

W.A. EPA
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Annual Report

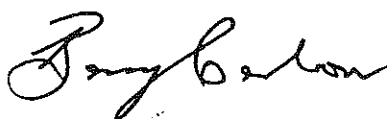
1992/93

Environmental Protection Authority

Foreword

To the Hon Kevin Minson, MLA
Minister for the Environment

In accordance with Section 21 of the
Environmental Protection Act 1986, I
submit the Authority's annual report for
the year ended June 30, 1993.

A handwritten signature in cursive script, appearing to read 'BA Carbon'.

BA Carbon
Chairman

Perth, Western Australia
October 1993

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Chairman's overview

An era of change

Any survey of Western Australia's environment over the past decade will show some remarkable changes. Not all of them have been for the better — we have had some losses — but I believe that on balance we have achieved tremendous gains. Ten years ago people living and working in Fremantle would have smelt the odours from the Kwinana industrial strip. The industrial pollution from Kwinana was severe and real. And industrial risk at Kwinana was unacceptable. Asthmatics would not have been able to visit Kalgoorlie without the risk posed by sulphur dioxide emitted from gold ore roasting operations. Even healthy people in Kalgoorlie 10 years ago also faced the possibility of breathing problems. Cockburn Sound was collapsing under the pressure of industrial and domestic effluent. Eighty per cent of the seagrass had died, the fish were poisoned. Peel Inlet was collapsing. Albany's harbours were going under. On yet another front, with the exception of a few large companies, the mining industry produced very poor levels of rehabilitation.

All this has now changed. It has changed for the better because society demanded it. Society had made the decision that it wanted development, and it wanted the environment to be protected. The approach to environmental protection embodied in the Environmental Protection Act of 1986 reflected society's changing perception of itself. It was time to stop regarding society as a mass, as a unit, as a lump. It was time to stop regarding industry as a single mass. Industry is

not factories. Industry is not a lump. Industry is people. Industry today is made up of a lot of individual industries run by individual people with individual views. And that has been critical for the change that has occurred.

Openness

It also was critical for the Authority which had a new level of openness for a Government agency. The Authority introduced a system in which almost all of the information the Authority had was available to the public (information such as the identity of people making complaints or submissions is normally confidential). This has had a huge impact on the integrity of the system.

The goal was to introduce a new system that was fair. Fair in that everybody was treated the same. Not one set of rules for government agencies and a different set of rules for private industry. There was resistance to this because some Government agencies believed that if you were part of Government then you were therefore doing something good and should not have to follow the same rules.

Relationship

Another goal was to introduce a system that would operate without fear or favour. For example, although the Authority makes only about four or five pollution prosecutions each year, in the past five years, they have included BP Refinery, KCGM (the largest gold mine in the State) and the State Energy Commission. Yet the working relationship between the Authority and these bodies is excellent.

The approach to environmental protection in the past seven years also recognised the rights of the public — all members of the public, industry and non-industry. They have the right to be told about any development in which they have an interest. They have the right to be given information about that development, and to have a say about any development before any decisions are made.

Aware

Industry in Western Australia is now among the most environmentally aware in the world. This is very different from 10 years ago and it has been achieved by treating industry as individuals; by giving them a picture of environmental objectives industry should meet, and then by requiring or helping industry to decide how it is going to meet the environmental objectives. The system does not have Government or the Environmental Protection Authority telling industry how to run its operations. That is left to the experts in industry.

During the late 1980s there was a major increase in industrial activity in this State. It would not have been possible in the early 1980s because of opposition from a community which in general thought industry was bad. No new industry built since the middle of the 1980s has a reason to cause pollution and, with probably only two exceptions which seem to be aberrations, no new industry has. This has been achieved on a case-by-case basis with every new industry with the potential to affect the environment being required to tell the public what it is going to do; to say what the environmental impact could

be; and then to say this is how we, the industry, are going to manage those impacts.

There has been an overwhelming success story for new industries in Western Australia from the point of view of environmental protection. We need only consider the national and international awards for environmental protection that come to West Australian industry. The problem has not been new industry because industry has done the job brilliantly. The problems have been the old industries — some industries at Kwinana, Kalgoorlie and other places were sub-standard and having far too much impact on the environment. The approach with old industries has been the same with the Authority saying on a case-by-case basis to the individuals among those companies that this is the environmental expectation and this is the timetable to achieve that. It has been overwhelmingly successful.

We have not been successful all the way — we have made some mistakes. There are some poignant examples. An application for open-cut coal mining in Mt Lesueur north of Perth went through a year and a half of pain for the company and then the Authority recommended against it and the Government then decided against it. It is my belief that in today's society nobody would realistically believe you can have open-cut coal mining in an area as rare and unique as that. That does not mean you cannot have underground coal mining; it does not mean you cannot access the resource. But the prospect of taking something that stands up in world stature and obliterating it is not realistic. We should have recommended "no" earlier.

We have other bad news stories such as the development proposal at Bold Park. Bold Park is an area, part of which was owned by the University of WA, which was put up for sale despite it being in a System 6 conservation area. The Authority warned potential buyers that they should not buy the land because it would cause trouble. But it was bought and even today the State is still grappling with the problem.

There are also some successes, despite some intense pressure. There is no beach in Western Australia — with the exception of one small beach in Albany — where it is unsafe to swim. In Western Australia our beaches are clean and the Albany beach is about three quarters of the way through being cleaned up. Another example is the Dawesville Channel, probably one of the most adventurous environmental rescue attempts in the world.

We have had some wins and losses with the Swan River — wins in that it is now virtually free of industrial pollution; losses in that our repeated warnings about urban and agricultural run-off are yet to receive appropriate attention.

In about 150 years of Western Australia's European development we have filled in, drained, mined, reclaimed 80 per cent of the lakes of the Swan Coastal Plain, despite their importance as the only permanent fresh water in the South-West of the State. We now have in place an environmental protection policy, fully supported by the community of the State, fully supported by landowners, farmers, and by Parliament that now makes it an offence to fill, drain, mine, or to release pollution into any of these lakes of the Swan Coastal Plain.

Constraints

Ten years ago, there were no real constraints on living on top of Perth's Jandakot and Gnangara groundwater mounds, putting effluent into them, and they could have been pumped such that they were depleted beyond annual recharge. There is now a plan in place that says groundwater will be protected forever. The rate of pumping that groundwater is controlled so that our children and our children's children will have access to that water.

The next area I want to discuss is Kwinana. With the Authority's encouragement and help, industries such as BP, SECWA, Alcoa, Tiwest and others have come to a mutual arrangement about how they are going to protect the airshed of Kwinana. The Authority worked out for them how much that air could absorb without causing pollution. The industries worked out how they were going to share access and for some of them this has entailed spending big amounts of money. The air at Kwinana is measured daily by the Authority and by industry and monitoring shows it is four times better now in quality than it was 10 years ago. The number of industries in Kwinana has doubled in the past 10 years and yet we still have not used up the environmental capacity of the area. The State has a valuable asset in Kwinana that I believe has been rescued, made alive and made important for the future of the State.

Industry's inputs of effluent to Cockburn Sound are far below what they were in previous decades and generally the Sound has stopped getting worse. No longer do we have pollution from lead or cadmium or zinc. Cockburn

Sound will never get back to what it was but it has stopped getting worse and in some parts it is getting better.

Kalgoorlie, because of the co-operation of individuals who run the various mining companies, has dust levels which are a fraction of what they were five years ago and sulphur dioxide levels which now meet Australian standards.

The mining industry in general has totally changed. I believe the West Australian mining industry is seen now as among the best environmental performers in the world and people come from all over the world to learn how we can mine and rehabilitate cheaply, efficiently and effectively.

to encourage individuals. We should not put people in industry in straight jackets, not give them recipes that tell them that if they want to build this sort of factory, this is the recipe they use. You must have a system that says this is what is required to protect the environment; you tell us how you are going to reach that performance.

I am pleased that the Authority's Annual Report for 1992/93 is able to give testimony to some of our shared successes.

Barry Carbon
Chairman

Credibility

The rights of people to have open access and to get information from the Authority have contributed enormously to the credibility of industry in this State. Surveys by the CSIRO show that the acceptability of mining in the community used to be as low as 10 to 15 per cent. It is now up as high as 80 per cent after Environmental Protection Authority review of proposals. Indeed, we now have bankers and insurance companies from around the world asking if they can learn from the process of openness here because it gives them security in making their investments.

It is my belief that we have some big challenges ahead of us if industry and environmental protection in our society are going to grow. We have to recognise that we have a society today that expects to be involved and says it cares. We should continue to recognise the strength of individuals. We need a system which allows the strength and values of individuals to go forward, and

Legislation compliance

State of Compliance with Relevant Written Law

Enabling Legislation

The administration of the Environmental Protection Authority is established under the Environmental Protection Act 1986.

Legislation Administered

The Environmental Protection Authority administers the Environmental Protection Act 1986.

Legislation Impacting on Office Activities

In the performance of its functions the Authority complies with the following relevant written laws:

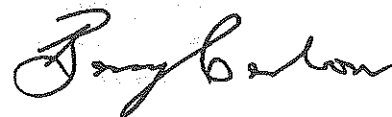
- Financial Administration and Audit Act 1985;
- Public Service Act 1978, Salaries and Allowances Act 1975, Public and Bank Holidays Act 1972, Equal Opportunity Act 1984, Government Employees Superannuation Act 1987, Occupational Health, Safety and Welfare Act 1984, Workers' Compensation and Assistance Act 1981, and Industrial Relations Act 1979 (employment Acts); and
- State Supply Commission Act 1991.

Various Agreement Acts and other written laws impact on the Authority's activities from time to time.

In the financial administration of the Authority we have complied with the requirements of the FAAA and every other relevant written law, and exercised controls which provide reasonable assurance that the receipt and expenditure of moneys and the

acquisition and disposal of public property and incurring of liabilities have been in accordance with legislation provisions.

At the date of signing we are not aware of any circumstances which would render the particulars included in this statement misleading or inaccurate.



BA Carbon
Accountable Officer



R Haynes
Principal Accounting Officer

Environmental Protection Authority membership

Barry Carbon — chairman

Mr Barry Carbon was appointed chairman of the Environmental Protection Authority in 1985. He holds a Bachelor of Science in biochemistry and a Master of Science in agriculture from the University of WA.

From 1980 until 1985, Mr Carbon was manager of the environment department of Alcoa Australia.

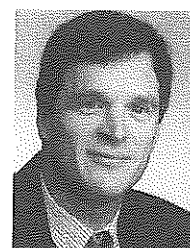
For 17 years before that he was a scientist with the CSIRO Division of Land Resources Management in WA.



Charlie Welker — deputy chairman

Mr Charlie Welker was appointed the Authority's first full-time deputy chairman in November 1991.

Mr Welker was formerly the State's deputy electoral commissioner, having also worked as director of strategic planning and policy for the State Planning Commission and as a principal policy officer in the Department of Premier and Cabinet. Mr Welker had previous experience with the Authority as an environmental officer from 1979 to 1984. He also worked for the Victorian Environment Protection Authority from 1973 to 1979. He has a Bachelor of Science (Hons) in chemistry from Monash University.



Dr John Bailey

Dr John Bailey has been a part-time member of the Authority since 1985 and was acting deputy chairman from August 1990 until Mr Welker's appointment.

He is a graduate of the University of WA and is a lecturer in environmental assessment at Murdoch University.

He is an experienced member of several conservation groups and has written many reports and submissions.



Dr Christine Sharp

Dr Christine Sharp took up her five-year appointment to the Authority in November 1989.

She received her PhD in methodology from Murdoch University in 1983.

A former Balingup Shire councillor and member of the South-West Development Authority's advisory committee, Dr Sharp has a particular interest in reforestation and was spokesperson for the Campaign to Save Native Forests from 1974 to 1978.

Dr Sharp is a partner in the Small Tree Farm at Balingup which she jointly established in 1979.



Norman Halse

Mr Norman Halse was appointed to the Authority on November 15, 1990.

Mr Halse's previous appointments include chairman of the National Parks and Nature Conservation Authority, director-general of agriculture in WA and president of the WA Conservation Council. Mr Halse has held many other senior positions with national and international bodies, including membership on the Board of the International Centre for Agricultural Research in dry areas. He helped establish dry-land farming projects in Libya, Iraq and Nigeria. He holds a Master of Science in agriculture from the University of WA.



The Environmental Protection Authority

The Environmental Protection Authority was established in 1971 and takes its powers from the Environmental Protection Act of 1986.

The Authority's head office is in Westralia Square, 141 Saint George's Terrace, Perth and offices are maintained in Kwinana, Bunbury and Karratha.

The Authority consists of five members and a staff of about 140 officers involved in environmental impact assessment, environmental investigation, pollution control and corporate services.

Each Authority member is appointed for up to five years. Authority members are part-time, while the chairman, who also is the Authority's chief executive, is full-time. The Authority's first full-time deputy chairman was appointed in November 1991.

The Authority is an independent statutory authority which advises the Government about environmental issues.

The Authority cannot be directed about the advice it gives and its advice may or may not be accepted.

The Authority's primary roles are environmental impact assessment, environmental investigation, and pollution control, all of which are aimed at protecting our environment and responding to people's aspirations and rights to a clean, safe place to live.

With environmental impact assessment, the Authority makes recommendations to Government on environmental issues affecting development.

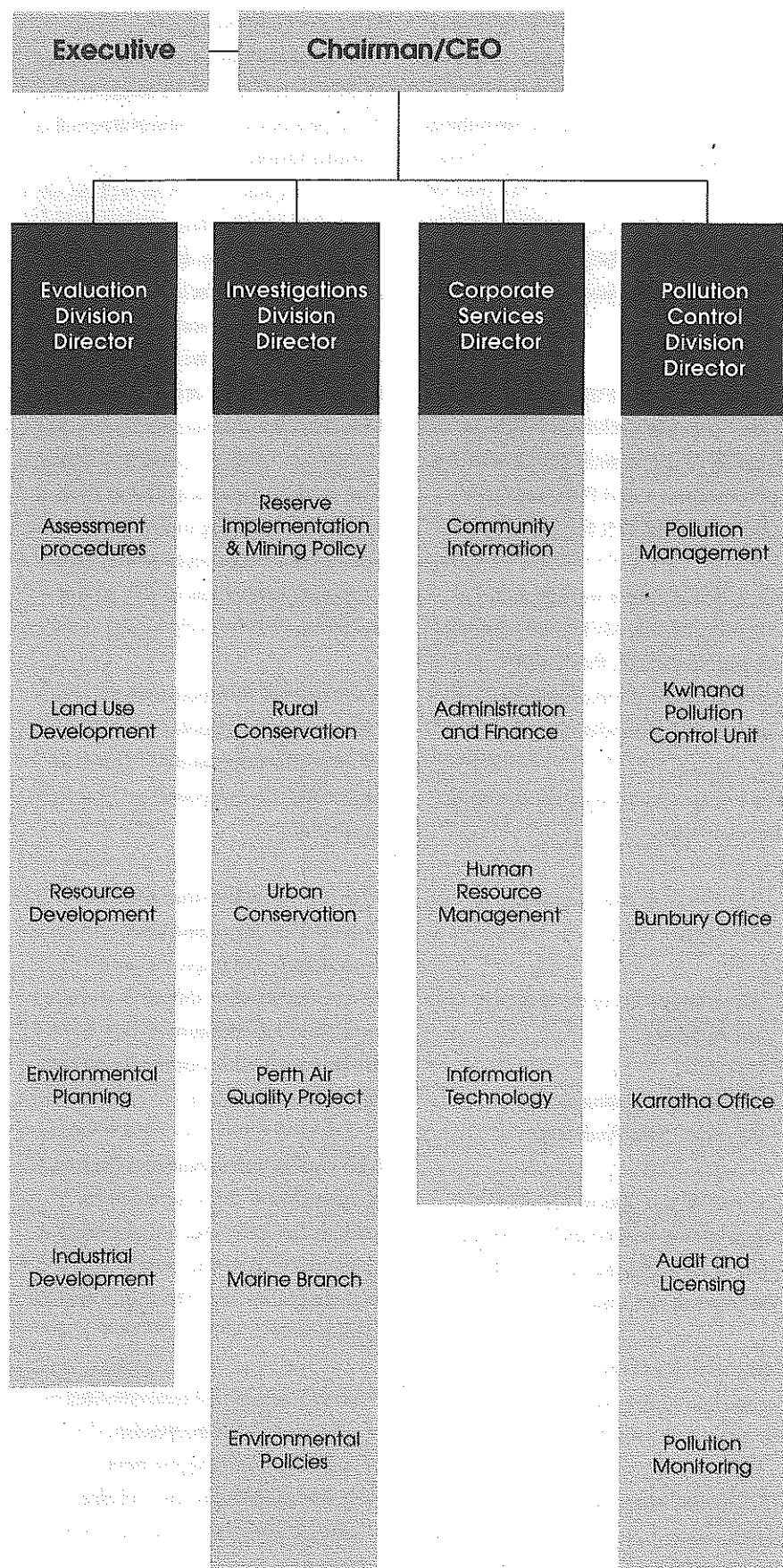
Environmental investigation involves the Authority using its own expert staff or the staff of Government departments to investigate environmental problems and to recommend remedies to Government.

Ensuring that the environment is not threatened by pollution is another key aspect of the Authority's work.

The Environmental Protection Act has strong powers to control, prevent or abate pollution.

People or companies may be prosecuted for causing pollution, and under the Act, the Authority may license industries to prevent pollution or use its own or other resources to clean up pollution.

The aims behind these functions are being drawn together in Environmental Protection Policies for special parts of the environment and Environmental Codes of Practice designed to encourage a strong environmental ethic in industry.



Environmental Protection Act review

On February 20, 1992, five years after the Environmental Protection Act came into operation, the State's major piece of environmental legislation was subject to review.

Section 124 of the Act requires the Minister administering the Act to review it as to its operation and effectiveness.

The Minister at the time, established a review committee chaired by lawyer and secretary of the Tasmanian Department of Environment and Planning (now Land Management), Mr John Ramsay.

The other members were prominent WA industrialist, Mr Harold Clough and Mr Neil Blake, former WA co-ordinator of the Australian Conservation Foundation.

The review committee had to consider three key issues:

- 1. The operation and effectiveness of the Act generally;*
- 2. The effectiveness of the operations of the Authority;*
- 3. The need for continuation of the functions of the Authority.*

The review was also to consider any group, committee, council or panel established by the Minister or the Authority at the time.

There was, however, no class of committee such as these in operation at the time of the review.

The review began in April 1992 and the committee reported to the Minister in October 1992.

The report contained 50 recommendations, which by and large endorsed the underlying principles of the Act and of its administration.

Several recommendations related to means of improving the administration of the Act, in particular, initiatives toward establishing a Commissioner for the Environment to hear appeals and to report to the Minister.

The Authority participated in the review by providing information to the review committee on how the Act is interpreted and upon its day-to-day operation.

The Authority's report to the review was made public. Most other participants to the review also made their responses available.

The Authority saw that the review provided an opportunity for consideration of improvements to the Act to keep abreast of the needs and expectations of the Government and community of Western Australia.

The Authority's submission illustrated the benefits of the key principles underscoring the Act and these views were endorsed in the later recommendations. The Authority drew attention to:

- the community and environmental advantages of an independent Authority operating free from sectional representation and able to advise Government without fear or favour;*

- the need for a system of environmental policy development, environmental project assessment and pollution control;
- the need for an effective and fair appeals system — which was one area the Authority and many other participants urged needed reforming;
- a definition of pollution which related to environmental degradation rather than just the emissions from smoke stacks or effluent from point sources; and
- a need to have a modernised three tier system of pollution offences and charges against offenders.

In mid-October 1992, the Minister released the review committee's report for further public consideration, and submission back to him by November 20.

The Authority made further representations to the Minister on the review committee's report.

In large part the Authority endorsed the 50 recommendations of the review committee but drew to the Minister's attention its concern to ensure that the position of chairman/chief executive officer of the Authority remained intact.

The review committee report comprehensively discussed this issue which was perceived as a problem by some proponent groups.

However, the committee recommended forcefully that the position remain intact at least for 12 to 18 months while reforms to the appeals process and other measures were put in place and evaluated.

It is understood that the Minister for the Environment, on receipt of various submissions in late November, sought additional help in the preparation of a report to Parliament as required under Section 124 of the Act.

The process did not proceed following that point as the State election intervened.

Subsequently the new Government indicated that it would move to implement its environment policy.

The Authority believes that as a most comprehensive review has been undertaken of the Environmental Protection Act the findings of the review committee should be given substantial weight in determining the direction environmental protection should move in the future.

