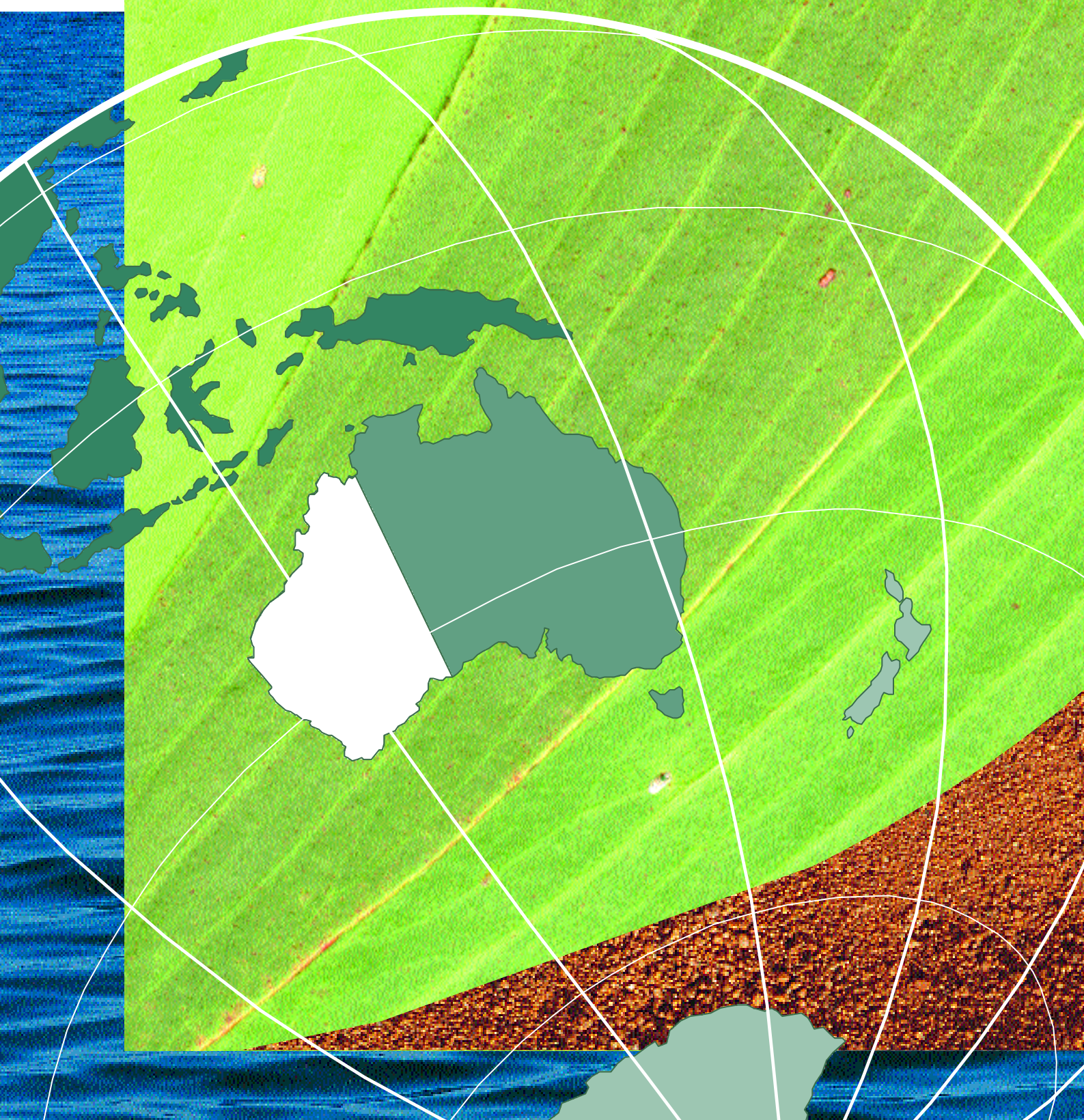




Environmental Protection Authority

# Annual Report 1998-99





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# Transmittal to the Minister

Hon Cheryl Edwardes (Mrs) MLA  
MINISTER FOR THE ENVIRONMENT

In accordance with Section 21 of the Environmental Protection Act, I submit the EPA's annual report for the year ended 30 June 1999.

It is with pleasure that, on behalf of the EPA, I advise that for the reporting period, the EPA has conducted its functions such that it has met its objectives outlined in Section 15 of the Environmental Protection Act. This has been achieved with the assistance of the services and facilities of the Department of Environmental Protection.



**Bernard Bowen**  
Chairman

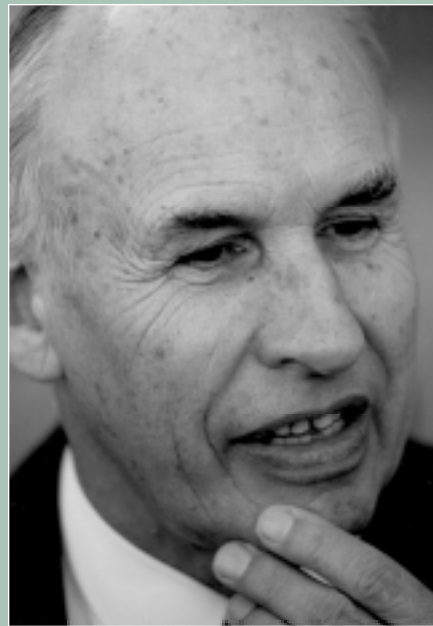
14 October 1999

Environmental Protection Authority

Westralia Square  
Level 8  
141 St Georges Terrace  
Perth WA 6000  
Phone: (08) 9222 7000  
Fax: (08) 9222 7155

# Chairman's Overview

*This report covers my first full year as Chairman of the Environmental Protection Authority (EPA). It has been a challenging and rewarding time.*

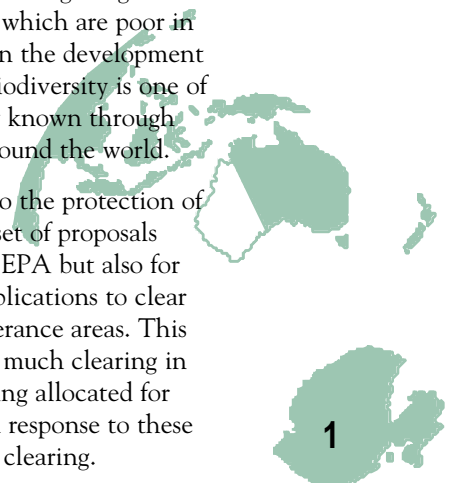


The EPA was established by Parliament as an independent Authority with the broad objective of protecting the State's environment. This is undertaken through the process of providing overarching environmental advice to the Minister for the Environment through the preparation of environmental protection policies and the assessment of development proposals 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 to Parliament. Included in the Report is a discussion of the public expectation that the EPA will assume a custodial or guardianship role to ensure the broad-based protection of all elements of the environment. Information about the EPA and its linkages with government departments is given in Appendix 1.

The array of matters coming before the EPA for examination during the year was diverse and challenging, and included a proposal to establish industrial infrastructure and a harbour in Jervoise Bay, proposals which impacted on National Parks, the Stage 2 proposal for the expansion of the Ord irrigation system, a proposal to build a tidal power station near Derby and the mid-term report on progress and compliance with the Forest Management Plans. The reports on some of these subjects created considerable public debate. The EPA is always available to explain aspects of its reports to the community if requested to do so, but its prime function is to provide advice to the Minister for the Environment, and not to become part of the debate which might follow.

The Western Australian environment is a product of the State's geological history. It has a relatively flat landscape with very old soils which are poor in nutrients. A consequence of this geological history has been the development of an extremely diverse array of plants and animals. This biodiversity is one of the unique aspects of Western Australia and is most widely known through the magnificent native plants which attract people from around the world.

Throughout the year the EPA has given special attention to the protection of the State's biodiversity during its assessment process. One set of proposals which has been specially time consuming, not only for the EPA but also for staff in government departments, has been a number of applications to clear agricultural land, mostly in the West Midland and the Esperance areas. This has been at a time when salinity problems arising from too much clearing in past decades have been clearly identified, and funds are being allocated for tree planting programs. The challenge now is to establish a response to these applications in terms of equity rather than to allow further clearing.



A major assessment undertaken by the EPA was that of the expansion of the Murrin Murrin Nickel-Cobalt Project near Leonora. An important element of the assessment was that of “social surroundings” in relation to the impact which the proposal would have on the Aboriginal communities. This led the EPA to be more closely involved in direct consultation on the project site with the Aboriginal people of the area, and later to an invitation to myself and the Deputy Chairman to visit the nearby Mt Margaret Community. The subsequent visit and further discussions were extremely valuable, and will assist the EPA in its consideration of “social surroundings”, including the proposal to expand the Ord irrigation system (Ord Stage 2) in the East Kimberley. The EPA is very conscious of the need to maintain an open-door policy for members of the public, not only in relation to social surroundings but also covering a whole range of environmental matters.

The EPA values very highly its discussions with proponents. In addition to proponents having the opportunity to brief the EPA at its meetings which are held every two weeks, the doors of the Chairman and the Deputy Chairman are always open to proponents, from large companies to individuals, so that they have an opportunity to explain their proposals and seek an understanding of the approach best suited to attaining continuous improvement in environmental protection. The EPA at all times wants to work with the proponent to achieve the best environmental outcome. For most of the proposals coming before the EPA the outcome is an agreed approach to sound environmental management. However, at times the EPA has concluded that its advice to the Minister will be that the impact of a proposal submitted is not environmentally acceptable and that it should not proceed. The EPA recognises that this can cause a proponent considerable distress, but the EPA's role is to protect the environment, both now and into the future.

During the year the EPA had discussions with stakeholder representatives about the assessment process set out in its Administrative Procedures. These discussions have led to the introduction of two new levels of assessment with a view to providing a more efficient service. The details of these two levels of assessment are given later in this Report. The Administrative Procedures also includes information about the appeal process to assure interested parties that the full array of appeals to the Minister is available and that the transparent public process, which is an essential element of the work of the EPA, is not diminished.

I take this opportunity to thank proponents of proposals, members of the community, advisers to the EPA from both the public and the private sectors, and also the Chief Executive Officer of the Department of Environmental Protection and his staff for the part each has played in assisting the EPA in doing its work of protecting the environment. It is very important that all those involved have confidence that the process will deliver outcomes which give full attention to environmental protection.

I also want to record my appreciation of the Deputy Chairman specifically and members of the EPA for their assistance so readily given to the work of the EPA. Finally, although it is an independent Authority, its work is enhanced by the Chairman having an opportunity to inform the Minister about matters of importance being considered by the EPA. I thank the Minister for the Environment for her courtesy in being available for discussions when requested by me from time to time.



*Bernard Bowen*

**Bernard Bowen**  
Chairman

## Members

The EPA has five members - a full-time Chairman, a half-time Deputy Chairman and three part-time members. However, members work far in excess of their part-time appointments.

### Mr Bernard Bowen AM FTSE, Chairman

Member and Deputy Chairman from  
14 January 1994

Chairman from 12 August 1997  
until 31 December 1999

Bernard Bowen was Director of the Department of Fisheries and Wildlife between 1968 and 1985, and Director of the Fisheries Department between 1985 and 1991. He was Chairman of the Western Australian Wildlife Authority between 1968 and 1985, member of the Perth Zoological Gardens Board between 1972 and 1987 and member of the National Parks Authority between 1975 and 1985.

Mr Bowen has extensive experience in marine research and management at the national and international levels. Between 1994 and 1996, Mr Bowen participated in the preparation of the National State of the Environment Report as Chairman of the Estuaries and the Sea Reference Group.

Mr Bowen has been appointed to the National CSIRO Marine Sector Advisory Committee for a period of three years.

### Ms Sally Robinson, MEIA, MAWWA, MIRWA, MIAWQ, Deputy Chairman

Member from 6 May, 1997

Deputy Chairman from 1 January  
1998 until 31 December 1999

Sally Robinson is an environmental manager with more than 25 years experience. She has worked for the mining and petroleum industries and from 1981-1989 was employed by the WA Environmental Protection Authority department in the areas of environmental impact assessment, project coordination, pollution licensing and policy development. She proposed improvements to achieve better integration of the assessment (Part IV) and licensing (Part V) functions of the Act. She carried out and managed the Peel-Harvey Estuary (Dawesville Channel) Management Strategy assessment.

Ms Robinson was a member of the joint Australian/South African delegation to South Africa in 1994 on rivers classification and management. She has visited South Africa and Indonesia as an invited international expert on integrated catchment

management and in 1998 advised the South African Government on their new water resource and catchment management legislation. She has recently been invited to China as part of a CSIRO/Ausaid project.

In 1999 Ms Robinson was a State finalist in the Telstra Australian Business Woman of the Year Awards in recognition of her contribution to environmental protection in WA and her work as Deputy Chairman.

