

# RIVERVIEW



No.2 THE SWAN AND CANNING RIVERS CLEANUP PROGRAM NEWSLETTER July/Aug 1995

## Environment Day river cruise nets big crowd

ABOUT 300 members of the public were treated to an informative river cruise by the Swan River Trust and the Water Authority as part of the World Environment Day celebrations on Monday June 5.

Despite dire predictions of stormy weather, the rain stayed away and the sun shone for the three one-hour cruises which departed from Bayswater's Hinds Park jetty heading upstream around Ron Courtney Island and back.

Speakers from the Trust and the Water Authority told passengers on each trip about issues affecting river management today and about the way the river would have looked before European settlement. Topics covered included the causes of algal pollution, erosion, wetland vegetation and wildlife, and the Water Authority's multi-million dollar infill sewerage program.

"It was a great opportunity for us to inform people about what the Trust and the Water Authority actually do in and around the river in a friendly, relaxed and entertaining way," one of the speakers, the Swan River Trust's manager of investigations, Malcolm Robb said.

Yvonne Gilks, a resident of Maylands, who took the 10am cruise with her husband Ben, agreed: "The cruise left us with lots of things to think about. I

thought the information on the state of the river was presented in language we could understand. Sometimes you can get jargon and it doesn't mean a thing, but giving the common names of plants together with the scientific names helped a great deal."

The Trust's Malcolm Robb also told passengers about the effects of dredging in that part of the river in 1968 when 1.3 million cubic metres of river bottom were removed creating large hollows into which tonnes of nutrient-rich sediment and exotic plant litter have been deposited over the years.

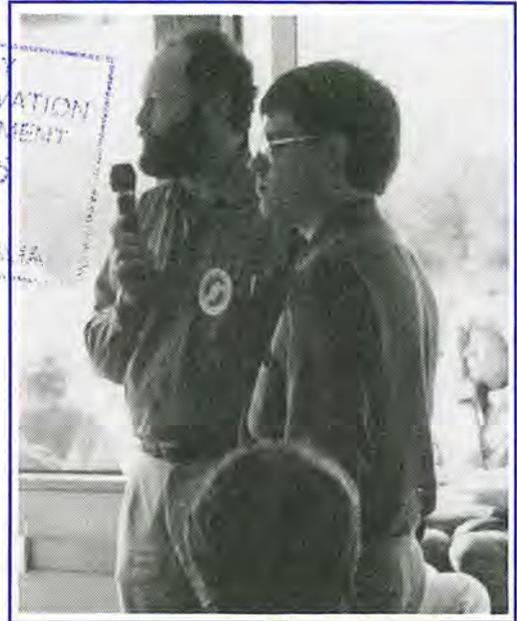
"These holes of thick nutrient-rich ooze are believed to be one of the causes of algal blooms in the Swan and Canning rivers," Mr Robb said.

"One of the projects in the Trust's Swan and Canning Rivers Cleanup Program is to determine to what extent these holes are a problem and under what conditions nutrients, such as phosphorus and nitrogen, are released. The Cleanup Program will also investi-

gate techniques to prevent nutrient release."

Many who took up the complimentary cruise offer were from riverside suburbs such as Maylands, Bayswater, Bassendean and Applecross while others came from as far away as Harvey and Rockingham.

"I thought it was fantastic," said Wendy Whitley of South Perth who joined the 1pm trip. "The lectures were very informative. I certainly gained a bit more of an idea about the river from the trip. It was a great thing for the Trust to do." ■



Above Manager of investigations at the Swan River Trust, Malcolm Robb, and the Water Authority's Dr Luke Pen entertain the crowd with stories about the river.



Left Boat Torque Cruises' *Mystique* at the Hinds Park jetty, Bayswater, taking on passengers for one of the World Environment Day cruises.

### INSIDE

- Tree lopper and home owner fined over felled river gums
- Erosion works secure Ron Courtney Island before winter downpour
- How clean is the river? A regular report

# State of the River

Every week, Swan River Trust officers travel the length of our rivers checking water quality. Water samples are taken at different sites and checked for clarity, dissolved oxygen, salinity, evidence of blue-green algae and a variety of nutrients. In each issue of RiverView, environmental officers Vas Hosja and Neil Dixon will give a summary of their water quality monitoring activities.