Perth photochemical smog study

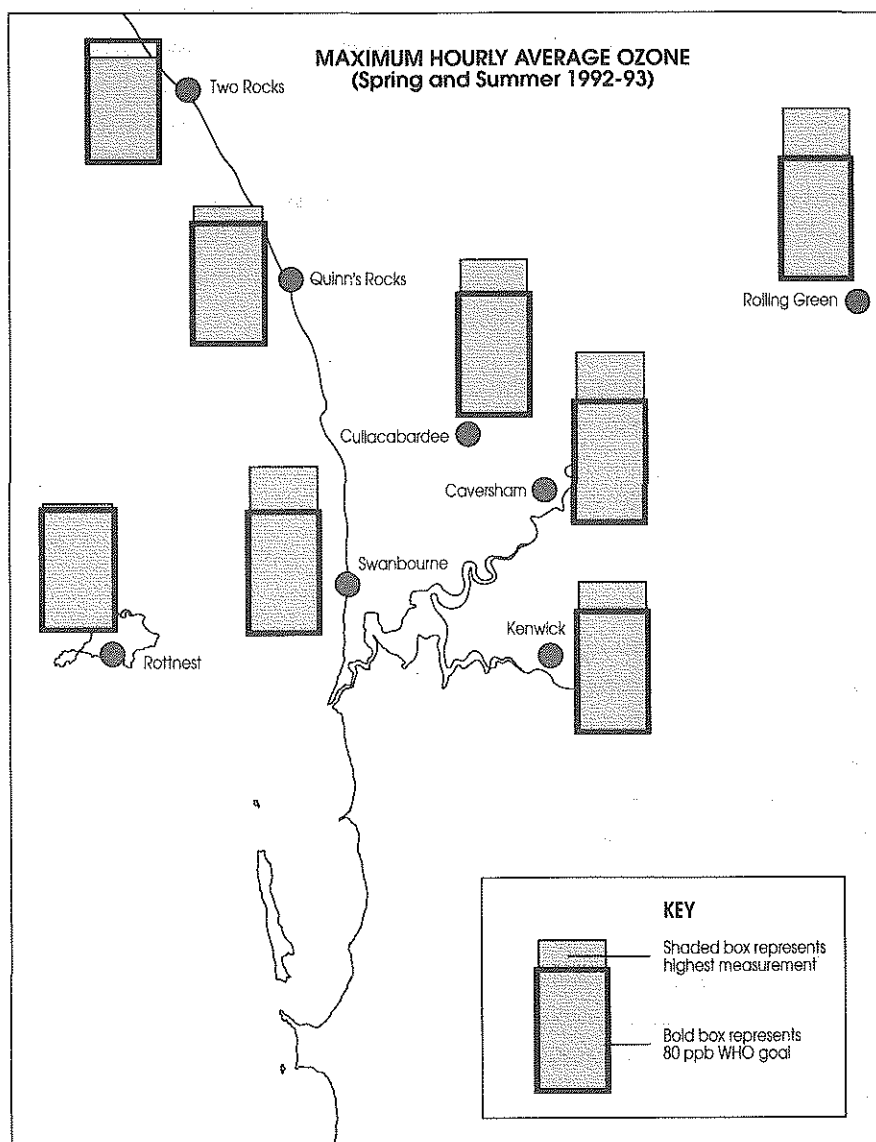
The Authority's air monitoring capability has expanded dramatically as part of the joint study with the State Energy Commission of WA of photochemical smog in the Perth urban area and beyond.

Seven new stations were installed in the Authority's network in time to collect data during the 1992/93 summer.

The highest hourly averages of ozone measured at these seven stations and the existing station at Caversham are shown as bar graphs on the map in the figure below.

These results confirm that significant levels of photochemical smog, which is indicated by ozone, occur over a wide area surrounding Perth, extending many tens of kilometres inland (Rolling Green is only 20km from Toodyay).

Meteorological and chemical measurements have confirmed that morning emissions of nitrogen oxides and hydrocarbons from motor vehicles and other sources, which are blown offshore, are frequently returned as photochemical smog by the sea breeze.



This figure represents the Authority's air quality monitoring network for ozone.

This is demonstrated in the second accompanying figure which shows the highest ozone event recorded at Caversham occurred shortly after the sea breeze arrived there on a very hot day.

Smog reactions are enhanced by Perth's high temperatures and strong sunlight.

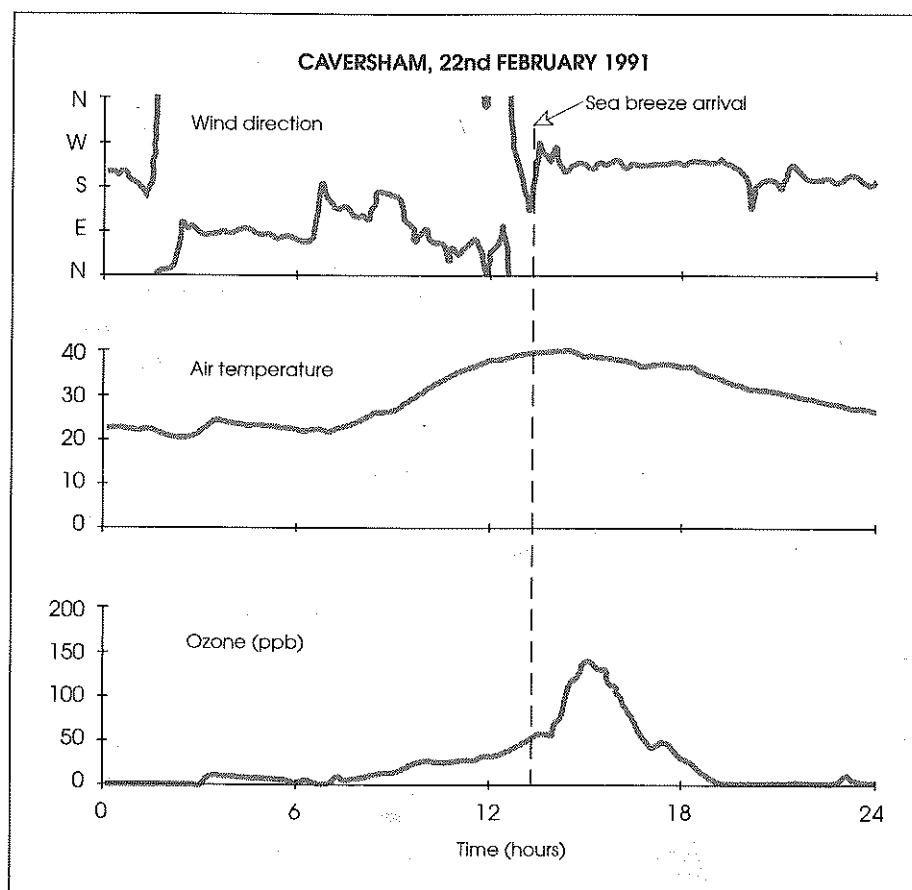
SECWA is funding and participating in the study as part of its work to demonstrate the environmental acceptability of emissions from the Pinjar gas turbine station north of Wanneroo.

The study, named the Perth Photochemical Smog Study, has progressed well since its start in March 1992. Work has begun on the other parts of the study, namely:

- *compiling an inventory of emissions which feed smog development;*
- *developing computer models of smog formation and dispersion; and*
- *conducting field experiments to aid our understanding of smog.*

The study's general aim is to assemble the necessary knowledge and tools — particularly computer models — to allow the Authority to make sound recommendations to Government on urban, transport and industrial planning.

Assessment of the environmental acceptability of emissions from the Pinjar power station will be a specific outcome.



These graphs show the interaction of wind direction, and air temperature with ozone formation at Caversham, north-east of Perth.

Perth's coastal waters and the southern metropolitan coast

The Authority's studies of Perth's coastal waters are now in their third year.

Significant advances have been achieved by the Authority in its southern metropolitan coastal waters studies and in related studies by the Water Authority of Western Australia of the Beenyup outfall and surrounding northern metropolitan coastal waters.

The development of computer models to enable predictions of the impacts of pollutant loadings to our marine environment is now in full swing and this is an exciting aspect of the work.

These models will predict the effect of projected pollutant loadings on our marine environment, particularly seagrasses, which are at the base of the intricate web of life in our marine waters.

The computer models will provide, using the best technical information, the predictive capacity necessary to choose future directions for the management of contaminants that enter the coastal zone both naturally via rivers and groundwater and by direct pipeline disposal.

The Authority's present activities in the coastal waters studies focus around analysing data already collected and on collecting biological data from laboratory experiments and from the nearshore marine waters.

During the past year, extensive measurements of the light levels required for healthy growth of seagrasses have been made in the waters between Fremantle and Garden Island.

The growth rates of the seagrasses under different light and temperature regimes have been measured directly in the laboratory and in the field.

The deep basin fauna of Cockburn and Warnbro sounds have been surveyed by direct sediment collection at 45 sites and the samples will be sorted and detailed for the animals that live in them.

The results of this work will be compared to previous sediment surveys to understand any changes that have occurred in the animal populations of the sea floor in these regions.

The levels of contaminants in the sediments and sealife between Trigg, Rottnest and Warnbro Sound were measured by an extensive survey of sediments and mussels.

A report detailing contaminant inputs to these waters from all known sources has been prepared, indicates that pollution from industrial effluents in our coastal waters is decreasing.

However, levels of some substances, particularly tributyl-tin derived from marine anti-fouling paints, are still of concern and efforts are still needed to keep the trends moving downwards.

The study of the currents and mixing patterns of our coastal waters is well advanced.

Since 1991/92 much of the data collected in the early phases of the study has been processed and is being analysed in depth.

The ongoing analyses of the oceanographic data are beginning to

reveal the complex nature of the interactions of the various environmental forces (winds, tides, the Leeuwin Current) on a coastal region rich in salinity and temperature structure.

The role of this coast's complicated reef, island and bank structure in steering currents and nearshore basins and lagoons from the full force of winds and oceanic seas and swells is being studied.

An airborne remote sensory scanner (called GEOSCAN) was flown over Perth's coastal waters in February 1993 and this has taken highly resolute images of the water and sea floor.

Highly accurate maps of the areas of various types of habitats such as seagrasses, reefs and sand will be constructed using these data and *in situ* measurements.

A community awareness, consultation and education programme has begun. Booklets, brochures and a public display board have been produced.

A community awareness strategy has been prepared for the final stages of the study and will include the production of education packages for school curricula, and talks to community groups.

The community consultation programme will include attitudinal surveys of the community's expectations for the coastal marine environment of Perth.

Close links between the study group and Cockburn Sound industries have been developed via representative committees and discussions and

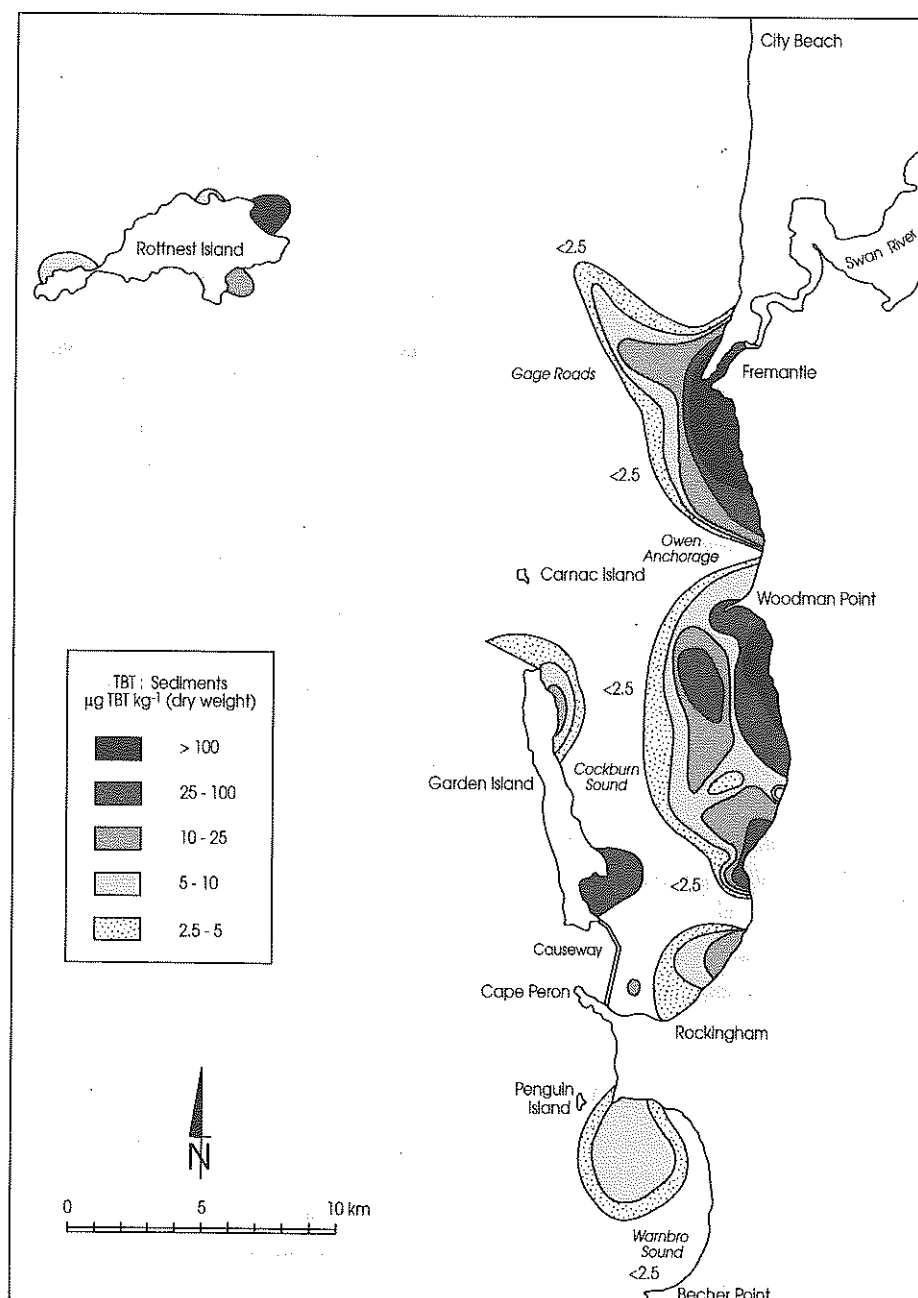
waters study

collaborations are playing an important role in the success of the study.

Several post-graduate student projects have emanated from the study and the Authority is pleased to contribute to fostering environmental education in this manner.

The reporting phase of the study will begin with the release of a mid-term progress report which summarises the background to the problems of nutrient-enrichment in Western Australia's coastal waters, outlines the resulting motivation for the present studies of Perth's marine environment, and presents some preliminary results.

The final study report is due in December 1994.



This figure shows the distribution of tributyl tin concentrations in sediments in 1991.

Environmental protection policies

During the past year the Authority has prepared five environmental protection policies to protect specific parts of the environment.

The policies were put through an extensive drafting and public review process before being gazetted and given the force of law as though part of the Environmental Protection Act.

Environmental Protection (Peel Inlet - Harvey Estuary) Policy 1992

This policy was approved in December 1992, establishing the beneficial uses of the estuarine system, the cause of environmental degradation, water quality objectives and actions to achieve those objectives.

Significantly, the policy applies to the Swan Coastal Plain catchment of the estuarine system and requires that the policy's environmental objectives are achieved or maintained through:

- implementation of a State Planning Commission "Statement of Planning Policy", prepared under the Town Planning and Development Act;
- government advice;
- appropriate land management; and
- local authority and State agency decisions and actions.

The final point, and probably the most important, requires that resource management agencies and decision-making bodies need not refer certain development applications to the Environmental Protection Authority for assessment, but rather directly account for the policy's environmental quality

objectives when determining permits, licences or approvals.

Environmental Protection (Swan Coastal Plain Lakes) Policy 1992

In March 1991 the EPA published a draft environmental protection policy for wetlands of the Swan Coastal Plain. As an interim measure sympathetic regulations were established.

After a highly publicised public review and ground checking of lakes by Authority staff, the Swan Coastal Plain Lakes Policy was approved on 18 December 1992.

The policy's name had been changed to more clearly indicate the type of wetland protected under the policy, being wetlands with "standing water of 1000 square metres or more" in early December 1991.

The approved policy protects about 1100 natural waterbodies in the region extending from the Moore River in the north, south to Dunsborough, and between the Indian Ocean and the Darling Scarp.

The approved policy establishes the beneficial uses of lakes, identifies certain activities as leading to degradation of lakes, and prohibits unauthorised filling, mining, changes to drainage and discharge of effluent into lakes.

The policy lakes are identified on a 1:50 000 cadastre — Land Administration Miscellaneous Plan 1815.

Since approval of this policy the associated regulations have been repealed.

Environmental Protection (Gnangara Mound Crown Land) Policy 1992

The Gnangara Mound Crown Land Policy was approved on 24 December 1992.

The policy applies to Crown Land over the Gnangara groundwater mound, which consists of conservation reserves, a national park and pine plantations.

Although the policy's primary focus has been groundwater protection, the policy also protects wetlands and native vegetation.

The Crown Land Policy establishes environmental objectives for water quality and groundwater levels, with protection of groundwater, wetlands and vegetation to be effected by:

- the State Planning Commission's Statement of Planning Policy for the policy area (gazetted 20 March 1992);
- management of parks in the policy area;
- controls on the use of groundwater for pine production; and
- prohibiting unauthorised discharge of contaminants, excavation and mining, abstraction of groundwater, filling of wetlands and clearing of native vegetation in the policy area.

Environmental Protection (Kwinana)(Atmospheric Wastes) Policy and Regulations 1992

After more than two years in development this policy and regulations were approved on 17 July 1992.

The regulations prescribe:

- licence conditions for industrial premises in the policy area; and
- air quality standards and limits for concentrations of sulphur dioxide and suspended particulates in affected local authorities. Different standards and limits apply across different land uses in those municipalities.

The policy establishes:

- the policy area;
- beneficial uses protected under the policy;
- powers of the Authority to specify maximum permissible quantities of waste to be discharged;
- self-monitoring by industry; and
- mechanisms for review policy's standards and limits.

The policy does not incorporate penalties for breaches because its objectives are achieved through licence conditions set on companies and there are penalties for breaches of licences.

Environmental Protection (Goldfields Residential Areas)(Sulphur Dioxide) Policy and Regulations 1992

In July 1988 an environmental protection policy was established to protect air quality over Kalgoorlie-Boulder.

Review of this policy began in April 1992, with the new policy approved on 29 January 1993.

The new Goldfields policy establishes:

- the policy area, including Coolgardie, Kalgoorlie-Boulder, Kambalda and Kurrawang Aboriginal Reserve;
- beneficial uses protected by the policy;
- a mechanism for policy review;
- air quality standards; and
- industry monitoring.

The policy is supported by regulations which prescribe:

- licence conditions for any "significant industrial source";
- to 1 January 1998, increasingly stringent air quality limits for sulphur dioxide, to achieve air quality standards established under the policy; and
- minimum levels of compliance with policy standards which may precipitate review of the policy.

Policies under development

Further to the approval of five environmental protection policies dealt with above, the Authority also is developing three other policies.

Draft Environmental Protection (Ozone Protection) Policy 1993

This draft policy has been developed to replace the existing Environmental Protection (Ozone-Depleting Substances) Policy 1989 and associated regulations.

The draft policy controls the use, sale or purchase of ozone-depleting substances

in a wide range of industrial and service applications and for the licensing of people to use ozone-depleting substances.

Public comment has been received and was considered in development of the policy, with the revised draft policy referred to the Minister for the Environment who will consult with those affected before deciding on the policy.

**Draft Environmental Protection
(Jandakot Mound Groundwater)
Policy 1993**

A draft environmental protection policy has been prepared to protect groundwater of the Jandakot Mound, an important water resource for public water supply and ecosystem maintenance.

The draft policy proposes prevention and controls on the discharge of contaminants (including contaminated fill) and urban, industrial and horticultural development.

**Draft Environmental Protection
(Gnangara Mound Private Land)
Policy 1993**

The draft policy has been prepared to complement the *Environmental Protection (Gnangara Mound Crown Land) Policy 1992*.

An important aspect of this environmental protection policy is that it identifies principles for land use planning and development control.

These principles, along with the policy's objectives, will be incorporated into a (or possibly several) State Planning

Commission Statement of Planning Policy for private land of the Gnangara Mound and subsequently into local authority Town Planning Schemes.

It is through these planning policies and schemes that the environmental protection policy's environmental objectives are translated into land use planning and development controls.

Environmental education

The Authority has taken a more proactive role in environmental education during the past year.

The Authority's schools programme introduces primary and secondary school students to the values and practices of environmental protection. It seeks to instruct students on how they can be involved in caring for the environment.

A role-play of the environmental impact assessment process — called *Who Decides?* — was developed and has been used to give students an idea of the issues involved in environmental protection.

In *Who Decides?* students step into the roles of local community members, developers, conservationists, the Environmental Protection Authority, State Government and others involved in environmental decision making. They are given details of a fictitious proposal to build houses at *Swamptown*.

The exercise shows the difficulty in finding the middle ground in environmental debates.

Although designed for use in the schools programme, the same exercise has been used successfully with adults. Authority staff also did the exercise as part of staff development training.

Although Authority officers addressed more than 3500 school students in the 1992 school year, this is obviously only a small percentage of WA school students. A different approach was needed if the Authority wanted to reach more children.

The Authority is now working with teacher organisations — such as the Science Teachers' Association of WA — running in-service courses for teachers.

The Authority also made a submission on environmental education to the developers of a national collaborative curriculum for the Australian Education Council (Commonwealth, State and Territory education ministers).

The submission said that the Authority welcomed the incorporation of environmental studies in a draft national curriculum statement, but that it sought a firmer and broader commitment to such studies.

