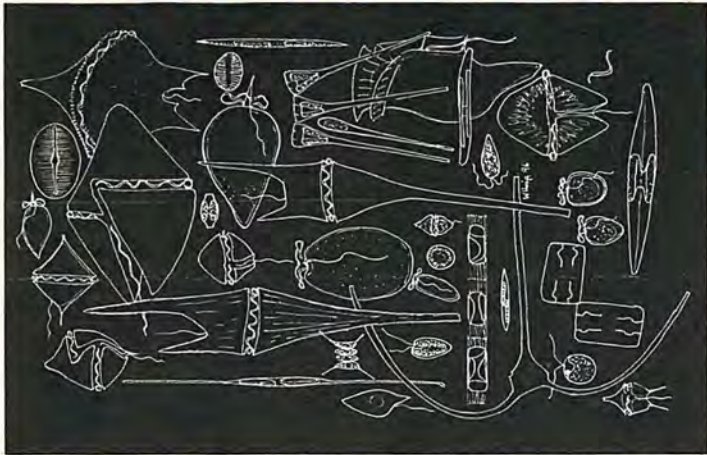




Technical forum highlights Cleanup Program progress



Project leaders involved in the forum submitted short project briefs before the forum which were edited and collated into a proceedings publication. The forum document is available from the Swan River Trust by calling Tim Larcombe on 278 0404. The document also contains a list of contact names and numbers of people involved in the Cleanup Program and supporting projects from other programs. The cover illustration, shown above, was drawn by Vas Hosja from the Water and Rivers Commission's phytoplankton lab.

AROUND 120 of WA's leading environmental scientists, catchment managers and community group representatives attended a technical forum to mark two years since the launch of the Swan-Canning Cleanup Program.

The forum, held at the CSIRO auditorium in Floreat on April 12, provided Cleanup Program project leaders with an opportunity to present their progress to date and to discuss the program's future priorities. The forum was also attended by people working on projects outside the Cleanup Program, such as those funded by the Swan-Avon Integrated Catchment Management Program, but whose success will contribute directly to the objectives of the Cleanup Program.

Swan River Trust chairman Geoff Totterdell delivered the opening address acknowledging the many agencies and community groups which assist in the management of the Swan River estuary and the Cleanup Program:

continued page two

Public Forum for June 5, World Environment Day

MEMBERS of the public will have an opportunity to hear the results and progress of the Swan-Canning Cleanup Program at a Community Forum on World Environment Day, Wednesday, June 5.

The forum also provides the community with an opportunity to have their say on what they want the river to be like in the future, and how community involvement in planning and restoration activities can be increased.

Information from the Technical Forum in April will be presented to the general public via talks and demonstrations.

Program leaders - Prof. Jorg Imberger, chair of the WA Estuarine Research Foundation, Dr Bruce Hamilton from the Water and Rivers Commission's resource investigations division and Dr Des Lord, chair of the Cleanup Program Task Force - will talk on the progress of research and catchment management projects.

Community representatives from the four subcatchment coordinating groups in the Swan-Canning area - Bayswater, Bennett Brook, Canning, and Ellen Brook - will talk on their experiences with integrated catchment management (ICM).

There will also be demonstrations from a variety of groups such as Ribbons of Blue and Greening WA during afternoon tea.

The forum will be held at the University of WA's Octagon Theatre. For more information and RSVP please call Rita on 278 0402 or Tim on 278 0404. □

Trust delivers Nedlands sailing day access ramp

GOOD Friday was especially fortuitous for a group of disabled sailors at the Nedlands Yacht Club. The club played host to the WA Hobie Trapseat Championships over the Easter Weekend and the Swan River Trust field crew came (pictured below) to the rescue by putting in place a special wheelchair ramp on the beach. The City of Nedlands helped out with foundation materials.

"The disabled now have a permanent facility for easy access to the water," said the Trust's engineering associate Barry Johnson.



“The Swan River, I think you’ll all agree, is in a very good state of health overall, but there is a public expectation that we maintain the standards of the health of the river,” Mr Totterdell said.

“The problem of nutrients in the Swan River is far bigger than the normal resources of the Trust. To this end the Swan-Canning Cleanup Program was commenced.”

Over 60 projects from a variety of State agencies, local government, community groups, research institutions and universities were represented at the forum. The projects included research and on-the-ground work being carried out by the Trust, Water and Rivers Commission, Agriculture WA, Department of Environmental Protection, local government, WA universities, CSIRO, the WA Estuarine Research Foundation and community-based groups such as Bayswater Integrated Catchment Management. The delegates explored the causes and cures of algae blooms and the outcomes of catchment management projects.

