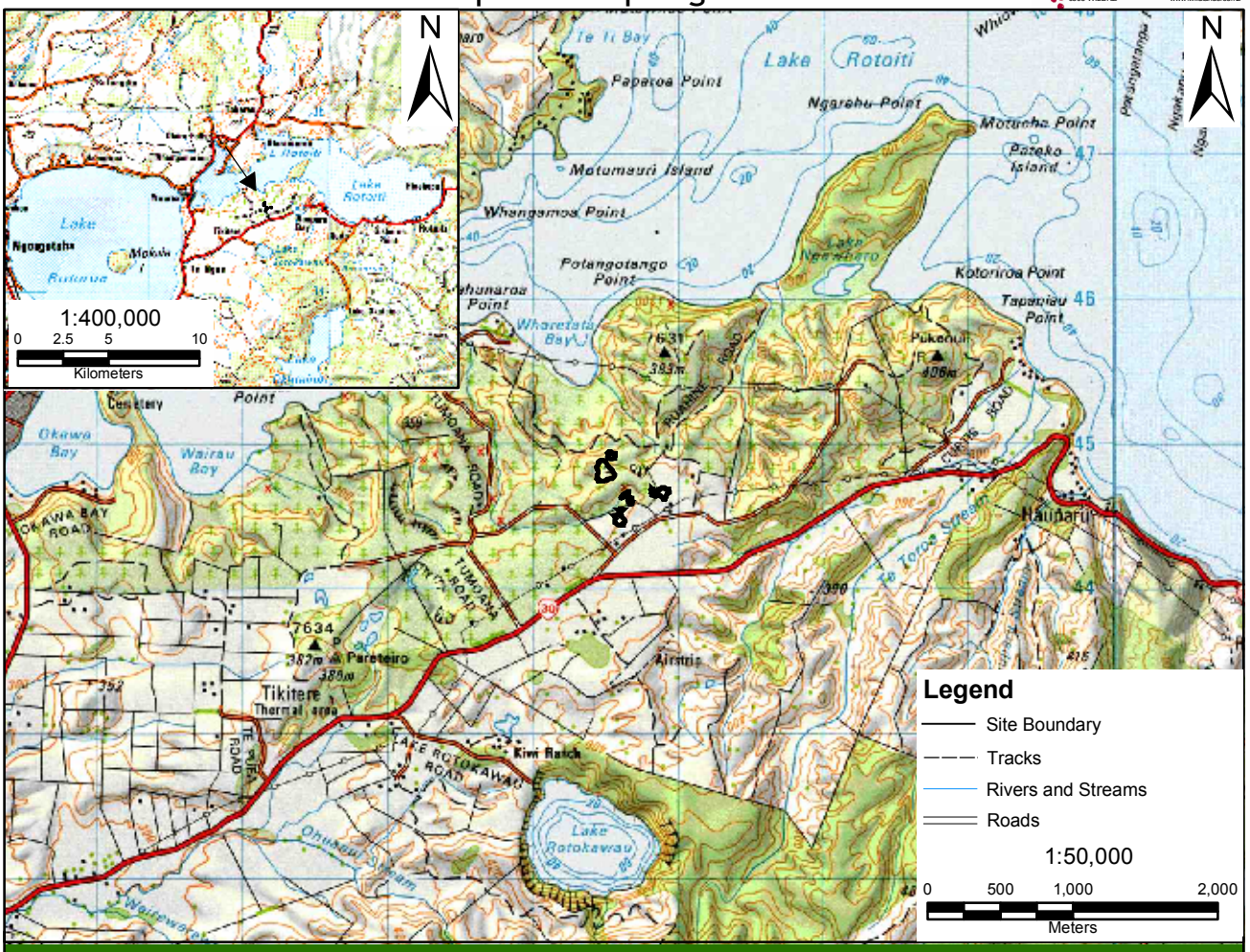