It put forward two major propositions:

- *environmental studies should be available to all students at all levels of schooling; and*
- *environmental protection should be an integral part of such studies.*

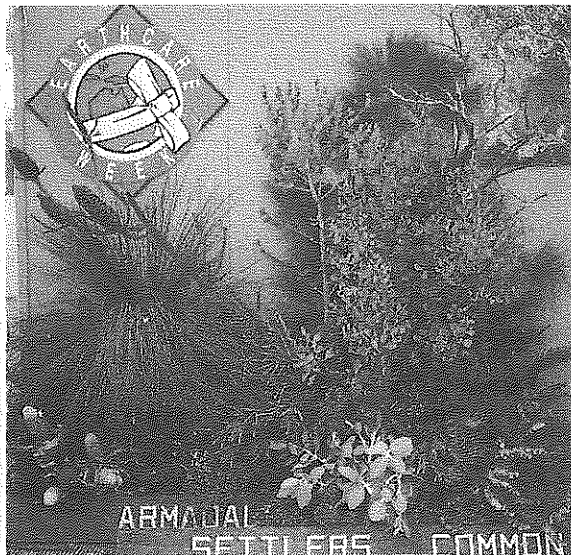
The submission said there was an unmet community demand for studies of the environment and its protection.

Young people were worried about the environment and the future of the world. They needed to be taught about the processes that allowed them to contribute to the future — rather than just have it happen to them.

Authority officers addressed more than 3500 students in the 1992 school year.



Urban conservation



Establishing and protecting a viable urban conservation estate depends on a combination of Government decisions and community care.

The Authority believes that Perth's urban bush has benefited from both of these factors in the past year.

Affording security of tenure to conservation areas is a critical first step in protecting their special features.

Areas set aside during the year include Blackwall Reach on the Swan River, which contains the only relatively untouched area of river limestone left in the region.

The most biologically important part of Woodman Point on the coast south of Perth was established as a conservation reserve. The reserve has a wide range of vegetation, including Rottneest cypress, Tuart woodland and shrubland.

Important conservation areas also were set aside at Yeal near Gingin, Bullsbrook and the islands of Shoalwater Bay, with parkland reserves being established along the Mundaring railway reserves. John Forrest National Park, WA's oldest national park, more than doubled in size.

Wetlands are a significant feature of Perth and the final report to establish the Yellagonga Regional Park — which includes Lakes Joondalup and Goollelal — was released during the year.

These lakes provide valuable waterbird habitat and will become an increasingly important recreational and educational resource for people living in Perth's growing northern suburbs.

Special conservation and recreation areas and landscape features along the Darling Scarp were proposed to be protected in the draft Darling Range Regional Park Report in January 1993.

The scarp is one of Perth's most prominent natural features and the release of the draft report for public comment represents a significant step towards securing forever the area's special attributes.

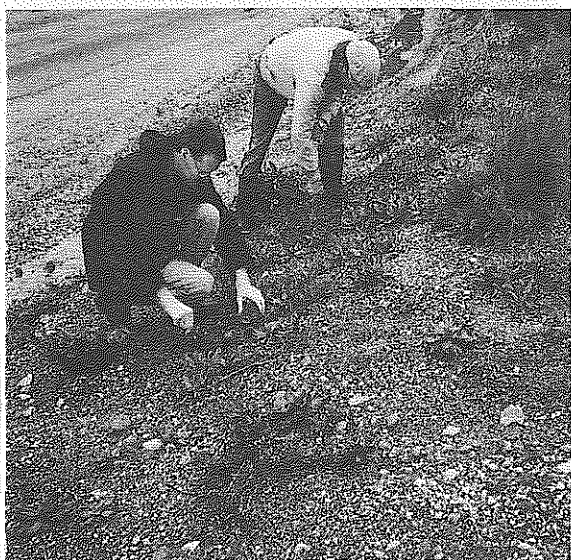
More generally, the Government made some significant decisions about regional parks, including approvals to amend the Conservation and Land Management Act to provide for a category of land to be known as a regional park to be managed by the Department of Conservation and Land Management.

All conservation areas, particularly those in urban settings, require careful management in the face of pressures such as those from people, domestic and feral animals, weeds, rubbish and fire.

Local authorities have made a big contribution to improved management of Perth's urban conservation estate.

The Mount Henry foreshore, Cantonment Hill and Lake Gwelup will all benefit through implementation of management plans adopted by local authorities this year.

Community involvement has been a feature in the preparation of these management plans and highlights the successes which can be achieved by local authorities and their communities working together.



Many urban conservation areas have been disregarded in the past and have a legacy of abuse from previous times when their special values were not recognised.

Lake Claremont which has been degraded by filling, phosphorus contamination causing algal blooms and the encroachment of exotic plants, demonstrates the pressures many of our urban conservation areas have faced in the past. Regrading of the banks and a revegetation project began during the year mark the beginning of a new life for the lake.

Ellis Brook Valley in Gosnells supports many plant communities but has been subject to pressure from off-road vehicles and rubbish dumping in the past, and during the recent summer a serious fire burnt 900 hectares of the reserve.

Fortunately, the area is being cared for by the Friends of Ellis Brook Valley which has programmes for bush regeneration, seed collecting, restoration of badly degraded areas, off-road vehicle controls, environmental education and regular rubbish clean-ups.

Perth's conservation areas are benefiting from increasingly skilled and dedicated bush regenerators.

Ellis Brook Valley and Mary Carroll Park near Gosnells and the Swan River foreshore near Garratt Road Bridge are some of the areas being regenerated by skilled volunteers.

Education to increase people's awareness about the value of our urban conservation areas also contributes to the protection of these areas.

Environmental education centres providing hands-on learning opportunities are being considered for different parts of Perth including Bibra Lake and the Yellagonga Regional Park.

The Armadale Settlers Common field study centre was officially opened during the year. It is hoped that the centre will feature permanent displays on plants and animals, physical features of the reserve as well as management issues such as fire control and feral animals.

The recruitment and training of volunteers as part of the Authority's Ecoplan project continued during the year with training courses conducted at Joondalup and Swan.

The Friends of Yellagonga Regional Park group increased its membership after the Joondalup training course and increasing community awareness about the park is being achieved by the Friends group through botanical tours conducted in the park and frequent displays at local community events.

The newly-formed Eastern Hills Ecoplan Group has adopted the Mundaring Railway Reserves and hopes to increase people's awareness about the

special values of the area and the need for careful management to protect these values.

The collation and dissemination of information about Perth's wetlands continued to be a part of the urban conservation programme.

During the year the Environmental Protection Authority and the Water Authority of WA prepared maps showing wetlands and their management objectives for local authorities.

Studies were completed to improve our knowledge of how Perth's wetlands function.

The information gathered through these studies will be integrated into a wetland management compendium due to be completed later in 1993. This compendium is to be written in a practical form suitable for use by wetland managers.

Regular seminars held during the year about wetlands and relevant management issues were well attended.



Rural conservation

In 1992/93, the Authority directed considerable effort towards the protection of remnant native vegetation in the agricultural regions of the South West Land Division.

The Authority considered remnant vegetation at several meetings and was briefed by the main statutory organisations involved in remnant native vegetation protection and agricultural land conservation.

Most shires have less than 20 per cent of the original native vegetation left on public land (reserves of various kinds) and private farmland, and for much of the central wheatbelt there is less than 10 per cent left.

This is considered an inadequate amount to meet nature conservation, social and cultural and soil conservation needs.

It was clear that there was a need for an integrated policy in government to both control land clearing so as to take into account all those values of native vegetation, and to help landowners to protect, restore and manage what was left.

The Authority decided that it should work towards an environmental protection policy to provide clear sets of rules for conditions under which vegetation in various parts of the South-West could be cleared, according to its extent and condition.

The Authority's objective to prepare an environmental protection policy and to assess remnant native vegetation clearing underscored the need to have a good understanding of what native vegetation remained to be protected.

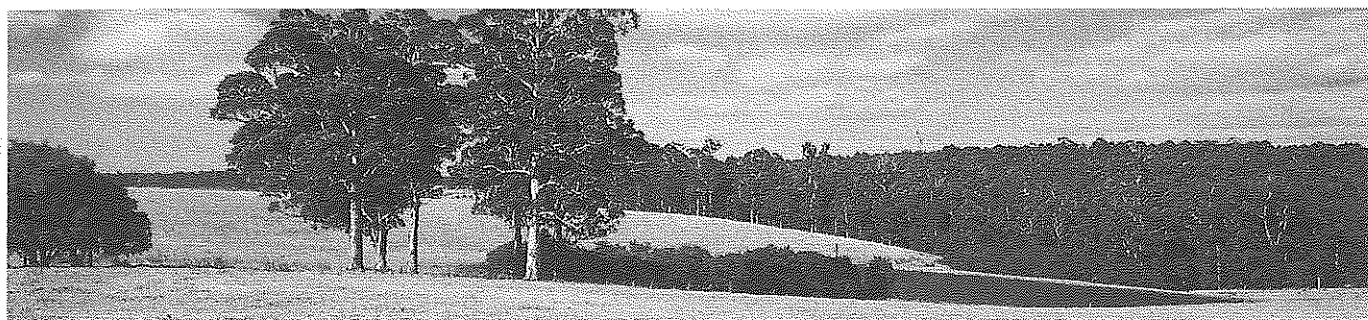
The Authority's Rural Conservation Branch devised a new way of grouping areas with similar natural characteristics, to help land users make better land management decisions.

The new system defines 84 natural resource zones in the South-West based on the vegetation system, river catchment and rainfall of each zone.

Besides remnant native vegetation, the Authority has continued to raise a wide range of rural conservation issues with other agencies and rural interests.

The State of the Environment Report released in late 1992 indicated that despite efforts by individual landholders and their community land conservation groups, there is still much to be done, but the depressed rural economy is constraining expenditure on land conservation.

Budget cuts meant that the Authority's Rural Conservation Branch was to be abolished at the end of the financial year.



Large old trees and farm dams are attractive parts of the landscape and provide essential habitat for wildlife. Planting trees and shrubs around farm dams can also improve the water quality. Pemberton, Karri Forest Subregion. Photo: S Eyres.



Patches, strips of bush and individual trees are important types of native vegetation and are part of the heritage of this area. They require protection and management to ensure their survival. Wickepin, Wheatbelt Region. Photo: B M J Hussey.



Granite rock outcrops with their many different plant species are islands in the extensively cleared agricultural landscape. They are refuges for animals and are important for nature conservation. Holt Rock, Mallee Region. Photo: S D Hopper.



This remarkable heritage of wildflowers is appreciated and enjoyed by local people and visitors. Native vegetation helps to protect the land against degradation from erosion and salinity. Eneabba, Northern Sandplains Region. Photo: S D Hopper.

Reserve implementation and mining policy

Reserve implementation

Significant additions to the conservation estate recommended in the Authority's Red Books were made during the past year.

Perhaps most notable was the declaration of the Kennedy Ranges National Park, the Francois Peron National Park at Shark Bay and the consolidation of the D'Entrecasteaux National Park, which has more than doubled in size to 115,000 hectares.

Other notable reservations during the year included the declaration of the False Mouths of the Ord Nature Reserve and consolidation of the Parrys Lagoon Nature Reserves in the Kimberley; declaration of Yeal Nature Reserve (north of Gnaragarra); the enlargement of John Forrest National Park (almost doubled in size); and the inclusion of the Boranup Karri Forest into the Leeuwin Naturaliste National Park.

Further significant reservations are expected early in the new financial year.

Implementation of the recommendations in most Authority Red Book Systems has now progressed to an advanced stage: 70 to 90 per cent. In some systems implementation is close to completion. The major exceptions are Systems 6 and 7, which 35 to 45 per cent of conservation recommendations have been implemented.

The release of the Red Book Status Report (1993) was a further significant event during the year.

The report represents the most comprehensive overview of the status of

the Authority Red Book proposals released to date.

The report, which was prepared in close liaison and co-operation with other key agencies, provides detailed information on the status of each Red Book recommendation and part recommendation, together with comments on the nature of issues still to be resolved for those recommendations yet to be implemented.

The status report has been well received and has proved useful to a range of interests in Government, the community and industry as a source of current information on changes since the Red Book reports were released in the years between 1976 and 1984.

It is intended to release updated status reports regularly.

Mining policy

In recent years reserve implementation has proceeded under the Resolution of Conflict policy which banned mining in national parks.

In February 1993, the Coalition Government was elected on an environmental platform which recognised that mining could occur in national parks; but only where minimal damage was likely and where comprehensive environmental rehabilitation was guaranteed.

The Government's platform also recognised that petroleum-related development was possible in marine parks.

These policy changes have associated requirements for changes to the administrative arrangements for reviewing proposals for mineral and petroleum resource exploration or development within these reserves.

The Authority has been involved in the review of the administrative procedures required to give effect to the revised policy.

In April 1993 the Authority released a discussion paper (EPA Bulletin 679) "Protecting the marine environment — A guide for the petroleum industry".

The bulletin addressed the environmental review process for petroleum exploration and development proposals in sensitive marine environments.

Bulletin 679 is a reviewed and updated version of EPA Bulletin 104 (1984).

It proposes a revised and simplified version of the system of environmentally sensitive areas and associated buffer zones designated in the earlier bulletin, and presented for comment the Authority's position in relation to the assessment of petroleum exploration and development proposals in sensitive marine environments, including marine parks.

Submissions received during the public comment period were being reviewed by the Authority and a final report was expected to be released in the near future.

State of the environment report

Western Australia's first State of the Environment Report was released in December 1992.

The State's 2.5 million square kilometres, wildlife, air and surrounding waters were examined in the report, the production of which was co-ordinated by the Authority.

The report gave an overview of the state of WA's atmosphere, water resources, flora, fauna, soil, landscapes, marine and coastal areas.

It outlined the impacts, both past and present, of human activities on the natural environment, and indicated where steps were being taken to solve some of the problems.

The report showed that some parts of the State had been seriously degraded by salinity, erosion, nutrient pollution, land and animal extinctions

and pollution from transport and industry.

On the other hand the report indicated that the State's air and marine systems were virtually pristine and the vegetation and soils in forests, reserves and remote areas were generally very good.

It is planned that a State of the Environment report will be published regionally, with annual updates on the condition of the State's air, water, soils, lands and animals.

Last year's report involved all of the major government agencies concerned with the management of the State's natural resources.

The Department of Conservation and Land Management prepared a major part of the report and was responsible for its editing, design and printing.

Recycling

Recycling is now becoming a way of life for many West Australians who are contributing to the reduction of the amount of waste going to landfill.

The Authority acknowledges the pivotal role being played by local government in this effort.

With 20 metropolitan councils offering kerbside recycling collection services and many country councils offering the same, the amount of material going to landfills is being reduced dramatically.

The Authority was represented on the State Recycling Blueprint Committee which was due for release in July 1993.

Throughout the year, officers from the Authority's recycling unit visited schools to advise them of impending kerbside collection services and to support existing environmental programmes.

The Authority continued to produce the Wasteline quarterly newsletter carrying stories which covered issues such as recycling in schools, by community groups, education programmes, composting and cleaner production methods.

To help monitor the amount of materials being recycled in Western Australia the Authority collates and publishes the tonnages from the local councils operating kerbside collection services plus the total tonnages being processed at the major recycling plants.

The closure of one major plastic recycling operation indicated the current volatile market for plastics, although there remain other outlets to

receive large quantities of various types of plastics such as HDPE, LDPE and PP.

A high profile meeting in early June of the paper recycling industries, local and state government representatives to discuss the world "glut" of newsprint being dumped on Asian markets highlighted that the recycling industries, local and state governments, but more importantly the community must become more conscience of quality of recyclables being left for collection.

An advertising campaign is being organised to advise the community not to include glossy paper with any newspaper destined for the recycling collection service. This is hoped to reduce the sorting costs to a minimum.

On another front the Association of Liquidpaperboard Cartons Manufacturers began collecting paperboard cartons (milk and juice) from the kerbside, thus giving collectors another commercial product to remove from the wastestream.

Further changes in recycling are expected in the coming year, including the introduction of 240 litre mobile garbage bin recycling services by more local authorities.

Materials recycled in WA (July 1992 - June 30 1993)

GLASS

19,200 tonnes



**NEWSPAPER &
CARDBOARD**

63,000 tonnes



ALUMINIUM CANS

3 640 tonnes



PLASTIC

550 tonnes

HDPE — Milk bottles

PET — Soft drink bottles



Oil under Fremantle Prison

In April 1989, oil was found in the tunnels under the Fremantle Prison.

The discovery was made when water drawn for a new watering system was found to be contaminated with a diesel-like oil.

The Authority was advised and subsequent analyses by the WA Chemistry Centre and oil industry laboratories indicated that the oil was consistent with degraded diesel, for either automotive or industrial use.

The Authority co-ordinated clean-up of the prison tunnels involved personnel from the EPA, Fremantle Port Authority, Department of Mines, Fire Brigades, Department of Occupational Health, Safety and Welfare, Building Management Authority and Corrective Services.

The Authority also had co-operation from Caltex Oil (Australia) Pty Ltd, BP

Oil Pty Ltd and the Royal Australian Navy.

By December 1989, about 65,000 litres of the oil had been removed from the prison tunnels and about 20,000 litres remained in them. Work ceased at this time through lack of Government funds to continue.

In 1991, State Cabinet approved a \$100,000 special Treasury allocation to the Authority to engage consultants to investigate the source and extent of the oil, with a view to recovering Government clean-up costs from the party responsible for the oil contamination, and also then requiring that party to finish the clean-up to the Authority's satisfaction.

The contract was put out to tender and was awarded to the environmental consultants Dames & Moore.

The consultants' investigation found there were three likely sources for the oil contaminating the tunnels although was unable to give a conclusive answer on the individual source.

Since that final report of July 1992, the Authority has had extensive contact with Caltex Oil, BP Oil and the Royal Australian Navy, including being given access to files and data of BP Oil and the Navy.

Caltex contributed \$25,000 towards the State's clean-up expenses of 1989 and at the time of reporting was considering the issue of contributing money to cover further costs.

Caltex has also contracted Dames & Moore to conduct a trial bioremediation of oil in the tunnels, and is expected to submit a proposal to the Authority, in September 1993, for the final programme to clean-up the tunnels to a standard approved by the Authority.

Peel-Harvey region

Efforts to rescue the degraded Peel-Harvey estuary through implementation of the Peel-Harvey catchment management strategy has continued during the past year.

The Dawesville Channel is approaching completion, and significant progress has been made in implementing the various land management strategies designed to reduce the flow in nutrients to the estuary.

One of the Authority's major contributions to the catchment management strategy in the past year has been to negotiate a reduction in nutrient outflows from Wandalup Farms, one of the major point sources of nutrients in the catchment.

Peel-Harvey catchment

The degraded nature of the Peel-Harvey system has long been a source of concern to the Authority.

Nutrient enrichment — caused by the clearing of native vegetation and by land uses that result in nutrients, especially phosphorus, leaching into waterways — has placed enormous pressure on the system.

Rehabilitation and protection of the estuary will only occur through reduced nutrient loss to the waterways and increased flushing of the estuary, the two aims which underpin the Peel-Harvey Catchment Management Strategy.

The Peel-Harvey catchment management strategy has established targets for nutrient loss, with the overall aim of reducing the flow of nutrients to the system to about half their present levels.

This equates to an overall catchment objective for phosphorus loss of 1kg per hectare annually.

An essential component of the catchment management strategy is a commitment by land users in the catchment to better management practices.

The Authority and other government agencies have been working with industries in the catchment to develop appropriate waste management strategies.

Piggery agreement

As a part of the catchment strategy, the WA Department of Agriculture, the WA Pig Producers Association and the Environmental Protection Authority developed an agreement in 1989 which set out performance requirements for piggery waste management in the Peel-Harvey catchment.

This strategy set out to reduce phosphorus loss from piggeries in the catchment by at least half.

This programme has been very successful, and most piggeries, had generally complied with its requirements by mid-1992.

Faecal pollution of rivers

The intense pressure of nutrient contamination in the State's rivers led to the release, in the latter half of 1992, of the Authority's "Environmental Strategy for the Elimination of Faecal Pollution of Rivers".

This document was intended to reflect community concerns about the health of our inland waterways and to set

targets and timeframes for industry to clean-up their discharges to our rivers and catchments.

Several organisations, including the WA Water Authority and private enterprises, were identified in the document as being required to upgrade their waste management practices.

One of the private enterprises identified was a piggery near Mandurah, known as Wandalup Farms.

Wandalup Farms Piggery

Wandalup Farms is a 2000-sow piggery with a standing population of 20,000 animals and a cleared area of 360 hectares. Waste management at the piggery currently involves screening for solids, retention and treatment of wastewater in a series of anaerobic, facultative and aerobic lagoons, and irrigation over vegetation, predominantly pasture.

Monitoring of phosphorus loss from the piggery has proven difficult, and estimates of phosphorus loss from the property vary between four and 11 tonnes a year.

The majority of this phosphorus eventually makes its way into the Peel-Harvey system.

The Authority's objective for phosphorus loss from the property has been set at 360kg annually.

In a negotiation process that began before 1989 and which was completed in May this year, Wandalup Farms agreed that this figure is reasonable and appropriate, and agreed to work towards achieving this objective.

There was a high level of public interest in the outcome of these negotiations, with more than 100 letters regarding Wandalup Farms being received by the Minister for the Environment in the second quarter of 1993.

As a result of the negotiations, Wandalup Farms put forward, and the Authority has accepted, a waste management programme. Wandalup Farms' size means that a complex and comprehensive wastewater treatment system is needed to meet the objectives set for the piggery.

