Environmental Protection Authority

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PROTECTION AUTHORITY

ANNUAL REPORT

1999 • 2000

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Transmittal to the Minister

Hon Cheryl Edwardes (Mrs) MLA
MINISTER FOR THE ENVIRONMENT

In accordance with s21 of the Environmental Protection Act, I submit the EPA's annual report for the year ended 30 June 2000.

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 s15 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

30 October, 2000

Environmental Protection Authority

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Chairman's Overview

This report covers my second 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 the Minister.

The report is structured in a manner which introduces the members of the EPA, and then provides a discussion of the major environmental issues on the EPA agenda, followed by information on the environmental assessment of proposals and planning schemes, strategic assessment and policy development. Towards the end of the report there are details of the EPA's role in the remediation of contaminated sites and the operation of the Waste Management (WA) facilities together with information on legislation issues, site visits undertaken by the EPA and the work of the advisory committee to the EPA.

The array of matters coming before the EPA for examination during the year was diverse and challenging and included the major proposal to extend the Ord irrigation scheme for agriculture. The proposal included the clearing of a considerable area of land which required the EPA to give detailed attention to the matter of the protection of the State's biodiversity in the East Kimberley region. Clearing has been a particularly sensitive matter for the EPA during the year because of the release of its Position Paper on clearing with special emphasis on the agricultural zone. The EPA is committed to providing advice that protects the State's biological diversity. This is one of the unique aspects of Western Australia and is most widely recognised through the magnificent display of wildflowers that attract people from around the world.

The EPA welcomes the new Salinity Action Plan that was announced in March 2000. The Plan has drawn public attention to the serious nature of dryland salinity in the wheatbelt and it is clearly the State's most pressing environmental issue. The cost of implementing the Plan will be high, and the government is encouraged to raise the profile of the salinity issue in the minds of the community. It is important that environmental issues, such as dryland salinity, be on the community agenda in partnership with government, even

to the extent of the community entering into serious discussion on the benefits of the community providing special funding, on an ongoing basis, to address specific environmental issues.

The business sector in our community is particularly encouraged to include environmental issues in its business plans. The possibility of securing environmental credits should become part of the philosophy of doing business, especially in the areas of biodiversity, greenhouse gas emissions and salinity.

A major part of the work of the EPA is the provision of advice to the Minister on the assessment of development proposals. These proposals may be from either the private or public sectors, including government departments. The EPA values very highly its discussions with proponents in relation to their proposals, the preparation of the environmental review documents and the establishment of environmental commitments. In addition, the EPA encourages proponents to actively pursue a strategy of effective public consultation.

The EPA recognises that the structure of government departments at times poses difficulties for them as a proponent, not only in the preparation of the environmental review document but also in implementing the environmental conditions. However, the Environmental Protection Act binds the Crown, and all proponents have the task of fulfilling the requirements of the Act in a rigorous manner.

The Environmental Protection Act sets out that a review of the operation and effectiveness of the Act, including the Authority, shall be carried out five years after the commencement of the Act, and this was undertaken in 1992. The Act was amended in 1993 to provide for a full time chairman of the EPA, separate from the position of Chief Executive Officer of the Department of Environmental Protection. The Amendment also provided for the provision of services to the EPA. Within the context of the philosophy of a five-year review after the commencement of the Act, it may be appropriate for the operations resulting from the 1993 Amendment to the Act also to be reviewed.

I take this opportunity to thank proponents of proposals, members of the community and advisers to the EPA from both the public and private sectors. I thank also the 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 that give full attention to environmental protection.

I also want to record my appreciation to the members of the EPA for their assistance so readily given to the work of the EPA. Finally, although it is an independent Authority, the work of the EPA 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
Chairman

Members

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

Mr Bernard Bowen, Chairman

Member and Deputy Chairman from 14 January 1994

Chairman from 12 August 1997 until 1 January 2003

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, and also to the Life Sciences Panel of the Cooperative Research Centres program.

Dr Elizabeth Mattiske, Deputy Chairman

Member from 6 May 1998 until 5 May 2000, Deputy Chairman from 6 May 2000 until 6 May 2003

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.

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.

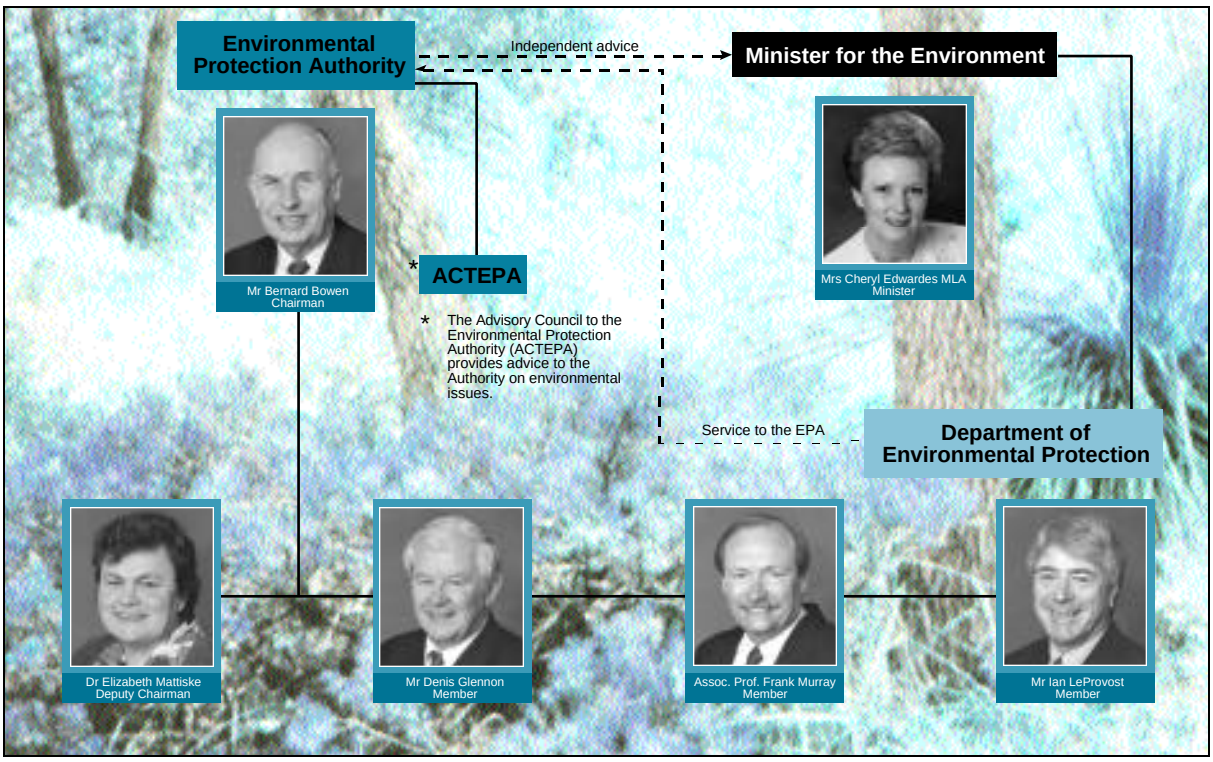

Figure 1: Operational structure of the EPA.

Mr Denis Glennon

Member from 1 January 1998 until 1 January 2003

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

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

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.

Mr Ian Le Provost

Member from 1 January 2000 until 1 January 2003

Mr LeProvost is principal of LeProvost Dames and Moore, a specialist marine and coastal environmental consultancy within the multinational URS Corporation. He has some 30 years consulting experience in environmental assessment, monitoring and management in WA and more recently in northern Australia and SE Asia. He has been involved with most of the major marina, canal and harbour developments and offshore petroleum developments in WA since the early 1970s.

He has a graduate degree in environmental science and post graduate qualifications in business management and ecologically sustainable development. He is also an accredited commercial diver.

He is also a board member of the WA Estuarine Research Foundation, chairman of the Employer's Advisory Council for the School of Environmental Science at Murdoch University, and a past member and chairman of the Advisory Council to the EPA.

Associate Professor Frank Murray

Member from 6 May 2000 until 6 May 2003

Frank Murray is an environmental scientist with a Bachelor of Science with Honours from London University and a PhD from the University of Newcastle (NSW).

Frank Murray has conducted research on pollution and environmental management for over 25 years, and published widely is these fields. He is an Associate Professor in the School of Environmental Science at Murdoch University, where he teaches and conducts research. He is also the Director of Postgraduate Studies at Murdoch University. He regularly acts as a consultant to the World Health Organization, United Nations Environment Programme and the Stockholm Environment Institute on issues related to air pollution and environmental management in various parts of the world.

Record of appreciation to retiring members

Ms Sally Robinson

Member from 6 May 1997

Deputy Chairman from 1 January 1998 until 1 December 1999

The EPA places on record its appreciation of Ms Sally Robinson for her contribution to the work of the Environmental Protection Authority and for her support to the Chairman during her two years as Deputy Chairman. Ms Robinson gave unstintingly of her time and energy, and was primarily responsible for a number of initiatives including the development of EPA Position Statements and the formulation of additional levels of environmental assessment which have been beneficial to both the EPA process and proponents.

Ms Robinson also developed an expansive network with both environmental and industry groups. In 1999, the Environmental Protection Bureau of the Gansu Province, China, invited Ms Robinson to be a distinguished guest at the Sino-Australian Workshop on Water Resources and Soil-Environmental Protection and Remediation Technology. With the support of the Western Australian Government, Ms Robinson attended the Workshop, 14-15 October 1999, and gave a keynote talk on Ensuring Sustainable Allocation and Management of Water Resources: the Western Australian Approach.

Dr Roy Green

Member from 6 May 1998

Deputy Chairman from 1 January 2000 until 6 May 2000

The EPA places on record its appreciation of Dr Roy Green for his contribution to the work of the Environmental Protection Authority, firstly as a member and then for a short period as Deputy Chairman. Dr Green's wisdom and experience at both the national and international level which he brought to the discussion of issues before the EPA was much appreciated.

MAJOR ENVIRONMENTAL ISSUES

The EPA has over-arching responsibility for the provision of advice to Government on 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 21). 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.

Current members of the Environmental Protection Authority (from front left) Mr Bernard Bowen (Chairman), Dr Elizabeth Mattiske, (from back left) Professor Frank Murray, Mr Ian Le Provost and Mr Denis Glennon.

Ecological Sustainability of Natural Resouces

All agencies responsible for the management of natural resources – air, land and water, and the products nurtured in these environments - have an increasing responsibility to demonstrate to the community that attention is being given, in a transparent manner, to ecologically sustainable management of these resources.

The EPA is encouraged that agencies are commencing their consideration of ecological sustainability. Whilst the goals and objectives of sustainability have been in place for some time, there is now a growing recognition that more attention has to be paid to the operational interpretation of ecological sustainable management of natural resources. For example, one of the functions of the Pastoral Board is to ensure that pastoral leases are managed on an ecologically sustainable basis.

An independent expert review group has been established to review the sustained yields from the south-west forests of the State within the context of ecologically sustainable forest management (ESFM). This task will be undertaken with technical, industry and community input into the variety of issues involved, and includes an examination of the management practices used to implement the principles of ESFM and their integration with the process of establishing sustained yield levels.