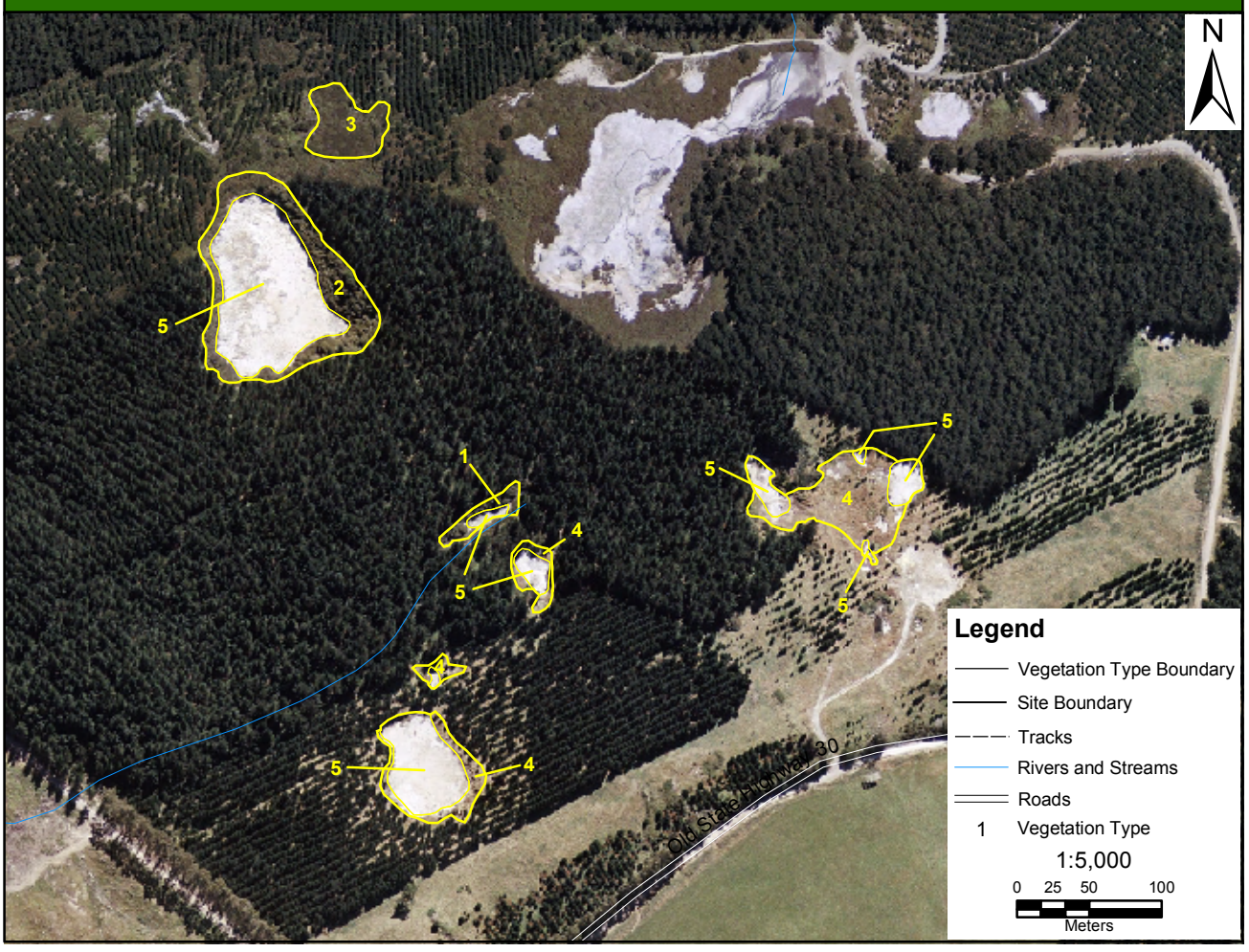
SNA 125

