



Lake Rotoiti

Site Number:	SNA115
Ecological District:	Rotorua Lakes
Source of Information:	Clayton <i>et al.</i> 1989
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:	3,391.4 ha
Altitude Range:	280-310 m
Bioclimatic Zone:	Lowland
Grid Reference:	NZTM E1899139, N5785668

VEGETATION		LANDFORM	EXTENT
CODE	TYPE		
1	Open water	Open water	3,390.7 ha
2	Unidentified vegetation	Islands	0.7 ha

Indigenous Flora: Emergent vegetation, dominated by *Baumea articulata* and raupo, occupied c.5% of the total shoreline of Lake Rotoiti in 1988 and occasional pockets of *Schoenoplectus tabernaemontani* were present in protected and sheltered bays. A “diverse short shallow water plant association” of 11 species was recorded, but was restricted to the southern shoreline. *Glossostigma diandrum*, *Lilaeopsis ruthiana*, *Limosella lineata*, and *Isoetes kirkii* were the dominant species of the submerged macrophyte communities (Clayton *et al.* 1989).

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

Fauna: Provides habitat for a number of indigenous bird species, including black-billed gull (‘Threatened - Nationally Endangered’ in Miskelly *et al.* 2008), red-billed gull, Caspian tern, New Zealand dabchick (all ‘Threatened - Nationally Vulnerable’), black shag, little black shag, and little shag (all ‘At Risk - Naturally Uncommon’) (see Wildland Consultants 2008a).

Notes on Overall Condition: An important habitat for at risk and threatened fauna. The habitat has been affected by high phosphorus levels in recent years, which has produced algal blooms. The current Trophic Level Index is 4.7 (Environment Bay of Plenty 2008a), indicating a eutrophic state and LakeSPI = 23, indicating submerged vegetation dominated by exotic species (Edwards *et al.* 2007).

Change Relative to Shaw and Beadel (1998): Not assessed in Shaw and Beadel (1998). Increased occurrence of algal blooms. A diversion wall has been constructed at the north-western end of the lake.

Threats/Modification/Vulnerability: *Invasive Exotic Plants:* In 1988, *Lagarosiphon major*, *Ceratophyllum demersum*, *Elodea canadensis*, and *Egeria densa* were common within the littoral zone of the lake, often covering large areas of lake bed up to a water depth of 6 m (Clayton *et al.* 1989). Currently, the submerged vegetation of the lake is dominated by *Egeria* (Edwards *et al.* 2007).

Human impacts: Threatened by nutrient inputs from urban areas and

farmland in its catchment.

Other: Lake water quality is particularly threatened by high nutrient inflows from Lake Rotorua via the Ohau Channel. However, construction is now underway to divert water from Lake Rotorua away from the centre of Lake Rotoiti, so that it flows directly down the Kaituna River.

Risk Assessment:	Unknown
Significance Level:	National (Appendix 4 - Table 1 - Criteria 1, 2, 3, 5, 7, 8, 9, 10, 11, 12, 13; Table 2 - Factors N9, N12, N15).
Significance Justification:	This site is of national significance as it is one of a series of large lakes typical of the character of the Rotorua Lakes Ecological District. It provides important habitat for threatened and at risk bird species.
Fieldwork Required:	No fieldwork is required to assess ecological values of this site.
Notes:	None
References:	Wildland Consultants (2008a); Innes <i>et al.</i> (1999); Clayton <i>et al.</i> (1989); Environment Bay of Plenty (2008a); Edwards <i>et al.</i> (2007).