



DEPARTMENT OF ENVIRONMENTAL PROTECTION ANNUAL REPORT 2003–2004

The Department of Environmental Protection and the Water and Rivers Commission are now operating as the Department of Environment.

Much of the content of this 2003–2004 Annual Report — particularly the Report on Operations — is common to both the Department of Environmental Protection and the Water and Rivers Commission.

DEPARTMENT OF ENVIRONMENTAL PROTECTION
ANNUAL REPORT
NOVEMBER 2004

Acknowledgments

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We welcome your feedback

A publication feedback form can be found at the back of this publication.

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November 2004

Letter to the Minister

Hon Dr Judy Edwards MLA
MINISTER FOR THE ENVIRONMENT

In accordance with Section 65A of the *Financial Administration and Audit Act 1985*, I have pleasure in submitting for presentation to Parliament the Annual Report of the Department of Environmental Protection for the period 1 July 2003 to 30 June 2004.

This report has been prepared in accordance with provisions of the *Financial Administration and Audit Act 1985*.



Derek Carew-Hopkins
ACTING DIRECTOR GENERAL

Perth, Western Australia
November 2004

Foreword

A number of historic milestones in environmental management in Western Australia were achieved in the 2003–04 financial year. Proclamation of the Environmental Protection Amendment Bill 2003 affected the biggest changes in the State's environmental laws since the original Act of 1986. In particular, environmental harm provisions formed the basis for new powers to protect the environment from damage due to causes other than pollution.

The introduction of the Environmental Protection (Clearing of Native Vegetation) Regulations was a major achievement for the Department and the State Government. The new regulations were the product of exhaustive consultation and negotiation with stakeholders across the spectrum of conservation, business and agriculture. The result was widely supported as workable and realistic.

The *Contaminated Sites Act 2003* passed through Parliament in November 2003 and is acknowledged nationally as the most progressive contaminated sites legislation in Australia. It addresses a general lack of information on contaminated sites in this State, and inadequacies in powers to address them. It also clarifies a hierarchy of responsibility for contaminated sites, aligned with the 'polluter pays' principle. Proclamation will follow establishment of the supporting regulations in late 2004.

The Department developed a sophisticated internet-based electronic tracking system to support the introduction of the Environmental Protection (Controlled Waste) Regulations on July 1, which enables the Department to regulate the transportation of certain wastes from their point of generation to an approved disposal site.

The regulations are designed to protect the environment from illegal disposal of these wastes.

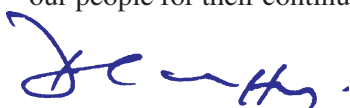
The continued establishment of the Environment Enforcement Unit was an important step forward for the Department in 2003–04. The unit enables the Department to manage environmental problems through litigation and other enforcement tools, when other conventional options have been exhausted or are not appropriate.

The Strategic Direction for Waste Management in Western Australia was developed by the Waste Management Board in conjunction with the Department, and released for public comment.

The aim of the document is to establish tangible strategies to help the whole community to achieve the Towards Zero Waste vision identified in the WASTE 2020 Report.

The next year will give us the opportunity to consolidate following a period of legislative, structural and cultural reform. The new department is now positioned better than ever to achieve its vision for a healthy environment and sustainable use of water resources for the benefit of present and future generations.

I am appreciative of the Department's extremely talented and diverse workforce and thank our people for their continued professionalism and immense contributions.



D Carew-Hopkins

ACTING DIRECTOR GENERAL

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1 About the Department

The Department of Environmental Protection manages the environment by contributing to the development of environmental protection policies, managing the environmental impact assessment process and managing regulatory functions in order to achieve improved environmental outcomes. The management of contaminated sites and coordination of pollution incident responses provide further elements of the environmental management role.

The Department acts to conserve the environment by providing advice to the community so as to promote positive environmental behaviours. It promotes conservation of wetlands and areas under threat through the development of policies to protect and conserve the environment in which we live, including development of policies that minimise discharges into the environment and that prevent or remediate pollution.

The role of the Department in enhancement of the environment relates to the development of strategies aimed at reducing the amount of waste produced and its impact on the environment through reduction, recycling and safe disposal options. The enhancement function also includes those activities that are undertaken so as to increase our knowledge and understanding of environmental systems that are under threat.

Table 1: State government objective, desired outcome and Department of Environmental Protection outputs

Government strategic objective	Desired outcome	Outputs
A valued and protected environment	Management, conservation and enhancement of the environment	<ul style="list-style-type: none"> • Policy, Education and Advice • Environmental Impact Services • Pollution Regulation • Waste Management • Environment Systems

Output 1: Policy, Education and Advice

Coordinate the development and analysis of environmental policy, ensure its effective implementation, manage the formulation of statutory Environmental Protection Policies (EPP), coordinate State of the Environment reporting and provide sound, accurate and timely information about the environment to the community to promote positive environmental behaviours. To provide advice in response to enquiries about rights, responsibilities and issues in relation to the environment from other government agencies, parliamentary members, industry and the community.

Output 2: Environmental Impact Services

Management of the environmental impact assessment process for the EPA and enforcement of conditions for the Minister, enabling sound environmental advice on development proposals and planning schemes/amendments to be provided to the government, developers and the public, to ensure the environment is protected for the community.

Output 3: Pollution Regulation

The development and enhancement of legislation systems, processes and policies, to ensure that discharges into the environment are minimised, and pollution of the environment is prevented or abated, and that contaminated sites are identified and managed. The administration of the provisions of Part V of the *Environmental Protection Act* through issuing regulatory instruments and taking enforcement actions to ensure achievement of environmental objectives and compliance with regulatory standards.

Output 4: Waste Management

To develop a waste management strategy based on resource recovery and product stewardship and to facilitate and regulate to ensure its implementation in order to reduce the amount of waste produced and its impact on the environment and public health, through the application of the waste management hierarchy (ie, reduce, recycle, safe disposal).

Output 5: Environmental Systems

Plan and implement projects aimed at increasing our knowledge and understanding of environmental systems under threat of pressure and apply this knowledge to the development of environmental quality objectives, strategies and policies to improve the management and protection of the environment by government, industry and the community.

1.1 Formation of the Department of Environment

The State Government's 2001 Machinery of Government Taskforce report recommended radical change for the environment and water resources portfolio. A key change was the formation of a new agency, the Department of Environment, through the amalgamation of the Department of Environmental Protection, the Water and Rivers Commission and the Keep Australia Beautiful Council.

While the agency has been operating as a combined entity for the past year, the busy legislative program has meant that the legislation required to formally establish the new department has been introduced but is still pending passage through Parliament.

No specific legislation was required to change the name of the Department of Environmental Protection and its functions will continue. An application for name change from the Department of Environmental Protection to the Department of Environment was approved by the Executive Council of Government. This became effective July 1, 2004 when the agency officially started operating as the Department of Environment.

It is hoped that legislation to repeal the Water and Rivers Commission Act and to amend several subordinate Acts will be passed in time to have the new department completely operational mid-way through 2004–05.

In the meantime, separate annual Financial Statements and Key Performance Indicators and Reports on Operations have been published, although the operational reports include much common material and cover the whole of the new agency under our operational structure.

Where possible, the Department has aimed to provide a seamless service to the community using the single name and combined resources of the emerging agency.

Throughout the year, the amalgamating agencies have been working to a common Vision, Mission and set of Principles.

Vision

A healthy environment and sustainable use of water resources for the benefit of present and future generations.

Mission

To lead the protection and enhancement of the State's environment and water resources, working in partnership with the community. We achieve this through managing and influencing people's attitudes and behaviours towards the environment and natural resources.

Our Principles

For the environment and water resources, we will:

- act for the long term protection of the environment
- act in the long term public interest
- consider environmental, social and economic needs, and
- manage them in an integrated way with others.

And in all our dealings we will:

- act with courage and integrity
- respect our stakeholder's views and contributions
- be willing to make a constructive difference
- progressively explore new ways for achieving outcomes, and
- take responsibility for our individual and collective contribution.

1.2 Organisation structure

The activities of the new agency are undertaken through eight Divisions (the Office of the Director General, Corporate Services, Policy and Coordination, Environmental Impact Assessment, Environmental Management, Resource Management, Resource Science and Regional Operations). The activities are managed within seven business areas (EPA Assessment and Policy Support, Resource Information, Sustainable Industry and Waste Management, Allocation and State Development, Protection and Conservation, and Waterways and Catchments). Long-term plans and objectives are determined through Councils representing each business area. Divisions implement the projects through which these objectives can be achieved.

1.3 Service Delivery Model

In 2003–04, the Department continued its development of a Service Delivery Model (SDM) to be used as a foundation to support the existing divisional structure and ensure delivery of

whole of agency outcomes. Successful delivery of the Department's range of services involves a complex matrix of interdependencies and therefore demands careful management for successful delivery of outcomes.

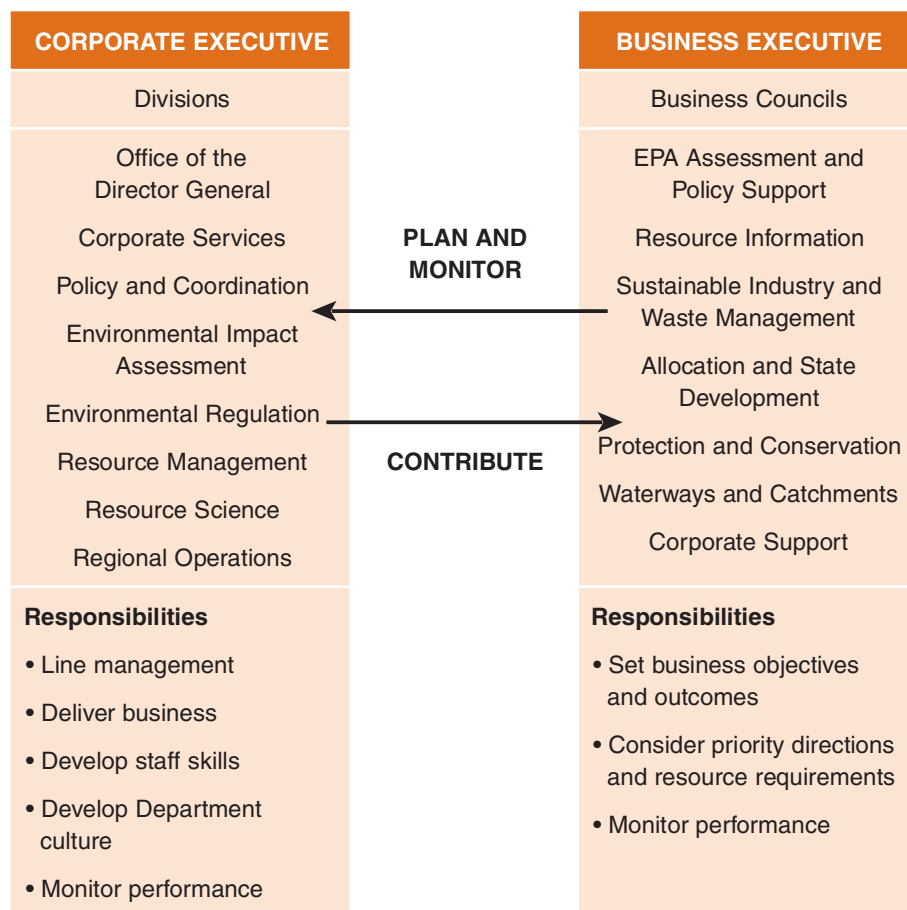


Figure 1: Relationship between the combined Divisional and Business structures of the Department of Environmental Protection and Water and Rivers Commission

The Department is structured with seven central divisions (two directly supporting the EPA) located in the Central Business District of Perth and a Regional Operations division deployed to six regions covering the State. Regional Operations includes a small executive, support staff and the Swan River Trust support located in the CBD.

