

Annual Report

1995-96

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Transmittal


Hon P Foss, MLC
MINISTER FOR THE ENVIRONMENT

Dear Minister

In accordance with section 21 of the Environmental Protection Act as amended, I submit the EPA's annual report for the year ended 30 June 1996.

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

Yours faithfully



R K Steedman
CHAIRMAN

31 October 1996

Chairman's letter

The Environmental Protection Authority consists of five people with extensive knowledge about environmental matters in Western Australia. The EPA uses this knowledge-base to make decisions in consultation with other Government departments, the public and proponents.

It is up to the EPA to take this varied advice and put forward to the Minister for the Environment recommendations that best protect the environment.

The EPA works with all these external clients in different ways. In the past year, we have been working with and encouraging other Government agencies in environmental protection. We have also been working with industry to improve procedures, while reinforcing environmental protection objectives.

The advice the EPA gives can be contentious, that is the nature of the field in which we work. Environmental debates are too often caught up in emotion and feeling for it to be any other way. The EPA accepts that this is the case, and that people will always have different opinions about the 'right' way to proceed in a given situation. In dealing with this, the EPA seeks only to maintain the integrity of the process — to ensure that rigorous scientific analysis is applied and that the best and most specific data available are used in the process. While social factors will be considered where relevant, the EPA will not get caught up in emotional debates.



EPA members (left to right): Chris Rowe, Marion Blackwell, Ray Steedman (Chairman), Bernard Bowen (Deputy Chairman), Brian Logan.

The management of all proposals over the long term is of fundamental importance to the success of the EPA advice and resulting Ministerial conditions. To this end, the EPA places great emphasis on the environmental management systems, objectives performance audit and review of the environmental management plans.

That said, it is disappointing for me and the other EPA members that more people with genuine concerns about specific projects and issues do not make personal presentations to the EPA. There is a standing invitation, which appears in *The West Australian* each week, to come to EPA committees but for the most part this has not been taken up. If people have genuine problems with the way the EPA is dealing with issues, they should come and discuss them with us.

In 1992, the Environmental Protection Act was reviewed. The review identified a number of

criticisms of the processes followed by the EPA. We recognise these criticisms and have been taking steps to rectify specific problems. We have not, by any means, solved all the problems. We are, however, making progress and I would like to assure the West Australian public that the EPA considers protection of the environment as its highest priority.

I would like to briefly touch on policy development. Environmental protection policies are one of the strongest tools the EPA can use to ensure the environment is protected by law. Although work on policies is continuing, we are disappointed that in the past year, not one policy has progressed to completion. The EPA would hope that the upcoming year sees some of the policies being finalised. The EPA believes it has met its objectives of protecting the environment and preventing pollution by carrying out its functions.

RK Steedman

RK Steedman
Chairman

EPA Members

Dr Ray Steedman FTS

Dr Steedman received his PhD from the Flinders University of South Australia. Dr Steedman brings to the EPA more than 20 years' commercial and research experience and expertise in mathematics and physics applied to engineering and the environment.

In 1974, Ray Steedman established an oceanographic and meteorological business, R K Steedman and Associates, in Western Australia. Since then he has directed local and international companies and has been involved as a consultant and contractor in many environmental projects associated with industry, particularly in Australia and South East Asia. He retains directorship of public and private companies.

His experience includes helping government to develop and implement science and technology policy. He has also been chairman of the Australian Institute of Marine Science, a member of several CSIRO, university and national committees and has published widely in local and international scientific journals.

Mr Bernard Bowen AM FTS

Bernard Bowen was Director of the Fisheries Department between 1968 and 1991. Mr Bowen has been involved in extensive marine research and management and has held several senior Federal Government positions.

Since his retirement from the Fisheries Department, Mr Bowen was a Director on the Australian Fisheries Management Authority and was chairman of the CSIRO Fisheries Division Advisory Committee. Mr Bowen has a Bachelor of Science from the University of Western Australia.

Mrs Marion Blackwell

Marion Blackwell is an environmental scientist and landscape designer and was the founding director of an active landscape architectural practice in Perth, Blackwell & Associates. She is a graduate of science from Sydney University majoring in ecology and plant physiology.

Mrs Blackwell has lectured at the University of Western Australia, as well as being involved in a wide spectrum of landscape consultancy work in the fields of landscape design, planning and management.

Particular interests of Mrs Blackwell's centre around the use of good design in improving the quality of life for people living in arid areas, which includes the conservation and rehabilitation of problem areas, especially in arid coastal locations and desert regions.

Mrs Blackwell has undertaken a number of research projects in relation to water conservation, soil stabilisation and revegetation, the culturing and preservation of Basidiomycete fungi, and the effects of high soil pH on plant root/fertiliser relationships.

Dr Brian Logan

Dr Brian Logan is the director of several companies concerned with resource management. He was a Reader in geology at the University of Western Australia. He has done extensive research projects for industry and government on many parts of Western Australia's environment, often focusing on the areas of resource development and conservation. Between 1972 and 1975 he provided technical advice to the State Government's Conservation Through Reserves Committee.

With about 38 years of diverse experience relating to the environment, Dr Logan has particular expertise in the geological processes of WA's landforms.

Mr Christopher Rowe

Christopher Rowe, who read economics and law at Cambridge University, was a partner in a Perth commercial law firm from 1972 to 1979. He has subsequently consulted to clients in the oil and gas and mining industries and is currently director of Aztec Resources Canada.

In January 1991 Mr Rowe was appointed as Counsel assisting the Royal Commission into Commercial Activities of Government and other matters.

He has a committed interest in conservation and the environment and is a member of both the Council and Executive Committee of the National Trust of Australia (WA).

How the EPA works

Protecting the environment and controlling, preventing and abating pollution are the objectives of the EPA, as stated in the Environmental Protection Act.

Under the Act, environment is defined as "...living things, their physical, biological and social surroundings and the interactions between all of these...". The Act explains further 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." In addition, the EPA interprets environment to include beneficial use and risk associated with relevant environmental factors.

In pursuing its objectives, the EPA carries out many functions, including environmental impact assessment, formulating environmental protection policies, seeking information and providing advice.

The EPA is an advisory body only. Its role is to provide independent advice to the Minister for the Environment. Decisions concerning policies, proposals and the conditions to be imposed on developments are made by the Government. The EPA believes there is a need for further liaison with the Government to clearly establish its expectations of the EPA.

Benefits would also flow from clearer definitions of the functions of the EPA and the services of the DEP, particularly the information transferred to the public arena. There is currently much confusion among the public over the separate roles.

The DEP provides a service to the EPA for the operation and management of policy development and assessment of proposals. Under the present arrangements, the EPA cannot control the activities of the DEP and this may lead to confusion should differing views be expressed.

To meet today's challenges and to provide an appropriate service for its many and varied clients, the EPA is reviewing the way it operates. It must move away from a philosophy of regulation to one of guidance and cooperation through agreed plans and management standards, with review and continuous improvement as the goal. Such changes would be in line with the way industry is now approaching the environment.

Companies are moving towards philosophies of continuous improvement and management systems designed to meet published voluntary Australian Standards (ISO 9000 and ISO 14000, draft). Such changes are in line with other changes in the operation of industry. These standards are out of step with the regulatory approach traditionally taken by agencies such as the EPA.

In the past year, the EPA has been working with the Minister and the DEP to make changes to the way it operates to enable it to deal with these situations and further these objectives. The EPA also believes that such changes will address the criticisms that were directed at its processes in the 1992 review of the Environmental Protection Act. Those criticisms related to the timeliness and uncertainty of the EPA's decision making. (See section on environmental impact assessment, page 18, and policy development, page 16).

Approach taken by EPA

In reaching conclusions on the many issues with which it deals, the EPA looks at subjects before it on the basis of a set of pertinent assessment policy and criteria. Many of these policies and criteria are based on international treaties to which Australia is a signatory. Within the broad principles of ecologically sustainable development and biodiversity, the EPA considers specific factors that are more easily defined and measured. EPA recommendations are made on the basis of protecting:

- declared rare flora and fauna (and their habitat);
- water quality and quantity;
- air quality;
- soils and land.

Any given proposal is considered on the basis of these operating principles. This does not however, indicate the entire extent of the EPA's deliberations. The EPA also looks at risk to individuals and society, land use and management.

The conventional definition of risk is the product of the degree of harm a given event will cause and the probability of its occurrence. There are clear guidelines on the current acceptable levels of risk to which individuals and society should and should not be exposed. Details of these are given in EPA Bulletin 611.

