

ROTORUA DAILY POST

Study shows 'significant' improvement of lake water clarity around Rotorua

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An 18-year study has seen a significant improvement of lake water clarity around Rotorua. Photo / File

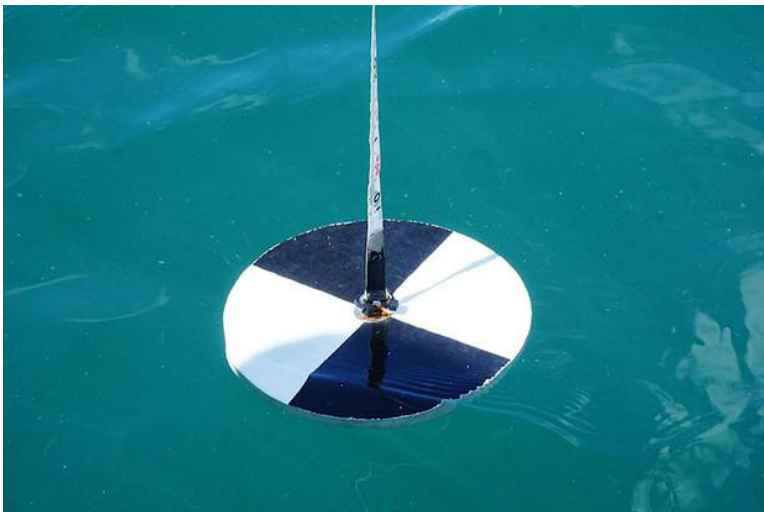
Rotorua Daily Post

An 18-year study, including observations from satellites, has seen a "significant" improvement of lake water clarity around Rotorua.

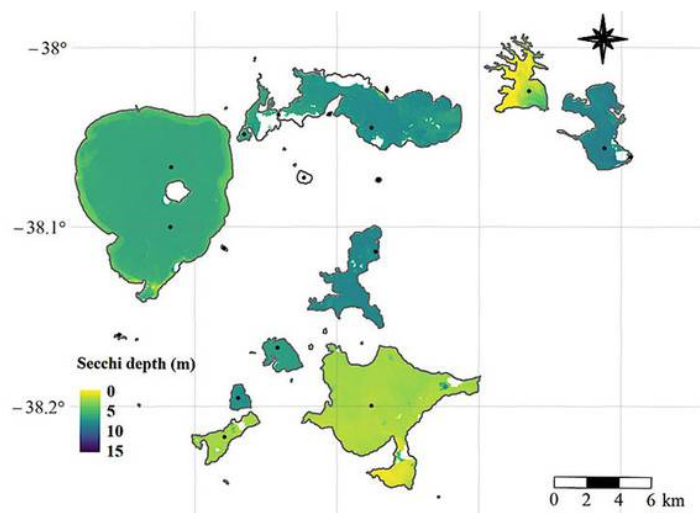
A team led by senior scientist Dr Moritz Lehmann at Xerra Earth Observation Institute and the University of Waikato has published an analysis of trends in water clarity in 23 Rotorua lakes from 1999 to 2017.

They said water clarity was an important indicator of water quality where better clarity typically indicated fewer contaminants.

The study combined human observations, taken from a boat, with observations from 700km above the Earth's surface by satellites, which provided a lot more detail than traditional ground-based observations.



Water clarity is expressed as Secchi depth which is the depth at which a Secchi disk (pictured) disappears from view when lowered into the water. Photo / Supplied



Snapshot of water clarity in the Rotorua lakes determined using a satellite image from 28 January 2018. Photo / Supplied

"We found that water clarity significantly improved in nine lakes over the 18-year study period," Lehmann said.

"Most trends in the other lakes were also found to be positive, but not statistically significant."

Among the lakes with significant water clarity improvements were Rotorua, Rotoiti, Tikitapu, Rotoma and Rotoehu.

The researchers said some improvements could have resulted from lake management changes, such as alum dosing, water diversion and weed harvesting, but direct cause-and-effect relationships were not tested in this study.

Lake Ōkareka was the only lake that showed a significant decline in water clarity.

Lehmann said other research work was exploring the reasons behind this.

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Lakes Community Board chairman Phill Thomass said there was nothing unexpected in the findings.

"They are pleasing, but clarity is only one small part of the overall picture."

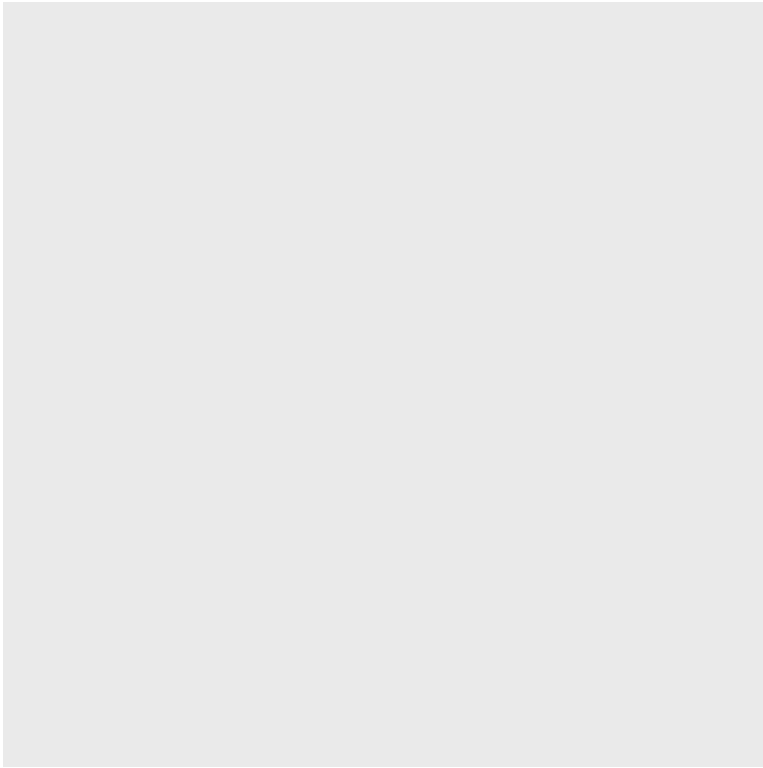


Lakes Community Board members, including chair Phill Thomass (far right). Photo / File

He said there were other factors in the trophic level index, such as algae and nutrient levels, that had to be considered.

Thomass also said Rotorua's lakes were "in very poor health when this study started".

Lakes Water Quality Society chairman Don Atkinson said there had been concerning declines in some Rotorua lakes since 2017, outside of the study time period.



Lakes Water Quality Society chairman Don Atkinson. Photo / File

In particular, he said Lake Rotoehu had been "like a problem child in the last two summers" with various algal blooms.

"We are investing a whole lot of money in it, but it's still not getting better."

He said Lake Ōkareka farmland had been turned back into forest in the last two years to improve water quality there.