The EPA welcomes the Government initiative in establishing the expert review group to study the operational interpretation of ESFM and looks forward to this process being an important element in the EPA's assessment of the forest management plans in later years.

In the marine environment, the EPA was pleased to note that the Western Australian rock lobster fishery had been the first fishery in the world to be awarded certification by the international Marine Stewardship Council formed four years ago by a combination of the conservation group World Wide Fund for Nature and Unilever. The certification award as a sustainable, well managed fishery followed an examination of the operational management of the fishery by an independent review panel established by the Stewardship Council. The product can now be marketed under the MSC eco-label.

The EPA encourages the Government to raise the profile of ecological sustainability by all relevant government agencies. The EPA already has the function of assessing forest management plans on the basis of these plans being a proposal pursuant to s38 of the Environmental Protection Act. The EPA would welcome the opportunity to play a role in providing advice on the performance of all agencies with a responsibility for progressing their operational interpretation of ecological sustainability in relation to their respective responsibilities for resource management.

Dryland Salinity

A new Salinity Action Plan was announced in March 2000. The Plan has drawn public attention to the serious nature of dryland salinity in the wheatbelt which is the States' most pressing environmental issue.

The impact of salinity is not only in relation to the long term availability of a significant portion of agricultural land, but also threatens the nature reserves and biodiversity in general in the wheatbelt area. In addition, the rising water table associated with salinity problems impacts upon the infrastructure of many of the wheatbelt towns and is likely to be a factor in increased flooding at times of high rainfall events.

The cost of implementing the Salinity Action Plan will be high. The EPA encourages the Government to continue to raise the profile of the salinity issue in the minds of the community. Whilst the actions required under the Action Plan will be undertaken in the country, the benefits of reducing the spread of salinisation need to be recognised by the whole community, even to the level of the community entering into a serious discussion of the need for an environmental levy. It is important that environmental issues, such as dryland salinity, be on the community agenda in partnership with Government.

Biodiversity

The EPA is responsive to an increasing community expectation that protection of the State's biological diversity of plants and animals be given greater importance through the EPA assessment process.

With the adoption of the National Strategy for Ecologically Sustainable Development (1992), and the subsequent National Strategy for the Conservation of Australia's Biological Diversity (1996), the State has committed to an agreed framework, principles and objectives for the protection of biodiversity. Furthermore, the State is committed to a process of State of the Environment (SOE) reporting. At the commonwealth level SOE reporting is a legislative requirement.

Protection of biodiversity is important, and remains one of the key issues facing the EPA during the assessment of projects. During the last year of its activities, the EPA has developed additional links, including workshops, with officers from the Department of Conservation and Land Management, the Western Australian Museum, a range of academics from Universities, indigenous people and private industry to consider how best to bring their combined knowledge into the EPA process. The discussions have assisted the EPA in refining the approach that might be taken in considering the assessment of biodiversity conservation in a large range of projects from the Ord Stage II development in the Kimberley to smaller projects throughout the State.

There is a growing consensus that the data collected by proponents to assist the EPA in the consideration of biodiversity conservation issues needs to take into account the scale of the project and the sensitivity of the environment.

Accordingly, the EPA has been reviewing the environmental impact assessment process to ensure that processes relating to the protection of biodiversity are undertaken to agreed National and Commonwealth standards and agreements. These changes include:

- an increased level of emphasis placed on the protection of biodiversity;
- some changes to nomenclature and definition, which will be reflected in new EPA objectives; and
- an increase in the quality and quantity of information required by the EPA to enable rigorous environmental impact assessment for this issue.

Best practice assessment now requires that biodiversity be considered at two levels:

- its intrinsic value at the individual species, species assemblage and genetic levels; and
- its functional value at the ecosystem level.

Genetic levels

Due to a lack of research regarding the genetic range of endemic species, there has been, and will continue to be, difficulties in addressing the protection of biodiversity at the genetic level. Although the EPA is encouraged by the support by geneticists in developing this area in coming years, there is still a major void in the level of information available in most taxa.

Species and Taxa levels

Environmental impact assessment in WA has historically only considered flora at the species and species assemblage levels, while fauna has mainly been considered only at the species level, or at best, in relation to habitat and range. As many rare subspecies and varieties are now recognized through state and federal legislation, the EPA has encouraged all proponents through their consultants to identify flora and fauna taxa at the species, subspecies and variety levels of taxonomic levels of definition.

Historical assessments tended to include mainly inventory lists, whilst these lists are still very relevant to the assessment process, the EPA also recognises the need to address the taxa as potentially a major component for the sustainability

of the system, as indicators of high biodiversity, endemism and patterns within the systems.

Ecosystems

"Ecosystem" values have been traditionally attributed to larger scale species assemblages with an assumption that functional relationships and ecosystem processes are expressed through the variety of assemblages, their relationship with the landscape and with each other. One of the key issues faced by the EPA regularly through the assessment process is the magnitude of the project relative to the significance of the potential impacts on a local and regional scale. In addition, the lack of consistent definition of plant assemblages, vegetation communities and ecosystems has historically led to confusion by proponents and the wider community. Further, few or no criteria for minimum habitat requirements are generally supplied for assessments of impacts on fauna. This is so even though considerable information may be available at the species level on the size of home ranges; minimum viable populations sizes/habitat area; corridor requirements and so on. Impacts of proposals on system dynamics such as plant/animal interactions are almost never considered.

The EPA is currently reviewing these aspects through the work associated with the standards on terrestrial biological surveys. These standards have been tested recently in a range of assessments from the large-scale projects such as the proposed Ord Stage II irrigation development in the Kimberley to particular localised areas throughout the State where specific biodiversity values have been defined. The EPA was assisted in its assessment of biodiversity for Ord Stage II by having the benefit of discussion by an array of specialists with knowledge of the area.

Terrestrial Biological Surveys

In May 2000, the EPA published Preliminary Position Statement No 3. entitled "General Requirements for Terrestrial Biological Surveys for Environmental Impact Assessment in Western Australia". In that document the EPA discussed the range of International, National and State agreements and policies currently influencing how biodiversity is to be protected in Western Australia, and why there is a need to review and improve the quality and quantity of information required for Environmental Impact Assessment.

To complement the Position Statement, the EPA decided that a series of Guidance Statements would be produced which detail the minimum standard protocols to be applied by proponents when undertaking different components of terrestrial biological surveys for Environmental Impact Assessment. The EPA will be encouraging proponents to ensure that the quality of information and scope of the field surveys meets the standards, requirements and protocols determined by the EPA. In the absence of information that could provide the EPA with certainty that biodiversity will be protected, the EPA will adopt the precautionary principle.

The objective of the EPA in the development of these documents is to ensure that the environment is protected by providing assessment guidance and criteria for the standards for terrestrial biological surveys for different levels of impact and different sensitivities of the environments.

The EPA has also been involved in discussions with Government agencies and academic institutions in addressing the need for integrating data collected during the environmental impact assessment process. The EPA considers that data integration requires clarification in the coming years.

EPA's Role in Perth's Bushplan

The EPA has continued to have a significant role in the development and finalisation of Perth's Bushplan. It is widely acknowledged that addressing the balance between development and the conservation of regionally significant native vegetation in bushland areas is always difficult in urban areas throughout the world. The EPA recognises that there is the opportunity in Perth, unlike many other capital cities in the world, to still protect and maintain areas of significant native vegetation at a regional level. There has been a need to review the processes relating to the overlap between planning and the environment and many of the discussions to date have revolved around optimising mechanisms and processes that provide not only certainty but also transparency for the implementation phase of Perth's Bushplan.

The EPA recognised that negotiated planning solutions would be required in relation to some of the sites identified in Bushplan. However, the EPA also recognised this as a Government process where best endeavours would be used to ensure the preservation of the environmental values of each site.

The EPA has made available its position on Bushplan implementation as follows:

- The EP Act provides for a referral to the EPA of any environmentally significant proposal.
- The EPA has signed off on the draft Bushplan as a way forward for the Government to preserve regionally significant native vegetation within the Swan Coastal Plain area of the Perth Metropolitan Region. Accordingly, the EPA's preferred position is that Bushplan be implemented in accordance with the published draft Bushplan.

- The Government officers responsible for the implementation of Bushplan will presumably have a preferred position of maximising the protection of regionally significant native vegetation. However, the EPA recognises that to achieve this there will be negotiated outcomes resulting from discussions between the Government officers responsible for the implementation of Bushplan and the owners of Bushplan Sites. The basis upon which that negotiation takes place is outside the role of the EPA, and the EPA would not want to be involved in the negotiations. The EPA would expect the Government officers responsible for the implementation of Bushplan and the WA Planning Commission to use their best endeavours to ensure a satisfactory outcome in relation to the preservation of the Bushplan Sites.
- Referrals to the EPA may come through a number of avenues. For some referrals, a Bushplan Site may be the only relevant factor but for others it may be one of a number of relevant factors. In considering the relevant factor of Bushplan Site, the EPA would want to take advantage of the expertise of Government officers responsible for implementation of Bushplan. Accordingly, it would seek advice from these Government officers as well as from other experts.
- If there is a referral of a Bushplan Site to the EPA from the Ministry for Planning, it would need to be accompanied by a full array of documentation of the matters considered and positions reached in attempting to arrive at a satisfactory outcome in relation to the preservation of the Bushplan Site being considered. Referrals would indicate that a satisfactory outcome had not been achieved; and the EPA would be likely to recommend to the Minister that the EP Act be used to achieve the outcome set out in Bushplan.

Greenhouse Gases

A background to the EPA's consideration of greenhouse gas emissions

Australia with 0.3% of the world's population contributes 1.4% of global greenhouse gases. Western Australia contributed around 11% of national emissions in 1990 and approximately 12% in 1995.

Under the 1997 Kyoto Protocol, Australia committed to reduce its greenhouse gas emissions by about 25% from a 'business as usual' increase of 43% in the period from 1990 to 2010, to an increase of only 8%. In 1998, with cooperation between the Commonwealth, State, Territory and Local governments, a National Greenhouse Strategy was released which outlined 86 broad measures to reduce emissions.

There are a large number of major new energy projects planned for the next decade in Western Australia and a consequence of this planned development is an expected increase in WA's greenhouse gas emissions, primarily from increased energy use by expanding new industries and the processing of energy in the form of natural gas for overseas use.

Since June 1998, the EPA has utilised its Interim Guidance for Minimising Greenhouse Gas Emissions in the assessment of new projects. The EPA's environmental objective is to ensure that potential greenhouse gas emissions emitted from proposed projects are adequately addressed and that best available efficient technologies are used in Western Australia to minimise Western Australia's greenhouse gas emissions.

Western Australian industries are mainly export orientated and this poses a dilemma in terms of greenhouse gas emissions. For example, although a new Western Australian liquid natural gas (LNG) proposal could result in significant (up to 20%) WA emissions of CO2, it would also result in significant decreases in say Korea, due to the LNG being used to replace coal. Consequently, although Western Australia's emissions are likely to rise as greenhouse-gas generating downstream processing industries are developed, they could also result in greater reductions globally. The question arises, should the EPA take account of an international net decrease in CO2 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

Although industrial development proposals form a large part of new proposals assessed by the EPA, it should be noted that industry, and particularly new industry, is not the major emitter of greenhouse gas in Western Australia. Stationary energy (power stations) accounts for 50%, Agriculture for 27%, transport for 13% and industrial processes for only 10%.