Ms Robinson has a Bachelor of Science (Hons) degree in Geology and Zoology from the University of Bristol, a BA in Australian History and Psychology from Murdoch University, and a Masters level clinical counselling qualification. She is a former National Vice-President of the Environment Institute of Australia.

Ms Robinson is the principal of Strategic Environmental Solutions and between 1994 and 1996 participated as a consultant on the 1996 National State of the Environment Report as a member of the Inland Waters Reference Group.

### Mr Denis Glennon

Member from 1 January 1998 until  
31 December 1999

Denis Glennon is Managing Director and board member of Environmental Solutions International Ltd, a company specialising in environmental management,

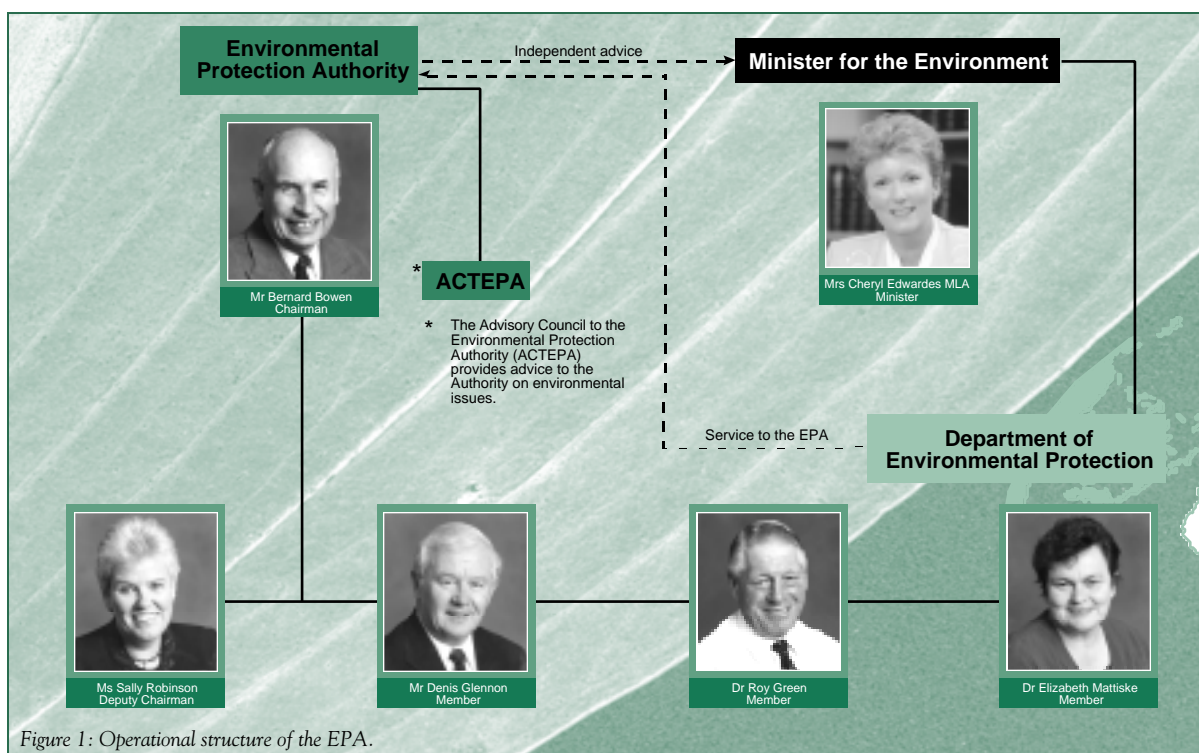


Figure 1: Operational structure of the EPA.



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 formation, especially in regard to industrial waste disposal.

He 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.

### Dr Roy Green, AO, FTSE, FAIP

**Member from 6 May 1998 until 5 May 2000**

Roy Green was a consultant in Paris in 1996-97 with UNESCO's Intergovernmental Oceanographic Commission, a body responsible for the international coordination of marine research, services, data systems and education and training. From 1988 to 1995 he was the Australian Delegate to the Commission, and on the Executive Council.

From 1994 to 1996 Dr Green was Chief Executive/Acting Chief Executive of the CSIRO, and from 1988 to 1994 Director of the CSIRO Institute of Natural Resources and the Environment.

Dr Green was also appointed by Federal Cabinet to chair three of the nine working groups (Agriculture, Forestry and Fisheries) which reported to Government on Ecologically Sustainable Development in 1990-91. He was also on the Advisory Council for the 1996 National State of the Environment Report.

Dr Green holds fellowships in many professional societies, and membership of many advisory boards. Currently Dr Green is Chairman of the Advisory Council for the National Land and Water Resources Audit, and is a member of the Advisory Committee for the Natural Heritage Trust.

From 1976 to 1982, Dr Green was Secretary, Australian Science & Technology Council, and between 1982 and 1987 he was the Deputy Secretary, Department of Science.

### Dr Elizabeth Mattiske

**Member from 6 May 1998 until 5 May 2000**

Libby Mattiske is a plant ecologist with a Bachelor of Science with Honours and a PhD from Adelaide University.

Dr Mattiske has consulted privately in this field for over 20 years, and is currently Managing Director of Mattiske Consulting Pty Ltd. The company conducts botanical and ecological studies and advises government agencies and mining companies on how to minimise the environmental impact of proposed developments. The company has undertaken vegetation mapping and other botanical studies for a range of major mining companies operating in Western Australia and a range of government agencies.

Dr Mattiske's involvement, both past and present, with many environmental committees, includes the System 6 Committee, the CSIRO Regional Research Committee (Wildlife & Ecology), the EPA Advisory Committee on Forest Management Plans, the National Parks & Nature Conservation Authority (WA), CALM Ranking Panel for the Conservation of Western Australia's Threatened Flora and Fauna, Australian Heritage Commission, Forest & Research Committee Working Group of Scientists to Review Forest Monitoring & Research Programmes, Council for Sustainable Vegetation Management and the Australian State of the Environment Committee.

## CUSTODIAL RESPONSIBILITIES OF THE ENVIRONMENTAL PROTECTION AUTHORITY

The EPA has over-arching responsibility for the provision of advice to Government on all environmental matters, and the public expectation of the EPA 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 providing this role, the EPA has initiated Environmental Protection Policies (EPPs) such as those relating to air quality in Kwinana and the Goldfields (see table 1, page 19). There will also soon be implementation of the air National Environment Protection Measure (NEPM) through a Statewide EPP mechanism. The environmental protection of important groundwater mounds and coastal waters is also being addressed through a Statewide EPP framework which will provide over-arching environmental protection objectives with area-specific regulations.

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

### Water for the environment

The EPA has been developing, with the Water and Rivers Commission, a tiered process for the assessment of water allocation to ensure that environmental water requirements are properly accommodated, prior to water being allocated for consumptive uses. The approach taken by the EPA was outlined in its Section 16(e) advice on the Perth's Water Future proposals.

In Western Australia, the EPA has primacy under its legislation in terms of the protection of Western



*Current members of the Environmental Protection Authority (from front left) Ms Sally Robinson (Deputy Chairman), Mr Bernard Bowen (Chairman) (from back left) Dr Roy Green, Dr Elizabeth Mattiske, and Mr Denis Glennon.*

Australia's environment, and the setting of environmental objectives including that for water (both quality and quantity). The Water and Rivers Commission (WRC) is responsible for the day to day protection and management of the State's water resources, including determining how much water is available for the environment and a range of other uses, in accordance with EPA's environmental objectives. The EPA examines the environmental impacts of any proposal to take water and ensures that an adequate amount of water is allocated to the environment before any allocations to other uses are made. The amount of water taken to protect the environment therefore becomes a constraint on the amount available to allocate to other uses. In principle, any allocations of water should be:

- sustainable, taking into account long term environmental requirements;
- consistent with the Council of Australian Governments (COAG) Agreement and with the National Principles for the Provision of Water for Ecosystems (ANZECC/ARMCANZ, 1996); and

- consistent with the environmental values and objectives identified by the EPA.

### Landclearing - an activity with long-term impacts on soil quality and biodiversity

Increasingly, the EPA is involved in the formal assessment of land clearing applications from rural landholders. This is a consequence of the Memorandum of Understanding on the assessment of land clearing in the South West of Western Australia, to which the EPA is a signatory, and reflects EPA concerns about the role of landclearing in increasing land degradation and loss of biodiversity.

The South West of Western Australia is megabiodiverse on a world scale. Significant biodiversity has already been lost from extensive clearing of land for agricultural purposes, which has resulted in extensive dryland salinity and severe interruption of catchment hydrology and ecosystem processes.

Much of the South West of the State now needs extensive and high level intervention to restore hydrological processes at the catchment scale, and this needs to





happen soon. Faced with this, continued clearing in these areas cannot be supported environmentally.

As a signatory to the National Strategy for the Conservation of Australia's Biological Diversity, Western Australia has an obligation to play its part in meeting the agreed national targets. The EPA is currently finalising a Position Statement addressing clearing in the wheatbelt (agricultural area), metropolitan area, and the rest of the State. The EPA's Position Statement will provide guidance at the proponent level to assist the State in meeting these obligations.

### Biodiversity

Biodiversity is a key issue for the State and one in which the EPA has an over-arching role to play. Other Government agencies and authorities with a role in the protection of biodiversity have management responsibilities for only those parts of the environment which fall within their area of specified responsibility. The Environmental Protection Act requires the EPA to consider and advise on protection of the environment over the whole State, regardless of land tenure and other legislation.

The EPA is planning a workshop on biodiversity with the focus of enabling the EPA to give practical effect to biodiversity as a factor in the environmental assessment process, in policy formulation and in the provision of general advice across the breadth of the EPA's functions. The workshop will assist in fostering a common understanding in the community of aspects of biodiversity which are important to the community as stakeholders in the assessment process.

### Social surroundings

The Environmental Protection Act provides for the inclusion of "social surroundings" in the

definition of the term "environment".

In practice "social surroundings" does not involve a full social impact assessment, but is restricted to the impacts of a proposal on aspects such as on Aboriginal culture and heritage, visual amenity and the activities of people not associated with but impacted by the proposal. In some instances, "social surroundings" as an environmental factor has included the impact of a project on the economic viability of existing operations - an example being the impact of the proposed Oakajee Port (assessed in September 1997) on the existing rock lobster industry in the immediate vicinity.

"Social surroundings" also includes environmental assets regarded by the community as having icon status. Increasingly, the EPA is being asked to give consideration to "social surroundings", some as a result of the Ministerial Appeals process. There are several examples, including:

- a) Section of the Fremantle Bypass road. This was initially afforded a level of assessment of "not assessed-public advice given" by the EPA. However there were several appeals to the Minister because of community interest in retaining the landscape of Clontarf Hill. The Minister determined the appeals and requested the EPA to consider its level of assessment to assess "more fully or more publicly" to take account of the impacts of the proposal on Clontarf Hill through the public review process.
- b) Fremantle Port Authority (FPA) - Koolyanobbing Iron Ore Loading Facility, Cockburn Sound. Initially, the EPA set the level of assessment for this proposal, adjacent to the existing FPA loading facility in Cockburn Sound, as "not assessed - public advice given". There were a number of

appeals to the Minister relating to visual impact and amenity. The Minister determined the appeals and requested the EPA to further consider its level of assessment to assess "more fully or more publicly" to take account of the visual impact and amenity aspects of the proposal.

- c) Murrin Murrin Nickel-Cobalt proposal near Laverton. Following an appeal by the Bibila-Langutjurra and Goolburthunoo Aboriginal people, the EPA gave increased consideration to the concerns of the Aboriginal communities in relation to the impact of the Murrin Murrin proposal. This has been reported elsewhere in this Report and has provided experience in relation to the Ord Stage 2 proposal.
- d) Ord Stage 2 proposal. The EPA is engaged in consultation with the Aboriginal people affected by the Ord Stage 2 proposal to ensure that they are able to participate in a relevant and meaningful manner in the EPA's assessment of the project, and that the potential impacts of the proposal on their culture and heritage are properly considered and assessed.

The EPA is currently preparing a Position Statement and Guidance Statement to provide pro-active assistance to proponents to enable them to provide appropriate documentation on the environmental factor of "social surroundings".

## MAJOR ENVIRONMENTAL ISSUES

### Dryland salinity

In its 1995-1996 Annual Report, the EPA drew attention to the issue of dryland salinity. The EPA regards salinity as the most serious environmental issue in Western Australia. The impact is not only

on the availability of agricultural land but also on the nature reserves and biodiversity in general in the wheatbelt area. In addition, the rising water table associated with salinity problems is likely to be a factor in increased flooding at times of high rainfall events.

The EPA commends the Government on the action taken to establish the State Salinity Council which has developed the Salinity Action Plan. The Council has also raised community awareness about the seriousness of the salinity problem. Salinisation should not be seen simply as a problem for those who live in the country; it needs to be tackled by the whole community through a combination of actions.