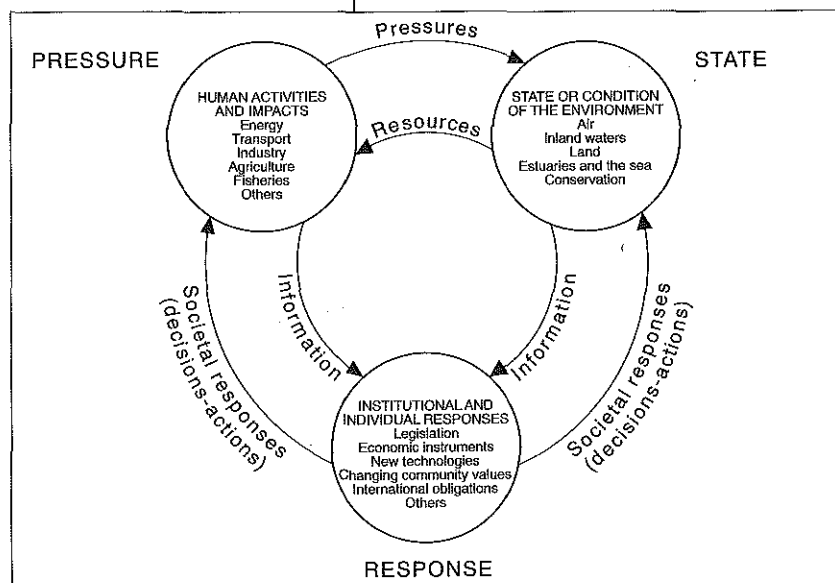
As a general guide, the EPA will not recommend a change in the purpose for which land is set aside unless it conflicts with one of the above-mentioned principles. That is, the EPA works within the land use zoning for a given area. The exception to this situation is where there is sufficient scientific and technical information to warrant a change being recommended. Under new planning legislation, the EPA has the power to assess any proposed changes to land use zoning at the time such changes are proposed (see section on legislative issues, page 21).

For any project, the EPA also looks at the management of the environment under consideration. A management plan is required which needs to include factors, objectives and performance indicators. An annual, voluntary audit should be performed. In addition, the DEP may choose to audit from time to time. There should also be a periodic review of the operation, which should work on continuous improvement.

When considering all the above factors, the EPA takes a similar approach to the OECD's Pressure-State-Response model. The main elements of this model are:

- human activities cause pressures on the environment;
- this pressure changes the quality and quantity of natural resources (ie. the environmental state); and
- society responds to the change through environmental, economic and sectoral policies.

The interaction should be between all elements of the pressure, state and response. In this sense, the EPA notion of pressure, state, response differs from the OECD model.



Pressure - State - Response model

This model provides a framework in which the EPA can view the environment, the pressures proposed developments and changes will place upon it, and therefore formulate appropriate responses aimed at protecting the environment.

Being concious of the need for consistency, the EPA has set about developing assessment policy and criteria which will guide proponents during formal assessment and assist Government in reaching decisions. More detail on these policies and criteria can be found in the environmental impact assessment section on page 18.

EPA plan

The EPA has a plan which has been recently reviewed. The plan seeks to provide a coherent basis on which the EPA can act to form policy and provide advice. It covers the entire state of Western Australia.

The intention of the plan is to give the EPA a set of operating procedures by which it can undertake its day to day functions to best protect the environment and liaise with the EPA's clients.

The EPA consults regularly with the Minister for the Environment, members of the public, Government departments and proponents.

The first EPA plan was set in place in June 1994. It is a rolling plan — issues which it details fall away as they are completed and new ones become the focus of attention.

The second version of the plan builds on the work of the first and provides an update of the issues with which the EPA is dealing.

Specifically, the new plan aims to:

- identify significant issues and regularly update them;
- provide for regular reports on the state of the environment;
- test the performance of existing policies;
- lead to new and improved policies through community involvement;
- aid interaction between Government departments; and
- identify the best methods of managing and funding environmental protection.

The EPA plan is intended as a working document for the day to day operations of the EPA. It is not intended that it address all the environmental issues facing Western Australia. Rather, it focuses on selected key issues presently facing the EPA and how they could be dealt with. It aims to make the EPA more efficient in liaising with important groups and protecting Western Australia's environment.

Major environmental and pollution issues

State of environment reporting

The EPA's suggestion that a report on the state of the Western Australian environment be developed has been advanced during the past year by the DEP. A committee, representative of a wide range of interested bodies, and 11 regional groups are currently providing local information and reviewing material as it is produced.

Although the terms of reference for the report do not include the EPA, the EPA would hope state of the environment reporting will become a permanent feature with regular and continuous reporting.

Salinity strategy for the South-West

Salinity is one of the most serious, if not the most serious, environmental issue facing Western Australia. It threatens the South-West Agricultural Region's natural resources, conservation areas, town sites and farms. Over 1.6 million hectares of the State's most productive agriculture region is affected. It is estimated that this figure will rise to 2.9 million hectares by 2010.

In recognising this problem, the EPA has encouraged the development of a salinity strategy that could be implemented progressively at the local level. The strategy would redress land and water degradation, conserve biodiversity and protect native remnant vegetation. All parties would be encouraged to be involved.

The EPA is aware that the Government has developed a State Salinity Action Plan, but has had no formal involvement at the time of reporting. The EPA reinforces its calls from last year that a two-way solution to the problem is needed where both the farming community and the Government work together to combat the salinity problem.

Groundwater

Last year the EPA expressed concern about protection of the State's groundwater — this has been progressed and the EPA is pleased an environmental protection policy is being developed. There is more on this issue in the policies section of this annual report on page 16.

Resources development

It is estimated that up to \$40 billion may be spent on industrial development in Western Australia over next few years. This expected resources development surge could significantly increase the EPA's workload and stretch current resources.

For example, the EPA has assessed four nickel project proposals in the 1995-96 financial year. These four projects are a major tailings storage facility at Western Mining Corporation's Mt Keith operations and three new projects, namely Murrin Murrin Nickel-Cobalt (Anaconda Nickel NL), Bulong Nickel Cobalt Laterite Project, (Resolute Resources Ltd) and Cawse Nickel (Centaur Mining and Exploration Ltd). The Minister has approved the Murrin Murrin project; Bulong and Cawse projects were still being processed by the EPA at the time of reporting.

There are also several major projects associated with the energy sector, including the expansion of the Premier Coal Mine at Collie and four gas and petroleum related projects in the North West.

Two major iron ore developments have been proposed. These are the expansion of Yandi mine and the proposed development of Yandicoogina mine. Both are on Marallana Creek, north-west of Newman and involve mining the Channel Iron Ore Deposit.

In particular, current resource-based activities are focussed on several development nodes. One of these is the North West and is concentrated around Dampier, Karratha and Port Hedland. These projects are associated with off-shore oil (platforms and pipelines), and on-shore treatment plants and secondary processing (of methanol, iron and steel). Another development node follows the Goldfields Gas Pipeline. Along this route, there has been a dramatic surge in base metal activities, with nickel and gold projects dominating.

Environmentally, the issues associated with these resource projects vary with geographic location. In the north coastal area they include corals, mangroves and water quality. The major concern on-shore is air quality, particularly as it is affected by dust and gaseous emissions. Inland, vegetation, groundwater and air quality are the main concerns. In all areas, there is also the question of the planning design and management of the site and plant itself.

The EPA's response to dealing with these issues has been to begin to establish assessment policies on protecting these various environmental qualities. To do this, the EPA is working with government departments to devise an agreed set of policy criteria in relation to the different environmental factors. For example, there will be a policy on mangroves that will outline measures to protect mangroves in the case of development placing pressure on them.

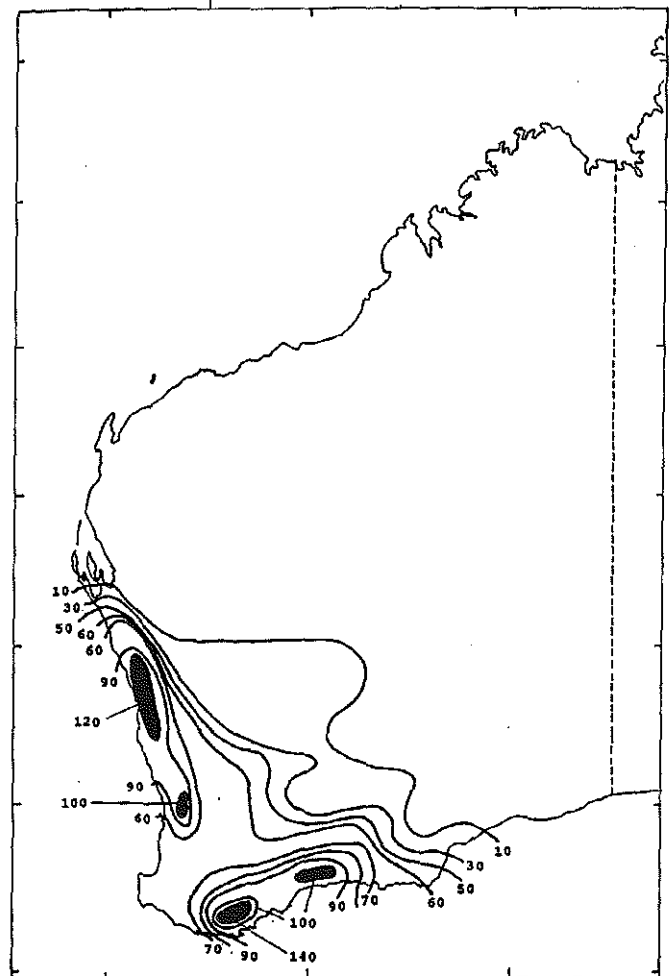
These assessment policies will be used to help in providing consistent advice to the Minister. The new policies will provide the advantage of proponents and the public knowing what the EPA is concerned about in different situations.