Environmental Impact Assessment of Projects with significant greenhouse gas emissions

The EPA continues to implement its interim Guidance No 12 "Minimising Greenhouse Gas Emissions" in the assessment of new projects, although the Guidance is currently in the process of amendment in light of an EPA position on greenhouse which has evolved through recent EPA assessments of the Murrin Murrin Nickel-Cobalt Project, the Woodside North West Shelf Gas

Project Additional LNG Facilities and the Syntroleum Gas to Liquids plant.

Measure 3.3 of the National Greenhouse Strategy (NGS) states:

> *"Governments will ensure that significant potential greenhouse gas emissions emitted from proposed projects are adequately adressed through their environmental impact assessment process. This will include recognition of greenhouse as an environmental factor for this purpose"*

WA is the only State where 'Greenhouse' is recognised as an environmental factor for the purpose of environmental impact assessment. Where the EPA considers a proposal to be a significant contributor to Western Australia's greenhouse gas emissions, its requirements in regard to this environmental factor, consistent with the National Greenhouse Strategy, are to:

- estimate the carbon dioxide equivalent emissions from the project;
- mitigate greenhouse gas emissions in accordance with the EPA Interim Guidance No 12 "Minimising Greenhouse Gas Emissions";
- minimise greenhouse gas emissions in absolute terms and reduce emissions per unit product to as low as reasonably practicable; and
- estimate the gross amounts of greenhouse gases that may be sequestered from sink enhancement programs.

To limit the greenhouse gas emissions in 2008-2012 to 108% of Australia's 1990 emission levels, Australia as a whole is challenged to reduce greenhouse gas emissions by 24.5% from the predicted "Business as Usual" level (a 143% increase). This will be achieved by implementing a combination of "no regrets" and "beyond no regrets" measures.

In Western Australia, the EPA has taken a position where new projects are required to design and operate a new plant in accordance with "best practice" (equal to best in class or best in the world, especially in regard to energy efficiency). The EPA expects proponents to commit to the implementation of a number of "no regrets" and "beyond no regrets" measures which will achieve a reduction in greenhouse gas emissions. This will usually take the form of a Greenhouse Gas Emissions Management Plan to ensure that greenhouse gas emissions from the project are adequately addressed, best available technologies are used, a target is set for the reduction of total net greenhouse gas emissions and greenhouse gas emissions per unit of product over time, and that progress made in achieving the target is reported to the EPA annually.

As a result, the EPA is leading Australia in the Environmental Impact Assessment of greenhouse gas emissions from new projects. It is pleasing that this is being achieved in a climate of broad industry acceptance.

Current targets however, are limited to the reduction of greenhouse gas emissions per unit of product as opposed to a reduction in net emissions. As a result of the type of new Western Australian industry, units of product are potentially increasing rapidly. Consequently, although the greenhouse gas emissions per unit of product are decreasing, net greenhouse gas emissions are often still increasing significantly. It is important that industry continues to explore offset measures with a view to reducing the net emissions. One of these options is tree planting which can have the added benefit of reducing the spread of salinity impacts. This option will potentially become more popular if and when international 'rules' are finalised, hopefully at the 6th Conference of the Parties in The Hague, Netherlands, in November 2000.

The challenge to consider reductions in greenhouse emissions needs to be given attention through the development of a generic position paper which will provide a better understanding of options for the way forward including integration of the offset measures consistent with the development of international "rules".

Perth's Coastal Waters Management and Consultative Process

The 1996 Southern Metropolitan Coastal Waters Study Final Report outlined a public involvement and consultation program to assist in developing a long-term vision for the marine environment in the Perth area.

The first phase of this process started with the release of a discussion document *The future of Perth coastal waters; Have your say* in October 1998. This document targeted the wider community and stakeholder groups and sought views on environmental quality goals for coastal waters between Dawesville and Yanchep.

The public involvement process was undertaken by CSIRO, on behalf of the EPA, and consisted of consultation with key stakeholders, reference groups and the wider community. Some 224 submissions were analysed by CSIRO and reported to the EPA in April 1999.

The consultation program confirmed that the community of Western Australia places a high value on the marine environment. There is an expectation that people will be able to:

- recreate in marine waters without suffering illness or infection;

- consume seafood in the knowledge that it is safe to do so; and
- enjoy the benefits of a healthy, abundant and diverse natural environment.

EPA site visit to KCGM Gold Mining Operations, Kalgoorlie.
Photograph courtesy of Ms Sally Robinson.

At the same time there was general acceptance of the need to accommodate other valid societal uses of the environment such as industrial and domestic treated-wastewater discharge, shipping, mining, harbours and marinas, even though they can lower environmental quality and/or preclude certain social uses in localised areas, provided the overall vision for the environment is not compromised.

The end of the first phase of the process was marked by the release of the EPA report *"Perth's Coastal Waters – Environmental Values and Objectives"* which, based on the results of the consultation program, identifies the Environmental Values that the community want protected. It also defines specific Environmental Quality Objectives and provides examples of their notional application between Dawesville and Yanchep. Environmental Quality Objectives define the management goals for designated areas of the environment. They signal the environmental quality needed to protect the Environmental Values. Whereas the Environmental Values are quite broad and express a human held ethic or desire, the Environmental Quality Objectives describe more precisely and in greater detail what is to be protected.

The second phase of the consultative process involves the development of environmental quality criteria for each environmental quality objective. These criteria are the benchmarks to assess the results of monitoring programs and test how well the coastal waters are being managed. If the criteria are exceeded, a range of management actions and responses will be triggered. Planning for this second phase has started and will link closely with the results of the current review of the Australian Water Quality Guidelines for Australia and New Zealand.

At the end of the consultative process the EPA will have information on environmental values, quality objectives and quality criteria which will feed into the State Marine Waters Environmental Protection Policy and the work of the Cockburn Sound Management Council.

Oil spill response arrangements

Western Australia is heavily reliant on shipping for the import of manufactured products and export of mining and agricultural commodities. Key regional centres have developed in association with the port facilities and the coastal environments are treasured community assets meeting recreational needs and supporting a growing tourism industry. Our coastal waters support immense biodiversity and conservation values, with internationally-renown coral reefs and mangrove forests to mention a few. These waters also support valuable wild-capture fisheries and a growing aquaculture industry. The offshore oil and gas industry is well-established and growing, particularly on the Northwest Shelf and the Timor Sea.

The threat of oil spills can never be eliminated, but damage can be averted or minimised through good contingency planning, constant preparedness and rapid, effective response. Western Australia has about one third of Australia's coastline (over 12,500 km), much of which is sparsely inhabited, remote from population centres and difficult to access from land or sea. The remoteness and inaccessibility present significant challenges to those charged with combating marine oil spills. Our coastal natural resources are not well mapped and our offshore resources are even less well known.

In 1993, it was estimated that the risk of a spill in excess of 1000 tonnes from a tanker somewhere in Australia was 83% within 20 years. In 1999, it was estimated that the risk was 0.15 spills/yr or in other words that one spill of this size or greater is likely to occur every 7 years. This latest risk assessment also considered the level of risk of oil spills in Australian ports and ranked Fremantle as the third highest risk port in Australia, with Dampier tenth and Port Hedland fifteenth.

The adequacy of resources allocated across government to combat a significant marine oil spill needs to be examined at regular intervals. WA is demonstrably vulnerable – in 1991 the *Kirki* lost its bow off Jurien Bay and some 17,000 tonnes of light crude oil went into the sea. A combination of favourable winds, the extremely light nature of the oil and high evaporation rate averted a potential catastrophe. If that vessel had been carrying heavy fuel oil, and the winds were adverse, the environmental outcome could have been very different.

The EPA encourages the Government to examine at regular intervals the oil spill response arrangements to ensure that they are adequately resourced to account for the length of coastline, the range of environments and different considerations for combating oil in each of those environments, the likelihood of a significant spill in the near future and the potential severity of the consequences.

Peel-Harvey Estuary Progress and Compliance Report

In the 1998-1999 Annual Report, the EPA reported that it had established an Expert Review Group to provide advice to the EPA on the progress and compliance report for the Peel-Harvey Estuary Management Strategy.

The key compliance elements are:

- performance of the Dawesville Channel compared with predictions modelled and management targets;
- development and performance of a catchment management plan compared with catchment management targets; and
- the usefulness of the legal and administrative framework put in place to underpin and supported the strategy.

The work of the Expert Review Group is nearing completion.

Shark Bay World Heritage Property

A joint Federal-State government study into the potential impacts of petroleum industry activities in the Shark Bay World Heritage Area has been commissioned so as to provide a report to the Minister under s16(e) of the Environmental Protection Act 1986. The Department of Environmental Protection is taking the lead role in the management of the study which calls for close liaison with Environment Australia, Commonwealth and State government agencies and other stakeholders.

The study, which began in September 1998, is in two parts. The first is a summary of the world heritage values of the area-both terrestrial and marine parts of the World Heritage Property, whilst the second considers the potential impacts of petroleum exploration, production and transport on those world heritage values. Drafts of the study have been circulated for comment to selected government agencies and committees and agreed changes are being finalised.

The document is being prepared for a three month public review period, during which time Information Days will be held in Denham and Perth.

On an associated subject, the EPA has prepared a Guidance Statement to draw to the attention of proponents of development proposals the environmental values of the World Heritage Property and provide guidance as to the process of assessment for proposals within the Property or which may impact on the Property.

EPA site visit to Shark Bay Salt Operations.
Photograph courtesy of Ms Sally Robinson.

ENVIRONMENTAL ASSESSMENT OF PROPOSALS

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

A total of 662 development proposals and planning schemes were referred to the EPA for consideration. Of these, the EPA determined that 37 proposals required formal assessment, reporting and recommendations to the Minister for the Environment. A further 330 required informal review with specific advice to the proponents.

During the year, 43 formal assessments were completed, including 12 which provided strategic advice under s16(e) of the Environmental Protection Act. A list of these is presented in Appendices 2 and 5. Some of the more important assessments are discussed below. This is preceded by a brief discussion of some overarching issues in relation to the environmental process.

EPA site visit to proposed Kalbarri Airport with representatives of the Shire of Northampton and Conservation and Land Management.
Photograph courtesy of Ms Sally Robinson.

Judging Environmental Acceptability

Proponents of development proposals have a responsibility in their environmental review documents to:

- describe the impacts of their proposal on the environment;
- show that all reasonable and practical steps have been taken to minimise those impacts;
- commit to appropriate actions and measures to manage the impacts; and
- justify the proposition that the impacts of their proposal, both individually and in total, should be judged by the EPA to be environmentally acceptable.

Most proponents clearly recognise their obligations in respect of the first three requirements. Many proponents, however, fail to recognise and understand their responsibility in regard to the last requirement. This often leads to difficulties and prolongs the time taken for assessment.

Defining the acceptability criteria for some elements of the environment is relatively straight forward. For example, in relation to gaseous emissions, there is often nationally accepted standards for ambient levels which must be met.

