

State of the
Environment
Reporting Series

Discussion Paper No. 3

Environmental Themes and Issues Discussion Paper



**Report prepared by the Environmental Protection Authority
for the Minister for the Environment**

**Environmental Protection Authority
Perth, Western Australia
July 2004**

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1.0 Introduction

The next cycle of State of the Environment (SoE) reporting in Western Australia (WA) has commenced. The Environmental Protection Authority (EPA), on behalf of the State Government, is responsible for overseeing production of the State of the Environment Report, which is due for release in late 2006. The EPA is an independent environmental advisory body and has welcomed the responsibility of coordinating the 2006 State of the Environment Report and is keen to engage the WA community and its stakeholders in such an important task. To this end, a series of discussion papers has been produced for community and stakeholder input to influence the next report.

This discussion paper is seeking specific comments and information in relation to key environmental issues in WA. The EPA is interested in seeking comments from the general community, government and non-government organisations, industry and business groups, special interest groups and other interested stakeholders throughout the State. Your feedback via the templates provided will be used to help determine which key environmental issues will be addressed for each theme in the 2006 SoE Report.

2.0 Environmental Themes and Issues in the 1998 SoE Report

Environmental themes represent parts of the environment or particular natural resource types (eg. land, inland waters, marine, air, biodiversity, cultural heritage, etc).

Environmental issues (also known as threats, pressures or problems) represent something that causes, or has potential to cause, harm or damage to environmental assets and their values.

In the 1998 SoE Report, seven themes and 22 key environmental issues were presented. Many more environmental issues existed at the time, however the SoE Regional Focus Groups and Reference Group decided that only the key issues would be addressed.

In considering environmental issues it is important to recognize the potential for spatial and temporal variation. Some issues may only be present in a single area or locality while others may extend to cover the entire region or State. Some issues may be seasonally or annually affected by other factors; for example, by certain climatic conditions (drought, floods, etc) or changes in human activities over time (such as land development, community capacity or technological improvements).

The following themes were presented in the 1998 SoE Report:

Fundamental Pressures

Fundamental pressures represented those primary drivers that lead to environmental change and issues at a broad scale. These included population growth, resource utilization and consumption.

Biodiversity

Biodiversity represented the variety of genes, species and ecosystems present. It is essential to human well-being in many respects. It maintains ecological structures, functions and processes that are vital to the survival and continued evolution of life on earth.

Atmosphere

Atmosphere referred to all air above the ground, up to and including the stratosphere. It excludes air inside buildings, workplaces and homes. The condition and movement of the atmosphere affects all life on Earth, from local, to regional, to global scales.

Land

Land referred to the soil and subsoil resources that constitute the top of the Earth's surface. Land is a fundamental resource for supporting terrestrial life forms on Earth. The animal and plant life that inhabits the land surface was discussed where it was deemed important for the protection and rehabilitation of land.

Inland Waters

Inland waters referred to groundwater, waterways (rivers, creeks, streams), wetlands (lakes, swamps, dampland) and estuaries. The animal and plant life that inhabits inland waters was discussed where it was deemed important for the protection of inland waters (such as fringing vegetation) or where it was directly affected by changes in the condition of inland waters. Both the quality and quantity of available water is critical for supporting many terrestrial and aquatic life forms.

Marine

Marine environment referred to the inter-tidal zone, near shore and open ocean environments but excluded estuaries. Australia has responsibility for managing one of the largest exclusive economic zones, fishing zones and continental shelves in the world, and WA shares a large portion of this responsibility.

Progress Towards Sustainability

Sustainability is defined as meeting the needs of current and future generations through integration of environmental protection, social advancement, and economic prosperity. In the 1998 SoE Report, progress of the key natural resource sectors in

implementing environmental sustainability was addressed, although the concept has greatly evolved since then.

In the 1998 SoE Report, key environmental issues were identified for most themes, with the exception of the 'Fundamental Pressures' and 'Progress Towards Sustainability' themes:

Biodiversity

- Maintaining biodiversity

Atmosphere

- Enhanced greenhouse effect
- Stratospheric ozone depletion
- Photochemical smog
- Haze from particulates
- Sulphur dioxide
- Carbon monoxide
- Lead
- Dust

Land

- Land salinisation
- Land contamination
- Erosion
- Soil acidification
- Waterlogging

Inland Waters

- Salinisation of inland waters
- Loss of fringing vegetation
- Eutrophication
- Sedimentation
- Contamination of inland waters

Marine

- Degradation of marine habitats
- Contamination of the marine environment
- Introduction of marine exotic species

3.0 Environmental Themes and Issues for the 2006 SoE Report

Following public submissions on ‘*Discussion Paper #2: State of the Environment Reporting Process*’ the SoE Steering Group has decided on a list of nine themes that will be addressed in the 2006 State of the Environment Report. These themes will form the basis for identifying key environmental issues.