Recent rains have flushed the river system changing the river's salinity, oxygen and nutrient levels (nitrogen and phosphorus) and algae population. These changes are seasonal and common to many estuary systems. In the summer/dry season, the river system is typically saltier while oxygen is higher because more algae (quantity and types) is photosynthesising due to greater light levels and higher water temperatures. Because algae growth uses

more nutrients, nutrient levels are lower. In the wet season, the situation is typically reversed. The Swan and Canning rivers are now exhibiting typical winter/wet season characteristics.

**Salinity:** Upstream from Perth, salinity levels are low due to recent rains increasing the rivers freshwater content. Downstream of Perth, surface waters are fresh but deeper in the water column salinity is similar to that of sea water. Upstream of Kent Street weir in the Canning River, the reduced salt levels were responsible for the deaths of saltwater fish in late April.

**Nutrients:** Sites downstream of Perth are low in nitrogen and phosphorus (P) because they are flushed daily by tidal exchange. Upstream, nutrient levels are 4 times higher (P at river mouth = 0.04 milligrams per litre [mg/l]; P at Midland = 0.16 mg/l as of early June). The first flush of wet season rain washes nutrients and other material into the river. Subsequent storm events wash less nutrients into the river system, clear the rivers of built-up nutrients, and also dilute existing nutrients.

**Microalgae:** Phytoplankton populations are currently lower than in the summer

because of reduced light levels and water temperature and increased winter flow flushing algae out to sea. The ideal conditions for algae growth include a stretch of hot, still weather causing higher water temperatures combined with sufficient nutrients.

**Oxygen:** Current dissolved oxygen (DO) levels are normal for a healthy estuary (greater than 4 mg/l). During summer, the deeper upstream sites (below 3 metres) are low in oxygen (less than 4 mg/l). The deep sites have now been flushed and oxygen levels are uniform throughout the water column. ■

## Ron Courtney gets a facelift

A group of long-term unemployed young people has been helping the Swan River Trust protect Ron Courtney Island — just out from Garvey Park in Belmont — from severe erosion as part of a skills training project in conjunction with the Royal Lifesaving Society.

Royal Lifesaving Society's Sharon McGee said the Landcare and Environment Action Program (LEAP) also includes training in resuscitation and lifesaving. The trainees — aged from 17 to 24 and all unemployed for at least 18 months — have already completed their Bronze Lifesaving and Pool Lifeguard certificates.

Their work at Ron Courtney Island includes work experience in using machinery such as chain saws, and in constructing a log wall to protect the riverbank against erosion from wave action. ▷



The Swan River Trust's Waterways Protection and Enhancement division director Bill Till said the work on Ron Courtney Island is part of the Trust's overall responsibility for protecting the Swan-Canning river system.

"The Trust has a small team of four field hands who are primarily engaged in keeping the rivers clean and free of debris," Mr Till said.

"LEAP schemes are a great help to the Trust's resources. It's important that we have community support for our various protection and revegetation projects.

"At the same time we're able to provide an opportunity for these young men and women to gain valuable skills and a sense of pride in seeing the immediate benefits of their work."

Swan River Trust field hand Neil Chapman has been working with the trainees during the six-week project. He is driving the bobcat in the picture at left. ■

# Brent's 27 years guarding our waterways

The first time Brent O'Brien went out on a boat for the Swan River Trust was also nearly his last. In 1968 the Trust was known as the Swan River Conservation Board and when Brent saw the job description for an inspector in the local paper he knew the job was perfect.

As a plumber Brent was used to working with water, but he was not prepared for the drama that occurred on his first trip out when the skipper of the boat lost concentration and rammed the Bunbury Bridge near East Perth - leaving Brent clutching the side of the boat as it sat impaled on a pylon.

Brent was below getting the lunch ready when the accident happened. The skipper, who couldn't swim, had quickly climbed to the top of the bridge and refused to come to his aid.

Brent survived his first week on the job when others came to save him, but it wasn't the last time his life was put on the line for the Trust.

"There was the time when we were doing a sounding at Bardon Park in Maylands for depth of mud," said Brent. "I happened to walk into a mud hole and the only thing that stopped me from going right under was a bit of a tree down under the mud.

