



Lakes380

Our lakes' health past, present, future

Me hoki whakamuri, kia haere whakamua



# LAKE ROTONUIAHA

NGĀTI PĀHAUWERA Development Trust

**Region:** Hawkes Bay **Location:** Wairoa **Coordinates:** 38° 56' 53" S, 177° 2' 19" E **Depth:** 29 m

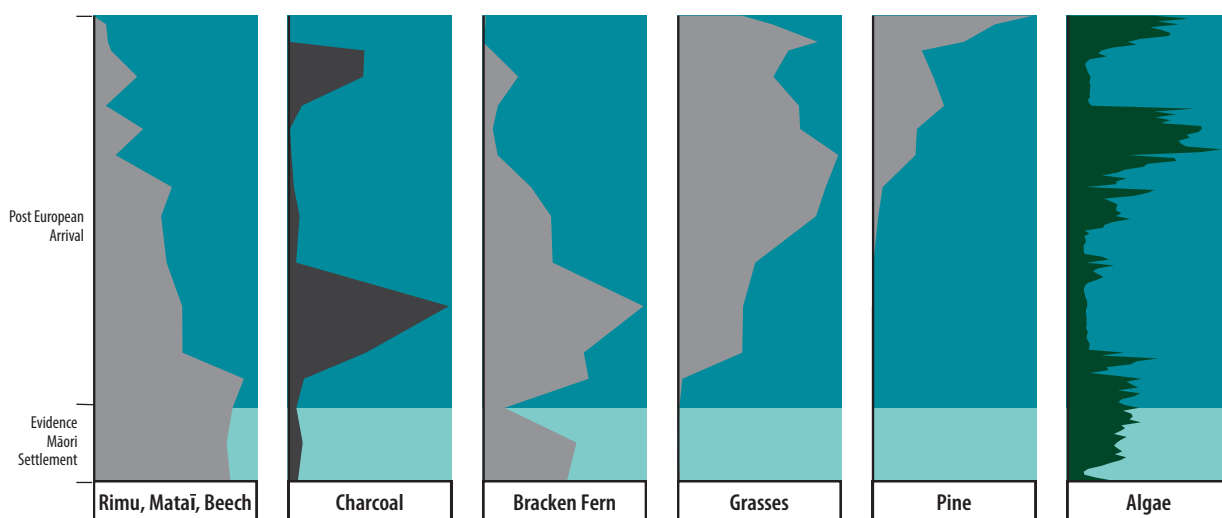
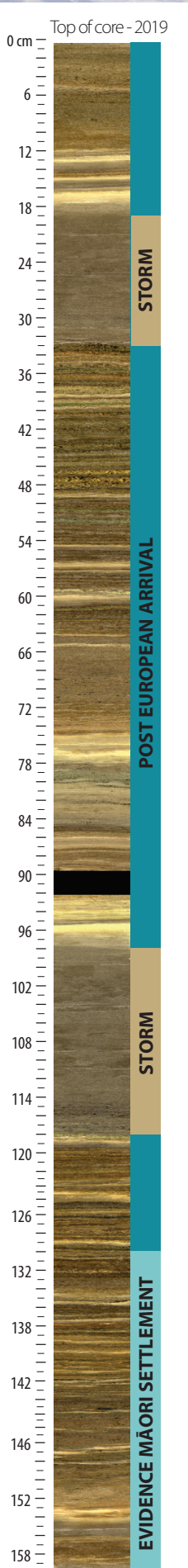
Lake Rotonuiaha is the largest in a cluster of three lakes known as the Putere Lakes, located near the Waiou River in Wairoa. The water quality has deteriorated in recent years and non-native plants and fish have been introduced.

The initial results from the sediment core suggest that prior to European arrival rimu, mataī and beech forest were abundant in the region. Post European arrival an increase in forest removal is observed. This is highlighted in the graphs below by the increase in charcoal (burning) and pollen from bracken fern, which is commonly associated with landscape disturbance. Native vegetation was replaced by pastoral land and non-native trees such as pine were planted in the region. Storm events

bring large amounts of sediment into the lake. This is shown by the grey sandy sections in the core picture (left) and flat regions in the algal graph (below). There have been gradual increases in algae in recent decades.

Recently, the Ngati Pāhauwera Development Trust, Hawkes Bay Regional Council, volunteers and landowners have been working together to improve the lake health. Steps taken to date include fencing, planting, and community planning meetings.

## POLLEN, CHARCOAL AND ALGAE LEVELS FOR THE PAST ~250 YEARS



The shaded area indicates the concentration of plants, charcoal or algae through time.