Fundamental Pressures

The content will be the same as the 1998 SoE Report, but will be expanded to include climate change.

Biodiversity

Key biodiversity issues will need to be identified.

Atmosphere

Key atmosphere issues will need to be identified.

Land

Key land issues will need to be identified.

Inland Waters

Key inland waters issues will need to be identified.

Marine Environment

Key marine issues will need to be identified.

Human Settlements

Key human settlement issues will need to be identified.

Human settlements include communities, towns and cities and can also represent places where we live, work and recreate. Human settlements are important as they influence, and are influenced by, the environment where they are located. Therefore, this theme may include such issues as population patterns and health, tourism, transport, resource consumption, waste, urban design and alike.

Cultural Heritage

Key cultural heritage issues will need to be identified.

Cultural heritage represents our identity, about knowing who we are as individuals, community and State. It represents our attitudes and values to our environment as well as physical places and objects that serve as links to our past society, culture and identity. Therefore this theme may include issues such as pressures on cultural heritage places, landscape values and community attitudes towards the environment.

Progress Towards Sustainability

In recent years, there has been broad development of sustainability indicators, guiding principles and strategies for implementing sustainability. The WA State Sustainability Strategy has recently been released to provide a common direction for working towards achieving sustainability. This theme will build on this work and support the environmental component of State of Sustainability Reporting.

4.0 How to Comment on this Discussion Paper

For a variety of reasons, key environmental issues may not necessarily be the same as those highlighted in the 1998 SoE Report. As such, a process is required to identify WA's current and most significant environmental issues. To address this, the EPA has provided a template for each environmental theme (see Appendices or alternatively the EPA web site for electronic copies). These templates ask several simple scoring questions that will be used to help identify the key environmental issues for the 2006 SoE Report, such as:

- What do you consider to be the most important environmental issues for each theme?
- If the issue was presented in the 1998 SoE Report, is it still relevant?
- To what extent does the issue occur? Is the issue an isolated occurrence, or does it occur over a local, catchment, region or State scale?
- What is the severity of the issue towards impacting the environment and social and economic assets? This refers to the level of impact on various resources. For example, does it impact a single resource (eg. the issue of 'dieback' fungus affects biodiversity assets) or does it impact multiple resources? (eg. the issue of land salinisation affects land, inland waters, biodiversity and infrastructure assets). It also refers to the potency of the issue to cause damage over a short time frame.
- What is the rate of change of the issue? This refers to whether the problem is getting worse, getting better, or is staying steady over time. It may be based on personal perception or based on technical data and information.
- How easy is it to address the issue? This refers to the availability of techniques to respond to the issue, the level of technical understanding of the issue, the feasibility / difficulty of remediation options, and whether there is adequate community or government capacity to address the issue.
- What is the overall priority of the environmental issue? In your view, how serious is this issue relative to other issues and what is the level of urgency needed to address the issue?

Respondents may decide to complete one theme template of particular interest to them, or decide to complete multiple theme templates if they have a good understanding of local issues or a broad understanding of general environmental issues. Where opinions or views are based on information acquired elsewhere, please attempt to identify the source/s of this information.

In addition, if you feel certain projects (community, industry, government, or otherwise) have made significant progress towards addressing a particular environmental issue or theme, please be sure to identify them. The 2006 SoE Report

intends to recognize some of those groups / projects that are delivering groundbreaking outcomes in relation to addressing specific environmental issues, or those that are achieving sustainable solutions.

A summary of responses to this discussion paper will be provided on the EPA's website (www.epa.wa.gov.au) once all submissions have been collated and analyzed. Final decisions about which environmental issues will be presented in the 2006 SoE Report will be influenced by the relative rankings of the collated responses, in addition to advice from the SoE Steering Group and experts on specific environmental issues.

5.0 How to Make a Submission

This document has been released for public comment for a period of two months, ceasing 8th September 2004.

Your comments and feedback via the templates are welcome either as an individual, as a representative for a community group, or collectively for an organisation.

