





Legend

- Rotorua 2019 SNA boundary
- Areas to be added to SNA
- Cadastral boundary

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Changes to SNA 708 (Tokerau Wetland A) based on inspection of aerial photographs, November 2019



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Scale: 1:2,500
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Tokerau Wetland A

Site Number:	708
Ecological District:	Rotorua Lakes
Source of Information:	Wildland Consultants (2010)
Digital Scale:	1:5,000
Data Source:	Bay of Plenty 0.25m Rural Aerial Photos (2015-17)
Regional Council:	Bay of Plenty
1998 Site Number:	Not identified as a site in Shaw and Beadel (1998)
Current Tenure:	Unprotected
Site Area:	8.5 ha
Altitude Range:	260-280 m
Bioclimatic Zone:	Lowland
Grid Reference:	NZTM E1899574, N5787406

VEGETATION		LANDFORM	EXTENT
CODE	TYPE		
1	<p>Maire tawake forest</p> <p>A significant example of maire tawake (<i>Syzygium maire</i>) forest is present in this site. Large trees up to c.40 cm or more in diameter are dominant, with other large trees of kahikatea (<i>Dacrycarpus dacrydioides</i>), and pukatea (<i>Laurelia novae-zealandiae</i>) also present in the canopy. Species present in the shrub tier include saplings of the above species, and kareao (<i>Ripogonum scandens</i>), mapou (<i>Myrsine australis</i>), wheki (<i>Dicksonia squarrosa</i>), mahoe (<i>Melicytus ramiflorus</i>), porokaiwhiri (<i>Hedycarya arborea</i>), and mamaku (<i>Cyathea dealbata</i>). Seedlings of kahikatea, maire tawake, pukatea, and tawa (<i>Beilschmiedia tawa</i>) were all noted. Kiekie (<i>Freycinetia banksii</i>) is present locally, and <i>Metrosideros perforata</i> and <i>Trichomanes venosum</i> are present as epiphytes on treeferns. There are a few examples of puka (<i>Griselinia lucida</i>).</p>	Wetland	1.7 ha
2	<p>Mangeao-tawa-rewarewa forest</p> <p>Extending from the wetland up onto hillslopes and small gullies, mangeao (<i>Litsea calicaris</i>), tawa and rewarewa (<i>Knightia excelsa</i>) dominate the hillslopes. Other species present in this vegetation unit include pukatea, rimu (<i>Dacrydium cupressinum</i>), mamaku, pigeonwood, kamahi (<i>Weinmannia racemosa</i>), mahoe (<i>Melicytus ramiflorus</i>) and wheki.</p>	Hillslope	2.6 ha
3	<p>Mānuka-harakeke-Machaerina rubiginosa shrubland</p> <p>Harakeke (<i>Phormium tenax</i>) grows amongst manuka (<i>Leptospermum scoparium</i>) (up to c.2 m in height) and <i>Machaerina rubiginosa</i> in this vegetation unit. A dense cover of sphagnum moss is present underneath the manuka and throughout. Other species present include purei (<i>Carex virgata</i> and <i>Carex secta</i>), panakenake (<i>Lobelia angulata</i>), <i>Eleocharis acuta</i>, maru (<i>Sparganium subglobosum</i>), swamp kiokio (<i>Blechnum minus</i>), <i>Hydrocotyle novae-zeelandiae</i> var. <i>novae-zeelandiae</i>, <i>Coprosma tenuicaulis</i>, and Yorkshire fog (<i>Holcus lanatus</i>). Occasional seedling and</p>	Wetland	1.5 ha

