

# Lake Rotorua

## INFOSHEET 9, DECEMBER 2017

*This information sheet has been prepared for Te Arawa whānau to summarise information about:*

- *research and monitoring occurring on Lake Rotorua.*
- *projects occurring on, and adjacent to Lake Rotorua, particularly efforts to reduce the impacts of land use on lake water quality.*

*It will be reviewed and updated annually.*

### NAME MEANING

Lake Rotorua, the shortened form of Te Rotorua nui ā Kahumatamomoe or the large lake of Kahumatamomoe.

### IWI

Ngāti Whakaue, Ngāti Uenukukopako, Ngāti Parua, Ngāti Rangiteaorere, Ngāti Te Taringa, Ngāti Rangiwewehi, Ngāti Hurunga.

### AT A GLANCE

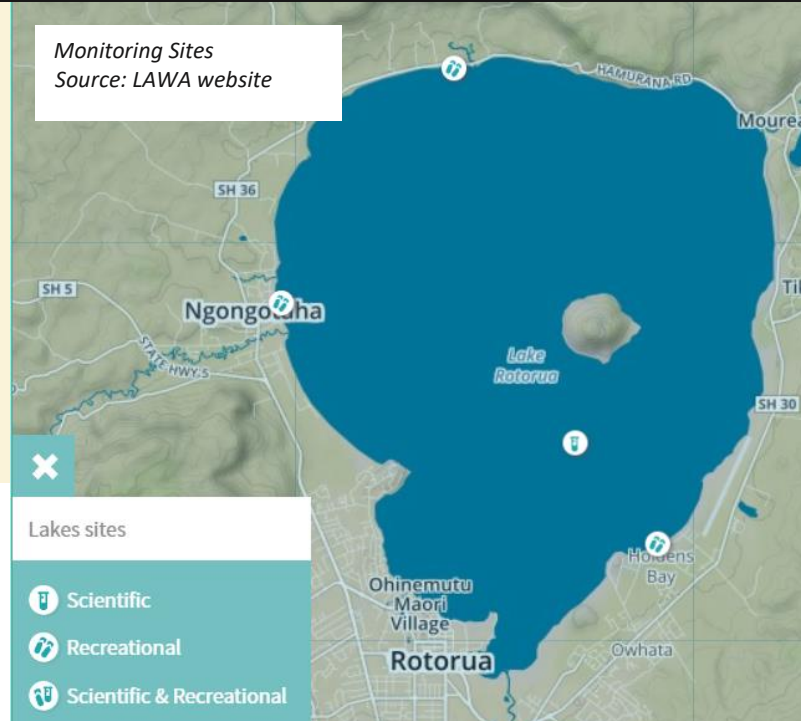
Lake size:	8060 ha
Catchment area:	50060 ha
Elevation:	280 m
Average depth:	11 m
Deepest point:	45 m

It is the largest lake in the district formed from the crater of a large volcano.

### WATER QUALITY MONITORING

The Regional Council carries out regular monitoring of Lake Rotorua. This includes:

- **Swimming water quality** – Three sites measured from October to June. Any health warnings are posted on the Regional Council and Toi Te Ora Public Health websites.

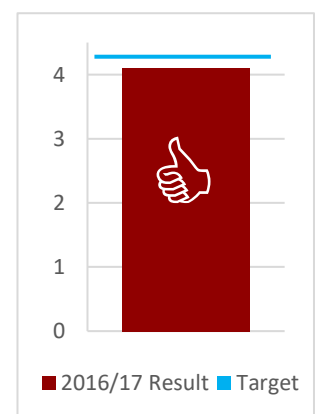


- **Scientific** – One site measured monthly for clarity, algae, phosphorous and nitrogen. Result articulated as an annual Trophic Level Index or TLI.

