



Mangamingi Station

Site Number:	713
Ecological District:	Atiamuri
Source of Information:	Wildland Consultants (2014a)
Digital Scale:	1:5,000
Data Source:	WRAPS 2012
Regional Council:	Waikato
1998 Site Number:	Not identified as a site in Shaw and Beadel (1998)
Current Tenure:	Unprotected
Site Area:	c. 0.5 ha
Altitude Range:	600-630 m
Bioclimatic Zone:	Submontane
Grid Reference:	NZTM E1880782, N5742165

VEGETATION		LANDFORM	EXTENT
CODE	TYPE		
1	<p>Mānuka-mingimingi scrub</p> <p>A small area of mānuka and mingimingi scrub above an area of geothermal activity. Other species present include kōhūhū, whekī, horoeka, and tāwiniwini. One rimu (<i>Dacrydium cupressinum</i>) seedling was also recorded. <i>Pyrrosia eleagnifolia</i> was epiphytic in this vegetation type. Lower banks are covered with non-vascular species and occasional <i>Asplenium flaccidum</i>. Sheep tracks are evident through the understorey and exotic grasses are common.</p>	Hillslope	<0.1 ha
2	<p>Ring fern-exotic grasses fernland</p> <p>This vegetation type is a mosaic of ring fern fernland and sweet vernal-browntop grassland. Several patches of kiokio and <i>Doodia australis</i> are also present.</p>	Hillslope	c.0.3 ha
3	<p>Ring fern fernland</p> <p>Ring fern fernland, with common patches of <i>Lycopodiella cernua</i> and <i>Hypolepis ambigua</i>, and scattered mingimingi, tūrutu, and prostrate kānuka. There are local patches of pasture dominated by sweet vernal, browntop, white clover, and sheep's sorrel. Three juvenile plants of <i>Dicranopteris linearis</i> were recorded at one location in this vegetation type.</p>	Hillslope	<0.1 ha
4	<p>Sweet vernal-browntop grassland</p> <p>Well grazed pasture. Common species present include sweet vernal, browntop, white clover, and sheep's sorrel with occasional Scotch thistle (<i>Cirsium vulgare</i>), cocksfoot, and <i>Gonocarpus micranthus</i>. Patches of ring fern are common.</p>	Hillslope, gully	c.0.1 ha
5	<p>Nonvegetated raw-soilfield</p> <p>Bare geothermally influenced clays and silicified rocks and several pools of geothermally influenced water. Mostly bare ground, but scattered areas of mossfield and exotic grasses are present. Non-vascular plant species present include the mosses <i>Campylopus clavatus</i> and <i>Wijkia extenuata</i>, and the liverwort <i>Monoclea fosteri</i>; however a detailed non-vascular plant survey was not undertaken. Scattered plants of the following species are also present: prostrate kānuka, <i>Lycopodiella cernua</i>, ring fern, water fern, mingimingi, prickly mingimingi, <i>Blechnum fluviatile</i>, and Spanish heath.</p>	Hillslope, gully	c.0.1 ha

Indigenous Flora: *Dicranopteris linearis* (At Risk-Naturally Uncommon) and prostrate kānuka (At Risk-Naturally Uncommon) are present within the site. Prostrate kānuka is scattered throughout the site, and three juvenile plants of *D. linearis* were recorded at NZTM E1880808 N6303706. *D. linearis* is known from only c.23

sites in New Zealand. Other species typical of geothermal habitats recorded were *Lycopodiella cernua*, tūrutu, *Campylopus clavatus*, *Paesia scaberula*, mānuka, mingimingi, prickly mingimingi, tāwiniwini, *Blechnum penna-marina* subsp. *alpina*, *Doodia australis*, *Hypolepis ambigua*, *Gonocarpus micranthus*, and water fern.

Fauna:	No threatened or at risk bird species as listed in Robertson <i>et al.</i> 2013 have been recorded from this site. Common bird species recorded were goldfinch, paradise shelduck, and Australian magpie. The site is grazed by sheep.
Notes on Overall Condition:	The site is currently grazed by sheep and is in a poor condition with trampling and grazed vegetation present throughout the site. Despite this the site contains populations of two at risk plant species and has relatively few pest plants. If fenced to exclude sheep, and major pest plants such as blackberry and Spanish heath are controlled, it is likely that the populations of prostrate kānuka and <i>Dicranopteris linearis</i> will expand in size.
Change Relative to Shaw and Beadel (1998):	Unknown
Threats/Modification/Vulnerability:	Several Spanish heath plants are present. The site is within a farm paddock which is currently grazed by sheep.
Risk Assessment:	Grazing: Risk to site - medium; Timeframe - low. Pest plants: Risk to site - medium; Timeframe - low. Pest animals: Risk to site - low; Timeframe - low. Trampling by humans: Risk to site - low; Timeframe - low.
Significance Level:	Local (Table 1 - Criteria 3, 5; Table 2 - Factor 19).
Significance Justification:	Mangamingi Station is locally significant because it is a small example of a habitat type that is nationally uncommon (geothermally heated dry soils; Williams <i>et al.</i> 2007; Holdaway <i>et al.</i> 2012). It also supports small populations of two 'At Risk' species (prostrate kānuka and <i>Dicranopteris linearis</i>), but does not represent habitat of considerable importance to the conservation of these species. If fenced to exclude stock, the indigenous vegetation of the site is likely to improve markedly, and the ecological values of the site would increase. Prostrate kānuka and <i>Dicranopteris linearis</i> populations would be likely to increase in size.
Field Work Required:	No field work required.
Notes:	This site was identified based on a summary of known geothermal features in Hochstein (2007b). The Hochstein study was based on summaries of geothermal features in the Orakeikorako and Te Kopia geothermal fields from Lloyd (1974) and Bignell (1994). The site is about 700 m to the east of other patches of geothermal vegetation mapped at Te Kopia (TKV01). It is on the Landcorp-owned Mangamingi Station and has only recently become known to ecologists and geologists. Paul Cashmore (Department of Conservation, Rotorua) provided background information on this site. A geophysical assessment of the surface geothermal manifestations at this site is presented in Appendix 4 (Wildland Consultants 2014a). This assessment was undertaken in 2010.
References:	None