



Swan River Action Kit

Swan River

A Guide To Using The Swan River Action Kit



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WATER AND RIVERS COMMISSION



SWAN RIVER TRUST

Some ideas for topics – the contents of the kit at a glance

This outline provides brief details of 10 topics for exploration. You might like to use this as a planner. It should help you decide which issues to focus on and it may help for all group members to consider this outline. You may like to choose just one topic of interest, or choose several topics that together will form a structured learning experience. Or you may wish to add another topic that is not on this list.

10. Where to from here?

Review
Action ideas – opportunities
Personal commitments
Action plans
Celebrate

9. The scientist's perspective

Water quality monitoring
Computer modelling for future predictions
Local research – frontiers of knowledge
New technological solutions

1. Discovering the Swan River

Aboriginal and European history
Cultural values
Landscape, flora and fauna

2. River science

How rivers work – water movements, water quality, seasonal and climate effects
The salt wedge
The estuary environment – seasonal changes, flora and fauna

3. The catchment connection

How catchments work
The Avon catchment
The Swan-Canning catchment

4. Issues for river management

Algal blooms and water quality
Pollution
Foreshore erosion and loss of vegetation
Weeds
Development pressures

5. Algal blooms

Algae and blue-green blooms
What causes blooms?
Impacts – different viewpoints (e.g. ecology, recreation), toxicity and health issues
State of the Swan and Canning rivers (history of blooms, current conditions, the future)

7. Action for the river

Catchment management
In-river techniques to prevent algal blooms
Planning and development
Water sensitive urban design
Creating living streams

6. River pollution

What is pollution?
Where do pollutants come from?
Impacts
Preventing pollution

8. Community involvement

Personal action (seeking knowledge; housekeeping, gardening and recreation – how do our choices affect the river?)
Catchment groups
Volunteers and local projects
Education
Ribbons of Blue/Waterwatch

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Fremantle

Midland

PERTH

SWAN RIVER

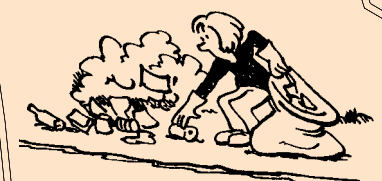
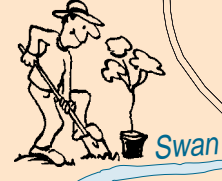
CANNING RIVER

Southern River

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Swan River Action Kit

Swan

A guide to using the Swan River Action Kit

Water



WATER AND RIVERS
COMMISSION





Contributing to health of the Swan and Canning Rivers

A project of the Swan-Canning Cleanup Program

The Swan River Action Kit brings together many resources that focus on the Swan-Canning river system and its catchment along with ideas for ways that people can use them in their own learning programs. Thanks go to the staff of the Swan River Trust, Water and Rivers Commission, Department of Environmental Protection, Swan Catchment Centre, and the community and catchment group representatives who contributed ideas, resources and enthusiasm.

This booklet, the discussion guide and the topic sheets were written by Graeme Gibson and Meg Bishop of Real Options International Pty Ltd, (e-mail gandmee@dynamite.com.au) in association with the Project Team.

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The Swan River Action Kit

The Swan River Action Kit is a package of resources and suggestions for a structured, but very flexible, program to introduce people to the Swan and Canning rivers, their values, protection and management. It is a journey of environmental discovery for groups or individual learning.

In response to requests from community groups, the kit brings together key information resources and indicates where to get more information, practical advice, and access to volunteer opportunities.

The kit has been developed for use by anyone with an interest in the rivers and their future—service clubs, learning centres, community and catchment groups, volunteers, P&C groups, local action groups, sporting or recreation clubs that use the river environment, or informal groupings of friends and neighbours with a common interest in their local environment.

For people with a new interest in the river, it may be a pathway that leads to more enjoyment of the waterways and perhaps getting involved in personal or community action.

For people already active in community groups that are committed to restoring the river or its catchment, it can provide a structured learning experience for the group to gain knowledge, share understanding and experience, and enrich their activities.

Discovering the values and environmental issues of our very special river is the foundation for ensuring that everyone can play their part in protecting it for the future.



