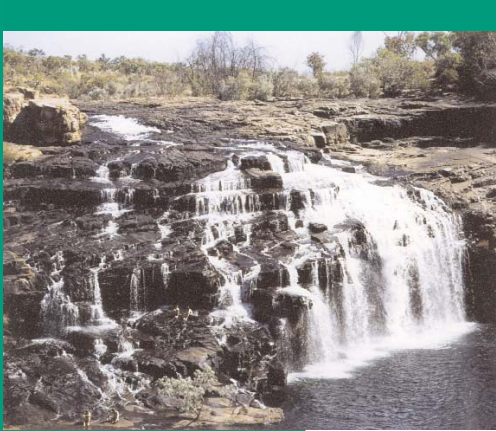




Environmental Protection Authority

Environmental Protection Authority

ANNUAL REPORT
2003 - 2004





Environmental Protection Authority

ENVIRONMENTAL
PROTECTION
AUTHORITY

ANNUAL REPORT

2003 • 2004

TRANSMITTAL TO THE MINISTER

Hon Dr Judy Edwards MLA
MINISTER FOR THE ENVIRONMENT

In accordance with s21 of the *Environmental Protection Act 1986*, I submit the EPA's Annual Report for the year ended 30 June 2004.

It is with pleasure that, on behalf of the EPA, I advise that for the reporting period to 30 June 2004, the EPA has conducted its functions such that it has met its objectives outlined in s15 of the *Environmental Protection Act 1986*. This has been achieved with the assistance of the services and facilities of the Department of Environment.

A handwritten signature in black ink, appearing to read 'W. J. Cox', is written over a light grey rectangular background.

Dr Walter Cox

CHAIRMAN

20 September 2004

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CHAIRMAN'S OVERVIEW

The Environmental Protection Authority (EPA) was established by Parliament to provide independent advice, and with the broad objective of protecting the State's environment. This role is undertaken by providing overarching environmental advice to the Minister for the Environment through the preparation of environmental protection policies and the assessment of development proposals, planning schemes and management plans, as well as providing public statements about matters of environmental importance. One of the avenues for public statements is this Annual Report.



*EPA Chairman
Dr Walter Cox*

The report is structured in a manner which introduces the members of the EPA, and then provides a discussion of the major environmental issues on the EPA agenda, followed by information on the environmental assessment of proposals and planning schemes, strategic assessments and policy development. Towards the end of the report there are details of information on legislation issues, consultation, site visits undertaken by the EPA and the work of the Advisory Council to the EPA.

Assessments undertaken by the EPA included a number submitted by government utilities including the South West metropolitan railway from Perth to Mandurah, Perth metropolitan desalination proposal, use of the Cape Peron outlet pipeline to dispose of industrial wastewater to the Sepia Depression, Dampier Port upgrade and dredging, Roe Highway stage 7 extension and Abernethy Road-Tonkin Highway on-ramp. Other assessments included the Gorgon gas project within the Barrow Island nature reserve and Alcoa's Pinjarra refinery efficiency upgrade.

Strategic assessment of the Gorgon gas project proposed within the Barrow Island 'A' Class Nature Reserve was completed in 2003/2004. The EPA considered that on environmental grounds the Barrow Island "A" Class Nature Reserve is not an appropriate location for a major LNG facility. Government also had independent advice from the Conservation Commission and, economic and social input from consultants engaged by the Department of Industry and Resources.

Following consideration of this advice Government made an "in principle decision" to agree to the gas project utilising Barrow Island.

The EPA has set a level of ERMP for the project and ChevronTexaco on behalf of the joint venturers is currently undertaking major studies in support of the ERMP which is expected to be available for public comment in December 2004. A major focus is on risk of exotic species introduction and management strategies that minimise this risk.

As a result of the formation of the Department of the Environment in 2001, the EPA has been delegated the responsibility under section 48(1) of the *Environmental Protection Act*

1986 to audit compliance by the Waters and Rivers Commission with environmental conditions applying to proposals for which the Commission is the proponent. This covers the Gngangara and Jandakot groundwater mounds.

The audit of compliance with conditions for the Gngangara Mound highlighted significant non-compliance. The EPA acknowledges that non-compliance is significantly affected by the reduction in average rainfall and non-occurrence of land use changes previously predicted. Given the current rainfall trends and land use, it is the view of the EPA that the current level of water abstraction from the Gngangara Mound is not sustainable.

The EPA recommended that the sustainable limits for all groundwater abstraction from the Gngangara and Jandakot Mounds be reviewed and revised by the Commission, as a priority. A review of Ministerial Conditions under s46 of the *Environmental Protection Act (1986)* is underway and is expected to be finalised in 2004/2005.

The strong Chinese economy and a buoyant State economy are generating a large number of development proposals which require assessment. Most of these proposals are aiming for a 'window of opportunity' in the market and require timely assessment decisions. The EPA is resourced for a base load and cannot meet industry and community expectations for a timely and rigorous assessment without additional resources during the period July 2004 to December 2006.

Cabinet has approved additional resources for the EPA assessment process for 2004/2005 although further resources may be required if the present level of submissions of proposals continues.

The EPA also has an expectation at all times, and particularly during this peak work load, that proponents/consultants submit quality documentation supported by a thorough public consultation process.

I take this opportunity to thank proponents of proposals, members of the community and advisers to the EPA from both the public and private sectors. I thank also the staff of the EPA Service Unit for the part each officer has played in assisting the EPA in doing the work of protecting the environment. I'm delighted by the quality of advice received by EPA members. It is very important that all those involved have confidence that the process will deliver outcomes that give full attention to environmental protection.

The Minister for the Environment, Dr Judy Edwards MLA continues to take a deep interest in issues addressed by the EPA, and her interest and support is appreciated.



Dr W. J. Cox
CHAIRMAN

MEMBERS

The EPA has five members: a full-time Chairman, a part-time Deputy Chairman and three part-time members. However, members work far in excess of their part-time appointments. A record of members' attendance at EPA meetings is provided in Appendix 9.

Dr Walter Cox

EPA Chairman. Commenced as a member in January 2003 and as Chairman from 31 March 2003, for a term ending 30 March 2006.

Prior to taking up his position as EPA Chairman, Dr Cox was Executive Dean of the Faculty of Business and Public Management and Pro Vice-Chancellor at Edith Cowan University.

Dr Cox has a Bachelor of Science (Agriculture) degree from the University of Western Australia (WA) and a PHD in Soil Science from the University of California, Davis.

He has previously held a number of chief executive officer positions in Government including Executive Director, Department of Conservation and Land Management, East Perth Redevelopment Authority, Subiaco Redevelopment Authority and Managing Director of the Water Authority of Western Australia.

Dr Cox is the Chairman of the Independent Audit Group that audits water use in the Murray-Darling Basin and reports to the Murray-Darling Basin Ministerial Council.

He has served on a number of Boards and Committees including WA and State Planning Commission, Water Services Association of Australia (Chairman), Workpower and is presently the President of the Institute of Public Administration of Australia (WA Branch) and the Chairman of Leadership Western Australia.



Dr Roy Green, Deputy Chairman

Deputy Chairman of the EPA from 13 May 2003 to 6 May 2005, previously a member from May 1998 to May 2000 and Deputy Chairman from 1 January 2000 to 6 May 2000.

Dr Green has a Bachelor of Science degree from the University of Liverpool, a PhD from the University of Toronto and a DSc from Curtin University.

Dr Green has a wealth of national and international experience. He is currently:

- Visitor, Cooperative Research Centre for Greenhouse Auditing;
- Board Member, Cooperative Research Centre for Coastal Zone, Estuary and Waterway Management; and,
- Member, Technical Advisory Committee, Australian Nuclear Science and Technology Organisation.

Dr Green's experience on boards, committees and advisory bodies includes a Federal Cabinet appointment to chair three (Agriculture, Fisheries, and Forestry) of the nine working groups which reported to Government on Ecologically Sustainable Development (1990-1991).

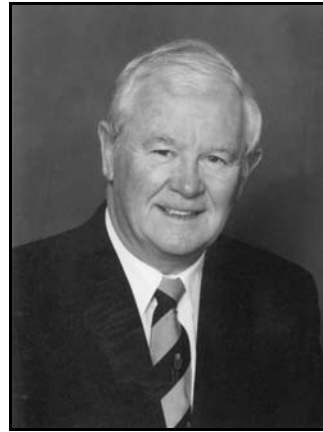
From December 1994 to February 1996 Dr Green was Chief Executive/Acting Chief Executive, Commonwealth Scientific and Industrial Research Organisation, after heading the CSIRO Institute of Natural Resources and Environment from 1988 till 1994.

From April 1996 to November 1997 he was an expert consultant with UNESCO's Intergovernmental Oceanographic Commission, based in Paris.

Dr Green was Chair of the Advisory Council for the National Land and Water Resources Audit (1997-2002), President of the Murray Darling Basin Commission (2000-2003) and Member of the Natural Heritage Trust Advisory Committee (1997-2003).

Dr Green has also served as:

- Chair of the Pulp and Paper Research Advisory Board (1989-1994);
- Member of the Commonwealth State of the Environment Advisory Council (1994-96); and,
- Member of the Australian Space Council (1993-96).



Mr Denis Glennon

Member from 1 January 1998 until 30 March 2006

Mr Glennon is Managing Director of Environmental Solutions International Ltd, a company specialising in environmental management, contaminated site assessment and remediation, and hazardous waste, sludge and wastewater treatment.

Mr Glennon has a wide knowledge of environmental and pollution management systems and engineering, ecologically sustainable development and environmental management policy formulation, especially in regard to industrial waste disposal.

Mr Glennon is a Director and immediate past Chairman of the Environment Management Industry Association of Australia (EMIAA), which comprises more than 200 private sector companies, research centres, tertiary institutions and Federal and State government departments.



Ms Joan Payne

Member from 31 March 2003 until 30 March 2006

Ms Payne, currently the President of the Waterbird Conservation Group, has developed expertise in a broad range of environmental issues through interaction with conservation and community groups as well as Government Departments (State and Federal) since 1976.

Ms Payne was an Executive Member of the Conservation Council of WA from 1988 to 2001 including holding the position of Vice President for a number of years.

Her membership, both past and present, of Government committees and working parties, includes:

- The Western Australian Water Resources Council;
- Water Planning and Policy Standing Committee;
- Darling Range Regional Park Community Consultative Committee;
- National Wetlands Advisory Committee;
- Department of Environmental Protection's System 6 Implementation Group;

- Water and River Commission Stakeholders Council;
- Water and River Commission State Water Reform Council;
- System 6 Update Technical Advisory Group;
- Department of Conservation and Land Management's Wetlands Coordinating Committee;
- National Consultative Committee on Kangaroos; and,
- National Shorebird Conservation Taskforce.



Dr Andrea Hinwood

Member from 7 May 2003 until 6 May 2008.

Dr Hinwood is a senior lecturer in Environmental Management at Edith Cowan University and has a Masters in Applied Science from RMIT, Victoria and a PhD in environmental epidemiology from Monash University, Victoria.

Dr Hinwood has worked in the environmental protection area for over twenty years and has a wide experience in investigation, monitoring and management. She has managed the areas of contaminated sites, chemicals management and emergency response for the Victorian EPA prior to managing

air quality with the Department of Environmental Protection in Western Australia. Dr Hinwood's research interests are in the areas of exposure assessment, hazardous air pollutants, health and environmental impacts of chemicals in the environment.

Dr Hinwood has a breadth of national and international experience, participating in a range of Ministerial and NEPC working groups. She chaired one of the UNEP Technical Options Committees on substances that deplete the ozone layer and was a member of the Technology and Economic Assessment Panel under the Montreal Protocol for a period of five years. More recently she has been an active member of the International Society for Environmental Epidemiology.

MAJOR ENVIRONMENTAL ISSUES

The Environmental Protection Authority (EPA) has overarching responsibility for the provision of advice to Government on environmental matters, and the public expectation is that the EPA will assume a broad custodial, or guardianship role in relation to the protection of air, water, soil, flora, fauna and the maintenance of biodiversity.

In fulfilling this role, the EPA has available an array of mechanisms, including provision of advice of either a general or particular nature under s16 of the *Environmental Protection Act 1986* (EP Act), and preparing assessment reports and Environmental Protection Policies (EPPs), as well as Guidance Statements and Position Statements. In addition, the EPA retains a close link

with the Government departments which have a responsibility for the management of natural resources. Further information on the role of the EPA is provided in Appendix 1.

Some elements of the EPA's custodial responsibilities are discussed below.

Sustainability

The Premier launched *Hope for the Future: The Western Australian State Sustainability Strategy* in mid-September 2003 at the Third International Conference of the Regional Government Network for Sustainable Development. The EPA supported the development of that Strategy by providing detailed input to the draft.

The EPA released its Preliminary Position Statement No. 6, *Towards Sustainability*, in October 2002. Following public submissions the EPA reviewed the paper and its final Position Statement will be released in the near future.

With the release of the Preliminary Position Statement No. 8: Environmental Protection in Natural Resource Management the EPA has provided comments on draft Natural Resource Management Strategies prepared by regional NRM groups for NHTII and NAP funding.

The Chair of the EPA has been appointed to the Implementation Team for the next long-term planning strategy for metropolitan Perth, entitled *Network City*. EPA Service Unit (EPASU) staff are also represented on working groups for that strategy, as well as on the Sustainability Roundtable and on a

committee to develop the sustainability assessment process.

Natural Resource Management

Natural Resource Management (NRM) in Western Australia refers to ecologically sustainable management of the land, water (fresh and marine), air and biodiversity resources of the State for the benefit of existing and future generations, and for the maintenance of the life support capability of the biosphere. NRM plays an important role in protecting and improving the State's environmental assets.

The EPA has a role in overseeing the protection and management of the State's natural resources. To this end, the EPA has established overarching arrangements with the lead NRM agencies to evaluate the environmental performance of WA's NRM sectors to ensure the State's land, air, water and biodiversity resources are being protected. These arrangements will closely dovetail with the EPA's responsibility for the State of the Environment Reporting.

State of the Environment Reporting

The State of the Environment (SoE) Reporting Program is a major undertaking that produces up to date environmental information for all Western Australians. It identifies the condition of our natural resources, the major environmental issues that affect these resources and outlines the various responses required to help improve the environment.

In September 2003, the Minister for the Environment announced this undertaking during the International Sustainability Conference in Fremantle. The EPA has been asked by the Minister to coordinate the next report, which is due for release in late 2006.

The objective of the SoE Report is to provide information to, and educate, the community about:

- the condition of the environment;
- the major environmental issues; and,
- the responses that will be necessary to address the issues.

To this end, the community, industry, business, and government will all have a role to play in protecting and caring for our environment.

The EPA is keen to engage all parties in such an important environmental program. To initiate community involvement in the SoE Reporting Program, the EPA formed a Steering Group with the intention of providing high-level oversight and guidance. In addition to the EPA members, the group consists of: Dr Tom Hatton, Dr Libby Mattiske, Ms Sarah Knight, Dr Sue Graham-Taylor, Mr Rex Edmondson, Mr Noel Nannup, Dr David Wood and Mr Brian Hewitt.

The group was formed in December 2003 and has met on five occasions.

A number of discussion and technical papers have also been released since the program's inception. Discussion papers were released for community to provide comment on certain stages of the program, while technical papers convey new information related to the SoE

Report. The following papers have been released:

Discussion Papers

- #1: State Monitoring and Evaluation Framework;
- #2: State of the Environment Reporting;
- #3: Environmental Themes and Issues.