On the other hand, for many environmental factors, particularly those related to the biological and physical environment, defining 'acceptability criteria' is not straightforward. This is sometimes further compounded by limitations in our ability to define with confidence the ecological response or consequences associated with a particular impact, or combination of impacts, of a proposal.

To assist proponents and the public generally in this regard, the EPA has been preparing Position Statements and Guidance Statements to provide information about the EPA's thinking in relation to aspects of the assessment process, including environmental acceptability, to guide proponents on the information requirements for assessment.

In parallel with this, where proposals involve major environmental issues where acceptability criteria are uncertain, and where there is a need to have the highest degree of confidence in the prediction of impacts and their consequences, the EPA is increasingly encouraging proponents to establish peer review panels of specialists to guide them in their environmental studies and review their environmental review documents before being submitted to the EPA and released for comment. Often, in addition to being experts in a particular environmental field, peer review panel members may have specific knowledge related to the geographic region where the proposal is to be located, such that the regional cumulative impacts can be more thoroughly considered.

The EPA also encourages meaningful consultation by proponents with relevant public and government agency stakeholders during preparation of their environmental review reports, as part of best practice environmental impact assessment.

It is the EPA's experience that where proponents clearly embrace the environmental impact assessment process and accept that it is not only their responsibility to define the impacts of their proposal and how they intend to manage these, but also to consider their proposal in a broader bioregional, ecosystem, and social surroundings context, and to justify the acceptability of the proposal, they have less difficulties with the environmental impact assessment process and produce a higher quality project in terms of environmental outcomes.

The Importance of Context

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 about the appropriate use of special areas, including National Parks and Nature Reserves, and how these expectations may affect other proposed activities;
- 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 taken into account by the EPA in 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.

Additional Levels of Environmental Assessment

The EPA has amended its administrative procedures to provide for additional assessment opportunities so as to streamline the way it deals with some proposals referred for environmental impact assessment. These are discussed briefly below.

Environmental Protection Statement (EPS).

This level of assessment has been introduced to allow, where appropriate, an expedited assessment process, and this can occur in two ways.

Firstly, a proposal may not necessarily require a formal level of assessment, but a decision is taken by the EPA that the proposal should be subject to Environmental Conditions set by the Minister for the Environment. These conditions then become legally binding on the proponent.

EPA site visit to Tourquoise Coast Development. From left to right: Roy Green, Maxine Dawson, Dave Whitburn (Shire of Dandaragan Ranger), Libby Mattiske, Sally Robinson, Hon. Dexter Davies MLC and Bernard Bowen.
Photograph courtesy of Ms Sally Robinson.

Secondly, if a proponent undertakes extended public consultation prior to finalising the environmental review document, the EPA may judge that it need not be submitted for a further round of public comment and review. In this case, the EPA provides its report to the Minister together with the release of the environmental review document.

During the year four proposals attracted this level of assessment (Appendix 3) and the response to its use was generally positive.

Use of the EPS level of assessment has increased the workload of members of the Conservation Council and this has caused some difficulties for the Council. This factor needs to be taken into account by the EPA when considering a request for a proposal to be assessed at this level.

Proposals unlikely to be environmentally acceptable (PUEA)

The EPA consults with proponents so as to ensure that their proposals are environmentally acceptable. However, on occasions the EPA forms the view that a proposal will be unable to be managed to meet the EPA's environmental objectives for acceptability. The PUEA level of assessment allows the EPA to report in a timely manner to the Minister recommending that the proposal should not be permitted to be implemented. This saves both time and money on the part of the proponent and the Department of Environmental Protection in their servicing role to the EPA.

This level of assessment was used during the year for one land clearing proposal in the agricultural area (Appendix 4).

Major Projects

Of the proposals assessed during 1999-2000, the EPA was particularly pleased with the quality of environmental assessment, consideration of ways to mitigate or off-set environmental impacts, and extent of stakeholder consultation associated with the following proposals:

- Wallaby Gold project;
- Harvey-Stirling dam redevelopment; and
- Expansion of LNG facilities at Burrup Peninsula.

These and some of the other more important assessments completed during the year are discussed below.

Wallaby Gold Mine Project

The EPA was advised by Placer (Granny Smith) Pty Limited (PGS) of its intention to develop the Wallaby Gold Mine on Lake Carey, a naturally occurring salt lake near Laverton. The EPA had previously assessed the Red October Gold Mine Project, also on Lake Carey, and that assessment raised a number of issues regarding the importance of the biological diversity of the Lake Carey system, the general lack of understanding of salt lake ecosystems and it identified that there was an opportunity to review and develop mining methods appropriate for mining in lake beds.

When outlining its intention to develop the Wallaby project, PGS advised the EPA of its intention to embark on a stakeholder consultation process and undertake environmental investigations. The EPA considered that the proposed strategy could lead to a level of assessment being set at EPS subject to the preparation of a suitable environmental review document. PGS prepared the environmental review document and the EPA was satisfied that the proponent had undertaken its environmental investigations and reporting, including stakeholder consultation and responses to issues raised, in a manner which established appropriate environmental management strategies for the mining development. The EPA set an EPS level of assessment.

The consultation process resulted in substantial changes to the original proposal and its environmental management, and as a consequence provided improved environmental outcomes. The major environmental issues and management strategies identified through the consultation process included:

- management of hypersaline groundwater resulting in the evolution of a strategy to reduce direct discharge of mine water to Lake Carey to a rate that is comparable with existing discharges to the lake system. Through research, the proponent was able to demonstrate that this rate of discharge was likely to have only a localised impact on the aquatic fauna for the duration of the discharge. Areas where similar discharges have occurred and have now ceased, were shown to be recovering. The balance of the water discharged from the mining operations will be accommodated in mining voids where it was considered to have minimal environmental impact;
- construction and operation of the access and services corridor resulting in modifications to the design of the conveyor system to enable large vertebrate fauna to traverse the corridor, and development of a surface drainage management plan to ensure surface drainage upstream and downstream of the corridor was not significantly affected; and
- construction and operation of the mainly lake-based waste dump and the decision to place the waste rock dump primarily on the bare lake playa to limit impacts on terrestrial vegetation. The design of the waste rock dump was also modified to enable replacement of areas of similar habitat to that lost through the construction of the waste rock dump and be more amenable to the lake landscape.

Research information gathered through this assessment has further contributed to the knowledge of salt lake ecosystems and the importance of these areas to biological diversity. Salt lake ecosystems and establishing their environmental values continues to be an area of interest for the EPA.

Harvey –Stirling Dam Redevelopment

In August 1999, the EPA assessed the Water Corporation's proposal to redevelop the Harvey and Stirling Reservoir system in order to utilise an additional quantity of water (approximately 34 Gigalitres per annum) from the Harvey River Basin for the Perth Metropolitan Water Supply Scheme (PMWSS). The proposal also involved construction of a new pipeline from Harris Dam to Stirling Reservoir to enable transfer of water from Harris Dam to the PMWSS via Stirling Reservoir. The assessment followed on from the EPA's 1998 report providing strategic advice under s16 (e) of the Environmental Protection Act on the Harvey Basin Surface Water Allocation Plan.

The key environmental factors for the assessment of the project were:

- vegetation communities - clearing, inundation and disturbance for the new Harvey Reservoir, pipeline construction and other associated activities;
- specially protected (threatened) fauna - clearing, inundation and disturbance of habitat for the new Harvey Reservoir, pipeline construction and other associated activities;
- watercourses and surface water quantity - inundation, impoundment and diversion and changes to natural or existing water flow regimes;

- noise and vibration - noise from construction activities; and
- post-development land use - inundation and potential imposition of catchment management restrictions.

The proponent provided a comprehensive set of environmental commitments for the project including a Land Acquisition and Rehabilitation Strategy, a major contribution to river and stream restoration and further work to establish environmental water requirements of the Harvey River. The EPA recommended that, based on the commitments made by the proponent, the proposal could proceed subject to standard environmental conditions set by the Minister for the Environment.

Within its report on the assessment of the Stirling Harvey Development Scheme, the EPA provided advice to the Minister for the Environment under s46 of the *Environmental Protection Act 1986*, on the need to change existing conditions and procedures for the 1987 Harris Dam project, in order to enable the transfer of water from the Harris Dam to the Perth Metropolitan Water Supply Scheme via Stirling Reservoir.

Woodside LNG Expansion

The EPA finalised the environmental impact assessment and released its report and recommendations on the construction of two additional Liquefied Natural Gas (LNG) processing trains on the Burrup Peninsula in the north west of Western Australia in December 1999.

Woodside Energy Ltd (WEL) proposes to construct two additional LNG trains at its existing onshore gas plant in stages, and the fully expanded plant will increase the LNG production capacity from 7.5 million tonnes per annum to 15.5 million tonnes per annum.

The proposal involved environmental issues which fall under both State and Commonwealth jurisdictions and therefore the impact assessment was carried out jointly by the Western Australian EPA and Environment Australia. The main environmental factors assessed were:

- increased greenhouse gases emissions;
- marine impacts from the construction of a new LNG jetty;
- air emissions;
- aboriginal culture and heritage; and
- risk.

While the EPA considered this proposal to be a significant contributor to Australia's Greenhouse gas emissions, it nevertheless commended WEL for utilising energy efficient technology. WEL proposes to install sulfinol gas recovery and combustion, high efficiency gas turbines, and to reduce fugitive emissions of methane, all of which will greatly reduce greenhouse emissions. WEL also undertook to conduct a more detailed study of forestry and other options as part of its ongoing greenhouse gas reduction strategy. It was the opinion of the EPA that WEL had met the EPA's objectives of estimating, monitoring and minimising the emission of greenhouse gases for this proposal, and was taking beyond 'no regrets' measures consistent with best practice technology.

During the impact assessment of the new LNG jetty, the elements of a Dredging and Blasting Environmental Management Plan were agreed. This plan must satisfy the DEP, and be developed with advice from the Department of Conservation and Land Management and Environment Australia.

WEL has established an Aboriginal Heritage Management Committee, which includes members from the Aboriginal Community and the Aboriginal Cultural Materials Committee, to manage site disturbance and curation of heritage material associated with this expansion project.

The EPA also recommended that for each six years following the start of construction, WEL submit a Performance Review report to the DEP evaluating the outcomes and environmental performance over the six years.

The EPA concluded that it was most unlikely that the EPA's objectives would be compromised, provided that there was satisfactory implementation of conditions and commitments.

Ord River Irrigation Area, Stage II, Kununurra

The EPA's joint assessment with the Northern Territory Department of Lands, Planning and Environment of the development proposal by Wesfarmers Sugar, Marubeni Corporation and the Water Corporation of WA continued throughout the year.

Following the issuing of the final guidelines in July 1999 , the co-proponent's Environmental Review and Management Programme/ draft Environmental Impact Statement was released for public comment for 10 weeks, closing on 31 March 2000.