The strategy sets interim targets for phosphorus loss and includes the commitment by Wandalup Farms to install and operate an appropriate wastewater treatment system. The agreed strategy is detailed below:

- *The level of phosphorus in the discharge from the wastewater treatment system before irrigation will be reduced to 990kg annually by July 1994.*
- *The level of phosphorus in the discharge from the property will be reduced to 720kg annually by January 1996.*
- *The level of phosphorus in the discharge from the property will be reduced to 360kg annually by a date to be determined when Wandalup Farms' licence is reviewed in 1996.*
- *Wandalup Farms will study possible wastewater treatment systems and the use of feed supplements to help pigs to absorb more phosphorus. It also will investigate the use of red mud on irrigated areas to reduce phosphorus leaching from the land and the use of an artificial wetland as a polishing system immediately before discharge.*

The conditions of Wandalup Farms' licence reflect the agreed strategy, specifying the interim targets for phosphorus loss and detailing a monitoring programme.

The licence will be reviewed between January 1996 and July 1996 by the Authority in consultation with Wandalup Farms.

The licence review will include consideration of the monitoring results, compliance with the licence conditions, effectiveness of the monitoring programme, and the need to limit other contaminants in the wastewater (such as nitrogen).

It will also determine a target date for achieving a level of phosphorus loss from the property of 360kg annually.

Dawesville Channel and adjacent urban development

A decision to build the Dawesville Channel was made in 1988 as part of the assessment of the Peel Inlet Harvey Estuary Management Strategy Environmental Review and Management Programme Stage 2.

The channel linking the estuary with the ocean was designed to increase flushing of the estuary to help remove excessive nutrients and avoid the algal blooms which have plagued the waterway.

The potential costs associated with building the Channel delayed development until 1991 when an agreement was reached between Government and a private

company, Wannunup Development Nominees Pty Ltd, which owns land in and next to the channel alignment.

Under this agreement, Wannunup agreed to contribute about \$7 million towards the cost of building the channel in return for 'first bite' at development of land next to the channel.

The channel itself is due to be completed in early 1994, under the supervision of the Department of Marine and Harbours.

The project includes several developments along the channel and these have been or are being individually assessed for environmental acceptability by the Authority.

Southport was assessed in December 1992 (EPA Bulletin 663) and found to be environmentally acceptable subject to seven recommendations. Northport and Eastport were assessed in January 1993 (EPA Bulletin 671).

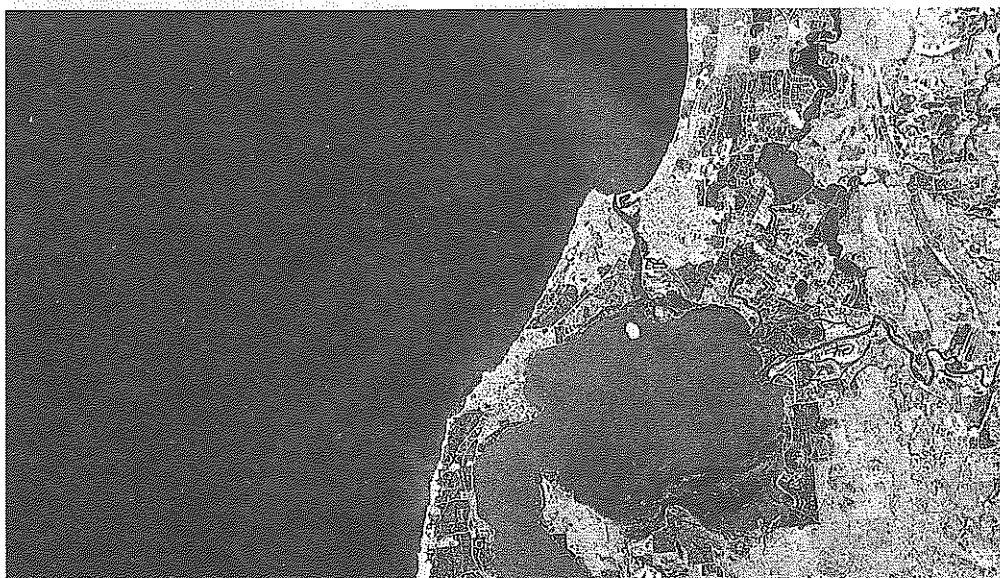
Additional reclamation of an area of estuary proposed as part of the Eastport proposal was considered to be environmentally unacceptable by the Authority.

The Authority recommended that all land created as a result of estuary reclamation should be retained in public ownership for public use.

Continued effort by the Authority, land users and other relevant government agencies will be required to ensure that management of the Peel-Harvey catchment is effective in restoring the health and vitality of the estuary and surrounding land.

The Peel-Harvey system has been plagued by algal blooms caused by excessive nutrients.

The Dawesville Channel is being built to help flush the estuary of nutrients.



Exploration and mining in national parks and reserves

In 1993 the Coalition Government introduced a platform to allow exploration and mining in national parks and conservation reserves, subject to environmental review and approval.

The Authority has been involved with the Department of Minerals and Energy and the Department of Conservation and Land Management in developing administrative procedures relevant to this policy.

While the Government's role is to make decisions about development proposals, the Authority provides independent advice on the likely environmental impact of such activities.

The Authority also believes that it is important for the public to be informed about proposals to explore and mine in those parts of the conservation estate which the Parliament has given "A" Class status to ensure that they remain protected.

Consequently the Authority produced a discussion paper called "Protecting the Marine Environment — A Guide for the Petroleum Industry".

The discussion paper was released in April 1993 and drew responses which will be considered in formulating the Authority's advice to Government.

In providing this advice, the Authority believes that it is important to keep in mind the primary purpose of the conservation estate and the objectives of policies to allow for exploration and mining access to it.

The conservation estate is the means for giving effect to the conservation strategy for Western Australia.

That strategy is designed to conserve forever the widest possible range of native landscapes, ecosystems and species in the natural habitats of Western Australia (from Nature Conservation Strategy for Western Australia; CALM, 1992)

The Authority believes that national parks, "A" Class nature reserves and "A" Class conservation parks have been given the highest level of protection by Parliament in recognition of the primacy of conservation to achieving the purposes for which those reserves were dedicated.

The Parliament and the public expect the Authority to give development proposals for these areas a level of scrutiny commensurate with that level of protection, at the earliest stage possible.

In formulating policy on access to parks and reserves it is instructive to compare the number of exploration and mining licence applications made annually in Western Australia with the number which require assessment by the Authority.

In 1992, there were 5240 licence and lease applications to the Department of Minerals and Energy.

Fewer than 10 of these were referred to the Authority, none was formally

assessed and only one was informally assessed.

Of 278 mining project approval requests to the Department of Minerals and Energy in the past year, 82 were referred to the Authority.

Only five of these required formal assessment, six were informally assessed and the rest were either licensed or not assessed.

Another three mining projects subject to Agreement Acts administered by the Department of Resources Development, and one quarry subject to a local government extractive industry licence, were received for assessment by the Authority in 1992.

Thus less than 0.2 per cent of the applications and four per cent of the mining project requests received by the Department of Minerals and Energy were assessed by the Authority in 1992.

Only those proposals with the potential to have a significant impact in the most sensitive environments are assessed by the Authority.

Thus the Authority needs to deal with only a fraction of the mining developments proposed in this State each year.

A sound environmental protection system with clear guidelines for industry ensures that projects may proceed safely, meeting Authority and community demands that the environment is protected.

National and international issues

Western Australia endorsed several national agreements and strategies during 1992/93.

Early in 1992, the InterGovernmental Agreement on the Environment (IGAE) was signed by the nine Australian Heads of Government and the president of the Australian Local Government Association.

The IGAE seeks to reduce the number of environmental disputes between States, Territories and the Commonwealth Government.

It also aims to encourage a co-operative national approach to environmental issues by defining the respective roles of governments, and enabling greater certainty in the process of government and business decision making.

The goal is to ensure a better system of environmental protection in Australia.

The IGAE was negotiated with Western Australia through the Department of Premier and Cabinet, but since February 1993 the Authority has kept an overview of the agreement.

There have been two initiatives in this regard addressed by the Authority.

The first is maintaining a watching brief on the development of draft legislation for a National Environment Protection Authority (which is now likely to be called the Australian Environment Standards Council); and secondly the formulation through the Australian and New Zealand Environment and Conservation Council (ANZECC), of a national approach to environmental impact assessment.

Both these tasks are scheduled for completion during 1993. However, the National EPA, by whatever title, will only be achieved through complementary Commonwealth/State and Territory legislation.

The indications are that draft Bills will be ready shortly but with the Council beginning operations, if Governments agree, in January 1995.

During 1992, all Australian governments negotiated a strategy on ecologically sustainable development and another relating to the Greenhouse Effect.

The two strategies were adopted by the Council of Australian Governments in December 1992.

Subsequently Australia has ratified two international conventions which have their thrust in the two strategies, namely, the International Convention on Biodiversity and the Framework Convention on Climate Change.

The Authority will be looking at these strategies and conventions to see how they can be implemented in Western Australia in accordance with Government policy.

Additionally, as an outcome of the June 1992 United Nations Conference on Environment and Development in Rio de Janeiro, a general declaration on the environment was published.

This was known as the Rio Declaration along with an 800-page policy document on environmental management throughout the world, known as Agenda 21.

The agenda is being considered by ANZECC on behalf of other Ministerial Councils to see how it can be implemented, and in this regard the Authority is overseeing Western Australia's interests.

Forest management review

In 1992, the Authority reported to Government its recommendations on plans for managing the State's South-West forests. The Authority called for a cautious approach to native hardwood logging.

History

In 1987 the Department of Conservation and Land Management (CALM) prepared and published Forest Management Plans for the Northern, Central and Southern Forest Regions and a Timber Strategy.

The Authority assessed the plans and found them environmentally acceptable, subject to several recommendations.

The Minister for the Environment issued an approval, with environmental conditions reflecting the Authority's recommendations.

About the same time the Authority assessed the proposals by WA Chip and Pulp (WACAP) for woodchipping, which included chipping big amounts of timber from State Forest.

The Authority also found these proposals environmentally acceptable, subject to several recommendations which the Minister made binding in environmental conditions when he issued his approval.

CALM has now accepted responsibility for the fulfilment of some of the conditions.

The forest review

In 1991, CALM proposed to the Authority a major review of forest management. There were several reasons for this review:

- CALM had some important new information about the forest which had not been available in 1987 (a new jarrah forest inventory);
- CALM had reached a significant agreement with the Australian Heritage Commission about the protection of heritage values in State Forest and conservation reserves;
- when the 1987 plans were submitted, CALM foreshadowed some changes following now-completed investigations;
- partly as a result of these matters CALM wanted to change some aspects of the Forest Management Plans, and this required a formal planning process under CALM's Act and referral to the Authority to consider the environmental implications of the changes; and
- the conditions of approval of the 1987 plans and the WACAP proposal placed on CALM some requirements for assessment.

Through consultation between the Authority and CALM, the requirements of each agency's formal processes were paralleled. Documents were released for extended public review in the first half of 1992, and submissions were received by the Authority and CALM.

As part of the Authority's review, CALM responded to the issues raised about its proposals to change the 1987

plans and satisfy the environmental conditions. The Authority then assessed CALM's proposals, including changes made in the response to submissions, and reported to the Minister for the Environment in October 1992.

The Authority's report

The Authority considered that CALM's proposals for management of the jarrah forest, were different from past practices.

The new practices had the potential to have significant environmental impacts, and there had not been a broadscale application over a sufficient period with adequate monitoring of the environment to be certain that these impacts would not occur.

The Authority recognised the excellent system of conservation reserves in the forest, including some extensions proposed by CALM, which provided the cornerstone of forest conservation in Western Australia.

It also recognised that production forestry was the major objective for use of the multiple use forest outside conservation reserves, and that CALM's proposals were based on the best available information.

However, because there was some uncertainty about how the environment would be affected by the proposals the Authority recommended that they should be implemented as a trial.

This meant that they would be subject to monitoring, reporting of the results, and changes to the management system if the monitoring showed that to be needed.

The Authority regarded its recommendations as embodying the precautionary principle.

The Authority recommended against CALM committing in long-term contracts all of the available timber resources of the forests, because that could make it difficult to change the management system if monitoring showed change to be needed.

The Authority endorsed CALM's proposals for the protection of streams and the forests' visual resources. Extra protection was recommended for catchments with a high risk of salinity impact from logging.

Appeals

There were several appeals to the Minister for the Environment against the Authority's report.

Given the complexity and sensitivity of the issues raised, the Minister appointed Mr Justice Tos Barnett as an appeals committee under Section 106(c) of the Environmental Protection Act to advise him on the appeals.

Justice Barnett met with the appellants, the Authority and CALM, and reported to the Minister in December 1992.

The Minister determined the appeals and proceeded to set environmental conditions.

Conditions

The conditions set by the Minister on Christmas Eve 1992 reflect the Authority's recommendations in many respects, but there are some differences.

Perhaps the most significant was in regard to the Authority's recommendation which the Authority saw as expressing CALM's proposals for phased logging in the forest in more specific terms.

CALM took issue with this recommendation on two grounds:

- CALM's proposals document said "Strips of undisturbed forest will be retained between gaps until a later cutting cycle ... retained uncut for at least 10 (later changed to 15) years"

The Authority's recommendation said that these areas should "be left untreated (that is, undisturbed from harvesting, thinning, etc) for...15 years"

- In response to the Authority's report, CALM said that the proposal was not that these areas be undisturbed, but that they be thinned, and that the constraint of not thinning them was unacceptable and would lead to the closure of some mills.
- In referring to the areas for temporary retention, CALM's proposals document said that "at least 30 per cent of the forest ... will be retained uncut for at least 10 (later changed to 15) years", explaining that "no harvesting will occur in river and stream zones";
- The Authority's recommendation said that the areas for temporary retention and harvest in 15 years' time should "be in addition to protected river and stream reserves and diverse ecotype conservation areas" which are never to be harvested, and contain little forest.
- In response to the Authority's report CALM said that the proposal was not

that these areas be in addition to the stream zones and diverse ecotype areas but that those areas be counted in the 30 per cent of forest proposed for temporary retention. Again it was claimed that the constraint imposed by the recommendation was unacceptable and would lead to the closure of some mills.

Further, Justice Barnett in his report to the Minister recommended consideration of an entirely different system of conservation in the forest through a network of permanently retained linking corridors.

The expert committee

Faced with complex questions involving protection of the forest environment and the economic survival of parts of the timber industry the Minister set an environmental condition requiring the establishment of "an expert scientific and administrative committee" to advise him before making a determination on the level of sustainable cut from the forest.

Shortly after taking office the present Minister for the Environment appointed the committee which, as required by the condition, was to report to him by June 30, 1993.

Kwinana Pollution Control Unit

The Authority's Kwinana Pollution Control Unit is specifically responsible for controlling pollution from the Kwinana heavy industrial area and is broadly responsible for controlling pollution from all industrial activities in the municipalities of Cockburn, Kwinana, and Rockingham.

The unit's three major tasks are:

- responding to complaints related to pollution from industry;
- issuing works approvals and licences under the Environmental Protection Act to prescribed industries in Cockburn, Kwinana and Rockingham; and
- providing an environmental information service to the local community.

Complaints

A principal advantage of a regional location is the ability to quickly reach the scene of a pollution complaint.

Having an Authority officer present during a condition of alleged pollution enables a more accurate determination of the validity of the complaint and the offending source.

While the number of complaints received by the unit is declining, it is important to recognise the limitations of using complaints as an indicator of environmental quality.

Complaints are clearly indicative of community concern but the relationship between complaints and actual pollutant levels is unclear.

Factors which may influence the propensity of a member of the public to

formally lodge a complaint with the Authority, irrespective of the actual pollutant concentrations, are highly subjective.

Of the complaint types, odour and dust continue to be the issues of greatest concern in the region.

Works approvals and licences

The principal mechanism for the regulation of industrial discharges under the Act is through conditions applied to works approvals and licences.

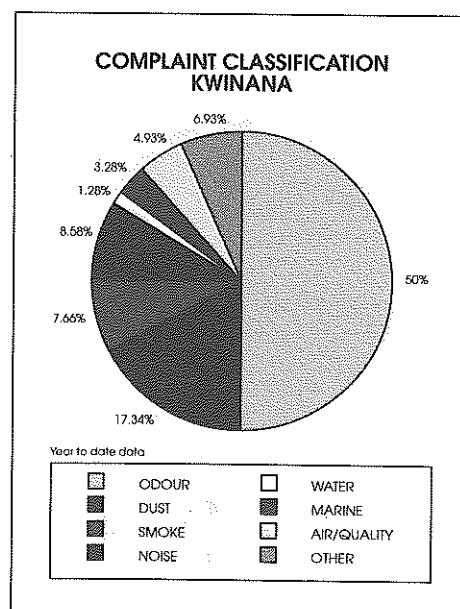
These conditions define construction, operating and discharge parameters designed to ensure pollution does not occur.

Licence conditions are kept current by periodically updating them in response to the identification of environmental problems and improvements to industrial pollution control technology.

Most industries in the Kwinana heavy industrial area have licence conditions which require them to submit monitoring data for significant discharges and maintain their discharges within limits.

This permits potential adverse environmental impacts from industries to be regulated.

During the next year, the unit will expand the computerisation of these data to help identify any adverse environmental impacts and trends, and supplement the knowledge base to help the Authority deal with complaints.



Bunbury regional office

The Authority's South-West Regional Office in Bunbury services 13 local authorities representing about 30 per cent of the non-metropolitan population.

As well as contributing some nine per cent of the State's agricultural production, the region also provides the bulk of the timber resource, and about 17 per cent of the value of the State's total mineral production.

Increasingly, the size and high conservation value of the region involved, diversity of the mining, and downstream processing activities call for better and more detailed planning procedures to maintain the quality of the environment for current and future generations.

Resolution of the conflicting uses for resources, together with domestic complaint resolution, present the bulk of the demands on the Authority's Bunbury office.

Environmental awareness continues to increase in the South-West contributing to continuing high demands for information and complaint response.

General public contact with the office again increased while the level of contact with industry and local government authorities was maintained.

The office continues to provide a regional perspective on environmental assessments being done in the South-West, along with licensing, inspection and complaint response.

Licensed premises numbers increased in the region. Each were issued with licences stipulating environmental

conditions under which they were to operate.

Statistics maintained at the office showed the number, nature and validity of complaints received during the year.

Considerable success has been achieved at determining the source of complaint currently running at 78 per cent.

The Authority formally responded to 186 complaints during the year, of which 94 per cent, or 175 were found to be justified. The number processed represented a 21 per cent increase over the previous year.

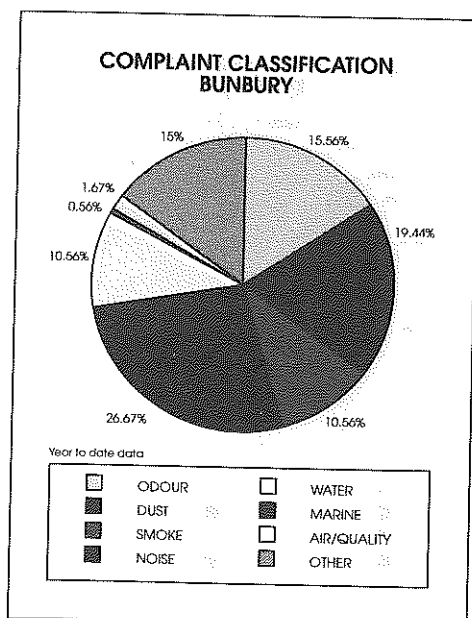
Statistics kept by the Authority show the trend of an increasing number of complaints arising from non-industrial sources.

This trend is likely to reflect the success of the extensive licensing effort within the region.

With licensed premises no longer being the major source of complaints, the identification of the source of the complaint is becoming more difficult and as a consequence, the time taken to resolve issues has increased.

Complaints referring to dust nuisance increased in prominence during the reporting period.

Combined with noise, these two sources of complaint constitute half of all complaints investigated at this office. This trend can be attributed to extensive roadworks and subdivision activity in the region.



Karratha regional office

General

The Authority's Karratha office continued to offer a broad spectrum of Authority services across the Pilbara. However, a considerable reduction in funding and the resignation of a valuable staff member affected the capacity to deliver those services.

Internal environmental auditing has rapidly become commonplace in the bigger resource-based Pilbara industries.

This voluntary practice is already improving the standard of self-regulation in those industries.

The Pilbara office has an increasingly important role in helping industry, local government authorities and government corporations to adopt strategic environmental management practices.

Oil and gas

The rapid growth in exploration and production of oil and gas on the North West Shelf continues, with reports of more finds during the year.

There are now two natural gas pipelines taking gas from land and sea around Onslow with another (BHP Griffin) recently approved. These pipelines traverse sensitive environments, including mangroves, mudflats, steep river banks and arid pastoral land.

Through close liaison between the oil companies, their contractors and environmental consultants, the environmental impacts of the pipelines have been minimised and a very high standard of rehabilitation achieved.

Apart from exploration and production

of oil and gas in the region, the management of oily wastes emanating from a variety of industries continues to be an important issue.

There has been a gradual improvement in this area during the reporting period.

New conditions have been set for the oil landfarm at Karratha. Other new landfarm facilities are being managed well, and more are proposed.

New development proposals are also generally giving more consideration to management of oily wastes.

The development of state-wide strategies for the management of storage and waste facilities will help in dealing with those operations which still require attention.

Iron ore proposals

Construction began at the Marandoo Iron Ore project in an area excised from the Karijini National Park. The project was assessed by the Authority in 1992 and approval was granted by the Minister for the Environment.

The new Tom Price North Road and the Marandoo access road were nearing completion at the time of reporting.

Works approvals and licences have been issued for some parts of the project and a site inspection carried out.