Contents of the Swan River Action Kit

A GUIDE TO USING THE SWAN RIVER ACTION KIT (this booklet)

FOCUS ON THE SWAN RIVER – AN INFORMAL DISCUSSION GUIDE

TOPIC SHEETS

Ten suggested discussion topics (photocopy master sheets)

VIDEOS

Spirit of the Swan

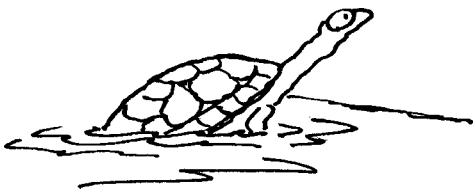
Algal Blooms and Nutrients

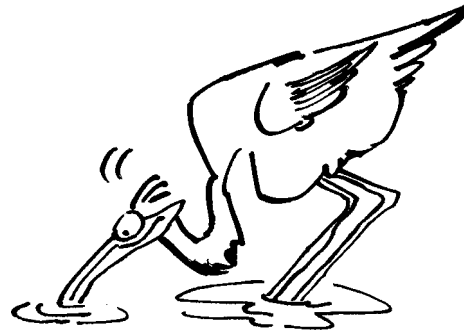
FOLDERS OF SUPPORT MATERIALS

The Swan-Canning River System – information on how the river system works, its plant and animal life, management issues including algal blooms and pollution, and management activities in the Swan-Canning Cleanup Program

Taking action – ideas for individual action – what you can do at home and in volunteer activities in your community

River and catchment management – advice and information on techniques for river restoration and catchment management





Countenits

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Whether it be through **individual responsibility** in the way we use the river for recreation and in our own housekeeping and gardening, or taking part in **community activities** to restore the environment, each member of the community can play a part in ensuring a healthy future for the Swan and Canning rivers.

This kit will help people to gain the knowledge, skills and values to take an active part in caring for the river and its catchment.

The purpose of the Swan River Action Kit

Welcome to the Swan River Action Kit. The purpose of this kit is to raise community understanding of the issues and foster on-going and informed action.

This kit has been developed to:

- Help you to discuss and explore river issues
- Encourage you to take action to care for the waterways
- Encourage cooperative community projects to help restore catchments and rivers
- Make the wide variety of existing information resources and involvement opportunities more accessible to the people who want them

The kit will stimulate discussion of a variety of topics, including

- Aboriginal and European history,
- how rivers and estuaries work,
- how catchments work,
- algal blooms and other management issues,
- catchment management,
- local research,
- community participation,
- new technological solutions for river management.

By choosing topics of interest and planning a learning experience tailor-made for the group, you can move from exploring and discussing issues, and perhaps visiting places of interest, to developing personal action plans and planning group projects.



How to use the Swan River Action Kit

This is a flexible package intended to be used in whatever way suits your time, interest and needs. It is not prescriptive – you do not have to start at the beginning and work your way through to the end. It can be used by individuals or by groups.

Individual use

The kit is suitable for use by individuals who may wish to read through the entire program or selected parts. School and tertiary students, teachers, community group members and others with an interest in the Swan River will find this an invaluable resource.

Group use

Groups can use the program in a variety of ways. This might be one meeting on one issue, a number of meetings on several issues, or as ongoing meetings on the whole program. The program will be particularly helpful for groups who are interested in on-ground action such as monitoring or rehabilitation, or in contributing to further public awareness about the Swan River and the issues it faces.

If you want to use it for ongoing meetings you might like to use a method known as a 'learning circle'. This is an action-oriented, small group, self-directed process based soundly on the principles of adult learning. A learning circle uses and values peoples own knowledge, experience and creativity.

How does a learning circle work?

A typical learning circle (more traditionally called a study circle) is a group of five to 15 people who meet several times to discuss, learn about and consider action on an issue of concern to them.

The length, frequency and number of meetings will be chosen and agreed to by the group members, but often this is for around two hours once a week. The group may meet at a workplace, community centre, someone's home or some other convenient place.

Discussions are facilitated by a group leader – someone either from within or outside the group. This person is not expected to be a teacher or subject expert. Groups use common resource material to help them set their own agenda and follow their interests. This is not a text that has to be followed, but a guide to help learning.

This process can help people make better quality decisions about issues which are complex and uncertain and where conflict may be present.