A total of 67 submissions were received by the EPA. The main issues covered by the submissions included:

- support for the project and the opportunities that it would give to Kununurra;
- the need to undertake and finalise additional studies into the heritage, cultural, economic and social impacts on Aboriginal people from the proposal prior to project approvals;

- lack of or inadequate baseline biological data;
- tenure and management of the proposed project buffer area;
- management of groundwater levels and quality;
- the effect on the proposed buffer area from rising groundwater and farm practices;
- implications arising from interbasin transfers of plant and fauna species;
- the need to confirm design criteria for drainage and flood protection under high flow conditions;
- concerns about the proposed self-regulation by proponents to comply with environmental management commitments;
- the need for transparency in the environmental management structure; and
- concern about water allocation and implications for the Ord River.

As part of its consideration of the implications of the development on biodiversity, the EPA convened a workshop on 29 June 2000 to bring together scientists, EPA members, proponent and agency representatives from Western Australia and the Northern Territory.

The EPA will consider the information and outcomes from that workshop during its assessment of the proposal.

The EPA is progressing its assessment of the impacts on biodiversity and will be reporting to the Minister at the end of August. It will then continue its assessment into detailed aspects of management of the proposal, if it were to be implemented, and to report before the end of 2000.

Interim Water Allocation Plan, Ord River

The Water and Rivers Commission (WRC) prepared a 'Draft Interim Water Allocation Plan' for the use of water from the Ord River in anticipation of a significant increase in water demand resulting from the Ord Stage II developments.

Advice was prepared on the Draft Interim Water Allocation Plan under s16(e) of the Environmental Protection Act.

The EPA focused its review on two aspects of the Draft Interim Water Allocation Plan:

- the methodology used to identify draft Ecological Water Provisions (EWPs); and
- the proposed research to identify Ecological Water Requirements (EWRs).

The EPA did not examine in detail the proposed water allocations to various portions of the Stage II expansion.

The EPA advised the WRC that the basis used for determining the Interim EWPs in the Draft Interim Water Allocation Plan should be considered further to ensure that it was sufficiently conservative to allow for known riparian uses and to assume adequate flushing of drain water discharged from the Ord Stage I farm area. The EPA also questioned the appropriateness of the 20th percentile monthly flow volume figure proposed by the WRC, and the application of this figure on pre-dam flows, when the Ord River had been regulated for 30 years and the post-dam flow regime was fundamentally different.

The EPA recommended that a review be undertaken of current best practice in defining EWPs for wet-dry tropic rivers, and that the review process include people with expert knowledge of tropical river ecosystems.

The EPA anticipates providing advice on a revised Interim Water Allocation Plan later in 2000.

Gas to Synthetic Hydrocarbons Plant, Burrup Peninsula

Syntroleum Sweetwater LLC proposed to construct and operate a plant producing synthetic hydrocarbons from natural gas, a natural gas supply pipeline, eight product pipelines and a product loading facility at the Dampier Public Wharf on the Burrup Peninsula in the Pilbara region of Western Australia.

The environmental review document for the proposal was available for public review in November 1999 and the EPA released its report and recommendations in August 2000.

Of the five environmental factors being considered in the report, the most significant environmental factors were:

- terrestrial flora;
- terrestrial fauna; and
- greenhouse gas emission.

In assessing the potential impacts on terrestrial flora and fauna, the EPA was made aware that the drainage features located in a portion of the site, whilst not including any rare species, contain vegetation community assemblages which probably do not occur elsewhere on the Burrup Peninsula. Following detailed consideration of the matter, the EPA did not consider this to be a major impediment for the proposal and welcomed the commitments made by the proponent to demonstrate good

corporate citizenship in making every possible attempt to minimise impacts upon these features and to disturb only the areas that were essential to the construction and operation of the plant.

Whilst the EPA acknowledged the topographical and native title constraints of the site which prevent the plant configuration being modified and/or moved away from the drainage features, it raises a particular problem for the EPA in that environmental values are being compromised by native title issues. The EPA also believes it is unfortunate that the nearby Maitland Industrial Estate is not being considered as a site for the proposed plant. Whilst the estate is considered the better location environmentally, it is not being actively pursued by proponents currently intending to establish their projects within the region.

In regard to greenhouse gas emissions, although the EPA was aware that the proposal would be a significant contributor to Western Australia's greenhouse gas emissions; the emissions represent only about 0.27% of Australia's total greenhouse gas emissions. The EPA was satisfied that the proponent would design and operate the plant in accordance with "best practice" and was of the view that this factor was manageable, provided conditions were included which require the proponent to set a target to reduce the total net "greenhouse gas" emissions and/or "greenhouse gas" emissions per unit of product over time, and to report annually on progress made in achieving this target.

Lake Lefroy Gold Mine, Kanbalda

Gold mining on Lake Lefroy, a naturally occurring salt lake near Kambalda has been occurring since 1981 with WMC Resources Ltd (St Ives Gold) developing several small open-cut mining pits on the lake. St Ives Gold, through its exploration activities, identified a significantly larger resource than was first thought to exist on Lake Lefroy. Mining of this larger resource would result in a number of mining pits being developed on the lake. The EPA was concerned that continued approval of mining on a pit-by-pit basis, as has occurred in the past, would not adequately identify the cumulative impacts of mining on the function and ecology of Lake Lefroy. It was resolved that cumulative impact assessment of the gold resources (mining pits) likely to be developed on the lake by St Ives Gold was required.

Through the environmental impact assessment process the environmental values of the Lake Lefroy system were established, and the potential cumulative impacts of mining and the adequacy of the rehabilitation practices of St Ives Gold were considered. The EPA concluded that the proposal comprised a number of essentially similar mining pits over time which could be managed using a generic and progressively updated Environmental Management Programme (EMP). It was considered that although at the completion of mining a series of mining pits would be developed, the environmental impacts on the lake system should primarily be confined only to areas where mining is currently occurring with the progressive backfilling of mining pits where mining operations have been completed. The environmental management of these impacts will be in accordance with the planning and rehabilitation processes defined in the EMP. The adequacy of St Ives Gold planning and environmental management will be assessed through a transparent review process, and on an ongoing basis by Government agencies with statutory authority for the project. The Lake Lefroy assessment has also contributed substantially to the broad understanding of the function and ecology of salt lake ecosystems in the State and provided important comparative data on the biological diversity of salt lake ecosystems.

Motor Sports Facility, Kwinana

One of the more contentious proposals assessed by the EPA in 1999/2000 was the Motor Sports Facility at Kwinana. The facility is being established to enable the closure of the Claremont Speedway and the Ravenswood Raceway facilities which have been the cause of some public complaint in relations to noise.

The EPA considered that noise and risk were the environmental factors of highest importance in the assessment.

The EPA found that noise levels from the Motorplex were likely to exceed substantially the Environmental Protection (Noise) Regulations 1997 and may well be judged under s49 of the Environmental Protection Act to "unreasonably interfere with the health, welfare, convenience, comfort and amenity" of adjacent residential communities. The noise would have negative environmental impacts on adjacent communities although the impact of speedway noise would be less than that for the dragway. The EPA advised the Minister that a judgement needed to be made between the environmental cost to the community through reduction in amenity of the social surroundings and the financial cost of adopting major noise mitigation options.

Remediation of Contaminated Land for Residential Purposes South Coogee

In November 1999, the EPA reported on a proposal by the Western Australian Planning Commission to remediate portions of 50.56 hectares of government land along the Owen Anchorage coastline in South Coogee, approximately 5km south of Fremantle.

The remediation was to be undertaken to enable rezoning of the land to residential purposes as part

of a Metropolitan Region Scheme (MRS) Amendment No. 1010/33 for Port Catherine. After the Government land was remediated, it would be made available for sale to Port Catherine Development (PCD) and would be part of the PCD development.

A portion of the government land is contaminated by chemicals produced from past industrial activities including hide storage and processing, tanning, chemical manufacture, oil processing and flyash disposal. Soil and groundwater investigations have been undertaken by several consultants over the past five years to determine the nature and extent of contamination. Investigations have also been undertaken on the offshore sediments adjacent to the project area.

ENVIRONMENTAL ASSESSMENT OF PLANNING SCHEMES

The EPA has now been assessing statutory regional and town planning schemes, and amendments, under s48A of the Environmental Protection Act for four years, following changes introduced to planning legislation in 1996.

Building on its experience to date the EPA is currently working with the Western Australian Planning Commission, the Ministry for Planning and the DEP to establish a Memorandum of Understanding aimed at facilitating improved integration of the agencies' respective processes relating to assessment and approval of planning schemes.

A key issue in discussions to date has been to ensure a rational linkage of the level and detail of environmental assessment to the relevant 'stage' of planning approval being considered. The planning approval process is a hierarchical one normally involving a series of stages from regional scheme to town planning scheme to structure plan to subdivision to development approval. When assessing a scheme or amendment at the regional scheme stage, the EPA would normally focus on 'higher level' environmental issues such as protection of regionally significant environmental features. The level of detail of environmental assessment normally increases as the planning detail increases in town planning scheme and structure planning. At this stage, more detailed environmental information is required, for example in terms of boundaries for protection of wetlands and other significant environmental features, and detailed information on drainage management.

The EPA is keen to ensure that this hierarchy of planning and environmental assessment is rational and that a consistent approach is adopted.

Metropolitan Region Scheme Amendment No. 992/33, Clarkson Butler, Wanneroo

In March 2000, the EPA reported on the proposed Major Metropolitan Region Scheme (MRS) Amendment No. 992/33 which contains eleven amendments for rezoning and reservation in the north-west corridor of the metropolitan region. Of the eleven amendments, six were considered by the EPA to have the potential to significantly impact on the environment and therefore were assessed pursuant to s48A of the Environmental Protection Act.

The six scheme amendment proposals subject to assessment were:

Proposal 1 - Pt Lot 2 Burns Beach

Approximately 170 ha of Pt Lot 2 Burns Beach was proposed to be rezoned from "Rural" to "Urban", with the balance of the lot, 120 ha to be transferred from "Rural" to "Parks and Recreation" reservation. The issue the EPA considered in relation to this proposal was the impact on regionally significant environmental values.

The western cell of Lot 2 Burns Beach was the subject of a previous proposal for urban development that was formally assessed by the EPA. The outcome of that assessment was the recommendation that 55 ha of Pt Lot 2 in the south-west corner was environmentally acceptable for development and the remainder of the development proposal was considered by the EPA to be unacceptable due to loss of regionally significant vegetation and landforms.

The EPA considered that the additional information provided by the Responsible Authority in the Environmental Review for this MRS Amendment, which altered the boundaries for development from that proposed by the EPA in its previous report, did not demonstrate that the significant environmental values of this area would be protected in relation to vegetation, fauna and landforms. The unique values present within Pt Lot 2 Burns Beach could not be replicated elsewhere and would be impacted significantly by the proposal. The EPA recommended that the additional 115 ha proposed for "Urban", beyond the 55 ha identified to be acceptable by the EPA in its earlier assessment in Bulletin 880, should not be implemented.

Proposals 2, 5 and 6 - Lot 17 Clarkson, Mitchell Freeway and Rail System and Railcar depot

Proposal 5 reserves land for the northern extension of the Mitchell Freeway including an extension of

the Northern Suburbs Rail system for "Primary Regional Roads" and "Railways" from Burns Beach Road to Romeo Road through and adjacent to Neerabup National Park.

Proposal 6 relates to the reservation for a Railcar stowage and servicing depot which is more or less a widening of the corridor for Proposal 5 between Hester Avenue and Lukin Drive, at Nowergup. The combination of Proposals 5 and 6 have been referred to as the 'Mitchell Freeway Transportation Corridor'.