The forum is part of the Cleanup Program’s ongoing review and evaluation process and was organised to further the objectives of Integrated Catchment Management (ICM) in the Swan-Canning region.

Scientists from across the various agencies and research institutions shared their views on some of the main issues relating to algae blooms and the management of the river system – particularly the role of phosphorus (P) and nitrogen (N).

The role of targets to reduce phosphorus was a hot topic of debate. The Draft Environmental Protection Policy for the Swan and Canning Rivers, released in 1995 by the Environmental Protection Authority and the Swan River Trust, sets targets for reductions in phosphorus loads for the 15 monitored subcatchments of the 2000 sq km Swan-Canning catchment. By 2010 all catchments should contribute only 20 tonnes of P to the river compared with current contributions of an estimated average of over 60 tonnes.

“ By a combination of in-river management and good catchment management we can reverse the degradation in the system. ”

Professor Jorg Imberger from the University of WA’s Centre for Water Research and chair of the WA Estuarine Research Foundation said it was important to change the way we live to reduce phosphorus levels.

Noel Robins, chair of the Swan-Avon ICM Coordinating Group pointed to the experience in Albany to support the importance of setting quantifiable goals through targets for phosphorus reduction.

In Albany the target for the combined industry input to Princess Royal Harbour is less than 2.15 tonnes of P per year. The total industry amount in 1994-95 was 0.41 tonnes, compared to 4.8 tonnes the previous year.

Dr Bruce Hamilton, director of the Water and Rivers Commission’s resource investigations team, said that a balanced approach was the key to success.

“If you keep everything in balance you’ll be healthy and live a long life.

“By a combination of in-river management and good catchment management I’m sure we can halt the degradation, and I believe reverse the degradation in the system.”

One novel outcome from recent research involved possible “biomanipulation” using jellyfish. Centre for Water Research’s Dr David Hamilton, coordinating research for the WA

Cleanup Objectives

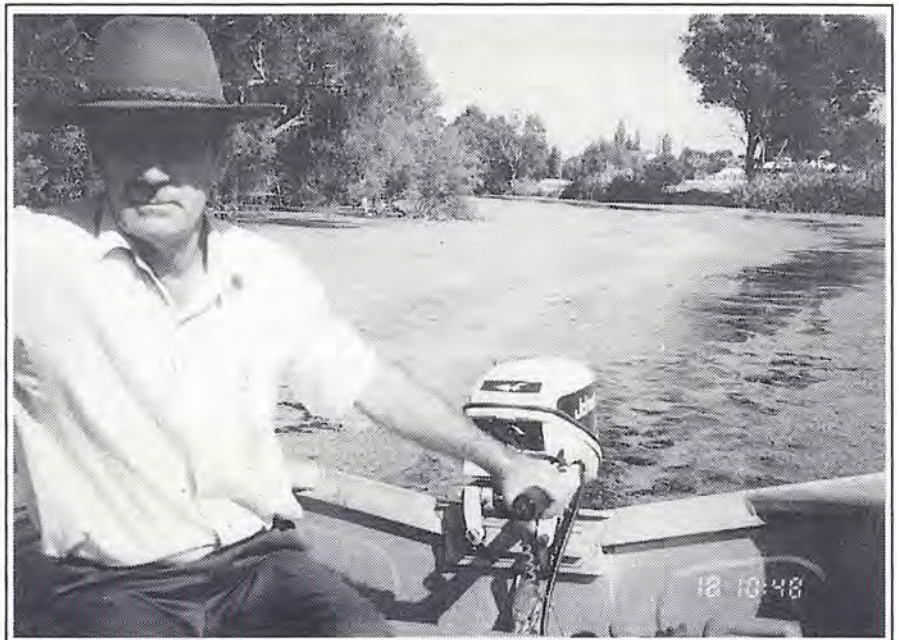
The Swan-Canning Cleanup Program provides \$6.2 million in funding (including \$2 million for the WA Estuarine Research Foundation) over five years to:

- * research the causes of algae blooms
- * conduct in-river trials to find the best ways to reduce the store of built-up nutrients and organic material in the river’s bottom sediments
- * improve catchment management to reduce the amount of nutrients entering the river, and to
- * increase community awareness of river issues and involvement in river restoration projects and catchment management.