The Bee Gorge Iron Ore proposal was withdrawn by the proponent early in the reporting period.

The Mesa J development by Robe River Iron Associates began construction after receiving Ministerial approval.

Conditions of approval include the preparation of a detailed environmental management programme, incorporating management plans for dewatering, rehabilitation, and drainage.

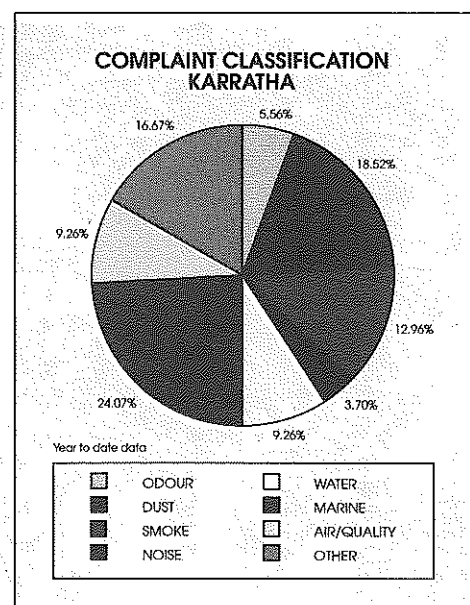
The Authority made two site inspections during the reporting period.

Pollution control

The Authority continues to receive complaints about the level of dust in Port Hedland, noise and dust from abrasive blasting and smoke from some Pilbara rubbish tips.

About 25 per cent of all licensed premises in the Pilbara were inspected by the Authority's office during the reporting period.

Abrasive blasting immediately next to the marine environment was concentrated on during the reporting period to minimise the threat of contamination of marine life with organotins, heavy metals and dust from abrasive products.



World Environment Day

World Environment Day was marked in 1993 with the release of a special environment edition of a popular schools magazine.

The Authority co-ordinated production of one edition of Lunchbox which was sent to more than 800 primary schools across the State.

This year's World Environment Day theme was Healthy living: clean air, clean water.

The day — June 5 — is celebrated each year to mark the United Nations conference on the human environment held in Stockholm in 1972 and provides people the opportunity to think about global environmental issues but from the position of seeing what part they can play individually.

The colourful Lunchbox magazine contained contributions from several agencies involved in environmental protection and delivered messages about looking after the environment in ways that appealed to students.

Lunchbox featured a new character, Retro Rat, the "environmental avenger" who has come from another planet to help humans clean-up Earth.

The "real life" Retro Rat helped students at the Glengarry Primary School celebrate World Environment Day on Friday June 4.

Glengarry Primary School was a fitting location to mark World Environment Day because of the school's successful environmental programme.

Students at the school, with the help of local councils, government departments, private companies and the community, have made recycling and energy management a profitable exercise, saving school resources.

The Authority acknowledges the support of BP Australia, Masters Dairies, Apple Computers, Winthrop Technology, K-Mart and Schools Magazine Pty Ltd.



"Environmental Avenger" Retro Rat with students from the Glengarry Primary School on World Environment Day 1993.

Staff training and development

Ensuring that staff have the skills, knowledge and support necessary to achieve their full potential and service the needs of the Authority and its clients continues to be an important objective.

The commitment to achieving this objective is reflected in the training and development programme undertaken this year.

The major training and development exercise undertaken this year was an organisation-wide team building exercise held at Stoneville, east of Perth.

This two-day event included sessions on communication, organisational development and the enterprise bargaining process.

A total 4026 hours of training was provided which averages 28 hours of training and development for each staff member.

The eligible training expenditure calculated for the Training Guarantee Scheme was \$152,344 or 2.51 per cent of the Authority's payroll.

Information technology

The past year has been one of consolidation of the Authority's information systems.

hoc courses for the major software packages. There is also a steady demand for help desk services.

The Central Information System (EPACIS) has had many significant additions made to its reporting capabilities.

It now provides graphical output in the Evaluation Division's filtering system for development proposals and for the Pollution Control Division's project auditing system.

The Central Information System has other "modules" dealing with functions such as library information and records and these are being modified to reflect users' needs as they change. Some of the stand-alone information systems dealing with, for example, pollution reports from the public, are being enhanced.

The electronic mail system is now linked to the Authority's regional offices in Kwinana, Karratha and Bunbury, the Office of the Minister for the Environment and the Department of Agriculture.

In addition, the Authority's knowledge of computer hardware and programmes is kept up-to-date by linking with local and international computer information networks.

There have been requests from external agencies to provide dial-in facilities to some of the Authority's information systems which may be provided in future.

Training, particularly for new staff, continues to be in demand so the Information Technology Branch runs ad

Environmental conditions and auditing

In 1992/93, the Minister for the Environment issued 45 statements allowing projects assessed by the Authority to be implemented.

These statements contain environmental conditions controlling the design, construction, operation, on-going management and site rehabilitation of those projects.

The statement and environmental conditions allowing proposals to proceed constitute the agreement of all decision-makers involved with each project is obtained before the statement and conditions are set.

The process, however, does not preclude other agencies rejecting the proposals or requiring additional conditions pertinent to their area of responsibilities.

The number of statements fell from the record number issued in 1991/92 following the effort to reduce to an acceptable level the number of outstanding formal assessments and the corresponding conditions.

Since 1987, the first year of condition-setting under the new Act, more than 300 statements have been issued with 2500 conditions by successive Ministers for the Environment.

The previous financial year (1991/92) was a peak year with more than 100 statements issued as a consequence of the expedited assessments carried out during the previous year. Around 40 statements issued would be the normal steady state.

In 1992/93, about 520 conditions were set for the 45 proposals.

This represents an increase in the average number of conditions and is partly due to the introduction of additional standard conditions, such as the "compliance auditing" condition, and partly due to the complexity of several large proposals in the year, such as the Marandoo Iron Ore project and the Forest Management Plans and Timber Strategy.

The consultation process entered into with decision-making authorities is now widely understood and appreciated by all parties and generally by industry.

However, new "players" emerge from time to time and some additional education and guidance keeps the process moving.

It is now standard practice to provide proponents with the draft conditions affording them an opportunity of providing comment on the draft within two weeks.

This addition to the process has been well received by proponents and has helped in reducing appeals and has helped improve communications and understanding between government and industry.

There has been a noticeably high acceptance of the process and its product by proponents generally. This is apparent from the very small number of statements appealed by proponents.

In a new approach, the Authority, in addition to the usual recommendations in the Report and Recommendations, is also including "recommended environmental conditions".

It is anticipated that this will lead to a better appreciation by the community, proponents and decision-making authorities, of the assessment and condition-setting process, and will make possible the provision of earlier advice on conditions to the Authority. However, these may undergo redrafting following appeal determinations and negotiations.

Overall, it is believed that this initiative will help to reduce the time taken to set the conditions.

An essential component of any approval process is the follow-up to ensure compliance with the environmental conditions set.

It is the Authority's objective to audit all development projects approved by the Minister for the Environment. In the past year, about 170 audits were done, while 62 audit programmes were prepared for largely new proposals, this included all projects approved this year. The task of preparing audit programmes for all projects approved since 1986 was completed, providing a structure for on going auditing.

Audit programmes provide a schedule for implementing conditions and are used to record project progress.

Industry has accepted the audit programme approach used as it helps industry to identify and meet its obligations at the various stages of implementation for each project.

It also helps to reduce time delays associated with the Authority issuing clearances for the start of construction or operational stages of the projects.

The majority of audits undertaken are desk top audits based on documentation provided by developers, but where

appropriate on-site audits are included. Because of the large, cumulative number of projects approved through the environmental assessment process (about 300 to date), the task involved in monitoring their implementation is similarly large.

The Authority believes that to adequately manage this essential function, industry needs to take increasing responsibility for demonstrating how it is conforming with the environmental requirements applied to those projects.

This obligation is being met by industry through periodic compliance reporting, especially at critical phases such as pre-construction, pre-commissioning and annual monitoring reports.

This approach is operating well and has generally resulted in compliance certification being achieved quickly and efficiently.

Prosecutions

Successful prosecutions

Steve Papanoum

On November 18, 1992, Mr Steve Papanoum pleaded guilty in the Perth Court of Petty Sessions to the offence of causing pollution; contrary to Section 49 of the Environmental Protection Act 1986.

It was alleged that in the early hours of the morning of November 10, 1991 Environmental Protection Authority inspectors intercepted two trucks coming from the quarry at Nowergup, north of Wanneroo Raceway.

One of the trucks was said to be carrying burnt electric cable (mostly copper wire with some shiny lead or zinc and what could have been steel cable) which had been recovered by burning the cable in the open at the quarry.

Such burning in the open can cause pollution by the release of toxic material into the atmosphere and the residue of heavy metals which are left on the soil.

Mr Steve Papanoum was fined \$750 and order to pay \$101 costs.

Stan Stoiche, Chris Stoiche, John Wayne Stoiche and Sophie Stoiche

On March 4, 1993, the Stoiche family operators of a cattle feedlot near Manjimup pleaded guilty in the Manjimup Court of Petty Sessions to causing to be emitted from their premises odour which unreasonably interfered with the comfort or amenity of a person.

This was contrary to Section 49(2) of the Environmental Protection Act 1986.

On March 30, 1992, three complaints were received from residents of dust and odour pollution coming from the Stoiche feedlot (location Nelson 1153 and 2072) Manjimup.

The Stoiches were each fined \$2000 and ordered to pay \$60 costs, resulting in a total fine of \$28,000 and \$240 costs.

At the time of reporting an appeal by the Stoiches against the severity of the penalty had not been heard.

Prosecutions pending at June 30, 1993

Gold Bar Holdings Pty Ltd and also the Director Mr Giacomino Fazio

Prosecution procedures were initiated for alleged failure to comply with the requirements of a pollution abatement notice issued on May 15, 1992 under Section 65 of the Environmental Protection Act 1986.

This was in relation to requirements to be taken to control dust being generated from the company property at 250 Hampton Road, South Fremantle.

At the initial court hearing Mr Fazio did not appear and the Magistrate entered a plea of "Not Guilty *ex parte*".

At a new hearing date Mr Fazio made a plea of "Not Guilty" and trial dates were set for May 26-27, 1993.

Due to Mr Fazio's lawyer requiring further time to prepare the defence the

trial dates were vacated and a new trial listed for July 22-23, 1993 at the Fremantle Court of Petty Sessions.

Nonferral (WA) Pty Ltd

Prosecution procedures have been initiated against Nonferral (WA) Pty Ltd for allegedly contravening conditions of licence by burning insulation on scrap cable and motor windings coated with varnish in the open; contrary to Section 58(1) of the Environmental Protection Act 1986.

It is alleged that the events leading to the prosecution occurred early in the morning of February 20, 1993 on the property of Nonferral (WA) Pty Ltd, 1 Jackson Street, Bassendean.

The hearing date has been set for July 28, 1993 at the Perth Court of Petty Sessions.

CSBP & Farmers Ltd

Prosecution has been proposed for alleged emission of sulphur dioxide into the environment between 1455 hours on January 9, 1993 and the early hours of the morning of January 10, 1993.

It will be alleged that an emission occurred as a result of the company experiencing problems with the start-up of its sulphur acid plant — part of its fertiliser works — at Kwinana.

Such an emission could constitute pollution and therefore prosecution is proposed under Section 49(1) and possibly Sections 72(1) and 58(1) of the Environmental Protection Act 1986.

Prosecutions appeals

State Energy Commission of Western Australia

On April 1, 1992, the State Energy Commission was found guilty in the Perth Court of Petty Sessions for allowing an odour, namely the odour of mercaptans, to be emitted from a stenching plant situated off Mason Road, Kwinana.

It was found that the odour unreasonably interfered with the comfort of a person, contrary to Section 49(2) of the Environmental Protection Act 1986. SECWA was fined \$5000 and ordered to pay costs \$3255.70.

SECWA appealed against the decision on the grounds that the Learned Magistrate made errors of fact and law.

The appeal was heard by a Commissioner at the Supreme Court which concluded on September 9, 1992.

The Commissioner had not brought down his decision in relation to the appeal.

Airmark Refrigeration Pty Ltd

On the February 13, 1992, Airmark Refrigeration Pty Ltd was found guilty of not servicing a refrigerator in accordance with good current cooling equipment servicing practice designed to minimise discharge of ozone-depleting substances into the environment.

The alleged offence was contrary to clause 5(3)(b) and 10 of the

Environmental Protection (Ozone-depleting substances) Policy approved under Section 31(d) of the Environmental Protection Act 1986.

The company was fined \$2000 and ordered to pay costs \$335.20.

Airmark Refrigeration Pty Ltd appealed on the grounds that the company was not represented at the hearing and was unable to present its defence. The appeal was upheld and a new trial set for November 26, 1992.

At the new trial the judge found that the complainant had not proved the charge against the defendant beyond reasonable doubt, and the complaint therefore failed.

Pollution Abatement Notices

Processed by the Environmental Protection Authority

***Delstrat Pty Ltd T/A Modern Joinery,
72 Gordon Street East, Osborne Park.***

Reason for issuing PAN: That waste in the form of airborne dust, is being or likely to be discharged from the above mentioned premises into the environment, and that that waste has caused or is causing or likely to cause pollution.

***George Weston Foods Limited, Lots 89
& 92A Nambeelup Road, Nambeelup
via Pinjarra.***

Reason for issuing PAN: That waste, in the form of wastewater, is being or is likely to be discharged from the above premises into the environment, and that that waste has caused or is causing or likely to cause pollution in

the form of a direct alteration of the environment to the detriment of any beneficial use.

This Pollution Abatement Notice was later revoked.

Processed by local authorities under the Environmental Protection Act

John William Joynson Davenport and Fern Frances Davenport, owners of 12 Allerton Way, Booragoon.

Reason for issuing PAN: Noise produced and/or caused by the playing of drums is or is likely to be emitted from the said premises.

Javis Nominees Pty Ltd occupiers and owners of Franklins Bistro Bar & Function Centre, 944-948 Albany Highway, East Victoria Park.

Reason for issuing PAN: Noise produced and/or caused by amplified music is being or is likely to be emitted from the said premises.

Mr Vincent Cosentino, owner of Lot 323HN, 27 Dongara Street, Innaloo.

Reason for issuing PAN: Noise deemed to be causing pollution is from time to time emitted from a commercial diesel truck as it moved on the driveway of Lot 323 HN, 27 Dongara Street, Innaloo before 7am.

Messrs Vince & Jefferson Hyde, the occupier of premises known as Lombardos on the Waterfront.

Reason for issuing PAN: The noise level of amplified music emanating from the premises situated on 42 Mews Road,

Fremantle, exceeds the adjusted allowable noise level for that premises as defined by the Noise Abatement (Neighbourhood Annoyance) Regulations 1979.

Issues

Environmental issues which the Environmental Protection Authority considered or reported on during 1992/93.

A

ACF & WACF visit to EPA
Act review
Administrative procedures
Advisory Council & Deputy Advisory Council to the EPA (ACTEPA, DACTEPA)
Air Quality Guidelines for WA
Albany wastewater treatment plant
Algal Ponds Hutt River — decommissioning
Annual Report 1992/93
ANZECC Strategy for Ozone Protection
Appointment of part-time Members
Ashton Rare Earths Mt Weld/Meenar Proposal
Assessment reports — draft environmental conditions
Avon River & Wilson Inlet management plans

B

Bandicoots and System 6
Beeliar Parklands — Part Jandakot AA lot 221
Beenup power line
Bold Park and environs, Public Environmental Review
Brixton Street Urban Development
Budget — Environmental Protection Authority
Buffer Zones — Meenar industrial park
Bulletin 104 — Protecting the Marine Environment
Bulletin 374 — Guide to Wetland Management
Bunbury Harbour City reclamation and redevelopment
Bunbury Wellington Region Plan
Bunnings' proposed export of bluegum woodchips

C

CALM Condition 2 Committee
Cedric Street Wetland relocation
Central Pilbara Railway — Marandoo iron ore mine
CERs — managed
Change of address
Change to Environmental Conditions — Gnangara Mound and Pinjar Groundwater
Change to Environmental Conditions — Premier Coal Mine
Claisebrook Inlet — East Perth Project
Clearing of 20ha, Coolup
Clearing of 197ha, Kukerin
Clearing of Churchlands bushland
Compliance Audit — Clearance or otherwise of environmental conditions
Condition setting by Authority
Conservation Parks — Mitchell Plateau
Contaminated Sites — East Perth
Corporate Plan
CSBP prosecution
Culham Inlet

D

Dardanup pine log sawmill expansion
Dawesville Channel reclamation impacts
Deputy Advisory Council to the EPA, (DACTEPA)
Devolvement of powers — local government authorities
Draft policies — Swan River Trust
Dry process and synthetic rutile plant, Muchea

E

East Perth Gasworks
East Perth Project — Claisebrook Inlet
East Perth Redevelopment
EIA publications including MOUs
Ellenbrook rezoning subdivision and development
Environment WA 2020 — Vision for the future
Environmental condition setting stage — public debate
Environmental conditions in assessment reports
Environmental impact assessment — EPA
Environmental protection policy directorate functions
Environmental protection policy — Goldfields
Environmental protection policy — Lakes
Environmental protection policy — Ozone protection
Environmental protection policy — Prescribing classes
Environmental protection policy — Private land for Gnangara and Jandakot
Environmental strategies
EPA members — validity of contracts
EPA minutes and records of meetings
Esperance — export of iron ore
Exemption from licensing of gold treatment plants
Exemption S.6 — sodium cyanide transport
Expansion of Dardanup pine log sawmill
Expansion of shell grit quarry, Shark Bay
Exploration and mining — MOU

F

Feral goats
Fisheries Department presentation
Fluoride — Swan Valley
Forest appeals
Forest Management Review 1992 — discussions with Technical Advisory Panel, strategy for assessment, report and recommendations

G

General clearing policy — Kukerin Block
Gnangara Mound & Pinjar — change of environmental condition
Gold licensing — exemption
Guidelines for National Water Quality Fresh and Marine Waters

H

Harbour City — Bunbury
Harbour City Canal Development — Mandurah

I

Hard Rock Quarry — Mundijong
Horticulture strategy
Hutt River Algal Ponds, decommissioning

J

Industrial sites — Meenar
Inkpen industrial estate

K

Jandakot AA Lot 221 — Beeliar Parklands Stage 1 subdivision
Jandakot airport environmental impact statement
Jandakot Land Use and Water Management Strategy
Jangardup — Nannup by-pass

L

Kalgoorlie — Mungari industrial estate
Kalgoorlie/Esperance visit by Authority
Kukerin Block clearing for agricultural purposes
Kwinana Freeway extension — wetlands

M

Lakes & Wetlands Position Paper — Bulletin 374
Lakes and Gnangara Mound Crown Land environmental protection policy
Land clearing proposals
Landcorp Beeliar Parklands — Stage 1
Lead in petrol
Level of assessment — N B Love Starches
Licensing & works approval fees — increase environmental protection regulation
Licensing of gold treatment plants — exemption
Local government — devolvement of powers

Major Metropolitan Region Scheme Amendments — M53 — System 6
Managed CERs
Management plans — Wilson Inlet & Avon River
Management Strategy for National Water Quality
Mandurah Harbour City
Mangles Bay Marina
Marandoo Iron Ore Mine and Central Pilbara Railway
Marine parks & conservation reserves — mining and exploration
Market garden, Mariginiup
Meenar Industrial Estate — buffer zones
Meeting with Minister for the Environment
Memorandum of Understanding — Mines Department
Mitchell Plateau — conservation parks
Mt Weld/Meenar Proposal — Ashton Rare Earths
Mundijong Quarry — Section 43 Report
Mundijong — hard rock quarry
Mungari industrial estate, Kalgoorlie
Murrayfield airport and resort development

N

N B Love Starches
 Nannup by-pass — Jangardup
 National parks & nature reserves
 National Water Quality Management Strategy & National Water Quality Guidelines for Fresh and Marine Waters
 Native vegetation
 Noise regulation; response to public comments

O

Oakajee industrial site, Geraldton
 Overseas aid
 Ozone depleting substances regulations new & amended
 Ozone environmental protection policy
 Ozone protection — ANZECC strategy

P

Peel Harvey Environmental Review and Management Programme — change to environmental conditions
 Peel-Harvey Catchment — rural drains and impacts on Dawesville
 Peel Harvey Stage 2 ERMP — review of environmental conditions
 Perth airshed study
 Perth Water Futures — WAWA
 Petroleum and mining access to marine parks and conservation reserves
 Policies — Swan River Trust
 Political parties environmental policies for forthcoming State election
 Port Bouvard Stage 2 — East Port Bulletin 671
 Port Bouvard Urban and Canal Development, Mandurah Stage 1, South Port Section (staged assessment)
 Position paper — lakes and wetlands
 Premier Coal Mine — change to environmental conditions
 Prescribing classes — environmental protection policies
 Prosecution — CSBP
 Protecting the Marine Environment Bulletin 104
 Publications on environmental impact assessment, including MOU

R

Realignment, West Coast Highway
 Reclamation, Dawesville Channel
 Red Book Status Report
 Referrals of tenements in parks and reserves
 Regulations — noise
 Regulations — ozone depleting substances
 Regulations — used tyres
 Remnant (native) vegetation
 Removal of contaminated materials from old CSBP works at McCabe Street, Mosman Park
 Repeal of regulations on wetland protection
 Review of the Act; summary of submissions
 Rezoning — Ellenbrook proposal

S

SECWA/East Perth — contamination
 Shell grit quarry — Shark Bay
 South West Corridor Structure Plan
 Steel mill, Bunbury strategy
 Swan River Trust — draft policies
 Swan Valley Fluoride Report
 Synthetic rutile plant expansion — Westralian Sands
 Synthetic rutile plant, Muchea
 System 6 M53 (Major Metropolitan Region Scheme amendments)
 System 6 M107 — Singleton & Golden Bay development
 System 6 — Bandicoots
 System 6 — Yanchep — Tokyu Corporation

T

Technical Advisory Panel, forest management
 Ten Mile Brook land exchange
 Tenement referrals — parks and reserves
 Timelines — assessment reports
 Tokyu Corporation — Yanchep development
 Trawling
 Trial poisoning of feral goats

U

Urban bushland
 Urban development — Brixton St, Kenwick
 Used tyre regulations

V

Validity of appointments of Authority members
 Visit by Minister for the Environment

W

Wandalup Farm licence conditions
 Water Sensitive Design Guidelines
 West Coast Highway, realignment
 Western Australian Water Quality Guidelines
 Western Biotechnology Algal Ponds, Hutt River — decommissioning
 Westralian Sands Synthetic Rutile expansion
 Wetland protection — repeal of regulations
 Wetland — relocation of Cedric Street wetland
 Wetlands and lakes position paper
 Wilson Inlet & Avon River management plans
 Works approval & licensing fees increase amendment to environmental protection regulation

Y

Yanchep — Tokyu Corporation

Publications

Publications released by the Environmental Protection Authority 1992-1993

The list below includes the Authority's environmental assessment reports, advice to other government departments and technical reports. It does not include publications such as brochures on environmental issues. The number shown is the bulletin or series number.

