



Mamaku

Site Number:	SNA 1
Ecological District:	Rotorua Lakes (2,627.94 ha) and Atiamuri (46.08 ha)
Source of Information:	Shaw and Beadel (1998); small parts have been inspected between 2014-2016.
Digital Scale:	1:2,000
Data Source:	Bay of Plenty 0.25m Rural Aerial Photos (2015-17)
Regional Council:	Bay of Plenty
1998 Site Number:	NHS No. 1
Current Tenure:	Unprotected
Site Area:	2,674.02ha
Altitude Range:	320-680 m
Bioclimatic Zone:	Lowland and submontane
Grid Reference:	NZTM E1877461, N5768361

VEGETATION		LANDFORM	EXTENT
CODE	TYPE		
1	Tawa forest A remnant stand of tawa forest that has been modified by past logging and grazing practises. Canopy also includes abundant miro and rimu which are occasionally emergent. Tree ferns in the canopy and understorey include <i>Cyathea smithii</i> , whekī, mamaku and whekī-ponga. Understorey is primarily comprises leaf litter, bare soil, and scattered plants of <i>Hypolepis ambigua</i> , <i>Histiopteris incisa</i> , supplejack and small tree ferns.	Flat, gentle hillslopes	31.49 ha
2	Kōhūhū-horoeka-whauwhaupaku-karamū-mingimingi-bracken-mānuka-kāmahi-rewarewa-gorse scrub With scattered willow-leaved hakea and a few emergent pines; local pole tawa, kāmahi and hīnau, and a few rimu, miro, tānekaha and totara seedlings and saplings are present.	Gentle-moderate hillslopes and steep knolls	149.48 ha
3	Rewarewa/tawa-tāwari-māhoe forest (occasional residual rimu and miro, and rare mataī (<i>Prumnopitys taxifolia</i>); isolated mangeao and pukatea remain in some gullies); māhoe, pate, putaputawētā, kanono, whauwhaupaku, karamū, kōhūhū, porokaiwhiri, makomako, māpou, hangehange, <i>Coprosma lucida</i> , mamaku, whekī, ponga and <i>Cyathea smithii</i> are common in the understorey.	Bluffs, gullies, rolling and steep hillslopes	526.79 ha
4	Kāmahi-rewarewa forest (with local hard beech, pole miro, rimu, toatoa (<i>Phyllocladus toatoa</i>), totara, tānekaha and scattered tāwari present in the sub-canopy).	Ridges and knolls, steep hillslopes	533.80 ha
5	(Hīnau)-(pukatea)-(miro)-(mataī)/tawa-rewarewa-kāmahi-tāwari forest (with scattered mangeao and local hard beech, toatoa, tānekaha, totara, Hall's totara (<i>Podocarpus laetus</i>), and tāwheowheo (<i>Quintinia serrata</i>); pate, māhoe, kanono, porokaiwhiri, kōhūhū, hangehange). Whekī, mamaku, ponga, <i>Cyathea smithii</i> , and māhoe are common in the understorey.	Steep hillslopes, bluffs, rolling hillslopes	343.68 ha
6	Tawa-kāmahi-(rewarewa) forest (with scattered mangeao and rimu; a few miro are also present).	Rolling and steep hillslopes; stream margins	93.74 ha
7	Māhoe-kōtukutuku-whekī ponga-(pate)-(whauwhaupaku) scrub and forest (with local patches of bracken, <i>Hypolepis ambigua</i> and rank pasture, and scattered Himalayan honeysuckle, kānuka and gorse).	Rolling hillslopes	97.35 ha
8	Whekī-ponga/Histiopteris incisa-(kiokio) fernland (with scattered pampas and Himalayan honeysuckle).	Flat, gentle hillslopes	17.95 ha
9	Māhoe-whauwhaupaku-kōhūhū-pate-mamaku-whekī/rank pasture shrubland (with scattered rewarewa, tawa and tāwari).	Flat, gentle hillslopes	2.51 ha

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10	(Rewarewa)-(kōhūhū)-(whauwhaupaku)/bracken-kiokio-whekī-(gorse) shrub-fernland (with locally common kānuka, and scattered horoeaka and toetoe).	Flat, gentle hillslopes	6.41 ha
11	Horoeaka-kōhūhū-(rimu)-(tānekaha)/kānuka scrub	Flat, gentle hillslopes	Not mapped separately
12	5↔7	Not identified	24.03 ha
13	Tawa-rewarewa-kāmahi-tāwari forest (heavily logged with very scattered emergent hīnau, mangeao, rimu, pukatea, miro and mataī; local hard beech stands on sharp ridges and knolls; tānekaha, toatoa, Hall's totara, and tāwheowheo occur on bluffs).	Not identified	172.02 ha
14	1↔2	Not identified	Not mapped separately
15	10↔11	Not identified	4.74 ha
16	1↔3	Not identified	Not mapped separately
17	4↔3.	Not identified	138.86 ha
18	5↔2.	Not identified	368.18 ha

Indigenous Flora: No threatened or at risk plant species as listed in de Lange *et al.* 2013 have been recorded from this site.