Proposal 2 includes the rezoning of the northern 135 ha portion of Lot 17 Marmion Ave, Clarkson, from "Rural" zone to "Urban Deferred" zone. The principal environmental issue in this proposal was the 10 ha portion of Neerabup National Park that is proposed to be rezoned to "Urban Deferred" zone. This 10 ha section would be severed from the Park by the Mitchell Freeway Transportation Corridor. In addition this land is partly affected by operational buffers associated with the Tamala Park Refuse Disposal Facility site and therefore portions of the land are constrained for future development.

In assessing the excisions from Neerabup National Park, the EPA has acknowledged the Responsible Authority's efforts in securing land for conservation purposes to achieve an overall increase in the size of the Neerabup National Park and to improve its shape. Loss of portions of Neerabup National Park would be offset by the reservation for "Parks and Recreation" of approximately 190 ha of private land and existing reserves generally situated between the proposed Mitchell Freeway and Wanneroo Road.

A further 382 ha of private land adjacent to Neerabup National Park has already been reserved in previous MRS Amendments. If the overall 140 ha proposed to be excised as part of this MRS Amendment is deducted, the net increase in the "Parks and Recreation" reservation adjacent to the Park would be 432 ha. If the 63 ha that is being separated from the south-west corner of the Park by the Transportation Corridor is subtracted, the net increase in the area of the Park would still be approximately 369 ha.

The EPA concluded that Proposals 2, 5 and 6 would not impact significantly on the maintenance of the integrity and values of Neerabup National Park, provided that the conditions recommended were incorporated into the Metropolitan Region Scheme.

Proposal 3 - East-west roads

Proposal 3 was the reservation of two proposed east-west district distributor roads between the Mitchell Freeway and Wanneroo Road for Other Regional Roads which requires the excision of less than 2 ha from the existing Neerabup National Park.

The two road reservations were identified as Neerabup Road and Hester Avenue. The area to be reserved for Hester Avenue, the most northerly of the two, already contains an existing bitumen two lane road (Quinns Road), and reservation would allow for its widening to a four-lane carriageway. The EPA found this to be environmentally acceptable.

In the case of Neerabup Road reservation, an entirely new road would need to be constructed. The EPA therefore considered that the impact on the environment of the construction of Neerabup Road would be the greater of the two. The excision from the Park and the resultant loss of remnant bushland and fauna habitat was the obvious environmental issue associated with the construction of the proposed roads. However, another significant issue the EPA considered was the impact of habitat fragmentation and barriers to fauna movement which may result in the loss of fauna populations.

The issue being considered in relation to this proposal were the impact on the integrity and values of Neerabup National Park. The EPA accepted the Neerabup Road rezoning provided that the design and construction of the road was referred to the EPA for assessment under s38 of the Environmental Protection Act. The referral under s38 would allow the EPA to assess in more detail the potential impacts of the road on fauna movement and park management.

The EPA expects that the design and construction of Neerabup Road will have to be of an exceptional standard, given its location within a National Park, and particularly address the issue of fauna movement. The EPA advised that alternatives for facilitating the movement of fauna across the alignments would need to be investigated thoroughly.

Proposal 4 - Adjustments to Wanneroo Road

The current MRS reservation for Wanneroo Road provides for the long term widening to a road of 4-lane divided road standard. The purpose of Proposal 4 was to rationalise and reduce the current reservation. The potential impacts on the Nowergup Lake Fauna Sanctuary and Neerabup National Park were the principal concerns with this proposal.

The adjustments include the excision of 0.68 ha from the Neerabup National Park and 1.7 hectares of Nowergup Lake Fauna Sanctuary. 2.07 ha of the Neerabup National Park previously required for the road widening would no longer be required.

The EPA concluded that the proposed alterations to the Wanneroo Road alignment could be managed to avoid significant adverse impacts on both Neerabup

National Park and Nowergup Fauna Sanctuary provided that the conditions recommended were incorporated into the Metropolitan Region Scheme.

STRATEGIC ASSESSMENTS

Strategic environmental assessment is an expanding area of the EPA's work. These assessments provide for key environmental issues to be considered at a strategic level at an early stage in planning for development so that necessary environmental protection and management requirements can be built into detailed planning and design for subsequent developments. Importantly, strategic assessment allows cumulative impacts of planned future development to be considered, rather than impacts from individual development being considered in isolation which is often the case with project by project assessment. Strategic assessment also facilitates better consideration of alternative locations for developments to avoid particularly sensitive environmental area.

In 1999-2000 the EPA completed a range of strategic assessments covering:

- Regional planning strategies

This involved consideration of regional biodiversity and nature conservation issues, as well as potential pollution issues, in key regions of the State including:

- Goldfields – Esperance regional planning strategy;
- Kununurra-Wyndham area development strategy; and
- Avon Arc sub-regional strategy.

- Natural resources management

A focus during the year was on water resources and aquaculture including:

- Ord River interim water allocation plan;
- Gnangara groundwater mound management strategy;
- Lake Argyle barramundi aquaculture industry; and
- Houtmans Abrolhos islands aquaculture management plan.

- Industrial area development

Strategic assessment has focussed on ensuring adequate buffer separation distance from industry to residential development and management of emissions and waste from industry including:

- Kemerton industrial area expansion; and
- Fremantle-Rockingham industrial area regional strategy.

POLICY DEVELOPMENT

In the 1998-99 Annual Report, the EPA explained its new direction in policy development by highlighting that since the EPA first came into existence in WA in January 1972 its processes and policies have matured to the extent that the EPA can now exchange increased certainty for decreased flexibility in its operations. However this can only be done if a broad policy base is established and published. In the EPA's case, it has been pursuing this end through wide stakeholder and community consultation.

The EPA's published policy documents are primarily Position Statements and Guidance Statements (although policy statements are made through environmental impact assessment and general advice provided under s.16(e) and (j) of the Environmental Protection Act).

The EPA embarked on a series of reviews of Environmental Protection Policies (EPPs), as required under the Environmental Protection Act 1986. EPPs have the force of law and as such are a higher order policy instrument. They too go through wide stakeholder and public consultation before Government's consideration and Parliamentary scrutiny.

Environmental Protection Policies

1999 - 2000 saw the impost of a heavy workload on the EPA as five EPPs were due for their statutory seven-year review (table 1).

The first of these was the *Environmental Protection (Kwinana)(Atmospheric Wastes) Policy 1992*. The EPA re-issued this EPP without amendment for public comment on the basis that the EPP had been successful in managing air quality at Kwinana. However, during the public review process, it became clear that there was community concern over the issue of the buffer zone around the Kwinana heavy industry and consequential separation distances for incompatible land uses. The EPA took the view that the EPP was an air quality protection instrument and enforcement of separation distances was more properly a planning responsibility to be address through the Ministry of Planning's FRIARS project (Fremantle to Rockingham Industrial Area Regional Study). The Minister gazetted the final approved Environmental Protection (Kwinana) (Atmosphric Wastes) Policy 1999 on 21 December 1999.

For the *Environmental Protection (Peel Inlet - Harvey Estuary) Policy 1992*, again the EPA re-issued the EPP without amendment for the statutory public comment period. Following consideration of the comments received, the EPA forwarded the EPP unchanged to the Minister for the Environment

with a recommendation that the EPP be remitted back to the EPA for further consideration once the EPA's review of compliance with conditions applied to the Peel-Harvey assessment (encompassing both the Dawesville Channel and catchment management). The Minister accepted the recommendation. The review is expected to be concluded by December 2000.

The statutory review of the *Environmental Protection (Swan Coastal Plain) Lakes Policy 1992* attracted considerable interest with general support for extension of the EPP to important wetlands as well as lakes and to include clearing as a controlled activity in the program to protect. As well there was interest in details of the procedures for adding and removing wetlands from a Register, and the criteria for eligibility for wetlands to be protected.

The EPA recommended significant changes to the EPP to take into account the expansion of the scope of the EPP. Also, the Authority advised the Minister of the desirability of developing Administrative Procedures to describe the functioning of the Register of protected wetlands and eligibility criteria. The Minister agreed to the EPA recommendations and draft Administrative Procedures will be released for public comment concurrently with the Minister's formal statutory consultation on the EPP.

In 1998, the EPA had initiated a Statewide EPP for groundwater protection with the objective of applying protection programs to identified portions of the State through subordinate mechanisms such as Schedules or Regulations. However, there are legal impediments to drafting such an EPP which need to be addressed through legislative amendment. The longer-term objective was that the *Environmental Protection (Gnangara Mound Crown Land) Policy1992* would become subsumed under the Statewide EPP.

In the meantime, the EPA was required to review the Gnangara Mound EPP and accordingly re-issued the 1992 EPP without amendment for public comment. In December 1999, the Authority recommended to the Minister that a technical reference group be established to advise it on a range of matters (including the Gnangara Land Use and Water Management Strategy) before the EPP was finalised or subsumed under the Statewide EPP. The EPP is currently proceeding through the Minister's statutory consultation phase.

The EPA proposed more stringent objectives in it's review of the *Environmental Protection (Goldfields Residential Areas)(Sulphur Dioxide) Policy 1992*, taking account of the National Environmental Protection Measure for air quality and the long term objective of improving Kalgoorlie's air quality. In particular, key changes were the lowering of the limit for sulphur dioxide and an expanded area covering all residential land. This EPP is proceeding through its statutory Ministerial consultation phase.

The statutory review of the *Environmental Protection (Ozone Protection) Policy 1993* was initiated during this reporting period. The EPA sought public comments on a proposal to expand the scope of the EPA to regulate for certain non-ozone depleting substances when used in substitution for controlled substances as the opportunity for releases of the latter during their changeover was considered sufficient to justify such control. The proposal had the general support of the relevant industry group.

With respect to the requirement under the *Environmental Protection (Swan Canning Rivers) Policy 1998* for a Comprehensive Management Plan to be submitted to the Minister by December 1 1999, the Authority and the Department of Environmental Protection worked closely with the Swan River Trust to meet this deadline. The deadline was met, but the Authority recommended that the Comprehensive Management Plan be edited and polished before release for public comment. The algal bloom experienced by the Swan Canning River system early in 2000 meant that progress on this was slower than anticipated.

The considerable workload associated with

Name	Approval Date	Review Date Due
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 Environmental Protection Policies and their review dates.

Environmental Protection Policies also meant slower progress on implementing the *Environmental Protection (South West Agriculture Zone Wetlands) Policy 1998*. However, the Register of protected wetlands was established with Lake Monjingup in the Shire of Esperance having the honour of being the first wetland nominated for the Register.

Position Statements

The EPA's program to produce Position Statements to provide policy context, leadership and vision in environmental matters prospered further during 1999 - 2000.

Its first position statement on the Cape Range area of WA was finalised after public comments were received regarding errors or omissions. As well, Position Statements Number 2 "Environmental Protection of Native Vegetation in Western Australia" (December 1999) and 3 " General Requirements for Terrestial Biological Surveys for Environmental Assessment in Western Australia" (May 2000) were released in preliminary form.

