RIVERVIEW

No. 20 SWAN RIVER TRUST March 2000

Algal bloom – alert for Perth

The widespread toxic blue-green bloom in the Swan River in early February served as a warning of the urgent need to reduce nutrient inputs if we are to maintain the Swan as the recreational heart of Perth. The bloom prompted public health warnings and closed the river to recreation for 12 days.

This was the first record of a toxic bloom of this type in this part of the Swan River. It showed that with the right environmental conditions, these organisms are poised to take advantage of the high nutrient levels to grow and bloom. High concentrations of *Microcystis aeruginosa* formed thick green scums along shorelines at Maylands, Barrack Square, Matilda Bay, the Nedlands/Dalkeith foreshore, Freshwater Bay and Mosman Bay.

The bloom resulted from unseasonal heavy rains and hot weather. This section of the river is normally too salty and too rough to allow this type of algae to survive. However, the combination of fresh water, warm temperatures, high nutrient levels and calm weather created ideal conditions for it to grow and persist.

The blue-green bloom followed a non-toxic algal bloom in the middle reaches of the Swan River between Maylands and Bassendean in November 1999. A bloom of the green alga *Chlamydomonas* has become a regular event on the Swan River during spring. It causes a green colouring on the water surface that is most noticeable in the afternoon. Green algae bloomed at a number of sites in the Swan during and since the toxic bloom, and generally were even more abundant than the *Microcystis*. In March, dinoflagellates and diatoms dominated.

The Canning River has also suffered over the summer with a non-toxic algal bloom in November 1999 and a potentially toxic blue-green bloom in the Kent Street Weir area in January 2000.

While algae are a natural part of the Swan River ecosystem, the seasonal recurrence of extensive blooms is an indicator that nutrient levels in the river are too high. The toxic blue-green bloom in February showed just how important it is to reduce nutrient inputs to the river so that unusual weather doesn't lead to blooms that disrupt recreation and threaten public health.

The Swan-Canning Cleanup Program aims to reduce algal blooms in the river. See SCCP update on page 2 and 3.

Blue-green blooms have history in the Swan

Potentially harmful Cyanobacteria blooms are not new – they have been observed in the Swan and Canning rivers since 1978. However the February 2000 bloom was the first serious widespread bloom affecting the estuary.

DATE	SPECIES	LOCATION
1 Mar '78	Blue-green scum	Middle Swan Bridge
2 Nov '81	Microcystis	Riverton Bridge
Jan-Mar '94	Anabaena	u/s Kent St Weir
Feb-Mar '94	Microcystis	u/s Kent St Weir
Feb-Apr '94	Anabaena	u/s Kent St Weir
9 Apr '96	Oscillatoria	Wharf Street
20 Jan '97	Anabaena	Kent St Weir
20 Jan '97	Anabaena	Bacon to Wharf streets
29 Jan '97	Anabaena	Kent Street
29 Jan '97	Anabaena	Greenfield Street
3 Feb '97	Anabaena	Bacon to Wharf streets
4 Mar '97	Anabaena	Castledare
13 Jan '98	Anabaena	Kent St Weir to Greenfield St
20 Jan '98	Anabaena	Kent St Weir to Greenfield St
20 Jan '98	Anabaena	Castledare
27 Jan '98	Anabaena	Kent St Weir to Greenfield St
3 Feb '98	Anabaena	Kent St Weir to Mason Landing
17 Feb '98	Anabaena	Kent St Weir to Mason Landing
24 Feb '98	Anabaena	Bacon Street
3 Mar '98	Anabaena	Wharf Street
10 Mar '98	Anabaena	Ellison Drive
12 May '98	Microcystis	Wharf Street
12 Jan '99	Anabaena	Wharf Street
19 Jan '99	Anabaena	Kent St Weir
9 Mar '99	Anabaena	Kent St Weir

INSIDE

Farm and property planning helps in Cleanup

Thirty-eight landholders from the Upper Canning/Southern Wungong Catchment Group have recently participated in two workshops that will help them develop property plans for their land.