South-West flora

It is the flora that gives the South-West of Western Australia its unique character. The area has an extremely rich flora, with about 4000 species estimated to occur in the area. Of these, more than 3000 are endemic — they are not found anywhere else in the world. Many species have very restricted distributions with the entire range of some species covering less than 100 kilometres.

The South-West of Western Australia is also the region of the State that faces the highest development pressure. Stretching from the south of Kalbarri to east of Esperance, it is inhabited by most of WA's population, so pressures from urbanisation and rural subdivision are large. Agriculture also places pressure on the region. These pressures are resulting in continued clearing of important native vegetation.

Already, a large proportion of the native vegetation in the South-West has been cleared. The loss is significant with vegetation losses of up to 95 per cent in the central wheatbelt and more than 97 per cent on the eastern side of the Swan Coastal Plain. Aside from the direct loss of vegetation from clearing, there are many associated problems, such as loss of



Map of Western Australia showing the isoflora of Proteaceae

habitat, infestation of weeds, water quality and quantity and salination, which seriously affects the remaining vegetation.

Protecting the vegetation and the water balance which supports it contributes to the protection of biodiversity by ensuring the plant diversity, habitat diversity, and therefore animal diversity, are all retained.

There is a need to increase public awareness and appreciation of the South-West flora — Western Australians should better understand the value of native flora. The Government has recently released a requirement that at least 20 per cent of vegetation be retained in the South West agricultural zone.

Protection of vegetation needs to occur on both private and public land. The Conservation Through Reserves program aims to address this, at least in part. The System 6 Update (see page 14) is part of this program. The EPA is looking at both voluntary and statutory measures to conserve remnant vegetation on private land. The challenge is to find ways to conserve our unique flora while enabling development to occur in the region.

Port development and risk

Land around Western Australian ports is being squeezed by urban development and port expansion. Recently, the EPA has assessed proposals dealing with all of the long established ports in the south of the state — Geraldton, Fremantle, Bunbury, Albany and Esperance.

These port developments all have two factors in common: there is an increased volume and changing mix of freight through the port, and there is an increased demand for residential and commercial development in close proximity to the port.

The consequence of these conflicting demands is competition between port operations and residential use. The nature and volume of freight moved through ports poses a risk to local residents (eg from transport of dangerous goods such as methanol and ammonium nitrate), as well as associated problems such as traffic, noise and dust.

It is reasonable to expect that this problem will increase as economic growth increases the volume and mix of freight and population growth increases demand for residential land. It is also reasonable to expect that the volume of hazardous and dangerous materials through some ports will increase.

The competition between port operations and urban development needs to be carefully assessed in each case and strategic plans developed for the next 30 to 50 years. Only in this way will future problems and controversies be avoided. The EPA, the Western Australian Planning Commission, the port authorities and other government agencies have been reviewing the planning and transport requirements to better define and correct this problem.

Air quality

This year, work has concluded on two major studies on Perth's air quality. The studies have indicated that Perth is on a threshold of a significant air quality problem.

The EPA has delivered the final report on the Perth Photochemical Smog Study, which was prepared by Western Power and the DEP, to the Minister for the Environment. At the time of reporting, the Minister was considering the Government's response to the report.

Photochemical smog forms when air pollutants, mainly nitrogen oxides and reactive organic compounds, react together at high temperatures and in sunlight. The conditions in Perth in summer are therefore ideal for its

formation. Perth's highest photochemical smog levels occur on days in late spring and early summer when a weak low pressure system sits near the coast.

The photochemical smog study looked at sources and levels of photochemical smog in Perth. Motor vehicle emissions were found to be a major contributor. Industrial emissions were another significant source. Other sources were area sources and biogenic emissions.

The Perth Haze Study is due to be released in November 1996. The intensive monitoring part of the study, undertaken by the CSIRO and the DEP, was completed in September 1995. It is intended to undergo a period of peer review. The haze study focussed on air quality issues caused by smoke from burning off, land clearing, inefficient wood burning stoves and vehicles. The study found seasonal variations in the concentration of haze particles in the air. Particles associated with biomass combustion, such as emissions from wood burning stoves in winter and hazard reduction burns in spring, were the dominant sources.

Dealing with the problems associated with air quality in Perth will require the Government to make some difficult decisions about the necessary steps to reduce air pollution.

Environment and land-use

North West Cape

The potential for proposed developments to be used to help reduce environmental impacts from various activities was highlighted during the year by the Coral Coast Resort, Maud's Landing on the North West Cape.

The proposal involved creating a 45-hectare inland marina, which would provide focus for a resort development, town site and urban canal-style estate development. It was assessed in December 1995. The site is close to Ningaloo Reef Marine Park and a sensitive terrestrial environment subject to increasing tourism pressure. The EPA considers that, if appropriately developed, the proposal has the potential to relieve sensitive environments of tourist pressure. It would focus recreational boating in the marina, utilise appropriate waste disposal at the townsite, and instigate better management of the environment.

The EPA is very concerned about ad hoc developments along the coastal strip between Red Bluff and Norwegian Bay just below the Cape. The EPA discourages this type of development which could have negative environmental impacts on the Ningaloo Reef, lagoons and the terrestrial environment. Approval was recommended for the Coral Bay development to act as one development node instead of allowing numerous small developments to be spread along the coastal strip.

The North West Cape is also the site of several other development proposals. These proposals have all raised issues regarding the protection of the subterranean fauna (both aquatic and terrestrial) variously referred to as stygofauna and troglobites. This situation has highlighted what is a frequent problem in environmental impact assessment. The EPA found that there was very little information available to it on the above aspects of the North West Cape stygofauna or troglobites. Lack of technical information is a common problem when dealing with the environment. In this case, the EPA sought expert advice, which led to the DEP having a report produced on karst management considerations for the Cape Range province of WA. Selected parts of this report will now be used as a basis for future recommendations regarding proposals that may affect upon such areas.

System 6 Update

Understanding of the values of remnant bushland on the Swan Coastal Plain has increased dramatically with the System 6 Update. Work is continuing on

the update, the final report of which will be integrated with the Urban Bushland Strategy for the Metropolitan Coastal Plain Region. It will be released jointly by the EPA, Western Australian Planning Commission, National Parks and Nature Conservation Authority and Water and Rivers Commission in late 1996.

Studies associated with the System 6 Update have enabled the EPA to establish an Interim List of Protected Areas. The areas included on this list are those that have been found to have special significance. They are considered by the EPA to be environmentally important and will be subject to the strictest environmental controls.

Contaminated sites and re-development

The problem of contaminated sites was highlighted by the McCabe Street redevelopment in Mosman Park. Sites such as this one, contaminated by previous activities (in this case a former fertiliser factory), pose a difficult situation when redevelopment is proposed. Adequate measures must be taken to ensure the contaminated material is dealt with safely.

At McCabe Street the proposed solution involves building a containment cell on site. Original approval for this work was given by the EPA in 1993. During excavation, extra contaminated material was found and the proposed containment cell was not big enough. The proposal to expand the containment cell was assessed by the EPA in early 1996.

To help with the assessment, the EPA appointed a Review Committee composed of technical experts and local residents. The aim was to provide a forum to bring together local concerns and scientific data. The committee held a public meeting and answered Terms of Reference defined by the EPA. The committee's report was used by the EPA to help it reach its conclusions.

The McCabe Street proposal has highlighted the need for a long-term disposal site for contaminated material in Western Australia. Without such a facility, clean-ups of contaminated sites will continue to present difficulties. Western Australia has relatively few contaminated sites compared to other states in Australia, but this is most likely a reflection of the area and size of our industrial development.

Waste management

The EPA believes the Government needs to find an economic landfill site to accommodate different classes of material in the Perth metropolitan area. The Authority recognises the difficulty and contentious nature of locating hazardous waste in the surrounds of Perth, but believes if it is well-managed and if adequate public liaison is undertaken, the public concern should be reduced.

1997 report on the Forest Management Plans 1994-2003

The EPA is consulting with the Department of Conservation and Land Management while CALM prepares the mid-term progress and complaints report relating to its environmental performance as required in the Forest Management Plan 1994-2003. The preparation of this report is in accordance with condition 18 of the 1992 Ministerial statement giving environmental clearance. Public comment will be sought before reporting to the Minister.

The EPA has appointed an advisory committee to help in the consultation process and in the subsequent advice from the EPA to the Minister for the Environment. The EPA is expected to report to the Minister on the subject towards the end of 1997.

Policy development

Environmental protection policies

Changes to the way the EPA approaches environmental protection policies (EPPs) should make them more effective and speed up the gazettal process in the future.

Environmental protection policies give statutory protection to specific parts of the environment, or to prevent, control or abate pollution. They are declared under Part III of the Environmental Protection Act.

When the EPA considers that an EPP is needed, it first prepares a draft and outline of what the policy is intended to do. Notice of this is published once in the Government Gazette and three times in a daily newspaper circulating throughout Western Australia.

Currently, EPPs take about five years from initiation to gazettal. Given the rate of environmental change, this is far too long. The EPA has reviewed this process and is hoping improvements will start to show almost immediately.