Electronic copies of this discussion paper and templates are available on the EPA's web site (www.epa.wa.gov.au and then select 'SOE Reporting Series'), or they can be requested by sending an email to soe@environment.wa.gov.au .

Once you have completed the templates, either:

- Send your completed electronic templates to soe@environment.wa.gov.au; or,
- Fax your completed templates to 9322 1598 marked "Attention: Brad Jakowyna"; or,
- Detach the completed templates from the back of this discussion paper and send them to the following postal address:

Mr Brad Jakowyna
Policy and Coordination Division
Environmental Protection Authority Service Unit
PO Box K822
Perth WA 6842

Thank you for your time and contribution towards this important environmental initiative.

EXAMPLE TEMPLATE ONLY: INLAND WATERS THEME

Name: John Citizen
Postcode where living: Harvey, 6220
Profession / Organisation: Dairy Farmer
Name of area that you are familiar with, or have expertise in, for this theme (eg. town, shire, city, catchment, region, State etc):
 I am most familiar with inland waters in Shire of Harvey and the Harvey River catchment.

Some brief details about you are needed so your response can be interpreted. Please note that your response will be treated in confidence.

| Environmental Issue | Is the issue still relevant since the 1998 SoE Report? | Extent of issue | Severity of impact for issue | Rate of change of issue since 1998 | Ease of addressing the issue | Overall priority for issue |
|---------------------|---|--|---|--|--|---|
| Identify the issue | Answer: Yes / No. If "No" please briefly state reasons. | Score 1-5, where 1=isolated occurrence, 2=local scale, 3=catchment scale, 4=regional scale, 5=State scale | Score 1-5, where 1=minor impacts 2=some impacts 3=moderate impacts 4=significant impacts 5=major impacts | Score 1-5, where 1=dramatic improvement, 2=some improvement, 3=no change, 4=some deterioration, 5=dramatic deterioration. | Score 1-5, where 1=no need to address 2=easy to address 3=can address most of time 4=can address with difficulty 5= real challenge to address | Score 1-5, where 1=very low priority 2=low priority 3=mid priority 4=high priority 5= very high priority |
| Waterlogging | No – lower rainfall over past decade | 2 | 1 | 1 | 2 | 1 |
| Eutrophication | Yes | 3 | 2 | 5 | 4 | 4 |

Which issues are most important for this particular theme?

Is the issue still relevant since it was last reported?

Over what sort of scale does this issue have an impact?

How much of an impact can this issue have on natural resources and social and economic assets too?

Is the issue showing signs of improvement or deterioration over time?

How easy is it to remedy this environmental issue and its impacts?

How serious is this issue 'in your eyes' and how urgently should it be addressed?

Sources of information (optional):

- Local newspapers, Water and Rivers Commission data
- Department of Agriculture
- Local catchment groups
- Local knowledge

Please identify your sources, if your views are based on recent studies, field observations, literature, data or information.

Projects Making Things Happen (optional):

Alkaloam project (Dept of Ag) uses an innovative application that has been tested on my property with some excellent results.

Please nominate projects that you believe are achieving significant results in addressing relevant environmental issues.

... support from farms to waterways. It has been tested on my property with some excellent results.

APPENDIX 1: BIODIVERSITY THEME TEMPLATE

Name:

Postcode where living:

Profession / Organisation:

Name of area that you are familiar with, or have expertise in, for this theme (eg. town, shire, city, catchment, region, State, etc):

| Environmental Issue | Is the issue still relevant since the 1998 SoE Report? | Extent of issue | Severity of impact for issue | Rate of change of issue since 1998 | Ease of addressing the issue | Overall priority for issue |
|----------------------------|---|---|---|--|--|---|
| Identify the issue | Answer: Yes / No. If "No" please briefly state reasons. | Score 1-5, where 1=isolated occurrence, 2=local scale, 3=catchment scale, 4=regional scale, 5=State scale. | Score 1-5, where 1=minor impacts 2=some impacts 3=moderate impacts 4=significant impacts 5=major impacts | Score 1-5, where 1=dramatic improvement, 2=some improvement, 3=no change, 4=some deterioration, 5=dramatic deterioration. | Score 1-5, where 1=no need to address 2=easy to address 3=can address most of time 4=can address with difficulty 5= real challenge to address | Score 1-5, where 1=very low priority 2=low priority 3=mid priority 4=high priority 5= very high priority |
| Maintaining biodiversity | | | | | | |
| (Others?) | | | | | | |
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Sources of information (optional):

