

Acid sulfate investigations

The 2013 review of the Monitoring and Assessment Program (MAP) identified the need for further understanding of acid generation within the Anglesea catchment. This includes risk of exacerbating existing issues through groundwater pumping from the Anglesea borefield.

What we did

In 2017, Barwon Water engaged Dr. Vanessa Wong from Monash University to conduct a study to investigate the distribution and characterisation of acid sulfate soils (ASS) across the Anglesea catchment. The investigation aimed to:

- characterise ASS distributions and concentrations in the Anglesea and Salt Creek Swamplands
- identify potential impacts from acid generation in the Anglesea and Salt Creek Swamplands
- improve knowledge of acid generation and movement, particularly in the Anglesea Swamplands.

The program for assessment of acid sulfate soils developed by Monash University was designed to align with the groundwater level triggers for protection of the Anglesea swamp from drying of the perched water table because of groundwater extraction.

The sampling program involved taking samples from 53 locations across the Salt Creek and Marshy Creek catchments.

What we have found

Analysis of the sampling indicated that both Salt Creek and Marshy Creek contain substantial volumes of acidity in a form that can be mobilised.

Samples from Marshy Creek contained higher concentrations of acidity that can be transported readily in surface water and groundwater, while the Salt Creek samples contained higher concentrations of retained acidity, which can be slowly released over time.

Next steps

The information gathered through this study and its recommendations will be analysed in conjunction with other groundwater data to inform the review of the Anglesea Borefield bulk entitlement and Monitoring and Assessment Program (MAP).

This will ensure the bulk entitlement and MAP continue to protect groundwater dependent ecosystems, and appropriate measures are in place to ensure operation of the Anglesea borefield is not contributing to the existing acidity issues in the Anglesea River catchment.