It is recognised that the detailed processes and procedures of SDMs for each business output will vary, however the basic model should be the same for all outputs. The Department has developed a methodology to assist with 'varying' the SDM. It is critical that these steps are followed and the questions answered.

Key objectives of the new Service Delivery Model include:

- Department of Environment service delivery should be at the closest practical point to customers. This is generally through the six regional offices and their district offices, supported by robust connectivity with central technical and policy development and coordination.

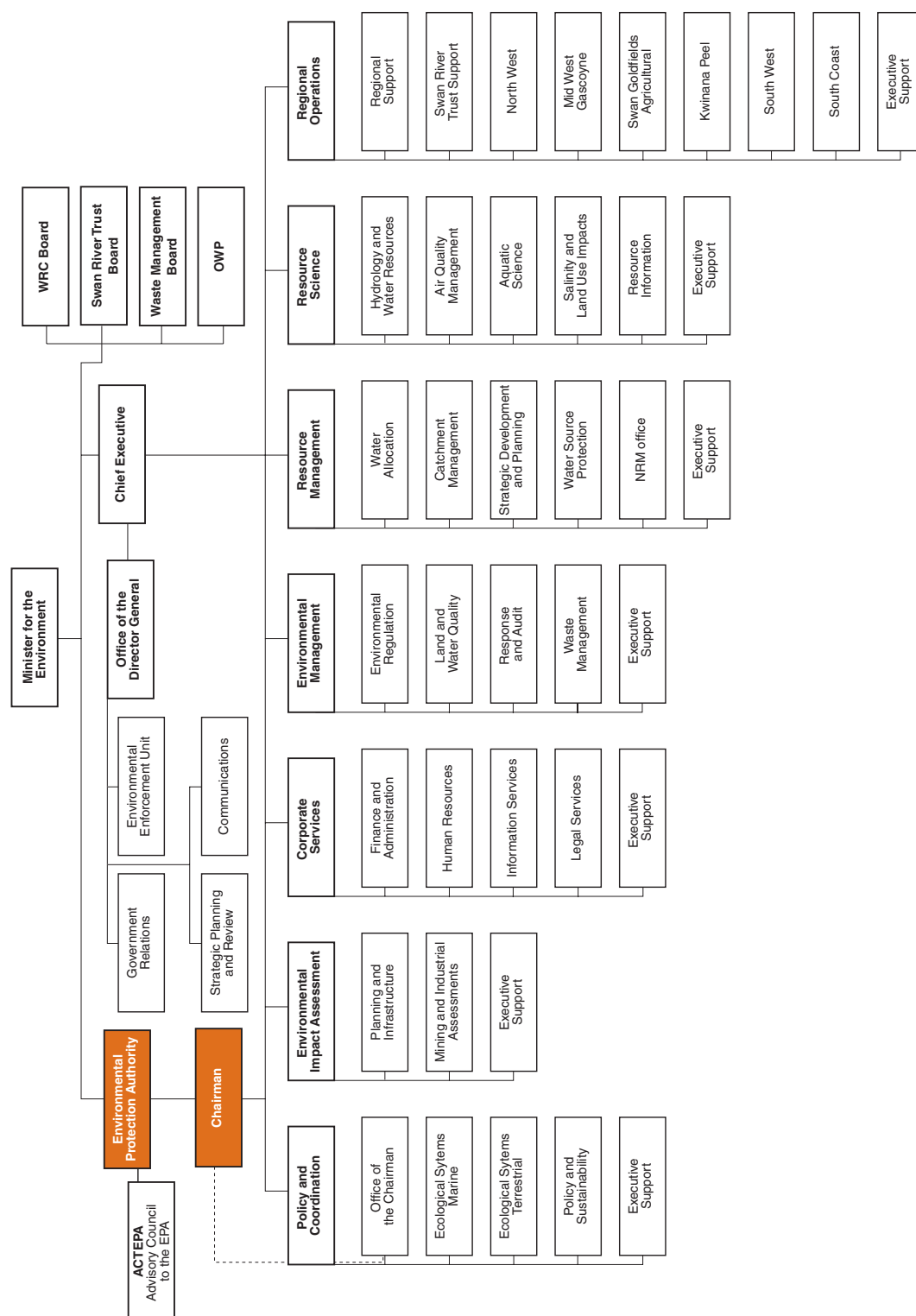


Figure 2: Operating Divisional structure of the amalgamating agency

- Optimise effective and efficient service delivery through partnerships between branches and regions.
- Promote individual self worth and job satisfaction by reducing individual stress through enhancing team structures.

- Ensure auditing of quality of service delivery through feedback and evaluation systems.
- Facilitate organisational cultural change through development of intellectual capital and support and promote its use through the organisation.

1.4 Office of Water Policy

On 1 January 2004 the Government established the Office of Water Policy (OWP) to replace the water industry policy function of the Office of Water Regulation. The Department of Environment provides administrative support to the OWP.

The OWP provides the Minister with strategic planning and policy development advice relating to water services. It supports the Minister's responsibilities in the following areas:

- Water services licensing policy and the regulations independently administered by the Economic Regulation Authority (ERA);
- Water industry competition and strategic structural reform;
- Industry structure and competition strategies;
- Sustainable water services and planning;
- Leadership and coordination of aspects of strategic and high level water industry planning;
- Equity issues, such as uniform pricing and Community Service Obligations;
- Water services policy inputs into regional development;
- Efficiency in water services through pricing and licensing;
- Research and review of global trends and developments in strategic water industry policy and planning; and
- Sponsoring research and development in the water industry.

The OWP has also been accorded representation on the Premier's Ministerial Taskforce on Water, and represents the Minister's responsibilities to the water industry in that forum.

Legislation

The OWP provides ongoing advice to the Water Industry Minister in relation to the review and reform of water services legislation and meeting the obligations of existing legislation.

It provides advice and support to the Minister in relation to the water service legislation, including the following Acts:

- *Water Boards Act 1904*
- *Water Services Licensing Act 1995*
- *Water Agencies (Powers) 1984*

The OWP is currently developing a new Water Boards Act and will engage in the future consolidation of existing water industry legislation.

Policy

The OWP is involved in the provision of policy advice to the Water Industry Minister. The Office provides advice to the Water Industry Minister in order to support the Minister's role in setting licensing policy and regulations for water service providers, which are administered by the Economic Regulation Authority (ERA). The Minister is also responsible for the issuing of pricing references on water matters to the ERA.

The Office also assists the Minister in the development of water industry policy. Key areas include competition and industry structure policy and meeting Western Australia's obligations under the National Competition Policy Agreement.

Planning

The Office assists the Minister with the responsibilities involved in the oversight of supply and demand conditions within the water industry. This involves monitoring the supply and demand process and developing policies to address weaknesses. A broader vision of water industry planning will be developed to cater for the State's future water needs.

1.5 Ministerial Council on Health Environment and Industry Sustainability

We provide administrative support services to the Ministerial Council on Health Environment and Industry Sustainability, and to its advisory body, the Senior Officers Taskforce.

The Minister for the Environment chairs the Council and the Director of the Environmental Management Division chairs the Taskforce. Both the Council and the Taskforce meet monthly and have been operating for more than two years.

Members are:

- Minister for the Environment
- Minister for State Development
- Minister for Health
- Minister for Planning and Infrastructure
- Minister for Consumer and Employment Protection; Indigenous Affairs
- Minister Assisting the Minister for Public Sector Management
- Minister for Tourism; Small Business; Sport and Recreation; Peel and the South West

Its Terms of Reference are to:

- Consider, across relevant government portfolios, the impact or potential impact of significant chemical and industrial emissions issues with the potential to adversely affect the environment, health of the community or workers;
- Oversee an integrated, whole of government approach to the sharing of information and expertise, investigation and resolution of environmental/health concerns referred to it; and
- Direct the Environmental Health Foundation to investigate issues and undertake research, as necessary, and appoint members to the Foundation.

1.6 The Department and the Community

Our mission statement emphasises the need to work in partnership with the community and to recognise that genuine engagement with the community is critical for environmental protection and natural resource management in Western Australia.

In December 2003, we released our Community Involvement Framework. This framework established our policy for community involvement and outlined a strategy for developing a culture of community involvement in the agency.

Coinciding with the release of the framework, staff were provided with a wide range of training programs and reference materials, including a Facilitation Toolkit, to help them develop successful community involvement strategies. Approximately 250 staff took part in these training programs.

We also released an Interim Industry Guide to Community Involvement to help Western Australian business with the community involvement process. The guide outlines the tools that can be applied at the proposal planning stage and throughout the life of the development. The final document is expected to be released in early 2005.

Our work in developing this framework has been highly commended by the Premier, Dr Geoff Gallop, who has expressed his delight at the range of materials produced to meet the needs of staff, industry and the community in the area of community involvement.

We have continued with this initiative and remain a leading agency in helping staff implement successful community consultation programs, closely aligning ourselves with government policies on community involvement.

1.7 WA Environment Awards

The Western Australian Environment Awards were established to recognise and celebrate the outstanding commitment of Western Australians working to protect the environment and to help build a more sustainable future.

Now in its third year, the Awards help focus public attention and recognition on the environment and, in particular, on the many positive programs that contribute to protecting or restoring Western Australia's natural heritage. More than 80 entries were received in 2003, and the Minister for the Environment presented the awards in October.

The judges selected the North East Catchment Committee Inc as the overall winner for its commitment to natural resource management. The individual winner was Mrs Bobbie Reilly for her role as Wyalkatchem Tidy Towns Coordinator.

The category winners were:

- Community Achievement — North East Catchment Committee Inc
- Corporate Business Leading by Example — LionOre Australia (Nickel) Ltd
- Government Leading by Example — LandCorp Harvest Lakes Atwell

- Small Business Leading by Example — Riverside Sanctuary
- Bush, Land and Waterways — Green Skills
- Coastal and Marine — The City of Joondalup
- Resource Waste Management — Ecosus Pty Ltd StackEnStill
- Air Quality — BP Refinery Kwinana
- Energy Efficiency — Department of Land Information
- Water Conservation and Management — Harvey Water
- Eco Building — City of Melville Piney Lakes Environmental Education Centre
- Infrastructure and Services - Northern Agricultural Catchments Council Community Access to Local Catchment Information (CALCI) Project Sustainable Product Design — Reclaim Industries Ltd
- Promoting Behaviour Change — Land for Wildlife

A partnership with the Banksia Foundation ensures relevant category winners are entered in the national Banksia Environmental Awards. Riverside Sanctuary was the Small Business Leading by Example category winner in 2003 and went on to win the category of Environmental Leadership in the Rural Sector at the Banksia Awards in June 2004.