Fauna: Post-1980 Wildlife Service surveys located North Island kokako (*Callaeas wilsoni*) and North Island kaka (*Nestor meridionalis septentrionalis*) at several sites within this site and adjoining reserves. Whio (*Hymenolaimus malachorhynchus*), North Island fernbird, and bats were also recorded within this area. Long-tailed bats will certainly be present and short-tailed bats may be present as they are present nearby in Mokaihaha Ecological Area and Mt Ngongotahā. Other indigenous forest birds present in this site include North Island robin, kereru (*Hemiphaga novaeseelandiae*), pied tit (*Petroica macrocephala toitoi*), bellbird, tūī (*Prothemadera novaeseelandiae*), morepork (*Ninox novaeseelandiae*), whitehead, silveryeye, , grey warbler, and Australasian harrier (*Circus approximans*). Much of this site was ranked as of outstanding wildlife habitat value by the Wildlife Service (Saunders 1983). Vegetation Type 1 had a resident North Island fernbird population (At Risk-Declining) (Pardy 1995a). North Island kokako and North Island kaka are unlikely to still utilise this site on a regular basis.

Notes on Overall Condition: The site mainly comprises forests modified by logging but includes small areas of unlogged forest in inaccessible areas, e.g. steep gorges. Secondary vegetation that developed following clearance occurs locally.

Change Relative to Shaw and Beadel (1998): Since 1998, there has been clearance of several areas of indigenous vegetation near E1871124 N5777578, E1871391 N5775263, E1870824 N5773318, and E1876415 N5773318.

Threats/Modification/Vulnerability: The majority of these areas are not grazed. Feral animals are present throughout, including deer, possum, wallabies, and locally, goats. Goats are regularly controlled. Firewood operations and ponga cutting is occurring in the northern section of the site, and tracks dissect this area; domestic stock also graze pockets of forest within this land parcel.

Risk Assessment: Grazing by stock: Risk to site - high; Timeframe - high.

Pest animals: Risk to site - high; Timeframe - high.

Firewood operations: Risk to site - high; Timeframe - high.

Significance Level: Regional (Appendix 8 - Table 1 - Criteria 1, 2, 3, 5, 7, 8, 9, 11, 12, and 13; Table 2 - Factors R8 and R9).

Significance Justification: This site is of Regional significance as it comprises several areas of representative indigenous forest, some large and some small, all of which are contiguous with (or near) an extensive tract of indigenous forest on the Mamaku Plateau. This larger forest tract spans parts of three ecological districts (Rotorua Lakes, Tokoroa, and Atiamuri).

The site includes indigenous vegetation on the “undulating with knolls” landform unit in the lowland and submontane bioclimatic zones. This ecological unit is under-represented in the existing reserve system in the Rotorua Lakes Ecological District. In addition, there are 2.4 ha of indigenous vegetation on high terraces. Although only a relatively small area, indigenous vegetation on this land type in this ecological district is very rare with less than 1% remaining. The site also contains 9 ha of vegetation on flat undulating land in the lowland bioclimatic zone; this ecological unit is also under-represented in the existing reserve system.

This site may provide habitat for ‘At Risk’ bird species, e.g. North Island fernbird.

Field Work Required: Yes. Biodiversity and management information is out of date. Some parts were not visited during surveys in the 1990s. Some parts have been cleared since surveyed by Shaw and Beadel (1998).

Notes: A small part of this site lies in the Atiamuri Ecological District.

Access to the southern end of this site was not obtained in 1996 by Shaw and Beadel (1998). The extent of Vegetation Type 1 was determined by studying aerial photographs.

This site was identified as a “Recommended Area for Protection” (RAP No. 1) in the natural area survey of Rotorua Lakes ED (Beadel *et al.* 1998).

Fencing to exclude grazing animals and continued goat control would maintain and/or improve ecological values.

Site inspection in 2016, requested by two landowners, did not cover the entire area included in this SNA (as indicated by the site Figure) but did include a very small portion of Vegetation Type 5 and the entire extent of Vegetation Type 15.

Parts of the site that are now protected natural areas have been removed from this SNA.

References: Pardy (1995a, 1995b, and 1995c); Shaw and Beadel (1998); Beadel *et al.* (1998); Saunders (1983).