The section of this Guide on 'How to run a learning circle' will lead you through hints for participants and facilitators to make this an enjoyable and valuable experience.



Making choices about your program

Whether you are using the kit as an individual or as a group you may make choices about the subjects that most interest you and that you wish to focus on or perhaps start with. Think of this kit as a tourist map which will help you on a journey. Along the way you will find a lot of interesting things to explore and think about. But if you have already been there, or are not interested in a place, then you keep going until you find something of interest. And like any good holiday you can stay as long as you like, or go back and spend some more time – until you have seen and learnt enough.

‘Some ideas for topics’ (page 4) provides a starting point to help you to select topics of interest. The topic sheets in the pack will help you to find relevant background reading and suggest some focus questions and opportunities for field trips and visits to the river. The sheets are suitable to photocopy for group members.

Your group may wish to get together in the beginning to talk about the issues, and discuss how they would like to proceed. The booklet *Focus on the Swan River – an informal discussion guide* is a framework for a group of people to get together for a discussion, or set time aside during a meeting to:

- help to focus on the part of the river and catchment that interests you or your group
- provide you with an opportunity to decide if you want to form or join an informal group to learn more about the Swan River
- decide ways you might use the *Swan River Action Kit*.

Support available

A learning circle may be a new activity for you but support for groups is available. You can get help to plan a course that suits your group's interests, facilitate a session, or to train group members as facilitators. Staff can also put you in touch with other resources, programs and opportunities to get involved.

You can contact the Swan Catchment Centre by phoning (08) 9220 5300.

Some ideas for topics—the contents of the kit at a glance

This outline provides brief details of 10 topics for exploration. You might like to use this as a tourist map for planning. It should help you decide which issues to focus on and it may help for all group members to consider this outline. You may like to choose just one topic of interest, or choose several topics that together will form a structured learning experience. Or you may wish to add another topic that is not on this list. You'll find more information in the Topic Sheets in the Kit.



10. Where to from here?

- Review
- Action ideas – opportunities
- Personal commitments
- Action plans
- Celebrate

1. Discovering the Swan River

- Aboriginal and European history
- Cultural values
- Landscape, flora and fauna

9. The scientist's perspective

- Water quality monitoring
- Computer modelling for future predictions
- Local research – frontiers of knowledge
- New technological solutions

PERTH

PERTH WATER

SWAN RIVER

Kings Park

Mill Pt

Narrows

Matilda Bay

MELVILLE WATER

Freshwater Bay

Point Resolution

Mosman Bay

Point Walter

Lucky Bay

Chidley Point

Blackwell Reach

RIVER

CANNING

Salter Pt

Booragoon

INDIAN

OCEAN

Fremantle

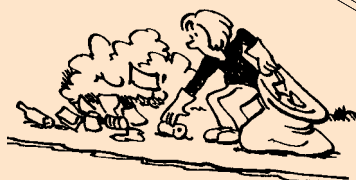
Bibra Lake

7. Action for the

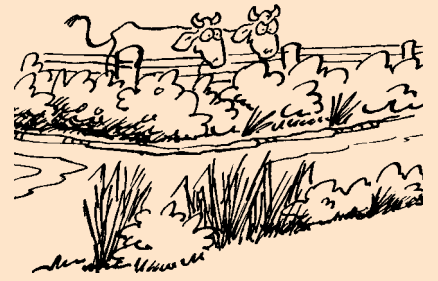
- Catchment management
- In-river techniques
- Planning and development
- Water sensitive urban design
- Creating living streams

8. Community involvement

- Personal action (seeking knowledge; housekeeping, gardening and recreation – how do our choices affect the river?)
- Catchment groups
- Volunteers and local projects
- Education
- Ribbons of Blue/Waterwatch



Midland



3. The catchment connection

How catchments work

The Avon catchment

The Swan-Canning catchment

2. How the river works

Water movements, water quality, seasonal effects

The salt wedge

Groundwater

The estuary environment

4. Issues for river management

Algal blooms and water quality

Pollution

Foreshore erosion and loss of vegetation

Weeds

Development pressures

5. Algal blooms

Algae and blue-green blooms

What causes blooms?