ABOVE To measure nutrient activity in the sediment of the Swan River, CSIRO used a large fibreglass dome to isolate sections of river bottom over periods of 4-5 days to replicate the process of deoxygenation leading to an algae bloom.

BELOW and RIGHT Excess nutrients and reduced river flows are causing weed problems in the Canning River upstream of the Kent Street Weir. An abundance of the free-floating plants, *Azolla* and *Lemna* (below), and bottom dwelling plants, *Hydrilla* and *Potamogeton* (right), are currently choking the river. Although unsightly, the native weeds are taking nutrients which might otherwise be available to microalgae – such as the potentially toxic blue-green species that caused the river to be closed to the public during the summer of 1993-94. Winter rains will flush the weed downstream over the weir boards – in place to prevent salt intrusion upstream to keep the waters fresh for agricultural use.



On track to match Premier's launch commitment

From Darryl Miller, Swan River Trust executive officer

WHEN the Premier launched the Swan-Canning Cleanup Program in May 1994 he gave the commitment that "the Government will not sit back and watch the Swan and Canning Rivers die".

The Premier acknowledged that the problems facing the Swan estuary did not occur overnight and would not be solved overnight. But he made a commitment to reverse its declining health.

The technical forum on April 12 was organised by the Swan River Trust to examine the progress that has been made over the last two years.

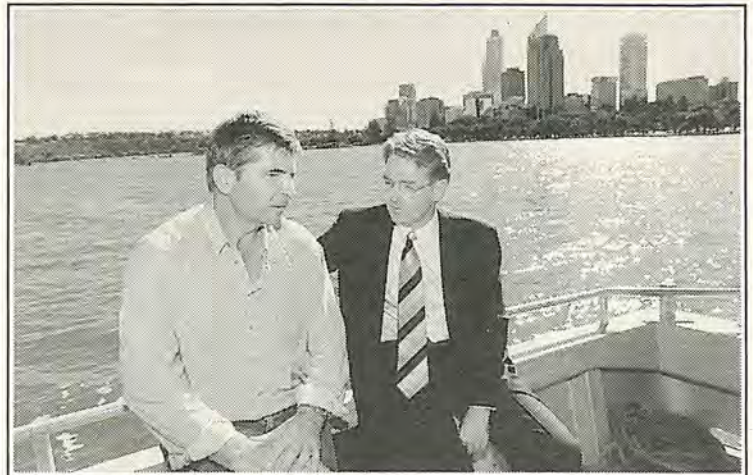
The list of some 60 projects in the forum document gives an indication of the complexity of tasks facing those involved in arresting the declining health of the river.

The list also highlights the collaborative efforts of the many community groups, local and State government agencies and research institutions involved in the Cleanup Program.

It also shows that the Swan-Canning Cleanup Program is part of, and dependent on the success of, many other environmental initiatives, such as projects funded by the Swan-Avon Integrated Catchment Management Program.

In August 1995 the Swan-Canning Cleanup Program Task Force was established, bringing together representatives from local and State agencies and research groups with Cleanup Program responsibilities. The Task Force's main role is to develop an action plan from the recommendations and results of in-river trials, research and catchment management projects.

BELOW The Premier Richard Court with Professor Jorg Imberger during the launch of the Swan-Canning Cleanup Program in May 1994. The Premier announced the formation of the WA Estuarine Research Foundation, chaired by Prof. Imberger, to guide research into how the river functions. Picture from *The West Australian*.



The public has high expectations of the Swan-Canning Cleanup Program. The basis on which they will judge the work being done is whether and how soon it will lead to a reduction in the incidence of nuisance algal blooms.

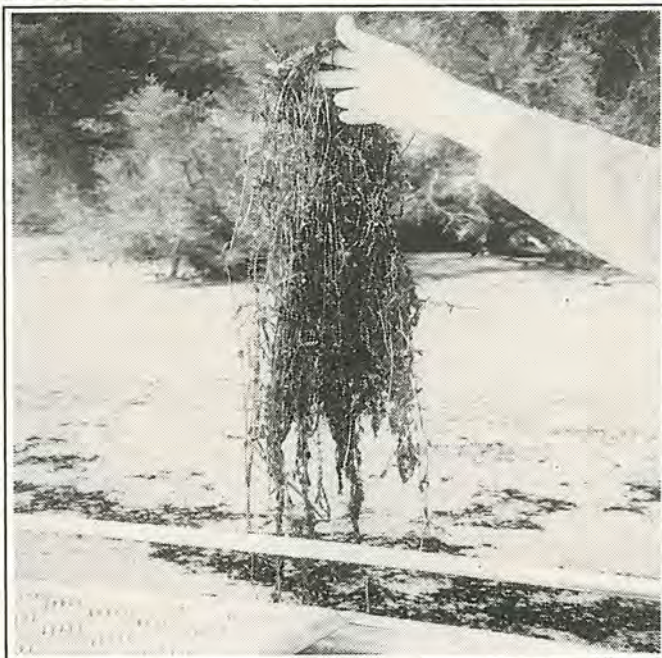
The establishment of several community-based catchment coordinating groups in the Swan-Canning region over the past 12 months is an indication of the increased community awareness and involvement in river restoration and catchment management.