The action taken by Government, landcare groups and many farmers is a significant step forward, and the Action Plan being revised will provide a renewed focus. However, being aware that dryland salinity is the State's most serious environmental issue, the EPA encourages the Government to raise the profile further in the minds of the community and consider two approaches:

- a) The introduction of either legislation or a policy statement into Parliament which sets long term goals for tackling dryland salinity as well as establishing the broad infrastructure arrangements by which the goals will be given attention. Action on salinity needs a top-down and bottom-up approach, and a statement by Parliament about salinity would raise community awareness as well as reinforce the serious nature of the problem, and set broad directions for action.
- b) The establishment of a small salinity action implementation group, comprised of technical and policy people at a senior level, which has the responsibility to bring together

a number of highly motivated professional staff combining the expertise which currently resides within a number of government departments. The group would provide integrated professional advice on an array of technical, social and financial issues, and steer the actions necessary for implementation at the various levels which will be needed in the decades ahead. It would need Ministerial support at a very senior level.

This approach should not be taken as a criticism of the multi-departmental approach adopted to date. However, over time it may be found that the most efficient and effective way forward is to have an inter-disciplinary unit dedicated to thinking full time about salinity and its management.

### Greenhouse effect

Under the 1997 Kyoto Protocol, Australia has committed to reduce its greenhouse-gas emissions by 35 per cent from a calculated 'business as usual' increase of 43 per cent in the period from 1990 to 2010, to give a net increase of only eight per cent.

In Western Australia, there are a large number of major new energy projects planned for the next decade and a consequence of this development will be an increase in WA's greenhouse-gas emissions.

This will occur primarily from increased energy use by expanding industries and new industries, and the processing of energy in the form of natural gas for overseas use. Greenhouse-gas emissions in WA (excluding land clearing) have been reported as increasing 16 per cent from 1990 to 1995, as compared with an increase of nine per cent in Australia, over the period 1990 to 1996.

The Western Australian industries are mostly export orientated and this poses a dilemma in terms of greenhouse-gas emissions. Although a new Western

Australian liquified natural gas (LNG) proposal could result in an increased WA emission of CO<sub>2</sub>, it would also result in significant decreases in, say, Korea, due to the LNG being used there to replace coal. The EPA now has to deal with the fact that although Western Australia's emissions are likely to rise as downstream processing industries are developed (generating more greenhouse-gas), they could also contribute to a greater reduction globally. The question then is, should the EPA take account of an international net decrease in CO<sub>2</sub> emissions generated from WA resources being exported, despite extraction of those resources resulting in a significant net increase in the emission of greenhouse-gas in WA? This is particularly problematic as there are currently no international agreements in place to credit the decrease.

During the year, the EPA began to take account of international developments with respect to greenhouse-gas emission reduction initiatives. It has recognised State and national positions as outlined in the draft National Greenhouse Strategy.

Also, the EPA has prepared an interim *Guidance Statement for The Assessment of Environmental Factors: Minimising Greenhouse Gas Emissions* to assist in the assessment of new projects. This Guidance Statement recognises the need for Western Australian industry to compete internationally.

An example of the implementation of the interim Guidance in the assessment of new projects is demonstrated by the recent EPA assessment of the Murrin Murrin Nickel-Cobalt Project. The EPA assessment concluded that the proposal would be a significant contributor to Western Australia's greenhouse-gas emissions and therefore its environmental objectives were:

- to minimise greenhouse-gas emissions for the project and reduce emissions per unit product to as low as reasonably practicable; and
- to mitigate greenhouse-gas emissions in accordance with the Framework Convention on Climate Change 1992, and in accordance with established State and Commonwealth policies.

In the assessment of this particular project, the EPA concluded that having particular regard to:

- the application of new energy-efficient technology in the project;
- the comparative reductions in CO<sub>2</sub> emissions already achieved through “no regrets” measures; and
- the potential reductions through “beyond no regrets” measures;
- the project could be managed to meet the EPA’s environmental objective for greenhouse gases, provided the proponent continues to investigate and implement, as appropriate, both “no regrets” and “beyond no regrets” measures to further reduce CO<sub>2</sub> emissions throughout the life of the project as part of a Greenhouse-Gas Emissions Management Plan.

Although industrial development proposals form a large part of new proposals assessed by the EPA, it should be noted that industry, and in particular new industry, is not the major emitter of greenhouse-gas in Western Australia. For example, manufacturing is only nine per cent, petroleum refining only two per cent, and oil and gas refining four per cent. Electricity generation makes up 34 per cent, of which household electricity is 12 per cent. Other high producers of greenhouse-gas are agriculture (27 per cent) and transport (13 per cent).

### Perth's Bushplan

Perth’s Bushplan was released for public comment in November 1998 and represents a major coordinated conservation initiative by four statutory authorities (EPA, Western Australian Planning Commission, National Parks and Nature Conservation Authority, Water and Rivers Commission) and four government agencies (Department of Environmental Protection, Ministry for Planning, Department of Conservation and Land Management, Water and Rivers Commission).

It provides a blueprint for the protection of regionally significant native vegetation for the coastal plain portion of the Perth metropolitan area. The EPA’s special interest in Perth’s Bushplan resulted from the amalgamation of the Authority’s System 6 Update Program (which was reviewing conservation recommendations for the whole of the System 6 area and the Swan Coastal Plain portion of System 1) with a number of other programs being run by government agencies and authorities.

A total of 52,000 ha of remnant bushland was identified for protection. The final Bushplan report will update and replace the longstanding System 6 recommendations for this area.

The Government also established an independent Bushplan Reference Group, reporting directly to Ministers, to oversee the public consultation on the Plan. This group is chaired by Dr Libby Matiske, who is also a member of the EPA.

### Compliance with Forest Management Plans

In 1992, the EPA assessed a proposal by the Department of Conservation and Land Management (CALM) to amend the 1987 Forest Management Plans and Timber Strategy. This assessment resulted in the

approval of the amendment proposal (with environmental conditions) under the Environmental Protection Act. Subsequently the proposal, in the form of a Management Plan 1994-2003, was approved under the Conservation and Land Management Act.

A condition of the 1992 Ministerial Statement approving the amendments was that:

*“The proponent shall prepare ‘Progress and Compliance Reports’ to help verify the environmental performance of the project, in consultation with the Environmental Protection Authority. These shall include brief annual progress reports to the EPA and major public reports in 1997 and 2002.”*

The EPA examined the CALM 1997 public report and provided a report to the Minister for the Environment in November 1998. During the preparation of the report, the EPA was also requested to provide advice which may be of assistance to the Minister in relation to her consideration of the Regional Forest Agreement for Western Australia.

Accordingly, the November 1998 Report was written in two parts:

1. Advice in Relation to the Development of the Regional Forest Agreement in Western Australia; and
2. Progress Report on Environmental Performance and mid-term Report on Compliance: Forest Management Plans 1994-2003.

The EPA report drew attention to a number of issues in relation to the environmental conditions which needed to be addressed by CALM. Subsequently, discussions were held between the EPA and CALM with a view to establishing a mechanism by which the issues could be addressed. As a result of those discussions, there is now an agreed process by which the recommendations in the EPA





*From right to left: Libby Mattiske, Sally Robinson and Bernard Bowen and officers from Anaconda Nickel Ltd inspecting a trial excavation pit at Murrin Murrin.*

report in relation to compliance with environmental conditions are being given attention.

### Biological survey requirements

Historically, the majority of the major biological baseline data sets have been collected by government agencies. To a large extent this work is now being undertaken by botanists and zoologists in consulting companies and academic institutions, during the course of providing information required for the proponents' environmental assessment documents.

The EPA is concerned that, at times, insufficient attention is given to the appropriateness or relevant detail of the biological surveys which can lead to an environmental review document being inadequately assessed by the EPA and the Department of Environmental Protection.

The EPA recognises this as a major problem, especially now that understanding and protecting the State's biodiversity is high on the list of EPA priorities. The EPA is giving attention to the standards it requires for biological surveys and will shortly be releasing both a Position Statement and a Guidance Statement on the subject. The Statements will be made available for public comment prior to the EPA finalising the text. The development and establishment of minimum standards for different types of projects in various

sections of Western Australia should assist proponents and the public generally, and will also assist greatly the EPA in its assessment process.

### Maximising environmental benefits from project EIA

In addition to aiming to provide a pro-active approach to selecting environmentally appropriate sites for developments (see "Special Areas" initiative) the EPA is also making progress in trying to ensure that there is an overall environmental gain from individual proposals, if implemented. At times, a proponent may not be able to meet the EPA's environmental objective for all environmental factors, but there may be an opportunity for a net environmental benefit if the government is able to address issues of concern which are beyond the scope of a proponent.

The Jervoise Bay proposal is an example where the EPA found that the proponent was not able to achieve all the environmental objectives within the scope of the project, but that the government could assist by making input to ensuring an overall environmental gain, either by addressing the diffuse source pollution entering Cockburn Sound and establishing a management structure to do so, or by other actions, including establishing terrestrial or marine reserves or National Parks elsewhere.

A second, but different, example is that of the Busselton wastewater treatment plant upgrade. Here the WA Water Corporation is investing funds to achieve a reduction in off-site nutrients in addition to the introduction of the new wastewater treatment plant. This is to be achieved by establishment of a resourcing program to address the 95% of nutrients entering Geographe Bay from diffuse sources in the hinterland catchment.

This approach has the potential to achieve greater overall environmental gains in an environmental cost/benefit sense, if implemented. Clearly, the establishment of an effective management structure which will give attention to reducing the nutrient inputs from diffuse sources to Cockburn Sound and the contribution by the Water Corporation of money, technology and expertise to reduce diffuse catchment nutrient inputs to Geographe Bay can lead to environmental gains.

### Special areas

The Environmental Impact Assessment (EIA) process has often provided a means by which areas of the State with high environmental values have been identified. An example is the identification of the Bungle Bungle (Purnululu) area as having high environmental and cultural values, making it worthy of reservation as a National Park. At other times, the level of investigation associated with preparing environmental review documentation identifies environmental values which, although not necessarily requiring formal reservation, are nonetheless worthy of protection, perhaps through very careful siting and environmental management of a proposal.

To assist proponents, the EPA took a pro-active approach to identifying potentially environmentally sensitive or "special areas" and to this end



held a series of workshops of specialists to take advantage of the corporate knowledge within the State with a view to preparing an EPA Position Statement.

Four workshops were held with experts covering a wide range of expertise. Although the opportunity was available for people to identify areas on maps, all workshops preferred to identify important environmental assets in a descriptive manner. Examples include:

- all remnant vegetation in the wheatbelt (now under threat from regional dryland salinity);
- inflow areas of natural salt lake systems (repositories of lake biodiversity);
- relict Gondwanan floras and faunas, and areas likely to contain them;
- important geological sites (eg type areas for description of stratigraphy, fossil locations, special mineralised areas);
- source areas for botanical "type specimens"; and
- rainforests of the Kimberley.

The material from the workshops is being compiled and the EPA will consider the most useful way to present the information to improve awareness of proponents and the community on the location of important off-reserve environmental assets.

The EPA recognises that some proposals, in particular mining proposals, cannot always be located on alternative sites. The initiative is aimed at proposals which can be located on a range of sites. It is not intended to identify or suggest areas that should be formally reserved, but to identify areas that, where possible, proponents may wish to avoid.

#### Projects impacting upon National Parks

The EPA has considered proposals which have the potential to impact on the Millstream-



From left: Colin Murray, Sally Robinson, Bernard Bowen, Beverly Walker, Libby Mattiske, Graeme French, Roy Green and Bryan Jenkins in Kununurra for a site visit of the Ord Stage 2 project area.

Chichester National Park, Kalbarri National Park and D'Entrecasteaux National Park.

The EPA is conscious that National Parks have been provided a high degree of security to protect the purpose for which they have been established. Projects which have the potential to impact upon the national park values have to be given special consideration by the proponent as well as by the EPA.

The proposal described in Bulletin 924 West Angelas Iron Ore Project - East Pilbara, Ashburton, Roebourne, released in January 1999, outlines the development of an iron ore deposit that included the establishment of a railway infrastructure through the Millstream-Chichester National Park. The EPA provided the following advice to the Minister on this matter:

*"The over-riding environmental issue which has arisen during the assessment of this proposal is the proposed construction of a new railway line, particularly where the proposed route crosses national parks or areas of high conservation value ..."* and

*"... the construction of a new rail line through the Millstream-Chichester National Park is inconsistent with the EPA's environmental objectives which are inherent in the designation of national parks and A-class conservation reserves."*

Accordingly, the EPA recommended that the Minister consider the EPA's strong preference for use of the existing Hamersley Iron railway line or for location of the railway outside the National Park. However, the EPA recognised the Government may consider broader issues in relation to the route of the railway line. Accordingly, the EPA provided alternative conditions, depending upon the final decision of Government.

During the year, changes were made to the boundaries of the Kalbarri and D'Entrecasteaux National Parks to remove areas either permanently or temporarily to allow activities to be undertaken which would not be in accord with the purposes of the National Park.