Technical Papers

- #1: Review of Environmental Action;
- #2: Ecological Footprint Workshop Proceedings.

A number of staff in the Policy and Sustainability Branch of the Department of Environment are assisting the EPA in coordination and day to day operations associated with the SoE Reporting Program.

Perth's Water Resources - Jandakot And Gnangara Mounds Audits

As a result of the formation of the Department of Environment in 2001, the EPA has been delegated the responsibility under section 48(1) of the *Environmental Protection Act* to audit compliance by the Water and Rivers Commission with environmental conditions applying to proposals for which the Commission is the proponent. These relate primarily to the Jandakot and the Gnangara groundwater mounds, located north and south of Perth respectively. The Gnangara Mound is currently the main source of potable water to Perth.

The EPA reviewed separate reports by the Commission on the Jandakot Mound and the Gnangara Mound which outlined

its compliance and also non-compliance with Ministerial conditions relating to the management of the groundwater resources of both mounds. An independent auditor provided advice to the EPA on matters of compliance.

The Commission acknowledged that there were a number of sites on both the Jandakot and Gnangara Mounds where water level criteria established in the Ministerial Conditions were breached in the past year or three years respectively. These breaches had, in a number of instances, occurred for a number of years and there was a trend of non-compliance with criteria at more sites. While the Commission advised that, in general, the breaches on criteria were not leading to significant risk of changes in environmental values, the EPA viewed non-compliance as unacceptable and considered that immediate action to achieve compliance with the Ministerial Conditions is necessary.

A review of Ministerial Conditions applying to the Gnangara and Jandakot Mounds was initiated by the Commission in 1991, as a consequence of the level of non-compliance at that time. However, progress on the review, to be undertaken under section 46 of the EP Act, has taken longer than initially expected. The EPA has required greater progress on the section 46 review to address non-compliance. In addition, the EPA believes that the current sustainable yields are likely to be lower than existing allocation regimes. Given the likely influence of climatic variability and also predicted significant adverse effects of some land uses on groundwater levels (eg pine plantations on the Gnangara Mound), it will be important for water allocation regimes to provide for and reflect the changing availability of water.

As a consequence, the EPA recommended that the sustainable limits for all groundwater abstraction from the Gnangara and Jandakot Mounds be reviewed and revised by the Commission, as a priority.

Implementing the National Water Quality Management Strategy:

Australian and New Zealand Guidelines for Fresh and Marine Water Quality (Guideline No 4) and Australian Guidelines for Water Quality Monitoring and Reporting (Guideline No 7)

Of the 20 National Water Quality Management Strategy (NWQMS) Guidelines, Guidelines Nos 4 and 7 are environmentally the most significant.

In 2000, the then Minister for the Environment requested the EPA to prepare an Implementation Framework for the above guidelines for WA and to involve all key stakeholders, peak bodies and the public in the process.

The EPA reported back to the current Minister for the Environment in EPA Bulletin 1078 (The Implementation Framework). The Minister for the Environment accepted the EPA's framework and asked the EPA to modify it into a Government policy framework for Cabinet approval. Cabinet approved the modified framework in February 2004. The Government framework has become document No 6 of the State Water Quality Management Strategy.

Recently the Minister for the Environment requested the EPA to take prime responsibility for implementing

this Government framework. To assist the EPA the Minister for the Environment requested the Department of Environment (DoE) to be the day-to-day manager for implementation and informed the DoE that implementation would have to be to the satisfaction of the EPA.

Environmental issues considered by the EPA during the development of the Government Framework

The following issues were considered to be of prime importance for rectifying WA's deteriorating water quality problems:

- abating the discharge of point source wastewater effluents and diffuse source contamination to many water resources (eutrophication and industrial contamination);
- reversing poor land use practices that impact on many water resources (land clearing, salinity, soil erosion and sedimentation);
- discouraging inappropriate land development (poor planning practices) in proximity to some water resources (contamination);
- stopping unsustainable allocation of water away from the environment especially in areas subject to population growth pressure (groundwater draw down, loss of wetlands, aquatic habitats and biodiversity), and
- ensuring that a proper water resource management strategy be developed to deal with the reduced rainfall in the south west of WA.

The Essence of the Government Framework

In broad terms, implementation of the Framework will assist environmental protection, policy formulation under Part III of the Environmental Protection Act 1986, and the setting of Ministerial and Licensing Conditions on activities subject to Parts IV and V of the EP Act 1986 respectively.

The framework requires that:

- all significant water resources in WA be defined spatially, on a priority basis;
- through a thorough consultative process involving the community, **environmental values** (EVs) for water quality be developed for each significant water resource;
- for each EV, a set of broad **environmental quality objectives** (EQOs) be developed, which should reflect the desired state of water quality;
- for each EQO, **environmental quality criteria** (EQC) and or targets – otherwise known as environmental performance benchmarks - be set;
- the day-to-day water resource manager for water quality (DoE) adopt an **environmental management system** (EMS) for each significant water resource to be protected;
- the EPA signs off the EVs, EQOs and EQC and targets as appropriate;

- the DoE has the day-to-day environmental management responsibility for the water resource protection; and,
- the EPA evaluates the environmental performance of the DoE against the EQOs and publicly reports to government.

Linkage between the Government Framework, environmental water flows, and pollution discharges

Unsustainable allocation of water away from the environment is a major environmental issue. It deprives aquatic ecosystems of their natural water flow requirements and significantly reduces the flushing capacity of waterways to rid themselves of pollutants, for example algal blooms in the Swan Canning River system. Accordingly, not only is the EPA committed to implementing Guidelines Nos. 4 and 7, the EPA is also committed to implementing the National Principles for the Provision of Water for Ecosystems to ensure that aquatic ecosystems are not unnecessarily impacted upon by the water industry. It is clear that the principles are not being met in the day-to-day management of some of WA's most significant water resources eg Gngangara and Jandakot Mounds (see EPA Bulletins 1134 and 1139).

Process for implementing the Government Framework has commenced

The EPA has requested DoE to prepare a comprehensive program for about 20 of the State's most significant water resources for which the EPA and DoE can commence the process of setting

‘EVs’, ‘EQOs’ and ‘EQC and/or targets’.

Implementation of this Government framework should go a long way to redressing where deteriorating water quality has occurred in WA since European settlement. The cumulative outcome of systematically setting EVs, EQOs, EQC and/or targets for each of the State’s significant water bodies, and having appropriate monitoring, auditing and reporting procedures, should provide sustainable water resources that meet the needs of the State, communities, and the environment.

Peel-Harvey Water Quality Improvement Plan

The EPA and the Commonwealth Government have a contractual agreement to prepare a jointly-funded Water Quality Improvement Plan for the Peel-Harvey Estuarine System. The project is the key component of a Coastal Catchments Initiative program which aims to protect coastal and marine environments from the impacts of land based activities. The Plan will focus on nutrient reduction, particularly phosphorus, which is causing algal blooms and, in general, is adversely affecting the ecological health of the estuary.

A Memorandum of Understanding has been agreed between the EPA and the Peel Harvey Catchment Council to help steer the direction of the Plan, which commenced in July 2003 and is to be completed by February 2005. The Plan is being developed with extensive stakeholder and broader community input to reach agreement on the environmental values, the water quality

objectives, the targets for improvement and the management measures to achieve the water quality the broader community desires.

Supporting the Water Quality Improvement Plan are seven projects, which are also part of the Coastal Catchments Initiative program, to be implemented by three government agencies; the Department of Environment, the Department of Agriculture and the Peel Development Commission. The EPA itself is responsible for one of them, the development of a decision support system for modeling phosphorous exports from different land uses.

The outcomes of these seven projects will help finalise the Water Quality Improvement Plan. The total funding committed is more than \$2.1 million and this is a significant boost to progressing the catchment management work to date and in the preparation of an overall Catchment Management Plan.

In addition, the Water Quality Improvement Plan will assist the EPA in the review of the *Environmental Protection (Peel Inlet-Harvey Estuary) Policy 1992*, and in the review of the Minister for the Environment’s Conditions, set in 1989, to bring them up to date.

The Water Quality Improvement Plan has identified the draft environmental values and the draft water quality objectives and is in the process of setting targets for phosphorus loads coming from each sub-catchment. Then the decision support system model will run scenarios of the existing and proposed land uses and identify target loads that, when met, will achieve the water quality

that the community wants for the estuary.

A draft Plan will be released for public comment by October 2004 and, taking account of comments, the final Plan will be concluded in February 2005.

Drainage Management, Swan-Canning Catchment

The Minister for the Environment requested strategic advice on means to improve co-ordination and statutory responsibility for the control and management of urban drainage to reduce the level of nutrients entering the Swan and Canning Rivers. The management of urban drainage has been identified as high priority in reducing nutrients entering the rivers.

The Drainage Management Forum, Swan-Canning Catchment was held in late November 2003 and reconvened in late March 2004 to examine drainage management in the catchment. The Forum explored the technical, economic, social and institutional issues and possible solutions related to drainage management and derived recommendations on a way forward.

In May 2004, on the basis of information presented to the Forum by various experts, the outputs of participants during the Forum and other key initiatives undertaken in relation to drainage management, the EPA made a number of recommendations to the Minister for the Environment in Bulletin 1131:

- the need for drainage to be managed as part of the total water cycle;

- the implementation of a three-tiered governance model based on a Policy and Approval Authority, Catchment Manager and Service Provider;
- a study into the resourcing of drainage across the catchment including the application of a whole of catchment drainage rate;
- the development of a business plan including resourcing for the application of best management practices to the priority areas;
- the establishment of a monitoring and reporting framework including targets; and,
- for leadership in incorporating water sensitive urban design into land use planning.



Dr Wally Cox chairing the Drainage Forum

Riverplan

The EPA Service Unit in consultation with the Swan River Trust progressed the development of Riverplan – the Comprehensive Management Plan and

Implementation Strategy for the Swan and Canning Rivers Environmental Protection Policy. Riverplan was released for a three month public comment period. Comments were incorporated into the final document and a summary of submissions document has been prepared. Both the final Riverplan and summary of submissions document have been endorsed by the Swan River Trust Board and the EPA. The documents are now to be endorsed by the Minister for the Environment prior to public release.

Review of the Fire Policies and Management Practices of the Department of Conservation and Land Management

On 10th April 2003, the Minister for the Environment requested the EPA to conduct a review of The Department of Conservation and Land Management's (CALM) fire management policy and practices in the south west of WA. The Minister requested the EPA to provide advice to her in relation to:

“The Department of Conservation and Land Management’s fire management policy and practices, in the Swan, South West and Warren administrative regions of the Department, in the context of the Department’s obligations to manage fire on the lands it manages for the multiple objectives of:

- *protection of human life;*
- *biodiversity conservation and protection;*
- *protection of assets including strategic infrastructure on managed lands;*
- *protection of environmental health; and,*

- *the reasonable protection of neighbouring properties and assets.”*

The EPA prepared and released a Discussion Paper for public comment on 23rd June 2004 for an eight week review period. It posed twenty fire-related questions for people to consider to help with their submissions to the EPA but made no recommendations.

During the preparation of the Discussion Paper, the EPA commissioned three consultancies to explore a number of issues in more detail. A literature review was undertaken to assess the effects of fire on biodiversity in WA's south west region; a field audit of three prescribed burns compared CALM's objectives for each burn with actual outcomes; and thirdly, best practice fire management for southern Australia was compared to CALM's current practices, and changes were recommended by the consultant for improvements to its systems.

The final stage of this review is for the EPA to prepare its recommendations and advice to the Minister, noting submissions and comments from the community's response to the Discussion Paper. This final report is scheduled for early October 2004.

Memorandum of Understanding on Offshore Petroleum Exploration and Production

On 19 May 2004 a Memorandum of Understanding (MoU) on Offshore Petroleum Exploration and Production was signed by the Chairman of the EPA

and by the Director General of the Department of Industry and Resources (DoIR).

The new MoU establishes an efficient and transparent administrative mechanism for the DoIR to refer environmentally significant offshore petroleum proposals to the EPA under Part IV of the *Environmental Protection Act 1986*.

The MoU, which was developed through an extensive process of consultation involving the petroleum industry, the Western Australian Conservation Council and the Department of Conservation and Land Management, is consistent with recommendation number 11 of the *Review of the Project Development Approvals System* ("the Keating Review").

The MoU also establishes greater public transparency by providing for information on offshore petroleum projects to be available on the DOIR website, in addition to the information published in the EPA's Monday newspaper advertisements and on the EPA's website, www.epa.wa.gov.au.

University Linkage Projects

The EPA is mindful of the assistance provided by University staff within the environmental disciplines when matters of concern to the EPA are being discussed and a wider area of expertise is needed.

In recognition of the desire to foster excellence in environmental assessment standards, to obtain additional intellectual input and to raise University awareness of current environmental

issues, the EPA in recent years decided to set aside a small amount of money to assist post graduate students in areas of work of particular interest to the EPA.

The assistance provided funding for travel and accommodation, field work and other encouragements such as prizes for outstanding performance by students in a relevant environmental area.

The program commenced in October 2000. The outcomes of one of the University projects funded in previous years were reported to the EPA this financial year: 'Environmentally Sustainable Urban Development Discussion Paper'; and the status report on 'Impact of Human Activity on the Use of Cockburn Sound, Western Australia, by Bottlenose Dolphins' was also received. It is anticipated that the outcomes of this project will be received in the 2004/05 financial year.

ENVIRONMENTAL ASSESSMENT OF PROPOSALS

The EPA assessed a diverse range of development proposals covering resource development, industrial processing, infrastructure and land use developments, as well as planning schemes and amendments.

A total of 516 development proposals and planning schemes were referred to the EPA for consideration, a twenty per cent increase over last year. Of these, the EPA determined that 45 proposals required formal assessment, reporting and recommendations to the Minister for the Environment. A further 248 required informal review with specific advice to the proponents.

During the year, 40 formal assessments were completed. The Level of Assessment for each proposal or planning scheme depends on the significance of the environmental impacts. The number of assessments completed in each Level of Assessment categories in 2003-04 is shown in Table 1

An important part of the process is the proponent undertaking the necessary environmental studies and surveys and preparing the environmental review document.

Environmental review documents prepared by the proponent need to:

- describe the potential impacts on

Table 1: Environmental Protection Authority's Completed Assessments in 2003-04

| Level of Assessment | Assessments |
|---|-------------|
| Environmental Review and Management Program (ERMP) | 0 |
| Public Environmental Review (PER) | 8 |
| Planning Scheme Environmental Review (ER) | 2 |
| Environmental Protection Statement (EPS) | 2 |
| Assessment on Referral Information (ARI) | 7 |
| Formal under Part IV | 2 |
| Proposal Unlikely to be Environmentally Acceptable (PUEA) | 4 |
| Section 46 Change to Conditions | 10 |
| Section 16 Strategic Advice | 5 |

A list of all assessments completed is set out in Appendices 2 to 5. Some of the more significant assessments are discussed below, preceded by a brief discussion of some overarching issues in relation to the environmental assessment process.

Demonstrating Environmental Acceptability

The environmental impact assessment (EIA) process is predicated upon a proponent being responsible for demonstrating that a proposal is environmentally acceptable. During the process the EPA works with the proponent to assist in identifying what are the environmental issues that need to be addressed and indicating what is considered acceptable for the project.

the environment of the proposal;

- show that 'best practicable' steps will be taken to avoid and minimise impacts;
- commit to appropriate actions and measures to manage impacts and to mitigate for unavoidable environmental losses resulting from the proposal; and
- justify the proposition that the impacts of the proposal, both individually and collectively, should be judged by the EPA to be environmentally acceptable.