The first of these, "Environmental Protection of Native Vegetation in Western Australia" excited considerable interest as the EPA concluded in this Position Statement that… "from an environmental perspective, any further reduction in native vegetation through clearing for agriculture (in the agricultural region) cannot be supported", while pointing out the need for equity issues to be considered.

The EPA was pleased to observe that the Final Report of the Native Vegetation Working Group (January 2000) to the Minister for Primary Industry expressed similar views from the environmental viewpoint, and also provided advice on managing equity matters.

Position Statement Number 3 on "General Requirements for Terrestrial Biological Surveys" (May 2000) addresses a long standing problem for the Authority in dealing with issues of biodiversity and its significance through the environmental impact assessment process.

This Position Statement is designed to both lift the general standard of biological survey work and have it reported in a standard way. This will have the additional benefit of leading to a better database for the State.

A list of Position Statements and the levels to which they have progressed can be found at Appendix 6.

Guidance Statements

Guidance Statements are issued by the EPA to assist proponents and the public generally understand the minimum requirements for elements of the environment that the EPA expects to be met during the assessment process. Proponents are of course encouraged to do better than the minimum. 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 review of the process for developing Guidance Statements was undertaken by the EPA this year. Significant streamlining and strengthening of the process resulted from this review. The previous four release steps (Draft, Preliminary, Interim and Final) have been reduced to two (Draft and Final). Stakeholder input to the initial drafting process has been strengthened and the public given access to the draft for comment at the same time as formal stakeholder comment. This combined comment period is now eight weeks.

Of the thirty Guidance Statements available, twenty-five have progressed during the past year. The following Guidance Statements were released in 1999/2000:

- Air Quality Impacts from Development Sites – Final
- Emissions of Oxides of Nitrogen from Gas Turbines – Final
- Management of Mosquitoes by Land Developers - Draft and Final
- Management of Air Emissions from Biomedical Waste Incinerators – Final
- Residential Development in Proximity to High Pressure Gas Transmission Pipelines – Draft
- Assessment of Odour Impacts – Draft
- Assessment of Development Proposals in Shark Bay World Heritage Property – Draft
- Arid Zone (Pilbara) Mangroves – Draft
- Environmental Management Systems - Draft

A list of Guidance Statements and the levels to which they have progressed can be found at Appendix 7.

EPA'S ROLE IN REMEDIATION OF CONTAMINATED SITES

The EPA has a special role in the remediation of contaminated sites when the Department of Environmental Protection (DEP) is responsible for undertaking the operational work required, and thus that department becomes the proponent.

The EPA both assesses the environmental impacts associated with each proposal and provides independent auditing of the remediation undertaken.

During this reporting period the EPA was associated with the successful remediation of contaminated sites at Vela Luka Park, Cockburn and the OMEX Site, Bellevue.

Vela Luka Park, Cockburn

In 1997, Vela Luka Park in Spearwood was found to be contaminated with tarry material from gas manufacturing activities conducted on the site from 1953 to 1972. The one hectare park was subsequently fenced off by the City of Cockburn, in late 1997, to restrict public access.

The DEP in consultation with the Health Department of WA and the Water and Rivers Commission proposed to remediate the site by:

- excavating the tarry material and placing marker mesh over the affected areas;
- covering the contaminated areas to a depth of 0.5 metres with clean fill; and
- disposing of the tarry material to the appropriate class of licensed landfill site.

The EPA agreed to the remediation proposal. The remediation of Vela Luka Park was completed in December 1999 and has been restored to a condition suitable for recreation use.

The EPA commends the DEP for its ability to save the eleven old Tuart trees located within the area of contamination. These trees were of significant local community importance.

The Minister for the Environment, on behalf of Government, officially handed over Vela Luka Park to the City of Cockburn on 14 December 1999.

OMEX Site, Bellevue

The DEP proposed to remediate the contaminated lands of the OMEX site located between Clayton Street and Purton Place in Bellevue. The DEP had assumed responsibility for remediating the contamination caused by the previous operator of the site, Western Oil Refining Company. Because of the importance and complexity of the project, the outcome is reported on in some detail below.

The EPA determined that the remediation proposal be considered through the formal assessment process. The EPA reported to the Minister in September 1999, and drew attention to the following issues:

- waste pit and soil remediation;
- air emissions (including odour, dust, particulates and chemical emissions);

Omex Site Remediation. From left to right: Graeme French (EPA), Tony Price (Egis Consulting), John Ellul (Thiess Environmental Services), Peter DiMarco (Health Department), Adam Parker (Waste Management WA) and Terry Waters (EPA Consultant).
Photograph courtesy of Ms Sally Robinson.

- groundwater;
- surface water;
- noise and vibration;
- social surroundings (including transport and community consultation); and
- other issues (including future land use and fate of wastes)

The EPA concluded that the proposal presented a positive effort in returning an otherwise contaminated and sterile land to a fit and proper state for residential purposes.

The Minister issued a Statement on 15 December 1999 that the proposal may be implemented in two stages.

Stage 1 required a Trial Excavation Plan to be prepared and implemented to the requirements of the EPA on the advice of the Health Department of WA. The purpose of the trial excavation was to prove the overall feasibility to the approach to remediation. The plan was approved and implemented in February 2000. The Report of the Findings of the Trial Excavation which demonstrated the overall feasibility of the approach to full remediation was approved by the EPA on the advice of the Health Department of WA and made public in March 2000.

Stage 2 provided for the implementation of full remediation of the contaminated site. This required an Environmental Management Plan (EMP) to be prepared drawing upon the findings of the trial excavation prior to full-scale remedial works, to the requirements of the EPA on the advice of the Health Department of WA and Water and Rivers Commission. The EMP was approved in April 2000.

The Community Intermediary Committee appointed by the Minister and representing the key interest groups within the local community met on a number of occasions during the full remediation of the site and raised issues at the local level which

were addressed by the DEP and relevant Government Agencies. The DEP kept residents informed of progress through regular newsletters, a public open day was held and the site management team maintained an open door policy for residents who were welcome to visit and inspect the site.

The DEP maintained a 24 hour "complaints hotline" and encouraged nearby residents to report any difficulties. This enabled the remediation contractor to take appropriate action in response to any complaints received, particularly when strong odours were emanating from the site.

The EPA audited the data generated by the air monitoring equipment against the weekly air monitoring reports provided by the DEP, the waste tracking system for Class III and Class IV contaminated material being transported to the Red Hill landfill facility, the backfill tracking system for imported clean fill to the site, provided independent monitoring at the Bellevue Primary School and participated in community interaction activities during the remediation of the site.

The two key issues associated with the remediation of the site were the protection of groundwater resources and human health. These were given attention in detail through the professional services of the Waters and Rivers Commission and the Health Department of WA.

Full remediation commenced in April 2000 and was completed in July 2000.

The DEP is currently preparing the Validation Report which will require the approval of the EPA and will be made publicly available.

MONITORING OF WASTE MANAGEMENT (WA) FACILITIES

Waste Management (WA) currently operates the intractable waste disposal facility at Mt Walton East and the industrial liquid waste treatment plant at Brookdale.

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

In May 1999, the EPA finalised by tender the appointment of an independent auditor to assist the EPA monitor the operations of Waste Management (WA).

Intractable Waste Disposal Facility, Mt Walton East

Waste Management (WA) sought approval from the Minister for the Environment under s46 of the Environmental Protection Act for an extension of the environmental approval for the disposal of intractable waste by shaft entombment or trench burial at the Intractable Waste Disposal Facility, Mt Walton East, as provided for in the existing environmental conditions of approval. The request to extend the approval included an examination of alternative destruction technologies for intractable wastes.

The EPA assessed the proposal and concluded that an extension of the approval should be allowed as there are wastes generated in Western Australia for which there are no practicable alternative destruction technologies available in Australia.

The Minister for the Environmental issued a Statement that the proposal may be implemented subject to an Environmental Management Plan (EMP) being prepared for each proposed consignment of intractable waste to the facility. The EMP was required to include a review of alternative destruction technologies practicably available in Australia at that time for the wastes proposed for disposal.

In this context, the EPA, in consultation with Waste Management (WA), agreed that one proposed consignment not form part of the year 2000 disposal operations as there were alternative destruction technologies available.

The EPA also reviewed the Annual Progress and Compliance Report and the Annual Licence Report. The licence conditions are being reviewed as part of the current assessment to review and consolidate the environmental conditions and commitments applying to the Intractable Waste Disposal Facility, Mt Walton East under s46 of the Environmental Protection Act.

Liquid Waste Treatment Plant, Brookdale

During the year the EPA reviewed the Brookdale liquid Waste Treatment Plant Annual Monitoring Report. The EPA is currently assessing a proposed Change of Status of the Treatment Plant, and this will include a review and consolidation of existing environmental and licence conditions, and commitments applying to this facility.

LEGISLATION ISSUES

Review of the Noise Regulations

The EPA carried out a mandatory two-year review of the Environmental Protection (Noise) Regulations 1997. The review report was completed in October 1999 with the assistance of the Department of Environmental Protection (DEP).

The review contained a summary of the regulatory framework for environmental noise control in WA and outlined the activities that had taken place under the regulations in the two years since

commencement. The review included a study of local government noise complaint data and a survey of authorised persons who deal with noise issues within the DEP and local government.

In essence, the review showed that the regulations were working well. However, a number of areas were highlighted where the regulations could be improved. The EPA recommended that a series of working groups be established to develop possible amendments to the regulations in these areas, with a reporting date of June 2000.

The working group programme was established by the DEP early in 2000, with a total of 14 working groups involving 70 people. The outcomes of the working groups were circulated to a wider Reference Group of about 170 interested persons, for comment. The report on the working groups was accepted by the EPA in June 2000.

The report recommended action under three headings:

- a group of issues for which amendments to the regulations could be brought to EPA by February 2001;
- a smaller group of issues for which further work needed to be carried out to develop suitable amendments; and
- a group of issues for which amendments were not considered necessary, but for which training and information could be provided by the DEP.

SITE VISITS CARRIED OUT BY THE EPA

During the year, various EPA members (subject to availability) traveled 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 DEP accompanied the EPA.

Whenever possible, EPA members use the opportunity of being in the field to meet with key local stakeholders, including local government CEOs 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:

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

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

ADVISORY COUNCIL TO THE EPA

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

ACTEPA meets bi-monthly and 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:

Mr Andrew Baker (Chairman)
Mrs Dot Hesse
Dr Rod Lukatelich
Mr Tony Van Merwyk
Ms Verity Allan
Mr Graham Slessar
Mrs Marion Blackwell
(the above appointments expire 30 September 2001)
Mr Norm Halse (Deputy Chairman)
Dr Sue Graham-Taylor
(the above appointments expire 1 September 2000)

Retiring members:

Mrs Jan Star
Mr Harry Butler
Mrs Jos Chatfied
Mr Alex Gardner

Mr Simon Holthouse

Dr Des Kelly

Mr Ian Le Provost (appointed to the EPA)

Associate Professor Frank Murray (appointed to the EPA)

Ms Linda Siddall

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 for advice to the EPA.

