

Acid Sulfate Soil Management

Environmental Consulting Services



EARTH SYSTEMS

Environment - Water - Sustainability

CAPABILITIES

A core expertise of Earth Systems is the management and remediation of acid sulfate soil (ASS) sites. Our expertise encompasses all aspects of ASS management, including identification, characterisation, prediction, prevention, control and treatment of acid and metalliferous drainage (AMD) associated with acid sulfate soils (ASS).



SERVICES PROVIDED

- ASS site auditing, including risk assessment and management system audits.
- Identification and characterisation of soil samples based on geochemical static tests (acid base accounting) and kinetic tests (eg. column leach tests, sulfide oxidation rate measurement).
- Baseline studies and impact assessment associated with disturbance / dewatering of sulfidic soils and potential AMD generation.
- Design and implementation of ASS prevention, control and treatment strategies.
- Development of comprehensive ASS Management and Monitoring Plans, incorporating short and long term AMD management or prevention strategies.

- Leading practice environmental training workshops for regulators, managers, supervisors and operators on ASS issues and management.

EXPERIENCE

Recent experience includes:

- Identification, characterisation, prediction and management of ASS at numerous sites in all states of Australia, as well as Indonesia and Vietnam.
- Development of AMD prevention, control and treatment strategies for ASS in the Lower Murray Lakes, South Australia.
- Senior authors of the Leading Practice Handbook on "Managing AMD" for the Australian Federal Government.
- Development of ASS management strategies for a 50,000 ha sugar cane plantation in Eastern Sumatra.
- Provision of advice on potential ASS issues in the Mekong Delta in Vietnam.
- Design, manufacture and commissioning of equipment to treat leachate from ASS in a mangrove environment, Trinity Inlet, QLD.
- Characterisation and impact assessment of sulfidic mine tailings from Mount Lyell in the King River system and delta, Tasmania.
- Provision of technical input into the Victorian Government's Acid Sulfate Soil Policy.
- Development of new software to facilitate ASS management (eg. ABATES, AMDACT).
- Development of OxCon Modules (OCM), a new kinetic technique for rapidly quantifying sulfide oxidation rates.
- Design, construction and installation of passive and active treatment systems, including limestone dosing systems, for ASS sites in the mining, agriculture, industry & infrastructure/urban development sectors.

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