"The Cleanup Action Plan will be dynamic – changing and evolving as our understanding of the river system grows and the impact of early catchment management and research work becomes evident."

The action plan will identify the practical work that needs to be done and how it's going to be carried out. It will be dynamic – changing and evolving as our understanding of the river system grows and the impact of early catchment management and research work becomes evident.

The health of the Swan and Canning Rivers, particularly the occurrence of nuisance algal blooms, is a matter of considerable public interest. When the public are told that they shouldn't swim in parts of the river because of algal blooms then they are naturally going to ask what is being done about the problem.

A critical part of our job is to keep the public informed about the progress being made, what is going to be done and their part in doing it.



The challenge now is to improve water management across the region. Direct pollution to the river via sewage disposal, industrial effluent and leaching from tip sites has been controlled to a large degree following years of cooperation between industry and local and State government agencies.

The main sources of phosphorus and nitrogen entering the river have been identified. Practical ways to reduce those nutrient inputs have to be found.

A better understanding of the conditions under which nutrients in sediments are released into the water body has been achieved. Practical ways of removing or isolating the sediments need to be found. In-river trials of possible remediation techniques are soon to commence.

Despite our advances we still have urban stormwater runoff bringing relatively large amounts of nutrients into the river.

We need to further improve fertiliser use in urban and rural areas and revegetate our rivers and watercourses to filter pollution and reduce water velocity to control erosion.

These problems are being tackled as part of the Swan-Canning Cleanup Program as well as by agencies contributing to improved catchment management. Recognisable improvement in the overall health of the river is likely to come slowly. But the process is underway and that, in itself, has been a major achievement in planning and coordination.

Ultimate success for the Cleanup Program and other environmental initiatives will depend on urban, industrial and rural residents of the catchments making changes to the way in which their daily activities impact upon the river.

We need scientific and catchment management advice to help the community make the appropriate changes required to improve and protect the health of our river system. The Swan-Canning Cleanup Program has recognised the importance of early community involvement to understanding the problems and developing solutions.

The Swan River Trust has long been involved in river restoration and has always worked closely with the community and local and State agencies. There are some 300 kms of foreshore to look after and an increasing population that will place greater demands on the river. Protecting the river and improving the management of the catchment on which it depends requires ongoing resources and commitment on the part of governments and the community. □

Project groups for catchment management plans

THE SWAN River Trust is currently developing three management plans in cooperation with community groups and local government in the catchments of Southern-Wungong River, Upper Canning River and Ellen Brook.

Project leaders Nicole Siemon and Wes Horwood have recently established project teams with representatives from community groups, local government and state agencies to develop the plans along integrated catchment management principles.

Wes Horwood, catchment planner for Ellen Brook and Southern-Wungong, said the first role of a project team was usually to identify the issues of concern in the catchment. Wes helped form a catchment coordinating group in Ellen Brook chaired by Hartley Read, from the Chittering Valley Land Conservation District Committee. Wes will develop the Ellen Brook management plan in consultation with the Ellen Brook Integrated Catchment Group.

The Southern-Wungong Catchment Management Plan Project Group had its inaugural meeting during March. The group is made up of representatives from Friends of River Canning Environs (FORCE), Friends of Forrestdale, Forrestdale Community Association, Gosnells

Senior High School and the Crestwood Bushland Group.

The first meeting of the Upper Canning project team in April identified weeds, siltation, water quality and the protection of remnant vegetation as the main issues of concern. Attending the meeting were representatives from FORCE, Greening Gosnells, Friends of Brixton Street Wetlands, Armadale Settlers' Common, Armadale City Rivercare Group, Roleystone Dieback Action Group, Churchman's Bushland Association, Araluen Botanic Park Council and representatives from the Ministry for Planning and the Water and Rivers Commission.

"Our team identified the need for a tour to get an overview of the catchment and the issues prior to discussions taking place," Nicole said. A bus tour has been organised for early May.