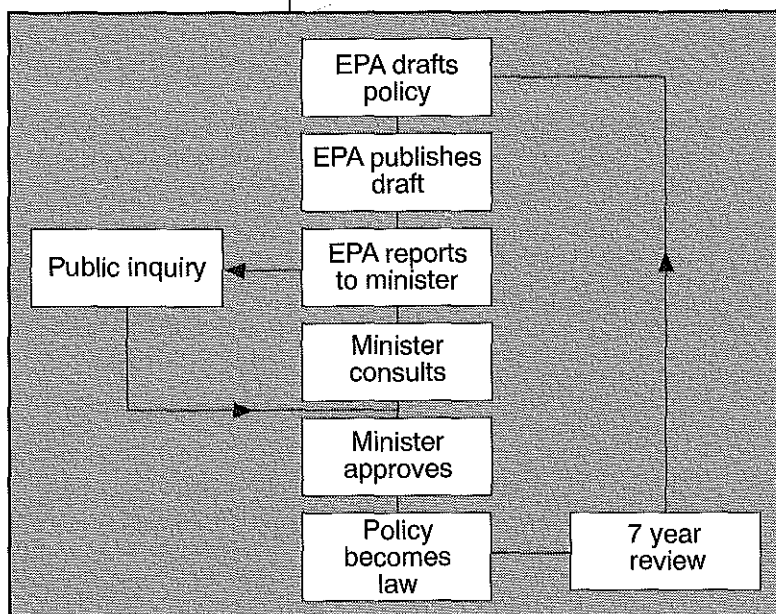
Declaring EPPs almost inevitably involves significant changes being made by various individuals and organisations to ensure they comply with the new laws. It often involves changing land use, which can have significant impacts on the finances of companies and individuals and on the processes of government departments. As such, the process is long and difficult. Constraints such as these have led to no new EPPs being gazetted this year.

Under one new approach, the EPA will concentrate the requirements of the EPP on the specific area it wishes to protect.

The Western Swamp Tortoise EPP, for example, will concentrate on activities and criteria within the tortoise habitat (which is a nature reserve). Environmental parameters within that area will be set to ensure that the Western Swamp Tortoise habitat is protected. Surrounding landowners will be required to ensure their practices do not affect the tortoise, its habitat and the water quality. Under this approach, the EPP will not directly prescribe what can and cannot be done on the surrounding land, although there may be suggestions in attachments.

EPPs currently being drafted as part of statutory policy development by the EPA are:

- South-West Wetlands EPP
- Groundwater EPP
- Swan-Canning Estuary EPP
- Western Swamp Tortoise EPP (referred to earlier)



The environmental protection policy process

Status of EPPs being developed

South-West Agricultural Zone Wetlands

During 1995-96 the Minister for the Environment completed consultation on the draft policy, as required under the Environmental Protection Act 1986. At the time of reporting it was anticipated the policy would be approved in July-August 1996.

State groundwater

The EPA has begun to prepare a State Groundwater environmental protection policy to ensure Western Australia's precious groundwater resources are permanently protected.

The State statutory groundwater protection policy will ensure groundwater is protected by law under the Environmental Protection Act. The policy will initially focus on the protection of groundwater supplies and wetlands in the Perth metropolitan region and will form a cornerstone for their protection.

Unlike previous EPPs for groundwater protection, the State policy will be an umbrella document which will have the capacity to include new groundwater areas. This will allow existing areas to be amended with relative ease if new information becomes available or development pressures become apparent.

Jandakot and Gnangara groundwater

No action has been taken on these policies during 1995-96, pending the findings of the Parliamentary Select Committee's investigation into development over groundwater mounds. At the time of reporting it was anticipated these policies would form part of the general State groundwater policy mentioned above. They have recommenced following completion of hydro-geological studies of the Gnangara and Jandakot mounds and a review of groundwater boundaries.

Swan-Canning Estuary

A draft environmental protection policy to better guide environmental management of the Swan and Canning rivers and their catchments was released in November by the EPA and Swan River Trust (SRT).

The policy identifies the environmental values of the waterway and requires a program for their protection to be prepared by June 30, 1998.

Environmental values to be protected include recreation, natural ecosystem functions, fishing, navigation and port functions.

The EPP presents a new approach to environmental protection by establishing State environmental priorities and objectives. It does not follow traditional 'command-and-control' approaches to pollution prevention but rather recognises the diverse and diffuse nature of sources of pollution to the river and seeks to provide policy guidance to decision-making authorities.

EPA policy positions

As part of its non-statutory policy development, the EPA has developed a series of positions on the following:

- Shallow and deep well injection disposal
- Lake Clifton development criteria
- Rangelands
- Greenhouse
- Pilbara development

Further non-statutory policies are being developed to improve EPA procedures (refer to page 18 in the environmental impact assessment section)

Environmental impact assessment

Referrals of projects for environmental impact assessment during the past financial year dropped to the lowest level since 1987 — the first year the process was put in place. A total number of 423 projects were referred to the EPA in 1995-96 compared to 631 in the 1994-95 financial year.

Informal review with public advice was given on 146 projects in the 1995-96 year compared with 213 in 1994-95. There were 53 formal assessment reports in 1995-96 compared to 65 in the 1994-95 year. The EPA released the same amount of reports in both years — 35 — but two of these in the 1995-96 year were Section 16 reports.

This year, the EPA has sought to change environmental impact assessment to deal with criticisms of the process identified in the 1992 review of the Environmental Protection Act.

The criticisms related to the operations of the Act, mainly the uncertainty and time delays of the environmental impact assessment (EIA) process. Several factors contribute to these identified problems:

- the process itself is complicated and has many variables that can have a significant bearing on its outcome and timing (eg. appeals possible at three stages); and
- technical difficulties are frequently encountered in dealing with environmental questions due to a paucity of information and the wide range of factors to be considered.

As a step towards addressing these problems, the EPA commissioned consultants Bentley Kehoe to review the EIA process. The Bentley Kehoe report found that there are sufficient checks and balances in the EIA process to ensure a high level of quality. It confirmed that there were significant problems with uncertainty and time delays.

For these problems to be adequately dealt with in the EPA's operations, there needs to be some changes to the current system.

Policies and criteria for environmental impact assessment

Policy and criteria for environmental impact assessment for the Pilbara industrial region are being developed in conjunction with the DEP and Department of Resources Development. These policies should contribute to improving the current system and reducing uncertainty.

Following is a list of factors for policy development;

- mangroves;
- coastal water quality;
- air quality (including but not limited to NO_x);
- ambient dust;
- chlorine fugitive emissions;
- industrial site and surface runoff;
- industrial solid and liquid waste disposal;
- industrial landfill sites;
- liquid waste disposal ponds (evaporation);
- discharge of sewage to the marine environment;
- deep well injection for the disposal of industrial waste; and
- coral protection.

There are some 50 policies to be developed in all over the next few years which will be subject to public comment.

Consultation

Advisory Council to the Environmental Protection Authority

The EPA also receives advice from the Advisory Council to the Environmental Protection Authority (ACTEPA). This council meets monthly and is composed of a cross-section of the community, with members representing diverse interests in industry, conservation and technical fields. There are 13 positions on the council.

Mrs Pat Barblett (Chairman)
Mr Harry Butler
Mr Simon Holthouse
Professor Phil Jennings
Dr Des Kelly
Mrs Jan Star
Mr David Crawford
Mr Ian Purse
Mr Malcolm Hay
Mrs Diane McCusker
Mr Dennis Neil
Mr Alex W Gardner
Dr Cathie Clement

During the 1995-96 year, ACTEPA provided advice on the following topics:

- assessment method
- assessment procedures
- beds and banks of rivers
- draft Swan-Canning River Environmental Protection Policy
- forests
- Perth's Water Future: A Water Supply Strategy for Perth and Mandurah to 2050
- forest study
- Planning Legislation Amendment Bill Draft 9
- population
- Select Committee report on Metropolitan Development and Groundwater Supplies
- state industrial buffer strategy
- state of environment report
- State Planning Strategy discussion papers

The EPA acknowledges the expert advice provided by the Advisory Council throughout the year.

Site visits

The EPA views site visits as an important part of its decision making process giving members an opportunity to consider environmental issues first-hand.

Site visits in 1995-96 included the following:

- Busselton: to meet with the Shire, conservation groups and developers
- Coral Bay: to meet with Shire and developers
- Walpole: (Chairman only) to meet with conservation groups and CALM
- Katanning: to meet with community groups
- Collie: to meet with Worsley Alumina
- Pemberton: to meet with CALM and conservation groups
- Lake Chinocup: (Chairman only) to meet with farmers

- Albany: (Chairman only) to meet with farmers and port authority
- Northam: to meet with farmers
- Denmark: (Chairman only) to meet with conservation groups
- Karratha: to meet with industry

Meetings

During the year, the EPA had many meetings with government, industry, conservation and community groups including:

- Albany Foreshore Redevelopment Steering Committee
- Albany Port Association
- Albany Waterways Management Authority
- Alcoa and Avon Landcare groups
- Apache Energy
- Australian Conservation Foundation
- Australian Exploration Society
- Australian Institute of Marine Science
- Australian Petroleum Production and Exploration Association
- Blackwood Catchment Co-ordinating Group
- Coalition Environment Committee
- Coral Coast Pty Ltd
- Denmark Conservation Society
- Denmark Environment Centre
- Department of Conservation and Land Management
- Gascoyne Development Commission
- Guilderton Community Association
- Landcorp
- Ministry for Planning
- National Parks and Nature Conservation Authority
- Opposition Leader
- Pastoralists and Graziers Association
- Shadow Minister for the Environment
- Shire of Augusta-Margaret River
- Shire of Busselton
- Shire of Carnarvon
- Tiwest
- Walpole-Nornalup National Parks Association

Presentations

Presentations made to the EPA at its meetings during the reporting period include:

- Appeals Convenor: appeals process under the Environmental Protection Act 1986
- Conservation Council of WA: report on the management of Ramsar sites in WA
- CSIRO Division of Wildlife and Ecology: model to integrate nature conservation with agricultural production
- Department of Conservation and Land Management: forest management plans Ministerial conditions, 1995-96 compliance report and major public report 1997
- Fisheries Department of WA: pilchard deaths in Australia
- Guilderton Community Association: urban development southern side of the Moore River Estuary
- Harvey Hills Preservation Group: damming of Harvey Weir
- WA Petroleum: Gorgon project
- Water and Rivers Commission and Albany Waterways Management Authority: policies in relation to reclamation, protection of seagrass and the Albany harbours

Legislative issues

Planning Act Amendment

New planning legislation that brings together planning and the environment will significantly change the EPA's role in statutory planning schemes.