SGIO is sponsoring the 2004 WA Environment Awards.

1.8 Boards and Committees

1.8.1 Waste Management Board

The Waste Management Board is responsible for helping to set out a sustainable framework for managing waste in Western Australia. The Board offers strategic advice to the State Government on waste management issues including:

- Setting priorities for waste policy initiatives;
- Funding waste initiatives;
- Offering assistance to the community in procuring technical advice under the Technical Assistance Grants Program;
- Funding the Resource Recovery Rebate Scheme to local government; and
- Reviewing the Waste Management and Recycling Fund and the landfill levy.

The Board's draft *Strategic Direction for Waste Management in Western Australia* was released for public comment during the year, and a review of the Waste Management and Recycling Fund and the Landfill Levy was also undertaken. Details of these reviews can be found in Section 3.3.11 of the Report on Operations.

1.8.2 Board Membership

Mr Noel Davies, Chairman

A partner in the environmental consultancy firm ATA Environmental, Noel Davies has extensive experience in waste management and was previously the Assistant Director of the Waste Management Division of the Department of Environmental Protection and Coordinator of Waste Management in the Health Department of WA.

Mr Davies has been closely involved in the development of waste management policy in WA, including the Waste Management into the 21st century, the State Recycling Blueprint, Landfill Management Criteria and the licensing of landfills, the establishment of the Intractable Waste Disposal Facility (IWDF) at Mt Walton, the Forrestdale Liquid Treatment plant, the development of legislation for the landfill levy and the Waste Management and Recycling Fund.

Mr Peter Fitzpatrick

Peter Fitzpatrick is Chief Executive Officer of the Motor Trades Association (MTA), which operates the GreenStamp program promoting cleaner production in the motor vehicle sales, service and repair trades. He is the former Chairman of the State Recycling Advisory Committee, which developed and managed the Western Australian Waste Management and Recycling Public Education Strategy. Mr Fitzpatrick resigned from the Board during the year.

Dr Sue Graham-Taylor

Head of the History Department of the WA Museum, Sue Graham-Taylor has a deep knowledge of the history of public health, waste management and environmental issues from the 19th century to the present day. She is currently the Coordinator of the Pollution Action Network and Vice President of the Conservation Council of Western Australia, which provides a strong community focus to her involvement on the Waste Management Board. Dr Graham-Taylor has participated in a range of initiatives related to waste management, including the WASTE 2020 Taskforce.

Dr Margaret Matthews

Dr Margaret Matthews has substantial interstate experience in the formulation of waste and hazardous waste management policy through her work with the Victorian Government's Hazardous Waste Consultative Committee and the Plastics and Chemicals Industries Association. She is the Principal of S3 — Sustainable Strategic Solutions. Dr Matthews has considerable experience in managing public consultation processes and in communicating with many different stakeholder groups, including government, industry and community. She has also been successful in engaging community and industry participation in programs such as the National Packaging Covenant and the Australian Responsible Care Program.

Acting Director General, Department of Environment

Mr Derek Carew-Hopkins currently holds this position. Derek Carew-Hopkins graduated from the University of Central Queensland in 1977 with a specialty in water resources. He has spent a large part of his career working for the water agencies in Western Australia and is recognised for his expertise in groundwater management and protection. During 1994 he worked with the Western Australian Parliamentary Select Committee on Metropolitan Development and Groundwater Supplies. In 1995 he was appointed to the position of the state's Independent Environmental Appeals Convenor, investigating appeals against the recommendations and advice of the Environment Protection Authority and the Department of Environmental Protection. In that position Mr Carew-Hopkins was involved in some of the State's most controversial projects, including the Mauds Landing project on the Ningaloo coast. Early in 2003, Mr Carew-Hopkins was asked to carry out a management and structure review of the Department of Environmental Protection and the Water and Rivers Commission. On conclusion of that review he was appointed acting Chief Executive of the amalgamating agencies.

Cr Clive Robartson OAM

Cr Clive Robartson has a wealth of local government experience as a strategic decision-maker in waste management. He is Deputy President of the Western Australian Local Government Association (WALGA) and Chairman of the Southern Metropolitan Regional Council (SMRC). He is the immediate past Chairman of the Municipal Waste Advisory Council and was formerly the Acting Chairman of the Advisory Council on Waste Management, which managed the \$5m per year Waste Management and Recycling Fund.

Mr Gavin Watters

Mr Gavin Watters, an engineer and the Chief Executive Officer of the Eastern Metropolitan Regional Council (EMRC), is one of the most experienced operators of waste management facilities in the State. The EMRC has the State's only Class IV Landfill and is currently determining possible alternatives to landfill within their region. The EMRC has also developed Education Strategies for secondary waste management facilitation. Mr Watters has participated in a wide range of local government waste management and public works bodies and was a member of the State Recycling Blueprint Committee and the WASTE 2020 Taskforce.

Ms Carolyn Jakobsen

Ms Carolyn Jakobsen joined the Waste Management Board during the year. Ms Jakobsen is completing her postgraduate (PhD) studies at Murdoch University and is a member of the University Senate (as well as its Environment Committee and Waste Management Sub-Committee). She has been a community and consumer activist in the Perth metropolitan area for many years and her concern about the health effects of pesticides on people and the environment led to her involvement in backyard permaculture, organic gardening, composting, poultry-keeping and apiary.

Ms Jakobsen's experience with all levels of government in Australia culminated in her election as the inaugural MHR for the federal electorate of Cowan in 1984. From 1990–93 she was Chair of the Federal Parliamentary Labor Party Caucus.

2 Summary of achievements

Output 1: Policy, Education and Advice

- Water Quality Improvement Plan for Peel-Harvey estuarine system initiated.
- Prepared the State of the Environment Reporting (SoE) program for EPA consideration prior to initiation.
- Scoped the feasibility of the Coastal Zone EPP.
- Evaluated the Ribbons of Blue/WaterWatch program.
- Launched the Waste Wise Schools Program.

Output 2: Environmental Impact Services

- Completed the Environmental Impact Assessment on the Pilbara iron ore expansion projects and the expansion of the South West Metropolitan Railway.
- Completed the environmental assessment of major high-pressure gas pipeline corridors in the Mid West and South West regions.
- Released the EPA Guidances for the Assessment of Environmental Issues relating to surveys for Subterranean Fauna and Best Practice in Prevention of Waste Discharges.

Output 3: Pollution Regulation

- Established a clear policy framework for a new approach to environmental licensing and enforcement in Western Australia, leading to more transparent and stronger regulation of emissions.
- The *Contaminated Sites Act 2003* passed, which will establish a risk-based classification and management system for contaminated sites.
- Implemented the *Unauthorised Discharge Regulations* making it an offence to discharge potentially harmful materials into the environment without authority.
- Drafting of amendments to the *Noise Regulations* to improve their efficiency and effectiveness has commenced.
- Established a mobile chemical and hazardous wastes incident support unit with analysis and strategic advice capabilities.

Output 4: Waste Management

- Reviewed the Landfill Levy and Waste Management and Recycling Fund (WMRF) to improve their effectiveness in facilitating sustainable waste management.
- Amended the *Controlled Waste Regulations* to remove inconsistencies and clarify roles and responsibilities.

- Implemented an electronic tracking and permitting system for the transport of controlled wastes.
- Commenced a comprehensive community consultation program for establishing a modern hazardous waste precinct.
- Finalised the Strategic Direction for Waste Management in Western Australia, tackling waste avoidance and minimisation, and resource recovery and recycling.
- Implemented National Packaging Covenant initiatives in Western Australia to address packaging and kerb side recycling.

Output 5: Environment Systems

- Program underway to develop the Environmental Quality Objectives for Marine Waters between Exmouth and Port Hedland.

3 Report on Operations

3.1 Office of the Director General

3.1.1 Overview

A new support structure for the Office of the Director General was established in October 2003 to ensure the Department had a coordinated and proactive approach to strategic issues management, as well as having responsibility on critical issues.

The new structure covers four strategic functions:

Government Relations: Dealing with sensitive issues and ensuring the flow of information between the agency, the Minister's office and other government agencies is maintained.

Strategic Planning and Review: Provides guidance and support to the planning and evaluation of our activities in partnership with all branches of the agency.

Environmental Enforcement Unit: Operates across a broad range of our activities delivering specialist support, management and quality control in respect of environmental enforcement, including all major investigations and prosecution actions.

Communications: Delivers an integrated suite of communications activities with direct access for the Director General to key areas such as media liaison and corporate relations for critical issues management.

3.1.2 Government Relations

As part of the new support structure for the Director General (ODG) established in October 2003 the Government Relations Branch was established to coordinate the flow of information between the Department, the Minister's Office and other parts of government.

Executive Support is primarily responsible for managing the operations of the Water and Rivers Commission Board and its Committees, Corporate Executive and the Office of the Director General. The Ministerial Liaison Unit is the section that manages all aspects of Ministerial correspondence, Parliamentary Questions, Cabinet Submissions and Ministerial liaison, working closely with the Executive Support area.

The Government Relations Branch coordinated a quality of work life (QWL) survey across the department. The QWL provided baseline data on staff views on their quality of work life, and approximately 65 per cent of staff participated in the survey. At a corporate level, the survey identified the following priority actions that required attention:

- The Department having clear organisation goals;
- Cooperation and communication between work areas;
- Staff having sufficient resources to do the job;
- Having sufficient opportunities for advancement (i.e. clear career path);
- Corporate Executive listening and responding to staff; and
- The Department dealing effectively with the stress caused by external expectations.

Corporate Executive revised its Change Management Priority Actions to address the priorities identified by staff in the QWL survey. With these additions, the Change Management Priority Actions extend to December 2004.

Staff have the opportunity to raise individual matters with their managers and directors through the performance conversation process. Corporate Executive tracks progress monthly and also reports its performance to staff against the Change Management Priority Actions.

A follow-up QWL survey will be conducted in November 2004 and will assist in determining the effectiveness of the Change Management Priority Actions.

3.1.3 Strategic Planning and Review

In 2003–04 considerable effort was allocated to redeveloping the agency's business planning system to ensure a stronger emphasis on outcomes and deliverables. The business planning process is now based on a products and services model, which will be used in the management of our 2004-05 outcomes. Operational staff were trained to facilitate the smooth roll out of the new system. Work is also underway to develop a stronger focus on performance reporting to provide improved quality of performance information to more effectively monitor desired outcomes and objectives.

During the year work started on a review of our corporate governance framework, with a strong focus on risk management. As part of this process, a full review of all business activities is being undertaken to revise the risk register and re-weight all risks to enable risk management to be integrated into the business planning processes.

3.1.4 Environmental Enforcement Unit

The Environmental Enforcement Unit was established with the full support of Government in April 2003 as a result of recommendations from the Robinson Enforcement Review. The review was a direct result of major concerns with the level of environmental enforcement.