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

- Cockburn Sound;
- Memorandum of Understanding (MOU) on Mining with Department of Minerals and Energy (DME);
- Water Law Reform Bill;
- Greenhouse Council – Progress Report;
- Kwinana International Motorplex;
- Ord Stage II Irrigation Project;
- Clarkson/Butler MRS amendment;
- Forests;
- Gosnells recycle facility; and
- Position and Guidance Statements.

The EPA records its appreciation of the time and effort taken by Advisory Council members during the year, and records its special thanks to those who have retired from membership, noting particularly the work of retiring member Mrs Jan Star who chaired ACTEPA for three years. The advice of all members of ACTEPA is greatly appreciated by the EPA.

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 that 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 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.

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 s48A of the Environmental Protection Act.

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.

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. This is being achieved through an ongoing consultation process between the Chairman of the EPA and the CEO of CALM.

APPENDIX 2

Formal Assessments (other than Environmental Protection Statements)

Bulletin No.	Title	Release date
944	Titanium minerals mining and rehabilitation, Reserve 31900, Yarloop	July 1999
945	Busselton Wastewater Treatment Plant - Disposal of treated wastewater, Queen Elizabeth Drive, Busselton	August 1999
946	Change to Environmental Conditions - Yandicoogina Iron Ore mine and railway, East Hamersley Range, 90km North West of Newman	August 1999
947	Land reclamation, Lots 165-168 Cockburn Road, Henderson	September 1999
948/949	Motor sports facility between Anketell & Thomas Roads abutting Rockingham Road, Kwinana	September 1999
950	Harvey-Stirling development scheme, 110km south of Perth and east of the town of Harvey and pipelines from Harvey-Stirling and Stirling Harris River. Change to Environmental Conditions - Harris Dam Project Collie River Basin, Collie	September 1999
951	Rehabilitation of Omex contaminated site, Bellevue	September 1999
952	MRS Amendment 991/33 South West Districts Omnibus No 3	October 1999
953	Kwinana export facility, Kwinana	October 1999
954	Change to Environmental Conditions - Intractable waste disposal facility (extension of time limit of approval including of alternative destruction technologies), Mt Walton East	October 1999
956	Shire of Wanneroo TPS 1 Amend 837, Rezone from Rural to Rural Community Lots 201 & 202 Breakwater Drive Two Rocks	November 1999
957	Remediation of contaminated land for residential purposes, South Coogee	November 1999
958	Shire of Manjimup TPS 2 Amendment 82, 1)Including additions use zone to allow continued operation of sawmills, Lots 156, 157, 160 & 159 Main Road 2) Include Service Industrial zone with development conditions, Betsworth, Francis, Stewart and Colin Streets, Manjimup	November 1999
959	City of Wanneroo TPS 1 Amend 787 Primarily to: Rezone from "Rural" and "Rural Development" to "Urban Development", "Centre" and "Industrial Development" Zones. Various lots currently zoned Urban/Urban Deferred, Industrial and Central City Area, Yanchep-Two Rocks	November 1999
960	Change to Environmental Conditions - Tonkin Industrial Park (Stage 2), Bassendean	November 1999
962	Expansion of liquefied natural gas facilities from 7.5mtpa to 14-15mtpa, Burrup Peninsula, Karratha	December 1999
963	Munster pump station No 3 and extension to Bibra Lake main sewer through Beeliar Regional Park (near Lake Coogee), Munster	December 1999
968	Change to Environmental Conditions - Great Eastern Highway North By-pass, Northam	February 2000

Bulletin No.	Title	Release date
969	MRS Amendment No 999/33 Northbridge Renewal, Northbridge	February 2000
971	MRS Amendment No 992/33 Clarkson-Butler, Wanneroo	March 2000
973	Change to Environmental Conditions - Motor sports facility between Anketell and Thomas Roads abutting Rockingham Road, Kwinana	March 2000
975	Proposal to construct a road across Vasse Estuary (Ford Road) Shire of Busselton	May 2000
976	Potential gold mine developments, Lake Lefroy, Kambalda	May 2000
978	Clearing of 60 hectares of land for agriculture Fitzgerald Locations 446 & 1538 , 30km north west of Salmon Gums	May 2000
979	Clearing of 311 hectares of land for cropping and grazing, Fitzgerald Locations 470, 525, 527 and 557 Salmon Gums	May 2000
982	Change to Environmental Conditions - Widespread use of bauxite residue Peel-Harvey coastal plain catchment.	June 2000
983	EPA Review of the environmental implication of the proposed changes to the Karri and Tingle logging practices as set out in the report of the Ministerial Advisory Group	June 2000

APPENDIX 3

Environmental Protection Statements

Bulletin No.	Title	Release date
964	Upgrade of Dampier Marine Services Facility, King Bay, Dampier	December 1999
972	Industrial subdivision Lot 51 Murat Road, Exmouth	March 2000
977	Mineral sands mining and rubbish tip relocation, Reserve 31900, Yarloop	May 2000 May 2000
981	Wallaby open pit gold project, Mining leases M38/690 & 691, Shire of Laverton	June 2000

APPENDIX 4

Proposal Unlikely to be Environmentally Acceptable

Bulletin No.	Title	Release date
980	Clearing of 602 hectares of land for grazing of livestock and growing of crops, Victoria Location 10322, Watheroo West and Coalara Roads, 25km north east of Badgingarra	June 2000

APPENDIX 5

s16 Strategic advice in preparation 1999-2000

Project Title	Current Status
Proposal to accept industrial effluent into the Cape Peron pipeline off Cape Peron	On hold
Transport strategies (DOT) Metropolitan and Country Areas	EPA Report in preparation
Road - Controlled access highway, Fremantle to Rockingham, south of Rollinson Road	On hold - EPA advice to be prepared and released in conjunction with bulletin for formal assessment
Development concept - Torquoise Coast, Jurien	Awaiting documentation prior to Public Review
Water - Drainage Water Quality and Impact on Receiving Water Bodies	EPA will report when data collection phase is complete
Gypsum Mine within Francois National Park, Cape Peron, Shark Bay	On Hold - awaiting advice from Proponent
Petroleum Exploration and Development within Shark Bay World Heritage Property	Document will go out for public review at completion of workshops
Draft Structure Plan - Southern River - Forrestdale	EPA Report in preparation
Dampier to Bunbury natural gas pipeline corridor expansion	EPA Report in preparation
Strategy - Scott Coastal Plain	EPA Report in preparation
Allocation of Oakajee Gas Pipeline Corridor east of Oakajee Industrial Estate	Proponent's document in preparation prior to Public Review
Corridor and Alignment Selection Study for Future East West Freight Road Linking East Wast Regional Road, Brookton Highway Westdale to South West Highway, Mundijong	EPA Report in preparation
Phytophthora cinnamomi and the disease caused by it – a protocol for identifying protectable areas and their priority for management	Public review documentation in preparation.

s16 Strategic advice completed 1999-2000

Bulletin No	Project Title	Date completed
943	Fremantle-Rockingham Industrial Area Regional Strategy (FRIARS)	July 1999
	Kemerton Expansion Study - Additional advice on vegetation	August 1999
	Motor Sports Facility Kwinana	September 1999
	Draft Management Plan for aquaculture, Houtmans Abrolhos Islands	November 1999
955	Gnangara land use and water management strategy (GLUWMS)	November 1999
961	Goldfields-Esperance regional planning strategy	November 1999
965	Interim water allocation plan, Ord River	December 1999
966	Strategic advice to government on land clearing proposals	December 1999
967	Lake Argyle Barramundi Aquaculture Industry Strategic Environmental Assessment, Kimberley	December 1999
970	Draft Kununurra-Wyndham area development strategy	February 2000
	Implementation plan to reduce sewage overflows into the Swan and Canning Rivers	May 2000
974	Avon Arc sub-regional strategy	May 2000

APPENDIX 6

Position Statements

Position Statement	Current Status
Environmental Protection of Cape Range Province in Western Australia.	Final issued (No1).
Environmental Protection of Native Vegetation in Western Australia.	Preliminary released. Final in preparation (No2).
General Requirements for Terrestial Biological Surveys.	Preliminary released (No3).
Gypsum mining in Western Australia	In preparation
Wetlands	Being Finalised as 'Preliminary'
Rangelands	Being Finalised as 'Preliminary'
Special areas	Under consideration
Principles of Environmental Protection for Western Australia	In preparation
Biodiversity	Under consideration
Benthic Primary Producers Habitat Protection	In preparation
Social Surroundings	Under consideration

APPENDIX 7

Guidance Statements

Draft Guidance Statements in preparation

Aboriginal Culture and Heritage *

Noise, Transport - Road and Rail

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

Wetlands, Protection

Terrestrial Biological Survey Standards *

Contaminated Soils, Management

Coral Protection

Draft Guidance Statements released

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

Mosquitoes #

Odour Impacts, Assessment

Shark Bay World Heritage Property, Assessment of Development Proposals

Mangroves, Arid/ Pilbara

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 Runoff, Management of from Industrial and Commercial Sites

Planning Schemes, Guidance for Assessment *

Contaminated Soils 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 Released

Lake Clifton, Protection

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

Mosquitoes #

Biomedical Waste Incinerators, Management of Air Emissions

Gas Turbines, Emissions of Oxides of Nitrogen *

Development Sites, Air Quality Impacts *

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

Released as both Draft, then Final this year

APPENDIX 8

EPA site visits 1999-2000

Date	Site
28 June – 2 July 1999	Shark Bay Salt and World Heritage Property
5-6 July 1999	Kemerton industrial area expansion and Harvey Dam project
16-18 August 1999	KCGM, Kalgoorlie and St Ives Gold Mine, Lake Lefroy
20-22 October 1999	Ord Stage II irrigation project area, Kununurra
25-26 October 1999	Waradarge Coal Project, Mt Lesuer and Turquoise Coast Development, Jurien
8-10 December 1999	Kalbarri Airport, Hutt Lagoon Bete-Carotene operations and Port Gregory road realignment

Other site visits by EPA members

Date	Site
29-30 July 1999	Murrin Murrin nichol project and Mt Margaret
31 August-1 September 1999	Portman Mining, Esperance
28-29 October 1999	Broome Airport relocation and Gautheaume Point
26-28 February 2000	Esperance Port Authority open day
7-8 March 2000	Mt Walton IWDF, Coolgardie
13-15 March 2000	Ord Stage II irrigation project area, Kununurra

APPENDIX 9

Financial Report

The administration costs of the EPA are as follows:

	1999-00 ($'000)	1998-99 ($'000)
Recurrent		
Salaries, wages and allowances	315	327
Other Expenses		
Staff related expenses	57	63
Communications	5	4
Services and contracts	196	142
Consumable supplies	8	12
Work in progress (refer note 1)	4	30
Other *(refer note 2)*	11	19
Total	596	597

Notes **($'000)**

1. Works in Progress: 98/99 accruals 21
   less: 99/00 accruals 17
   4

2. Other: Purchase of assets from recurrent 8
   Maintenance of assets 3
   11

Electoral Act 1907 (s175ZE Disclosure)

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

1. Total expenditure for 1999/2000 was $8 424.16 .

2. Expenditure in the following areas:

Advertising Agencies	Nil
Market research organisations	Nil
Polling organisations	Nil
Direct mail organisations	Nil
Media advertising organisations	Marketforce Productions ($6 583.68)

Note:

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