The new planning legislation, which was passed by parliament and became law in August, enables the EPA to assess statutory planning schemes and scheme amendments. Previously, there had been legal advice from Ministry for Planning that the EPA could not assess planning schemes.

By making an environmental assessment at the time that zoning changes are proposed, the EPA can forestall potential conflicts and bring to light environmental concerns associated with particular activities in specific areas.

The new legislation does not negate the need for further environmental assessment in the case of large industrial developments. Should such a proposal come up in an area that the EPA has already said is environmentally suitable for such development, the specific proposal would still be assessed. The EPA can also call in any proposal in an area that has already been assessed if it is convinced that there are important scientific and technical concerns about the environment. The Minister also has the power to call in proposals that he wants assessed.

These safeguards are in response to concerns raised by the EPA and the public when the Planning Amendment Bill was in draft stage. After much negotiation the EPA is satisfied that the new legislation, as enacted, is a step forward for environmental impact assessment and planning in Western Australia.

Civil litigation

The EPA has been involved in three civil court cases this year.

EPA and Minister for the Environment : ex parte Coastal Waters Alliance

The Supreme Court of Western Australia found the EPA assessment report on the Owen Anchorage shell sand dredging operations of Cockburn Cement Limited was flawed in that it had acted outside of its powers and it had taken into account factors outside the definition of 'environment'. Since the Minister for the Environment had taken that report into account the resulting Ministerial Conditions were also found to be flawed. As a result of the court decision, the EPA resumed its assessment of the proposal.

Clough Engineering Limited v. The Minister for the Environment

This is an application for a writ of certiorari to set aside a condition relating to impact on fisheries contained in the Ministerial Conditions imposed on the extensions to the Clough Engineering, Shark Bay Salt project. The Writ of Certiorari has been withdrawn and the Minister for the Environment has set environmental conditions for the proposal.

Ex parte Robin Chapple: EPA

The Supreme Court found the EPA was correct in withdrawing its assessment of the Burrup Peninsula Draft Land Use and Management Plan. The court found that the draft management plan had no capacity to impact the environment and could not, therefore, be assessed under Section 38 of the Environmental Protection Act.

Proposed changes to the Environmental Protection Act

A new bill proposing some changes to the Environmental Protection Act is expected to be introduced to Parliament next year. The bill seeks to redress some of the problems of the current Act that were highlighted in the 1992 review of the Act. Proposed changes include enabling strategic environmental assessment and increasing the flexibility of pollution abatement notices.

Administration and support

Environmental Protection Authority

The EPA consists of five members who are appointed from the community. To ensure the EPA's independence, public servants are specifically excluded from membership. During the reporting period the EPA members were Dr Ray Steedman (Chairman), Mr Bernard Bowen (Deputy Chairman), Mrs Marion Blackwell, Dr Brian Logan and Mr Christopher Rowe.

During the reporting period the EPA was supported by two positions: an executive officer, Ms Fiona Keating (from July to October 1995), Mr Warren Tacey (from October to December 1995), Mr Dave Pitt (January 1996) and Mr Colin Sanders (from February to July 1996) and a secretary, Mrs Coralie Faulkner.

Department of Environmental Protection and the EPA

Under the 1994 changes to the Environmental Protection Act, the Environmental Protection Authority and the Department of Environmental Protection were made separate entities.

The EPA carries out its statutory functions under parts II and III (Environmental Protection Policies) and Part IV (Environmental Impact Assessment) of the Act with services and facilities supplied by the DEP. Departmental services include briefings on assessments, policies and strategies and pollution issues; drafting EPA documents and administrative support.

The EPA has expressed dissatisfaction with the current arrangements with regards to the operation of the EPA and the DEP and is seeking changes to rectify the situation.

A possible solution would be a clarification and improvement of the separate functions of the EPA and the DEP. The EPA thinks this would best be solved by implementing a board (EPA) and corporation (DEP) arrangement. This would give the EPA corporate responsibility, which would make a significant difference to the way in which it could perform its day to day functions.

Meetings

The EPA meets at least once a month to consider matters of environmental policy, impact assessment and pollution, and to formulate advice on these matters for the Minister. The EPA has established three committees to deal expeditiously with matters before they come to the full Authority. Each of these committees is chaired by an EPA member. The committees are: Environmental Assessments Committee; Policy, Strategies and Guidelines Committee; and Pollution Issues Committee. Each of these committees meets at least monthly.

Funding

The costs for the administration of the EPA, included in Division 73, Department of Environmental Protection, are as follows:

1995/96 Estimated FTE's	Actual \$'000	Expenditure	1996/97 Estimate FTE's	\$'000
2	119	Recurrent:	2	97
		Salaries, Wages, Allowances and Leave Entitlements		
	15	Other Expenses:		
	5	Staff Related Expenses		15
	226	Communications		5
	48	Services and Contracts		252
		Other		50
<u>2</u>	<u>413</u>	Expenditure	<u>2</u>	<u>419</u>

EPA Performance

The EPA has met its objective for the reporting period and has provided advice to the Minister.

In particular, the EPA has carried out its functions where it conducts environmental impact assessments; considered and initiated means of protecting the environment and means of controlling and abating pollution; encouraged and carried out studies, investigations and research; obtained advice from people with specialist knowledge; received representation on environmental matters from various groups and individuals; worked on environmental policies; and published reports.

As detailed elsewhere in this report, the EPA considers that an amendment to the arrangements under which the EPA operates would lead to an improvement in the EPA's performance.

Appendix 1

Issues dealt with by the EPA in 1995-96

A

Abrolhos Islands
Annual report 1995/96
Appeals process under the Environmental Protection Act 1986
Application for hard rock quarry operation ML 47/306, 331 and 353 southern side of Burrup Peninsula
Application to clear approximately 300ha of land within Plantagenet Loc 6783, Branson Road, 17km north-east of Jurien, Shire of Dandaragan
Appraisal drilling program for Wonnich field, south-west of Monte Bello Islands
Aquaculture facility and residence, Downes Island
Ascot Fields project, redevelopment of clay pits for waterway development at Great Eastern Highway between Swan River and Ascot Racecourse, Belmont
Assessment of South East Corridors Planning Strategies
Assessment procedures, operational manual and method of assessment
AUSI Iron infrastructure project

B

BHP Iron Ore — Stage 2 Yandi Mine
Biodiversity and other general environmental principles
Bulong nickel cobalt laterite project, Bulong, east of Kalgoorlie
Burrup Peninsula informal review with public advice
Business Plan implementation

C

CALM Western Shield Program
Canning Resources Pty Ltd Kintyre
Cawse Nickel Project, 50km north-west of Kalgoorlie
Change to environmental condition — extension of approval period for caravan/chalet park Part Lot 64 Lloyd Ave, Ravenswood
Change to environmental conditions Chandala synthetic rutile plant debottlenecking, Muchea
Change to environmental conditions — (formerly Beenup Mineral Sands) Beenup Titanium Minerals Project, 17km north-east of Augusta
Change to environmental conditions — Yakabindie nickel project, Leinster
City of Mandurah Town Planning Scheme 1A Amendment 213 — Rural to Special Rural — Part Lot 7, Old Coast Road and Dunkeld Drive, Herron
City of Mandurah Town Planning Scheme 1A Amendment 226 — Rural to Special Rural — Part Lot 3, Old Coast Road, Herron
Clean-up of contaminated site, McCabe Street, Mosman Park
Clearing of native vegetation on Victoria location 10598 Cockleshell Gully Road, Shire of Dandaragan
Co-ordination and integration of land and water resources management in WA
Coastal Waters Alliance
Cockburn Cement Environmental Management Program
Cockburn Cement Limited proposal for short-term shellsand dredging, Success Bank, Owen Anchorage
Cockburn Cement s46 shellsand beneficiation trial
Collie Power Station Project — Wastewater Management and Disposal System, Collie
Conservation Council — assessment procedure

Consolidation of EMPs for WAPET operations on Thevenard Island,
Onslow — change to environmental conditions
Construction of Karijini National Park link road between Marandoo access
road and Mt Bruce, Shire of Ashburton
Contaminated Sites
Coral Bay sewage disposal
Criteria of environmental acceptability for land use proposals within the
catchment of Lake Clifton, EPA Bulletin 788 — when should they be
applied?