Impacts

State of the Swan and Canning rivers

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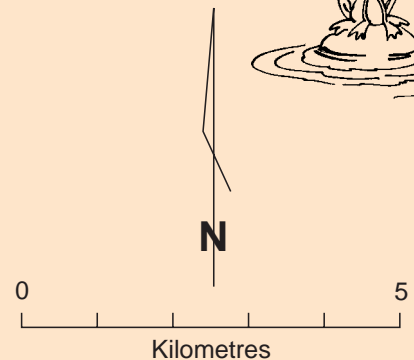
6. River pollution

What is pollution?

Where do pollutants come from?

Impacts

Preventing pollution



How to run a learning circle

Deciding group directions

By participating in the learning circle you have already made a decision to learn more about the Swan River. However, you and the other group members should also have an active say in what topics the group might focus on, in what order, and how the different aspects might be approached. This requires a process for the group to set and review its own learning objectives, to make sure that the circle is responding to the real needs and interests of its members.

Use the tourist map of 'Some ideas for topics – the contents of the kit at a glance' (page 4) to help your group decide on the issues of most interest. With help from the group members, see how much you can localise the kit by drawing on local experiences and resources – using articles from the local paper, starting a media file, inviting guest speakers, or arranging a group visit to a relevant place or event. There is no test at the end, and no need to be sure everyone has learned the same things.

The booklet *Focus on the Swan River – an informal discussion guide* could provide a basis for your group to set its directions.

Some of the following information is adapted, with thanks, from the Adult Learning Australia publication *The ABC to Learning Circles*.

Participating in a learning circle

What can you do as a participant in a learning circle to help make the process enjoyable and productive? Take a minute at the start of your conversation to make sure everyone understands and agrees with these suggested ground rules. You might decide to change or add to them.

1. Listen carefully, making sure the group is hearing what each member has to offer.
2. Maintain an open mind. Be open to exploring ideas you might have rejected in the past.
3. Try hard to understand the point of view of those you disagree with. Understanding an opposing viewpoint doesn't mean adopting it, or even being sympathetic to it. In fact, it can often make you a better advocate for your own views.
4. Help keep the discussion focussed. Don't leave it all up to the facilitator, and try to make your own comments relate to the main points being discussed.
5. Speak freely, but don't dominate. If you're a good talker, encourage others. If you tend to be quiet, try to have your say more often.
6. Talk to the group as a whole, not just the facilitator. Feel free to ask questions directly of other group members, especially ones who aren't saying much.
7. If you don't understand, say so. Chances are, other people will be feeling the same way.



8. Value your own experience and understanding. Everyone has a contribution to make.
9. Be prepared to disagree. Conflict is healthy, and can help a group progress. But focus on the issue, not the person you disagree with.
10. Try not to become angry or aggressive; it might discourage others from putting forward their ideas.

Facilitating a learning circle

‘Facilitate’ means ‘make easy’. A good group facilitator helps make the activities of the group easier. In a learning circle, a facilitator makes it easier for group members to set objectives, to share their ideas and learn from one another. A good facilitator should be:

- open-minded,
- friendly,
- a good listener,
- sensitive to the needs and interests of group members.

As facilitator, your main role is to help the group to clarify what it wishes to focus on, and then assist discussion. You are not expected to be an expert on the issues, any more than anyone else in the group. If you do have special expertise in the topic of the learning circle, you will need to be especially careful not to be drawn into the role of ‘teacher’. Nor are you expected to make decisions for the group, but to help them do this.

Your most difficult job may be to keep discussion focused on the issues, making sure no one person dominates, and keeping your own opinions back to let the rest of the group have their say.

The following set of tips for facilitating groups has been derived from the experiences of literally thousands of groups in Australia and elsewhere. We strongly recommend that anyone who takes on this role without much previous experience spends sometime reading and reflecting on them.



