



### Waikato shallow lake restoration - Phase 1



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#### Restoration of water quality of Waikato shallow lakes - pilot project

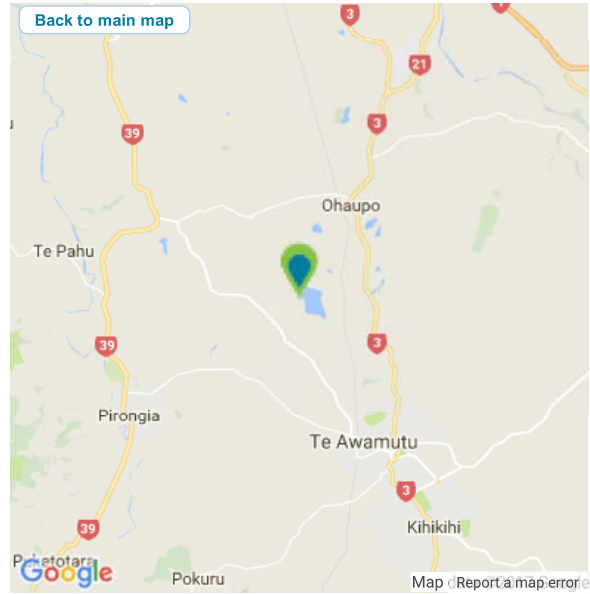
This project will demonstrate and refine, by adaptive management, how to “flip” lakes back from the turbid, algae dominated state of most shallow Waikato peat and riverine lakes to a clear water, vegetated state.

The project will involve selection of a small peat lake. Pest fish will be removed by netting and electro-fishing. A thin layer (mm) of modified local subsoil (MLS) will then be applied to the lake to flocculate and settle out nutrients, algae and suspended sediments onto the lake-bed. The local subsoil is modified to increase its ability to bind, settle and retain algae and associated nutrients by adding either chitosan (natural polymer made from shrimp and crab shells) or cationic starch, and very fine bubbles of oxygen.

This will be followed by introducing native plants into the clarified water to promote re-establishment of submerged plant-beds. Established plants will provide improved habitat for aquatic life, and maintain improved water clarity by stabilising bottom sediments and out-competing algae for nutrients. The results of this project, its costs and benefits, will be assessed to provide a proven method and improved understanding that can be applied more widely to restore Waikato shallow lakes.

This project received funding from the Waikato River Authority (WRA 16-034).

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