D

Development of East Spar gas field processing facilities and offshore island
and connection to Dampier — Bunbury line onshore 40km west of Barrow
Island
Development of new berth to meet expected future demands, Albany port
Draft (shortform) Consultative Environmental Review procedures for land
clearing proposals
Draft communications policy
Draft Memorandum of Understanding between EPA and Department of
Minerals and Energy on offshore mineral exploration and mining
Draft minutes to Minister on provision of services and facilities to EPA and
EPA action plan for policy and assessment development January 1996 to
June 1997
Draft minutes to Minister on provision of services and facilities to EPA and
EPA action plan for policy and assessment development January 1996 to
June 1997
Draft policy proposal in relation to the management of deep and shallow
liquid industrial waste injection wells in WA
Draft WA Water Quality Guidelines
Duplication of iron ore mining operation, Yandi Mine ML lease 270SA,
Hamersley Ranges, 90km north-west of Newman

E

El Shaddei Christian Fellowship Inc Church and School s46, Wellard
Environmental Manual for Planners
Environmental Protection Act amendments
Environmental Protection Authority/Department of Environmental
Protection service agreement
Environmental Protection Policy on Protecting the Biodiversity of the
South-West Forests (and Swan Coastal Plain)
Environmental quality objectives for the Southern Metropolitan Coastal
Waters Study
EPA annual report 1995/96
EPA fixed costs and operating budget
EPA Plan
Executive Officer to the EPA
Exmouth Boat Harbour s46
Expansion of production capacity of bauxite/alumina from 2.0 million tonnes
per annum to 3.5 million tonnes per annum Worsley Alumina Refinery,
Gestaldo Road, Collie

F

Federal funding for landcare and water quality management
Fish farm for prawns, artemia, oysters and scallops on tidal flats in the upper
reaches of East Doctors Creek, Derby

Forest burning
Forest progress and compliance reports major public report 1997
Forest study

G

Geraldton industrial east Oakajee, north of Geraldton
Glenmore Country Club s16(e)
Gnangara Mound s46 and Lexia Borefield
Greenhouse
Guidelines for managing and conserving tingle

H

Handling of planning schemes/scheme amendments under the Planning Legislation Amendment Bill
Homeswest proposal for residential development Amarillo Farm, Karnup in Peel-Harvey catchment and affecting System 6 M108 — Serpentine River and Environmental Protection Policy lakes

I

Independent peer review of EMP for storage/disposal of Rhone-Poulenc gangue residue at Integrated Waste Disposal Facility at Mt Walton East
Integration of System 6 update program with the urban bushland strategic plan for the metropolitan coastal plain region

J

Jandakot Mound Environmental Protection Policy

L

Lake Clifton — catchment strategy
Land clearing in agricultural areas of WA
Land degradation strategy — Blackwood

M

Maitland heavy industry estate, Karratha
"Managing the Rangelands"
Marina — Coral Coast, Maud's Landing — south of Exmouth
Marine Conservation Reserves Program
Marine study for the Pilbara
Media Procedures Guide
Memorandum of Understanding between the EPA and Telecommunications Carriers
Mid West Iron and Steel Project
Mining of Yandicoogina iron ore deposit Eastern Hamersley Range, 90km north-west of Newman
Mt Walton East Integrated Waste Disposal Facility — annual progress and compliance report
Murrin Murrin Nickel Project — change to environmental conditions, 60km east of Leonora

N

National Agreement on Environmental Impact Assessment
Noise condition on Premier Coal Mine expansion s46 assessment
Nomination of proponent — operational manual component of quality assurance of environmental impact assessment process
Non-compliance procedures
Non-hazardous status of industrial liquid waste treatment plant Forrestdale

O

Omex contaminated site, Clayton Street, Bellevue
Ord Irrigation Project Stage 2 — extension of Ord Irrigation Scheme
development through construction of M2 Channel Supply Area for broad-
acre cropping on water

P

Permit-wide hydrocarbon exploration, TP/6 offshore between North Muiron,
Serrurier and Thevenard Islands
Perth's Water Future: A Water Supply Strategy for Perth and Mandurah to
2050
Planning Legislation Amendment Bill
Policies in relation to reclamation, protection of seagrass and the Albany
Harbours
Policy development
Policy for determining the environmental acceptability of offshore petroleum
proposals near key marine habitats such as coral reefs and mangroves
Port facility for and including limestone mine and lime production plant
10km south-west of Exmouth town site
Premier open cut coal mine expansion Collie (s46)
Preparation of land and water resource related Environmental Protection
Policies
Proposed urban development within System 6 recommended areas M2 and
M6 Pt Lot 2 between Marmion Avenue and Indian Ocean, Burns Beach
Protection of remnant bushland in the agricultural south-west
Protection of seagrass in Perth region waters
Provision of road access to Lot 7965 Sandy Peak, Shire of Manjimup, private
land within D'Entrecasteaux National Park proposed to be along existing
road reserve but area has high environmental value

Q

Quality assurance of environmental impact assessment: Bentley Kehoe report
Quality assurance of environmental impact assessment: decision to assess or
not assess component of QA

R

Rare earth plant 4km south of Alcoa alumina refinery, next to gallium plant,
Pinjarra
Redevelopment of land for residential, tourist and commercial usage, Albany
Foreshore south of Princess Royal Drive
Regional forest agreements
Regulation controlling sale of wood burning appliances that do not meet the
emission standards set out in Australian Standard 4013
Review of groundwater catchment boundaries — response to the Select
Committee on Metropolitan Development and Groundwater Supplies
Review of the five year sunset clause on strategy assessments
Revision of Bulletin 184 — environmental assessment of roadworks,
guidelines for local authorities
Rezoning for residential development application for remnant bushland
Swan Loc 7561 bounded by Kenneth Road, Hawkevale Road, Adelaide
Street and Roe Highway, High Wycombe
Rezoning of land from urban deferred to urban, Egerton (adjacent to
Ellenbrook)
Rural-residential subdivision (within catchment of Lake Clifton) of Lots
102-106, 7, 152 Armstrong Hills Drive, Armstrong Hills

S

S46 Thomsons Lake urban development and South Jandakot drainage management plan
Salinity strategy
Section 6 exemption to allow the use of halon fire extinguishers in aircraft
Service vessel facility, Princess Royal Harbour, Albany
Short stay chalet park and equestrian facilities (Remlap Ranch Resort) Lot 7 Old Coast Road, Myalup
Smog study
South West Wetlands Environmental Protection Policy
Southern Metropolitan Coastal Waters Study
Special Residential Development of land Lyndon Loc 222 and 223, 10km south of Exmouth
Special rural subdivision (within catchment of Lake Clifton) Lot 5, Old Coast Road, Island Point — City of Mandurah
Stage II Port Mandurah Canal Estate bounded by McLarty Road, Old Coast Road, Leisure Way and a portion of Fremantle Road
State of the Environment
Steelplant, increase in production from 1.0 to 2.4 MTPA, Narngulu
Structure plan, rezoning, subdivision and development for Bunbury Endowment Land Pt Lot 670 and Part Lots 301-4 Geographe Way, West Withers
Stygofauna in the Cape Range/Exmouth area
Subdivision/amalgamation of Lot 6, Lot 723, Old Coast Road, Herron, within catchment of Lake Clifton
Swan-Canning River Environmental Protection Policy

T

The Department of Transport's "Way Ahead" transport strategy documents — s16 assessment
Tonkin Park Stage II, change to Ministerial conditions
Topics/objectives and EPA policy/position
TPS No 3, Amnd No 10 — rezone from rural to special site (abattoir and assoc uses), Lot 4 Loc 5215 and 5216 Settlement Rd, Narrikup
Transfer and amendment of Health (Liquid Waste) Regulations 1993 from Health to Environmental Protection Act

U

Upgrade of tailings storage facility, Mt Keith nickel mine 400km north of Kalgoorlie
Urban Bushland Strategy
Urban development southern side of the Moore River Estuary, Guilderton

W

Western Swamp Tortoise Environmental Protection Policy
Wongan Hills Pesticide spill
Wundowie industrial minerals project Wundowie

