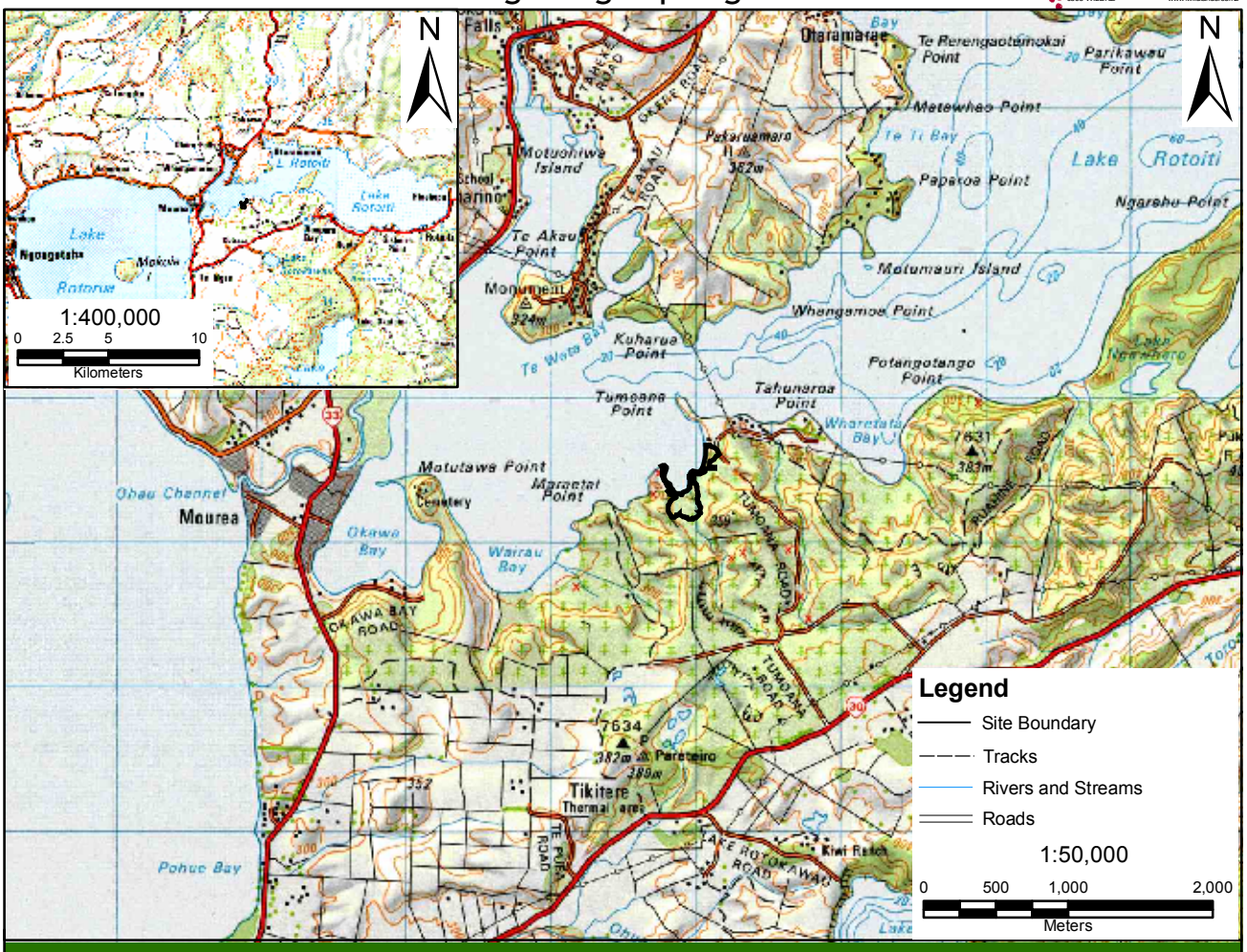
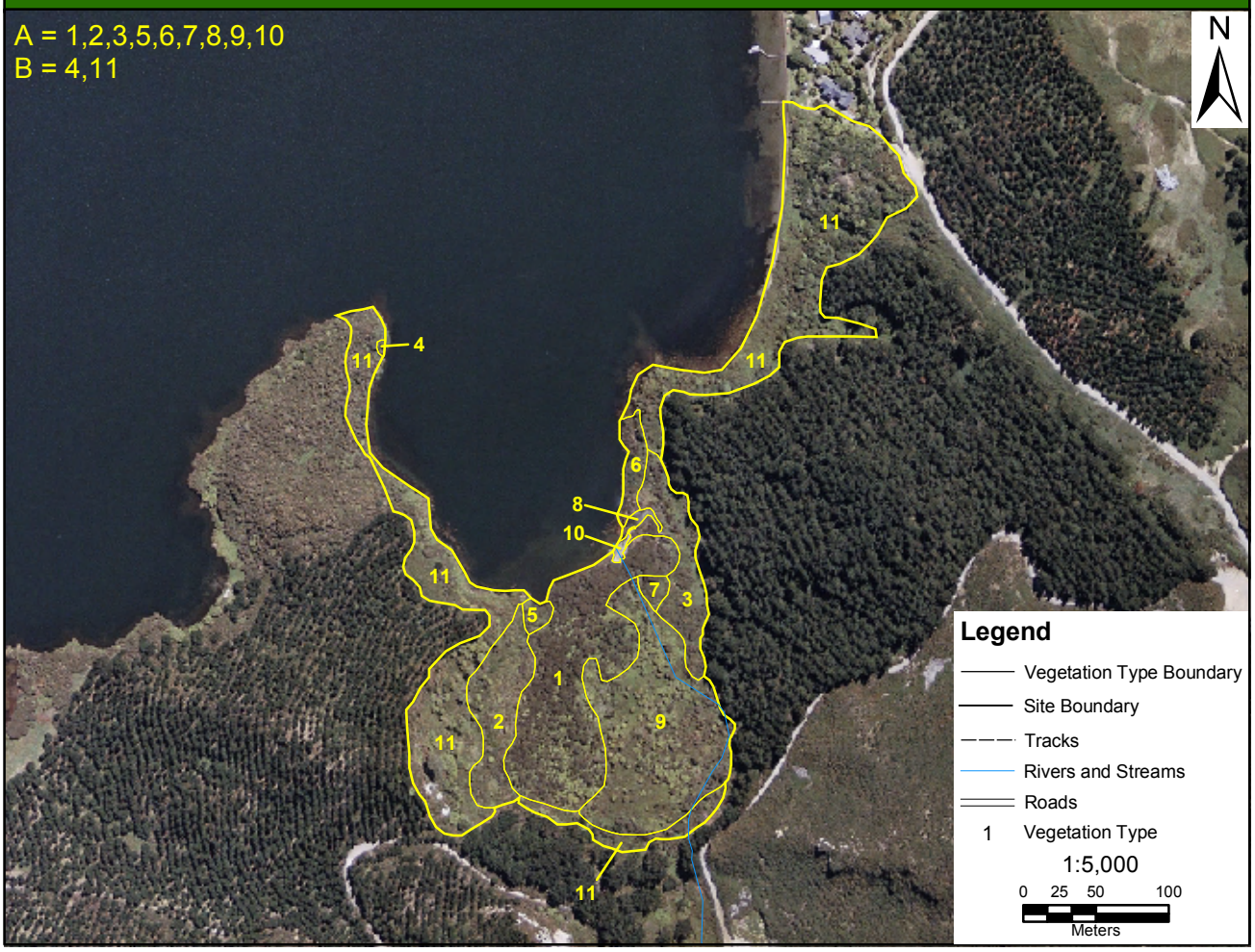
SNA 121