The EPA recognises that, in some circumstances, proponents will not have advanced sufficiently with the design of the project and selection of technology to demonstrate best practicable measures

during the EIA process. In these circumstances, the EPA expects that proponents will commit to demonstrating 'best practicable' measures, both during the design phase of the project and before an application for Works Approval is submitted. This commitment would then become part of the conditions of approval for the project.

The EPA accepts that it is not always possible for proposals to avoid all impacts on biological and physical systems. However, where impacts are unavoidable, the EPA does expect proponents to develop appropriate mitigation measures as part of their proposal. This applies particularly to the loss of vegetation and wetlands. Proponents should develop mitigation strategies which seek to increase protection of, and/or restore, environmental values elsewhere for those lost as part of the project. The EPA believes that as part of good corporate environmental responsibility, proponents should seek to ensure that a proposal results in a 'net environmental benefit', as far as is reasonable.

Mitigation measures are usually outlined in the environmental review document and described in more detail in environmental management plans (EMPs). An important issue is when is the most appropriate time for EMPs to be prepared. For some time, there has been a trend towards leaving much of the management approach to be developed in EMPs prepared in compliance with Conditions set by the Minister, after the assessment by the EPA. While this may often be the best time in relation to some issues, there is increasing concern that some environmental matters are being deferred to post-approval EMPs,

whereas they should be considered during the public process of assessment by the EPA.

The EPA believes that proponents should only be deferring details of matters that are relatively routine and certainly not significant in relation to whether a proposal should be approved. As a consequence, the EPA will ensure that the assessment scoping identifies those issues that should be addressed in some detail, including management measures, in the environmental review document. Some proponents prepare draft EMPs and include them in their environmental review document, with the intention of informing all stakeholders and the EPA of their management objectives, approach and options. The EMP is then finalised after project approval has been given. This approach is encouraged by the EPA.

To assist proponents in the EIA process, the EPA prepares Position Statements and Guidance Statements to provide information about the EPA's thinking in relation to aspects of the assessment process, including environmental acceptability, to guide proponents on the standards and information requirements for assessment. Additional Guidance Statements have been published during 2003-04 (Appendix 7).

The EPA is continuing to encourage proponents to establish peer review panels of specialists to provide guidance in the environmental studies and review environmental documents before submission to the EPA and release for public comment.

The EPA strongly encourages meaningful consultation by proponents with relevant public and government

agency stakeholders during the preparation of their environmental review reports, as part of best practice EIA. This consultation should continue through project implementation and operation, and decommissioning where this is relevant.

It is the EPA's experience that when proponents clearly embrace the EIA process and their responsibility to define and manage the impacts of a proposal (considering the proposal in a broader bioregional, ecosystem, and social surroundings context) the EIA process is more timely, less burdensome with a higher quality project in terms of environmental outcomes achieved.

Timelines for Environmental Impact Assessment of Proposals

The EPA recognises that proponents are usually keen to obtain environmental approval for the projects as early as possible to assist with establishing 'bankability' for the projects. However, proponents need to appreciate that the EIA process is an important one in demonstrating the environmental acceptability of projects, and that adequate time must be allowed for the necessary surveys and studies to be undertaken, for public input and government agency review, and for the EPA to evaluate the impacts and to provide its report and recommendations to the Minister.

Time must also be allowed for the Minister for the Environment to consider any appeals against the EPA's report, and to consult with other Ministers and decision-making authorities regarding Ministerial Conditions of approval. While the EPA is continually seeking to improve timelines for assessments, adequate time must be allowed to undertake responsible EIA.

The EPA has been closely involved in implementation of a number of the recommendations from the 2002 Independent Review Committee's Review of the Project Development Approvals System (the Keating Review). This review made a number of recommendations which directly or indirectly affect the EPA's assessment process. Two major thrusts have been the desire to improve timeliness of approvals and also to reduce duplication of requirements. The EPA supports initiatives to address both of these issues and will continue to consider opportunities to improve the assessment process.

The EPA's experience is that, generally, where proponents allow adequate time in the project feasibility and planning stage to undertake thorough EIA studies, consult with the community and evaluate ways to minimise and mitigate the environmental impacts of the project, progress through the EIA process is expedited and the overall development schedule is met.

Where a proponent seeks to compress the period for undertaking environmental assessment and consultation, difficulties often arise during the review by government agencies and the EPA's evaluation, such that the EPA's reporting to the Minister for the Environment is delayed.

are more related to project economic matters than environmental issues, but which have a major effect on timeframes.

To assist in improving timelines, in September 1999 the EPA introduced a number of new levels of assessment to

Table 2: Timelines for major projects (in weeks)

| Assessment Phase | | 2000/01 | 2001/02 | 2002/03 | 2003-04 |
|---|-------|---------|---------|---------|---------|
| From Level of Assessment set to proponent report release ⁺ | Mean | 42 | 35 | 23 | 51 |
| | Low* | 21 | 21 | 4 | 11 |
| | High* | 72 | 68 | 53 | 187 |
| Public Review Period | Mean | 5 | 7 | 7 | 8 |
| | Low* | 4 | 4 | 2 | 4 |
| | High* | 10 | 11 | 12 | 11 |
| From end of public review period to EPA report | Mean | 28 | 27 | 31 | 21 |
| | Low* | 18 | 9 | 6 | 7 |
| | High* | 52 | 55 | 94 | 49 |
| Total, from level of assessment set to EPA Report. | Mean | 75 | 69 | 61 | 98 |

* Represent extremes across separate projects. Total is not cumulative.

⁺ This part of the process is largely under proponent control.

Table 2 above indicates the mean time and range of times taken to complete assessments for major projects in 2003/04 compared with previous years. The data shows that timelines for the EPA's reporting from the end of the public review process have generally improved over the last few years. The data highlights however, that for major project assessments, proponents need to allow 1 to 1½ years to undertake the necessary studies and prepare the environmental report, for the public review and response to issues, with the publication of the EPA Assessment Report. It also highlights that the assessment of some projects can be significantly delayed due to issues that

streamline the assessment process for proposals where the impacts were expected to be reasonable and manageable. These are now referred to as 'Assessment on Referral Information' (ARI) and 'Environmental Protection Statement' (EPS) in the revised 2002 Administrative Procedures for EIA.

During the year, nine projects were assessed under these streamlined processes (see Appendix 3). The data in Table 2 does not include projects subject to streamlined assessment as ARI or EPS or where changes to approval conditions has been sought by the proponent.

Where a project is subject to one of these levels of assessment, the EPA expects

the proponent to have consulted with the community and government agencies while undertaking environmental studies and preparing the environmental document, and to have addressed issues raised, so that once the EPA has received the environmental document there is no need for a formal public review period. Under these circumstances the EPA aims to provide its report and recommendations to the Minister for the Environment within 4 weeks of receiving the proponent's final environmental document.

For projects which are suitable for assessment through these streamlined processes, the EPA's experience has been that this has significantly reduced timelines over what would be required for the full EIA process.

To assist in better communication and reporting of timelines for EIA, the EPA has been placing project-specific timelines on its website, so that proponents and the community can identify the current stage of a project in the assessment process. This also provides advanced notice of timing for the next step in the assessment. In addition, the EPA includes in its assessment reports the timeline taken for each phase of an assessment and the total time taken.

MAJOR PROJECTS

The ultimate aim of environmental impact assessment is to ensure that the environment is protected when new developments are planned and implemented. Environmental management is most cost effective when it is considered from the very earliest stages of project design. If proposals are

referred to the EPA at an early stage, then design changes to effectively avoid or mitigate environmental impacts can often be incorporated without significant cost or time penalties. Greater certainty is achieved early in the design process.

The EPA is very mindful of the importance of certainty and timeliness to proponents. At the same time, it is the EPA's mission to ensure that environmental issues are examined thoroughly and avoided, mitigated or managed properly when proposals are developed. To meet these dual objectives, the EPA relies on proponents providing quality documentation. The EIA process can then add value to a project by ensuring it properly protects the environment, in a timely way.

Each year a number of assessments provide significant insight into issues of environmental policy or demonstrate innovative approaches to solving environmental problems. While some are large, complex and have a high profile in the community, others are smaller but may still yield valuable insights into environmental management. A number of illustrative assessments completed during the year are outlined below.

Gorgon Gas Project, Barrow Island Nature Reserve

On 1 July 2003 the EPA provided strategic environmental advice to Government on the principle of locating the Gorgon Gas project within the Barrow Island Nature Reserve. Barrow Island is a unique and very important Class 'A' Nature Reserve for the conservation of flora and fauna. The island supports a number of mammal species that are now extinct on the

mainland and subterranean fauna that occur nowhere else. Three species of endangered marine turtles rely on Barrow Island to nest and the surrounding waters are proposed as a marine management reserve. Quarantine procedures to exclude the introduction and establishment of invasive organisms are the most important component of requirements to protect the conservation values of Barrow Island.

The EPA's strategic environmental advice was that, as a matter of principle, industry should not be located on a nature reserve and specifically not on Barrow Island. The EPA also made a number of recommendations for non-negotiable conditions to apply if Government decided that the project could be located there.

On 8 September 2003 Cabinet decided that, in-principle, access to Barrow Island was possible. The project is now subject to formal environmental impact assessment as required under the Western Australian *Environmental Protection Act (1986)* and the Commonwealth *Environment Protection and Biodiversity Conservation Act (1999)*. The assessment process is now under way with the proponent required to prepare a joint Environmental Review and Management Programme (ERMP) and Environmental Impact Statement (EIS) to meet both the State and Federal requirements.

A document outlining the scope of studies required for the ERMP/EIS was released for public comment and a final Scoping Document and Guidelines released this year. The EPA has required the proponent to undertake a public process to identify community views on an appropriate set of standards for

quarantine. The proponent is also undertaking baseline analysis of the flora and fauna of the island and its surrounding waters, together with modelling of air and light emissions, potential dredge plume and oil spill behaviour, quarantine management practices and a range of other studies. The proponent's current schedule indicates that the ERMP/EIS will be released for public comment in December 2004.

Once the public comment period closes the EPA will consider the ERMP/EIS, the public comments and an array of specialist input prior to issuing its report and recommendations on whether or not the proposal can be constructed and operated without causing unacceptable environmental impacts.

South West Metropolitan Railway from Perth to Mandurah

Three environmental assessments of portions of the proposed South West Metropolitan Railway have been carried out by the EPA. The most recent EPA report on this major Government project was released in July 2003.

The EPA's 2003 report (assessment no. 1395) considered:

- construction and operational factors for the entire alignment, including noise and vibration and visual amenity; and
- environmentally significant impacts on the biophysical environment associated with new portions of the proposed alignment of the railway and new station sites.

The EPA had previously assessed the location of existing rail and road reserves to be utilised by the railway:

- between Jandakot and Karnup (EPA assessment no. 838); and,
- in the Peel Region Scheme area (EPA assessment no. 1047).

The management of operational noise and vibration is a key environmental issue associated with the proposed railway. Following consideration of noise and vibration modelling, the EPA agreed that this issue could be managed through the implementation of detailed management plans that meet the criteria recommended by the EPA in its report.

The EPA considered that the most significant impacts on flora, vegetation and wetlands associated with assessment no. 1395 included impacts to:

- the Conservation Category Wetland at Pickle Swamp in the Leda Nature Reserve;
- Threatened Ecological Communities in Bush Forever sites in the northern Lake Coo loongup bushland, and at the expanded Waikiki Station site; and,
- Declared Rare Flora at the South Street Station site (this site was subsequently withdrawn from the proposal to allow separate consideration of new information).

In its assessment of biophysical impacts, the EPA took into account that the proponent had modified the previous approved alignment of the railway to reduce overall impacts on regionally significant vegetation in the Rockingham - Lake Coo loongup bushland areas. The EPA considered that the new route through the Leda bushland and Lake Coo loongup areas was preferable as it

utilised the Garden Island Highway Road Reserve, reduced the potential number of transportation routes in the locality, and involved considerably less clearing and fragmentation of regionally significant bushland.

The EPA also took into account the proponent's commitment to address clearing of regionally significant bushland, wetlands and wetland buffers through the implementation of a Biodiversity and Wetland Mitigation Plan. Amongst other matters, the proponent's commitment included offsets for loss of biodiversity values in the Peel Region Scheme area eg near Paganoni Swamp and Black Swan Lake. As the EPA had previously deferred detailed consideration of the environmental factors of vegetation and wetlands in the Peel Region Scheme area, the deferred factors were addressed in assessment no. 1395.

The EPA considered that its objectives could be met provided that there is satisfactory implementation by the proponent of its commitments. The commitments involve the preparation and implementation of a comprehensive set of environmental management plans including:

- Construction Management Plans;
- Operations Noise and Vibration Management Plans;
- Biodiversity and Wetland Mitigation Plan;
- Fauna Management Plan;
- Wetlands, Hydrology and Drainage Management Plan;
- Stakeholder Consultation Strategy;
- Visual Amenity, Rehabilitation and Landscape Management Plan;
- Bushland Access Management Plan; and,

- Vegetation Management Plan for Unexploded Ordnance Search Areas.

The EPA recommended that the proponent's commitments be made legally binding through inclusion in the statement of Ministerial Conditions. Environmental approval was issued in November 2003.

Alcoa's Pinjarra Refinery Efficiency Upgrade

This upgrade proposal was to improve the efficiency of the Pinjarra refinery by approximately 17% in order to increase production to 4.2 million tonnes per annum. Although this will result in an increase in the rate of mining, the mining component was not included in the proposal as Alcoa was not seeking approval for extra mining areas.

The Level of Assessment (LoA) was Environmental Protection Statement (EPS) and therefore the quality of consultation prior to the LoA being finalised was a key consideration for the EPA. Alcoa reached a new milestone in the design and implementation of its community consultation process. The Stakeholder Reference Group (SRG) was established through a collaborative process that empowered members of the community to determine the makeup and membership of the SRG. To assist the SRG in review of the complex technical reports on emissions modelling and Health Risk Assessment (HRA) Alcoa provided resources in the form of an expert review panel to peer review the reports. The SRG assisted in choosing the independent experts for the panel.

Alumina refinery air emissions, and in particular volatile organic compound (VOC) emissions have become very controversial at Alcoa's Wagerup and Kwinana refineries and as a consequence were the overriding issue for the Pinjarra refinery upgrade. The EPA noted that additional pollution control equipment was included in the proposal and that for most emissions there would be a net improvement. There were however, some low level components in the emissions that increased slightly. The HRA indicated that there was little likelihood of health impacts. Validation of the air emission modelling and HRA was included in the Ministerial Conditions.

The assessment of this proposal now serves as a model for future assessments in a number of ways. Although involving complex and controversial issues, the assessment process was completed in seven weeks from the first meeting with the proponent until the EPA's report was issued. This required a unified effort by the agencies providing advice to the EPA, the proponent and the EPA Service Unit. The recommendations of the *Review of Western Australian Licence Conditions* report (prepared by Welker Environmental Consultancy) were taken into consideration and officers of the DoE participated in the assessment process so as to facilitate concurrent consideration of Works Approval and Licence conditions.

Forest Management Plan

The EPA assessed the Proposed Forest Management Plan (Proposed FMP) prepared by the Conservation Commission, to apply to the Swan,

South West and Warren Regions of the Department of Conservation and Land Management during 2004-2013.