Appendix 2

EPA formal assessments completed in 1995-96

- 785 Busselton regional aerodrome. Shire of Busselton. Released 7 July 1995.
- 786 Realignment of West Coast Highway at south City Beach : change to environmental conditions. Town of Cambridge. Released 21 July 1995.
- 787 East Spar offshore gas field development (Varanus Island, north west shelf) Western Mining Co. Released July 28 1995.
- 788 Criteria of environmental acceptability for land use proposals within the catchment of Lake Clifton. Released 1 December 1995.
- 789 Development of part of system 6 C70 south of the Maidens. Bunbury endowment land part of lot 626, and parts of lots 301- 4. City of Bunbury. Homeswest. Released 8 September 1995.
- 790 Port Mandurah canal estate stage 2. Released 25 September 1995.
- 791 Church and school, lot 68 Bertram Road, Wellard. El Shaddai Kwinana christian fellowship. Proposed change to environmental conditions. Released 13 October 1995.
- 792 Shellsand dredging project, Owen Anchorage. Cockburn Cement Limited. Proposed change to environmental conditions. Released 13 October 1995.
- 793 Rezoning application, Ravenswood. A P & M Boucat, Shire of Murray. Proposed change to environmental conditions. Released 1 December 1995
- 794 Ausi iron project, dr/hbi plant, Cape Lambert, Western Australia. Australian United Steel Industry Pty Ltd. Released 8 December 1995.
- 795 Expansion of premier coal mine to include premier pit 4, Collie. Western Collieries Ltd. Proposed change to environmental conditions. Released 1 December 1995
- 796 Coral coast resort, Maud's Landing. Coral Coast Marina Development Pty Ltd. Released 8 December 1995
- 797 Ascot Waters - proposal to dredge two channels to connect an artificial wetland with the Swan River Western Australian Planning Commission and the City of Belmont. Released 8 December 1995
- 798 Draft south east corridor structure plan; south east corridor metropolitan region scheme amendment no. 966/13; and stormwater management strategy and plans for new urban development at Byford and Mundijong. A submission and advice by the EPA. Released 8 December 1995.
- 799 Synthetic rutile plant at Chandala - production debottlenecking to 200,000 tpa - change to environmental conditions. Tiwest joint venture. Released 8 December 1995
- 800 Albany foreshore redevelopment project. Landcorp. Released 8 December 1995
- 801 Burrup peninsula draft land use and management plan. A submission by the EPA on the draft document released for public review by the Burrup Peninsula management advisory board. Released 8 December 1995.
- 802 Duplication of iron ore mining operation, Yandi mine ml 270sa, Hamersley Range, 90 km north-west of Newman. BHP Iron Ore Pty Ltd. Released 8 December 1995
- 803 Advice of the Environmental Protection Authority to the Minister for the Environment in accordance with ministerial condition 5-1

- for: short term continuation of dredging of shellsand on Success Bank, Owen Anchorage; and strategy to address the long term environmental issues of shellsand dredging. Cockburn Cement Limited. Released 22 December 1995.
- 804 Mid west iron and steel, Geraldton steel plant, Narngulu industrial estate, Geraldton. Kingstream Resources NL. Released 9 January 1996.
- 805 Marandoo to Great Northern highway, east- west link road across Karijini national park. Ashburton shire council. Released 12 Jan 1996
- 806 Exmouth boat harbour (formerly Coral Coast marina, residential subdivision and quarry, Exmouth) - change to environmental conditions. Department of Transport. Released 2 February 1996.
- 807 Increase in size of containment cell and changes to removal of drainage outfalls at McCabe st, Mosman Park (assessment 993). Landcorp and Octennial Holdings Pty Ltd. Released 8 Feb 1996.
- 809 Yandicoogina iron ore mine and railway. Hamersley Iron Pty. Ltd. Released 4 April 1996.
- 808 Narrikup export abattoir. Benale Pty Ltd. Released 23 February 1996.
- 810 Rare earth project, 4km south of Alcoa alumina refinery and next to gallium plant, Pinjarra. Rhone - Poulenc Chimie Australia Pty Ltd. Released 4 April 1996.
- 811 The management of low level radioactive gangue residue at the Mt Walton East intractable waste disposal facility, Western Australia. Environmental management programme. Released 4 April 1996.
- 812 Mt Keith nickel project: tailings storage upgrade. Western Mining Corporation Limited. Released 12 April 1996.
- 813 Remlap ranch resort, Myalup. Greenvale Enterprises Pty Ltd. Released 19 April 1996.
- 814 Ausi iron project, infrastructure requirements, Wickham, Western Australia. Australian United Steel Industry Pty Ltd. Released 17 May 1996.
- 815 Beenup titanium minerals project (formerly beenup mineral sands)- change to environmental conditions. BHP Titanium Minerals Pty Ltd. Released 26 April 1995.
- 816 Nickel/cobalt ore mining and processing operations, Murrin Murrin, 60km east of Leonora. Anaconda Nickel NL. Released 3 May 1996.
- 817 Gngangara mound groundwater resources. Water and Rivers Commission. Proposed change to environmental conditions. Released 23 May 1996.
- 818 Rural subdivision of lots 102 - 106 and lot 152, Armstrong Hills Drive, Shire of Waroona, within the catchment of Lake Clifton. Morrillah Pty Ltd. Released 6 June 1996.
- 819 Rural subdivision of lot 6 Old Coast Road, City of Mandurah, within the catchment of Lake Clifton. Tradevision Pty Ltd. Released 6 June 1996.
- 820 Service vessel facility, Princess Royal Harbour, Albany. Albany Port Authority. Released 7 June 1996.
- 821 Rezoning from rural to special rural of lot 3, Old Coast Road, Herron, amendment 226 to City of Mandurah, town planning scheme no 1a - within the catchment of Lake Clifton. Released 14 June 1996.
- 822 Rezoning from rural to special rural of part lot 7, Old Coast Road and Dunkeld Drive , Herron, amendment 213 to City of Mandurah, town planning scheme no 1a - within the catchment of Lake Clifton. Released 14 June 1996.
- 823 Expansion of alumina production from 2.0 million tonnes per annum to 3.5 million tonnes per annum at Worsley refinery, and associated bauxite mining activities at Boddington. Worsley Alumina Pty Ltd. Released 14 June 1996.

Appendix 3

Finalised informal assessments in 1994-95

A

Above ground 90,000 litre diesel storage tank Grey Street, Kalbarri
Addition of 148 sites to existing Woodmans Point Caravan Park Reserve
42009, Cockburn Road Munster
Additional grain storage facilities Albany Port
Application for exploration licence EL 80/1955 between El Questro and
Dunham River, Shire of Wyndham-East Kimberley
Application for sea dumping of dredge spoil Bunbury Harbour
Application for turf farm 65 Gillett Street, Northam
Application of whey as liquid fertiliser to farms Within a 5km radius of the
Peters Creamery, Brunswick Junction
Application to lease vacant Crown land for resort development (Koojaman
Rseort) Capë Leveque
Aquaculture proposal for sea cucumbers, prawns, mud crabs and fish Giralia
Bay, Exmouth
Artificial wetland research project to process secondary effluent & discharge
into g/water sump - 1cubic meter/day at Centre for Water Research
Laboratory Shenton Park

B

Boarding kennels Lot 55 Gully Road, Bullsbrook
Bunkering and installation of new berth Port of Dampier
Burial of tyres Hedges Gold Mine site, Boddington

C

Cancellation of Reserve 40829 to sell to Landcorp for sale to abutting
landholde Clarence Lots 151 & 64, Cockburn Road, Jervoise Bay, Munster
Caravan sales yard on possible contaminated site Lots 51, 105 (No 36) Wells
Street, Midland
Construction of 24ha salt crystalliser Next to existing salt field facilities
Useless Loop, Shark Bay
Construction of ablution block to replace existing system at Coral Bay Lot 52
Robinson Street, Coral Bay
Construction of additional 100 ha algal culture pond Loc 11883, Port
Gregory Road, Hutt Lagoon, Gregory
Construction of biological filter drain RGC mineral sands operations, Bussel
Hwy, Capel
Construction of Northbridge tunnel and roadworks From Mitchell Freeway
to Lord St, East Perth.

D

Development of 1ha. of turf for commercial sale Lot 4 Chitna Road, Gingin
West
Development of CBH Facility at the Bulk Grain Handling facility,
Forrestfield
Development of land with threatened or poorly reserved plant communities
Requiring interin protection, Lots 498 & 499 West Sultana Rd, High
Wycombe
Development of malting facility Forrestfield
Dimension Limestone Block Quarry on Mining Lease M70/138 Wattle
Avenue East, Nowergup
Disposal of industrial sludges Kelvin Road waste disposal site, Gosnells

Disposal of tyres to existing inert landfill site Flynn Drive, Wanneroo
 Disposal of tyres, concrete and top soil in holes on mining leases M 04/208,04/209 and 04/214, next to rubbish tip off Buckleys Road Broome
 Drainage of water into the Wogerlin Water Course Avon Loc 17276 and 17288, 25km north west of Corrigin
 Draining of water from Williams Loc 13883 (20km NW of Dumbleyung) into Dumbleyung Lake
 Drilling of Blencathra-1 well in TP/6, 7km north east of North Muiron Island, Shire of Ashburton
 Duplication of ocean outfall pipeline for maintenance purposes From Pigment Plant to Cockburn Sound

E

Educational farm for children Lot 25 Twelfth Road Forrestdale
 Expansion of alluvial diamond mine EL80/1080 & EL80/1460, Lissadel Station, Kununurra between Ord and Bow Rivers
 Expansion of limesand mining operation to 80,000tonnes until end 1997 Lancelin
 Expansion of mining operations, affecting Beekeeper Nature Reserve 24496 Jurien Gypsum ML70/750
 Exploration drilling of EP-400 Border-1, 40km NW of Cape Preston
 Extension of existing iron ore load out wharf Parker Point, Port of Dampier
 Extension of iron ore mining at Orebody 25, Eastern Ridge, 10 km north east of Newman
 Extension of natural gas pipeline Involving one EPP Lake, from Bunbury to Capel
 Extension of trial programme for the use of fly ash as a soil amendment

