

Acid Sulfate Soil Fact Sheet

Melbourne Regional Landfill Community Reference Group

What is acid sulfate soil?

Acid sulfate soils are sediments that contain iron sulfides. They form under anaerobic (no oxygen), saturated conditions. The acid sulfate soils in the Melbourne region formed during the last sea level rise (about 10,000 years ago).

Potential Environmental Impacts

Acid sulfate soils do not pose any risk if left undisturbed. When these soils are exposed to air, the iron sulfides they contain react with oxygen to create sulfuric acid. The acid makes metals in the soil more soluble, therefore can become toxic to plants and animals.

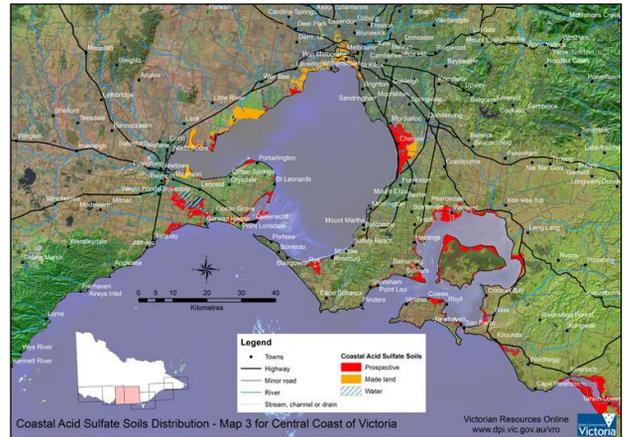
If the soil is not managed appropriately after disturbance, it can impact waterways causing environmental harm to ecosystems.



Developments and infrastructure projects around Docklands are a source of acid sulfate soil (Source: NearMap).

Management of Acid Sulfate Soil in Victoria

In Victoria, you can only dispose of or reuse waste acid sulfate soil if you have an appropriate license under the *Environmental Protection Act 1970* (such as MRL) or an Environmental Management Plan EMP approved by the EPA. (Hi-Quality – Bulla).



Acid sulfate soil distribution map (Source: Agriculture Victoria)

Disposal of Acid Sulfate Soil at MRL

Removing disturbed acid sulfate soils from the environment minimizes environmental harm to aquatic ecosystems.

Acid sulfate soil is treated as a waste product at the site, and is disposed at the working face.

Landfill cells at MRL are constructed in accordance with Victorian Best Practice.

The construction of cells involves an extensive leachate collection system. The leachate collection system protects beneficial uses of groundwater to avoid any adverse environmental impact.

Assessing Environmental Impact

Groundwater and leachate acidity is monitored every 6 months. The results are reviewed by an EPA appointed auditor.

Further Information

EPA (2009), *Acid Sulfate Soil and Rock – Publication 655.1 July 2009*

<https://www.dpi.nsw.gov.au/agriculture/soils/ass>

<https://www.qld.gov.au/environment/land/management/soil/acid-sulfate>