The EPA emphasised the importance of precaution, adaptive management, and adequate monitoring and research through the life of this plan. Initiatives in the Proposed FMP to provide improved protection of fauna values within State forest and timber reserves, including the system of fauna habitat zones distributed through the forest, and the increased retention of habitat trees and other vegetation (such as Balgas and Banksias) important to fauna, as well as the expansion of the dedicated reserve system, were strongly supported by the EPA.

The EPA noted that there remain forest areas that some in the community believe have values that should be better protected. As a result, the EPA suggested that the Conservation Commission of Western Australia (CCWA) be requested to review the forest ecosystem values in existing and proposed reserves not subject to the Government's *Protecting our old-growth forests* policy and areas outside of existing and proposed reserves. One priority area where the EPA considered this review of forest values should be undertaken was in the Greater Kingston area.

Two aspects of the Proposed FMP were identified as being of concern to the EPA. The first was that the actions and key subsidiary management guidelines in the plan did not have any timetable for completion and implementation attached to them. The second matter related to ensuring that the Proposed FMP is implemented as approved.

The EPA also examined a number of threats to forests ecosystem values and considered how these were addressed in the Proposed FMP. The incorporation of an allowance for dieback in the sustained yield calculation has highlighted the implications of the spread of this pathogen. While the predicted impact on sustained yield has been quantified, the consequences of loss of habitat to fauna remain of considerable concern. Another threat arises from climate change. The effects of climatic variation and change needs to be incorporated explicitly into forest monitoring. There also needs to be improved and transparent provision of parameters affected by climate change in the sustained yield.

Improved transparency of processes used to define key aspects of the Proposed FMP, including information and methods related to the calculation of sustained yield, and effective monitoring of impacts, including measures related to the threats from forest disease, climatic variability and production forestry, were highlighted by the EPA.

A number of specific improvements to the Proposed FMP were recommended by the EPA. These are considered to be refinements to the plan rather than major changes of emphasis to that proposed by the CCWA.

Perth Metropolitan Desalination Proposal, Amendment of Implementation Conditions by Inquiry

The Water Corporation proposed to upgrade the capacity of the Perth Metropolitan Desalination Proposal, from the originally approved 30

gigalitres (GL) per year to 45 GL per year. The proposed changes included increasing the production of potable water, use of seawater, and discharge of concentrated seawater and further options for combining intake seawater with cooling water discharged from Western Power's Kwinana Power Station.

The proposed changes do not relate to development of the plant at the East Rockingham site, which is an alternative site for the approved 30 GL per year project.

The original 30GL proposal involved seawater intake and concentrated seawater discharge pipelines and a product pipeline to the Tamworth or Thompson Reservoir. Power for the Kwinana Power Station site option was proposed to be drawn from the Western Power Grid while the East Rockingham site would require a dedicated 20 MW gas-fired power station.

The Reverse Osmosis (RO) process involves the intake of seawater from Cockburn Sound, possible pre-treatment to remove solids and suspended particles, and then pressurising the seawater over a membrane so that freshwater is driven through the membrane and higher salinity seawater is left behind. The concentrated seawater and backwash from the pre-treatment process will then be discharged back to Cockburn Sound. Maintenance of the pre-treatment system, membranes and seawater intake and outlet pipes may require the Water Corporation to use several, or a combination of, biocides and anti-scalants.

As part of the testing required prior to the design of the proposal, Water Corporation will commission two pilot plants of approximately 1ML combined flow rate. This pilot testing is necessary for the Water Corporation to determine what pre-treatment, if any, is required in the operation of the full scale desalination plant. Pre-treatment may involve the addition of low levels of flocculants, liquid chlorine, sulphuric acid, iron chloride and anti-scalant.

The Section 46 Environmental Review document for the proposal was made available for public review for 4 weeks in February and March 2004, and the EPA released its report and recommendations in May 2004.

The relevant environmental factors identified for the proposal were:

- Marine Water Quality and Biota; and,
- Atmospheric Emissions (Greenhouse Gases).

Noise and vegetation were relevant environmental factors in the EPA's assessment of the original 30 GL proposal. As this capacity upgrade is not expected to cause a significant change to the noise emissions or impacts to vegetation, the EPA did not report further on these factors.

The upgraded desalination plant has the potential to cause unacceptable impacts from the discharge of concentrated seawater, the build up of density stratification near the seabed and the effects of releasing water up to 13°C above the ambient water temperature. The upgraded plant also has the potential to discharge up to 5.8 tonnes of nitrogen per year (tpa) to Cockburn Sound in

addition to the 11.5 tpa already approved for the 30GL plant.

The EPA is satisfied that the ocean outlet diffusion system can be designed and located to avoid impacts associated with the salinity and temperature of the discharged water. The Water Corporation's commitments to conduct the necessary tests and monitoring will ensure the EPA's objectives can be met.

The EPA considered that, any additional nitrogen released from this capacity upgrade should be offset against other inputs of nitrogen into Cockburn Sound. To meet this expectation, the Water Corporation committed to develop a management plan to ensure the upgraded desalination plant is nitrogen neutral relative to the previously approved 30GL per year plant.

For atmospheric emissions, the original proposal for a 30GL desalination plant was predicted to emit 180,000 tonnes per annum (tpa) CO₂ equivalent (CO₂-e) for the Kwinana Power Station option based on sourcing 20MW of electricity from the state grid.

Since the original approval, Western Power received environmental approval to construct and operate a second 240MW combined cycle gas turbine unit on the Kwinana Power Station site. Water Corporation has advised the EPA that it is seeking a contract for gas-fired electricity and that the total greenhouse gas emissions for the upgraded desalination plant, using gas-fired power, is predicted to be approximately 85,000 tpa CO₂-e.

Should the upgraded plant use electricity from the state grid, the greenhouse gas emissions are predicted to be

approximately 231,000 tpa CO₂-e. The Water Corporation has informed the EPA that although the plant's capacity will be upgraded by approximately 50%, power demand will only increase by 28% due to increased improvements in plant efficiency since the original 30GL plant was approved.

The EPA considered that the proposed upgrade to the Perth Metropolitan Desalination Proposal will not cause adverse impacts on the marine water quality and biota of Cockburn Sound and will not substantially increase the amount of greenhouse gases generated by the proposal indirectly through the provision of gas-fired electricity.

Use of the Cape Peron outlet pipeline to dispose of industrial wastewater to the Sepia Depression, Kwinana

The EPA assessed a proposal from the Water Corporation to discharge up to 30 megalitres per day of industrial wastewater, in addition to treated wastewater from the Woodman Point and Cape Peron wastewater treatment plants and water from the Jervoise Bay Groundwater Recovery Scheme, to the Sepia Depression via the Cape Peron outlet.

Industrial wastewater is currently discharged by some industries to Cockburn Sound and the proposal will result in an improvement in water quality in the Sound. The Sepia Depression is a more open and active environment and wastewater discharged at depth in this area will be diluted and dispersed more rapidly than in the Sound.

The EPA found that the environmental issues to be considered in relation to this proposal were the ecological and social values of the marine environment. The EPA noted that, due to the cumulative discharge of industrial and treated wastewater from wastewater treatment plants, the proposal would result in a low ecological protection zone for toxicants within a 100 metre radius of the diffuser and outside of this, a zone of high ecological protection. Industries currently operating would not be permitted to increase their load of toxicants discharged from current levels and any increase in the load or additional toxicants in their discharge will need to be referred to the EPA. Under these conditions it was considered that the EPA's ecological objectives would not be compromised.

With regard to social objectives for the marine environment, the EPA found that the discharge of industrial wastewater would not add to the area already recommended as unsuitable for primary recreation and seafood harvesting due to the discharge of treated sewage wastewater. Industrial wastewater will contain minimal, if any, bacteria. The discharge of industrial wastewater would therefore not compromise the EPA's social objectives.

The proposal also allows for the potential addition of further sources of industrial wastewater besides that from industries considered in this assessment, provided proposals for further industrial discharges are referred to the EPA.

Dampier Port Upgrade and Dredging

The EPA assessed a proposal by the Dampier Port Authority to expand its port facilities including:

- extension of the current Dampier Cargo Wharf;
- the construction of a new jetty and associated shipping infrastructure and the dredging; and,
- loading and disposal of up to 4.5 million cubic metres (m³) of sediments from the deepening of the harbour and development of an approach channel.

The proposal was assessed as Assessment on Referral Information (ARI).

The EPA recognised that episodic large scale dredging had taken place in the Port of Dampier over a considerable period and that this area could not be regarded as a pristine environment. However, the EPA was concerned that the proposal would impact significantly on coral communities adjacent to the proposed dredging within the wharf area, within 100 metres of the proposed disposal site at East Lewis Island and within 2-4 kilometres of the disposal ground at Conzinc Island. The nature, magnitude and timing of the proposal was such that there appeared to be significant risk of the dredging and/or disposal operations impacting on these coral communities.

The dredging was proposed to occur over the ecologically important periods of summer and coral spawning. Summer is a naturally stressful time for corals due to high water temperatures, and

pressures associated with dredging impose additional stress related to possible decreased photosynthetic production of energy (due to turbidity) and increased requirement to produce mucus (to remove sediment). Corals mass spawn and reproductive success depends on the ability of coral colonies to release eggs and sperm, the success of fertilisation in the water column and the ability of coral larvae to settle onto suitable substrate on the reef – each of these stages in the reproductive sequence of corals is potentially very sensitive to stressors such as sediment deposition and turbidity.

The proponent had not predicted any such impacts in the referral document, citing the oceanographic characteristics of Mermaid Sound, the composition of the materials to be dredged and the results of previous monitoring studies, and had advised that it had not undertaken modelling of dredging or disposal plume dispersal because significant impacts on coral communities were not considered likely.

The EPA took a precautionary approach to evaluating the proposal and considering related environmental management requirements. The EPA recommended a series of Ministerial Conditions, which provided a management framework that recommended that water quality criteria be used as the initial trigger for intensive coral health monitoring. Coral health criteria, in conjunction with water quality criteria, are used to initiate control and management of dredging and disposal operations. If coral health criteria are not met following implementation of management options, the proponent is required to stop dredging and disposal operations.

In addition the EPA recommended benthic habitat surveys be undertaken to establish a baseline for assessing losses of coral reef habitat resulting from human activity. The information obtained from benthic habitat surveys is important to allow the EPA to evaluate future development proposals that may impact on coral communities in the area.

Roe Highway Stage 7 Extension (South Street in Canning Vale to Kwinana Freeway in Leeming)

In June 2004, the EPA reported on a proposal by Main Roads Western Australia to extend Roe Highway from South Street in Canning Vale to Kwinana Freeway in Leeming over a distance of approximately 4.5 kilometres. The proposal was assessed as a Public Environmental Review and released for an eight week public review period.

The proposal affects the relevant environmental factors of:

- biodiversity – the impact on terrestrial flora and fauna;
- Declared Rare Flora – a number of individuals of the Grand Spider Orchid, (*Caladenia huegelii*); and
- noise - impact on the residential community closest to the highway.

Through the assessment the proponent developed a detailed mitigation and offset strategy with a number of components. It included avoiding and reducing impacts by adopting the northerly alignment leading to a seven hectare reduction in the area impacted and reduction in the number of

Caladenia huegelii directly affected from approximately 86 plants to 74.

The strategy also included impact reduction measures (operational and management controls) including: the restoration of disturbed and degraded land, supported by the development of a Rehabilitation Plan to ensure that reasonable revegetation expectations are met by the proponent; and, the rationalisation of approximately 27 ha of land to be placed into the conservation estate.

The protection and enhancement of remnant bushland in the vicinity through conservation covenants and placing areas into the conservation estate is considered to offer the best opportunity for preserving ecological integrity and biodiversity. It will result in a large extent of contiguous bushland being protected, provide better connectivity for fauna habitats, and reduce the chance of habitat decline through edge effects.

Specifically with regard to the long term conservation of *Caladenia huegelii* the strategy included the acquisition of a parcel of land at Gay Street in Huntingdale or an equivalent area of comparable ecological value, within 12 months to be managed for the conservation of *Caladenia huegelii*. The proponent will also make a substantial contribution to orchid research by Kings Park Botanic Gardens and Parks Authority involving a five year program of targeted genetic and ecological research to enable successful ex-situ conservation of *Caladenia huegelii* and research into pollinators and symbionts.

In relation to noise, the EPA noted that the highway would alter the noise environment for the residential

community closest to the highway. However, with noise barriers the noise sensitive receivers adjacent to the highway were likely to receive noise levels below accepted criteria.

The EPA concluded that the proposal could be implemented subject to Ministerial Conditions.

Abernethy Road - Tonkin Highway On - Ramp

The EPA formally assessed a proposal by Main Roads Western Australia (MRWA) to construct an On-ramp from Abernethy Road to Tonkin Highway, Kewdale and found the potential environmental impacts to be unacceptable. The EPA released its Report and Recommendations (Bulletin 1119), on 3 November 2003.

The EPA noted that the proposal would result in the clearing of approximately 1 ha of vegetation. The majority of this clearing (0.75 ha) occurs in a Conservation Category Wetland (CCW) that forms part of a larger area of vegetation that is of regional, State and National significance, having been identified in *Bush Forever* (Government of WA, 2000) and on the Register of National Estate (Australian Heritage Council, 2003). The wetland to be impacted is known to be of very high conservation significance. As the larger size of this wetland and degree of naturalness contribute to making it a priority for protection, any reduction in size is considered unacceptable.

As part of the initial proposal, the proponent proposed a mitigation strategy which included the protection of an area currently identified in *Bush Forever*.

The EPA is of the view that protection of a Bush Forever site does not constitute a mitigation strategy for a proposal that impacts on another Bush Forever site, as there is an expectation that the Bush Forever site would be protected anyway.

Overall, the impacts associated with the proposal would erode and devalue the conservation category wetland which contributes significantly to the value and viability of the larger Bush Forever site. The EPA therefore concluded that the proposal cannot be managed to meet the EPA's objectives in relation to wetlands and regionally significant vegetation.

Bunbury International Motorsports Complex

The Perth International Motorsports Management proposal to construct an international standard motorsports complex in Picton, near Bunbury, comprised a racing circuit, pit area, rally and off-road testing facility, grandstand, control centre, and associated roads and car parks.

The level of assessment (LoA) was set at Assessment on Referral Information (ARI). The intention to set this LoA was advertised on 2 February 2004, and the EPA released its Report and Recommendations on 29 March 2004.

The relevant environmental factors identified for the proposal were noise, water management and vegetation.

Following detailed consideration of these factors, the EPA concluded that the proposal could be managed to meet the EPA's objectives with the exception of noise, where it was clear that the international motorsports events

proposed for this site would not meet the *Environmental Protection (Noise) Regulations 1997*.

The EPA acknowledged that motorsports in reasonable proximity to residential areas generally have difficulty meeting current noise regulations, and that there are factors other than environmental which Government is likely to consider.

It was considered that if Government were to approve the proposal, and allow it to exceed the *Environmental Protection (Noise) Regulations 1997* for some part of its operations, there should be conditions designed to limit the loss of environmental amenity for nearby residents. The EPA recommended that Formula Nippon and GT Series events, which have the greatest noise impacts, be limited to no more than a total of 50 hours in any calendar year, with all events to take place between 9am and 5pm. In addition to this, the EPA recommended that the Noise Management Plan allow for the temporary relocation of residents from areas where noise is likely to exceed 75dB(A).

With regard to water management, it was identified that construction of the proposed Complex would result in a large area of impervious surfaces. This could lead to a substantial amount of surface water runoff which could impact on the amenity of the Preston River. However, the EPA believed that this could be managed to meet the EPA's environmental objective for this factor.