F

Field trials of methoprene for the control of midges North Lake
 Filling and construction of fence along margin of EPP lake Lot 63 Wattleup Road Wattleup
 Filling in of lake for playground construction, Reserve 41175, Port Gregory
 Fish and aquatic plant farm Lot 26 Woodvale Drive Woodvale adjacent to S6 area M7
 Fish farm - Great Southern Regional College of TAFE Anson Road, Albany
 Fish farm licence for barramundi Lot 418 Lullfitz Drive, Broome
 Float plane tourism venture Princess Royal Harbour, Albany
 Float plane tourism venture Swan River, Point Heathcote and East Pelican Point
 Float plane tourism venture, Harvey Estuary
 Footbridge across Toby's Inlet from proposed subdivision to east section of Campion Way, Quindalup
 Foreshore upgrade for recreation purposes Lot 33 Lissiman Street Gosnells

G

Geophysical survey in WA-262-P, WA-7-1, TL/3, TP/2 L1H and EP61 Northwest of Barrow Island
 Gold mining and processing operation Sunrise Dam, 55 km south of Laverton
 Golden Dodder Vine eradication programme along Yakamia drain catchment - Shire and Town of Albany
 Greenhead waste water treatment plant site near coast south of Greenhead townsite

Groundwater well licence for irrigation of 2ha palm nursery Lot 24 Railway Parade, Bullsbrook

H

Hard rock quarry Sussex Loc 2595, Ellensbrook Road, Cowaramup
Horse trail in System 6 area M80 Ellis Brook Nature Reserve, Rushton-Hardinge Roads Martin
Horticultural development Evans Rd, Coolup

I

Inclusion of vacant Crown Land into pastoral lease Nanambinia Station, Balladonia
Increase amount of ammonium nitrate imported to 5000 tonnes per shipment Port of Kwinana
Integrated waste management facility Lot 1 of Lot 222 Lakes Road, Stakehill

L

Landfill gas fuelled power station Dawson Avenue Landfill Site, Forrestfield
Leisure park and restaurant Lot 11 Forrest Beach Road, Wonnerup
Lime sand mine ML 70/311, 1km south east of Port Denison, Dongara
Limestone excavation and sand pit Part Lot 721, Mt John Road, Herron
Lobster processing factory North side of Geraldton Fishing Boat Harbour.
Long term drainage of saline water into approved existing drains Williams Loc 11994, 10918 and 13974 25km north of Moulyinning
Long term drainage of water from land and discharge into natural waterway Williams Loc 15074, 18km northwest of Lake Grace

M

Management plan for Anstey Q Swamp and definition of boundaries of System 6 M106 within Secret Harbour residential development
Mandurah Cultural Centre Marine Terrace Mandurah
Market Garden development Wellington Loc 48, Australind
Mondarra gas storage seismic survey, 20km south east of Dongara, including portion of Yardinogo Nature Reserve

N

New crude tank BP Refinery, Mason Road Kwinana

O

Oyster farm Princess Royal Harbour (Stage 1), Albany

P

Premier to Muja Power Station, 6.7km overland coal conveyor Collie
Proposal of temporary storage of Tetera Ethyl Lead at existing storage terminal Lot 4 Kwinana Beach Rd, Kwinana
Proposed eco-tourism development Lot 23 (No 95) Causeway Road, Busselton
Proposed exchange of land (involving System 6 area M74) Included in Yagan Park Reserve No 29130 and Reserve No 26430, Rossmoyne
Proposed Land fill Lot 16 Bird Road Mundijong
Proposed land fill & storage Lot 1 cnr Jackson & Bird Roads Mundijong
Proposed Native fish/marron farm Lot 1 (Pt. 376) Lantzke Road, Denmark
Proposed tourist development - ex Mabel Downs Station (Halls Creek)
Junction of Great Northern Highway & Bungle Bungles Turnoff
Proposed winery Lot 1 (Pt. 6967 & 3221) South Coast Highway, Denmark

R

Ravenswood Sanctuary Project - golf resort and residential subdivision Lot 331 and Pt Lot 13 Pinjarra Road Pinjarra
Recreational fish and yabbie farm Lot 1 Gillett Road, Northam
Redevelopment of yacht club onshore and marine based facilities South of Perth Yacht Club, Canning Beach Rd, Applecross
Refuse disposal site Buller Road 9km west of Waroona
Rehabilitation of power station site Lots 1, 2, 3 and 4 east of McTaggart Rd and south of Robb Rd, Fremantle
Release of vacant Crown land for storage of tyres part Lot 463 Wongan Road, Wongan Hills
Release of vacant crown land for inclusion into Kirkalocka Station, Warrambo - Shire of Mt Magnet
Relocation of BMX Club from Dowling St to old rubbish disposal site, Reserve 30623, Ennis Ave, Rockingham
Relocation of bulk lube oil tanks from Rous Head to the Shell Facilities Bracks Street, North Fremantle
Removal of peat and replacement with clean sand Pt Lot 46, 47 & 17 Karrinyup Road, Stirling
Residential Rezoning - Centennial Park, Mandurah (Adjacent to EPP Lake and includes rapid Transit Route).
Residential subdivision Lot 1a and 2a Whatley Crescent Maylands
Rural Residential subdivision Pt Lot 40 Murray Loc 6 & 723, cnr Clifton Downs Rd & Old Coast Rd, Lake Clifton
Rural subdivision involving land having threatened and poorly reserve plant comm Lot 139 Brentwood and Boundary Road Kenwick

S

Sand extraction Pt Swan Loc 2477, Flynn Drive Neerabup Saw mill Lot 10838 South West Highway, Middlesex
Scallop processing factory and office Lot 113, Cnr Emplacement Cres and Cockburn Road Hamilton Hill
Sealing of former landfill site with asphalt for storage facility Portion of Lots 95 and 101 Howson Way Bibra Lake
Seawater pumping and drainage of proposed live lobster facility Jurien Bay
Sewage effluent disposal via aerobic lagoons, next to Cue township Reserve 16309, south west of Cue town boundary
Sewage pump station - provisions for emergency overflow, Kwinana Beach Port Precinct, East Rockingham Industrial Park
Sewer Pump Station No 17 Halstead Street, Hamilton Hill
Sewerage infill Harper Street, Harvey
Sewerage pumping station. next to Swan River Northbank, North Fremantle
Speedway complex Reserve 26572, Rockingham and Thomas Roads, Kwinana
Stabilisation of foreshore south west of Emu Point, Albany
Stages 2, 3A and 3B of redevelopment of Subiaco Oval Bounded by Roberts Rd, Coghlan Rd, Subiaco Rd and Hadyn Bunton Drive, Subiaco
Storage site for blended soils Part Lot 452, eastern end of Irene Street, North Fremantle
Structure plan for rural residential area bounded by west boundary City of Armadale, Jandakot Botanical Park, Nicholson & Rowley Rds
Subdivision for agricultural use next to Blackwood River Sussex Loc 2419, 2436 & Pt 4080, Patmore and Campbell Roads, Warner Glen

Subdivision of Estuary Gardens, Cox Bay, Falcon
 Subdivision of Pt Lot 106 Wanaping Road Kenwick
 Subdivision of rural zoned land surrounding Ellenbrook Lot 51 & Pt Lot 37
 West Swan Road & Burgess Cr, West Swan
 Subdivision/amalgamation for industrial use for land previously used to
 dispose Pt Victoria 6813,6859 & 6860, Goulds Rd, Narngulu
 Superlot subdivision of Yanchep Two Rocks area, including System 6 area
 M2 St Andrews, Yanchep Beach Road, Yanchep

T

Telecom Rally Australia 1995 Perth and south west
 Temporary waste water pumping station, into Bennett Brook Via council
 drainage system, Orchid Avenue, Beechboro
 Tourist Chalet development & Bore application Wellington Loc 675, Capel
 TPS No 1, Amđ 256, including rezoning, subdivision & sig, change to
 scheme text Dampier Drive, Peelhurst, within S6 area M107.
 Tropical Aquaculture Park, Port Drive, Broome
 Truck stop, chalets, road house and truck storage Lot 3, Midland Road,
 Hazelmere
 Turf Farm Lot 21 (No 313) Arthur/Harrow Streets West Swan
 Turf Farm Lot 23 Great Northern Highway Bullsbrook

U

Upgrading and maintenance work to 100km of unsealed road To the Mt
 Walton East Intractable Waste Disposal facility, 130 km north west of
 Coolgardie
 Use of fly ash for soil amendment Alcoa, ABC Lakes, Kwinana

V

Vehicle workshop for rust repairs and restoration Lot 146 (32) Gympie Way
 Willetton

W

W/Approval application for Chemical works Class 2 Patterson Road,
 Kwinana
 W/Approval for construction of large storage shed Lot 7 Hope Valley Road,
 Hope Valley
 Waste transfer station Lot 199, (Reserve 23011) Watkins Road Mundijong
 Wastewater pumping station No 6 Campbell Road, Canning Vale
 Welded steel gas pipeline (23 km in length) from Woodside Natural Gas
 Treatment Plant (near Withnell Bay) to inlet of Karratha to Port Hedland
 natural gas pipeline
 Wind farm generator Denham

Y

Yellowfin tuna growout site offshore of Cape Peron, Shark Bay
 105mW gas turbine power station Bulong Road, Parkeston - Kalgoorlie