The role of the Unit is not merely to undertake major investigations but also to foster and integrate an enforcement ethos throughout the agency. Prosecution policy and guidelines were developed, an extensive investigation manual was written and ongoing training has been identified as an important role of the Unit.

The Unit investigated, reviewed or assisted with over 151 departmental investigations, a number of them historic, resulting in five prosecutions involving 13 charges, three pending charges and one conviction. A number of ongoing investigations are expected to result in prosecution or sanction.

The nature of the charges preferred are varied including 'create pollution', 'emit odours' and 'allow controlled waste to be removed from premises without a permit'.

The investigations, charges and other pending prosecutions fall with a full spectrum of state legislation including:

- *Country Areas Water Supply Act 1947*
- *Environmental Protection Act 1986*
- *Metropolitan Water Authority Act 1982*

- *Metropolitan Water Supply, Sewerage and Drainage Act 1909*
- *Rights in Water and Irrigation Act 1914*
- *Swan River Trust Act 1988*
- *Water Agencies (Powers) Act 1984*
- *Water Boards Act 1904*
- *Waterways Conservation Act 1976*
- *Waters and Rivers Commission Act 1995*

An excellent relationship has been developed with the State Solicitor's Office, who carry out prosecutions on behalf of the Department.

3.1.5 Communications

The development of a corporate identity for the new Department of Environment was a major project for the Communications Branch. This included a new design for all stationery and publications and the development of new display materials and a corporate wardrobe for staff.

In partnership with Information Services, new Internet and Intranet sites were developed, going 'live' on 30 June 2004.

Media Relations also continued to expand its range of services through the delivery of a risk communications training program to about 100 staff as well as introducing a more efficient media monitoring service, including web-based delivery to staff.

Other highlights for the branch were the release of the Community Involvement Framework that established departmental policy for community involvement and outlined a strategy for developing a relevant agency culture. An Interim Industry Guide to Community Involvement was also released. Overall, the Community Involvement team trained more than 250 staff in a range of programs.

In Community Education, a comprehensive evaluation of the Ribbons of Blue/Waterwatch program confirmed that the program continues to deliver positive environmental outcomes. The Tidy Towns program was also comprehensively reviewed with modifications being made to ensure the program remained relevant and continued to meet community needs. SITA Environmental Solutions also sponsored the Waste Wise Schools program with more than 200 schools taking part.

AirWatch continued to expand with more than 600 schools involved. The Western Australian Environment Awards were once again successful with the 2003 event attracting 88 nominations.

3.1.6 Evaluation of the Ribbons of Blue/Waterwatch program

Ribbons of Blue began as an environmental monitoring program for schools in 1989 and, after becoming part of the national Waterwatch Network, has expanded to include greater community involvement. During 2003–04, a comprehensive evaluation was undertaken of the Ribbons of Blue/Waterwatch WA program to assess its cost-effectiveness, identify new directions and improve service delivery mechanisms.

The Communications Branch commissioned the \$25,000 evaluation after significant changes in recent years to the delivery and management of the program. These changes included expanding the program to support community groups, inclusion of tools other than water quality monitoring to engage, raise awareness and educate students and the wider community, and an enhanced focus on collaborative action.

An independent consultant undertook the evaluation and an Evaluation Reference Group was established, comprising the representatives of key stakeholders, including sponsors. The evaluation demonstrated that there is strong community support for Ribbons of Blue with most of the participants surveyed placing a moderate to reasonably high value on the program. All of the respondents indicated that either all or some of their initial aims for getting involved in Ribbons of Blue had been met and it was evident that the program met the needs of its target audience reasonably well, with some room for improvement.

The evaluation indicated that Ribbons of Blue had brought about greater awareness of water quality and environmental issues, attitudinal changes and tangible positive changes in environmental action. It also showed that the program had resulted in a greater value being placed by the community on waterway/ecosystem health, had resulted in a greater understanding of scientific method, scientific equipment usage and data analysis through water quality monitoring and had fostered responsibility and ownership of the local ecosystem by the community.

The evaluation demonstrated that important links had been created between state and local government authorities, community groups, schools and environmental programs which can facilitate an integrated approach and result in on-ground, environmental action projects and an increase in remedial action.

An Evaluation Implementation Working Group has been established to implement the 20 recommendations of the Ribbons of Blue evaluation to enhance delivery of the program statewide. It is anticipated that new educational resources and other tools will be available in 2005 to assist teachers, students and community groups and Ribbons of Blue Regional Coordinators to undertake the range of Ribbons of Blue activities.

3.2 Policy and Coordination Division

3.2.1 Overview

The Policy and Coordination Division has two main roles: it provides public sector advice to the Minister and government including through the coordination of policy advice on key government and departmental initiatives; and it provides services to the Environmental Protection Authority (EPA) with respect to the EPA's policy functions. The EPA has a number of tools for developing policy and providing policy advice to government. Foremost amongst these are Environmental Protection Policies (EPPs), which are administered by the Division. The Division also manages most of the EPA's other policy-level tools, including State of the Environment reporting, acts as a point of coordination for our role in the State Sustainability Strategy, contributes to the cross-agency implementation of 'Bush Forever', manages the EPA's program for a Peel Harvey Water Quality Improvement Plan, and provides centres of excellence for marine environmental protection and terrestrial conservation.

3.2.2 Environmental Protection Policies (EPPs)

3.2.2.1 Goldfields Residential Areas Sulfur Dioxide EPP and Regulations

Following the Gazettal of the EPP in March 2003, an Explanatory Document and an Implementation Plan for the Goldfields Residential Areas Sulfur Dioxide EPP and Regulations were released in June 2004. The Explanatory Document describes the main features of the 2003 Environmental Protection Policy and Regulations on a clause-by-clause basis. The Implementation Plan outlines the roles and responsibilities of industry and the Department in managing sulfur dioxide emissions to achieve the ambient air quality standard for the Goldfields Residential Areas. These documents were developed in collaboration with industry and other stakeholders.

3.2.2.2 Peel Inlet — Harvey Estuary EPP

A draft Discussion Paper was developed in January 2003 as part of the EPA advice to the Minister on Progress and Compliance Report. Further development of the Discussion Paper has been deferred. A Water Quality Improvement Plan for the Peel Inlet–Harvey Estuary is currently in development. The plan is being developed in parallel with work by the Peel Catchment Council and with significant stakeholder involvement. The plan will greatly influence the scope and direction of a future EPP for the area. Once the plan is progressed the Discussion Paper will be finalised and released for public comment.

3.2.2.3 Ambient Air NEPM Implementation EPP

Parliamentary Counsel is currently drafting the Ambient Air Quality NEPM (National Environment Protection Measure) Implementation EPP. The Policy and Sustainability Branch, with assistance from the Air Quality Branch, has provided ongoing advice to Parliamentary Counsel. Once the drafting is finalised the draft EPP along with a document outlining how the EPP will be implemented will be released by the EPA for public consultation.

3.2.2.4 Swan-Canning Rivers EPP

The Policy and Sustainability Branch, in consultation with the Swan River Trust, provided support to the EPA in the development of the draft Riverplan — the Comprehensive Management Plan and Implementation Strategy for the Swan and Canning Rivers Environmental Protection Policy, which was released in July 2003. Both the final Riverplan and summary of submissions document have been endorsed by the Swan River Trust and EPA and are due to be released in late August 2004. The EPA has also formally delegated responsibility for Riverplan to the Swan River Trust.

3.2.2.5 Swan Coastal Plain Wetlands EPP

After receiving advice from the State Solicitor's Office, the Minister for the Environment sent the revised draft Swan Coastal Plain Wetlands EPP back to the EPA in October 2003. Members of the Policy and Sustainability Branch along with Parliamentary Counsel have been working on a new draft EPP, together with a draft wetlands register, to the satisfaction of the EPA. The Wetlands Branch has been a contributor to the development of the wetlands register. The draft EPP and associated documents and wetlands register are planned for release by the EPA in the second half of 2004.

3.2.2.6 Coastal Zone EPP

The Department for Planning and Infrastructure released a Coastal Planning Policy in June 2003, following the Government's response to the Ministerial Task Force on the coastal zone, entitled *Coasts WA: Better Integration*. These initiatives have achieved a great deal in protecting the coast and addressing the purposes of the proposed EPP. In light of this and new initiatives in the development of EPPs, the need for the Coastal Zone EPP is being reviewed.

3.2.2.7 Cockburn Sound EPP

The Policy and Sustainability Branch has continued to provide support to Parliamentary Counsel in the legal drafting of the Revised Cockburn Sound EPP. Legal advice on how to interpret the recent amendments to the Environmental Protection Act 1986 was considered and further changes were made to the draft policy and regulations. This EPP is waiting finalisation of drafting before starting the Ministerial consultation phase.

3.2.2.8 Best Practice

The best practice procedures are continually being amended and these will be formalised and published during 2004–05. The best practices that have already been developed have over the last 12 months been accepted by the EPA and incorporated into EPP development and implementation.

3.2.3 State of the Environment reporting program

In 2003 the Environmental Protection Authority accepted the role of undertaking production of the next State of the Environment Report, which will be due for release in 2006. The Minister announced this undertaking during the International Sustainability Conference in Fremantle in September 2003. Previous State of the Environment Reports have been developed and coordinated by the Department of Environmental Protection. Since this announcement, our staff have played an important role in helping the EPA to formulate the requirements to coordinate the State of the Environment Reporting Program. This has included preparation of Discussion Papers, Technical Papers, briefing stakeholders and budget submissions.

In December 2003 the EPA established the State of the Environment Reporting Steering Committee to oversee the program. The Policy and Sustainability Branch have been providing support to this committee.

3.2.4 Supporting the State Sustainability Strategy

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

Staff have been seconded to the Department of the Premier and Cabinet to help with various sustainability initiatives. For example, we provided support to the Third International Conference of the Regional Government Network for Sustainable Development. This included

the coordination of an ecological footprint workshop hosted by Dr Bill Rees (University of British Columbia, Canada), co-founder of the ecological footprint concept, which led to the our participation in a nationwide effort to develop a network and standards for the ecological footprint in Australia. Six staff members presented papers at the Academic Forum of the conference. One of those papers, by Dr Robert Hay, was refereed and published in its online proceedings. This paper has since been accepted for publication in two parts in an international journal, *Sustainable Development*.

We also provided assistance to the Department of the Premier and Cabinet to coordinate a Resource Efficiency Workshop, held in April 2004. The purpose of the workshop was to define sustainable solutions for reducing resource consumption through economic and social development initiatives by industry, community and government. This would enable the State to meet a number of commitments outlined in the State Sustainability Strategy, in particular to increase the total resource efficiency of the State economy by a factor of 4 by 2020 and to halve the ecological footprint of the economy by 2020.

Staff are currently developing the Department of Environment's first Sustainability Action Plan, as part of the State Sustainability Strategy. Staff are represented on the Sustainability Roundtable, providing executive support to the Ministers' Sustainability Forum, and assisting in the development of the sustainability assessment process providing advice on the Sustainable Industry Covenants initiative and in the development of the State's Headline Sustainability indicators. In addition, staff are actively involved in major sustainability actions of other agencies, such as the planning strategy for metropolitan Perth.

