

What are Acid Sulfate Soils?

Acid sulfate soil (ASS) is the common name for soil that contains iron sulphides or their oxidation products. These soils are formed in low lying, permanently waterlogged swampy areas where there is sufficient sulfate, iron and organic matter.

Where acid sulfate soils are exposed to air, the iron sulphides oxidise producing sulphuric acid and toxic concentrations of dissolved metals such as aluminium, iron and arsenic. The acid and metals can leach into surface drainage and can cause fish kills and loss of biodiversity in rivers and estuaries. The leachate can contaminate groundwater with arsenic and may cause health problems if untreated groundwater is used as a drinking water source. Increased soil acidity can also reduce agricultural productivity and seriously damage roads and buildings. Environment Australia estimates that there is about \$10 billion dollars of potential liability for coastal urban and agricultural infrastructure in Australia if the issue is not managed properly through appropriate planning and development.

Researchers, land managers and legislators recognise the potential health, environmental and economic consequences if acid sulfate soils are mismanaged.

The need for this workshop

The problems caused by the disturbance of acid sulfate soils are poorly understood in Western Australia, although these soils are widespread in the southwest region. With increased pressure for mineral sands mining in sensitive areas on the southwest coast and for urban development near wetlands and major estuaries, significant environmental problems will emerge unless awareness about the issue, and what can be done to manage it, is more widely raised.

The recent groundwater acidity and arsenic contamination problem in the Perth suburb of Stirling is an example of the on-going problem that can arise if development in areas underlain by acid sulfate soils is not appropriately managed.

Registration fees

Workshop registration:

\$250 per delegate for full 2 days workshop.

\$150 per delegate for each 1 day workshop.

Registration includes morning and afternoon tea, and lunch.

A half day field trip is planned for Saturday 14 June 2003 at \$25 per person. Lunch and drinks will be provided.

Registration procedures

Complete the enclosed Registration Form including payment details and send it in before 30 May 2003.

The Registration Form is also available on line at www.environ.wa.gov.au/contents.asp?id=13

All registration fees must be paid before 4 June 2003.

Once payment and registration details have been received a confirmation will be posted.

Department of Environmental Protection Water and Rivers Commission

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141 St Georges Terrace
Perth WA 6000
Ph: 9222 7000
Fax: 9321 5184
www.environ.wa.gov.au

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3 Plain Street
East Perth WA 6004
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Fax: 9278 0301
www.wrc.wa.gov.au

WORKSHOP

IDENTIFYING, MANAGING AND ASSESSING ACID SULFATE SOILS

Thursday 12 - Friday 13 June 2003
Curtin University of Technology
Perth, Western Australia

Organised by:

WA Acid Sulfate Soils Working Committee
Department of Environmental Protection
Water and Rivers Commission
Curtin University of Technology
Denmark Environment Centre



Department of Environmental Protection
Water and Rivers Commission



Workshop structure

The workshop will be run over two days and will be structured to allow key natural resource management groups and officers from local government authorities to interact with experts on identifying and managing acid sulfate soils. The workshop comprises the following topics and speakers.

Identifying the issue

Keynote Speaker – Professor Ian White, Australian National University, ACT

- An international perspective on acid sulfate soils (*Dr David Dent, Bureau of Resource Sciences, Canberra*)
- Impacts of acid sulfate soils on the environment and development in Australia (*Dr Rob Fitzpatrick, CSIRO Land and Water, Adelaide*)
- Impacts on the fishing industry in Australia (*Phil March, National Seafood Industry Council*)

WA case studies

- Identifying and monitoring ASS stockpiles in Stirling and Wangara (*Steve Morrison, BBG Consulting*)
- Defining the distribution of acid sulfate soils and groundwater acidity in Stirling (*John Angeloni and Bob Wallace Jones, Curtin University*)
- Emerging acidity problem in the wetlands of WA (*Sandy McHugh, PhD research student, University of WA*)

Managing the issue

Keynote Speaker – John Williams, Chairman of National Coastal Acid Sulfate Soil Coordinating Group

- Developing and implementing a State ASS strategy, the Queensland experience (*Bernie Powell, Department of Natural Resources and Mines, Indooroopilly, Queensland*)
- Acid sulfate soil risk mapping and identifying acid sulfate soils (*Dr Rob Fitzpatrick, CSIRO Land and Water, Adelaide*)
- Managing soil disturbance (*Col Ahern, Queensland Department of Natural Resources*)

Regulatory perspective

Keynote Speaker – Sharon Clark, Manager Land & Water Quality DEP/WRC on the proposed *Contaminated Sites Bill 2002*

- WA perspective on managing ASS (*Dr Steve Appleyard, Land and Water Quality, DEP/WRC*)
- Proposed WA planning policy (*Richard Kay, Department of Planning and Infrastructure*)
- Managing ASS from local government perspective (*to be advised*)
- Managing ASS from NGO perspective (*Geoff Evans, Denmark Environment Centre*)

Plenary session

This session will help the WA Acid Sulfate Soils Working Committee set directives to develop a Statewide Strategy to implement sustainable acid sulfate soils management.

Field trip - 14 June 2003 (morning session)

A half-day field trip to various acid sulfate soil sites in Perth to review their remedial and management strategies.

Your invitation to attend

This workshop will benefit local government officers and councillors, landcare groups, engineering practitioners, national park managers, planning and infrastructure agencies, the mining industry, legislators, environmental groups, amateur fishing organisations, land managers and land developers.

More information

For further information, please contact:

Stephen Wong
Land and Water Quality Branch
Department of Environmental Protection
Water and Rivers Commission
Phone (08) 9222 7101 during office hours.

Registration Form / Tax Invoice

Department of Environmental Protection
Water and Rivers Commission

(Please copy this form for additional registrations)

Name

Organisation

Address

Phone

Fax

Email

Check which session/s you wish to attend:

- | | |
|--|----------|
| <input type="checkbox"/> Thursday 12 June 2003 | \$150.00 |
| <input type="checkbox"/> Friday 13 June 2003 | \$150.00 |
| <input type="checkbox"/> 12 and 13 June 2003 | \$250.00 |
| <input type="checkbox"/> Saturday 14 June 2003 | \$25.00 |

Total

Method of payment

- ☐ Cash
☐ Cheque

Registration Form and payment should be returned to:

Joanna Noakes
Land and Water Quality Branch
Department of Environmental Protection
Water and Rivers Commission
PO Box K822, Perth WA 6842

by
30 May 2003