Similarly, vegetation was also considered a relevant environmental factor, however given the proponent's commitments and conditions recommended by the EPA, it was

determined that impacts on vegetation could be managed to meet the EPA's objectives.

ENVIRONMENTAL ASSESSMENT OF PLANNING SCHEMES

A key issue for the EPA in assessing planning schemes under s48A of the EP Act is to ensure a rational linkage between the level and detail of environmental assessment and the relevant 'stage' of planning approval being considered. The planning approval process is a hierarchical one, normally involving a series of stages through regional scheme, town planning scheme, structure plan, subdivision and to development approval. When assessing a scheme or amendment at the regional scheme stage, the EPA would normally focus on 'higher level' environmental issues such as protection of regionally significant environmental features.

The level of detail required for environmental assessment normally increases as the planning detail increases in town planning scheme and structure planning. At this stage, more detailed environmental information is required, for example, in terms of boundaries for protection of wetlands and other significant environmental features, cumulative impacts and drainage management.

The EPA is keen to ensure that this hierarchy of planning and environmental assessment is rational and that a consistent approach is adopted. Close collaboration with planning agencies is an essential element so as to ensure an efficient and effective process.

Greater Bunbury Region Scheme

The EPA has concluded its assessment of the Greater Bunbury Region Scheme (GBRS), since its referral in 1996, and its report and recommendations, EPA Bulletin 1108, was provided to the Minister for the Environment in September 2003.

The Western Australian Planning Commission (WAPC) initiated the preparation of the GBRS in 1996 to provide a regional framework for planning and development within the City of Bunbury and the Shires of Harvey, Dardanup and Capel. It includes regional reservations and broad land use zones.

The EPA's assessment of the GBRS has focussed on those areas where the zoning shown in the GBRS differs from that shown in the existing local government district zoning scheme and represents a real change in proposed land use that has the potential for adverse environmental impacts. It has not assessed in detail the existing zones and reserves in local town planning schemes. The EPA has considered the information provided in the Environmental Review; the EPA's advice to the WAPC on the *Bunbury – Wellington Region Plan* (EPA, 1993c) and *Industry 2030* (EPA, 1998c, 1999c); and issues raised by public and government submissions and the WAPC's response to these submissions.

The EPA's report considered the protection and management of regionally significant remnant vegetation, regionally significant watercourses and

wetlands and the separation of incompatible land uses, with regard to buffer requirements for noise and air quality, as the environmental factors relevant to the proposed GBRS.

As part of its assessment of the GBRS the EPA has prepared a *Strategy for the EPA to identify regionally significant natural areas in its consideration of the Greater Bunbury Region Scheme portion of the Swan Coastal Plain* to assist in evaluating the natural values effected by the GBRS against set criteria. As part of its assessment of the GBRS, the EPA has also undertaken biological surveys of a number of sites consistent with those criteria.

The EPA's report and recommendations include detailed assessment of 27 areas of new zones or reserves and advice in relation to proposed Special Control Areas, Policies and specific environmental issues of particular concern within the GBRS area.

The EPA has concluded that the GBRS can be implemented to meet the EPA's objectives provided a number of recommendations and conditions are implemented. The recommended conditions generally relate to requirements for the preparation of management plans, biological survey, connection to reticulated sewerage, land to be reserved for conservation and realignment of Primary Regional Road Reserves. A number of environmental factors have also been deferred so that the EPA would have the opportunity to assess proposals impacting on these factors in more detail at the appropriate stage of the planning process.

The Hope Valley-Wattleup Redevelopment Project Master Plan

The Hope Valley-Wattleup Redevelopment Area is located in the hinterland of the Kwinana Industrial Area. The proposed Master Plan was prepared by the Western Australian Land Authority (WALA) for the purpose of setting out the land use planning and development requirements for the Redevelopment Area. The Master Plan aims generally to give effect to the Fremantle-Rockingham Industrial Area Regional Strategy that recommended expansion of industrial development in the area.

WALA referred the proposed Master Plan to the EPA under the *Hope Valley-Wattleup Redevelopment Act 2000*. The EPA decided to assess the Master Plan pursuant to "Division 3 - Assessment of Schemes" under Part IV of the *Environmental Protection Act 1986* taking into account that the Redevelopment Area is:

- in the buffer of the State's main heavy industrial area;
- in the catchment of Cockburn Sound, the State's most used marine embayment, where water quality is of significant concern; and,
- an area where environmental issues are of concern to the community.

Following the close of the public review period for the Master Plan and the Environmental Review on 4 March 2004, the EPA completed its assessment and reported to the Minister for the Environment on 14 May 2004, in accordance with the timelines specified

in the *Environmental Protection Act 1986*.

The EPA identified the following as the key environmental issues that required assessment by the EPA:

- protection of the water quality of Cockburn Sound;
- management of emissions and potentially conflicting land uses; and
- protection of natural areas.

Inputs of nitrogen and other contaminants to Cockburn Sound via groundwater from land uses in the catchment are of significant concern. The EPA considered that the proposed land use changes to industrial and commercial developments should facilitate an improvement over time in the quality of groundwater exported from the Redevelopment Area provided that new land use and development is carefully regulated.

The proposed Master Plan set out objectives and requirements that included the protection of Cockburn Sound and water management. The EPA in its report recommended that these should be further developed to ensure that the environmental objectives for Cockburn Sound are met. The EPA recommended that conditions be imposed on the Master Plan requiring the further development of the Water Management Strategy for the Master Plan area; new use and development to be subject to Water Management Plans; and modification to the Master Plan objectives for the protection of water quality.

The EPA agreed that changing the land use of the Redevelopment Area to

mainly industrial will assist in resolving some types of land use conflicts in the buffer adjoining the Kwinana Industrial Area. However, the EPA was mindful that new land use compatibility issues are likely to arise, and that new development would need careful management to protect the land uses that remain, to avoid unacceptable external impacts, to protect natural areas, and to protect the amenity of new industrial and commercial uses.

The EPA considered that the comprehensive Master Plan provisions addressing emissions, contamination, water resource management and land use compatibility, in combination with a range of other regulatory processes, would enable the EPA's objectives for the management of emissions and potentially conflicting land uses to be met. This is provided that there is satisfactory implementation and enforcement of the provisions of the Master Plan, and the recommended conditions on water management are imposed.

Under the provisions of the proposed Master Plan some emissions-sensitive land uses eg rural residences, are likely to remain into the foreseeable future in parts of the Redevelopment Area. The EPA advised that it is essential that land use planners remain informed on, and carefully consider, issues associated with emissions. It is the EPA's position that if the buffer is to have even a low density of emission-sensitive land uses, that emission levels at these premises should meet recognised criteria.

The EPA considered the approach to the protection of natural areas in the Master Plan. The EPA advised that the site specific biological studies that the EPA

was aware of were not sufficiently comprehensive to conclude that the potential greenbelts and conservation areas identified in the Master Plan and Environmental Review documentation were optimally located and that all significant natural areas had been identified. Nor did the proposed Master Plan provide adequate measures to address such issues at the subsequent stages of planning. The EPA recommended that a comprehensive Biodiversity Strategy be completed as the next step in planning for the Redevelopment Area to identify the location of key natural areas and to set out how these areas are to be secured and managed.

POLICY DEVELOPMENT

Environmental policy development continues to be an important EPA function. The Authority draws on its statutory functions and powers (s.16(e), (j), (k), (n) and (o); s.17(3)(d) of the EP Act 1986) to advise government on policy matters as well as using its established mechanisms including Environmental Protection Policies (EPPs), Position Statements, Guidance Statements and Bulletins issued under s.16(e).

During the year and following meetings with Parliamentary Counsel and the State Solicitor's office, the EPA re-examined the purpose and direction of EPPs.

Up until this time, EPPs were viewed as being of wide scope: from making policy statements through to establishing coercive controls on activities. However,

it has become apparent that the scope of EPPs needed to narrow, not in terms of environmental factors considered, but in terms of what the intent of an EPP should be. As a consequence, EPPs will now be reserved for circumstances where legally enforceable powers are needed for environmental protection.

The EPA foreshadows the introduction of a policy instrument provisionally called 'State Environmental Policies' (SEP). While they would be non-statutory, they have legitimacy under s.17(3) of the EP Act:

"...the Authority, if it considers it appropriate or is requested to do so by the Minister, may – (d) consider and make proposals as to the policy to be followed in the State with regard to environmental matters."

The intent would be to prepare SEPs through a public process and in a forum suitable for consideration and hopefully, endorsement by the Minister and Government.

Typically the process to develop SEPs would be consistent with best practice public policy development.

EPPs currently in preparation but not requiring statutory enforcement will be completed.

Environmental Protection Policies

Progress on EPPs is summarised in Tables 3 and 4.

Table 3: Gazetted Environmental Protection Policies and their status as at 30 June 2004.

| Name | Approval date | Review date | Comment |
|--|----------------------|--------------------|---|
| Environmental Protection (Peel Inlet-Harvey Estuary) Policy 1992 | 11.12.92 | 11.12.99 | EPA has reconsidered the EPP and a discussion paper is in preparation. |
| Environmental Protection (Swan Coastal Plain Lakes) Policy 1992 | 18.12.92 | 18.12.99 | The Minister for Environment remitted the revised draft EPP to the EPA. The EPA is developing a new draft wetlands EPP. |
| Environmental Protection (Gnangara Mound Crown Land) Policy 1992 | 24.12.92 | 24.12.99 | Review suspended awaiting section 46 assessment. |
| Environmental Protection (Swan and Canning Rivers) Policy 1998 | 10.07.98 | 10.07.05 | Riverplan (Comprehensive Management Plan and Implementation Strategy) has been progressed to its final stages and made available to the Minister for the Environment for release. |
| Environmental Protection (South West Agricultural Zone Wetlands) Policy 1998 | 28.10.98 | 28.10.05 | Scoping for review to commence in late 2004. |
| Environmental Protection (Kwinana) (Atmospheric Wastes) Policy 1999 | 21.12.99 | 21.12.06 | - |
| Environmental Protection (Ozone Protection) Policy 2000 | 17.10.00 | 17.10.07 | - |
| Environmental Protection (Western Swamp Tortoise Habitat) Policy 2002 | 18.02.03 | 18.02.10 | - |
| Environmental Protection (Goldfields Residential Areas) (Sulfur Dioxide) Policy 2003 | 18.03.03 | 18.03.10 | Explanatory Document and Implementation Plan finalised and published. |

Policies Being Implemented

All EPP's and associated maps may be viewed on the EPA website at www.epa.wa.gov.au or at the EPA's Library Resource Centre, 141 St Georges Terrace, Perth.

Environmental Protection (Western Swamp Tortoise) Policy 2003

The Western Swamp Tortoise is one of Australia's most endangered reptiles and is probably the most endangered tortoise or turtle species on Earth. The Western Swamp Tortoise is listed as a critically endangered species under the *Environment Protection and Biodiversity Conservation Act 1999*, the *Western Australian Wildlife Conservation Act 1950* and the the United Nations Convention on International Trade of Endangered Species (CITES).

In October 1993 the Minister for the Environment supported the development of an EPP to provide protective buffers around the Ellen Brook and Twin Swamps Nature Reserves aimed at implementing Recommendation M17.1 of the System Six Report published by the Department of Conservation and Environment in 1983.

The EPP was gazetted in February 2003, with the purpose to protect habitat suitable for the long-term survival of wild populations of the Western Swamp Tortoise.

This year the Department of Conservation and Land Management released its third edition recovery plan for the Western Swamp Tortoise. This plan schedules management actions

necessary to support the recovery of the Western Swamp Tortoise from the years 2003 to 2007. The report estimates that in 2001 the 'known to be alive' total wild population was probably about 110 tortoises; however, only about 25 of these were adults.

A 'Guidance Statement for the Protection of the Western Swamp Tortoise Habitat' for environmental impact assessment has been delayed due to limited EPASU resources. It is anticipated that progress on this guidance will commence later in 2004.

Environmental Protection (Goldfields Residential Areas) (Sulfur Dioxide) Policy 2003

The Kalgoorlie Boulder area experienced very high sulfur dioxide levels in its air during the 1980s. This prompted the government to prepare an EPP for the Kalgoorlie Boulder region, setting limits and standards of sulfur dioxide concentration. In March 2003 the EPA finalised its statutory review of the 1992 EPP and gazetted a policy that would meet the National Environment Protection (Ambient Air Quality) Measure (NEPM) by the year 2008 for all residential areas of the Goldfields region.

EPPs are now developed and implemented incorporating best practices. As part of this best practice Implementation Plans and Explanatory Documents are published to accompany draft and gazetted EPPs. An Explanatory Document and an Implementation Plan for the *Environmental Protection (Goldfields Residential Areas) (Sulfur*

Dioxide) Policy and Regulations 2003 were released on 28 June 2004.

The Explanatory Document describes the main features of the 2003 EPP and Regulations on a clause-by-clause basis. It also details where the maps can be viewed. The Implementation Plan outlines the roles and responsibilities of industry and the Department in managing sulfur dioxide emissions to achieve the ambient air quality standard for the Goldfields residential areas. These documents were developed in collaboration with industry and other stakeholders. It is anticipated that progress on the implementation of this EPP will be reported later this year through a progress report.

Environmental Protection (Swan Coastal Plain Lakes) Policy 2004

In 1999 a statutory review of the *Environmental Protection (Swan Coastal Plain Lakes) Policy 1992* was required under Part 3 of the EP Act. As part of this statutory process a *Draft Environmental Protection (Swan Coastal Plain Wetlands) Policy 1999* was released for public comment. Following consideration of comments, a *Revised Draft Environmental Protection (Swan Coastal Plain Wetlands) Policy 1999* was then prepared by the EPA and transmitted to the Minister for the Environment for consideration.

The aim of the revised draft EPP was to declare and protect the environmental values of important wetlands on the Swan Coastal Plain by controlling activities that can degrade or destroy those environmental values (in summary, no filling, draining, mining, discharges or clearing without authorisation under the EP Act It was proposed that

important wetlands to be protected under the Policy would be identified on a Register of Protected Wetlands.

The revised draft EPP was remitted in October 2003 by the Minister for the Environment to the EPA, to reconsider the basis for protecting wetlands. Legal drafting has updated and improved the existing protection mechanisms of the *Environmental Protection (Swan Coastal Plain Lakes) Policy 1992*.

The EPA will be releasing a new draft EPP for public comment in July 2004. This draft EPP protects wetlands of high ecological value on the Swan Coastal Plain. These wetlands were determined through an amalgamation of the datasets for the 1992 Swan Coastal Plain Lakes EPP and for conservation category wetlands. A draft wetlands register is being released as well to show these protected wetlands. An explanatory document will describe the purpose and implementation of the draft EPP. It is expected that a revised draft EPP will be transmitted to the Minister later in 2004.

Policies in development

Environmental issues being considered as EPPs are summarised in Table 5

Odour Buffers for Waste Water Treatment Plants

The Water Corporation, through its Minister, requested the Minister for the Environment to prepare a draft Environmental Protection Policy (EPP) on the above. The Minister for the Environment in turn has asked the EPA to develop the draft EPP. The process has just commenced.

The purpose of the EPP is to protect, in a practical way, public amenity from nuisance odours from the Water Corporation's water and wastewater treatment facilities.

released for public and stakeholder comment around September 2004.