- 632 **Proposed sale of Commonwealth land at the Bushmead rifle range site for housing development.** Advice of the Environmental Protection Authority to the Commonwealth Environment Protection Agency. Released June 26, 1992.
- 633 **Wagoo Hills vanadium project and Mingenew coal project.** Report and recommendations of the Environmental Protection Authority. Released July 3, 1992.
- 634 **Nature Conservation Strategy.** A submission by the Environmental Protection Authority on the draft document released for review by the Department of Conservation and Land Management. Released July 10, 1992.
- 635 **Proposed urban development of lots 35 and 48, Brixton Street, Kenwick, City of Gosnells.** Report and recommendations of the Environmental Protection Authority. Released July 17, 1992.
- 636 **Beeliar Park Catholic school development.** Report and recommendations of the Environmental Protection Authority. Released July 17, 1992.
- 637 **East of Joondalup urban development.** Report and recommendations of the Environmental Protection Authority. Released July 17, 1992.
- 638 **Albany sewage — treatment and disposal of wastewater.** Report and recommendations of the Environmental Protection Authority. Released July 17, 1992.
- 639 **Murrayfield airpark and resort complex.** Report and recommendation of the Environmental Protection Authority. Released July 17, 1992.
- 640 **Extension of estuary foreshore reclamation associated with construction of the Dawesville Channel — change of environmental condition.** Report and recommendation of the Environmental Protection Authority. Released August 7, 1992.
- 641 **Powerline along Coorow-Greenhead and Cockleshell Gully roads — through Mount Lesueur National Park.** Report and recommendation of the Environmental Protection Authority. Released August 14, 1992.

- 642 **Ellenbrook urban rezoning, subdivision and development, Shire of Swan.** Report and recommendations of the Environmental Protection Authority. Released August 14, 1992.
- 643 **Marandoo iron ore mine and central Pilbara railway.** Report and recommendations of the Environmental Protection Authority. Released August 21, 1992.
- 644 **Development of an environmental protection policy for air quality at Kwinana.** Released August 29, 1992.
- 645 **Proposal to establish an industrial park at Meenaar, 18km east of Northam.** Report and recommendations of the Environmental Protection Authority. Released August 29, 1992.
- 646 **Proposed rare earths mining and beneficiation at Mt Weld, Laverton and secondary processing at Meenaar, near Northam.** Report and recommendations of the Environmental Protection Authority. Released August 29, 1992.
- 647 **Wind farm near Nine Mile Beach, Esperance.** Report and recommendations of the Environmental Protection Authority. Released September 4, 1992.
- 648 **Urban development of part Lot 12 and reserve 34664 (affecting part of System Six recommendation M107), Golden Bay.** Report and recommendations of the Environmental Protection Authority. Released September 11, 1992.
- 649 **Urban development of Lot 1001 (affecting part of System Six recommendation M107), Singleton.** Report and recommendations of the Environmental Protection Authority. Released September 11, 1992.
- 650 **Duplication of synthetic rutile capacity — Westralian Sands Capel.** Report and recommendations of the Environmental Protection Authority. Released October 2, 1992.
- 651 **Contamination management strategy for East Perth gasworks site and adjacent areas of the Swan River.** Report and recommendations of the Environmental Protection Authority. Released October 9, 1992.
- 652 **Proposals to amend the 1987 forest management plans and timber strategy and proposals to meet environmental conditions on the regional plans and the WACAP ERMP.** Report and recommendations of the Environmental Protection Authority. Released October 9, 1992.

- 653 **East Perth project, Claisebrook Inlet.** Report and recommendations of the Environmental Protection Authority. Released October 9, 1992.
- 654 **Proposed exploration drilling in EPs 341 and 364, offshore Onslow.** Report and recommendations of the Environmental Protection Authority. Released October 23, 1992.
- 655 **Proposed realignment of West Coast Highway at South City Beach.** Report and recommendations of the Environmental Protection Authority. Released October 23, 1992.
- 656 **Harbour City canal estate, Mandurah.** Report and recommendations of the Environmental Protection Authority. Released October 23, 1992.
- 657 **Market garden, Lot 1 (274) Pinjar Road, Mariginiup.** Report and recommendations of the Environmental Protection Authority. Released November 13, 1992.
- 658 **Relocation of the Cedric Street wetland.** Report and recommendations of the Environmental Protection Authority. Released November 13, 1992.
- 659 **Bentonite mining lease 70/738 at Gunyidi, Coorow.** Report and recommendations of the Environmental Protection Authority. Released November 20, 1992.
- 660 **Bunbury Harbour City development.** Report and recommendations of the Environmental Protection Authority. Released November 27, 1992.
- 661 **Boddington gold mine — proposal for development of eastern anomalies.** Report and recommendation of the Environmental Protection Authority. Released December 4, 1992.
- 662 **Quarry, Lot 344 South Western Highway, Mundijong.** Report and recommendations of the Environmental Protection Authority. Released December 4, 1992.
- 663 **Port Bouvard urban and canal development Stage 1, Southport.** Report and recommendations of the Environmental Protection Authority. Released December 4, 1992.
- 664 **Management of wetland impacts associated with extension of the Kwinana Freeway (Forrest Road to Thomas Road, Casuarina).** Report and recommendations of the Environmental Protection Authority. Released December 11, 1992.

- 665 **Landfill, non-organic (dry) waste disposal site, reserve 25252, Wanneroo Road, Nowergup.** Proposed change to Environmental Conditions. Report of the Environmental Protection Authority. Released December 11, 1992.
- 666 **Premier coal mine expansion, Collie.** Proposed changes to Environmental Conditions. Report and recommendations of the Environmental Protection Authority. Released December 11, 1992.
- 667 **Expansion of reserve 41076 (quarry - shell grit) L'Haridon Bight, Shark Bay.** Report and recommendations of the Environmental Protection Authority. Released December 18, 1992.
- 668 **Yakabindie nickel project.** Report and recommendations of the Environmental Protection Authority. Released December 18, 1992.
- 669 **Proposed major staged expansion of pine log sawmill, Moore Road, Dardanup.** Report and recommendations of the Environmental Protection Authority. Released December 18, 1992.
- 670 **Church and school, Lot 68 Bertram Road, Wellard.** Proposed change to Environmental Condition. Report and recommendations of the Environmental Protection Authority. Released January 8, 1993.
- 671 **Port Bouvard urban and canal development Stage 2, Northport and Eastport.** Report and recommendations of the Environmental Protection Authority. Released January 15, 1993.
- 672 **Rezoning and subdivision for special residential development, Lot 401, La Perouse Court, Frenchman Bay.** Report and recommendations of the Environmental Protection Authority. Released February 5, 1993.
- 673 **Goldsworthy extension project Phase 2 — Yarrie project area, East Pilbara.** Report and recommendations of the Environmental Protection Authority. Released January 15, 1993.
- 674 **Gas pipeline from Griffin oilfield to mainland facility, near Onslow.** Report and recommendations of the Environmental Protection Authority. Released January 22, 1993.
- 675 **Proposed heavy industrial park at Mungari, 26km south-west of Kalgoorlie.** Report and recommendations of the Environmental Protection Authority. Released March 5, 1993.
- 676 **Proposal for irrigated agriculture on the eastern shoreline of Lake Clifton, Waroona.** Report and recommendations of the Environmental Protection Authority. Released March 15, 1993.

- 677 **Supplementary report on the visual impacts of quarry, Lot 344 Southern Western Highway, Mundijong.** Report and recommendation of the Environmental Protection Authority. Released April 14, 1993.
- 678 **Safety Bay Road extension, Baldavis.** Report and recommendations of the Environmental Protection Authority. Released April 23, 1993.
- 679 **Protecting the marine environment — a guide for the petroleum industry.** Discussion paper for public comment. Released April 30, 1993.
- 680 **Jandakot land use and water management strategy.** A submission by the Environmental Protection Authority on the draft document released for review by the Department of Planning and Urban Development. Released May 21, 1993.
- 681 **Bunbury-Wellington region plan.** A submission by the Environmental Protection Authority on the document released for public comment by the Department of Planning and Urban Development. Released May 28, 1993.
- 682 **Proposed special industrial park at Inkpen Estate, Bakers Hill.** Report and recommendations of the Environmental Protection Authority. Released June 18, 1993.
- 683 **South-West corridor structure plan review.** A submission by the Environmental Protection Authority on the documents released for review by the Department of Planning and Urban Development. Released June 18, 1993.
- 684 **Export of woodchips through the port of Bunbury.** Proposed change to environmental conditions. Report and recommendations of the Environmental Protection Authority. Released June 25, 1993.

Technical series

- 41 **Hydrodynamics and recommendations for further studies in Cockburn Sound and adjacent waters.** Environmental Protection Authority. Released February 5, 1993.
- 49 **Eutrophication of Hazelmere lakes 1991.** Environmental Protection Authority. Released August 29, 1992.

Reports

- 15 **Red book status report (1993) on the implementation of Conservation Reserves for Western Australia as recommended by the Environmental Protection Authority (1976-1984).** Released February 17, 1993.



Opinion of the Auditor General

To the Parliament of Western Australia

ENVIRONMENTAL PROTECTION AUTHORITY FINANCIAL STATEMENTS FOR THE YEAR ENDED JUNE 30, 1993

Scope

I have audited the accounts and financial statements of the Environmental Protection Authority for the year ended June 30, 1993 under the provisions of the Financial Administration and Audit Act 1985.

The Chief Executive Officer is responsible for keeping proper accounts and maintaining adequate systems of internal control, preparing and presenting the financial statements, and complying with the Act and other relevant written law. The primary responsibility for the detection, investigation and prevention of irregularities rests with the Chief Executive Officer.

My audit was performed in accordance with section 79 of the Act to form an opinion based on a reasonable level of assurance. The audit procedures included examining, on a test basis, evidence to provide reasonable assurance that the amounts and other disclosures in the financial statements are free of material misstatement and that the controls exercised are in accordance with legislative provisions. Significant accounting estimates were evaluated and the accounting policies and principles used were assessed to determine that they are consistent with the Treasurer's Instructions and applicable accounting concepts and standards.

The audit opinion expressed below has been formed on the above basis.

Audit Opinion

In my opinion,

- (i) the controls exercised by the Environmental Protection Authority provide reasonable assurance that the receipt and expenditure of moneys and the acquisition and disposal of property and the incurring of liabilities have been in accordance with legislative provisions; and
- (ii) the Statement of Receipts and Payments and the notes thereto are based on proper accounts and present fairly the transactions for the year ended June 30, 1993.

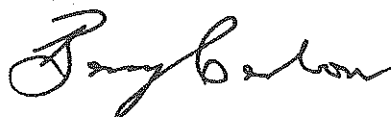
D D R PEARSON
AUDITOR GENERAL
September 14, 1993

Financial statements

Certification

The accompanying financial statements of the Environmental Protection Authority have been prepared in compliance with the provisions of the Financial Administration and Audit Act 1985 from proper accounts and records to present fairly the financial transactions for the year ending 30 June 1993 and the state of affairs as at 30 June 1993.

At the date of signing we are not aware of any circumstances which would render the particulars included in the financial statements misleading or inaccurate.



BA Carbon
Accountable Officer
Date: 14.9.93



R Haynes
Principal Accounting Officer
Date: 14.9.93

STATEMENT OF CONSOLIDATED REVENUE FUND - RECEIPTS and PAYMENTS

	Notes	Actual 1992/93 \$	Estimate 1992/93 \$	Actual 1992/93 \$	Variations from Estimate \$
Receipts					
Licensing and Regulations		280 487	419 000	386 909	138 513 shortfall
Sale of Motor Vehicles		279 800	252 000	112 650	27 800 excess
Other		10 770	15 000	55 177	4 230 shortfall
Total	2(a)	571 057	686 000	554 736	114 943 shortfall
Payments					
Amount provided for Services for the year					
		10 892 246	10 929 000	8 694 417	36 754 savings
Details of Expenditure					
Corporate Services		4 369 784	4 518 000	2 016 433	148 216 savings
Environmental Evaluation		1 828 976	1 825 000	1 780 995	3 976 excess
Environmental Investigations and Policy					
Environmental Investigations		531 413	493 000	609 743	38 413 excess
Environmental Policy		1 455 008	1 488 000	1 555 206	32 992 savings
TOTAL		1 986 421	1 981 000	2 164 949	5 421 excess
Pollution Management					
Air Pollution Control		847 072	824 000	808 059	23 072 excess
Pollution Prevention		746 092	677 000	666 723	69 092 excess
Pollution Abatement		1 113 901	1 104 000	1 257 258	9 901 excess
TOTAL		2 707 065	2 605 000	2 732 040	102 065 excess
TOTAL	2(b)	10 892 246	10 929 000	8 694 417	36 754 savings

STATEMENT OF TRUST FUND ACCOUNTS**1 Applications for licences and works approvals - "To hold fees for applications for licences and works approvals until approved"**

	1992/93 \$	1991/92 \$
Balance at 1 July	31 517	118 414
Receipts	218 848	313 003
Payments	250 365	399 900
• Transfers of fees of approved licences and works approvals to Consolidated Revenue Fund	242 267	386 909
• Refunds to applicants	8 098	12 991
Balance at 30 June	0	31 517

* Approval to close the Trust Fund was received in May 1993 - fees now paid direct to Consolidated Revenue Fund.

2 Water Research foundation grant - "To research the effect of slow release phosphate fertilisers on drainage water"

	1991/92 \$	1991/92 \$
Balance at 1 July	3 664	3 664
Receipts	0	0
Payments	0	0
Balance at 30 June	3 664	3 664

* Note: need to retain fund is under review.

3 Swan Valley fluoride study (includes Prestige Brick Study) - "To monitor fluoride levels in Midland, Guildford & Swan Valley"

	1992/93 \$	1991/92 \$
Balance at 1 July	15 201	16 072
Receipts	0	0
• Contributions	0	0
Payment		870
• Sundries	0	870
• Travel	1821	0
Balance at 30 June	13 380	15 201

Note: Prestige Brick Monitoring Study to monitor fluoride emissions from Prestige Bricks is a sub-account. There were no transactions throughout the financial year. The account is still active.

4 Specific purpose grants from industry - "Environmental studies/activities funded by donations"

	1992/93	1991/92
	\$	\$
Balance at 1 July	82 935	51 918
Receipts	271 912	87 222
• Contributions	271 912	87 222
Payments	216 775	56 206
• Other professional services	121 647	37 787
• Sundry consumables	53 302	3 699
• Equipment purchases	32 208	2 910
• Travel	2 668	0
• Communications	6 950	2 198
• Printing	0	9 612
Balance at 30 June	138 072	82 935

STATEMENT OF SUSPENSE ACCOUNT

End of financial year suspense account - "To hold funds for equipment purchased in one financial year but not able to be paid for until the following financial year"

Note: There were no transactions. The account is still active.

NOTES TO THE FINANCIAL STATEMENTS

1 Accounting Policies

The Financial Statements are prepared on a cash basis in that only collections received and payments made are reflected therein. The disbursements include a net debit of \$23,000 to the Treasury Departmental Receipts in Suspense Account for accrued salaries.

The statutory requirements of the Financial Administration and Audit Act 1985 underlie the presentation of these Financial Statements.

In determining the materiality of variances the Environmental Protection Authority has complied with Australian Accounting Standards.

Receipts are credited to the Environmental Protection Authority departmental account for collections which are mainly derived from licence fees and sale of departmental vehicles.

Payments are charged against Consolidated Revenue Fund - Division 45. These payments now include office accommodation for the first time due to devolution of these payments from Department of Infrastructure and Government Assets.

The Department currently operates three private trust fund accounts that are funded by industry and the Commonwealth Government. The funding is utilised for research, monitoring and environmental studies.

2 Explanatory Statements

Only significant variations of greater than plus/minus 10% have been explained.

(a) Consolidated Revenue - Receipts

- Variation between revenue received in 1991/92 and 1992/93

Revenue in 1992/93 increased by \$16,321

This increase was mainly due to the following:

- combination of fewer pollution licences being issued/renewed and the introduction in 1991/92 of one, two or three year renewals which would have inflated the 1991/92 receipts and consequently reduced the receipts for 1992/93 \$106,422 less
- more vehicles being auctioned in 1992/93 \$167,150 more

- Variation between budget estimate and actual revenue received in 1992/93

Actual revenue fell short of the estimated collections by \$114,943

This was mainly due to:

- combination of fewer pollution licences being issued/renewed and the introduction in 1991/92 of one, two or three year renewals which would have inflated the 1991/92 receipts and consequently reduced the receipts for 1992/93 and the expected fee increase of fees in 1992/93 not eventuating.
- This was offset by the sale of vehicles (\$27,800). \$138,513 less

(b) Consolidated Revenue- Payments

- Variation between expenditure 1991/92 and 1992/93

Expenditure in 1992/93 was \$2,197,829 more than the previous financial year.

This was mainly due to:

Corporate Services

- Accommodation costs previously met by the Department of Infrastructure and Government

Assets now met by the EPA. \$2,400,000 more

Environmental Investigations and Policy:

- Reduced expenditure on Salaries \$40,000 less
- Reduced expenditure on Southern Metro Coastal Waters Study \$88,000 less
- Reduced expenditure on Issue and Policy Management \$55,000 less

(c) General Loan and Capital Works Funds

- Variations between expenditure 1991/92 and 1992/93

Expenditure during 1992/93 was higher than in 1991/92 due to more motor vehicles being due for replacement.

3 Supplementary Information

As at 30 June 1993

	1992/93 \$	1991/92 \$
Losses through theft and default:		
• amount recovered from insurance	9 300	3 317
• insurance claims outstanding	1 533	3 064
Public and other property written off by:		
• the Accountable Officer	33	0
Analysis of losses written off by category		
• theft of cash	33	0
Consolidated Revenue Fund - Revenue:		
• amount due and uncollected	1 223	15 406
• amount considered irrecoverable	0	0
• amount considered to be recoverable	1 223	15 406
Consolidated Revenue Fund-Expenditure:		
• unpaid expenditure claims on hand at 30 June 1993	4 071	56 907
• commitments at 30 June 1993	31 079	33 342

4 Events Occurring After Balance Date

No material events occurred after the balance date.

5 Remuneration of Senior Officers

	1992/93	1991/92
	\$	\$
The total of fees, salaries and other benefits:	797,000	742,000

The number of officers whose total of fees, salaries and other benefits, fell within the following bands:

	1992/93	1991/92
\$10,000 - \$20,000	3	3
\$40,000 - \$50,000	-	1
\$50,000 - \$60,000	1	1
\$80,000 - \$90,000	5	5
\$90,000 - \$100,000	1	-
\$150,000 - \$160,000	1	1

6 Retirement Benefits

In respect of Senior Officers:

Notional contributions to Government Employees Superannuation schemes:	58,000	50,000
Contributions to other Superannuation schemes:	17,000	17,000

Numbers of Senior Officers who are members of the Superannuation and Family Benefits Act Scheme or other schemes:

1992/93	1991/92
8	8

7 Audit Fees

The Environmental Protection Authority is not required to pay Audit fees to the Auditor General. It has not paid fees to any other Auditor.

8 Expenditure by Standard Groups

	1992/93 Actual \$	1992/93 Estimate \$	1991/92 Actual \$
Salaries, Wages and Allowances	6 064 984	6 072 000	6 120 457
Other Staffing Costs	296 062	315 000	315 433
Communications	181 399	197 000	227 305
Services and Contracts	3 360 958	3 245 000	839 428
Consumable Supplies	454 163	585 000	618 656
Maintenance of Assets	75 743	140 000	142 015
Purchase of Assets	404 760	315 000	350 203
Grants, Subsidies and Transfer Payments	54 177	60 000	80 920
TOTAL GROSS EXPENDITURE	10 892 246	10 929 000	8 694 417

9 Expenditure met by Treasury on behalf of Environmental Protection Authority through the General Loan and Capital Works Fund.