An area was permanently excised from the Kalbarri National Park and the EPA currently has before it a proposal to establish an airport in the excised area to service the township of Kalbarri.

The areas excised from the D'Entrecasteaux National Park are to provide for the possibility of mining mineral sands. The areas of interest were classified as C Class Reserves for the purpose of conservation and resource management, on the understanding that they would be incorporated back into the D'Entrecasteaux National Park after mining and rehabilitation had been undertaken, along with the inclusion of a parcel of private property.

When assessing proposals involving National Parks, the EPA not only considers the impacts on biodiversity and the ecosystems generally, but also the

In October 1998 a discussion paper was released entitled *The Future of Perth's Coastal Waters: Have Your Say*. This discussion paper addressed environmental

management was the announcement by CSIRO that the Division of Marine Research had allocated funding of \$3.5 million over the next four years to North West Shelf environmental research.

With the State Government having previously allocated \$2.7 million over four years to undertake a marine environmental management study of the region, the CSIRO funding has provided an opportunity for a much larger joint cooperative study involving the State, CSIRO and the Australian Institute of Marine Sciences (AIMS).

The establishment of a cooperative North West Shelf study was agreed to by the three participants in June 1999. Six major projects have been identified that will deliver information and state-of-the-art decision support capability for sustainable management of all activities on the North West Shelf. In addition, a formal agreement between the Department of Environmental Protection (DEP) and the Australian Petroleum Production and Exploration Association (APPEA) was signed giving the study access to the petroleum industry's very substantial data sets on the North West Shelf.

The EPA welcomes the initiative undertaken by the State Government in recognising the need for the environmental management study and providing the basis for collaboration with CSIRO and AIMS. It is important that Western Australia encourages these two national research organisations to focus their attention on Western Australia to the maximum extent possible.

### Shark Bay

Shark Bay has been designated a World Heritage Area, and is the only such Area in Western Australia. The administrative arrangements for the World Heritage Property include a

***"The over-riding environmental issue which has arisen during the assessment of this proposal is the proposed construction of a new railway line, particularly where the proposed route crosses national parks or areas of high conservation value ..." and***

***"... the construction of a new rail line through the Millstream-Chichester National Park is inconsistent with the EPA's environmental objectives which are inherent in the designation of national parks and A-class conservation reserves."***

need to give attention to the specific attributes of the park as well as the public concern that a National Park may be used for a purpose other than that for which it was set aside. This is important, irrespective of any change in purpose for an area which originally was within the boundaries of a National Park.

### Perth's Coastal Waters Studies and on-going consultative process

Two major studies have been undertaken in the Perth coastal waters. These are the Southern Metropolitan Coastal Waters Study and the Perth Coastal Waters Study. The results of these studies will form the basis of a program to protect the environmental values of the area through the statutory process of an Environmental Protection Policy. However, it is necessary to give particular attention to the consultative process which needs to be undertaken before arriving at such a Policy for submission to Government. The key elements which need to be considered are the environmental values and quality objectives to be adopted, the areas to which the objectives should apply, and the criteria by which environmental quality will be judged.

values, environmental quality objectives and draft environmental management areas. CSIRO was contracted to undertake the community consultation and has now provided its report to the EPA, as well as making it available to the public.

The discussion paper and community consultation was an important step in the preparation by the EPA of a document setting down its environmental values and quality objectives to be used in the next stage. Following release of the EPA document, work will commence on the development of environmental quality criteria in consultation with the public generally and stakeholders.

The EPA wants to ensure that when the protection program for Perth's coastal waters is presented to Government for consideration as an Environmental Protection Policy, the technical matters will have already been fully debated through a public consultative process.

### North West Shelf Marine Environmental Management Study

An important development during the year in terms of marine





Community Consultative Committee and a Scientific Advisory Committee. The EPA has had discussions with the Chairs of both those Committees with a view to ensuring that the values of the World Heritage Property are given full attention whenever proposals which could impact on the Property come before the EPA. The primary management objective for the Property is the conservation, protection and preservation of the Shark Bay World Heritage values and it is necessary for proponents to demonstrate that proposals do not compromise or conflict with that objective.

The EPA is currently developing a Guidance Statement to draw these matters to the attention of proponents and Decision-Making Authorities, and to assure the public that the values of the World Heritage Property will be accorded full recognition by the EPA in its assessment process.

A matter of special importance to the Shark Bay area is advice currently being prepared by the EPA, at the request of the Minister for the Environment, on the impact on the World Heritage Property if at-sea petroleum activities were to be permitted. The Report will be in two parts: the first a summary of the natural World Heritage values of the area; and the second will examine the potential impacts of the various petroleum activities from exploration to production and transport of the product. The Report will be available for public comment before being finalised by the EPA.

### Peel-Harvey Management Strategy - assessment of progress and compliance

The Environmental Conditions set by the Minister for the Environment on the Peel-Harvey Estuary System (Dawesville Channel) Management Strategy require the EPA to assess progress and compliance by the proponents in implementing the management strategy.

There are three co-proponents: the Department of Transport, the Water and Rivers Commission and Agriculture WA. The conditions were set in a manner which made the co-proponents equally responsible for implementation of the whole strategy. This was to ensure that all the required management occurred, and to prevent the proponent agencies from taking responsibility each for their core area alone (eg Agriculture WA for catchment management).

The proponents have prepared a public progress and compliance report.

To assist in its assessment of compliance, the EPA has established an Expert Review Group which includes the key experts who developed the management strategy. The group's members are:

**Mr Bernard Bowen**  
(Chairman)

**Mr Geoff Bott**  
(Department of Environmental Protection adviser)

**Mr David Deeley**  
(Consultant, water quality and estuary aspects)

**Dr Robert Humphries**  
(Water Corporation, water quality and systems ecology)

**Ms Sally Robinson**  
(Legal and administrative framework for management)

**Dr John Yeates**  
(Consultant, catchment management)

The key compliance elements are:

- performance of the Dawesville Channel compared with predictions modelled and management targets;
- development of and performance of the catchment management plan, compared with the catchment management targets set; and
- the usefulness of the legal and administrative framework put

in place to underpin and support the strategy.

In addition, the Peel-Harvey Expert Review Group will be reviewing the appropriateness of the management targets set, the management package, and the framework for management. The group will report to the EPA and recommend changes to the targets or the implementation framework if required.

## ASSESSMENT OF MAJOR PROJECTS

The EPA assessed a diverse range of proposals covering resources development, industrial processing, and land use planning and development.

A total of 816 proposals were referred to the EPA for consideration. Of these, the EPA determined that 57 proposals required detailed formal assessment, reporting and recommendations to the Minister for the Environment. A further 327 required informal review and specific advice to the proponents.

During the year, 45 formal assessments were completed, including six which provided strategic advice under section 16(e) of the Environmental Protection Act. Some of the more important assessments are discussed below. This is preceded by a consideration of the importance of context in the assessment process. At the conclusion of the section, information is provided about the assessment of water allocation and of planning schemes. For a complete list of assessments completed by the EPA, see Appendices 2 and 3.

### The importance of context in Environmental Impact Assessment

An important starting point for the EPA in carrying out environmental impact assessment is the consideration of the type of proposal and the environmental context of the proposed location.

These considerations are being increasingly included in the Guidelines issued for the formal assessment of projects.

Context may include aspects such as:

- current land uses on the site and in the general region;
- land tenure;
- the environmental values of the site and nearby areas;
- community expectations and aspirations about the uses to which special areas, including National Parks and Nature Reserves, might be put and how these uses may affect other values;
- biodiversity on-site and in a regional context;
- the environmental “balance sheet” in regard to potential environmental gains and environmental losses from the proposal, both at the local scale and at the State scale; and
- the balance between an individual’s perception of their rights to develop and the collective interests of the community in relation to wise use of environmental resources and intergenerational equity.

There are many aspects to the EPA forming its overall judgement of environmental acceptability, including consideration of the overall environmental costs and benefits, and who bears those costs (community, proponent or a reasonable balance). An ideal development could be regarded as one which demonstrates good environmental outcomes and can be regarded by the community as a socially justifiable development, in terms of overall environmental costs and benefits. Such a project would achieve a sensible balance between environmental costs and benefits and would not put an unreasonable burden on the community to bear the environmental costs, either in this generation or in subsequent ones.

The judgement made by the EPA relates to whether or not the EPA’s environmental objectives can be met. It is the proponent’s responsibility to demonstrate this, and they have a range of possible mechanisms for meeting the objectives, including appropriate site selection, accurate identification of all the environmental issues at the preferred site, prevention or mitigation of impacts through design and other planning, as well as showing that the environmental impacts can be managed to meet the objectives.

Increasingly the EPA is confronted by projects which raise higher order questions relating to matters of context. Some examples include:

- The Ord Stage 2 irrigation development. The task before the proponent is to justify the removal of 35,000 ha of native vegetation in the context of the agreed targets set in the National Strategy for the Conservation of Australia’s Biological Diversity, to which all the States and Territories are signatories. Clearing at any scale can have impacts on biodiversity and is becoming increasingly difficult to justify on environmental grounds. The EPA will need to consider whether the proponent’s proposals for environmental management will afford biodiversity its proper consideration, if such large scale clearing is to stand scrutiny when compared with smaller scale clearing from a farmer in the wheatbelt area.
- Proposals impacting on National Parks and World Heritage Areas. National Parks and World Heritage Areas are created because of the particular environmental and cultural values that they contain. However, in creating such areas, they also assume another value in the eyes of the community, which is the additional ‘specialness’ they have because of being made

into a National Park or World Heritage Area. The EPA has to give proper consideration to the expectations of the community in regard to the environmental values of such areas as well as to the community’s expectations for management of these areas. It has been suggested that in carrying out its assessments the EPA should disregard the fact that an area has been afforded National Park (or similar status) and simply report on the environmental effects on the land and other environmental resources, as though they were not National Parks. The EPA does not share this view.

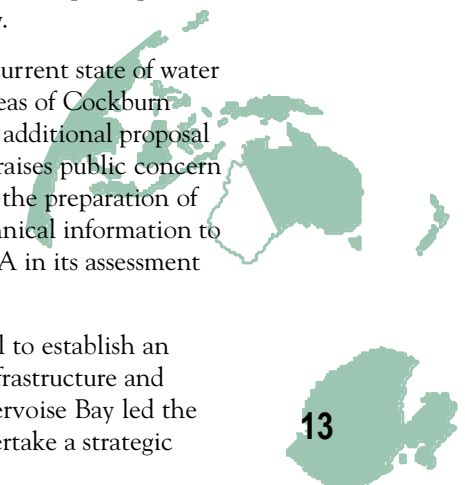
### Developments in Cockburn Sound

Proposals which impact upon Cockburn Sound are particularly challenging for the EPA. Cockburn Sound has for some decades been a site for industrial development, but it is also an area of considerable importance to the community for a broad range of recreation activities, including fishing and boating. It is perhaps the State’s most significant multiple-use area.

Past industrial activities have led to a major reduction in areas of seagrass, and have changed the water quality to the extent that some areas of Cockburn Sound now have a high potential for algal blooms. Industry has played its part in reducing wastes flowing into the Sound, but nevertheless there is still a diffuse source of nutrients which impact upon the water quality.

Noting the current state of water quality in areas of Cockburn Sound, each additional proposal for the area raises public concern and requires the preparation of detailed technical information to assist the EPA in its assessment process.

The proposal to establish an industrial infrastructure and harbour at Jervoise Bay led the EPA to undertake a strategic



assessment of Cockburn Sound, so that each proposal could be considered in the context of other proposals being contemplated. The strategic assessment was undertaken in conjunction with the assessment of the Jervoise Bay proposal.

The preparation of the strategic environmental assessment report brought together scientists from around Australia to provide their best estimate of the impact on the Cockburn Sound ecosystem under a number of development scenarios. The results of that assessment were provided in an EPA report to the Minister.

### Industrial infrastructure and harbour development, Jervoise Bay (southern harbour)

The EPA assessed and reported on the proposal by the Department of Commerce and Trade to build a new harbour and marine-based industrial estate at Jervoise Bay, in the northern portion of Cockburn Sound.

As a consequence of concerns raised by the EPA and in submissions received, the original proposal was modified in two major ways. Firstly, the size of the harbour was reduced and an island offshore breakwater was included to improve water circulation. Secondly, a portion of the Fremantle-Rockingham Controlled Access Highway alignment was routed along Russell Road rather than through Beeliar Regional Park as originally proposed.

Following an assessment of the modified proposal, the EPA formed the following major environmental conclusions:

- Although the harbour re-design improved the harbour water, predicted water quality impacts resulting from the marine structures indicated that the harbour would reduce water quality in Jervoise Bay (to the north) and also to the south. Consequently existing poor water quality conditions within

Jervoise Bay would be worsened by the harbour, with the likelihood of increased frequency of algal blooms.