Check list for facilitators

- Beginning is half.* Set a friendly and relaxed atmosphere from the start. Make sure everyone knows each other. Check that everyone has any reading material or other resources they need. Check what people's goals are for the meeting and use the first few minutes to decide which activities the meeting will focus on.
- Be an active listener.* Try to listen carefully to what people are saying, so you can help guide the discussion. There is nothing worse than a facilitator who is too busy working out his/her own next 'speech' to hear where the discussion is in fact heading.
- Discourage the group from treating you as 'the Expert',* or the one with the answers. Throw it back to them. Invite others to comment on what someone has said, even if he/she has addressed the comment to you. Try and encourage 'cross talk', to get people talking not to you, but to each other.
- Try to stay impartial* when there are disagreements. Your role is to further the discussion by drawing out the different viewpoints, and making clearer what the disagreement is about. If you take sides you may not be able to 'referee' next time.
- Don't avoid conflict,* but don't let it get personal. Criticise the idea, not the person. Everyone has to feel safe about expressing their views, even if these are unpopular.
- Discourage aggressive or overtalkative people from dominating.* "Can we hear from someone else now?" or "Let's go round and see what other people think" can help to keep it fair.
- Draw out the quiet people.* If you know their interests, this can help.
- Don't let the group get stuck on unprovable 'facts' or assertions.* If there is disagreement over facts, ask how relevant they are to the issue, and maybe get someone to find more information for the next session.
- Don't be afraid of pauses and silences.* It probably means people are thinking. Count to 10 before trying to answer your own questions to the group.
- From time to time try to summarise* where you think the discussion has got to. To avoid boredom, don't get stuck on a topic; move onto the next thing if the group isn't interested.
- Ask the 'hard' questions,* point out issues that people are ignoring, and help the group examine its own assumptions.
- Use questions that encourage discussion,* rather than yes/no answers. For example, "Why do you disagree with that point?", rather than "Who agrees/disagrees?"
- Close the session with a brief question that each person can answer in turn,* e.g. "Let's each of us summarise what we gained from this session." This helps to give the session a sense of closure, rather than just trailing off. If people make suggestions for improving the process, note them down, to help you with the next session.
- At the end of the session,* remind group members of any preparation they need to do before the next session, and check any organising that needs to be done (eg photocopying, organising refreshments, inviting visiting speakers, etc).

Need more help?

If you want some advice or support in relation to facilitating a group contact the Swan Catchment Centre on (08) 9220 5300.

How to find out more about the Swan and Canning rivers

Look in the folder in this kit

The folder in the Action Kit on *The Swan-Canning River System* holds a variety of information resources on how the river system works, its plant and animal life, management issues including algal blooms and pollution, and the Swan-Canning Cleanup Program.

Contact the Swan River Trust

Contact the *Swan River Trust* on (08) 9278 0400, e-mail srt@wrc.wa.gov.au, or fax (08) 9278 0401 for more information on protection and management of the Swan-Canning river system, including:

- Algal blooms
- Management plans
- Planning and development around the river (including development applications, policies)
- Pollution
- Swan-Canning Cleanup Program
- Swan River Education Program
- Water quality
- Waterway and foreshore protection
- Works around the river including erosion control and rubbish removal

The Swan River Trust web site at www.wrc.wa.gov.au/srt has a variety of information on the Trust's activities, publications and algal bloom alerts. It also has links to the *Swan River Landscape Atlas*, a useful resource with maps of river precincts and information about each area, and the *Swan-Canning Cleanup Program Action Plan*.

Other useful contacts are:

Department of Conservation and Land Management (08) 9334 0333: wildlife, conservation reserves

Department of Environmental Protection (08) 9222 7000: pollution complaints

Department of Transport (08) 9239 2399: boating regulations, structures over the water, moorings, river leases, navigation hazards, tides

Fisheries Western Australia (08) 9482 7333: fishing, fisheries regulations

Local government (Councils): public open space reserves around the river, local planning issues, foreshore facilities (public toilets, picnic areas)

Swan Catchment Centre (08) 9220 5300: community groups, catchment management (www.wrc.wa.gov.au/swanavon)

Water Corporation (08) 9420 2420: drainage, sewerage

Water and Rivers Commission (08) 9278 0300: managing and protecting Western Australia's water resources



How to get in touch with community groups and volunteer activities

Look in the folder in this kit

The folder *Taking action – ideas for individual action* holds contact leaflets for key organisations and posters and fliers with tips for actions that people can take in their own housekeeping, gardening and recreation.