Acquisition of Motor Vehicles \$355,335

10 Permanent Sub-Advance from Treasury held by the Environmental Protection Authority

Petty cash \$1,700
R & I bank
(Travel Advance/Allowance) \$4,900
\$6,600



Opinion of the Auditor General

To the Parliament of Western Australia

ENVIRONMENTAL PROTECTION AUTHORITY PERFORMANCE INDICATORS FOR THE YEAR ENDED JUNE 30, 1993

Scope

The Financial Administration and Audit Act 1985 requires the accountable officer to prepare and submit performance indicators. Treasurer's Instruction 904 requires that key indicators of effectiveness and efficiency be reported for each program. I am required to audit these indicators and state whether in my opinion, they are relevant and appropriate having regard to their purpose and fairly represent the indicated performance.

As stated in my First General Report for 1993, when certain conditions are met, I will issue an opinion on performance indicators as required by the Act. I have reviewed the performance indicators reported by the Environmental Protection Authority for the year ended June 30, 1993 in accordance with the approach outlined in my First General Report for 1993.

During my review, I have assessed the relevance of the reported indicators to the objectives submitted by the Authority based on my knowledge of the Authority and have assessed the appropriateness of the indicators for the purpose of assisting users external to the Authority to assess performance. I have also assessed whether the Authority is reporting on all key objectives required by the program statements and the relevant legislation. Where I have formed the view that the indicators are relevant and appropriate, I have also examined, on a test basis, the relevant information systems to determine whether the information reported in the indicators is verifiable and free from significant bias.

Audit Assessment

It is my view that the high level (impact) performance indicators reported are relevant to the stated objectives of the Environmental Protection Authority. The indicators are appropriate for assisting users external to the Authority to assess its performance and fairly represent the indicated performance.

The indicators could be improved by developing effectiveness indicators which illustrate the Environmental Protection Authority's achievements in relation to meeting its objectives at the program level.

To the Parliament of Western Australia

ENVIRONMENTAL PROTECTION AUTHORITY

PERFORMANCE INDICATORS FOR THE YEAR ENDED JUNE 30, 1993

I am aware that the Authority is developing efficiency indicators which will show the relationship between the resources used and the outputs produced which contributed to the desired outcomes.



D D R PEARSON
AUDITOR GENERAL

September 14, 1993

Performance indicators

During the development of its performance indicators and annual report for 1992/93 the Authority recognised that its corporate plan needed to be reviewed to reflect changes in the Authority's activities.

Work began in November 1992 to develop a corporate plan to better reflect the Authority's aims and plans for the future. After extensive drafting involving all Authority staff, a document inviting public comment was produced.

These performance indicators have been developed to meet the Authority's key objective which is to protect the environment.

They are derived from the programme structure.

During the next year Treasury and the Auditor General will be consulted to reach agreement on how the Authority can best report on its current programme structure. The Authority recognises that its key effectiveness and efficiency indicators will need to be further developed over the next 12 months.

The philosophy that there is a threshold defining an acceptable versus unacceptable environment, and that environmental protection reflects community values, remains the basis on which the Authority's corporate plan was reviewed.

The Authority has a draft mission which says that "The Environmental Protection Authority ensures, with the community, that our environment, with the life it supports, is protected for now and into the future".

This mission makes more explicit the underlying tenet that environmental protection is largely about working with people to protect the environment to meet aspirations based on human values.

The Authority's objectives are to:

- 1) *Give independent and reliable advice about the environment to the Government and the community.*
- 2) *Ensure that people are informed, have a say and are heard in environmental protection.*
- 3) *Work with people to set the rules to protect the environment.*
- 4) *Encourage good environment, management and work to ensure that all activities keep within the environmental rules.*
- 5) *Act against those who break the rules.*
- 6) *Ensure the environment is repaired if it is degraded.*
- 7) *Work with people to identify the environment they want.*
- 8) *Ensure that special parts of the environment are kept for future generations.*
- 9) *Ensure that we achieve what we set out to do and that the Authority is a good place to work.*

Performance assessment

The detail of the Authority's performance shown below demonstrates that the Authority has achieved its

stated mission of working with people to protect the environment.

In most cases it can be shown that the environment continues to get better and that because of the direct and indirect activities of the Authority, remains protected. This was achieved on a budget of \$10.9 million with 142 FTEs.

A major component of environmental protection in Western Australia is achieved through other government agencies and local government which have management responsibility for portions of the environment.

They have been encouraged to develop environmental indicators relevant to their responsibilities, and to report regularly on those indicators.

Environmental monitoring

The Authority makes direct measurement of several key environmental parameters. These data are shown below to demonstrate the "state of the environment" to the extent that resources permit the Authority to measure it.

The Authority has responsibility for air quality and so the following indicators are relevant.

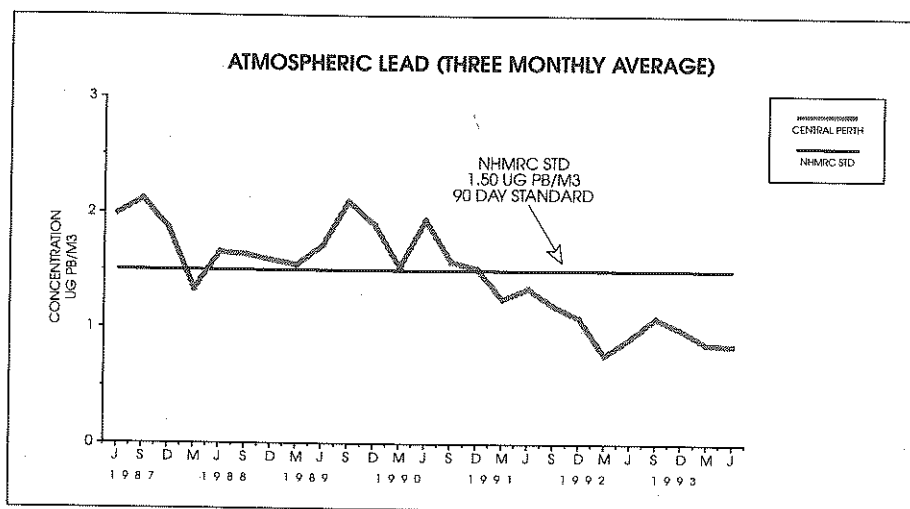
Abbreviations used in this section:

- WHO = World Health Organisation
- NH&MRC = National Health and Medical Research Council
- UG/M3 = micrograms per cubic metre
- MG/M3 = milligrams per cubic metre
- UG PB/M3 = micrograms of lead per cubic metre
- STD = standard
- SO₂ = sulphur dioxide
- NO₂ = nitrogen dioxide
- O₃ = ozone
- EPP = environmental protection policy
- CO = carbon monoxide

Lead in Perth's air

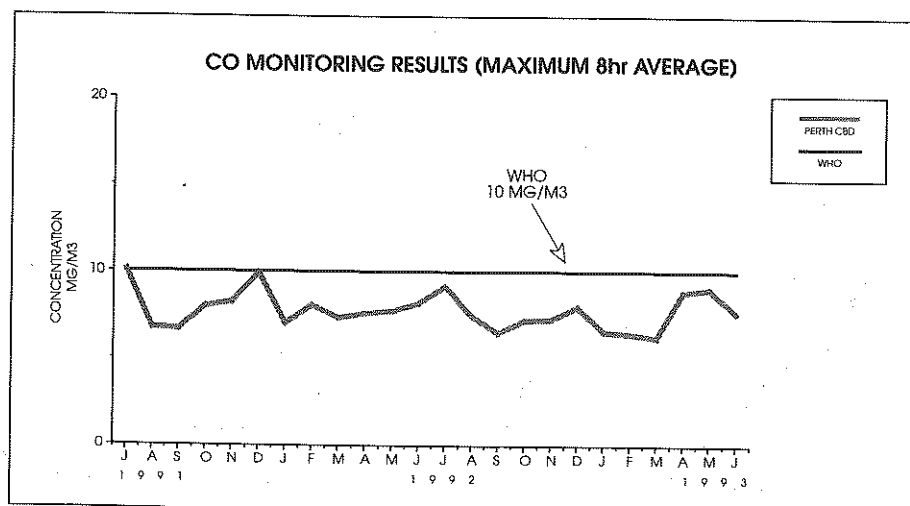
The major source of lead in Perth's atmosphere is motor vehicle exhausts. The Authority has negotiated a strategy to eliminate lead from super grade petrol sold in Western Australia. A regulation reducing the permissible lead concentration in petrol was introduced in 1991 and brought a quick drop in atmospheric lead levels measured by the Authority. Further staged reductions were proposed. Lead in the atmosphere can cause health problems, particularly with the intellectual development of children.

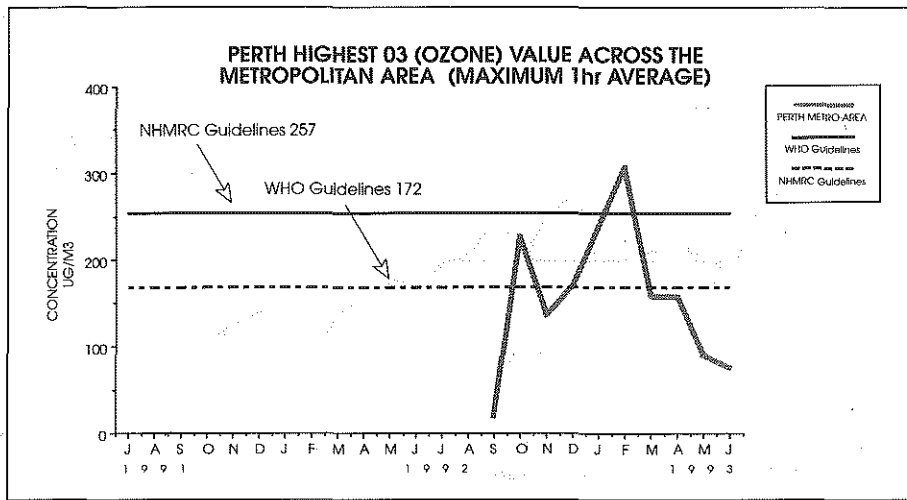
This graph shows a sustained trend downward in the amount of lead in Perth's air. It shows that lead levels are below the standard recommended for human health by the National Health and Medical Research Council.



Carbon monoxide in Perth's air

Carbon monoxide measured in Perth's central business district indicates traffic activity in the city. It is likely that motor vehicle exhausts account for up to 75 per cent of carbon monoxide in Perth's air. Although there is no room for complacency, this graphs shows that in central Perth carbon monoxide levels are below the World Health Organisation standard of 10 micrograms per cubic metre. The graph also shows a noticeable summer-low/winter-high pattern for carbon monoxide which is not fully understood.



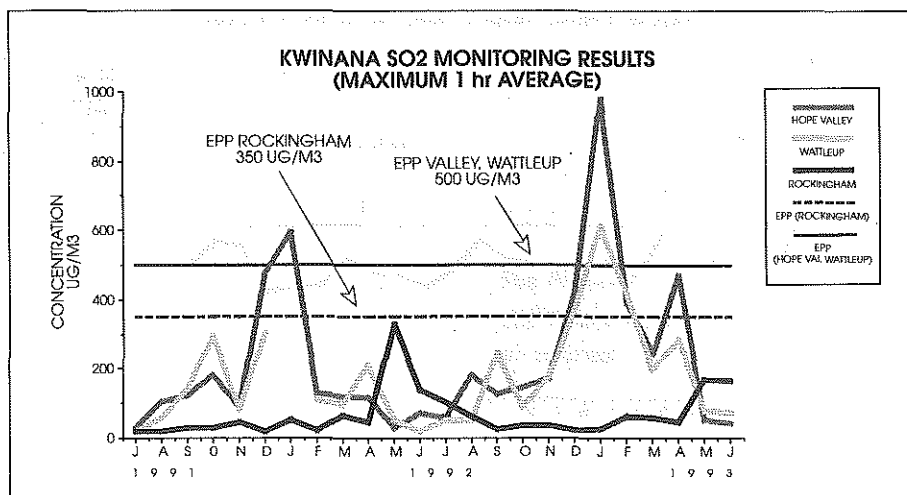


Ozone in Perth's air

Photochemical smog is a mixture of gases. Smog is formed when emissions, mainly from cars, react in sunlight.

Ozone — one of the gases formed in this reaction — is a problem at ground level where it can damage vegetation and buildings and cause respiratory problems and eye irritation. In the upper atmosphere, ozone is important because it filters out harmful ultra-violet radiation.

This graph shows the highest readings obtained from the Authority's network of eight monitoring stations. Ozone — an indicator of photochemical smog — is usually more prevalent during summer as this graph shows. The graph shows an ozone reading in January 1993 which was above the World Health Organisation standard.

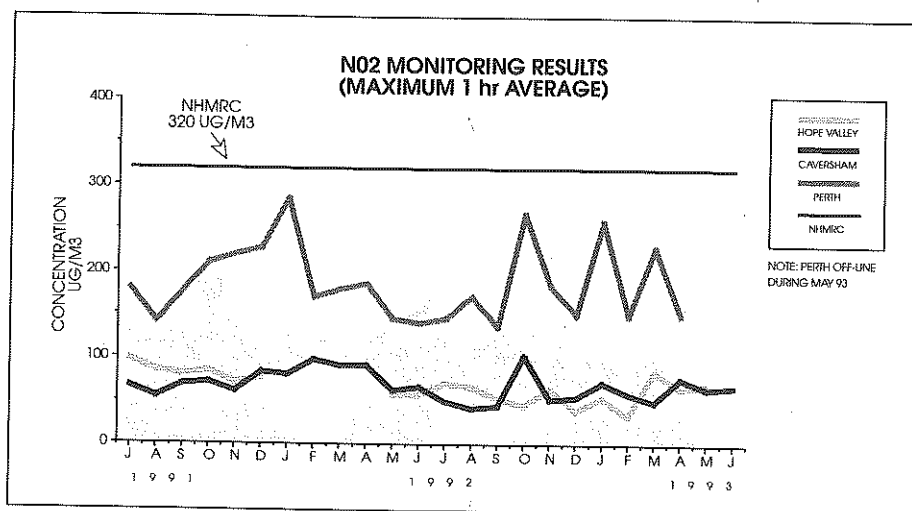


Sulphur dioxide in Kwinana

Sulphur dioxide is generated through some industrial processes. At sufficient levels, sulphur dioxide is dangerous for health, especially for asthmatics. Sulphur dioxide levels are set for the Kwinana area by an environmental protection policy gazetted in July 1992. The graph shows that generally, sulphur dioxide limits are being met by industry. The two dotted lines refer to permissible levels set by the Authority's environmental protection policy for the residential zone (Rockingham) and the buffer zone (Wattleup) defined by the policy. The peak shown on this graph in January 1993 resulted in prosecution proceedings being instituted against a company.

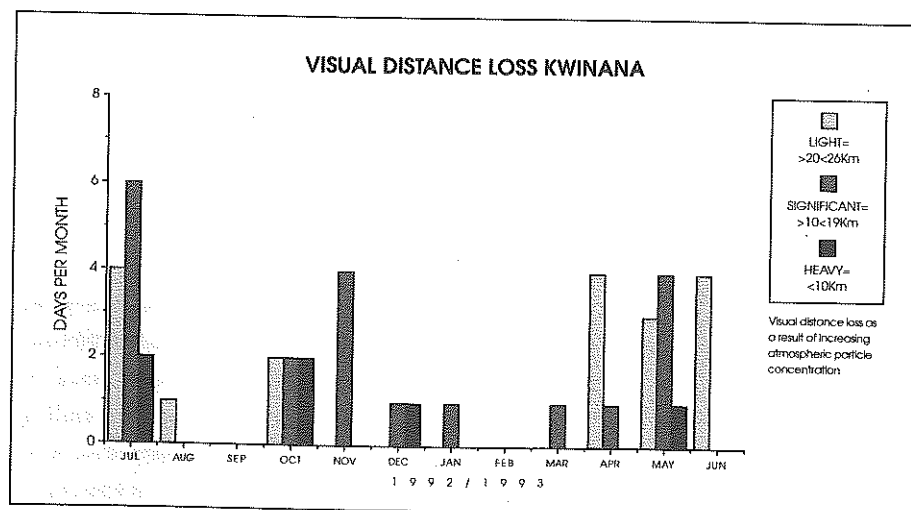
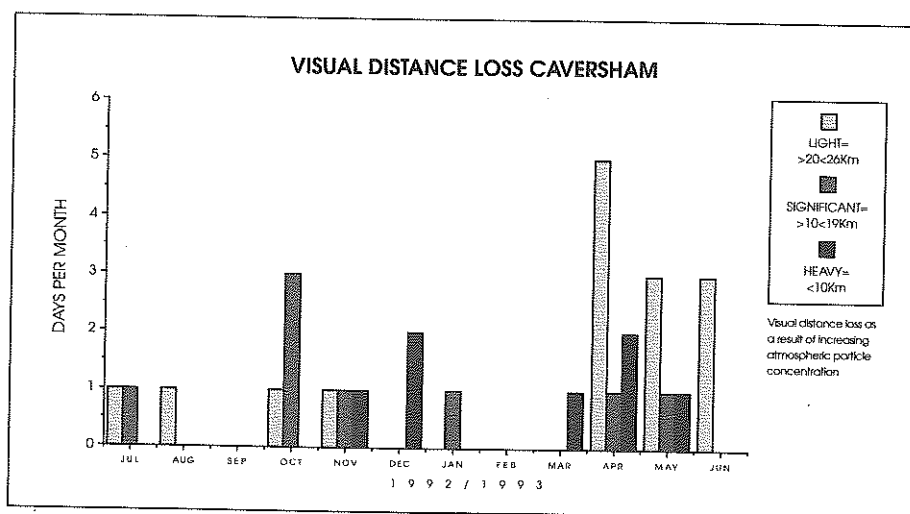
Nitrogen dioxide in metropolitan Perth

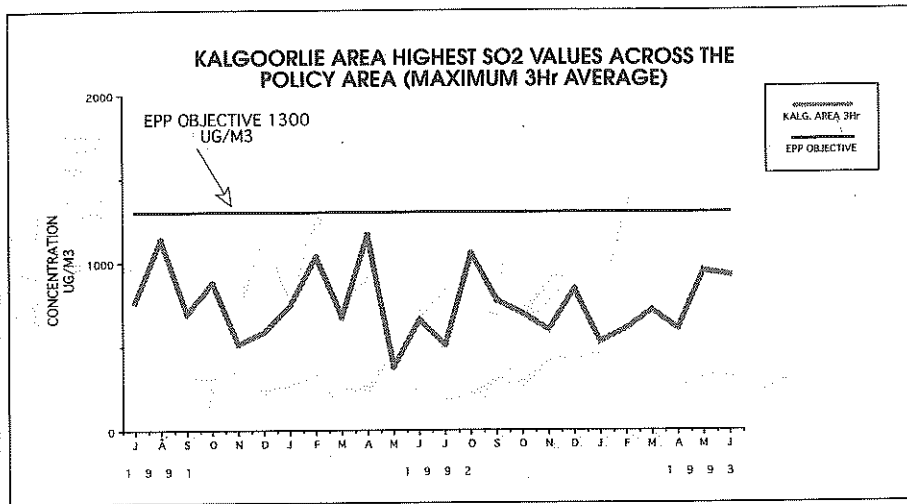
Nitrogen dioxide is a precursor to photochemical smog and serves mainly as an indicator of this at the Authority's Caversham monitoring station. At Hope Valley it is an indicator of industrial activity and in central Perth it relates mainly to traffic. The graph shows that at the Authority's three monitoring stations, nitrogen dioxide levels are below the National Health and Medical Research Council's standard for human health.



Visual distance loss in Caversham and in Kwinana

The Authority's monitoring stations measure very small particles in the air which may reduce visibility. Smoke is usually the main ingredient of this, although there are other substances present, not yet fully investigated. For a day to be considered clear, a person normally would be expected to be able to see more than 26 kilometres. Very small particles may reduce this to less than 10km which is considered heavy loss of visibility. The "zero" readings shown on the graphs at right represent clear days. The graphs do not represent a trend in general visibility because visual distance loss may be due to a single event such as a large fire. Spring and autumn tend to have more days of visual distance loss because of still days, increased use of domestic wood fires and controlled burning.





Sulphur dioxide in Kalgoorlie

Sulphur dioxide is produced in Kalgoorlie when gold ores are roasted as part of the refining process. Permissible sulphur dioxide levels are controlled through the Authority's environmental protection policy for Kalgoorlie and surrounding areas. This graph shows the highest readings of the Authority's monitoring stations in Kalgoorlie, compared against the 1988 environmental protection policy objective. While present objectives are being met, stricter objectives will come into force in January 1994 under a new environmental protection policy which was gazetted in January 1993.

- The Authority's air quality monitoring network consists of sophisticated software and hardware systems which must be carefully maintained to ensure data are collected continuously and accurately. The Authority's network has had a data recovery for the year of greater than 90 per cent and on a month by month basis has been greater than 95 per cent. These recovery values compare favourably with national and international criteria.
- The Authority's air monitoring network required for the joint EPA/State Energy Commission of WA study of photochemical smog was established by November 1992 as planned. The budget for this project comes from the State Energy Commission.