Projects making things happen (optional):

APPENDIX 2: ATMOSPHERE THEME TEMPLATE

Name:

Postcode where living:

Profession / Organisation:

Name of area that you are familiar with, or have expertise in, for this theme (eg. town, shire, city, catchment, region, State, etc):

| Environmental Issue | Is the issue still relevant since the 1998 SoE Report? | Extent of issue | Severity of impact for issue | Rate of change of issue since 1998 | Ease of addressing the issue | Overall priority for issue |
|-------------------------------|--|--|---|--|--|---|
| Identify the issue | Answer: Yes / No. If "No" please briefly state reasons. | Score 1-5, where 1=isolated occurrence, 2=local scale, 3=catchment scale, 4=regional scale, 5=State scale | Score 1-5, where 1=minor impacts 2=some impacts 3=moderate impacts 4=significant impacts 5=major impacts | Score 1-5, where 1=dramatic improvement, 2=some improvement, 3=no change, 4=some deterioration, 5=dramatic deterioration. | Score 1-5, where 1=no need to address 2=easy to address 3=can address most of time 4=can address with difficulty 5= real challenge to address | Score 1-5, where 1=very low priority 2=low priority 3=mid priority 4=high priority 5= very high priority |
| Enhanced greenhouse effect | | | | | | |
| Stratospheric ozone depletion | | | | | | |
| Photochemical smog | | | | | | |
| Haze from particulates | | | | | | |
| Sulphur dioxide | | | | | | |
| Carbon monoxide | | | | | | |
| Lead | | | | | | |
| Dust | | | | | | |
| (Others?) | | | | | | |
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Sources of information (optional):

Projects making things happen (optional):

APPENDIX 3: LAND THEME TEMPLATE

Name:

Postcode where living:

Profession / Organisation:

Name of area that you are familiar with, or have expertise in, for this theme (eg. town, shire, city, catchment, region, State, etc):

| Environmental Issue | Is the issue still relevant since the 1998 SoE Report? | Extent of issue | Severity of impact for issue | Rate of change of issue since 1998 | Ease of addressing the issue | Overall priority for issue |
|---------------------------|--|--|---|--|--|---|
| Identify the issue | Answer: Yes / No. If "No" please briefly state reasons. | Score 1-5, where 1=isolated occurrence, 2=local scale, 3=catchment scale, 4=regional scale, 5=State scale | Score 1-5, where 1=minor impacts 2=some impacts 3=moderate impacts 4=significant impacts 5=major impacts | Score 1-5, where 1=dramatic improvement, 2=some improvement, 3=no change, 4=some deterioration, 5=dramatic deterioration. | Score 1-5, where 1=no need to address 2=easy to address 3=can address most of time 4=can address with difficulty 5= real challenge to address | Score 1-5, where 1=very low priority 2=low priority 3=mid priority 4=high priority 5= very high priority |
| Land salinisation | | | | | | |
| Land contamination | | | | | | |
| Erosion | | | | | | |
| Soil acidification | | | | | | |
| Waterlogging (Others?) | | | | | | |
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Sources of information (optional):

Projects making things happen (optional):

APPENDIX 4: INLAND WATERS THEME TEMPLATE

Name:

Postcode where living:

Profession / Organisation:

Name of area that you are familiar with, or have expertise in, for this theme (eg. town, shire, city, catchment, region, State, etc):

| Environmental Issue | Is the issue still relevant since the 1998 SoE Report? | Extent of issue | Severity of impact for issue | Rate of change of issue since 1998 | Ease of addressing the issue | Overall priority for issue |
|--------------------------------|--|--|---|--|--|---|
| Identify the issue | Answer: Yes / No. If "No" please briefly state reasons. | Score 1-5, where 1=isolated occurrence, 2=local scale, 3=catchment scale, 4=regional scale, 5=State scale | Score 1-5, where 1=minor impacts 2=some impacts 3=moderate impacts 4=significant impacts 5=major impacts | Score 1-5, where 1=dramatic improvement, 2=some improvement, 3=no change, 4=some deterioration, 5=dramatic deterioration. | Score 1-5, where 1=no need to address 2=easy to address 3=can address most of time 4=can address with difficulty 5= real challenge to address | Score 1-5, where 1=very low priority 2=low priority 3=mid priority 4=high priority 5= very high priority |
| Salinisation of inland waters | | | | | | |
| Loss of fringing vegetation | | | | | | |
| Eutrophication | | | | | | |
| Sedimentation | | | | | | |
| Contamination of inland waters | | | | | | |
| (Others?) | | | | | | |
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Sources of information (optional):