Papers Presented by staff at the Academic Forum in September 2003:

Camkin J, *Meeting the Cost of a Sustainable Water Future*

Dowdell DM, *Empowerment through Voluntary Agreements: Using the National Packaging Covenant to achieve sustainable outcomes in packaging waste*

Hay R, *Becoming Ecosynchronous: Sustainability, Ethics and Personal Development**

Kalaitzis P, *Statutory Planning for Sustainable Water Management*

King R et al, *The Impact of Climate Change on Sustainable Environmental Water Provisions and Water Supplies in Southwestern Australia*

McCrea A, *Sustainable Irrigation in Western Australia — a collective effort for regional development*

3.2.5 North West Shelf Community — Derived Marine Quality Objectives

Work has begun on a community consultation project on the environmental values and objectives for marine waters from Exmouth to Port Hedland, and out to the Montebello Islands.

Community and stakeholder input will be vital in developing the objectives of an effective environmental quality plan for the North West Shelf to guide decision-making for sustainable use.

* denotes paper that was refereed and included in online proceedings of the conference

Specifically, the project will consider where changes from natural conditions should not occur and where limited reduction in environmental quality to allow for developments, such as industry, boat harbours or ports that provide services to the community, would be accepted.

The project is identified in the State Sustainability Strategy and is consistent with the commitment of the State Government to implement the National Water Quality Management Strategy, which sets five environmental values relevant to marine waters — ecosystem health, recreation and aesthetics, cultural and spiritual values, fishing and aquaculture and industrial water supply.

The public consultation period begins at the end of July and extends through to late October 2004 and has been funded under the Natural Heritage Trust, as part of the Rangelands Region Natural Resource Management Strategy development.

3.2.6 Background Marine Water Quality Surveys

Three marine water quality surveys were conducted to accurately determine background concentrations of dissolved metals and organic chemicals in the coastal waters of the Perth metropolitan region, the North West Shelf (Dampier Archipelago and Port Hedland) and the central west coast (Jurien Bay Marine Park). The surveys were undertaken to assist in implementing the State Water Quality Management Strategy in WA's marine environment and focused on areas identified as being under the greatest pressure from population growth and coastal developments.

The Strategy recognises that environmental quality criteria are needed to evaluate the results of monitoring programs and to help identify where and when management is needed. However, while the environmental quality criteria are generally based on guidelines and approaches recommended nationally (in ANZECC & ARMCANZ, 2000), they may need to be modified to establish site-specific criteria in regions where natural background levels exceed the guidelines.

The surveys were undertaken in conjunction with the CSIRO Centre for Advanced Analytical Chemistry utilising lowest available analytical reporting limits for metals in Australia.

The results of the program will also help guide the design, environmental impact assessment, and regulation of future proposals for ocean outfalls and other point or diffuse source discharges in these regions. Furthermore, the surveys provide a fundamental baseline from which to assess local and regional changes in water quality in years to come.

The reports of the surveys are currently being prepared and will be available in late 2004.

3.3 Environmental Management Division

3.3.1 Overview

The Environmental Management Division manages industry licensing; contaminated sites regulation; waste management policy, including administration of the Reuse Recycling Rebate Scheme; controlled waste regulation; pollution incident response; noise regulation; Ministerial approval auditing; and Waste Management (WA) operations.

Work has continued on reforms to improve the Division's approach to regulation by introducing a risk-based approach, developing a comprehensive and transparent policy framework, building better relationships with stakeholders, and improving public reporting and community involvement.

Significant progress has been made in priority areas, notably the development of a model for industry Environmental Improvement Plans (EIPs), agreement on appropriate consultative measures to be undertaken by industry, and development of a detailed strategic framework for the licensing reform process. Restraints on resources and the inadequate policy foundation continue to retard progress, but the overall direction and priority settings are now well advanced.

New controlled waste regulations were gazetted in June 2004, supported by a new web-based waste tracking system that went live in January 2004. The new system is being implemented state-wide during the year and is already providing valuable information on the volumes and types of controlled wastes being transported around the state.

A key milestone for the Division was the passing of the Contaminated Sites Bill. To support this legislation, which is expected to come into force in late 2004, the Land and Water Quality Branch has been developing detailed regulations, administrative systems and a contaminated sites database, as well as ongoing consultation with key stakeholders.

The new Pollution Response Unit became fully operational during 2003–04. Key developments were the recruitment and training of staff and the purchase of a range of field analytical equipment to enhance its ability to assess and advise on environmental risks at the site of an incident, and contribute to enforcement action where appropriate.

3.3.2 Progress on managing acid sulfate soils in Western Australia

Acid sulfate soils are naturally occurring and contain iron sulfide minerals. They are found in waterlogged environments, particularly near the coast, and are benign if not disturbed. However if they are dewatered, drained or excavated without careful management, the sulfide minerals will react with oxygen from the air to form sulfuric acid. Acidic water leaching from these soils often has high concentrations of arsenic and heavy metals, and can cause severe environmental problems if it is discharged to waterways or leached into groundwater. The oxidation of iron sulfide minerals may also make the soil become extremely acidic and capable of damaging sub-surface concrete and steel infrastructure.

During 2003–04, we worked closely with the Department for Planning and Infrastructure, industry and community groups to develop a Planning Bulletin to ensure that new development will not cause problems in areas with a high risk of disturbing acid sulfate soils. The Planning Bulletin was released in November 2003 and uses preliminary risk maps which we have produced. The maps are progressively being updated through a program of soil investigations to redefine map boundaries. Investigations have recently been completed in the Peel Region, and identified an area of about 5000 hectares with shallow acid sulfate soils.

In June 2004 the Minister for the Environment launched a proposed framework for managing acid sulfate soils in Western Australia. The proposed management framework contains five key objectives which mirror the National Strategy. These are:

1. To identify the distribution and potential severity of acid sulfate soils in the state through risk maps and soil sampling programs;
2. To avoid the disturbance of acid sulfate soils wherever possible through planning controls;
3. To mitigate the effects of disturbing or draining acid sulfate soils by implementing Best Management Practices in areas where development is unavoidable;
4. To rehabilitate areas historically affected by acid sulfate soil disturbance; and
5. To increase awareness of acid sulfate soils, and to implement appropriate training programs in the management of these soils.

We have already begun implementing measures to address these objectives, in particular, the acid sulfate soil risk mapping program. We have also implemented a number of soil and groundwater assessment and management guidelines to minimise the risk of environmental problems being caused by development in areas with acid sulfate soils. Community workshops on the assessment and management of these soils have been run with the support of the Swan Catchment Centre.

3.3.3 Hazardous/Industrial Waste Precinct Stakeholder Involvement Process

We provide executive support to the Core Consultative Committee on Waste (3C), a stakeholder reference group established by the Waste Management Board, to provide advice on waste management issues. During 2003–04, the agency and the 3C developed a stakeholder involvement program to establish ‘technology suitability’ criteria for future hazardous/industrial waste treatment facilities in Western Australia and to locate a suitable site or sites for the establishment of a hazardous/industrial waste precinct.

Implementation of the program was endorsed by Cabinet in September 2003 and is supported by key stakeholders including the Chamber of Commerce and Industry, the Western Australian Local Government Association, the Waste Management Board, community groups and key government agencies including the Department of Health, Department for Planning and Infrastructure, Department of Industry and Resources, Department of Environment, LandCorp and the Department of the Premier and Cabinet.

Outcomes of this program are reported by the 3C to government for endorsement via a multi agency coordinating group to the Ministerial Council for Health, Environment and Industry Sustainability, and then to Cabinet. We also provide executive support to the coordinating group.

During 2003–04, two public forums were held as part of this program. The first was held in November 2003 to refine draft technology suitability criteria and the second, in March 2004, to refine draft site selection criteria. Both forums were well attended by a wide range of stakeholders. Following these forums the criteria were amended and released for public comment. Both sets of criteria have been revised to address comments raised during this period. This advice is to be presented to Cabinet for endorsement in late July 2004.

It is intended that the siting process should be complete by December 2005 when the government is expected to call for expressions of interest from companies to set up in any precincts established by the process. Further information on the 3C, including the stakeholder involvement process, is available from <www.3C.org.au>.

3.3.4 Priority sites — inspection and auditing

During the year, we continued our work inspecting sites considered to present a special risk to the environment in the event of fire or major spillage of hazardous materials. This work is in response to the findings of the Bellevue Hazardous Waste Fire Inquiry and 11 priority sites were inspected by the new Pollution Response Unit during 2003–04.

The Unit coordinates the inspections and arranges for our own regional officers and other agencies to attend. A total of 48 sites have been identified and inspections have been carried out in conjunction with the Department of Industry and Resources, the Fire and Emergency Services Authority, and on occasions, Worksafe WA. The Department of Environment, Department of Industry and Resources and FESA jointly fund an officer who prepares special risk plans for these premises so that, in the event of an incident, there is sufficient information available to respond effectively.

Some of these sites are licensed under the *Environmental Protection Act 1986* while others are not. The issues focussed on are the potential for a spill or fire, the likely sensitive premises in the impact zone, and the systems and structures in place to prevent or minimise off-site impacts. Agencies become familiar with the premises, the risks and the personnel they may deal with in the event of an emergency relating to the premises. Where issues of concern or non-compliance are identified, the relevant authority serves notices or directions to rectify the problem.

3.3.5 Establishment of the policy framework for a new approach to environment licensing and enforcement in Western Australia

The implementation of reforms to industry licensing has continued during 2003–04, based upon recommendations from the Independent Strategic Review of Licence Conditions undertaken by Welker Environmental Consultancy in March 2003 and our own reform agenda.

Several stakeholder Working Groups have assisted us in progressing key areas of reform including the development of a new licence format and assessment report, enhanced community involvement processes and a voluntary Environmental Improvement Plan model.

The implementation of many of these initiatives is culminating in the review of industry licences and their conditions. We are currently consolidating a priority-based approach for undertaking these reviews across the state over the next 18 to 24 months. The development of a quality assurance system will ensure consistency in the way these reviews are undertaken.

3.3.6 Implementation of the Unauthorised Discharge Regulations

The *Unauthorised Discharge Regulations 2004* were developed in response to the need for a Tier Three (minor) offence to deal with small discharges of waste into the environment that may not cause immediate or obvious pollution, but which may cumulatively cause environmental damage.

After lengthy consultation, the regulations were gazetted in March 2004 and are now being implemented. A letter was sent to the chief executive officers of all local governments advising them of the regulations and inviting them to have their officers authorised to enforce them at

the local level. We have developed a training program for staff and local government officers wishing to be authorised, and courses are being delivered throughout the state.

Parliament moved a disallowance motion in May 2004, and by year end this had not been resolved.

3.3.7 Drafting of amendments to the Noise Regulations

During the year the Noise Section has continued its work on the development of Drafting Instructions to be used in the preparation of a second set of substantial amendments to the *Environmental Protection (Noise) Regulations 1997*. The Noise Section has progressively developed the basis for these changes, known as the Stage 2 Amendments, during 2002 and 2003.