"I was in mud up to my chest and water up to my chin, on an incoming tide, and as the crayboats - it was November, in fact it was Melbourne Cup day - and as the crayboats went past the wash was actually going over my head. The others couldn't walk in to get me out because they would've gone under as well, so they got a little dinghy and all got on one side and I got my arms over the side, locked them under the gunnels and

they jerked the boat up and down until they lifted me out - covered in mud from head to toe but alive."

Brent has seen a lot of changes in attitude by the people of Perth toward the river since he began work.



"I think the people of Perth have changed to the degree that they're now prepared, if they're not happy with something, to stand up and take notice," he said.

"The easiest way to prove this is by the number of complaints we're now getting as opposed to previous years, when hardly any complaints would come through. Now people aren't afraid to ring up and say, hey, this needs doing or that needs doing, or what's happening about something else.

"People are taking more care and using areas more. They are looking after the river better along the edge. People are not afraid to say well you know we saw Joe Bloggs over here lighting a fire on the foreshore and

here is the licence number. This sort of thing is good.

"I hope from say Middle Swan Bridge up they keep the river as it is because that's how the river has been for a lot of years, with its snags and old fences. If they can keep that then you have somewhere people can go to and say, 'This is what the river was actually like'.

"I feel as though I have contributed something. You can feel the difference, even though you don't see it happening every day, you know when you look back on areas you can see something has happened, that things have improved."

Brent O'Brien retired last month and we wish him all the best for the future. Happy caravanning, Brent! ■

## River trees: check before you chop

A HOME owner and a professional tree lopper have been fined for cutting down trees on the bank of the Swan River at Bassendean.

In accordance with the provisions of the Swan River Trust Act, Mr Stephen Fowles, professional tree lopper of Noranda, was fined \$2500 with \$500 costs in the Perth Court of Petty Sessions on Wednesday, May 24 for cutting down 11 river gums on the Swan River foreshore at North Road, Bassendean.

In January Mrs Violet Lin, who owns the land upon which the trees were growing, was fined \$800 with \$160 costs after pleading guilty to the same offence.

Magistrate M C McGuire said that as a professional tree lopper Mr Fowles had a responsibility to be aware of all laws relating to his profession. Mr Fowles had pleaded not guilty to the charge.

In July last year Trust inspectors investigated the destruction of the trees following a complaint from the Town of Bassendean.

Swan River Trust Chairman Mr Geoff Totterdell said that the Trust has a duty to protect the river environment including

trees and other remnant vegetation. He said the Trust would consider prosecuting anyone committing a similar offence.

"Trees play a vital role reducing river bank erosion and removing nutrients which feed algal blooms. They also provide a much needed habitat for bird life and are an integral part of the river landscape," Mr Totterdell said.

Property owners or tree loppers wishing to remove or lop trees growing in the Trust's management area must obtain Trust approval before any work is done.

Regulation 6 of the Swan River Trust Act 1988 states that "A person shall not, except with the approval of the Trust, destroy, pull up, cut back or injure any tree, shrub or other perennial plant that is on land in the management area." The maximum penalty for an offence against Regulation 6 of the act is \$5000. Similar regulations also apply with regards to the protection of river banks and the river bed. ■

## DREDGING AND ALGAL BLOOMS

BETWEEN 1892 and 1976, 33 million cubic metres of river bottom were removed by the Public Works Department. That's about the size of 700 olympic swimming pools! And that does not include dredging by private contractors.

Most of the spoil ended up in the ocean, for roads (Kwinana Freeway), along the foreshore (Mounts Bay reclamation), and in creating Heirisson Island by joining up several smaller islands.

The reason? For boating channels, construction (shell for roads/cement), foreshore recreation and mosquito control.

The holes left behind by the dredging have, over the years, become filled with fine sediments (top soil) from our rural catchment areas. This soil is naturally high in aluminium and iron - to which phosphorus loves to cling.

The holes also trap salt water, often creating ideal conditions for the release of nutrients from the sediment - in a deoxygenated environment phosphorus separates from aluminium and iron.

Phosphorus feeds algae growth. If these conditions coincide with a long period of hot weather and higher water temperatures, an algal bloom may result.

One of the objectives of catchment management is to ensure the sediment does not leave the rural areas upstream in the first place.

# Revamped 'Seagull' back to work on the Swan



The barge 'Seagull', originally used to transport algae and weed between harvesters and shore unloading areas, has now been successfully converted to carry the Trust's heavy earthmoving equipment.