Nicole and Wes will be working closely with the Canning Catchment Coordinating Group, the community-based body set up under the Swan-Avon ICM Program to implement ICM in the Canning Region.

Forum reports Cleanup progress

from page one

Estuarine Research Foundation's ecological model, was quoted in *The West Australian* report of the forum as saying the symbiotic relationship between jellyfish and algae might be useful in "mopping up" excess organic matter in the lower estuary.

Agriculture WA's Gerry Parlevliet used some illuminating photos of cow pats to illustrate the affects of 200,000 dung beetles released into the catchment to reduce the problem of nutrients from animal waste leaching into the streams and groundwater.

As well as reporting the progress of the major projects, the forum explored the likely components of an action plan being developed by the Cleanup Program Task Force. The action plan will combine short and long-term practical actions to combat nutrient loss in the catchment and to reduce nutrient build-up in the sediments downstream.

"The action plan is really the key now," Dr Hamilton said. "What the government and the community want from us is a clear set of actions. We can't give them what specific set of tools are going to be best in the catchment and the river, but we're already starting to focus in on what the most likely ones are, and that's where our focus needs to be." □

WORLD ENVIRONMENT DAY
WEDNESDAY, JUNE 5

COMMUNITY FORUM
on the
HEALTH OF THE SWAN ESTUARY
A Swan-Canning Cleanup Program initiative
Call 278 0402 or 278 0404 for details.



RECENT PUBLICATIONS

Available from the Swan River Trust
unless otherwise stated.

Reports

* *Swan-Canning Cleanup Program and the WA Estuarine Research Foundation forum on the Health of the Swan Estuary. 12 April 1996. CSIRO auditorium, Floreat, Perth, WA; forum proceedings.*

Pamphlets

* *Project Update: Swan-Avon ICM, Issue 1, April 1996, from Water & Rivers Commission, ph: 278 0353.*

Catchment Management Series

- * No.1, *Upper Canning River Catchment Management Plan.*
- * No.2, *Southern-Wungong River Catchment Man. Plan.*
- * No.3, *Ellen Brook Catchment Management Plan.*

Posters

* *Controlling weeds in waterways and wetlands, with the Department of Environmental Protection. 1995.*

Videos

* *Living on Groundwater: Part 1: Country WA; Part 2: Urban WA, Water & Rivers Commission, from the Gould League, ph: 387 6079.*



SWAN
RIVER
TRUST

We've moved! Our new address is:

Level 3, Hyatt Centre
87 Adelaide Terrace
East Perth, 6004

PHONE: 278 0400 FAX: 278 0401

Protecting the Swan-Canning River system for the future

RSVP SWAN RIVER TRUST 278 0402

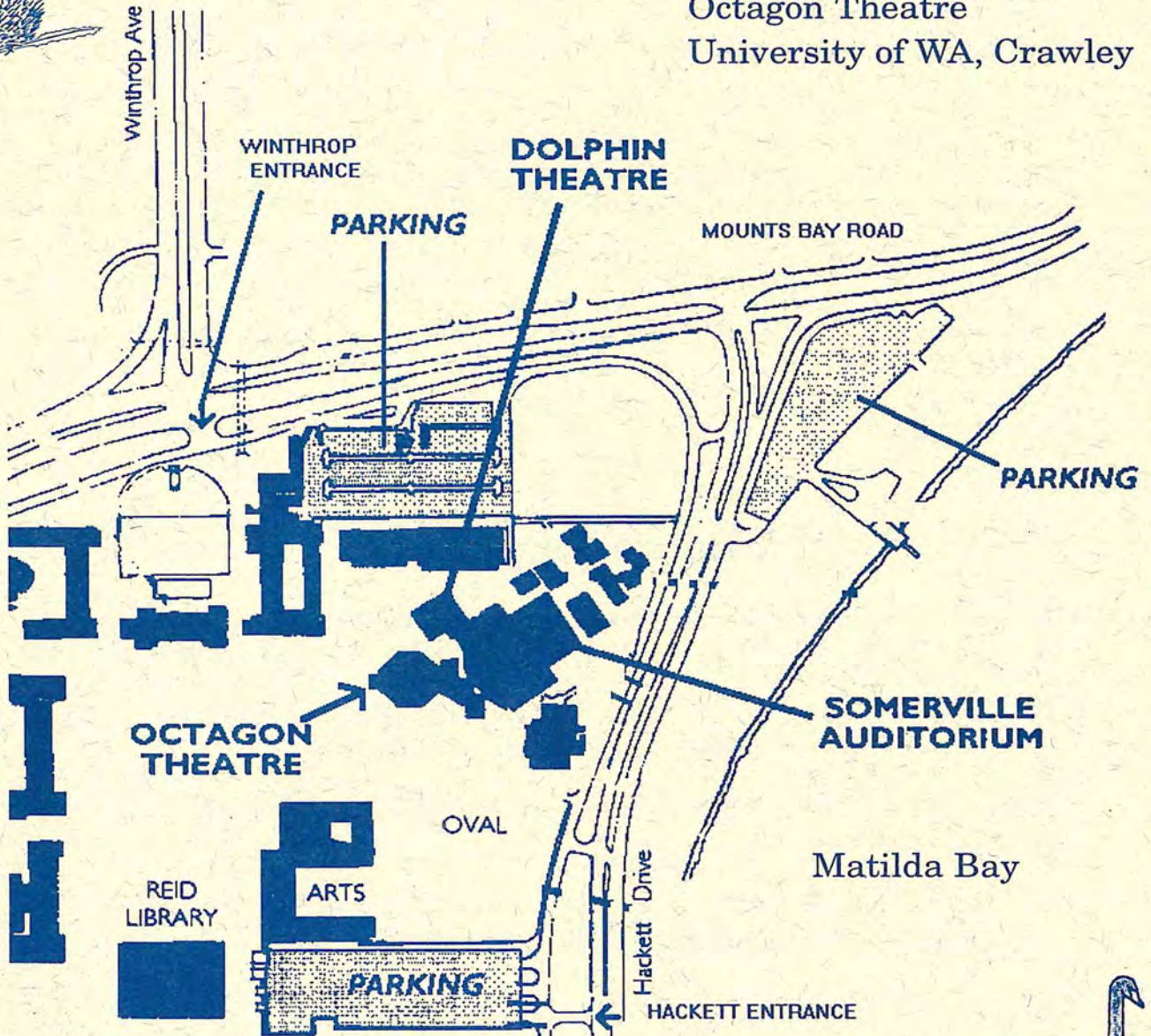
HEALTH OF THE SWAN AND CANNING RIVERS
OCTAGON THEATRE, UNIVERSITY OF WA, JUNE 5



INVITATION
COMMUNITY FORUM
on the



Octagon Theatre
University of WA, Crawley



SWAN RIVER TRUST

SWAN-CANNING CLEANUP PROGRAM

COMMUNITY FORUM



2.00 Welcome by forum chair, Darryl Miller, executive officer of the Swan River Trust.

Introduction by Geoff Totterdell, chair of the Swan River Trust.

2.10 Opening address. Launch of the Rivercare Directory

SESSION ONE: ACTION IN THE RIVER

2.20 "Getting the Science Right" – Professor Jorg Imberger, from the University of WA's Centre for Water Research, chair of the WA Estuarine Research Foundation.

2.40 "How Healthy is the River?" – Dr Bruce Hamilton, Water and Rivers Commission, director of Resource Investigations Division.

3.00 "The Swan-Canning Cleanup Action Plan" – Dr Des Lord, DA Lord and Associates, chair of the Swan-Canning Cleanup Task Force.

3.20 Question Time & Discussion: How can the community input to the Action Plan?

3.45 Afternoon tea.

Demonstrations include Ribbons of Blue, Water and Rivers Commission's sediment and algae display, Swan-Avon Integrated Catchment Management Program, Swan River Trust catchment management projects, WA Estuarine Research Foundation, Greening WA.

SESSION TWO: ACTION IN THE CATCHMENT

4.45 Discussion: What do we want from our river? Priorities and expectations for a healthy river system.

5.10 "Are We Integrated Yet?" – Noel Robins, chair of the Swan-Avon ICM Coordinating Group.

5.30 Canning – Pat Hart, chair of the Swan Working Group, Canning Catchment Coordinating Group and Armadale City River Care Group.

5.45 Bayswater – Rosemary Glass, coordinator for the Bayswater Integrated Catchment Management

6.00 Ellen Brook – Hartley Read, chair of the Ellen Brook Integrated Catchment Group, Chittering Valley Land Conservation District Committee.

6.15 Bennett Brook – Kaye Pearson, Bennett Brook Catchment Group, Success Hill Action Group.

6.30 Question Time & Discussion: What do you need to become more involved in river restoration and catchment management projects?

7.00 Close. Evening tea.



RSVP

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