Parengarenga Springs





Parengarenga Springs[1]

Site Number: SNA121
Ecological District: Rotorua Lakes
Source of Information: Wildland Consultants (2005)
Digital Scale: 1:2,000
Data Source: RDAM 2006
Regional Council: Bay of Plenty
1998 Site Number: NHS No. 32
Current Tenure: Unprotected
Site Area: 5.4 ha
Altitude Range: 280-310 m
Bioclimatic Zone: Lowland
Grid Reference: NZTM E1894804, N5783786

VEGETATION		LANDFORM	EXTENT
CODE	TYPE		
1	Manuka scrub A dense canopy of manuka with scattered plants of *Baumea rubiginosa*, *Histiopteris incisa*, *Hypolepis ambigua*, and occasional gorse, wheki and kiokio.	Wetland	1.0 ha
2	Manuka/*Baumea rubiginosa* shrubland Manuka and occasional swamp coprosma are common over a dense understorey of *Baumea rubiginosa*, *Hypolepis ambigua,* and *Histiopteris incisa.* Scattered patches of swamp millet, *Hypolepis ambigua*, gorse, wheki, kiokio and *Carex geminata* are present.	Wetland	0.4 ha
3	Gorse-blackberry/Yorkshire fog-*Histiopteris incisa-Hypolepis ambigua* shrubland Blackberry and gorse form an open canopy over Yorkshire fog, *Histiopteris incisa* and *Hypolepis ambigua*. Occasional wheki, manuka, and small patches of *Baumea rubiginosa* present.	Flat	0.3 ha
4	*Histiopteris incisa* fernland One small spring surrounded by open water on one side and *Histiopteris incisa* and gorse on the bank above the spring. Some sinter deposits present. One deciduous small tree present, probably a fig tree (*Ficus* sp.)[2].	Bank above hot spring	<0.1 ha
5	*Carex virgata-Carex secta-Cyperus ustulatus-Baumea articulata* sedgeland A mixture of sedges occur on the margins of Lake Rotoiti with *Carex virgata, Carex secta, Cyperus ustulatus* and *Baumea articulata* present over open water. Occasional wheki are also present.	Wetland	<0.1 ha
6	*Baumea articulata* sedgeland *Baumea articulata* occurs in open water on the margins of Lake Rotoiti.	Wetland	0.1 ha
7	*Baumea arthrophylla* sedgeland A small unit of dense *Baumea arthrophylla* with scattered manuka on margins.	Wetland	<0.1 ha
8	Geothermal influenced water Hot springs and a hot stream drain into Lake Rotoiti. Emergent *Baumea articulata* is common.	Open water	<0.1 ha
9	Wheki/gorse-*Histiopteris incisa* treeland Wheki is dominant over gorse and occasional manuka.	Gently sloping	1.1 ha