The scope of this discussion paper facilitates initial consultation and the identification of a number of key issues

Table 4: Environmental Protection Policies in development.

| Name | Status |
|---|--|
| Draft Environmental Protection (Ambient Air Quality NEPM Implementation) Policy | Legal drafting of draft policy underway. |
| Draft Environmental (Cockburn Sound) Policy | Legal drafting of revised draft policy underway. |
| Draft Environmental Protection (State Coastal Zone) Policy | Suspended awaiting other policy initiatives. |

Table 5: Environmental issues being considered as EPPs

| Name | Status |
|--|---|
| Odour Buffers for Waste Water Treatment Plants | The EPA has agreed to scope the possibility of an Odour Buffer EPP. |
| Dieback | The EPA has agreed to scope the possibility of a Dieback EPP. |

Initially the task falls into two parts, one to investigate the technical feasibility of scientifically defining odour buffer zones around such plants, and two the involvement of the community and relevant stakeholders in developing the scope of the draft EPP.

Regarding the technical feasibility, the EPA will taking advice from an expert odour modelling consultant, the Department of Environment and the CSIRO. The consolidated advice should be finalised by the end of 2004. Regarding community and stakeholder involvement, the EPA is preparing a public discussion paper entitled 'Towards an Environmental Protection Policy to Establish Odour Buffers for Water and Wastewater Treatment Plants'. This paper is likely to be

for public and stakeholder discussion and feedback prior to EPA making a decision regarding the content of the draft EPP.

These issues include:

- the situations in which the establishment of a buffer area may be justified;
- the way the Water Corporation is required to manage the plants to limit odour impacts within the buffer;
- the environmental values to be protected within and beyond the buffer;
- the way the buffer areas are determined;

- the sorts of developments that are compatible with the location in the buffer area; and,
- the ongoing review of technology, management and the buffer areas to minimize the impacted area.

Following the discussion paper, there will be further opportunity to contribute to the development of the draft EPP once it has been released for public comment. This is expected by early 2005. At that stage the conclusions of the technical information will also become part of the draft EPP.

Position Statements

Position Statements are the EPA's key mechanism for publishing its high level policy position on environmental matters. The current status of Position Statements is in Appendix 6.

During the year, the Authority initiated two new Position Statements.

Environmental Protection in Natural Resource Management

The EPA has been given the task of environmental performance evaluation of Natural Resource Management (NRM) agencies by Government. This task will link closely with the State of the Environment Reporting (SOER) Program.

The Government has made two statements which provide an understanding of the Government's expectations of the EPA's role in NRM. In June 2001, the Minister for the Environment issued a statement following Government's consideration

of the report of the Machinery of Government Taskforce, as follows:

The plan (report) strengthens the EPA by giving it more flexibility for deploying its own resources and the capacity to hold the resource management agencies accountable for delivering environmental outcomes.

In June 2002, the Government released its response to the report of the Salinity Taskforce. Included in that response was:

The framework (for monitoring) should also recognise and support the relevant arrangements between the Environmental Protection Authority (EPA) and the NRM agencies on the EPA's role in auditing the environmental performance of the NRM agencies.

The EPA also proposes that this NRM Position Statement be a source of advice and direction to the broader community on NRM with respect to environmental protection. The EPA understands that complementary work is occurring at the regional level with the development of regional NRM strategies. The NRM Framework discussed in this Preliminary Position Statement is broadly consistent with the approach used under the Natural Heritage Trust II and National Action Plan.

Implementing the NRM Framework through a range of NRM activities for each sector will provide the opportunity to link policy and decision making processes to on-ground activities and monitoring and evaluation in a coordinated manner (as depicted in

Figure 1). They key components of the framework include:

- commitment (mission statement and environmental values);
- planning (environmental objectives, environmental targets and/or benchmarks);
- implementation (environmental management program, monitoring, reporting); and
- review (evaluation, recommendations and actions).

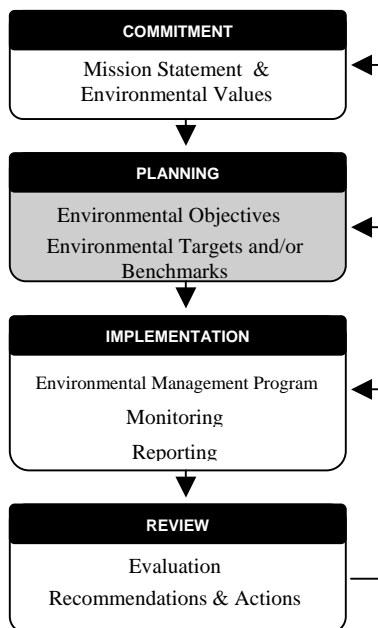


Figure 1: The NRM Framework provides an overarching process for committing to, planning, implementing and reviewing NRM.

The Preliminary Environmental Protection in Natural Resource Management Position Statement was released as a Preliminary document in June 2004 with the EPA welcoming comments on errors and omissions for two months.

Environmental Offsets

Environmental Offsets is the second Preliminary Position Statement initiated by the EPA this year. This document is scheduled to be released early in 2004-2005. Environmental Offsets aims to ensure that significant and unavoidable environmental inputs are counterbalanced by a positive environmental gain with an aspirational goal of achieving a ‘net environmental benefit’.

In developing this document the EPA has consulted closely with key government agencies which have operational roles in environmental offsets.

Guidance Statements

Guidance Statements distil in a concise way the experience contained in EPA assessments over the years. Each Guidance Statement is designed to help proponents and the public to understand how the EPA expects issues to be dealt with during the assessment process. They aim to provide a level of certainty for proponents, increase transparency for the public and provide high quality advice to the EPA.

Whilst the requirements set out in Guidance Statements are not mandatory, proponents are likely to find that the assessment of their proposals will be simpler and faster if they demonstrate that the proposal will meet or better those requirements. If proponents wish to take a different but acceptable approach to that set out in the Guidance Statement, they can put a technically well supported justification to the EPA on a case by case basis.

Guidance Statements are developed in two steps. Issues for inclusion in a new Statement are usually discussed with key stakeholders in a workshop or similar forum prior to the issue of a Draft Guidance Statement by the EPA. Once the Draft is agreed by the EPA, it is released for public comment, usually for 12 weeks. All comments are taken into account by the EPA as input to the final version of the Guidance Statement. Once published, a final Guidance Statement is subject to review after five years or when significant new information becomes available.

Six Guidance Statements were finalised this year and one was issued for comment as a Draft. Five documents on the previous list of Draft Guidance Statements have been withdrawn because they have either been subsumed by other Guidance Statements or made redundant by other processes. Twenty-three Guidance Statements are now available in either draft or final form. In chronological order the following Guidance Statements were released in 2003-2004.

#51-Terrestrial flora and vegetation surveys for environmental impact assessment in Western Australia – Final.

#57-Terrestrial fauna surveys for environmental impact assessment in Western Australia – Final.

#54-Consideration of subterranean fauna in groundwater and caves during environmental impact assessment in Western Australia – Final.

#55-Implementing best practice in proposals submitted to the

environmental impact assessment process – Final.

#41-Assessment of Aboriginal heritage – Final.

#29-Benthic primary producer habitat protection for Western Australia's marine environment – Final.

#3-Separation distances between industrial and sensitive land uses – Draft.

A full list of Guidance Statements and their stage of development is included at Appendix 7.

MONITORING OF WASTE MANAGEMENT (WA) FACILITIES

Waste Management (WA) (WMWA) currently operates the Intractable Waste Disposal Facility at Mt Walton East and the Liquid Waste Treatment Facility at Brookdale.

The EPA has responsibility for monitoring these facilities, with each facility operated under a Ministerial Direction issued under s110 of the *Environmental Protection Act*.

The EPA contracts an independent auditor to assist the EPA monitor the operations of WMWA.

Intractable Waste Disposal Facility, Mt Walton East

No disposal operation was carried out at the Intractable Waste Disposal Facility at Mt Walton East in the 2003/04 financial year.

Cabinet has approved the transfer of responsibility for the management of this facility from WMWA to the Department of Housing and Works. When this transfer is effected, the Department of Environment will assume responsibility for environmental auditing of the future operations at this facility.

Liquid Waste Treatment Facility, Brookdale

The EPA reviewed the Brookdale Liquid Waste treatment Facility Progress and Compliance Report for the period 1 August 2002 to 31 July 2003 and concluded the facility was substantially in compliance of Ministerial and licence conditions (within the Ministerial Direction).

At the direction of the Minister for the Environment the facility ceased operations on 31 December 2003.

The EPA anticipates receiving the final Decommissioning and Rehabilitation Management Plan for the facility from WMWA in the second half of 2004 after issues arising from public review of the draft document and input from the Brookdale Community Reference Group have been considered.

LEGISLATIVE ISSUES

Environmental Protection Amendment Act 2003

Two important changes were made to the statutory processes of the EPA. The first is the provision for state-wide environmental protection policies (EPP), whereby an approved EPP may be implemented in different parts of the State through regulations. Where this

occurs, an additional public consultation process would be undertaken. This provides greater flexibility in relation to environmental protection in Western Australia, especially where the protection requirements vary across the State.

The second improvement has been the creation of a new assessment by the EPA to facilitate strategic proposals. These are proposals which are conceptual or which would not directly effect the environment, but which could lead to significant effects later on. A Strategic Assessment will be a formal, public assessment based on the accepted PER/ERMP approach where the proposal is a development. It is also possible for the EPA to assess the environmental implications of policies or programmes as a strategic proposal.

Court Decisions

Town Planning Appeals Tribunal; Ex parte Environmental Protection Authority, Supreme Court of Western Australia

The EPA set a level of assessment on a quarry expansion at The Lakes, east of Perth. The proponent had appealed to the Town Planning Appeals Tribunal against the decision of the Shire of Northam to refuse expansion of the quarry. The EPA brought an action seeking to constrain the Tribunal from making a decision until the Minister for the Environment had made a decision.

The Full Court upheld the appeal confirming that the Town Planning Appeals Tribunal is a decision making authority bound by section 41(2) of the EP Act to refrain from making any

decision that could have the effect of causing or allowing the proposal to be implemented until the environmental impact assessment process has been completed.

Greendene Development Corporation Pty Ltd v Environmental Protection Authority, Supreme Court of Western Australia

The action concerned the assessment by the EPA of the “Riverslea” development east of Margaret River. The proposal was referred by a third party following the grant of subdivisional approval by the WA Planning Commission but before the interim approvals from the council had been obtained. The EPA decided to assess the proposal outside the 28 day time limit.



EPA Site visit to ‘Riverslea’ east of Margaret River

The Full Court found that the EPA could assess the proposal despite the WAPC approval and despite the failure to meet the 28 day time limit on setting level of assessment. Referral of the Outline Development Plan to the Department did not constitute referral to the EPA.

Regulation 17 Applications

Noise Regulation 17 applications for approval to vary from the assigned noise levels were progressed for the following applicants:

Western Power Corporation, Regional Power Stations.

Recognising that a number of old, noisy power stations were to be replaced with noise-compliant facilities, through an Independent Power Procurement process, the EPA had recommended that a section 6 Ministerial exemption be granted in lieu of a noise regulation 17 approval. The exemption order was approved by the Governor and Gazetted in June 2004.

Wesfarmers Coal Ltd, Premier Coal Mine, Collie.

The EPA had found that it was not practicable for Wesfarmers Premier Coal to meet the prescribed standards for noise emissions in the adjacent Buckingham townsite, and recommended a strategy based on a regulation 17 approval. Following release of the EPA Bulletin, the approval was Gazetted in December 2003.

Western Power Corporation, Transmission Substations.

The EPA has endorsed a strategy involving a significant noise mitigation program, through which Western Power would reduce noise emissions from its non-compliant transmission substations to compliance or within 5dB of compliance over the next five years. A draft Bulletin recommending a noise regulation 17 approval has been prepared

and is currently with Western Power for comment.

Western Power Corporation, Pinjar Power Station.

The EPA has endorsed a strategy involving the granting of a simple noise regulation 17 approval to recognize a small noise exceedance over an area of bushland adjacent to the plant boundary. An EPA Bulletin was released, and the noise regulation 17 approval notice is currently being finalised.

Alcoa Wagerup Refinery.

Following an independent review of noise emissions from the Wagerup Refinery, released in May 2003, a thorough public consultation process has been under way, leading up to an EPA strategy briefing in the near future.

Gwalia Consolidated, Greenbushes Tantalum Mine.

After an extended consultation and investigation period, Gwalia submitted an updated report for the EPA strategy briefing. The EPA endorsed a strategy recommending that a regulation 17 approval be granted, and a draft EPA Bulletin is currently in preparation.

Albany Port (truck transport).

Work on this assessment is progressing, with information to be provided to the EPA by the applicant.

Wesfi Manufacturing Pty Ltd, Dardanup.

Work on this assessment is progressing, with information to be provided to the EPA by the applicant.

Two new noise regulation 17 applications were received: one from Simsmetal relating to the noise from unavoidable explosions during scrap metal recycling operations at its Spearwood plant; and the other from Hope Downs in relation to likely noise emissions from its proposed iron ore outloading operations at Port Hedland.

CONSULTATION

The EPA undertakes an array of consultative processes relating to proposals being assessed. These include:

- public review of proponent documentation for proposals either being formally assessed or for which a Strategic Environmental Review is being undertaken;
- participation at public meetings held by proponents to give advice on the EIA process and to respond to questions;
- conduct EPA-initiated public meetings where there is a degree of public sensitivity, usually after the close of the formal public review period, to provide feedback on the key environmental issues raised and to receive any other environmental issues the community requests the EPA to consider in its assessment of the proposal. These meetings also provide an opportunity for the EPA to inform the community of the likely timing of the EPA's advice to the Minister for the Environment on a proposal and appeal rights available;
- participation at stakeholder meetings; and

- receiving briefings from stakeholder groups at meetings of the EPA Board on issues of importance.

SITE VISITS CARRIED OUT BY THE EPA

During the year, various EPA members (subject to availability) travelled within the State to examine proposals in the field and to meet with proponents on-site.



EPA Site Visit to Mr Elwood's Property Herne Hill

Proponents have welcomed the opportunity to meet with the EPA to discuss issues in the less formal setting of the project. Relevant staff from the EPA Service Unit accompanied the EPA. Whenever possible, EPA members took the opportunity to meet with key local stakeholders, including local government, interest and conservation groups.

Site visits have proved very valuable in a number of ways, including:

- giving EPA members a clearer understanding of the environmental setting of a proposal;

- providing an opportunity to meet proponents, exchange views, address environmental issues associated with their proposal, and network in an informal atmosphere;
- providing an opportunity for the mutual exchange of views and making it easier to communicate with proponents and others through subsequent telephone interaction and formal EPA board meetings;
- leading to better environmental advice being provided to the Minister;
- enhancing the identity of the EPA as an Authority that provides independent advice; and
- providing an identity to an otherwise 'invisible' Board.

A list of the EPA and other site visits is provided in Appendix 8.

ADVISORY COUNCIL TO THE EPA

The Advisory Council to the Environmental Protection Authority (ACTEPA) was established to provide advice to the EPA on a range of environmental issues.

ACTEPA meets bi-monthly and consists of a cross-section of members of the community. Appointees are individuals who can bring to the table a range of perspectives and expertise from industry, conservation and technical fields, rather than representing particular groups.