The workshops are part of a project that Agriculture Western Australia is managing to help rural and semi-rural landholders in the Swan-Canning Catchment develop and implement sustainable farm practices.

Agricultural production in the catchment is a significant part of the State's economy, with many rural landholdings in several shires, including the Shires of Chittering, Swan, Mundaring, Kalamunda and Armadale.

The project will provide rural land managers with up-to-date knowledge, expertise and the ability to develop farm and property plans to address issues at the paddock level.

The project, which began in November 1999, is working with local landcare coordinators to provide workshops and other learning events for groups throughout the catchment.

Expressions of Interest have been called for from consultants to work with Agriculture Western Australia and landcare coordinators in delivering training to rural landholders. The project will also develop materials, manuals and workbooks for use by landholders. Producing these, as well as promotional material, are the next phases in the project.

Rural landholders wanting to know more about the workshops should contact their local landcare coordinator.

Contributing to health of the Swan and Canning Rivers

A project of the Swan-Canning Cleanup Program

Look out for this logo

This new badge will appear on all publications, signage and other materials produced as part of the Swan-Canning Cleanup Program. The Program is coordinated by the Swan River Trust but SCCP-funded projects are also being undertaken by other organisations including the Water and Rivers Commission, Agriculture WA, Department of Environmental Protection and the Ministry for Planning. There are 22 major projects funded by SCCP in 2000, involving 37 staff, and with budgets totalling $4.36 million.

More funding for community groups

The Swan Catchment Urban Landcare Program (SCULP) was established to provide community groups with a simple process to access funding for a wide range of environmental activities.

SCULP is focused on on-ground projects such as developing a weed strategy for Bob Blackburn Flora Reserve, the Helena River restoration in West Midland and the Ellen Brook fencing program. Alcoa committed $250 000 to SCULP each year for five years, beginning in 1999.

As part of SCCP's support for catchment management in 2000 the Swan River Trust is also contributing $100 000 to the SCULP.

This expansion of SCULP funding allows a greater number and range of activities to be funded.

Forty-one projects were funded through SCULP in 2000 compared with twenty-two in 1999. Most of the projects were jointly funded by Alcoa and SCCP.

All SCULP projects were assessed by sub-regional groups with wide local representation and the SCULP Steering Committee was the final arbiter on the distribution of funds.

The Western Australian Landcare Trust disbursed the funds to SCULP projects in late January.

If you would like more information on SCULP funding please contact Program Manager Peter Nash at the Swan Catchment Centre on 9220 5300.

Replacing nature's lost river bank buffers

The Swan River Trust is experimenting with ways to protect the seedlings used to revegetate eroding foreshores in an effort to improve their chances of survival.

The Trust works with local governments and community groups to protect the river banks by planting native sedges, rushes, shrubs and trees in degraded areas.

Serious environmental problems and economic loss have resulted when wave action from storms or boats has washed out the sedges that normally protect the fragile banks.

The Trust is initiating revegetation trials along parts of the Swan River foreshore in the City of Melville and Town of Claremont to determine techniques to protect the new plants until they are well established.

The trials will provide information so that the Trust can give advice on simple, economic and effective methods of protecting seedlings.

This will enhance the success rate of revegetation activities and reduce foreshore erosion.

For groups involved in foreshore restoration, this information could help to save money, conserve energy and lead to a better result for the river.

The Trust is also involved with the Swan Catchment Centre in a Natural Heritage Trust project that provides advice and assists community revegetation on the Swan and Canning rivers. **Kim Richardson is coordinating the project at the Swan Catchment Centre, phone 9220 5300.**

Minister for Water Resources, Dr Kim Hames launches the oxygenation barge on the Swan River.

Oxygenation barge on the Swan River

A specially-fitted barge to inject oxygen into parts of the Swan River was launched last month by Water Resources Minister Kim Hames. The barge will be used where low oxygen levels allow phosphorus to be released from sediments and prevent bacteria from removing nitrogen. The pilot barge has similar equipment to the oxygenation plants currently running in the Canning River.