The Drafting Instructions are for use by the Parliamentary Counsel's Office for formal preparation of a set of draft amendments. At the same time, the Drafting Instructions will be sent to stakeholders who were involved in the Working Groups Program for their information and comment. These stakeholders helped identify and develop the original amendments, called the Stage 1 Amendments, which were gazetted as the *Environmental Protection (Noise) Amendment Regulations 2000*.

Explanatory notes will be prepared to ensure that all parties understand the proposed amendments. At the time of writing, the Drafting Instructions package was nearing completion. The amendments are intended to cover the following issues:

Item No.	Description of proposed amendment
1	Noise from vessels (reg 3)
2	Unreasonable noise (reg 5)
3	Extraneous noise
4	Influencing factor (reg 8, Sched 3)
5	Kwinana buffer (reg 8, Sched 3)
6	Precinct noise levels (reg 8)
7	Industry-industry noise (reg 8)
8	Clarify wording Table 1 (reg 8)
9	Regulation 11 — airblast limits
10	Community venues (reg 16, Schedule 2)
11	Regulation 17
12	Regulation 18 — process
13	Priority venues (reg 18)
14	Measurement equipment (reg 22 and Schedule 4) — calibration etc, total of 6 amendments
15	Measurement equipment (reg 22 and Schedule 4) — blasting
16	Motor sports venues (new reg)
17	LGA essential services (new reg)

3.3.8 Establishment of a mobile chemical and hazardous wastes incident support unit

The Pollution Response Unit (PRU) was established in 2003 as a specialist hazardous materials and pollution emergency response team, trained to the highest standards and using state-of-the-art equipment. Funding for the PRU was sought in the aftermath of the Bellevue Hazardous Waste Fire Inquiry and more than \$1m was allocated to fund the unit.

The PRU comprises four pollution response officers, a section manager and two air quality officers, and is overseen by the Manager Response and Audit. Officers of the United States Environmental Protection Agency trained the Unit in October 2003 to the standard required by the US agency for response to hazardous materials incidents.

The PRU provides a 24-hour pollution response capability and responds to calls from Fire and Rescue, officers of the Department of Environment and the public. It supports Fire and Rescue with on-site analysis of potentially hazardous materials, defining the risk and speeding up the clean up and remediation of spills. It has already responded to numerous truck accidents, spills and chemical fires, where its intervention has been of benefit to the emergency services, the Department, the community and the environment.

It also carries out proactive work such as sampling of drains and creeks to track pollutants, night industry surveillance actions using thermal imaging and other techniques to detect after-hours pollution events, inspections of high risk premises and sampling of emissions from premises suspected of causing environmental or health problems for the community.

The Unit has also developed and presents training courses for our own officers as well as local government field staff, covering the safety and enforcement issues relating to pollution response. It has also provided training for the Police Emergency Operations Unit in this area.

The unit is able to respond quickly and collect evidence of environmental offences, which has resulted in a number of charges being laid against polluters under the *Environmental Protection Act*.

3.3.9 Implementation of the Controlled Waste Tracking System

After almost two years of development, our Internet-based, electronic tracking system went live in January 2004. This innovative system represents a quantum leap forward over the previous paper-based system and is arguably the most efficient waste tracking system in the southern hemisphere. The data collected by the system enables the Department to determine where and when waste is generated, who transports the waste and where it is treated or disposed.

System reports are used to indicate areas of concern so that Controlled Waste Inspectors can carry out their inspection and audit duties effectively. Waste treatment facilities and waste transporters also generate system reports that provide timely data for managing their businesses.

Currently, 3570 electronic tracking forms have been created and used by waste transporters, accounting for approximately 35 million litres of controlled waste transported on public roads in Western Australia in the five months since January 2004.

The total figures for controlled waste tracking from January to 30 June 2004 are 7222 tracking forms accounting for approximately 70 000 kL of controlled waste. These figures come from two sources, the internet based Controlled Waste Tracking System, and paper forms sent in by carriers, which are entered into our 'Green Forms Database'.

3.3.10 Contaminated sites

The *Contaminated Sites Act 2003* received Royal Assent in November 2003 after several years of consultation and development. The Bill was introduced into Parliament in November 2002. The Act provides for the identification, recording, management and remediation of contaminated sites in Western Australia. Significant progress has been made on drafting of the accompanying Contaminated Sites Regulations. Proclamation of the Act is planned for late 2004, once the Regulations have been finalised and gazetted.

We received an allocation in the 2003–04 State Budget for implementation of the contaminated sites legislation and investigation and remediation of high priority state government and orphan contaminated sites. Recruitment of additional staff members to assist with these objectives is largely complete. External information technology contractors were retained to develop an electronic database for managing records of contaminated sites. Development of the database is nearly complete, with final testing to be completed in late 2004. We have begun the process of reviewing and classifying approximately 1 000 sites currently on our contaminated sites records, ready for uploading onto the database. After proclamation of the Act, access to summarised information on confirmed contaminated sites will be publicly available via the Internet.

The Contaminated Sites Section is preparing a series of Fact Sheets addressing key aspects of the legislation, which will be released when the Act is proclaimed. The more detailed Contaminated Sites Management Series guidelines were maintained, with the release of an updated version of 'Assessment Levels for Soil, Sediment and Water' (November 2003) and 'Bioremediation of Hydrocarbon-contaminated soils in Western Australia' (February 2004).

Further investigations of arsenic contamination at the Pemberton Timber Mill site (for which the State Government has accepted responsibility) including human health and ecological risk assessments were undertaken during 2003–04. Ongoing groundwater monitoring was conducted at orphan contaminated sites such as Omex, the Adelaide Street landfill and Morangup. At the Waste Control site in Bellevue, additional investigations were undertaken and a vapour study is currently underway.

We are currently finalising administrative arrangements for determining priorities for the allocation of funding for the investigation and remediation of state government and orphan contaminated sites. Senior representatives of key agencies including the Departments of Environment, Health, Planning and Infrastructure, Treasury and Finance and LandCorp will form the Contaminated Sites Advisory Panel, reporting to the Ministerial Council on Health, Environment and Industry Sustainability. It is anticipated that this whole-of-Government prioritisation process will be operational in the latter half of 2004.

3.3.11 Review of the Landfill Levy and Waste Management and Recycling Fund

A review of the Waste Management and Recycling Fund has been undertaken in accordance with Section 110J of the *Environmental Protection Act 1986*. A report outlining proposed recommendations on the operation and effectiveness of the Fund has been prepared by the Waste Management Board for submission to the Minister for the Environment. In preparing the report, the Board engaged two consultancies; one to review the operation of the Grants

program funded through the Fund, and the second to review the effectiveness of the landfill levy and the Resource Recovery Rebate Scheme.

A public discussion document was released in the latter half of 2003, outlining the proposed recommendations of the Board. A report on the outcomes of the public consultation was posted on the Board's website <www.wastewa.com>. A final report is expected to be presented to the Minister for the Environment in August 2004.

3.3.12 Finalisation of the Strategic Direction for Waste Management in Western Australia

The draft *Strategic Direction for Waste Management in Western Australia* was released for public consultation in September 2003. The document outlined the structured approach to address waste in the Western Australian community and support the vision of 'towards zero waste'. As part of the release of the document, together with the Waste Management Board, we coordinated an extensive consultation process that included five regional and four metropolitan workshops.

Based on the public consultation, a revised strategic framework for waste was developed. The final document is to be released later in the second half of 2004.

3.3.13 Implementation of National Packaging Covenant initiatives

The National Packaging Covenant is designed to maximise the recovery and recycling of all waste packaging materials and develop sustainable kerbside recycling. WA projects undertaken in 2003–04 include:

Shire of Dardanup Waste and Recycling Audit

This project involved auditing the recycling and waste bins after Dardanup Council changed from a bag system to a 240 litre co-mingled recycling bin. The amount of recyclables had increased and so had the volume of waste. The objective was to provide the Shire of Dardanup and other key stakeholders with a greater understanding of the composition of materials within the waste and recycling collection containers.

Household Waste and Recycling Streams Audit

Under the National Environment Protection Measure — Used Packaging Materials 2003, Western Australia was required to audit the various systems of recycling collections in Western Australia. The audit was carried out by a consultant and the final report is available on the website of the Waste Management Board <www.wastewa.com>.

Regional Transport Economics Study

Begun in June 2004, the study will be used to guide improvements to recycling schemes in rural and regional areas of Western Australia by recommending economically viable transport routes, suitable nodes to feed into, and methods for sustainable transport of material back to markets. The study will evaluate the volume of recyclable material entering rural regional areas, the current recycling activity in those areas, and existing and potential markets.

Town of Port Hedland Recycling Scheme

A kerbside collection service for packaging material, including glass, aluminium, cardboard and plastic has been introduced in the Town of Port Hedland.

The scheme is also expected to involve recycling ‘drop off’ centres in both the Town and South Hedland and a Public Place Recycling scheme to allow recycling away from home. The Town will also seek to develop local market and processing opportunities for the material recovered, to avoid costly transportation back to Perth or overseas.

A community marketing and education strategy will aim to increase awareness of and participation in the recycling program, and quality of the material presented for the collection.

3.4 Environmental Impact Assessment Division

3.4.1 Overview

The Environmental Impact Assessment (EIA) Division provides support to the Environmental Protection Authority to assess development proposals and planning schemes. These assessments are completed under Part IV of the *Environmental Protection Act 1986*.

The Environmental Impact Assessment Division completed 41 formal assessments and the resulting reports on those assessments in 2003–04.

Proposals are assessed at a level consistent with the significance of the environmental impacts that the proposal is likely to have. The number of assessments completed at each level is shown in the following table.

Table 2: Assessments completed by the EIA Division for the EPA in 2003–04

Level of Assessment	No. of Assessments
Formal Assessments (ERMP, PER, ER, Change to Conditions)	23
Environmental Protection Statement (EPS), Assessment on Referral Information (ARI)	9
Proposal Unlikely to be Environmentally Acceptable (PUEA)	4
Section 16 Strategic Assessment	5

3.4.2 Major assessed projects

3.4.2.1 Gorgon Gas Development — Barrow Island Nature Reserve

The EIA Division assisted the EPA to provide Section 16 advice on the strategic environmental aspects of a review of the Gorgon Gas Development on Barrow Island. Barrow Island is a Class A Nature Reserve which is one of WA’s oldest and most important nature reserves and is significant at national and international level. The EPA formed the view that industry should not be located on Barrow Island, given the very high environmental and unique conservation values there. Following consideration of strategic environmental, social and economic advice, the state government decided that, in principle, development of the proposal

could occur on Barrow Island. The proposal is now subject to formal environmental impact assessment as an Environmental Review and Management Program (ERMP) at state level and as an Environmental Impact Statement (EIS) at Federal level.

3.4.2.2 Additional Industries on the Burrup Peninsula

The EIA Division continued to assess a number of expansion proposals for industry in the vicinity of the Burrup Peninsula. Available industrial land on the Burrup Peninsula is now regarded as being fully allocated. Assessments completed in 2003–04 included the development of a quarry and industrial site at King Bay, the upgrade and expansion of Dampier Port and two associated dredging programs. Assessment also commenced during the year of an expansion of the desalination plant assessed last year. Additional work on air quality and the importance of the vegetation and rock art on the Burrup Peninsula was also undertaken.