Current members:

Dr John Yeates (Chairman)

(the above appointment expires 1 October 2005)

Mr Norm Halse (Deputy Chairman)

Dr Sue Graham-Taylor

(the above appointments expire 1 September 2004)

Mr Frank Batini

Mrs Marion Blackwell

Mrs Dot Hesse

Dr Rod Lukatelich

Mr Tony van Merwyk

Mr Graham Slessar

(the above appointments expire 30 September 2005)

Mr Richard Gorham

(the above appointment expires 1 October 2005)

ACTEPA's role is to provide comment and advice to the EPA on any matters referred to it by the EPA. ACTEPA may also initiate discussion on environmental matters and provide advice to the EPA.

During the year ACTEPA was kept advised of a range of issues before the EPA, and members' input was sought. Issues covered include:

- Review of the Enforcement and Prosecution Guidelines of the Department of Environmental Protection in Western Australia;
- Kwinana Environmental Protection Policy;
- Preliminary Environmental Off Sets Position Paper;
- Review of Western Australian Licence Conditions (*Report by Welker Environmental Consultancy*);
- Review of State of the Environment Discussion Paper No. 1, Discussion Paper No. 2 and Technical Paper No. 1;
- Review of Environmental Protection Authority's Works Programme 2003-2004 and Three-Year Plan 2003-2006;
- Environmental Risk; and,
- Underwood Avenue Residential Development, Shenton Park.

The EPA records its appreciation for the time and effort taken by ACTEPA members during the year. The advice of all members of ACTEPA is greatly appreciated by the EPA.

ACTEPA members recorded their appreciation for the contribution, knowledge and experience provided by Mr Andrew Baker who retired as Chairman on 13 June 2004.

APPENDICES

APPENDIX 1: The Role and Function of the Environmental Protection Authority

What is the Environmental Protection Authority?

The Environmental Protection Authority (EPA) is a statutory authority and is the primary provider of independent environmental advice to Government. The EPA is not a regulatory body. The EPA consists of five members, including a full-time chairman.

When was the EPA established?

The EPA came into existence on 1 January 1972 and operates under the *Environmental Protection Act (1986)* (the EP Act).

What is the ‘environment’ to the EPA?

The EP Act defines environment to mean *living things, their physical, biological and social surroundings, and interactions between all of these. ... For the purposes of the definition of “environment” ...the social surroundings of man are his aesthetic, cultural, economic and social surroundings to the extent that those surroundings directly affect or are affected by his physical or biological surroundings.*

What are the EPA’s objectives?

The EPA’s objectives are to protect the environment and to prevent, control and abate pollution.

How does the EPA achieve its objectives?

The EPA achieves these objectives through:

- Providing advice to the community, stakeholders, developers, regulators and those within Government who formulate environmental policy;
- Preparing Environmental Protection Policies (EPPs) which have the force of law. Details of the EPP program are provided on the EPA website (www.epa.wa.gov.au);
- Assessing development proposals (including schemes and scheme amendments) and activities that have the potential to impact on the environment, and advising the Minister for the Environment regarding their environmental acceptability. Details are on the EPA website; and,
- Auditing compliance with Ministerial Conditions for proposals for which the Department of Environment is the proponent.

Who does the EPA involve when formulating advice to the Minister?

The EPA receives information from many sources, including the public, developers, peak bodies, interest groups and government departments,

particularly the Department of Environment.

In addition, there is a standing committee of people with an interest in and knowledge of the environment which advises the EPA. Members of this committee, the Advisory Council to the Environmental Protection Authority (ACTEPA), offer a range of perspectives and expertise from areas such as industry, conservation, technical fields and community affairs, rather than representing particular organisations or sectors.

How does the EPA give advice to Government?

The EPA makes recommendations to the Minister for the Environment. The advice is public, and is generally through Bulletins. The Government, through the Minister, makes the final decisions.

How can the EPA's advice be implemented?

The three main instruments for implementing the EPA's advice to Government are:

- Government endorsed statutory EPPs, which have been developed by the EPA in consultation with all interested parties;
- Ministerial Conditions set by the Minister for the Environment on development proposals assessed by the EPA; and
- Bodies, including Government, government agencies, local government, stakeholders and the community, implementing the

EPA's policies and advice, as provided or modified.

Other functions of the EPA

The Minister can request the EPA to carry out other functions. For instance, the Minister has asked the EPA to carry out State of the Environment (SOE) reporting and Natural Resource Management (NRM) environmental performance auditing.

The EPA publishes Position Statements to provide the overarching principles and information which the EPA would use when giving advice to the Minister, the public, proponents, and decision-makers. Examples of Positions Statements are: *Environmental Protection of Cape Range Province, Environmental Protection of Native Vegetation in Western Australia and Terrestrial Biological Surveys as an Element of Biodiversity Protection.*

In addition, the EPA publishes Guidance Statements that provide direction to proponents in developing their proposals for environmental impact assessment. Examples of Guidance Statements are: *Protection of Tropical Arid Zone Mangroves Along the Pilbara Coastline, Deep Well Injection of Liquid Industrial Waste and Minimising Greenhouse Gas Emissions.*

All Position and Guidance Statements are available on the EPA's website.

Principles that the EPA considers when carrying out its duties

The EPA considers a number of principles when giving environmental advice, including:

1. *The precautionary principle;*
2. *The principle of intergenerational equity;*
3. *The principle of the conservation of biological diversity and ecological integrity;*
4. *Principles relating to improved valuation, pricing and incentive mechanisms; and*
5. *The principle of waste minimisation.*

What are the environmental aspects that the EPA can consider when giving advice?

Generally, when providing advice, the EPA considers the following broad environmental factors:

- i) Integration
 - Biodiversity
 - Sustainability
- ii) Biophysical
 - Flora
 - Fauna
 - Wetlands (wetlands, rivers)
 - Water (surface or ground)
 - Land (terrestrial)
 - Land (marine)
 - Conservation Areas
- iii) Pollution Management
 - Air Quality
 - Water Quality (surface, marine or ground)
 - Soil Quality

- Noise
- Radiation
- Light
- Greenhouse Gases

iv) Social Surrounds

- Heritage
- Risk
- Visual Amenity
- Recreation

v) Other

- Decommissioning

Role of the proponent

A common concern raised with the EPA each year is that the Environmental Impact Assessment (EIA) process is biased because the proponent has the responsibility to prepare, or have prepared, the environmental review document. The basis of this concern is that the proponent, who has the greatest stake in having the project proceed, should not be given the opportunity to control the development of the major document on which the environmental impacts of the project are likely to be judged.

However, there are good reasons why the proponent should play a pivotal role in the preparation of the environmental review document, provided the appropriate checks and balances are in place. The preparation of this document is the prime way for proponents to ensure that environmental factors are given consideration in project decision-making. It is only through this mechanism that the proponent will appreciate the environmental impacts of the proposed project, and thus the need for good project design and a

management program to ameliorate those impacts.

The EPA encourages and expects the proponent to give a high priority to environmental responsibility, including the preparation of a list of environmental commitments as part of its management program. This can be achieved only if the proponent is fully involved in the consideration of the environmental impacts of the project through the preparation of the environmental review document which requires the proponent to consider environmental issues and factors in project formulation. It is also important for the proponent and their consultant to prepare the document as though looking at the project through the eyes of the EPA. It needs to be as accurate and as full as possible.

It should be remembered that the preparation of the environmental review document is only one element of the process of EIA. There are a number of steps in EIA in WA which are designed to ensure the objectivity and adequacy of the information which is available to the decision-making authority. These steps can be summarised as:

- the scoping document for the preparation of the environmental review document is approved by the EPA;
- the scoping document is publicly available and, at the ERMP level of assessment, the scoping document is available for public comment;
- the environmental review document can be released only after the Environmental Impact Assessment Division within the EPA SU is satisfied that the

document is appropriate for release;

- the public has the opportunity to comment on the environmental review document after it has been approved for release;
- the proponent is required to respond to public comments on the environmental review document, and the response is also available to the public;
- the EPA provides the Minister for the Environment, who is the decision-making authority, with an assessment report on the project after receiving advice from the Environmental Impact Assessment Division within the EPA SU and many others; and,
- the public (and the proponent) have a further opportunity to provide advice or information to the Minister, in the form of an appeal, following the public release of the EPA report and recommendations.

EPA linkages with government agencies and authorities

The EPA seeks advice from agencies, including the Department of Environment, (DoE), Department for Planning and Infrastructure (DPI) and WA Planning Commission (WAPC), the Department of Conservation and Land Management (CALM), the Conservation Commission of Western Australia, the Marine Parks and Reserves Authority (MPRA), Department of Health, Department of Industry and Resources (DoIR), Department of Indigenous Affairs, Department of Fisheries and Department of Agriculture.

Department of Environment

As a result of the Machinery of Government Report review, the Department of Environmental Protection and the Water and Rivers Commission have been amalgamated to form the Department of Environment (DoE).

Administratively situated within the new Department is the EPA Service Unit, consisting of the Environmental Impact Assessment Division and the Policy and Coordination Division, under the direction of the EPA. A Service Agreement between the Authority, Department and the Minister has been established for the provision of departmental services to the EPA.

The EPA Service Unit carries out a variety of functions for the EPA, primarily EIA and preparation of draft EPA reports, research and co-ordination functions in relation to the environment, and the preparation of draft EPPs.

The new Department will continue to administer the regulation requirements of the EP Act (for example Licensing of Industry and undertaking pollution investigations) and act as a proponent (for example for water allocation plans) and as a provider of expert advice on matters pertaining to water resource protection and management as inputs to the EIA process.

In relation to the control of pollution, the EPA will continue to have a key role where it subjects proposals to EIA and through relevant EPPs.

Where DoE is the proponent of proposals that are subject to Ministerial Conditions set by the Minister for the

Environment, the EPA undertakes the statutory compliance audit role.

Department for Planning and Infrastructure and WA Planning Commission

All town planning schemes and amendments (both Local Authority and Region Schemes) are required to be referred to the EPA under Section 48A of EP Act. If the EPA formally assesses a scheme or amendment to a scheme, both the Planning and Infrastructure, and Environment Ministers have to agree on conditions before approval can be given.

DPI and WAPC also prepare strategic plans that the EPA can report on under Section 16(j) of the EP Act.

Department of Conservation and Land Management

In the case of CALM, the EPA has two different working relationships. CALM, as manager of forests and the conservation estate on behalf of the Conservation Commission of Western Australia, is required to implement Forest Management Plans which are assessed by the EPA. CALM is also a key provider of expert advice on conservation and biodiversity issues generally, and particularly during the EIA process.

Conservation Commission of Western Australia

The Commission has responsibility for control and management planning of State Forest and the conservation estate. This includes adopting management plans for the estate and then auditing CALM's implementation of the plans. Where the EPA assesses plans, such as

the Forest Management Plans, the EPA may then audit the Commission's compliance with Ministerial Conditions set by the Minister for the Environment.

Marine Parks and Reserves Authority

The MPRA has responsibility for control and management planning of marine parks and reserves. The MPRA provides advice on marine issues for development proposals under consideration by the EPA.

The MPRA is supported by a Scientific Advisory Committee which the EPA also calls upon from time to time for professional and technical input.

Department of Health

The Department of Health has a significant role in providing advice to the EPA on possible health impacts of proposals. Industrial and other activities can pose a risk to human health if not managed in an environmentally acceptable manner.

When the EPA requests a Health Risk Assessment to identify cumulative effects of an activity on human health, for example the impact of air emissions from several industries within a region, the EPA seeks advice from the Department of Health on the Assessment particularly in relation to the validation of the modelling methods proposed.

The Department of Health also provides specialist advice in the remediation and management of asbestos in contaminated sites and where on-site containment of contaminated material is proposed.

Department of Industry and Resources

The EPA has a Memorandum of Understanding (MoU) with the DoIR for the referral of onshore mining and exploration proposals to the EPA under Section 38 of the EP Act.

The MoU is not a delegation of the EPA's powers but provides an agreed, efficient and transparent administrative framework for referral of proposals to the EPA. The MoU has been operating since 1995. MoUs of this type are consistent with the recommendations of the Review of the Project Development Approvals System ("the Keating Review") and provide an effective means to ensure coordination between Government agencies and efficiency of the approvals process.

An administrative framework is in place with the DoIR for the referral of offshore petroleum exploration and development proposals. This administrative framework has been operating for over four years and is being formalized through a separate memorandum of understanding.

Department of Indigenous Affairs

When the EPA is undertaking an assessment of a proposal, Aboriginal heritage may be a relevant environmental factor. The EPA must consider the issue and must satisfy itself that it can, and will, be addressed, consistent with the scope and requirements of the EP Act. One way to assist the EPA to be satisfied is for the EPA to be provided with confirmation that environmental aspects of the issue will be fully addressed through other processes, such as under the *Aboriginal Heritage Act*.

The EPA will give consideration to Aboriginal heritage matters to the extent that they may be affected by the impacts of the proposal on the physical or biological surroundings. The EPA will need to determine if changes to the physical or biological environment will result in there being an impact on matters of heritage significance to Aboriginal people.

Under both of these circumstances, the EPA will consult with and seek specialist advice from the Department of Indigenous Affairs to avoid or reduce duplication.

Department of Fisheries

Department of Fisheries provides key advice on significant proposals that may have an impact on the marine environment.

The Department of Fisheries is responsible for the management of the State's fish resources, commercial, pearling and aquaculture industries, recreational fishers and the waters and habitats that surround the State's coastline.

The Department of Fisheries develops and implements appropriate and sustainable resource management strategies for the State's fisheries and fish habitats, including collaborative arrangements with the EPA in terms of aspects of natural resource management.

Department of Agriculture

As part of its role in the Interdepartmental Committee for consideration of proposals to clear native vegetation, the Office of the

Commissioner for Soil and Land Conservation provides advice on the land degradation aspects of clearing which is taken into account in the EPA's overall environmental assessment of this type of proposal.

Public's Right to be involved

A basic tenet of the EP Act is the community's rights to know, to be informed, to be heard and to object to activities that have the potential to impact on the environment. Accordingly, the EPA provides opportunities for the public to be involved in the decision-making processes. Further information on how the public can become involved is available on the EPA website and in its advertisement in Public Notices section of the Monday edition of the *West Australian* newspaper.

