future developments, such as competing land use pressures, within the landscape. Long- term outcomes:</li> </ol>
6	<p>The positive ecological outcomes of the offset last at least as long as the impact of the activity, and preferably in perpetuity. Adaptive management responses should be incorporated into the design of the offset, as required to ensure that the positive ecological outcomes are maintained over time.</p> <p>Any proposal for biodiversity offsetting will include a biodiversity offset management plan that:</p> <ol style="list-style-type: none"> <li>sets out baseline information on biodiversity that is potentially impacted by the proposal at both the donor and recipient sites; and</li> <li>demonstrates that management arrangements, legal arrangements (e.g. covenants) and financial arrangements (e.g. bonds) are in place that allow the positive effects to endure as long as the adverse effects of the activity, and preferably in perpetuity; and</li> <li>is be able to be implemented and enforced in line with any resource consent conditions associated with the activity, including: <ol style="list-style-type: none"> <li>specific, measurable and time-bound targets, and</li> <li>mechanisms for adaptive management using the results of periodic monitoring and evaluation against identified thresholds to determine whether the mitigation or biodiversity offset is on track and how to rectify if necessary; and</li> </ol> </li> <li>establishes roles and responsibilities for managing, governing, monitoring and enforcing the biodiversity offset.</li> </ol>