VEGETATION		LANDFORM	EXTENT
CODE	TYPE		
	sapling grey willow (<i>Salix cinerea</i>) are present at the lower end of this unit.		
4	(Grey willow)/Machaerina rubiginosa-swamp millet-Yorkshire fog grass-sedgeland A few grey willow saplings and shrubs are emergent over <i>Machaerina rubiginosa</i> , swamp millet (<i>Isachne globosa</i>), Yorkshire fog, and sweet vernal (<i>Anthoxanthum odoratum</i>). Other species present include <i>Carex virgata</i> , <i>Eleocharis acuta</i> , maru, <i>Coprosma tenuicaulis</i> , with local areas of <i>Carex sinclairii</i> , harakeke, and manuka.	Wetland	0.7 ha
5	Machaerina rubiginosa-purei-swamp kiokio-Yorkshire fog-swamp millet grass sedgeland This highly variable vegetation type is generally dominated by <i>Machaerina rubiginosa</i> and <i>purei</i> (<i>Carex virgata</i> and <i>Carex secta</i>), with Yorkshire fog, sweet vernal, swamp millet, and swamp kiokio present throughout. There is scattered manuka and wheki, with local <i>Eleocharis acuta</i> , lotus (<i>Lotus pedunculatus</i>), <i>Carex maorica</i> , <i>Coprosma tenuicaulis</i> , and <i>Carex geminata</i> . There are a few occasional grey willow saplings in this type near vegetation type 3.	Wetland	1.2 ha
6	Purei-exotic pasture grasses grass-sedgeland Purei (<i>Carex virgata</i> and <i>Carex secta</i>), exotic grasses (including Yorkshire fog and sweet vernal), and herbs (including lotus, giant buttercup (<i>Ranunculus acris</i>), spearwort (<i>Ranunculus flammula</i>), and water figwort (<i>Scrophularia auriculata</i>)) dominate three areas within Tokerau Wetland A. Swamp millet, <i>Eleocharis acuta</i> , panakenake, manuka and swamp kiokio are present throughout. Local areas of <i>Machaerina rubiginosa</i> , swamp kiokio, wheki and <i>Carex maorica</i> also occur in this vegetation type in the centre of the wetland. Pole kahikatea are present in the western and northern examples of this vegetation unit.	Wetland	0.8 ha

Indigenous Flora: No threatened or at risk plant species as listed in de Lange *et al.* 2013 have been recorded from this site. *Gahnia xanthocarpa*, maru (*Sparganium subglobosum*), and maire tawake (swamp maire; *Syzygium maire*), all found in Tokerau Wetland A, are considered to be regionally uncommon in the Bay of Plenty (Beadel 2009). This is the best and largest known population of maire tawake in the Bay of Plenty.

Fauna: North Island fernbird (*Bowdleria punctata vealeae*; At Risk-Declining) have been detected in Vegetation Type 3. No spotless crane (*Porzana tabuensis plumbea*; At Risk-Relict) have been detected, but the wetland nevertheless represents potential habitat for this species. Pukeko, magpie, fantail, tui, and dunnoek have been recorded at this site.

Dama wallaby are present within the forest and should be controlled. Brush-tail possums, feral cats (*Felis catus*), ship rats, Norway rats (*R. norvegicus*), rabbits (*Oryctolagus cuniculus*), mice (*Mus musculus*), hedgehogs (*Erinaceus europaeus*), stoats (*Mustela erminea*), and weasels (*M. nivalis vulgaris*) are also likely to be present.

Notes on Overall Condition:	Predominantly unmodified wetland with some exotic plant species in the sedgeland types and around the site margins. More than 150 mature trees of maire tawake are present in vegetation type 1. Seedling and sapling maire tawake are also present.
Change Relative to Shaw and Beadel (1998):	Unknown.
Threats/Modification/Vulnerability:	<p>Scattered shrubs of grey willow are present at the bottom end of Tokerau Wetland A (Vegetation Types 2, 3 and 4) and are likely to spread throughout this area if not controlled. Tradescantia (Types 1 and 5) and gorse are present. Chinese privet is present on the wetland margins. Parrot's feather (<i>Myriophyllum aquaticum</i>) is present in a drain within the neighbouring property.</p> <p>This wetland is surrounded by pine plantation and farmland. This site will be vulnerable during adjacent plantation forestry operations.</p> <p>Dama wallaby and brush-tail possum are present within the forest.</p>
Risk Assessment:	<p>Pest plants: Risk to site - medium; Timeframe - medium.</p> <p>Plantation forestry operations: Risk to site - low; Timeframe - low.</p> <p>Pest animals: Risk to site - low; Timeframe - low.</p> <p>Clearance: Risk to site - low; Timeframe - low.</p>
Significance Level:	Regional (Appendix 8 - Table 1 - Criteria 3.1, 3.2, 3.3, 3.5, 3.6, 3.9; Table 2 - Factor R19).
Significance Justification:	This wetland is of Regional significance because it contains the largest and best example of maire tawake forest in the Region. It contains wetland habitat, a much reduced vegetation type in Rotorua Lakes Ecological District and nationally. This site supports indigenous species that are regionally uncommon (maru, <i>Gahnia xanthocarpa</i> , maire tawake) and provides habitat that can contribute to the maintenance of at risk bird species such as North Island fernbird and spotless crane. Small areas of this site are degraded but the habitat retains a natural hydrology and has a high potential for restoration. The site provides a natural buffer, to water runoff entering Lake Rotoiti.
Field Work Required:	No field work required.
Notes:	None.
References:	Wildland Consultants (2010).