Dr Hames said that this was the first time this method has been used on a mobile basis in Western Australia.

The Canning River trials of this method have demonstrated that artificial oxygenation could lead to significant improvements in water quality, particularly through the reduction of nutrient concentrations in the water.

The barge will be used in areas from the Causeway to South Guildford, but project officers will be particularly looking at areas around Ron Courtney Island, a deep patch of the river near Pickering Park and the section of river around the Maylands peninsula.

Dr Hames said the recent algal bloom, which resulted in warnings against swimming, fishing and boating in the Swan River, clearly illustrated the need to reduce the amount of nutrients entering our rivers and, in some cases, the need to take direct action to manage the condition of our rivers.

Oxygenation trials on the Swan and Canning rivers are partially funded by Coast and Clean Seas.

CLEANING UP AROUND THE RIVER

Emergency response – the Cannington petrol tanker roll over

Swan River Trust field crew member Ivan Stork was one of the first on the scene at the petrol tanker roll over at the corner of Nicholson Road and Albany Highway on 14 January. Ivan received a call at 2:15am to join Fire and Emergency Service staff at the accident site. He found an estimated 8 000 litres of petrol in the nearby Lacey Street Main Drain. The drain flows into a small backwater of the Canning River and initial fears were held that the petrol may make its way into the Canning River, or ignite in the drain itself. By 4am other crew members, Brian Graco and Adrian Parker, were at the scene helping to set up five absorbent booms across the backwater to contain the petrol. They also used absorbent padding to remove petrol before the heavy rainfall that later flushed the drain. Once contained the slick was pumped into tank for disposal.

The spill was successfully contained about 200 metres from the confluence with the Canning River, preventing environmental damage to the river.

Foreshore rubbish

Fifty-seven tonnes of weed is all in days work for the Swan River Trust field crew. Summer is always a busy time for the field crew, as warm weather conditions encourage abundant growth of seaweed around parts of the river. In December 1999 the crew removed 57 tonnes of weed from the foreshore, much of it from Qantas landing. Other weed hot spots were Claremont Yacht Club, Applecross and Lucky Bay. The December haul from the weekly beach cleanup also included 3.5 tonnes of rubbish and 2.6 tonnes of logs and timber. Dead blowfish left from prawning parties are a nasty component of the rubbish removed (1.4 tonnes in December), and are often a source of public complaint.

Do the right thing by the river – Throw blowies back alive. Wrap your fishing and picnic refuse and dispose of it in a bin or take it home. Be especially careful with fishing tackle and plastic six-pack holders as they are a danger to wildlife.

The Recycling Company of WA Pty Ltd collected over 540 kg of recyclable material at this years' Lotto Skyworks. It included 490 kg of glass, 25 kg of aluminium cans and 26 kg of plastic PET containers.

Community involvement in Cleanup Australia Day also removed rubbish around the river. Of the total 41 000 kg collected, 11% represented rubbish collected around the Swan and Canning river foreshores and various wetlands. It is worth noting that in more than half the sites plastics and plastic bags were cited as particular rubbish items collected.

Students' message is to help the river

"Rivers provide us with food — fish, crabs and prawns.
In winter the river is used for the Avon Descent.
Very important water comes from dams and rivers.
Every day the river is used to transport people.
Rivers provide shelter for fish, tadpoles and frogs, and a habitat for water life.
Swans and other birds make the river their home."

Lynwood SHS Year 8

Year 8 children from Lynwood Senior High School in 1999 pooled their thoughts on how we can all help to protect the Swan and Canning Rivers, and illustrated their ideas with lively artwork. The result is a colourful leaflet, produced with help from the Swan River Trust and City of Canning, to help children and families to do their bit for the river. **Copies are available from the Swan River Trust.**

Find out how you can do the right thing by the river – phone 1800 062 549 or check the advice on our web site www.wrc.wa.gov.au/srt

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SWAN RIVER TRUST

Protecting the Swan-Canning River system for the future