Papakiore Springs





Papakiore Springs

Site Number: SNA125
Ecological District: Rotorua Lakes
Source of Information: Wildland Consultants (2005c) - Geothermal Site No. 19
Digital Scale: 1:2,000
Data Source: RDAM 2006
Regional Council: Bay of Plenty
1998 Site Number: Not identified as a site in Shaw and Beadel (1998)
Current Tenure: Unprotected
Site Area: 2.6 ha
Altitude Range: 350-380 m
Bioclimatic Zone: Lowland
Grid Reference: NZTM E1896346, N5783306

VEGETATION		LANDFORM	EXTENT
CODE	TYPE		
1	Kanuka-radiata pine/manuka-mingimingi forest Kanuka and radiata pine surround an area of nonvegetated raw-soilfield. The understorey comprises manuka, mingimingi, *Histiopteris incisa*, gorse, and bracken.	Stream margin; gently sloping	<0.1 ha
2	Mingimingi-kanuka scrub Mingimingi and kanuka dominate with the occasional patch of prostrate kanuka shrubland present. Radiata pine and gorse are common on margins of geothermal vegetation. Several small patches of narrow-leaved carpet grass are present. One Douglas fir was recorded on the margin of this vegetation type.	Hillslope	0.5 ha
3	Kanuka-mingimingi scrub A small unit of kanuka and mingimingi dominant scrub. Occasional kamahi and radiata pine are present. This vegetation type is surrounded by a thick gorse cover.	Hillslope	0.2 ha
4	Narrow-leaved carpet grass grassland Narrow-leaved carpet grass grassland with occasional emergent radiata pine. Mercer grass, Yorkshire fog and browntop are also common. Some small patches of *Histiopteris incisa, Juncus edgariae,* and mingimingi with the occasional prostrate kanuka and manuka are present.	Moderately sloping	0.6 ha
5	Nonvegetated raw-soilfield Sinter, heated soil, hot springs and occasional fumaroles.	Flat, gently sloping	1.3 ha

Indigenous Flora: A small population of prostrate kanuka ('At Risk - Naturally Uncommon' in de Lange 2009) is present at this site – it is an endemic species restricted to geothermal sites. Other indigenous species typical of geothermal habitats are present, including kanuka, mingimingi, manuka, turutu, *Histiopteris incisa*, and bracken.

Fauna: Common indigenous and introduced birds typical of the habitat are present including tui, bellbird, grey warbler, fantail, chaffinch, and pheasant. No threatened or at risk species as listed in Miskelly *et al*. (2008) have been recorded from this site.

Notes on Overall Condition: The vegetation in areas A, B, C and D (see accompanying site map) are in poor condition. Areas E and F have a high proportion of indigenous species (including geothermal vegetation) and are in a moderate condition.

Change Relative to The extent and composition of geothermal vegetation and habitat at this site

Shaw and Beadel (1998):	is similar to that recorded in 1996 (Beadel *et al.* 1996b).
Threats/Modification/ Vulnerability:	***Invasive Exotic Plants***: Much of the geothermal vegetation is surrounded by plantation forestry dominated by radiata pine. Wilding pines (1-5% cover) have spread into geothermal vegetation. Parts of the geothermal vegetation present at the site are threatened by clearance for pine plantation, damage during logging operations, and herbicide application on the adjacent pine plantations. Parts of the site are surrounded by thick gorse (5-25% cover) which has invaded into cooler margins of geothermal areas. ***Human Impacts***: The boundaries of the geothermal vegetation have been planted with radiata pine. Care should be taken during harvesting to ensure that damage to geothermal vegetation is kept to a minimum. Several formed and unformed tracks occur around geothermal areas. One of the springs has been altered to establish bathing facilities. ***Grazing***: No sign of recent farming of the sites, although the area has been farmed in the past. The geothermal sites should be fenced to exclude stock if the surrounding land is farmed in the future.
Risk Assessment:	Pest plants: Risk to site - high; Timeframe - high. Forestry operations: Risk to site - medium; Timeframe - medium.
Significance Level:	See accompanying site map for demarcation of areas A and B. A. Regional (Appendix 10 - Table 1 - Criterion 4; Table 2 - Factor R9). B. Local (Appendix 10 - Table 1 - Criterion 4; Table 2 - Factor L1).
Significance Justification:	A. These areas are of regional significance because they contain a small population of prostrate kanuka ('At Risk - Naturally Uncommon'). B. These areas are of local significance as they contain nationally uncommon habitat - geothermal habitat.
Fieldwork Required:	No fieldwork is required.
Notes:	None
References:	Beadel *et al*. (1996b); Clarkson *et al*. (1990); Given (1978); Wildland Consultants (2005c).