- Construction of the harbour would cause the loss of 2.1 hectares of seagrass, 17.4 hectares of low relief reef and 200 hectares of mainly sandy seabed previously covered by seagrass. Given the significant historical loss of seagrass in Cockburn Sound, any further loss should be avoided.
- Approximately one third of A Class Reserve 24309, which is part of the Beeliar Regional Park, is proposed to be developed as a part of the harbour. This reserve is locally and regionally significant in terms of its vegetation and landforms, such as coastal cliffs, and it is unlikely that this complex could be replaced by reservation of another area of land.
- Removal of the Controlled Access Highway south of Russell Road from Beeliar Regional Park would be a significant environmental improvement.

The assessment of the Jervoise Bay proposal included some important statements about the environmental assessment process. The report included a section which reminded readers that the role of the EPA was to provide the best environmental advice available but it was the role of Government to make decisions. In the case of the Jervoise Bay proposal, the EPA advice was that within the context of the current water quality of Cockburn Sound, the proposal was unable to be managed to meet the EPA objective for this factor. The Report went on to say that the EPA recognised that the Government may decide that the project should be implemented and advised that if this were to be so, such implementation should be accompanied by a broad-based environmental response which included a commitment to an

ongoing program of research and investigation aimed at providing information on which to base environmental management decisions as well as the establishment of a management structure to introduce measures to ameliorate the environmental impacts. In providing this advice, the EPA recognised that at times a proponent may not be able to achieve environmental initiatives which lead to the overall environmental acceptability of a project but that Government may be in a position to introduce measures which provide environmental gains in areas outside the control of the proponent.

### Mineral sands mining at Jangardup

In April 1999, the EPA reported on a proposal by Cable Sands (WA) Pty Ltd to extend its current Jangardup heavy minerals mining operation, located approximately 47 km south of Nannup, into a small part of C Class Reserve 44705, Nelson Location 13471 which is adjacent to D'Entrecasteaux National Park. The EPA concluded that the proposal could be managed to meet the EPA's objectives for vegetation communities, rehabilitation and water quality.

The Jangardup extension involves the maximum clearing of four hectares and the EPA concluded that the area to be disturbed represented an opportunity for Cable Sands to demonstrate rehabilitation of native vegetation and to restore the conservation values of the area.

The EPA, in its consideration of the proposal, noted that Cable Sands made a commitment to prepare and implement a Mining and Restoration Plan for the extension area which would address clearing, landform restoration, dieback management, vegetation re-establishment, weed management, completion criteria and monitoring of rehabilitation success.





With regard to water quality and acid sulfate soils, the EPA considered information that indicated the Jangardup orebody was geologically different from the Beenup orebody, where the management of acid sulfate soils was known to be of considerable importance. The EPA also noted that Cable Sands had been mining in this orebody for some time and that the results of water monitoring provided further support that acid sulfate soils were, perhaps, unlikely to be a problem in the Jangardup extension.

The EPA is assessing another proposal by Cable Sands to mine mineral sands at its Jandgardup south deposit. This proposal is located 54 km south of Nannup, close to Lake Jasper, and involves the disturbance of 300 hectares of the C Class Reserve set aside for the purpose of conservation and resource management, and 100 hectares of freehold land. The proposal is subject to an Environmental Review and Management Program level of assessment.

### Proposed gypsum mining at Red Lake, Shire of Nungarin

In March 1999, the EPA recommended against implementing a proposal to strip-mine gypsum dunes on the margins of Red Lake. The dunes were located in a 10 hectare 'window' of vacant Crown Land in the Lake Champion Nature Reserve, which is about 46 km north of Merredin in the wheatbelt.

The proposal was put forward as a project that could meet the strong demand for gypsum, which is used in the wheatbelt for rehabilitating degraded Moort soils (hard-setting grey clays). Research by Agriculture Western Australia had shown the beneficial effects of gypsum applications for soils that were water-logged and difficult to cultivate due to clayey consistency. These types of soils usually resulted from mechanical

disturbance, such as ploughing and stock puddling.

Gypsum dunes are commonly found on the margins of salt lakes in the wheatbelt, and some of them have been set aside for conservation. Although gypsum is present on land already allocated for agriculture, access to this resource is problematic due to the private ownership of the land.

The EPA recognised the importance of gypsum for agriculture. However, after examining the proposal in detail, the EPA recommended against its implementation because:

- the vegetation found in reserves surrounding salt lakes is very significant, both due to the unusual nature of plant communities found on the gypsum soils and also because less than 10 per cent of uncleared or unmodified vegetation in the surrounding shire of Nungarin is protected on publicly owned land. Furthermore, the EPA has not been provided with evidence that vegetation can be satisfactorily rehabilitated after strip mining of gypsum dunes;
- due to the extensive clearing in the wheatbelt, any further clearing represents an addition to the already unacceptable cumulative impacts of clearing on the biological diversity in the wheatbelt; and
- due to extensive clearing in the greater region and the consequent loss of natural values, the environs of Red Lake represent considerable heritage value which would be devalued by strip mining 600 metres of dunes from the foreshore of Red Lake.

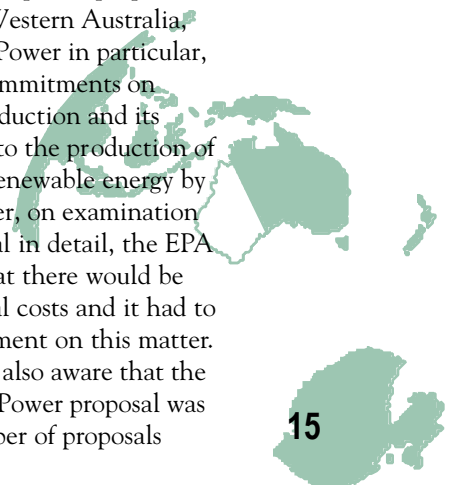
### Derby Tidal Power Project

In its 1997/98 Annual Report, the EPA described a proposal to construct a tidal power station across the two arms of Doctors Creek on the tidal flats near Derby. The proposal attracted

significant public interest, noting that the proposal, if approved, would be the first tidal power project in Australia, and only the third in the world. The proposal would also provide renewable energy. The EPA is supportive of innovative renewable energy projects which would make a substantial contribution to greenhouse gas savings, and may also have benefits in terms of technology transfer opportunities.

Unfortunately, the proposal at Doctors Creek was found to have some environmental concerns that led the EPA, after a great deal of thought, examination and discussion, to recommend to the Minister that it should not be implemented. The concerns about the project were associated with the regeneration response of mangroves and associated ecosystems, as well as the management of sedimentation. The project would severely impact upon approximately 1,500 hectares of mangroves, but would create up to 2,400 hectares of potential mangrove habitat. Whether or not mangrove regeneration would occur is unknown. In addition, the EPA was aware that Doctors Creek had been identified as a site of scientific importance resulting from geomorphological studies undertaken by a number of scientists.

The tidal power project was a particularly difficult assessment as the EPA recognised that experimentation in renewable energy carried a value in its own right. The tidal power proposal would assist Western Australia, and Western Power in particular, in meeting commitments on greenhouse reduction and its commitment to the production of two percent renewable energy by 2000. However, on examination of the proposal in detail, the EPA recognised that there would be environmental costs and it had to make a judgement on this matter. The EPA was also aware that the Derby Hydro Power proposal was one of a number of proposals



being considered by the Government for the provision of power to the West Kimberley. On balance, the EPA considered that some of the other potential power supply options would be more acceptable from an environmental impact perspective.

### Murrin Murrin Nickel-Cobalt Project Stage 2 expansion

Anaconda Nickel Limited operates a large nickel-cobalt mining and processing project 60 km east of Leonora. In 1998, Anaconda referred to the EPA a proposal to increase the processing and production of the approved Murrin Murrin Nickel-Cobalt Project by approximately 250 per cent. This proposal included additions to the mining areas, process water borefields, and processing facilities.

The Stage 2 proposal was assessed by the EPA at the level of a Public Environmental Review, which involved a public review period of eight weeks. The review also included a site visit by the EPA to hear the concerns of the local Aboriginal communities at Laverton, Leonora and Mt Margaret regarding the project and its proposed expansion.

The Murrin Murrin project is a large scale operation, spread over a distance of approximately 150 km, and will affect up to approximately 120 km<sup>2</sup> (12,000 hectares) of land over the life of the project.

The two most important environmental factors considered by the EPA were:

- groundwater - effects of groundwater abstraction on other beneficial uses; and
- community liaison - the environmental concerns of local Aboriginal communities.

The EPA's assessment resulted in a recommendation to the Minister that the proposal was environmentally acceptable.

One of the most valuable aspects of the assessment was the discussions held by the EPA with the Aboriginal Communities of the area. This led to an invitation to the Chairman and the Deputy Chairman to visit the nearby Mt Margaret community to further discuss environmental matters of importance with both Anaconda Nickel and the Aboriginal people, including the importance of the baptismal pool in Cement Creek.

### Busselton Wastewater Treatment Plant (WWTP) expansion

The Water Corporation will be upgrading its existing Wastewater Treatment Plant (WWTP) at Busselton to deal with increasing volumes of human effluent. The essential element of the project is that the Water Corporation will treat increasing amounts of sewage effluent as the population of the Busselton area increases and as septic systems currently in use are replaced progressively by infill sewerage.

The project will be in two stages, and will result in there being a discharge of tertiary treated wastewater to the Vasse Agricultural Drainage Network and then to Geographe Bay on a year round basis rather than only in winter as is currently the case. The implementation of the project would result in an overall decrease in phosphorus loads for both Stages 1 and 2 and Stage 1 of the proposal would also result in a decrease in nitrogen load to the Vasse Agricultural Drainage Network. Stage 2 would discharge about the same nitrogen load to the environment as the current WWTP.

The Water Corporation will be monitoring the water quality close to the discharge point in Geographe Bay, and if the water quality objectives are not being met as a result of the WWTP activity, a range of other mechanisms will be considered so as to further decrease the discharge of nutrients. The EPA is aware that most of the nutrients

entering Geographe Bay (about 95 per cent) is from a range of diffuse sources in the catchment area.

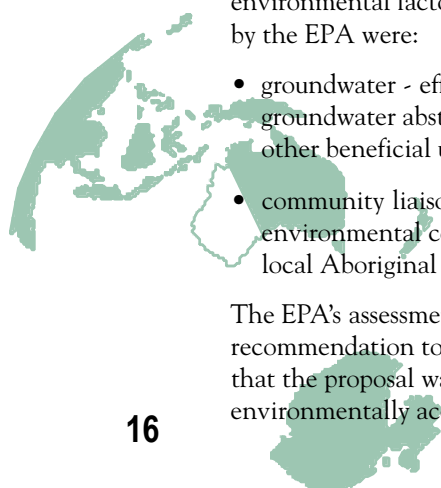
The EPA welcomes a decision by the Water Corporation to expend funds on an Environmental Improvement Initiative aimed at reducing nutrient inputs to Geographe Bay from the diffuse sources, principally agricultural. This initiative recognises that the expenditure of some funds additional to the cost of the WWTP has the potential to lead to environmental improvement in relation to the diffuse source nutrient levels reaching Geographe Bay.

### Ord River Irrigation Area Stage 2 Kununurra

The Ord River Irrigation Area is located on the Weaber, Keep and Knox Creek Plains that straddle the Western Australian and Northern Territory border north of Kununurra. Following a call for expressions of interest by the Governments of Western Australia and the Northern Territory for development of the Ord Irrigation Area Stage 2 (M2 Channel Supply Area), the EPA received a referral from Wesfarmers Sugar Co Pty Ltd/ Marubeni Corporation and the Water Corporation of Western Australia as co-proponents. The proposal includes the construction of about 400 km of water supply channels and drains to supply irrigation water to about 35,000 ha of land, mostly for sugarcane farms.

The Western Australian and Northern Territory Governments have agreed that the proposal should be jointly assessed, but co-ordinated by the EPA. It has also been agreed that the assessment should require environmental documents at the level of an Environmental Review and Management Program (ERMP) in Western Australia and Environment Impact Statement (EIS) in the Northern Territory.

Draft guidelines for the ERMP/EIS were subject to public



comment during April 1999, in accordance with both the Western Australian and Northern Territory administrative procedures, and final guidelines have now been produced. One of the most important environmental aspects is the conservation of biodiversity in relation to the proposed clearing of 35,000 ha of vegetation. The guidelines provide specific reference to biodiversity and require it to be addressed in the environmental review document. In addition, the EPA has had discussions with the proponent to provide further information about the EPA's expectations in relation to its assessment of biodiversity. Another important matter in the EPA assessment will be the impact of the proposal on the social and cultural heritage values of the Aboriginal people.

### Water allocation

The EPA is consistently involved in the assessment of water allocation, either at the strategic or the proposal level.

A three-phase allocation assessment approach is being used by the EPA in co-operation with the Water and Rivers Commission (WRC) which applies both to surface water and groundwater.