Contact the Swan Catchment Centre

Contact the *Swan Catchment Centre* on (08) 9220 5300 (www.wrc.wa.gov.au/swanavon) to get in touch with community groups, volunteers and catchment groups. The Catchment Centre is your link to information, advice and assistance with catchment and environmental management, conservation and community groups.

Visit the Swan River Trust web site

The *Swan River Trust* web site at www.wrc.wa.gov.au/srt has advice on how to ‘Do the right thing by the river’ and links to other useful publications and web sites with specific advice on issues such as weeds and connecting to deep sewerage, for example.

Other useful contacts are:

Ribbons of Blue/Waterwatch (08) 9278 0358, www.wrc.wa.gov.au/ribbons: program for primary and secondary schools, local government and the community; monitoring groundwater, surface water and macroinvertebrates leads from environmental awareness to action.

Ecoplan (08) 9222 7000: program promotes “community ownership” of natural bush areas and supports community environmental groups through newsletters, training courses and access to networks.

How to get practical advice on techniques for river restoration and catchment management

Look in the folder in this kit

The folder on *River and catchment management* holds fact sheets and notes with practical advice and information on river restoration and catchment management.

Contact the Water and Rivers Commission

Contact the *Water and Rivers Commission* on (08) 9278 0300, www.wrc.wa.gov.au for information on water management, including

- water sensitive urban design
- waterway restoration techniques ('living streams')
- wetland restoration and management (ask about the Water Notes series)
- groundwater protection

Other useful contacts are:

The Swan Catchment Centre (08) 9220 5300, (www.wrc.wa.gov.au/swanavon) is your link to the on-the-ground projects being undertaken by community and catchment groups across the Swan-Avon catchment.



notes

Feedback

Whether you have used the kit as an individual or as part of a group, the Swan River Trust would like to hear your thoughts about it and any suggestions for improvement. If you are part of a group tell us about your meetings and what they led to. Just go to the website at:

www.wrc.wa.gov.au/srt/contact

or post your comments to:

Swan Catchment Centre
108 Adelaide Terrace
East Perth Western Australia 6004

If you find the kit is no longer of use please hand it on to an interested community group, school or library.



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An informal discussion guide

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WATER AND RIVERS
COMMISSION



SWAN RIVER
TRUST

The Swan River Action Kit is a project
of the Swan-Canning Cleanup Program



Contributing to health of the Swan and Canning Rivers

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Focus on the Swan River

An informal discussion guide

Oikos is a Greek word which means house. It is also the parent word for two words in the English language – economy and ecology. Economy means managing the house, ecology means understanding the house. This distinction between understanding and managing is at the heart of many problems we face today.

This discussion guide encourages people to share their understanding and feelings about the ecology and values of the Swan-Canning river system, and the issues of planning, developing and managing its catchment – getting our own house together.

A journey of discovery

The Swan River holds a special place in the hearts of most West Australians today. We love to sail or surfcat on it, swim and fish in it, and enjoy the scenery as we drive or picnic around its shores. But before European settlement the local Aboriginal people, or Nyungars, had a close and spiritual relationship with the river that continues today.

The Swan River and its freshwater tributaries were surrounded by lightly wooded plains abundant in food and water to those who knew plants, birds and seasonal fluctuations. Each Nyungar group had their *kaleep* or favoured camping locality that held a special significance for them. Nyungars have a sense of respect and kinship with the environment and regard themselves as inseparable from the eternal processes of nature.

Focusing on how we feel about our rivers, and the physical links that we have with them through living in their catchments, is a way that all Australians can learn to understand their ‘interconnectedness’ with their environment. This may translate into a new way of seeing and understanding the world around us, and new involvement in caring for places that we value. We can think of this as a journey of discovery that will increase our appreciation and enjoyment of our environment.



Starting the journey – how to use this discussion guide

This guide provides opportunities to:

- focus on the part of the river and catchment that interests you or your group,
- consider some of the major issues facing the Swan River, and
- decide if you want to form or join an informal group to learn more about the Swan River.

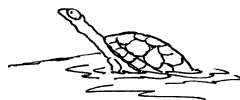
You can use this discussion guide in whatever way works for your group, but it is recommended that you pass it around among people who are interested in the Swan River. Maybe make a few copies and share them around. Give everyone the opportunity to read the guide and then hold a meeting to discuss the issues. Included throughout are a number of discussion questions. Use any or all of these to help focus on the issues as they apply to your group.