[1] This site was combined with Tumoana Point in Shaw and Beadel (1998).
[2] The Wildland Consultants (2005) survey was undertaken during winter, and deciduous trees were leafless.

VEGETATION CODE	VEGETATION TYPE	LANDFORM	EXTENT
	Histiopteris incisa, Hypolepis ambigua, and kiokio are common in the understorey.		
10	Nonvegetated raw soilfield Sinter, heated soil.	Flat	<0.1 ha
11	Unidentified indigenous exotic forest and scrub	Hillslope	2.4 ha

Indigenous Flora: No threatened or at risk plants as listed in de Lange *et al*. (2009) were recorded in the 2005 survey. Indigenous species typical of geothermal habitats are present, including manuka, *Cyperus ustulatus*, *Baumea articulata*, *Hypolepis ambigua*, *Baumea rubiginosa*, *Carex virgata* and *Histiopteris incisa*.

Fauna: Common indigenous and introduced birds typical of the habitats include bellbird, blackbird, grey warbler, and pukeko. New Zealand dabchick ('Threatened - Nationally Vulnerable' in Miskelly *et al*. 2008) and little shag ('At Risk - Naturally Uncommon' in Miskelly *et al*. 2008) are also present. Wallaby, rabbit and possum sign was present on the margins.

Notes on Overall Condition: The site comprises the best geothermal wetland vegetation on the margins of Lake Rotoiti. The site is in a good condition and appears to have improved markedly since the 1996 survey of Beadel *et al.* (1996b).

Change Relative to Shaw and Beadel (1998): The extent of geothermal vegetation and habitat at this site is similar to that recorded by Beadel *et al.* (1996b); however, the quality of indigenous vegetation at the site appears to have improved since stock have been excluded from this site.

Threats/Modification/ Vulnerability: ***Invasive Exotic Plants***: Gorse (1-5% cover) is common at the site, particularly on drier landforms.

***Human Impacts*:** Radiata pines have been planted on the margins of the site. Care should be taken during harvesting to ensure that damage to geothermal vegetation is kept to a minimum. Several planted radiata pine trees have fallen into geothermal vegetation.

It is thought that the Tikitere Geothermal Field may be linked to the Taheke Field, for which a geothermal power plant is proposed. If there is a link, then Parengarenga Springs could be threatened by this proposal.

***Grazing*:** This site has been grazed in the past but has recovered well in the wettest parts of the site. The site should be fenced if the surrounding land is farmed in the future.

Risk Assessment: Plantation forestry management: Risk to site - medium; Timeframe - medium.

Significance Level: Refer to accompanying site map for demarcation of Sites A and B.

A. Regional (Appendix 10-Table 1-Criteria 1, 4, 8, 11, 12, 13; Table 2-Factors R4, R7)
B. Local (Appendix 10-Table 1-Criterion 4; Table 2-Factor L1) – Interim ranking only.

Significance Refer to accompanying site map for demarcation of Sites A and B.

Justification:

A. These areas are of regional significance because they contain one of the best examples of good quality geothermal wetland in the Bay of Plenty Region.

B. This area is of local significance as it contains geothermal habitat, a nationally uncommon habitat type.

Fieldwork Required: Yes. Geothermal vegetation does not require fieldwork. Unidentified vegetation types require updating.

Notes: This site is downstream of Maraeroa (another geothermal site). Parengarenga Springs comprises wetland and geothermal vegetation that has developed following the clearance of the original vegetation, around geothermal springs and warm swampy ground.

A pa site is located adjacent to the thermal area which is covered in gorse.

This site was identified as part of a "Recommended Area for Protection" (RAP No. 32) in the natural area survey of Rotorua Lakes ED (Beadel *et al*. 1998).

References: Beadel *et al*. (1996b); Given (1978); Shaw and Beadel (1998); Wildland Consultants (2005c).