





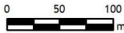
Legend

- Yellow line: Rotorua 2019 SNA boundary
- Red hatched area: Areas to be deleted from SNA
- White line: Cadastral boundary

Data Acknowledgment
Map contains data sourced from LINZ
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BOPLASS Aerials 2016

Report: 3417J
Client: D1 1931
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File: SNA_8_2019.mxd

Changes to SNA 8 (Waiowhoro Flat Wetland) following site visit 24 October 2019



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Scale: 1:4,221
Date: 27/11/2019
Cartographer: KM
Format: A3R

Waiowhiro Flat Wetland

Site Number: SNA8
Ecological District: Rotorua Lakes
Source of Information: Shaw and Beadel (1998)
Digital Scale: 1:2,000
Data Source: RDAM 2006
Regional Council: Bay of Plenty
1998 Site Number: NHS No. 8
Current Tenure: Unprotected
Site Area: 39.9 ha
Altitude Range: 290-300 m
Bioclimatic Zone: Lowland
Grid Reference: NZTM E1883185, N5778119

VEGETATION		LANDFORM	EXTENT
CODE	TYPE		
1	Grey willow/swamp coprosma- <i>Baumea</i> -blackberry-swamp kiokio forest (with local harakeke, <i>Carex secta</i> , karamu and manuka; local patches of Yorkshire fog and lotus).	Flat	49.9 ha

Indigenous Flora: No threatened or at risk species as listed in de Lange *et al.* (2009) have been recorded from this site.

Taxa present include *Baumea arthrophylla*, *B. tenax*, swamp kiokio, *Carex secta*, *C. virgata*, *Coprosma robusta* × *C. propinqua*, *Eleocharis gracilis*, *Lemna minor*, and *Schoenus maschalinus*.

Fauna: No threatened or at risk species as listed in Hitchmough *et al.* (2007) or Miskelly *et al.* (2008) have been recorded from this site. Common forest birds are present in this area; lake birds utilise the margins of this site.

Notes on Overall Condition: Highly modified wetland, with an exotic canopy and an understorey of predominantly indigenous vegetation.

Change Relative to Shaw and Beadel (1998): Part of this site has been cleared since Shaw and Beadel (1998).

Threats/Modification/Vulnerability: This wetland was grazed by cattle, horses, and sheep, causing degradation to the indigenous understorey in 1996. Drains have been dug through the wetland, but do not appear to be affecting watertable levels (Shaw 1990). Colonisation by adventive plants is the most serious threat to this wetland at present, and disturbance caused by grazing and digging drains is likely to exacerbate this problem.

Risk Assessment: Drainage: Risk to site - high; Timeframe - high.
Grazing (cattle, horses, sheep): Risk to site - high; Timeframe - high.

Significance Level: Regional (Appendix 5 - Table 1 - Criteria 1, 6, 7, 8, 9, 10, 11, 12, 13; Table 2 - Factors R8, R17).

Significance Justification: This site is regionally significant because it is a comparatively large wetland, with exotic and indigenous vegetation, on the margins of Lake Rotorua. Lake edge wetlands are effective in controlling nutrient and bacteria inputs to lakes

via ground water contaminated from urban development and rural agricultural practices (Gibbs & Lusby 1996).

This site includes flats and wetlands in the lowland bioclimatic zone. The extent of indigenous vegetation on these ecological units has been greatly reduced and very little is protected in the existing reserve system.

Fieldwork Required: Yes. Management and biodiversity information is lacking. Vegetation maps require updating based on field survey and new aerial photographs. Lake edge near the site also requires field inspection to identify and assess the natural values.

Notes: This site was recommended for protection (RAP No. 8) as part of a natural area survey of Rotorua Lakes ED (Beadel *et al.* 1998).

References: Shaw (1990); Beadel *et al.* (1998); Shaw and Beadel (1998).