#### ***Phase 1 - Regional water allocation plan or water supply strategy phase***

Phase 1 covers preparation by the WRC of regional water allocation plans or strategic water supply strategies. These plans or strategies are broad and may embrace more than one water resource system and are prepared following an extensive community consultation process which includes a strategic review of environmental issues. The EPA usually provides advice under Section 16(e) of the Environmental Protection Act.

#### ***Phase 2 - Subregional/water resource system allocation plan or resource investigation phase***

This phase focuses on a particular water resource system (in whole or in part) and determines the limits for potential water resource development that would enable ecologically sustainable use whilst ensuring ongoing protection of water-dependent and other ecosystems.

At this stage the EPA may:

- formally assess the environmental water requirements and provisions being proposed to protect water-dependent ecosystems, in accordance with EPA environmental values and objectives. Conditions may then be set by the Minister for the Environment which would legally bind the WRC in the subsequent issuing of water allocation licences. Where environmental water provisions for the resource are consistent with EPA environmental values and objectives, the allocation of water available to consumptive uses may be considered to be sustainable; or
- provide strategic advice pursuant to Section 16(e) of the Act on the environmental values and environmental factors arising out of any source development configurations proposed in allocation plans, and identify matters requiring more detailed consideration in project planning (Phase 3).

#### ***Phase 3 - Water resource development or water supply project planning***

Water supply project planning involves preparation of specific purpose plans to develop a particular resource (whether a surface or a groundwater resource), typically six to 10 years ahead of expected water needs. A proponent for development of a source (the service provider or some other water user) develops a detailed source development proposal in accordance with a subregional allocation plan. The

proposal is referred to the EPA for possible assessment under Section 38 of the Environmental Protection Act.

If a formal assessment is required by the EPA, an environmental review is prepared by the proponent and the EPA conducts its assessment in accordance with its procedures for environmental impact assessment under Part IV of the Act.

For some projects, particularly large ones, there may be a need for additional, more detailed strategic environmental guidance from the EPA before referral of the proposal under Section 38.

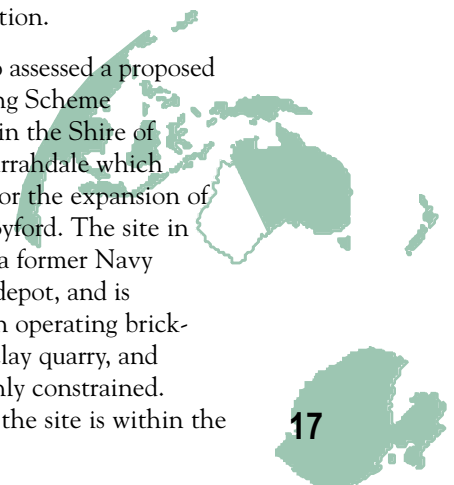
### Planning Schemes

Changes to planning legislation in 1996 meant that under Section 48A of the Environmental Protection Act, the EPA was required to assess proposed statutory regional and town planning schemes and amendments to these schemes.

The EPA completed assessments of six statutory planning schemes during the year, the main assessment being the Metropolitan Region Scheme Amendment for the re-development of the Forrestfield Marshalling Yards. The key issues for the assessment were:

- protection of a possible habitat of the, Western Swamp, or Short Necked, Tortoise;
- protection of wetlands, notably, Munday Swamp; and
- soil and groundwater contamination.

The EPA also assessed a proposed Town Planning Scheme Amendment in the Shire of Serpentine-Jarrahdale which would allow for the expansion of the town of Byford. The site in question was a former Navy ammunition depot, and is adjacent to an operating brick-works and a clay quarry, and therefore highly constrained. Furthermore, the site is within the





Peel-Harvey Estuary catchment and is adjacent to some regionally significant vegetation.

## INDUSTRIAL ESTATES

The EPA welcomes the opportunity to provide strategic advice to assist government and industry plan for growth of industrial projects but at the same time take into account the requirements of environmental protection.

### Kemerton

The report 'Industry 2030 - Greater Bunbury Industrial Land and Port Access Planning' was prepared by the Western Australian Planning Commission to ensure that there were well-located and planned industrial estates and transport routes in Bunbury. The EPA provided advice on the key environmental issues in August 1998. They were:

- protection of regionally significant vegetation;
- protection of important wetlands, including Mialla Lagoon;
- provision of adequate buffer area to protect existing and future residents from gaseous emissions, noise, dust and risk; and
- drainage management.

The EPA found that while most environmental issues were adequately dealt with, two issues required further work. These were:

- determining the extent of regionally significant vegetation in the Kemerton area; and
- a comprehensive water management plan to ensure that significant wetlands and watercourses adjacent to the proposed industrial core are adequately protected.

This additional work is in progress with a view to the EPA finalising

its advice to the Minister before the end of 1999.

### Boodarie Industrial Estate, near Port Hedland

The EPA provided strategic environmental advice before industrial projects were considered for this area. Use of the site has now commenced with the completion of the BHP hot briquetted iron plant.

### Oakajee Industrial Estate, near Geraldton

Again, the EPA provided strategic advice. Two projects are planned for the area, but have not progressed to date. They are:

- a direct reduced iron/hot briquetted iron plant by Mt Gibson Iron Limited; and
- a steel plant by Kingstream Steel Limited.

### Maitland Industrial Estate, near Karratha

This Estate has been assessed by the EPA, but currently there are no plans for projects to be established there. The EPA recognises that industry would prefer to be on Burrup Peninsula which is closer to the ports. However, the EPA looks forward to the time when the Maitland Estate becomes an attractive alternative to the Burrup.

## POLICY DEVELOPMENT

The EPA is moving from a mostly reactive mode, treating each proposal and environmental problem on its merits, to a more proactive mode. The transition is given effect primarily through the publication of Position and Guidance Statements. The Authority is mindful of two key aspects of this transition. Firstly, it increases certainty at the expense of flexibility. Secondly, it is a response to the considerable

amount of feedback the EPA receives from stakeholders about how it conducts its operations. This includes the outcome of the 1992 statutory review of the Environmental Protection Act 1986.

The EPA believes that, with the experience and maturity reached after some twenty-seven years of operations, the accumulated wisdom and policy directions established can be usefully published for the benefit of proponents, decision-makers, peak interest groups and other stakeholders.

As well as Position and Guidance Statements, the EPA has embarked upon its most intensive work load with respect to Environmental Protection Policies. Policies are statutory and enforceable instruments under the Environmental Protection Act 1986 and must proceed through an orderly, public process for their formulation and approval, and then be reviewed after seven years of operation.

### Environmental Protection Policies

The Authority is developing State-wide EPPs for groundwater protection, marine waters and air quality. As well, it has foreshadowed the possibility of a State-wide rivers and estuaries EPP sometime in the future. However, legal drafting difficulties have meant that progress on finalising these EPPs has slowed with legislative amendments necessary to enable the Authority to fulfil its objectives.

While the process of amendments has commenced it may be some time before the EPPs can be finalised. They will then provide a comprehensive and flexible coverage of the key environmental resources of the State and allow programs for protection to be implemented responsively and responsibly.

Progress on the remaining EPP in progress, the Environmental Protection (Western Swamp

Tortoise) Policy has also been slow. Potentially affected landowners in the catchments of the two last known habitats of the very rare Western Swamp, or Short Necked, Tortoise have expressed concerns about the implications of an EPP for their property use and values. The EPA has been working with the Shire of Swan to prepare complementary measures. The EPP will establish the environmental values to be protected and land-use controls to protect those values being managed through a policy statement under the Shire's Town Planning Scheme. The EPA is hopeful that this long standing, unfinished EPP can be finalised in 1999-2000.

In accordance with the requirement for statutory reviews of EPPs in place, a number of EPP reviews have been initiated by the EPA in 1998-99. The Authority is required to submit a new draft EPP to the Environment Minister within seven years of approval of the original EPP. Table 1 summarises these requirements.

The review of EPPs must follow the same open and transparent process as the original EPP, including full public consultation.

During 1998-99 the EPA completed a review of the Environmental Protection (Kwinana) (Atmosphere) Policy 1992 in which it recommended that the existing policy be continued unchanged. The key issues raised in public and agency submissions during the review process will be addressed as part of the State-wide air quality EPP (which will also incorporate the requirements to meet Western Australia's obligations under the National Environment Protection Measure for air). Where issues of allowable land uses in industry - urban separation distances were involved, these have been referred to the Ministry for Planning as part of its FRIARS study.

An amendment to the Environmental Protection Act

Name	Approval Date	Review Date
Environmental Protection (Kwinana) (Atmosphere) Policy 1992	17.07.92	17.07.99
Environmental Protection (Peel Inlet-Harvey Estuary) Policy 1992	11.12.92	11.12.99
Environmental Protection (Swan Coastal Plains Lakes) Policy 1992	18.12.92	18.12.99
Environmental Protection (Gnangara Mound Crown Land) Policy 1992	24.12.92	24.12.99
Environmental Protection (Goldfields Residential Areas) (Sulphur Dioxide) Policy 1992	29.01.93	29.01.2000
Environmental Protection (Ozone Protection) Policy 1993	10.09.93	10.09.2000
Environmental Protection (Swan Canning Rivers) Policy 1998	10.07.98	10.07.2005
Environmental Protection (South West Agriculture Zone Wetlands) Policy 1997	28.10.98	28.10.2005

Table 1: The current EPPs and their review dates.

1986 (assented to on 21 May 1998) provided for the Minister to deem a National Environment Protection Measure made under the National Environmental Protection (Western Australia) Act 1996 to be an approved EPP for implementation purposes.

### Position Statements

The EPA initiated Position Statements in early 1998 for the purposes of demonstrating leadership and vision in environmental matters, documenting values and beliefs of the EPA for guiding policy formulation and environmental decision-making, and conveying practical wisdom on higher order environmental policy topics.

The first position statement, "Environmental Protection of Cape Range Province", was released soon afterwards. Since that time, the EPA has been working on position statements for:

- rangelands;
- wetlands;
- special (environmental) areas;
- principles for environmental protection;
- remnant vegetation protection and management;
- standards for biological surveys;
- benthic primary producers;

- gypsum mining; and
- social surroundings (with respect to the definition of "environment").

A number of these are expected to be released during 1999. For more information see Appendix 4.

### Guidance Statements

Guidance Statements are issued by the EPA to assist proponents, and the public generally, to know the minimum requirements for elements of the environment which the EPA would expect to be met in the assessment process. Proponents are naturally encouraged to do better than the minimum set. Proponents able to demonstrate that they will meet or exceed the requirements are likely to find that their assessment will be more straight-forward and take less time. A proponent who wishes to deviate from the minimum level of performance in a Guidance Statement would be expected to put a well researched and clear justification to the EPA arguing the need for that deviation.

A list of Guidance Statements progressed during the year to various levels can be found at Appendix 5.

## LEGISLATION ISSUES

### Waste Management (WA)

Recent changes to the Environmental Protection Act have meant that the EPA now monitors the operations of Waste Management (WA).

Waste Management (WA) currently operates the intractable waste disposal facility at Mt Walton East and the septage and industrial liquid waste treatment plant at Forrestdale. In May 1999, the EPA finalised by tender the appointment of an independent auditor to assist the EPA in regulating the operations of Waste Management (WA).

#### *Intractable waste disposal facility, Mt Walton East*

The EPA has assessed and approved the Transport Management Plan and Environmental Management Plan for disposal of Kanowna Belle Gold Mine's arsenic waste at the intractable waste disposal facility, Mt Walton East. This is the third year of a 20 year program by Kanowna Belle Gold Mines to dispose of arsenic waste at this facility.

The EPA is currently assessing proposed changes to conditions under Section 46 of the Environmental Protection Act to:

- extend the time limit on approval for this facility;
- introduce waste acceptance criteria for each disposal activity at this facility; and
- consolidate the existing Ministerial Statements into a single Ministerial Direction to provide a clear, relevant and workable set of Ministerial Conditions and proponent commitments.

#### *Septage and industrial liquid waste treatment plant, Forrestdale*

The EPA recently commenced assessment, at Consultative Environmental Review level, of a proposal to change the status of the septage and industrial liquid waste treatment plant at Forrestdale to include acceptance of hazardous waste.

#### *Dairy Regulations*

The EPA became aware of the significance of dairy farms as nutrient sources when the proposal to upgrade the Busselton Waste Water Treatment Plant was first raised in 1998. It was therefore a consideration during the assessment of that project.

The EPA was aware that Agriculture Western Australia, in collaboration with the dairy industry, the Water and Rivers Commission and the Department of Environmental Protection had recently released guidelines on the Environmental Management for Animal Based Industries - Dairy Farm Effluent. Whilst this document provides excellent guidelines for the dairy industry, there was no statutory framework to assist in their implementation. The EPA considered the lack of regulations to be an important factor, and essential to progress continuous improvement in environmental protection.