The new-look barge has been modified by fitting timber decking to the work area and two hydraulically operated heavy duty ramps at the bow. Stability calculations were undertaken during trials in April to ensure the craft's continued safety.

The 'Seagull' will be used by the Trust's Waterways Protection and Enhancement division. Most recently, the barge was used to move the backhoe and materials to Ron Courtney Island in the river at Belmont for erosion control works (see story inside).

## WHAT'S ON

### Urban Bushland Council

- *Burning our Bushland: A conference about fire in urban bushland.* Cockburn Wetlands Education Centre, Friday, Aug 25 & Saturday, Aug 26. For registration and info contact Jillian Harris on ph/fax. 385 2275 Mon-Fri.

### APACE

- *Introduction to Bush Regeneration.* Courses between July and Sept 1995. One half day per week over nine weeks. Cost \$200. Contact Susan Lovell on ph. 336 1262.

### Canning River Regional Park Guides

- Sunday Aug 13: *Frogs & insects*, 9am, Kent Street Weir (museum expert John Dell). Call Stephen Faulds at 457 6707 for details.

### Bayswater ICM

- Coming up ... winter planting in artificial wetland near Morley Galleria. Plus drain streamlining. Call BICM coordinator Rosemary Glass on 370 3370.

### Ribbons of Blue

- Remaining sampling dates for this year ... 7-25 Aug and 23 Oct to 10 Nov. Call Susan Worley on 327 9741.

### Greening Western Australia

- Guidelines & entry forms for the John Tonkin Greening Awards are available from Susan at Greening WA on 481 2144. Closing date is Monday, July 31. The awards recognise outstanding achievements in the conservation and establishment of the State's vegetation.

### Friends of Brixton Street

- Coming up ... revegetation day. Call Regina Drummond on 459 2964. Area of interest: Brixton Street wetlands, Kenwick.

## Consultation highlights community concerns

- WATER quality and restoration of the natural foreshore vegetation are two of the major concerns Perth people have about the Swan and Canning Rivers.

- Over 170 people responded to the Swan River Trust's call in February for community views about the river system and its management. Consultant David Galloway, who carried out the consultation project, said the responses represented a wide range of community views, including conservation and recreation groups, businesses, researchers, teachers, Rotary Clubs, and State and local government.

- "Most of the key groups and agencies involved with the river were represented at one of the search workshops, filled in a questionnaire or were interviewed personally," David said.

- "Water quality issues involving nutrients, pollution and drainage, and maintaining the ecological values of the river system, were the concerns most often mentioned. Urban expansion, boat traffic and impacts on wildlife were also high on the agenda."

- Another major issue was the impact of development on the river. Many people felt that the complex planning process is a barrier to good decision making and innovation. There were calls for more political support, better integration and communication between the agencies involved, and improved responsiveness to local views.

- Lack of funding was considered a major barrier to effective community participation in river restoration, with groups battling for grants and finding difficulty in getting money for baseline research or work on the ground.

- The people who took part in the survey saw public awareness and wider community involvement as essential for future river management. Better support for existing community groups and widespread education

## Are these your needs?

The community groups who took part in the Trust's consultation project suggested some important support needs. The top three in each category were:

**Information resources** Access to publications and videos. Monitoring equipment, information and data. Speakers.

**Assistance and equipment** Funding for studies/equipment/materials. Access to existing government data. Technical expertise and personnel.

**Advice and training** Technical advice on bush regeneration and landcare. Training (eg team management, media). Coordination of projects and resources.

**Getting in touch** Open days for people to meet. Information exchange. Newsletter.

If you or your group have specific needs, please let us know. We may be able to help or put you in touch with someone who can - and you will help us to plan for future activities.

about river and catchment issues were raised over and over again.

The suggestions put forward about how such support and education could be provided formed the basis of the consultant's report which was presented to the Swan River Trust in May. The consultants' recommendations for a support "network" will be the basis for developing a National Landcare Program funded "Resource Centre", linked to a similar project in the Avon Catchment.

Copies of the consultant's report will be sent to participants. Other interested people can view a copy at the Trust's library.

*RiverView* will keep you posted on how the network develops. ■



**SWAN  
RIVER  
TRUST**

Protecting the Swan-Canning river system for the future

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