3.4.2.3 South West Metropolitan Railway from Perth to Mandurah

The EPA reported on the proposed railway in July 2003 following environmental assessment at the level of Public Environmental Review. The assessment of this major government project considered portions of the route not previously assessed by the Division for the EPA including the realignment through the Leda and Lake Cooloongup bushland areas via the Garden Island Highway Reserve, and expansion of the Waikiki Station site. The EPA preferred the Garden Island Highway Reserve alignment to the previous alignment as it reduces impacts on bushland. The assessment also considered construction and operational factors for the entire alignment, particularly noise and vibration. The EPA concluded that the proposal could be managed to meet the EPA's objectives subject to the implementation of a comprehensive range of environmental management plans.

3.4.2.4 Coral Bay Boating Facility

The EPA considered proposals by the Department for Planning and Infrastructure to develop a boating facility at either North Bills Bay or Monck Head in Coral Bay. The proposals were considered separately but the EPA reported on both proposals within a single report. The type of boating facilities proposed at each of the sites differed. However, it was proposed that only one boat launching facility would be constructed. The North Bills Bay proposal, located within the Sanctuary Zone of the Ningaloo Marine Park, included a breakwater, boat launching ramp and car and trailer parking. It would have resulted in the clearing of native vegetation and in direct impact on coral communities. It was deemed to be environmentally unacceptable based on issues of marine biodiversity, terrestrial biodiversity, and coastal processes.

The Monck Head proposal, located within the Recreation Zone of the Ningaloo Marine Park, included an offshore boat launching ramp, accessed via a culverted causeway and piled bridge, and car and trailer parking. The proposal would involve negligible clearing of native vegetation and no direct loss of hard corals. The site is within an area of stable hard coastline. The Monck Head option was approved subject to conditions including the management of turbidity during construction and the prevention of the discharge of hydrocarbons.

3.4.2.5 Other assessed projects

Table 3: Formal Assessments (other than Environmental Protection Statements)

Bulletin No.	Title	Release date
1102	South West Metropolitan Railway Perth to Mandurah	July 2003
1104	Outdoor entertainment venue Lots 1 and 2 Toodyay Road, Red Hill	August 2003
1105	Clearing of up to 950 hectares of native vegetation for agriculture: Victoria location 10883, Carnamah	August 2003
1107	Coral Bay Boating Facility — Monck Head Coral Bay	August 2003
1107	Coral Bay Boating Facility — North Bills Bay Coral Bay	August 2003
1108	Greater Bunbury Region Scheme	September 2003
1113	Proposed Forest Management Plan (2004–2013), Western Australia	September 2003
1118	Change to Environmental Conditions — clay excavation, Lots 10, 11 and Pt Lot 36 Great Northern Highway, Upper Swan	October 2003
1118	Change to Environmental Conditions — clay excavation, Lots 23 and 51 Apple Street, Upper Swan	October 2003
1118	Change to Environmental Conditions — clay excavation, Lots 40 and 41 (previously Lots 21 and 22) Apple Street, Upper Swan	October 2003
1119	Abernethy Road — Tonkin Highway on-ramp	November 2003
1123	Kwinana International Motorplex — Review of Noise Management Plan and potential change to Environmental conditions relating to noise management	December 2003
1125	Change to Environmental Conditions — De-bottlenecking of CSBP Ammonia Pant from 650tpd to 745tpd Kwinana Industrial Area	February 2004
1126	Change to Environmental Conditions — Wastewater treatment and disposal, Albany	February 2004
1127	Change to Environmental Conditions — Newcrest Mining Limited, Telfer Project, Power Supply and Infrastructure Corridor, Port Hedland to Telfer Gold Mine, Great Sandy Desert	March 2004
1128	Change to Environmental Conditions — Tonkin Industrial Park Stage 2, Bassendean	March 2004
1132	Review of the Conditions for the Manufacture and Transport of sodium cyanide — Change to Environmental Conditions	May 2004
1133	Hope Valley-Wattleup Redevelopment Project Master Plan	May 2004
1135	Use of Cape Peron Outfall Pipeline to dispose of industrial wastewater, Kwinana	May 2004
1137	Perth Metropolitan desalination proposal, Amendment of Implementation Conditions by Inquiry	May 2004
1138	Roe Highway extension (Stage 7) South Street to Kwinana Freeway, Leeming	June 2004
1140	Industrial subdivision of Lot 21 Webster Road and Bedford Crescent, Forrestfield	June 2004
1141	James Point Stage One Port, Kwinana	June 2004

Table 4: Environmental Protection Statements (EPS) and Assessment on Referral Information (ARI)

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

Table 5: Proposal Unlikely to be Environmentally Acceptable

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

Table 6: s16 Strategic Advice

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

3.4.3 EPA Guidance Statements

The EIA Division also assists the EPA to produce Guidance Statements on environmental factors which are important during impact assessment. Six Guidance Statements were released in final form in 2003–04 and one was released as a draft.

3.5 Resource Management Division

3.5.1 Overview

2003–04 saw a combination of tactical response to managing the continuing drought, medium term planning for bringing on additional water sources and long term planning through the National Action Plan for Salinity and Water Quality.

Western Australia's active response to the unprecedented run of very dry years since 1998, and to an apparently drier climate since 1975, has resulted in a relatively minor disruption to the state's development and quality of life. This is partly due to the development of a number of inter-linked surface and groundwater sources, each of which may be used in a coordinated manner to avoid major disruption.

The agency worked with the Water Corporation to expand the number of water sources available for the Integrated Water Supply Scheme which services about 1.4 million people and some very important industries. Investigative work on a proposed new source, the South West Yarragadee aquifer, and a long established source in the Gngangara Mound greatly improved our knowledge and management options over the past year.

Which water sources could be used was continually reviewed throughout the year as the 2003 winter proved to be better than previous years but was followed by a long and extremely dry summer which saw almost no recharge. As a result, many urban wetlands were at their lowest levels and there was stress to waterfowl and riparian vegetation.

We work closely with other state agencies to optimise outcomes through the State Water Strategy and its committees, especially the Gngangara Coordinating Committee, the Water Re-use Committee, the Irrigation Review Steering Group, and the Advisory Committee for the Purity of Water. The work of these committees is having a profound effect on the way that land and water resources are being managed. Managing for single interests is no longer acceptable as a way of doing business when one agency's solution comes at the expense of another's major interest. However, getting wider agreement can result in slower decision-making and requires special interest groups to consider a larger picture than they might currently be focused on.

In particular, the recognition of the importance of water quality in drinking water catchments above all other beneficial uses has not been readily accepted. This factor, combined with diminishing resources, has resulted in about 95 public drinking water catchments still without a source protection plan. Some of these may not be fully protected for another 25 years.

Considerable work was carried out during the year on drainage and its governance. This has placed the government in a position to be able to make better decisions about how water quality objectives are achieved across multiple jurisdictions. However, it has identified a number of shortcomings in the current arrangements for setting targets, planning, resourcing and auditing performance. To rectify these deficiencies will require a program of progressive change over several years.

After several years of negotiation and planning, the National Action Plan for Salinity and Water Quality and the Natural Heritage Trust Extension are finally resulting in funding reaching priority projects in the six regions in the state. We played an important role in developing the

bilateral agreements with the federal government and in helping the regional groups to address water-related aspects of the regional strategies and investment plans.

3.5.2 Managing the Groundwater of the Gngangara and Jandakot Mounds

In 2003–04, we were involved in a range of initiatives to address continuing pressure on the supply from the Gngangara and Jandakot mounds, which are significant aquifers supplying more than half of Perth's scheme water supply. We are working to gain a better understanding of the factors contributing to the decline in groundwater levels, its impacts on the environment and potential solutions.

During the current drought, Perth has been able to avoid harsher restrictions due to the Gngangara and Jandakot Mounds. However, these important aquifers also support most of Perth's fresh vegetable production, many commercial and industrial enterprises, and pine plantations. The interconnected nature of the impact of these activities is reflected in Figure 3.

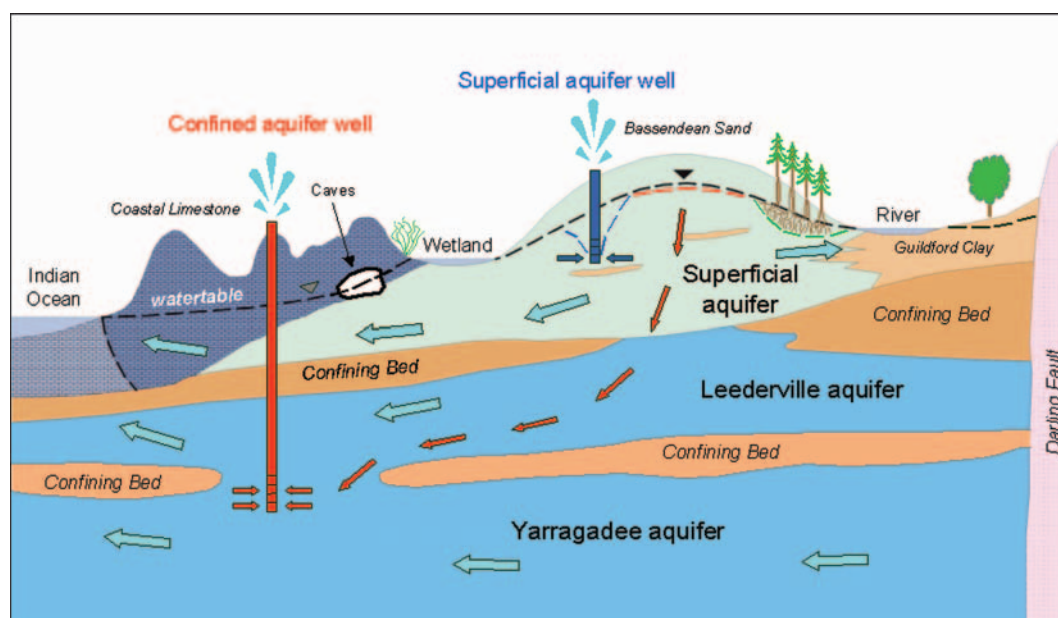


Figure 3: Gngangara Mound — Schematic hydrogeological cross-section

Balancing the amount of water allocated from the mounds for public and private abstraction of water has become increasingly difficult in recent years, with demand for water continuing to increase dramatically in the face of the ongoing drought. Population growth and development have also placed tremendous pressure on groundwater resources now strained to the limit by a continuing trend of low rainfall. A further consequence is that the ecology of many groundwater-dependent environments is under pressure and in some areas terrestrial vegetation is also stressed.

Several *Environmental Protection Act* Ministerial conditions relating to minimum water levels at wetlands or in areas of native vegetation were breached in 2003–04. Further explanation of these breaches can be found in the 2003–04 Water and Rivers Commission Annual Report.

The centrepiece of our current initiatives is the Gngangara Alliance Project (GAP), a partnership with CSIRO and the Water Corporation under the auspices of CSIRO's flagship program,

Water for a Healthy Country. GAP aims to fulfil the urban water supply component of *Water for a Healthy Country* by providing water resource management science for the supply, delivery, use and reuse of water for Perth's needs that is sourced from the groundwater resources of the Gnangara Mound.