Accordingly, the Authority agreed to the drafting of regulations to address the discharge of nutrients from dairy farms. In doing so, it was aware that many dairy farmers already met the guidelines and that nutrient problems did not exist in all areas. To address these, the proposed regulations will be structured so as to apply only in areas where it has been demonstrated that a nutrient problem exists and that dairy farms are a significant source. The Department of Environmental Protection has advised that, following consultation with all key stakeholders, the regulations should be finalised early in 2000.

## PROPOSED CHANGES TO EPA ADMINISTRATIVE PROCEDURES

Section 122 of the Environmental Protection Act empowers the EPA to set down Administrative Procedures which indicate the way in which the EPA will carry out some of its functions.

During the year, the EPA gave consideration to the procedures for conducting the environmental impact assessment process, with a view to making improvements.

In particular, the EPA was mindful of the need to have two new categories of assessment to manage referrals under Section 38 of the Act. Firstly, a method of carrying out an expedited assessment (called an Environmental Protection Statement) but without reducing the assessment rigour and the full appeal rights. Secondly, it was thought desirable to be able to provide a 'quick no' for proposals that were unlikely to be able to be made environmentally acceptable.

Draft Administrative Procedures were prepared and then discussed with key stakeholders and peak groups including the Chamber of Minerals and Energy, WA Conservation Council, Chamber of Commerce and Industry, Australian Petroleum Production and Exploration Association, Department of Minerals and Energy and Department of Resources Development.

Final Draft Administrative Procedures have been prepared to accommodate the two new levels of assessment and to alter the public review period for the Public Environmental Review (PER) from normally eight weeks, to between four and ten weeks. Although the Consultative Environmental Review level of assessment is still available, its use will mostly be taken over by the Environmental Protection



Statement or a 'limited issue' Public Environmental Review.

The 'quick no' would only be used occasionally and only following several consultations with the proponent to improve or relocate the proposal.

It is anticipated that the proposed changes will be gazetted early in the next financial year and trialled. Gazetted of the fully revised, Administrative Procedures is planned within the next 12 months.

It is proposed that an Environmental Protection Statement can be one of two kinds:-

- Proponent-initiated. Whereby the proponent consults with interested members of the community whilst preparing their environmental review documentation so that community views can be accommodated prior to referral, and the need for broad public review is reduced.
- EPA-initiated. When the EPA receives a referral, it may decide that the proposal is straightforward but would benefit from having Environmental Conditions imposed by the Minister for the Environment.

## 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.

Although time consuming, these EPA site visits have been valuable and proponents have welcomed the opportunity to meet with the EPA to discuss issues in a less formal setting. Relevant staff from the Department of Environmental Protection accompanied the EPA.

Whenever possible, EPA members use the opportunity of being in the field to meet with key local stakeholders, including local government CEO's and Shire Presidents, and other interest and conservation groups, and Aboriginal communities.

Other site visits were also carried out by individual EPA members, mostly the Chairman and Deputy Chairman.

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

- they give EPA members a clearer understanding of the environmental setting of a proposal;
- they provide an opportunity for meeting proponents, addressing issues, and networking in an informal atmosphere whilst on-site;
- they provide an opportunity for the mutual exchange of views and make it easier to communicate with proponents and others through telephone interaction or subsequent formal EPA board meetings;
- they lead to better environmental advice being provided to the Minister;
- they enhance the identity of the EPA as an independent institution; and
- they provide an identity to an otherwise "invisible" Board.

A list of the EPA and other site visits is given in Appendix 6.

## ADVISORY COUNCIL TO THE ENVIRONMENTAL PROTECTION AUTHORITY

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 is comprised 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:

Chairman Mrs Jan Star

Dr Des Kelly

Mr Harry Butler

Mr Simon Holthouse

Mr Alex Gardner

Mr Graham Slessar

Mrs Marion Blackwell

*(the above appointments expire on 1 September 1999)*

Deputy Chairman Mr Norm Halse

Dr Sue Graham-Taylor

Professor Frank Murray

Mr Ian Le Provost

Ms Linda Siddall

Mrs Jos Chatfield

*(the above appointments expire on 1 September 2000)*

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

Eight meetings were held during the year. ACTEPA was kept advised of a range of issues before the EPA and their input was sought. Issues covered include:

- Perth airport master plan;
- Transportation routes - social aspects;
- Derby tidal power proposal;
- Fitzroy Basin/West Kimberley developments;
- Perth Coastal Waters Consultative Study;
- Regional Forest Agreement and EPA Compliance Report;



- Report on review of environmental implications of Perth Metropolitan Transport Strategy;
- Cockburn Sound developments and Section 16(e) approach;
- Perth air quality;
- Biodiversity;
- Progress of Greenhouse Council and Air Quality Coordinating Committee;
- Administrative Procedures;
- Environmental impact assessment;
- Water Law Reform Bill; and
- Environmental assessment of mining proposals and environmental objections in the Warden's Court.

The EPA records its appreciation of the time and effort taken by Advisory Council members during the year.



## APPENDICES

### Appendix 1

#### The role of the Environmental Protection Authority

The EPA is an independent advisory body and provides overarching policy advice to the Minister for the Environment. Its objectives, as stated in the Environmental Protection Act, are to protect the environment and to prevent, control and abate pollution.

The EPA carries out a number of functions in pursuing its objectives including:

- environmental impact assessment;
- formulating environmental policies;
- co-ordinating activities necessary to protect, restore or improve the environment of the State;
- seeking information and providing advice; and
- carrying out studies, investigations and research into problems of environmental protection.

A major role of the EPA is to ensure the environment is protected when development decisions are made. It does this by providing high level independent environmental advice to the Minister for the Environment and others so that environmental considerations are taken into account in the decision-making process.

Approval of proposals and the environmental conditions to be imposed on developments are made by the Minister, who may take into account broader issues than those considered by the EPA.

Under the Environmental Protection Act, environment is defined as “living things, their physical, biological and social surroundings and the interactions between all of these”. The Act further explains that “the social surroundings of man are his aesthetic, cultural, economic and social surroundings to the extent that these surroundings directly affect or are affected by his physical or biological surroundings.” The EPA interprets environment to include beneficial use and risk associated with the environment.

#### General approach taken by the EPA

The EPA is regarded by the community as an advocate for the environment and believes that transparency of process is fundamental to the effective development of environmental policy and to the implementation of environmental protection.

In evaluating issues, the EPA seeks input from stakeholders and the public through liaison, public meetings, submissions, as well as through site visits with proponents and members of the community

The broad principles of ecologically sustainable development and biodiversity provide a valuable starting point for the EPA. However, recommendations are also made on the basis of protecting:

- ecological processes;
- biodiversity;
- declared rare flora and fauna;
- vegetation associations and habitat;
- water quality and quantity (marine, estuarine, fresh and brackish waters);
- air quality and quantity;
- soils and land;
- individuals and society from risk; and
- beneficial uses of the environment.

These elements are considered during the assessment of each development proposal assessed by the EPA. The EPA also considers the environmental management framework for each proposal to ensure that the whole proposal and all of its environmental impacts are managed. This includes environmental management plans, objectives and performance indicators. Proponents are encouraged to conduct an





annual audit and a periodic review of their operations in keeping with the broad philosophy of ensuring continuous improvement in environmental management.

The Organisation for Economic Co-operation and Development (OECD) Pressure-State-Response model, which was used in the preparation of the National State of the Environment Report, provides a valuable framework for considering the management of environmental change. The main elements of this model are:

- human activities place pressure on the environment;
- these pressures change the quality and/or quantity of natural resources, ie. the state of the environment is changed; and
- growth of the society will inevitably lead to a change in the environment however, this must be accompanied by an environmental response initiative which either enhances the environment or ameliorates the impacts and manages the environment.

A series of non-statutory statements has been developed to set out the EPA's view on specific environmental matters, giving proponents and the community an understanding of the EPA's views. They are designed to increase certainty for proponents and the public. If the EPA's views are incorporated early in project development by proponents, assessments can be carried out more rapidly.

### Role of the proponent

A common concern raised with the EPA each year is that the Environmental Impact Assessment process is biased because the proponent has the responsibility to prepare, or have prepared, the environmental impact statement (EIS). The idea 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, the proponent has a pivotal role to play in the preparation of the EIS, provided the appropriate checks and balances are in place. The EIS is the prime way for proponents to ensure that environmental factors are given consideration in project decision-making.

It should be remembered that an EIS is only one element of the process of environmental impact assessment (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 guidelines for the preparation of an EIS are set by an assessment division within the Department of Environmental Protection (DEP);
- the guidelines are public and at one level of assessment the guidelines are available for public comment;
- the EIS can be released only after the assessment division of the DEP is satisfied that the document is appropriate for release;
- the public has the opportunity to comment on the EIS after it has been approved for release;
- the proponent is required to respond to public comments on the EIS, 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 the DEP assessment division 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.

An essential element in the EIA process is the involvement of the proponent in the preparation of the EIS. 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 the list of environmental commitments as part of its management program. This can be achieved only if the proponent is fully involved in a consideration of the environmental impacts of a project through the preparation of the EIS. The EIS

forces the proponent to consider environmental factors in project formulation. It is also important for the proponent and their consultant to prepare the EIS as though looking at the project through the eyes of the EPA. It needs to be as truthful and as full as possible.

### EPA linkage with government agencies

The EPA seeks advice from agencies, including the Department of Environmental Protection, the Ministry for Planning and WA Planning Commission, the Water and Rivers Commission, the Department of Conservation and Land Management, the National Parks and Nature Conservation Authority and the Marine Parks and Reserves Authority.

### Department of Environmental Protection

The Department of Environmental Protection (DEP) is the main service department of the EPA, although the EPA uses staff and facilities of other departments by arrangement with the Minister concerned. The DEP carries out a variety of functions under the general guidance of the EPA, including environmental impact assessment and preparation of draft reports, research and co-ordination functions in relation to the environment, pollution prevention and management, and the preparation of draft policies.

To foster a better working relationship, the EPA and DEP hold a planning day each year at which issues and management approaches are scoped, and important understandings about resource sharing, independence of advice and other matters are reached. The planning days provide an opportunity for the EPA, the CEO and Directors of the DEP to understand the various complexities and constraints of EPA and DEP functions.

### The Ministry for Planning and W A Planning Commission

The EPA has two distinct relationships with the Ministry for Planning (MfP) and Western Australian Planning Commission (WAPC). The first is with the MfP and WAPC as proponents of planning schemes and amendments. The second is with those agents as advisers on planning matters.

Regular meetings are held between the EPA Chairman and Chairman of the WAPC (approximately monthly). Meetings are also held with the CEOs of MfP and DEP to discuss matters impinging on planning and environment and the implementation of assessments through Section 48A of the Environmental Protection Act.

### The Water and Rivers Commission

Two distinct relationships also exist with the Water and Rivers Commission and the EPA: one a proponent (eg for water allocation plans,) and the other as a provider of expert advice on matters pertaining to water resource protection and management as inputs to the environmental assessment process.

The EPA receives briefings and advice from officers of the Water and Rivers Commission on water resource management issues relating to proposals, and it assesses water allocation plans.

### The Department of Conservation and Land Management

In the case of the Department of Conservation and Land Management (CALM), the EPA has three different working relationships. CALM is a proponent for forestry proposals (Forest Management Plans) which are assessed by the EPA. CALM is also a key provider of expert advice on conservation and biodiversity issues during the environmental assessment process. The third area is that of auditing compliance with Environmental Conditions set by the Minister for the Environment. The very different nature of these three working relationships can present management challenges.

It is essential for the EPA and CALM to work closely together to ensure that the different aspects of their working relationship are undertaken in an effective and efficient manner.