Projects making things happen (optional):

APPENDIX 5: MARINE ENVIRONMENT THEME TEMPLATE

Name:

Postcode where living:

Profession / Organisation:

Name of area that you are familiar with, or have expertise in, for this theme (eg. town, shire, city, catchment, region, State, etc):

| Environmental Issue | Is the issue still relevant since the 1998 SoE Report? | Extent of issue | Severity of impact for issue | Rate of change of issue since 1998 | Ease of addressing the issue | Overall priority for issue |
|---|--|---|---|--|--|---|
| Identify the issue | Answer: Yes / No. If "No" please briefly state reasons. | Score 1-5, where 1=isolated occurrence, 2=local scale, 3=widespread, 4=regional scale, 5=State scale | Score 1-5, where 1=minor impacts 2=some impacts 3=moderate impacts 4=significant impacts 5=major impacts | Score 1-5, where 1=dramatic improvement, 2=some improvement, 3=no change, 4=some deterioration, 5=dramatic deterioration. | Score 1-5, where 1=no need to address 2=easy to address 3=can address most of time 4=can address with difficulty 5= real challenge to address | Score 1-5, where 1=very low priority 2=low priority 3=mid priority 4=high priority 5= very high priority |
| Degradation of marine habitats | | | | | | |
| Contamination of the marine environment | | | | | | |
| Introduction of marine exotic species | | | | | | |
| (Others?) | | | | | | |
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Sources of information (optional):

Projects making things happen (optional):

APPENDIX 6: HUMAN SETTLEMENTS THEME TEMPLATE

Name:

Postcode where living:

Profession / Organisation:

Name of area that you are familiar with, or have expertise in, for this theme (eg. town, shire, city, catchment, region, State, etc):

| Environmental Issue | Is the issue still relevant since the 1998 SoE Report? | Extent of issue | Severity of impact for issue | Rate of change of issue since 1998 | Ease of addressing the issue | Overall priority for issue |
|---------------------|--|--|---|--|--|---|
| Identify the issue | Answer: Yes / No. If "No" please briefly state reasons. | Score 1-5, where 1=isolated occurrence, 2=suburb scale, 3=local govt scale, 4=regional scale, 5=State scale | Score 1-5, where 1=minor impacts 2=some impacts 3=moderate impacts 4=significant impacts 5=major impacts | Score 1-5, where 1=dramatic improvement, 2=some improvement, 3=no change, 4=some deterioration, 5=dramatic deterioration. | Score 1-5, where 1=no need to address 2=easy to address 3=can address most of time 4=can address with difficulty 5= real challenge to address | Score 1-5, where 1=very low priority 2=low priority 3=mid priority 4=high priority 5= very high priority |
| (New issues needed) | | | | | | |
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Sources of information (optional):

Projects making things happen (optional):

APPENDIX 7: CULTURAL HERITAGE THEME TEMPLATE

Name:

Postcode where living:

Profession / Organisation:

Name of area that you are familiar with, or have expertise in, for this theme (eg. town, shire, city, catchment, region, State, etc):

| Environmental Issue | Is the issue still relevant since the 1998 SoE Report? | Extent of issue | Severity of impact for issue | Rate of change of issue since 1998 | Ease of addressing the issue | Overall priority for issue |
|---------------------|--|--|---|--|--|---|
| Identify the issue | Answer: Yes / No. If "No" please briefly state reasons. | Score 1-5, where 1=isolated occurrence, 2=suburb scale, 3=local govt scale, 4=regional scale, 5=State scale | Score 1-5, where 1=minor impacts 2=some impacts 3=moderate impacts 4=significant impacts 5=major impacts | Score 1-5, where 1=dramatic improvement, 2=some improvement, 3=no change, 4=some deterioration, 5=dramatic deterioration. | Score 1-5, where 1=no need to address 2=easy to address 3=can address most of time 4=can address with difficulty 5= real challenge to address | Score 1-5, where 1=very low priority 2=low priority 3=mid priority 4=high priority 5= very high priority |
| (New issues needed) | | | | | | |
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Sources of information (optional):

Projects making things happen (optional):