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Ohaaki Steamfield East

Site Number:	715
Ecological District:	Atiamuri
Source of Information:	Wildland Consultants (2014a)
Digital Scale:	1:5,000
Data Source:	Bay of Plenty 0.25m Rural Aerial Photos (2015-17)
Regional Council:	Waikato
1998 Site Number:	Not identified as a site in Shaw and Beadel (1998)
Current Tenure:	Unprotected
Site Area:	c.0.8 ha
Altitude Range:	c.305 m
Bioclimatic Zone:	Submontane
Grid Reference:	NZTM E1889483, N5729076
Description and Assessment:	The description and assessment below covers the entire natural area, which is mainly within a protected area. The Ohaaki Steamfield East SNA comprises a small unprotected area adjacent to the larger Ohaaki Steamfield QEII covenant natural area and this area is shown on the SNA site map. The significance assessment is based on the ecological values of the entire natural area which the Ohaaki Steamfield East SNA is a part of. Note: vegetation types not present in the SNA are not shown in this site sheet, however they are presented in Wildland Consultants 2014a.

VEGETATION		LANDFORM
CODE	TYPE	
1	Prostrate kānuka scrub Prostrate kānuka scrub with occasional patches of mānuka scrub. Mingimingi, monoao, Spanish heath, broom, and bracken are present on the margins with scattered emergent radiata pine and maritime pine. Small areas of raw-soilfield and moss patches are also present.	Geothermal basin

Indigenous Flora: Prostrate kānuka (At Risk-Naturally Uncommon) is present at this site¹. Arrow grass, generally a coastal species which occasionally occurs inland, has been recorded at the site in the past (Burns 1997a).

Fauna: No threatened or at risk bird species as listed in Robertson *et al.* 2013 have been recorded from this site². Common indigenous and introduced bird species typical of the habitat are present including spur-winged plover, chaffinch, Californian quail, house sparrow, and fantail.

Cat sign was noted during the 2011 survey of this site¹.

Notes on Overall Condition: The site¹ is currently in relatively poor condition, with abundant pest plants and recent human disturbance, however values are likely to improve if management of site threats is undertaken. Based on inspection of the 2012 aerial photographs (WRAPS 2012), blackberry control has been undertaken in parts of the site. New roads are also evident within the site.

Given (1989) and Burns (1997a) noted that the quality of this site had deteriorated due to rubbish disposal, effluent from the lucerne drying plant

¹ Refers to entire Ohaaki Steamfield East natural area.

² Refers to entire Ohaaki Steamfield East natural area.

polluting the ponds, and an increase in adventive weeds. Geothermal wastewater is no longer discharged into this site from the former lucerne-drying plant but the landowner is investigating options for reinjection. There is no longer open geothermal water here.

In 2011, the landowner had mulched a track through the blackberry and had started felling wilding pines. An area of pines (outside of the site) has been felled and cleared and this area will be part of a site-wide restoration/planting programme the landowner wishes to undertake. To ensure that this will successfully protect and enhance the natural values of the site the landowner will require some advice and/or assistance. A restoration plan to guide this process should be prepared by an ecologist with experience in restoration of geothermal areas.

Change Relative to Shaw and Beadel (1998):

Unknown

Threats/Modification/Vulnerability:

Weeds are abundant¹. Particularly blackberry, pines, Spanish heath, and broom, which together cover c.50% of the site. Hot spots appear to be resistant to weed invasion as long as the indigenous vegetation remains free from disturbance. A single mature lodgepole pine is present in this site. Contact Energy is undertaking ongoing control of wilding pines and pampas within this site.

Ohaaki Power Station draws water from the underlying geothermal resources and this may affect geothermal features dependent on geothermal heat. To date there is no evidence of cooling or heating of the site (Burns 1997a; Merrett and Burns 1998a).

Geothermal wastewater dumping into this site has ceased in the last four or five years, but reinjection options are being considered.

Tracks cut through the site to gain access for weed control have, on the whole, been located through blackberry, but prostrate kānuka seedlings were noted along the newly formed track and may continue to establish on disturbed sites.

Most of this site¹ is fenced to exclude domestic livestock but one area of nonvegetated raw-soilfield is located in a grazed paddock.

This site is mainly surrounded by farmland with the Ohaaki Thermal Kiln operation on the northern margin.

Risk Assessment:

Grazing: Risk to site - low; Timeframe - low.

Pest plants: Risk to site - medium; Timeframe - medium.

Significance Level:

Regional (Table 1 - Criteria 1, 3, 5; Table 2 - Factors 1, 14).

Significance Justification:

Ohaaki Steamfield East¹ is of regional significance because it is partially protected by a QEII National Trust covenant and is a relatively large example of geothermal habitat, which includes a nationally uncommon ecosystem type (geothermally heated dry ground; Williams et al. 2007; Holdaway et al. 2012).

¹ Refers to entire Ohaaki Steamfield East natural area.

The site also contains a good population of an 'At Risk' plant species (prostrate kānuka), but does not contain habitat of considerable importance for the conservation of this species.

Field Work Required: This site¹ is a high priority for field survey. Inspection of 2012 aerial photographs indicates that some geothermal vegetation has been destroyed since the 2007 aerial photographs were flown. Management requirements and priorities require updating.

Notes: Given (1996) assessed the botanical value of many of the geothermal sites in the Waikato Region, and in that study, this site¹ was classed as Category B - the second highest category.

Site name was Ohaaki Steamfield 2 in Beadel & Bill (2000).

References: Beadel (1986); Beadel and Bill (2000); Burns (1997a); Given (1989a & 1996); Merrett and Burns (1998a); Merrett *et al.* (2003); Wildland Consultants (2004c, 2012 & 2014)