## Appendix 2

### Formal assessments

Bulletin No.	Title	Release date
900	TPS No. 2 Amend 77 Rezone from 'Rural' to 'Residential', 'Commercial', 'Public Open Space Reserve', 'Public and Community Purpose Reserve' and 'Mixed use' Zones. Pt lots 521 & 523 South Western Highway Byford. Shire of Serpentine-Jarrahdale	July 1998
901	Medium term management strategy for dredging of shell-sand Owen Anchorage. Cockburn Cement Limited	August 1998
904	Groundwater Resource Allocation and Management Plan to allow for development of Lexia Groundwater Scheme, Ellenbrook area. Water and Rivers Commission	October 1998
905	White Opal-1 Exploration Well Cape, Range Peninsula, Exmouth. Victorian Petroleum NL	October 1998
906	City of Rockingham TPS 1 Amend 295 Rezone from 'Rural' to 'Baldivis Town Centre' Zone, Lots 6, 13 & Pt Lot 26 Cnr Narin Road and Safety Bay Road, Baldivis. City of Rockingham	October 1998
908	Industrial Infrastructure and Harbour Development Jervoise Bay. Department of Commerce and Trade	October 1998
909	Walpole wastewater scheme, Stage 1 at Site 'C' Walpole. Water Corporation	November 1998
911	Clearing of 250 hectares of land, Victoria location 10323 - 65 km north of Dandaragan. Thomas Owen Glover	November 1998
913	Mining Area C - Multiple iron ore mine development project, 100km NW of Newman Shire of East Pilbara. BHP Iron Ore Pty Ltd	November 1998
914	Chelonia-1 and Chelonia-2 exploration wells adjacent to boundary of Ningaloo Marine Park, North West Shelf. Apache Energy Limited	November 1998
915	Narngulu to Oakajee Rail Service Corridor, Narngulu and Oakajee. Westrail	November 1998
916	Brickworks Lot 6 Bushmead Road and Lots 6, 103 & 151 Lakes Road Hazelmere. Saracen Properties Pty Ltd	December 1998
917	Clearing of 280 hectares of land Victoria location 10641, Half Way Mill Roadhouse, 8km west of Warradarge. Mr DG Martin	December 1998
918	Fish farm for prawns, artemia, oysters and scallops on tidal flats in the upper reaches of East Doctors Creek, Derby. Kimberley Prawn Company	December 1998
919	Two small open pit gold operations (Mt Charlotte Reward and Northern Orebody Open Pits and Floor Pillars), Mt Charlotte lease, Kalgoorlie. Kalgoorlie Consolidated Gold Mine	December 1998
920	Expansion of existing Titanium Dioxide pigment plant to 190,000 TPA, Kemerton Industrial Park. Millennium Inorganic Chemicals	January 1999



Bulletin No.	Title	Release date
921	City of Gosnells TPS 1 Amend 478 Primarily to rezone 400ha from 'Rural' to 'Residential Development' Land bounded by Garden St, Nicholson, Dumbarton, Campbell, Amherst and Warton Roads, Canningvale. City of Gosnells	January 1999
922	Subdivision Lot 11 Bridge Road and Lot 6 Garden (Haigh) Street Canning Vale. Term Pty Ltd	January 1999
923	Subdivision Lots 5, 8, 9, 10, 15 and 16 Haigh (Garden), Bridge and Shreeve Roads, Canning Vale, Term Pty Ltd	January 1999
924	West Angeles Iron Ore project, 130km west of Newman, East Pilbara. Robe River Mining	January 1999
925	MRS Amendment No. 984/33 Forrestfield Marshalling Yards & Kewdale Freight Terminal. WAPC	January 1999
926	City of Belmont TPS 11 Amend 100 Zone the Kewdale Freight terminal & Pt of Forrestfield Marshalling Yards for "Industrial" & related purposes Forrestfield. City of Belmont.	January 1999
927	Shire of Kalamunda DPS 2 Amend 177 Primarily to rezone land from 'Railway Reservation' to 'General Industry' (Forrestfield Marshalling Yards) Kewdale. Shire of Kalamunda.	January 1999
928	Change to Environmental Conditions – Amendments to the 1987 Forest Management Plans and Timber Strategy and proposals to meet Environmental Conditions of the Regional Plans and the WACAP ERMP. Department of Conservation & Land Management	March 1999
929	Red Lake Gypsum mining, Mining Titles M77/528 & L77/172 2km, east of Chandler, Shire of Nungarin. Aurex Pty Ltd	March 1999
930	Ravensthorpe nickel project, Bandalup Hill, Ravensthorpe. Comet Resources NL	March 1999
931	Murrin Murrin Stage 2 expansion, 60km east of Leonora. Anaconda Nickel Ltd	April 1999
932	Change to Environmental Conditions - heavy minerals mine Jangardup. Cable Sands (WA) Pty Ltd	April 1999
933	Guildford cemetery development and expansion and realignment of Kalamunda Road, South Guildford. Metropolitan Cemeteries Board.	April 1999
934	Shark Bay Salt Joint Venture, Construction of Additional Crystallisers, Useless Loop, Shark Bay. Shark Bay Resources	April 1999
935	Change to Environmental Conditions - Relocation of Cedric Street Wetlands, Stirling. City of Stirling	May 1999
936	Red October open cut gold mine, 80km south of Laverton. Sons of Gwalia Ltd	June 1999

Bulletin No.	Title	Release date
937	Change to Environmental Conditions - upgrading and re-opening of Toodyay Abattoir, Lot 590 Church Gully Road, Toodyay. Mr GJ Johnson	June 1999
938	Integrated regional waste processing facility Pt lots 78 and 85 Bannister Road, Canning Vale. Southern Metropolitan Regional Council	June 1999
939	Residential development Lots 1 and 2 Baldivis Road, Baldivis. Karinya Nominess Pty Ltd, Dalacan Pty Ltd & Benara Nominees Pty Ltd	June 1999
940	Proposal to construct a road across Vasse Estuary, Ford Road, Shire of Busselton. Shire of Busselton	June 1999
941	Ocean Beach Limesand project application for, Mining lease 70/908 and continued limesand mining Reserve 249134 Denmark, Shire of Denmark	June 1999
942	Tidal Power Station, East and West Doctors Creek, and transmission lines to Derby and Broome. Derby Hydro Power Pty Ltd	June 1999

## Appendix 3

### Section 16(e) Strategic advice in preparation 1998-99

Project Title	Current Status
Acquaculture Strategy, Kimberley.	Proponent environmental review document in preparation
Development Concept - Turquoise Coast, Jurien.	Draft Guidelines in preparation
Gypsum Mine within Francois National Park, Cape Peron, Shark Bay	EPA inspected site in June 1999. Preparation of EPA Report not yet initiated
Industrial – Fremantle/Rockingham Industrial Area Regional Scheme (FRIARS)	EPA Report in preparation
Industrial Park Expansion, Kemerton	Strategy for assessment in preparation
Land Clearing	EPA Report in preparation
Petroleum Exploration and Development within Shark Bay World Heritage Property	Draft EPA Report in preparation prior to release for public review
Road – Controlled Access Highway from Fremantle to Rockingham South of Rollinson Road.	Proponent environmental review document approved for release for public review
Road (Southern Link) – Corridor and Alignment Selection Study for Future East-West Freight Road Linking East-West Regional Road, Brookton Highway, Westdale to South West Highway, Mundijong	Strategy for assessment in preparation
Sewage – Implementation Plan to Reduce Sewage Overflows into Swan and Canning Rivers.	On hold
Transport Strategies (DOT) - Metropolitan and country Areas.	Strategy for assessment in preparation
Water Allocation - Draft Interim Plan for the Ord River	Proponent environmental review document in preparation
Water – Drainage Water Quality and Impact on Receiving Water Bodies	Three stage process: 1. Scope completed; 2. Data collection phase commenced; and 3. EPA Report will be prepared after phase 2 completed

### Section 16(e) Strategic advice completed 1998-99

Project Title	Date completed
Structure Plan - Exmouth-Learmonth (North West Cape)	July 1998
Derby Tidal Power	July 1998
Industrial Land and Port Access - Greater Bunbury Area	August 1998
Water - Perth's Water Future: A Supply Strategy for Perth and Mandurah	September 1998
Marine Environment of Cockburn Sound	October 1998
Water Allocation Plan, Harvey Basin	November 1998

## Appendix 4

### Position Statements

Project Title	Current Status
Benthic Primary Producers	Draft in preparation
Biodiversity	Under consideration
Biological Surveys – Standards for	Draft in preparation
Cape Range	Final in preparation
Gypsum Mining	Draft in preparation
Principles of Environmental Protection for WA	Draft in preparation
Rangelands	Draft in preparation
Special Areas	Under consideration. Special Areas Workshops held
Social Surroundings	Under consideration
Vegetation (remnant) - Protection and Management	Under consideration
Wetlands	Preliminary in preparation

#### Note:

‘Under consideration’ (drafting not commenced)

‘Draft in prep’ (drafting commenced)

‘Preliminary in prep’ (when approved it will be released for public review)

‘Final in prep’ (taking into account public comments)

‘Final’





## Appendix 5

### Draft Guidance Statements in preparation

Aboriginal, Culture and Heritage \*

Gas Pipelines (High Pressure), Residential Development in Proximity \*

Mosquitoes

Noise, Transport - Road and Rail

Odour Impacts, Assessment

Shark Bay World Heritage Property, Assessment of Development Proposals

System 6/Perth's Bushplan: Assessment of Proposals \*

Wetlands, Protection

Mangroves, Pilbara

### Draft Guidance Statements

Buffer Areas, Separation Distance between Industrial and Residential Areas \*

Environmental Management Systems

Groundwater Environmental Management Areas \*

Noise, Environmental \*

Petroleum (Offshore), Exploration and Production

Rangelands (State) Protection

Seagrass, Habitat Protection

Surface Run-off, Management of from Industrial and Commercial Sites

### Preliminary Guidance Statements

Biomedical Waste Incinerators, Management of Air Emissions

Gas Turbines, Emissions of Oxides of Nitrogen \*

Planning Schemes, Guidance for Assessment \*

### Interim Guidance Statements

Development Sites, Air Quality Impacts \*

Contaminated Sites Management - A Remediation Hierarchy \*

Greenhouse Gas Emissions, Minimisation \*

Risk Assessment and Management: Offsite Individual Public Risk

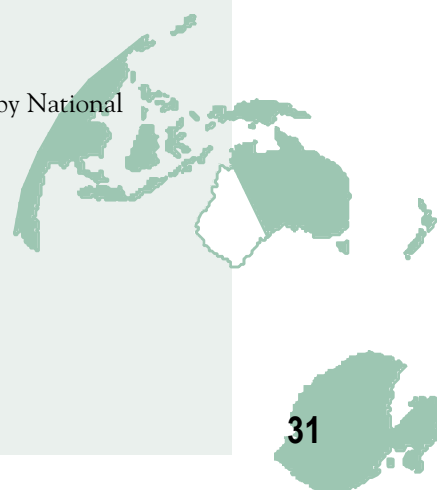
Waste - Liquid Hazardous Waste, Deep and Shallow Well Injection

### Final Guidance Statements

Lake Clifton, Protection

Linkages between EPA Assessment and Guidelines, Standards and Measures Adopted by National Councils

\* Progress of these Guidance Statements is EPA's priority for action.



## Appendix 6

### EPA Site visits 1998-99

Date	Site	Participants
7 July 1998	City of Cockburn Information tour by Shire of Cockburn	Bowen, Robinson, Green
27 - 29 July 1998	Yarloop Mine Site and South West Forests (with Joanna Young and Noel Fitzpatrick)	Bowen, Robinson, Green
9-11 September 1998	Burrup Peninsula, West Angelas port facility & minesite, Millstream-Chichester National Park, Aboriginal heritage areas, Maitland Industrial Estate	Bowen, Robinson, Green, Mattiske, Glennon
9-11 November 1998	Geraldton, Oakajee Industrial Estate, Mt Gibson, Talling Peak, Narngulu, local authorities	Bowen, Robinson, Green
23-24 November 1998	Anaconda's nickel-cobalt project at Murrin Murrin and surrounds, meetings with Aboriginal community	Bowen, Robinson, Mattiske (part)
3-6 March 1999	Exmouth - Whitecrest operations, Maud's Landing, Ningaloo Marine Park, Exmouth port and drilling areas, Water Corporation wellfield	Bowen, Robinson, Green
18-19 March 1999	D'Entrecasteaux National Park - Cable Sands Jangardup mining operations, community and environmental groups	Bowen, Robinson, Green, Mattiske
13-15 April 1999	Kununurra - Ord Irrigation project area, Shire representatives and community groups, Lake Argyle Diamonds	Bowen, Robinson, Green, Mattiske
28 June-2 July 1999	Shark Bay World Heritage Area - Shark Bay Resources projects, Shire representatives	Bowen, Robinson, Green

### Other site visits by EPA Members

Date	Site	Participants
21-22 September 1998	Karratha/Dampier Port Authority	Bowen, Robinson
3-4 December 1998	Kalgoorlie meetings with community groups & KCGM	Bowen, Robinson
16-17 February 1999	Jurien meetings with land clearing applicants	Bowen, Robinson
18-19 February 1999	Esperance - Ravensthorpe Nickel project, Esperance Shire Council, Esperance Port Authority, community and environmental groups	Bowen, Robinson
17-19 March 1999	BHP Beenup Mineral Sands -Decommissioning	Bowen, Robinson, Mattiske
18 May 1999	Harvey Dam project	Bowen, Robinson, Mattiske
26-29 May 1999	Kununurra - Ord Irrigation project aerial vegetation surveys	Bowen, Robinson, Mattiske

## Appendix 7

### Funding

The administration costs of the EPA are as follows:

	1998-99 (\$'000)	1997-98 (\$'000)
Recurrent		
Salaries, wages and allowances	327	291
Other Expenses		
Staff related expenses	63	37
Communications	4	13
Services and contracts	142	108
Consumable supplies	12	27
Work in progress	30	-
Other	19	2
	597	478

### Electoral Act 1907 (Section 175ZE Disclosure)

There has been nil expenditure in relation to this Act during the 1998/99 financial year.