You can help people who don't read well by talking about the information with them before the group discussion begins.

Talk doesn't have to be cheap

This discussion guide provides a brief overview of some of the complex issues surrounding the management of the Swan River. It will assist in stimulating an entertaining, informative and productive discussion. The length of your discussion is up to you. A small group of people might spend 40 minutes or so. A group who meet regularly might put the discussion guide on the agenda for a meeting and set time aside.

The guide points to opportunities for further action you might consider. This includes obtaining the Swan River Action Kit, if you do not already have it, requesting more information from some group or other, or helping others to become more involved in learning about the Swan River.





Some ground rules for your discussion

There are several ground rules for discussion which you should follow. These will help to make your discussion more productive.

- Listen carefully and actively to the opinions and beliefs of all others – even those you disagree with. Listening skills are just as important as speaking. Everyone can practice their listening skills.
- Examine in an open manner your own views on the issue – even those which you have long held. Being open like this will encourage others.
- See if you can draw out quiet people and give them the opportunity to speak. Perhaps ask their opinion, but respect their right to be quiet.
- People who tend to speak up a lot in groups need to make an effort not to dominate.
- Don't expect that everyone will necessarily agree. Don't try and smother disagreement, acknowledge it and move on; you may go back to it later.
- Value all opinions, ask clarifying questions and be prepared to learn from others.

Focus

- *Take a minute at the start of your discussion to make sure everyone understands these ground rules. Would you like to change any of them or add others?*

What's the problem with the Swan River?

In the early 1990s, the Swan and Canning rivers and estuarine basins were showing the signs of a system under stress. Algal blooms and fish deaths in the Swan River and toxic blue-green blooms in the Canning

what's the problem?

what's the problem?

4



River focused community attention on the deteriorating health of the river system. Then in February 2000, a highly toxic blue-green bloom right in the heart of Perth caused the river to be closed for all water-contact recreation. No wind surfers or colourful yachts, no school rowing crews in the early light, no fishing, no children splashing in the shallows. It was a lonely sight, and people realised just what was at stake if we continue to pollute the river with nutrients.

You can't separate the river from its catchment

Monitoring in the Swan-Canning system has shown that algal blooms are being fuelled by high concentrations of nutrients entering the river from its catchment. The two main nutrients are nitrogen and phosphorus, which feed algae and make them grow. By far the biggest sources of these nutrients are fertilisers and animal wastes from rural and semi-rural land, which are washed into rivers by rain. Other sources are urban gardens, parks, golf courses, unsewered residential areas, roads, light industrial areas and former rubbish tips, where nutrients are captured by a myriad of drains that discharge into the rivers. The river will continue to suffer from algal blooms as long as the flow of nutrients continues unchecked.

Algal blooms aren't the only issue

Much of the foreshore has been cleared and the natural vegetation replaced by lawns and playing fields, farmlands and housing. Apart from the loss of natural landscapes and wildlife habitat, the river has lost much of its natural capacity to filter the nutrients running in from the catchment. To make things worse, a network of drains carries an increased load of fertilisers, pesticides, oil, litter and other pollution into the river. Developments around the river are a long-standing source of public debate and conflict. Weeds are a serious threat to the river ecology. Garden plants have become invasive weeds along the foreshore, and introduced aquarium plants thrive in the waterways to become costly problems, especially in the Canning River.



Focus

- *How do you, your family and friends use the Swan River? What do you enjoy or value about it?*
- *When did you first become aware of problems facing the Swan River? What was the problem and how did you become aware of it? What other problems have you since become aware of?*
- *How do algal blooms or river closures affect you? How are other river users affected?*
- *What do you think may be local sources of nutrients in your area? What do you know about other sources of pollution from your area? Where could you get more information about this?*
- *How well informed do you think local people are about these issues? Is this important? Does anything need to be done about it? If so, what could be done?*



Your patch

The Swan River is a complex environment. Getting a handle on the issues and planning actions is easier if you focus on one area. We suggest you choose to talk about 'your patch'. Think of this as being the area you are most concerned with. This might be one small easily defined area along the Swan River or one of its tributaries. Or it might be the entire length of one of the rivers, or the entire system. Your patch might be an area where you:

- live or play;
- have holidays;
- are involved in some sort of community action; or
- are concerned about future development and conservation issues.

your patch

In your patch you might find various land uses including:

- residential, recreation and tourism areas;
- commercial and industrial uses, including fishing, manufacturing and transport;
- agriculture, horticulture, forestry and mining;
- conservation of natural areas; and
- waste disposal, stormwater and sewage disposal associated with any of the above.