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APPENDIX 2: Formal Assessments (other than Environmental Protection Statements, Assessment on Referral Information or, Proposal Unlikely to be Environmentally Acceptable)

| Bulletin No. | Title | Release date |
|---------------------|---|---------------------|
| 1102 | South West Metropolitan Railway Perth to Mandurah | July 2003 |
| 1104 | Outdoor entertainment venue Lots 1 & 2 Toodyay Road, Red Hill | August 2003 |
| 1105 | Clearing of up to 950 hectares of native vegetation for agriculture: Victoria location 10883, Carnamah | August 2003 |
| 1107 | Coral Bay Boating Facility – Monck Head Coral Bay | August 2003 |
| 1108 | Greater Bunbury Region Scheme | September 2003 |
| 1113 | Proposed Forest Management Plan (2004-2013), Western Australia | September 2003 |
| 1118 | Change to Environmental Conditions – clay excavation, Lots 10, 11 & Pt Lot 36 Great Northern Highway, Upper Swan | October 2003 |
| 1118 | Change to Environmental Conditions – clay excavation, Lots 23 & 51 Apple Street, Upper Swan | October 2003 |
| 1118 | Change to Environmental Conditions – clay excavation, Lots 40 & 41 (previously Lots 21 & 22) Apple Street, Upper Swan | October 2003 |
| 1119 | Abernethy Road – Tonkin Highway on-ramp | November 2003 |
| 1123 | Kwinana International Motorplex – Review of Noise Management Plan and potential change to Environmental conditions relating to noise management | December 2003 |
| 1125 | Change to Environmental Conditions – Debottlenecking of CSBP Ammonia Pant from 650tpd to 745tpd Kwinana Industrial Area | February 2004 |

| Bulletin No. | Title | Release date |
|---------------------|--|---------------------|
| 1126 | Change to Environmental Conditions – Wastewater treatment and disposal, Albany | February 2004 |
| 1127 | Change to Environmental Conditions – Newcrest Mining Limited, Telfer Project, Power Supply and Infrastructure Corridor, Port Hedland to Telfer Gold Mine, Great Sandy Desert | March 2004 |
| 1128 | Change to Environmental Conditions – Tonkin Industrial Park Stage 2, Bassendean | March 2004 |
| 1132 | Review of the Conditions for the Manufacture & Transport of sodium cyanide - Change to Environmental Conditions | May 2004 |
| 1133 | Hope Valley-Wattleup Redevelopment Project Master Plan | May 2004 |
| 1135 | Use of Cape Peron Outfall Pipeline to dispose of industrial wastewater, Kwinana | May 2004 |
| 1137 | Perth Metropolitan desalination proposal, Amendment of Implementation Conditions by Inquiry | May 2004 |
| 1138 | Roe Highway extension (Stage 7) South Street to Kwinana Freeway Leeming | June 2004 |
| 1140 | Industrial subdivision of Lot 21 Webster Road & Bedford Crescent Forrestfield | June 2004 |
| 1141 | James Point Stage One Port, Kwinana | June 2004 |

APPENDIX 3: Environmental Protection Statements and Assessment on Referral Information

| Bulletin No. | Title | Release date |
|---------------------|---|---------------------|
| 1103 | Development of a quarry and industrial site and setting aside land for a heritage and conservation area King Bay Burrup Peninsula | August 2003 |
| 1109 | Yellowfin tuna aquaculture trial Zeewijk Channel Arolhos Islands | September 2003 |
| 1111 | Remediation of the Midland Railway Workshops site Helena West Midland | September 2003 |
| 1114 | Hamersley Iron – Dampier Port Upgrade to 95Mtpa Capacity | September 2003 |
| 1116 | Dampier Port Authority – Port expansion and dredging program | October 2003 |
| 1117 | Dredging program for the Dampier Port Upgrade | October 2003 |
| 1121 | Kemerton Power Station | December 2003 |
| 1122 | Pinjarra Refinery Efficiency Upgrade | December 2003 |
| 1129 | Bunbury International Motorsports Complex | March 2004 |

APPENDIX 4: Proposal Unlikely to be Environmentally Acceptable

| Bulletin No. | Title | Release date |
|---------------------|---|---------------------|
| 1110 | Clearing of approximately 180ha of native vegetation for agriculture: Lots 2 & 3 Victoria Locations 7967, 6686, 7979 & 10446, 25km north west of Binu, Shire of Northampton | September 2003 |
| 1112 | Clearing of approximately 22ha of native vegetation for agriculture: Collie Agricultural area Lot 37 Harris Road, Picton | September 2003 |
| 1120 | Clearing of approximately 1128ha of native vegetation for agriculture Victoria Loc 10877 corner of Garibaldi-Willis & Wilmott Roads Coorow | November 2003 |
| 1136 | Clearing of approximately 77ha of native vegetation for agriculture, Melbourne Location 926, approximately 27 kilometres east of Watheroo | May 2004 |

APPENDIX 5: s16 Strategic Advice

| Bulletin No | Project Title | Release date |
|-------------------------|---|---------------------|
| 1101 | Environmental Advice on the Principal of Locating a Gas Processing Complex on Barrow Island Nature Reserve | July 2003 |
| 1106 | Geraldton to North-eastern Goldfields Infrastructure Corridor | August 2003 |
| 1115 | A Strategic Assessment of the Compatibility of Petroleum Industry Activities with the Environmental Values and Cultural Uses of the Shark Bay World Heritage Area | October 2003 |
| 1124 | Cumulative impacts of oxides of nitrogen emissions from existing and proposed industries, Burrup Peninsula | January 2004 |
| 1131 | Drainage Management, Swan-Canning Catchment | May 2004 |
| Discussion Paper | Review of the Fire Policies and Management Practices of the Department of Conservation and Land Management | June 2004 |

APPENDIX 6: Position Statements

| No. | Position Statement | Current Status |
|-----|--|---------------------------------------|
| 1 | Environmental Protection of Cape Range Province | Published December 1999 |
| 2 | Environmental Protection of Native Vegetation in Western Australia | Published December 2000 |
| 3 | Terrestrial Biological Surveys as an element of Biodiversity Protection | Published March 2000 |
| 4 | Environmental Protection of Wetlands | Preliminary published June 2001 |
| 5 | Environmental Protection and Sustainability of the Rangelands in Western Australia | Preliminary published October 2002 |
| 6 | Towards Sustainability | Preliminary published October 2002 |
| 7 | Principles of Environmental Protection | Preliminary published October 2002 |
| 8 | Environmental Protection in Natural Resource Management | Preliminary published June 2004 |
| 9 | Environmental Offsets | Initiated (to be published July 2004) |

APPENDIX 7: Guidance Statements for the Assessment of Environmental Factors

Draft Guidance

| No | Title | Release date |
|----|---|---------------|
| 3 | Separation Distances between Industrial and Sensitive Land Uses | June 2004 |
| 33 | Guidelines for Environment and Planning | August 1997 |
| 48 | Groundwater Environmental Management Areas | February 1998 |

Final Guidance

| No | Title | Release date |
|-----------|--|---------------------|
| 1 | Protection of Tropical Arid Zone Mangroves along the Pilbara Coastline | April 2001 |
| 2 | Risk Assessment and Management: Offsite Individual Risk from Hazardous Industrial Plant | July 2000 |
| 4 | Deep and Shallow Well Injection for Disposal of Industrial Waste | September 1998 |
| 10 | Level of Assessment for proposals affecting natural areas within the System 6 Region and Swan Coastal Plain portion of the System 1 Region | January 2003 |
| 12 | Minimising Greenhouse Gases | October 2002 |
| 13 | Management of Air Emissions from Biomedical Waste Incinerators | March 2000 |
| 15 | Emissions of Oxides of Nitrogen from Gas Turbines | May 2000 |
| 17 | A Site Remediation Hierarchy for Contaminated Soil | July 2000 |
| 18 | Prevention of Air Quality Impacts from Land Development Sites | March 2000 |
| 28 | Protection of the Lake Clifton Catchment | May 1998 |
| 29 | Benthic Primary Producer Habitat Protection for Western Australia's Marine Environment | June 2004 |
| 34 | Linkage between EPA Assessment and Management Strategies, Policies, Scientific Criteria, Guidelines, Standards and Measures Adopted by National Councils | April 1998 |
| 40 | Management of Mosquitoes by Land Developers | June 2000 |
| 41 | Assessment of Aboriginal Heritage | April 2004 |
| 47 | Assessment of Odour Impacts | March 2002 |
| 49 | Assessment of Development Proposals in Shark Bay World Heritage Property | November 2002 |
| 51 | Terrestrial Flora and Vegetation Surveys for Environmental Impact Assessment in Western Australia | June 2004 |
| 54 | Consideration of Subterranean Fauna in Groundwater and Caves during Environmental Impact Assessment in Western Australia | December 2003 |
| 55 | Implementing Best Practice in Proposals Submitted to the Environmental Impact Assessment Process | December 2003 |
| 56 | Terrestrial Fauna Surveys for Environmental Impact Assessment in Western Australia | June 2004 |

APPENDIX 8: EPA site visits

| Date | Site |
|-------------------|--|
| 4 July 2003 | Northern Jarrah Forest. |
| 24 July 2003 | BGC Voyager Quarry Expansion, Lot 14 Horton Road, The Lakes, Shire of Northam. |
| 6 August 2003 | Abernethy Road – Tonkin Highway On-Ramp. |
| 22 September 2003 | Clay Excavation, Hallett and Copley Roads, Upper Swan. |
| 29 January 2004 | Roe Highway Extension (Stage 7), South Street to Kwinana Freeway, Leeming. |
| 12 February 2004 | Industrial Subdivision, Lot 21 Webster Road, Forrestfield. |
| 25 March 2004 | Sand Extraction, Lot 2 Calinup Road, 12kms South of Bunbury. |
| 25 March 2004 | Riverslea Subdivision, Margaret River. |
| 22 April 2004 | Herne Hill Quarry, Lot 11 Neuman Road, Herne Hill. |
| 23 April 2004 | Gnangara Mound. |
| 24 May 2004 | Residential Development, Point Douro, Australind. |
| 24 May 2004 | Silica Sands, Kemerton |

APPENDIX 9: Attendance at EPA Meetings

| Attendance EPA Meetings – 3 July 2003 to 17 June 2004 | | | | | |
|---|------------|-----------|---------------|------------|----------------|
| EPA Meeting Date | EPA Member | | | | |
| | Walter Cox | Roy Green | Denis Glennon | Joan Payne | Andrea Hinwood |
| No. 815 – 3 July 2003 | ✓ | ✓ | ✓ | ✓ | ✓ |
| No. 816 – 17 July 2003 | ✓ | ✓ | ✓ | ✓ | - |
| No. 817 – 31 July 2003 | ✓ | ✓ | - | ✓ | ✓ |
| No. 818 – 13-15 August 2003 | ✓ | - | - | ✓ | - |
| No. 819 – 28 August 2003 | ✓ | ✓ | ✓ | ✓ | ✓ |
| No. 820 – 11 September 2003 | ✓ | ✓ | ✓ | ✓ | ✓ |
| No. 821 – 26 September 2003 | ✓ | ✓ | - | ✓ | ✓ |
| No.822 – 9 October 2003 | ✓ | ✓ | - | ✓ | ✓ |
| No. 823 – 23 October 2003 | ✓ | ✓ | - | ✓ | ✓ |
| No. 824 – 6 November 2003 | ✓ | ✓ | ✓ | ✓ | ✓ |
| No. 825 – 20 November 2003 | ✓ | ✓ | ✓ | ✓ | ✓ |
| No. 826 – 4 December 2003 | ✓ | ✓ | ✓ | ✓ | ✓ |
| No. 827 – 18 December 2003 | ✓ | ✓ | ✓ | ✓ | ✓ |
| No. 828 – 29 January 2004 | ✓ | ✓ | ✓ | ✓ | ✓ |
| No. 829 – 12 February 2004 | ✓ | ✓ | ✓ | ✓ | ✓ |
| No. 830 – 26 February 2004 | ✓ | ✓ | - | ✓ | ✓ |
| No. 831 – 11 March 2004 | ✓ | ✓ | ✓ | ✓ | ✓ |
| No. 832 – 25 March 2004 | ✓ | ✓ | - | ✓ | ✓ |
| No. 833 – 8 April 2004 | ✓ | ✓ | ✓ | ✓ | ✓ |
| No. 834 – 22 April 2004 | ✓ | ✓ | ✓ | ✓ | ✓ |
| No. 835 – 6 May 2004 | ✓ | ✓ | - | ✓ | ✓ |
| No. 836 – 20 May 2004 | ✓ | ✓ | ✓ | ✓ | ✓ |
| No. 837 – 3 June 2004 | ✓ | ✓ | ✓ | ✓ | ✓ |
| No. 838 – 17 June 2004 | ✓ | ✓ | - | ✓ | ✓ |

APPENDIX 10: Financial Report

The administration costs of the EPA are as follows:

| | 2003-04 (\$'000) | 2002-03 (\$'000) | 2001-02 (\$'000) | 2000-01 (\$'000) |
|---------------------------------------|---------------------|---------------------|---------------------|---------------------|
| <i>Recurrent</i> | | | | |
| Salaries and allowances | 579 | 452 | 390 | 384 |
| <i>Other Expenses</i> | | | | |
| Staff related expenses | 16 | 41 | 41 | 31 |
| Communications | 10 | 10 | 4 | 4 |
| Services and contracts | 24 | 254 | 179 | 154 |
| Consumable supplies | 14 | 13 | 9 | 3 |
| Repairs, Maintenance and Depreciation | 2 | 2 | 7 | 8 |
| <i>Total</i> | 645 | 772 | 630 | 584 |

Electoral Act 1907 (s175 ZE Disclosure)

In accordance with Section 175 ZE of the *Electoral Act 1907*, the Environmental Protection Authority incurred the following expenditure in advertising, market research, polling, direct mail and media advertising:

1. Total expenditure for 2003/2004 was \$1 512.00 (2002/03 – \$3 778.34).
2. Expenditure of specified amounts of \$1 500 or greater in the following areas:

| | |
|---------------------------------|-----|
| Advertising Agencies | Nil |
| Market research organisations | Nil |
| Polling organisations | Nil |
| Direct mail organisations | Nil |
| Media advertising organisations | Nil |

Note:

Section 175 ZE of the *Electoral Act 1907* requires “specified amounts” of \$1 500 or greater expended on advertising in the above categories to be notified in the annual report.

APPENDIX 11: Abbreviations

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| ACTEPA | Advisory Council to the Environmental Protection Authority |
| AHC | Australian Heritage Council |
| ARI | Assessment on Referral Information |
| CALM | Department of Conservation and Land Management |
| CCWA | Conservation Commission of Western Australia |
| CSIRO | Commonwealth Scientific and Industrial Research Organisation |
| DEP | Department of Environmental Protection |
| DoA | Department of Agriculture |
| DoE | Department of Environment (amalgamation of WRC and DEP) |
| DoF | Department of Fisheries |
| DoH | Department of Health |
| DIA | Department of Indigenous Affairs |
| DoIR | Department of Industry and Resources |
| DPI | Department for Planning and Infrastructure |
| CITES | Convention on International Trade of Endangered Species |
| EIA | Environmental Impact Assessment |
| EIS | Environmental Impact Statement |
| EMIAA | Environmental Management Industry Association of Australia |
| EMP | Environmental Management Plan |
| EPA | Environmental Protection Authority |
| EP Act | <i>Environmental Protection Act (1986)</i> |
| EPASU | EPA Service Unit |
| EPP | Environmental Protection Policy |
| EPS | Environmental Protection Statement |
| EQC | Environmental Quality Criteria |
| EQO | Environmental Quality Objectives |
| ERMP | Environmental Review and Management Programme |
| EV | Environmental Values |
| FMP | Forest Management Plan |
| GBRS | Greater Bunbury Region Scheme |
| HRA | Health Risk Assessment |
| LoA | Level of Assessment |
| MoU | Memorandum of Understanding |
| MPRA | Marine Parks and Reserves Authority |
| MRWA | Main Roads Western Australia |
| NAP | National Action Plan |
| NEPC | National Environmental Protection Council |
| NHT | Natural Heritage Trust |
| NWQMS | National Water Quality Management Strategy |
| NRM | Natural Resource Management |
| PER | Public Environmental Review |
| PUEA | Proposal Unlikely to be Environmentally Acceptable |
| RO | Reverse Osmosis |

| | |
|---------------|---|
| SCP | Swan Coastal Plain |
| SEP | State Environmental Policy |
| SoE | State of the Environment |
| SOER | State of Environment Reporting |
| SRG | Stakeholder Reference Group |
| SRT | Swan River Trust |
| UNEP | United Nations Environment Programme |
| UNESCO | United Nations Education Scientific and Cultural Organisation |
| VOC | Volatile Organic Compound |
| WA | Western Australia |
| WALA | Western Australian Land Authority |
| WAPC | Western Australian Planning Commission |
| WMWA | Waste Management WA |
| WRC | Water and Rivers Commission |