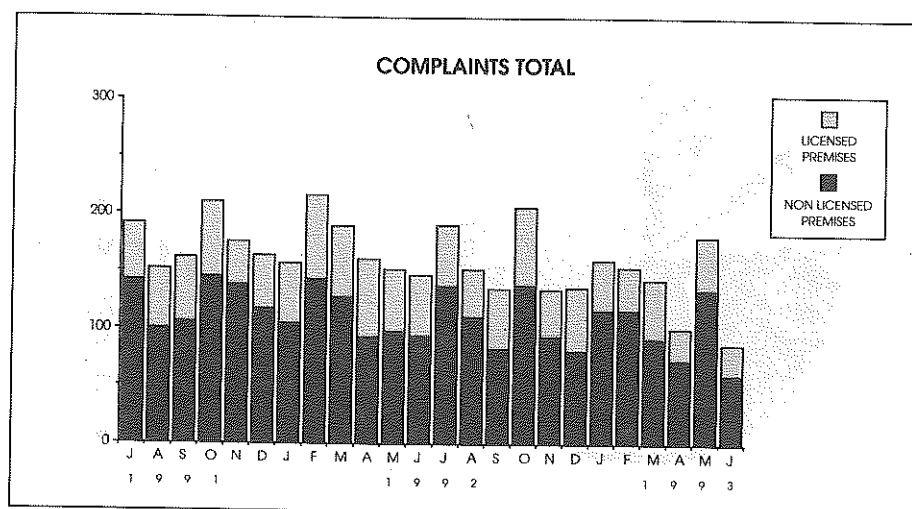
Pollution management

The Authority also has established environmental indicators relating to pollution management problems.

The Authority has several mechanisms through which it applies controls to ensure that the potentially most polluting industries operate in an environmentally acceptable way.

These include the setting of environmental conditions, works approvals and licences for prescribed premises.

The graph at right shows the success of this strategy to the extent that the Authority consistently receives more complaints relating to industries which are not licensed than it does relating to licensed premises.

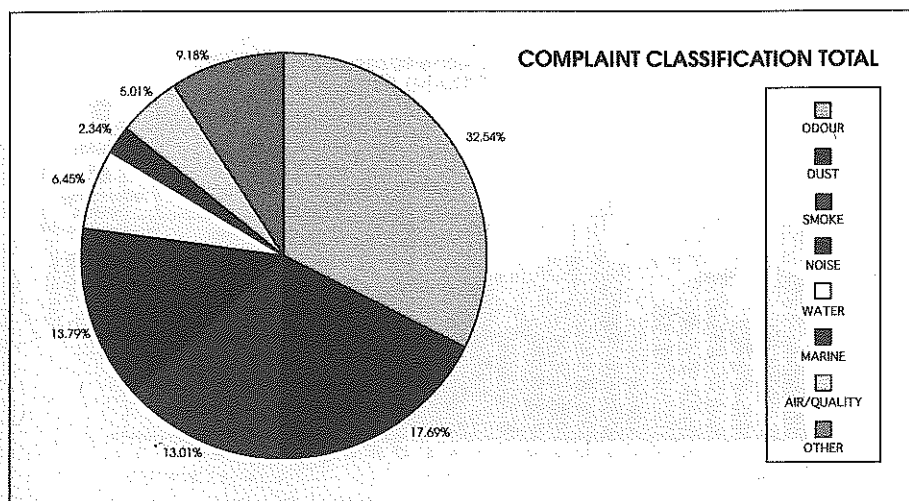


During 1992/93, 1078 licences were processed. This was achieved within the nominated schedule of no more than 50 outstanding new licence applications; the average time to process 80 per cent to take no longer than 60 days; and no more than 20 outstanding licence renewals; the average time to process 80 per cent not to exceed 20 days.

The Authority processed 114 works approvals. This was achieved within the nominated schedule of no more than 50 outstanding works approvals; the average time to process not to exceed 60 days. This compares with 141 works approvals for the previous year processed within the same schedule.

The Authority also dealt with 266 appeals relating to Authority decisions

on level of assessment, it reports and recommendations, conditions required on licences, works approvals or pollution abatement notices. Appeals took an average 18 days for the Authority to process. This compares with 262 appeals for the previous year, all of which took 14 days to process.



Complaints

The graph at left shows the breakdown of complaints received for the year through the Authority's offices in Perth, Kwinana, Bunbury and Karratha.

Of the total 1798 pollution reports received, most related to odour, followed by complaints relating to other air quality issues such as smoke and dust. The mix of pollution issues remains largely the same as in previous years although the number of complaints recorded represented a 15 per cent drop from the 2123 complaints reported in 1991/92.

Authority officers responded to complaints and where appropriate, traced the pollution causes and took action to ensure they ceased.

Prosecutions

The Authority's corporate plan lists among the Authority's objectives to "act against those who break the rules". In 1992/93 two successful prosecutions were made and appeals were pending on another two at the time of reporting. Other prosecutions have been initiated and are detailed elsewhere in this report.

The Authority issued two Pollution Abatement Notices, one of which was later revoked. Another four were issued by local authorities under the Environmental Protection Act.

Project assessment

Any development which may have a significant effect on the environment must be referred to the EPA for environmental review. The process is public

Reviews allow people to have a say about projects; developers to design good projects; and the Government to get good advice and make legally binding decisions.

During the financial year the Authority formally assessed 53 development proposals in a process which met the expectations outlined above and gave timely and independent advice to government.

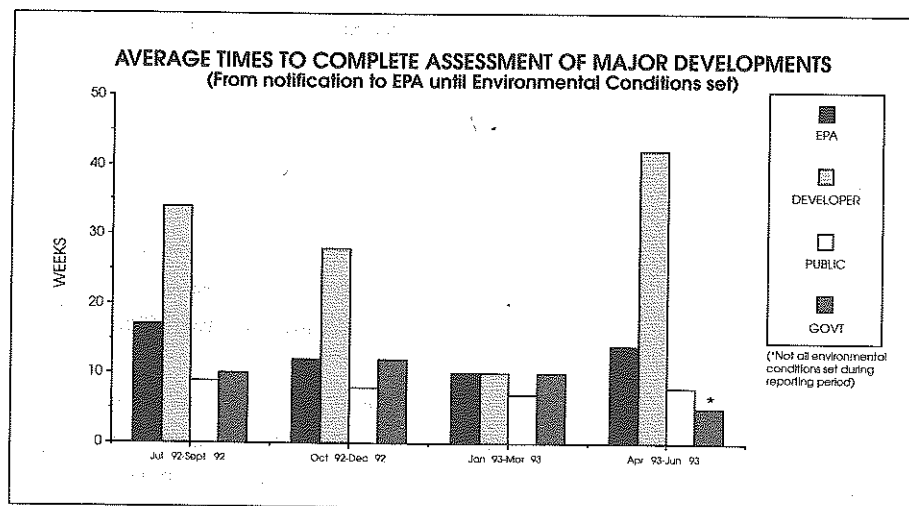
A further 158 proposals were subject to "informal" environment review with the Authority giving non-binding advice to help developers and relevant agencies ensure the proposals were environmentally acceptable.

There remained no backlog of assessments other than those awaiting action by proponents.

For formal assessment the Authority's statistics showed that the average time taken to complete assessments has remained consistent when compared with the previous year.

In the last quarter of 1992 it took an average of 12 weeks for the Authority to finalise those parts of the assessment process directly under its control. In 1992/93 the time taken per quarter was 17, 12, 10 and 14 weeks respectively.

The overall time taken by the EPA, developers, government and the public



was 52 weeks in the last quarter of 1991/92 reporting period, compared with 35 weeks for the corresponding period in 1993. (Note that this comparison relates to the time between proponents' documents being released for public comment and the issuing of the final statement by the Minister and hence excludes the time taken by proponents in preparing their documentation.)

The environmental monitoring data displayed above go some way to demonstrating that environmental conditions imposed as a result of Authority assessments and subsequent licensing of development proposals have ensured that while development has been allowed, the environment has been protected.

Investigations and policy

State of the Environment Report

The State of the Environment report was released in December 1992. The report was co-ordinated by the Authority and provided an inventory of Western Australia's environment.

It showed that some parts of the State have been seriously degraded by salinity, erosion, nutrient pollution, land and animal extinctions and pollution from transport and industry.

On the other hand the report indicated that the State's air and marine systems are virtually pristine and the vegetation and soils in forests, reserves and remote areas are generally very good.

A State of the Environment report will be published regionally, with annual updates on the condition of the State's air, water, soils, lands and animals.

Reserve implementation

Largely as a result of implementation of the Authority's Red Book recommendations for conservation reserves in WA, the area of land set aside for conservation since 1976 has more than doubled from less than 8 million hectares to more than 17.4 million hectares.

As reported last year 451 out of 899 recommendations were implemented. During the past year an additional 41 recommendations have been implemented including 29 new conservation reserves and two regional parks, comprising 400,000ha protected for conservation.

The Authority's Red Book Status Report, released in February 1993, provided a detailed account of the success of the protection of special parts of the environment. It provided a base for annual updating on the setting aside of conservation reserves in WA on the basis of the Authority's recommendations.

Urban conservation

The Authority's Ecoplan urban conservation programme trained a further 36 community volunteers working the protection of System 6 areas in the Perth, bringing the number of volunteers trained since July 1991 to 150. Ten volunteers were given specific training in bush regeneration to help them in their care of the System 6 areas for conservation.

There are now community groups contributing to the management of five System 6 areas throughout Perth.

Lakes protection

The Lakes Environmental Protection Policy gazetted in December 1992 protected 1100 lakes on the Swan Coastal Plain between the Moore River and Dunsborough.

The Authority has investigated 18 alleged breaches of the policy (and its associated regulations). There were no prosecutions.

An audit in June 1993 of all the lakes in the Perth metropolitan region and its hinterland has shown that the policy largely has been adhered to.

To help other agencies in wetland protection and management the

Authority helped produce a series of wetland "atlases" showing the location of wetlands in each of Perth's municipalities.

The Authority also contributed to the production of reports outlining results of investigations into how wetlands on the Swan Coastal Plain function.

The "atlases" and a wetland management compendium bringing together the results of the investigations are to be distributed to decision makers and the community in 1993/94.

The major outcome of the study will be recommendations to Government in December 1994.

Native vegetation protection

A natural resource zoning scheme for the south west was developed which will help land managers make land use decisions on the basis of catchments, rainfall and vegetation systems rather than inappropriate administrative zones such as municipal boundaries.

Groundwater protection

The Gnangara Mound Crown Land Policy was approved on December 24, 1992. The policy applies to Crown Land over the Gnangara groundwater mound and through several mechanisms protects groundwater, wetlands and associated vegetation.

It includes prohibiting unauthorised discharge of contaminants, excavation and mining, abstraction of groundwater, filling of wetlands and clearing of native vegetation in the policy area.

Coastal waters protection

The Authority's major environmental study of Perth's nearshore waters and the effects on them of contaminants proceeded on schedule though slightly above budget.

Protection of Perth's metropolitan coastal waters moved a step closer with analysis of much of the data collected since 1991/92, and the development of computer models to enable prediction of the impacts of pollutants entering the marine environment.

Environmental impact assessment

West Australians have an environmental impact assessment process which looks at new development proposals to ensure the environment will be protected.

The system also is based on the recognition that people want a say before the Government decides.

As a result, the process is aimed at protecting the environment by ensuring development is environmentally sound and well managed. The process is straightforward.

Proponents, or project developers, are required to tell the Environmental Protection Authority and the community what they want to develop, what they expect the environmental impacts to be, and how they plan to manage their projects so the environment will be protected.

They also are required to commit themselves to the environmentally responsible implementation of their proposals.

Proponents can be private developers, government departments or local authorities and each is treated similarly by the Authority which is obliged to assess all proposals which might have significant environmental impact.

The Authority provides independent advice to the Government and the community on ways to ensure environmentally acceptable development. The Government decides whether it accepts that advice.

The public expects to be told about what developers are planning. In Western Australia, people also expect to

have a say about development, and to be heard before the Government makes a decision. The process is designed to ensure this happens.

In particular, the Authority will help, or require, developers to design projects that protect the environment and will recommend environmental approval if it can be shown that the environment will be protected.

If proponents cannot show that the environment will be protected, the Authority will recommend against their proposals.

Throughout the process, the Authority will advise and help proponents to improve or modify their proposals so the environment will be protected.

Proponents retain the right to design and manage their projects.

Importantly, the Authority is guided by national principles for sustainable development, and will draw on these in providing advice.

Referrals

The first formal step of environmental assessment is the referral of a proposal to the Authority.

At this stage, the proponent briefly tells the Authority about the project, the likely environmental impact and how that impact will be managed.

The Authority needs basic information about a proposal to help it decide whether environmental impact assessment is needed and at what level.

All proposals referred to the Authority are publicly available and summarised in an advertisement each Saturday in *The West Australian* newspaper.

Most proposals referred to the Authority do not warrant extensive public or Authority review or evaluation though the public is welcome to see Authority advice and to comment on any proposal referred to the Authority.

Authority staff often provide environmental advice on proposals which are not extensively reviewed and, while this advice is not binding, it is publicly available.

The Authority advises project developers, local authorities and Government departments on how to determine whether proposals should be referred for assessment.

The Authority has several options for assessing a proposal and people may appeal to the Minister for the Environment to have the Authority's levels of assessment upgraded.

• No assessment

The Authority may decline to assess a proposal if it considers the environmental impact to be insignificant.

However, the Authority expects developers to implement their proposals in environmentally sound ways.

If a proposal is not assessed, the Authority's decision is advertised, and the proponent is advised.

• Informal review with public advice

"In house" assessment, known as an informal review with public advice, is reserved for proposals where the Authority is confident that the environmental impact can be managed, or that the environmental impact is insufficiently significant to warrant more detailed assessment.

In these cases — which account, on average, for more than 65 per cent of projects referred to the Authority each year — the Authority may provide publicly available advice to developers and Government agencies to help them manage the environmental impact of projects.

Authority advice to Government agencies may recommend that the agencies attach environmental conditions to proposals when they issue approvals to proceed.

Information about projects in this category that is held by the Authority is made publicly available but public involvement in decisions depends on the processes of the Government agencies concerned.

• Works approvals and licences

A works approval to build a plant and a licence to operate it may be required under the pollution control provisions of the Environmental Protection Act, particularly for some mining, industrial and other proposals with a potential to pollute.

Works approvals entitle developers to build plants according to specifications which will protect the environment.

Licences entitle them to operate those plants. They also set limits on the environmental impact of their emissions.

Proponents may appeal to the Minister for the Environment against works approval and licence conditions imposed by the Authority.

Formal assessments

Proposals that are extensively reviewed and evaluated by the Authority are known as "formal assessments" in which the Authority advises the Government on environmental acceptability. The Government then decides whether to approve.

Projects that are approved may have legally binding environmental conditions attached to them by the Minister for the Environment.

The Authority sets an assessment level based the location, size, complexity, range, duration, and manageability of environmental issues associated with the proposal.

The public interest in the environmental aspects of a proposal also plays an important part in setting assessment levels.

People may appeal to the Minister for the Environment to have levels of assessment upgraded.

• Consultative Environmental Review (CER)

Consultative Environmental Review is reserved for proposals with relatively easily managed though significant environmental impact and with public interest restricted to the local community and, or, special interest groups.

The Authority usually requires more information than was supplied on the referral of the proposal and it may require the proposal to be publicly reviewed for up to four weeks so those with an interest in, or affected by, it may be consulted and may comment on its environmental aspects.

The environmental impact assessment document is always available publicly.

The Authority will advise the proponent of the key issues to be examined and will allow documents about a proposal to be released for public review only if they are easily understood by the general public and only if they are technically sound and examine the key environmental issues.

• Public Environmental Review (PER)

Public Environmental Review is used for proposals with either major public interest or potential for significant environmental impact.

In these cases, the Authority issues a detailed, project-specific list of the key issues which should be examined by the proponent in its Public Environmental Review.

Public Environmental Reviews are open to public comment for eight weeks.

• Environmental Review and Management Programme (ERMP)

The Environmental Review and Management Programme is the most comprehensive and detailed level of assessment in Western Australia.

It is mainly used for major projects which have strategic environmental implications and are of State-wide interest.

In determining the issues to be examined, the Authority will consult those most likely to be affected by, or have an interest in, the development and will provide a list of key issues which the proponent must examine in detail in compiling a comprehensive environmental review document.

The document is open to public review for 10 weeks.

Public involvement

Environmental impact assessment is designed to ensure that people are told about development, have a say, and are heard before decisions are made.

The Authority regards public involvement as fundamental to the assessment process.

People having an interest in, or living near, a proposed development often have important local knowledge which can contribute to better environmental management.

The Authority expects that public involvement will lead to the identification of environmental issues and to proposals for their management which will generally enhance the environmental acceptability of proposals.

Public involvement may occur in many forms, from written and oral submissions to public meetings and hearings.

Authority experience has shown that early consultation with those likely to be most affected by a new project ensures that issues are known and lines of communication are established.

Responding to issues

Proponents must deal with issues raised by the public during the review and assessment of their proposals.

The Authority will provide them with summaries of issues raised during the public review of their documents (Consultative Environmental Review, Public Environmental Review or Environmental Review and Management Programme).

Confidentiality of submissions is maintained by the Authority in that submitters are not identified with issues without their permission.

Proponents then must provide a written response to the issues, including commitments to their management where appropriate.

The issues and the proponent's response to them are published by the Authority in its report and recommendations to the Minister for the Environment.

Authority recommendations

In its assessment of a proposal, the Authority will consider issues raised by the public, specialist advice from Government agencies, the proponent's response to those issues, the Authority's own research and, in some cases, research provided by other expert agencies.

At the end of an assessment, the Authority reports and makes recommendations, which include suggested environmental conditions, to the Minister for the Environment.

This advice indicates whether the Authority considers the proposal to be environmentally acceptable and, if so, whether environmental conditions should be imposed.

The Authority, under powers delegated by the Minister for the Environment, publishes its report and people have two weeks in which to appeal to the Minister against the content of the report or its recommendations.

The Minister makes the final decision on whether a proposal may proceed.

Final approval

When an Authority report to the Minister for the Environment is clear of appeals, the Minister may apply environmental conditions to the project.

Before imposing environmental conditions, the Minister will consult all other Ministers who, or agencies which, make decisions about whether a project should proceed.

When they agree, the Minister announces the conditions, which are legally binding.

Only proponents may appeal at this stage and appeals against conditions must be lodged within two weeks of them having been set.

Final approval, including an Authority works approval and licence if needed, may then be granted.

ENVIRONMENTAL PROTECTION AUTHORITY

Your views are welcome on any of these matters

FORMAL ASSESSMENTS

The EPA will formally assess these projects. The developers must provide detailed information about the projects' environmental impacts.

Environmental Review and Management Programme

1. Application for exploration licences 74/159, 74/163, 74/164, in Fitzgerald River National Park, Shire of Ravensthorpe.

Public Environmental Review

2. Deepwater port, Point Moore, Geraldton.

Consultative Environmental Review

3. Tourism and residential development, Canal Rocks Unit Trust, Sussex Location 413, Smiths Beach, Yallingup.
4. Land clearing of about 100ha, Mount Observation, York Road, York.

INFORMAL ASSESSMENTS WITH ADVICE GIVEN

The EPA will not formally assess these projects but will give publicly available advice to help the developers and relevant agencies ensure the projects are environmentally acceptable.

5. Marron farm, lot 436 Leipold Road, Mundijong.
6. Modifications to Farrington Road, Kardinya.

NOT ASSESSED

The EPA will not assess these projects but expects developers and relevant agencies to ensure these projects are environmentally acceptable.

7. Poultry shed, lot 15 Midland Road, Hazelmere.
8. Fish farm and garden centre, 828 Forrest Road, Jandakot.

WORKS APPROVAL AND LICENCE APPLICATION

These projects will be assessed under the works approval and licensing provisions of the Environmental Protection Act.

For more information on projects before the EPA, please call Dianne Roberts (09) 222 7140 or visit EPA offices in Kwinana, Bunbury, Karratha, or Westralia Square, 141 St George's Terrace, Perth. Pollution Abatement Notices and Licences are available for public viewing at Westralia Square. For further information please telephone Jennifer Matejka (09) 222 7104. For after hours EMERGENCY pollution complaints, please ring (008) 01 8800.

Western Australia — an environment worth protecting

Works approval applications

9. Concrete batching plant, S & J Excavations, Australind Industrial Area, **Australind**.
10. Ceramic works, Australian Fine China, 576 Hay Street, **Subiaco**.

Licence applications

11. Abrasive blasting works, Comley's Sandblasting, lot 36 Kelvin Road, **Maddington**.
12. Mobile asphalt works, Pioneer Road Services Pty Ltd, City of **Belmont**.

REPORTS RELEASED

13. Redevelopment of Mandurah Marina, lot 11, Old Coast Road, **Mandurah** (Bulletin 692).
14. A Guide to Environmental Impact in Western Australia.

SUBMISSIONS CLOSE

15. Consultative Environmental Review: Cleanup of McCabe Street site, Mosman Park (4.8.93).
16. Public Environmental Review: Trial use of 1080 to control feral goats in Western Australia (9.8.93).

WORKS APPROVAL ISSUED

The environmental impacts of this project has been assessed and provisional approval for plant construction has been granted for the following:

17. Concrete batching plant, lot 31 Stirling Terrace, **Perth**.

LICENCES ISSUED

Licences stipulating conditions under which projects must operate have been issued for the following:

18. Abrasive blasting works, mobile abrasive blasting unit 8HT375, City of **Belmont**.
19. Fibreglass works, lot 22 Place Beauport, **Geraldton**.