### WATER QUALITY STATUS

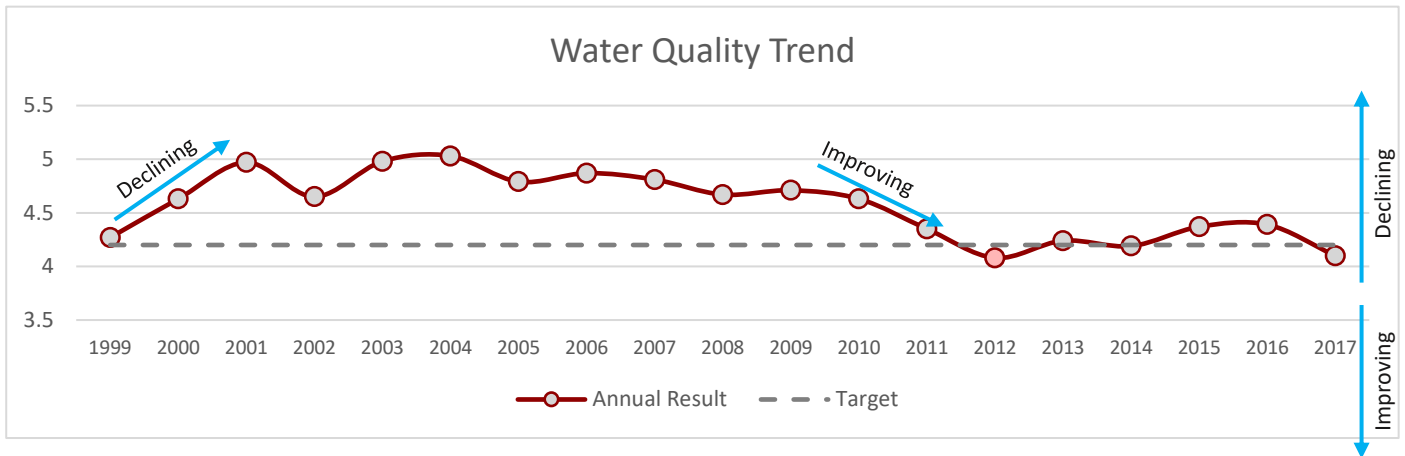
The Trophic Level Index (TLI) is used to give an overall picture of the health of Lake Rotorua.

**TLI target met.** For the 2016/17 year, the TLI was 4.1, which is below the target of 4.2.



### WATER QUALITY TREND

Water quality has improved since 2009. Interventions such as alum dosing and the floating wetland help in the short to medium term. The main intervention is changes in land use and management, the benefits of which take time to reach the lake.



## RESEARCH

Includes, but is not limited to:

Taonga fish species research, NIWA, 2007

- Koaro are rare, confined to streams
- Kākahi, tuna and kōura present.

Ngāti Rangiwewehi Kōaro Restoration Project

- Trout removed from kōaro habitat at Waitarere Stream and trout barrier installed
- Monitoring since 2012 shows an increase in kōaro populations

Stream health assessment trial, 2014

- Assessment by Wally Lee & Alistair Suren (BOPRC) using scientific and cultural indicators.
- Trialled at two sites. Study found a good correlation between scientific and cultural indicators.
- Recommendation: Council should establish a region-wide cultural health monitoring programme.

## TE ARAWA MONITORING

Te Arawa Lakes Trust is embarking on a project to measure and monitor the cultural health of Lake Rotorua using indicators that are more meaningful to us. This will be piloted in Lake Tarawera. We will also continue working with Dr Ian Kusabs who monitors kōura populations in our lakes using tau (bracken fern bundles).

## LAKE ACTION PLANS

**Draft Lake Rotorua and Rotorua Action Plan 2009 -**

This Plan comprises 17 actions to improve the water quality in Lakes Rotorua and Rotorua.

It includes projects and actions for the regional council, district council and catchment landowners. Download from:

<http://www.rotorualakes.co.nz/vdb/document/78>

## ACTION PLAN PROJECTS

Includes, but is not limited to:

Project	Status
To achieve long term improvements to water quality, a mix of solutions are in place: <ul style="list-style-type: none"> <li>• Regulation (Plan Change 10) – rules to control land use within the catchment to reduce nitrogen loss to the lake.</li> <li>• Gorse conversion fund – funding to convert land with gorse to forestry, native bush or other low nitrogen leaching activities.</li> <li>• Incentives programme – financial incentives to adopt land use change to permanently reduce nitrogen loss to the lake.</li> <li>• Engineering solutions – see below.</li> </ul>	In Progress
Upgrade of Rotorua Wastewater Treatment Plant. Use of alternative discharge method and location.	In progress
Sewerage reticulation is in place for Hinemoa Point, Mourea/Okawa Bay, Brunswick/Rotokawa and Hamurana/Awahou completed in 2013.	Completed
Floating wetland established in 2012	Completed
Alum dosing occurs in the Puarenga and Utuhina Streams. Consent due for renewal.	Ongoing

## WHERE TO FIND MORE INFORMATION

[www.tearawa.iwi.nz](http://www.tearawa.iwi.nz)

Te Arawa Lakes Trust

[www.rotorualakes.co.nz](http://www.rotorualakes.co.nz)

Rotorua Te Arawa Lakes Programme

[www.lawa.org.nz](http://www.lawa.org.nz)

Land Air Water Aotearoa