Who manages your patch?

Different areas of your patch may be owned and managed by a range of different people and organisations. These include private landholders, Local, State and Commonwealth Government.

Focus

- *What is the extent of your patch? You may need a topographical map or other information to be entirely accurate, but try and describe or draw it.*
- *Which of the land uses listed above occur there? What other land uses are there? Who manages your patch?*
- *What are the special values of this part of the river? What is precious to you?*
- *How is the state of the environment there? Is it stable? Improving or deteriorating? What are the known causes and effects?*
- *What social and economic benefits has development brought to this area?*
- *Who is concerned with adjoining areas?*
- *Where can you get more information to help you understand your patch better? A government agency, community group, historical society, or naturalists club are some possibilities, but there are many other sources of local information.*



The future of the Swan

Despite the symptoms of stress, the Swan-Canning system is still in reasonable condition. Worldwide experience from programs dealing with major environmental problems has shown, however, that prevention is better and cheaper than waiting until more serious problems arise.



The Action Plan

The Swan River Trust has responsibility for protecting and managing the Swan-Canning River System. The Swan River Trust has developed a five-year Swan-Canning Cleanup Program to reduce algal blooms in the river.

The Action Plan, launched in 1999, has recommendations for ways to:

- reduce the level of nutrients entering the rivers from the catchment;
- modify conditions in the river to prevent the nutrients in the sediments from triggering algal blooms;
- increase public awareness of the underlying causes and the ways they can help improve water quality.

The Plan also includes research to monitor river health and fill critical gaps in knowledge.

These recommendations are being implemented at a cost of \$14 million over five years, while a variety of other programs will cost upwards of **\$\$ million**.

The key in the long term is to reduce the nutrients flowing into the river from its rural and urban catchment. We can do this by improving the way we plan development and land use in the catchment, and by better land management. Integrated Catchment Management is a way of coordinating planning and management of water, land, vegetation and other natural resources in a catchment. It is based on cooperation between community groups and all levels of government to consider all the aspects in making decisions.



Focus

- *What do you know about Catchment Management? Is there a group in your area? Who is involved in this? Are there local people you could talk to about this?*
- *What planning or land management issues are you aware of in your part of the catchment? Who is involved and what is being done to encourage better wetland, catchment or river foreshore management? Could you talk to your local government about this?*
- *Are you aware of any work being done to reduce algal blooms in the Swan-Canning system? Where could you find out more about this?*

Where to from here?

Neither the community nor the Government can solve the problems of the Swan River on their own. We all contribute in some small way to the problem and we all have a role to play in protecting and restoring the river.

The catchment is an area of 121 000 square kilometres, which is an area larger than Tasmania and it includes more than 1.4 million people, most of them living in the Perth metropolitan area. History has altered this system and catchment, and it would not be possible to return it to its original pristine state. It is possible, however, to restore many of the ecological and economic functions of the system to keep it healthy and robust.





Focus

- *How would you like to be involved in the Action Plan? How can you help more people to be involved?*
- *Do you know if any of the schools in your community are involved in learning about and caring for the river and its catchment?*
- *Are there other people in your community who you think should be involved in discussions like yours? Can you suggest this discussion guide to them?*
- *The Action Plan will require major commitment and effort from Government and the community over the long term. How can that commitment and effort – from both Government and the community – be maintained?*

The Swan River Action Kit

The Swan River Action Kit is a package of videos and information resources, and suggestions for a structured but very flexible program to introduce people to the Swan and Canning rivers, their values, protection and management. It is a journey of environmental discovery for discussion groups or individual learning. It can lead from better understanding of the environment to planning individual action (in your own housekeeping, gardening or recreation) or group projects. Most of all it should be an enjoyable journey that increases appreciation of the river.





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Natural Heritage Trust

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