We recognise the seriousness of the situation but we cannot fix the problem by ourselves. To provide a whole-of-government response to the issues affecting the Gnangara Mound, an inter-agency committee was formed in early 2003. The Gnangara Coordinating Committee is recognised by the State Water Taskforce as having responsibility for implementing the necessary measures to achieve sustainable management of the mound.

In May 2004, as the first step in implementing change and fulfilling the objectives of the State Water Strategy, the State Government approved \$6m of funding over three years to install and read flow meters on private irrigators in the Wanneroo Groundwater Area. This represents the majority of the irrigated horticultural activity on the Gnangara Mound and is necessary to achieve greater water use efficiency measures, as proposed in the State Water Strategy.

3.5.3 Water resource planning in the Blackwood Groundwater Area — South West Yarragadee

After several years of less than average rainfall that have reduced inflows into Perth's dams, the water resources of the Integrated Water Supply Scheme (IWSS) are under pressure to satisfy current needs and to ensure that there is sufficient water available for Perth's future. Two options being considered by the state government to provide this water are a 45 GL/yr desalination plant and the abstraction of 45 GL/yr from the South West Yarragadee (SWY) aquifer in the southern Perth Basin, within the Blackwood and Busselton-Capel Groundwater Areas. A licence application from the Water Corporation (WC) to abstract water from the SWY aquifer was received in late 2003.

Considerable investigative work has already been done in the south west over the last 18 months to identify the social, cultural, environmental and economic values associated with the aquifer. These studies and investigations, together with an extensive drilling program and numerical modelling, have taken the SWY project closer to a decision on the 45 GL/yr application by the WC.

Findings from the investigations to date show that a significant volume of high quality groundwater is held in storage within the deep Yarragadee aquifer and show promise that the system is capable of providing for projected regional needs and the 45 GL/yr sought by the WC for the IWSS. However, it is still too early to tell whether the groundwater can be made available on a sustainable basis. The investigations carried out in 2003 and early 2004 have not provided sufficient information to remove the uncertainties relating to potential environmental impacts from the WC proposal. These uncertainties must be evaluated and adequately addressed if the SWY can be considered as a potential future public water supply option.

The information gained by the various investigations is being enhanced by the continuing environmental and modelling work currently being carried out by the WC. This is required to help improve the understanding of the potential impacts of pumping by all water users in

the area on the identified environmental, social and economic values. It is also important that reasonable regional needs are not compromised by the WC licence application to transfer 45 GL/yr out of the region. This has been identified as a requirement in the State Water Strategy.

We have deferred a determination on the licensing application because of insufficient information available to complete the assessments and ensure that the most viable and appropriate decision is made on social, environmental and economic grounds for the people of Western Australia. We will use the current information and new information provided by the WC over the next year or so to develop Environmental Water Provisions and Sustainable Yields for the SW Yarragadee aquifer. These will be used to make our decision on the WC licence application. The WC intends to provide additional information in 2005 for our consideration.

The Sub-regional Water Management Plan is expected to be completed around mid-2006, pending further information from the WC. The Management Plan is being prepared in accordance with the *Rights in Water and Irrigation Act 1914* and it will be implemented as a statutory plan. This plan will establish the basis upon which sustainable allocation decisions will be made, including the needs of the environment. We expect to refer the Plan to the Environmental Protection Authority for assessment and advice prior to its implementation.

In the interim period, we are drafting a Groundwater Management Strategy for the Blackwood Groundwater Area, primarily to allow the assessment of licence applications on the Scott Coastal Plain. Protocols are being developed to ensure that any licence approvals prior to the completion of the additional work being undertaken by the WC will not cause any unacceptable impacts to the identified groundwater-dependent ecosystems or existing users in the area. The Strategy will be superseded by the statutory Management Plan in 2006.

The Whicher Water Resources Management Committee, the community and other major stakeholders in the area have been kept informed about every aspect of the South West Yarragadee project process from its beginning and is also very keen to ensure prudent and correct decisions are made. Further information on this project can be obtained from <www.wrc.wa.gov.au/whicher>.

3.5.4 Natural Resource Management

The Natural Heritage Trust (NHT) and the National Action Plan on Salinity and Water Quality (NAP) were endorsed and signed by the State and Australian Government in December 2002 and September 2003 respectively through two agreements known as the Bilateral Agreements. The NAP agreement had identified \$31.4m from the State and Australian Governments, however, under the NAP agreement WA had the opportunity to identify additional funds to a maximum of \$158m in the 2004–05 State budgets. The State budget in May identified additional funding to match the \$158m which was announced by the Minister on 6 April 2004.

A key outcome of the Bilateral Agreements for NHT and NAP is the development of Regional Natural Resource Management Strategies. The Regional NRM Groups have received funding to support the development of these strategies. The Regional NRM Strategies are community driven documents developed in partnership with the State, with extensive consultation with stakeholders and the community. The strategies identify regional priorities for strategic

investment of public funds. The documents are reflective of adaptive management and are evolving in nature. There are six regional groups in WA:

- South Coast Regional Initiative Planning Team
- South West Catchments Council
- Avon Catchment Council
- Swan Catchment Council
- Northern Agricultural Catchments Council
- Rangelands NRM Coordinating Group

Once the strategies are finalised during 2004–05 they will receive additional funding for implementing projects associated with the strategies. The finalisation process will involve a detailed review by the State and Commonwealth against a series of criteria that were established in the Bilateral Agreements. This process is known as Accreditation.

During 2003–04, four of the regional strategies have been released for public comment; those of the Avon Catchment Council, Swan Catchment Council, South West Catchments Council and South Coast Regional Initiative Planning Team. The Northern Agricultural Catchments Council's draft strategy is due for public comment in early 2004–05 and the Rangelands NRM Coordinating Group's draft strategy is due for release in mid 2005.

Accreditation of the Regional NRM Strategies will result in the flow of \$318m for NAP and \$60m for NHT NRM in WA over the next five years.

3.5.5 Protection of public and private water sources

We aim to protect the quality of the State's water resources to support a range of ecosystems and provide water supplies for a range of uses including drinking water, agricultural and industrial supplies, and landscape irrigation. The task of protecting water quality is met by a range of initiatives:

- Catchment or source protection plans are prepared in accordance with the Australian Drinking Water Guidelines framework for implementation to protect the raw source water, and are used to guide the decisions of planning agencies. These plans are implemented via land use planning decisions and regulatory conditions.
- Environmental guidance documents such as Environmental Guidelines or Codes of Practice prepared with the support of industry and other government agencies and Water Quality Protection Notes, available on our website <www.environment.wa.gov.au>.
- Regulatory controls over land use and access to drinking water catchments via the by-laws of the *Metropolitan Water Supply, Sewerage and Drainage Act 1909* and the *Country Areas Water Supply Act 1947*.
- Purchase of strategic catchment land adjoining public water supply reservoirs and production bores to provide safety buffers from the effects of adjacent land uses.
- Advice aimed at limiting the risk of water contamination for subdivisions and land use development proposals.

During the year, the Water Source Protection Branch has delivered a range of significant documents and initiatives which include:

- Source Protection Plans and Land Use and Water Management Strategies for the townsites of Kununurra and Fitzroy Crossing
- Environmental Guidelines /Codes of Practice: Poultry farms code
- Water Quality Protection Notes for dairy processing plants, iron staining caused by irrigation systems, overview of PDWSA protection, orchards, rural land use and water quality, soil amendment, wineries and distilleries
- Brochures, directories and maps
- Environmental Management and Cleaner Production Directory for small and medium businesses
- Protecting our Drinking Water — Recreation in the Perth Hills and South West.

A considerable amount of work remains to be done. The 95 or so public drinking water sources across the state that do not have source protection plans rely solely on end-of-line treatment. Any failure of these treatment plants could see poor quality or contaminated water delivered to consumers.

3.5.6 Policy on accessing the Leederville and Yarragadee aquifers in Perth

The sustainable development of the state requires the availability of easily accessible water resources and these must be used carefully to preserve the development options of future generations. As the centre of population and industry in WA, Perth is located on sediments which contain large volumes of fresh groundwater. Two of the major aquifers in Perth are the Leederville and the deeper Yarragadee aquifers which, with some minor exceptions, are found throughout the Perth region.

The impacts of pumping from the Leederville and Yarragadee aquifers are noticeable a large distance from the pumping bore. We believe it is inappropriate to develop very localised management policies for the aquifers without taking into account their regional nature.

Recently, the demand from public utilities and private industries to access the groundwater resources of these aquifers has increased as the use of other sources of groundwater, such as the superficial aquifer, is reaching sustainable limits. Current data, however, suggest that both the Leederville and the Yarragadee aquifers are stressed, as potentiometric heads have been falling over a number of years in response to pumping and climatic conditions.

We have recently drafted a policy for managing the groundwater resources of the Leederville and Yarragadee aquifers. A central aim of the policy is to limit any additional fresh groundwater draw from the aquifers which are considered to be almost fully allocated. This aims to reduce potential long-term impacts to the environment due to falling water levels. Additional brackish and saline groundwater may be drawn from the two confined aquifers if the draw does not impact the environment, other users or the fresher groundwater resources of the aquifers.

This policy has been given a high priority. It will enable the agency to use its statutory powers in a consistent and uniform manner, and will guide our response to statutory and non-statutory referrals we receive in relation to accessing the groundwater resources of the Leederville or Yarragadee aquifers in Perth.

In conjunction with the Water Corporation, we are developing an extensive computer model that will simulate the response of the two aquifers to pumping, thus helping to develop more informed allocation policies in the future. This work is continuing and is scheduled to be completed by 2005.

3.5.7 Development of statewide policies

3.5.7.1 Statewide Policy No 9 — Water Licensing

The Water and Rivers Commission grants licences or water entitlements to individuals or companies under the *Rights In Water and Irrigation Act 1914*, giving them access to use our water resources. While the majority of licensees are able to use all or most of their water entitlements within two years of obtaining a water licence, there is a small number of industries, growers, developers and service providers that need to plan for new projects or for expansion to existing projects five to 10 years in advance to ensure their success.

During the year, after extensive consultation with the community and other key stakeholders, we developed a policy to address these exceptional situations where secure water allocations are needed by water licence applicants who require a reasonable time to achieve full operating capacity of their development and use their entire water entitlement. The policy ‘Water Licensing — Staged Developments’ was endorsed by the Board of the Commission in November 2003 and is available from our website <www.environment.wa.gov.au>.

Some licensees, such as golf courses and large irrigation and industrial projects, may only require small quantities of water initially but need the security of accessing an approved water resource to meet planned increases in their water requirements during later stages of their development. Others may require smaller volumes of water at regular intervals, or may simply need sufficient time to obtain the funds or secure a market to expand to a cost-effective level. Examples include farmers, vegetable growers, and land developers. The majority of these businesses create significant benefits for the State and local community, including employment, increased land values, and new or improved roads and services.

The policy requires applicants who wish to take water in stages to work with us to prepare an acceptable schedule for water use, stating how rapidly the licensee can complete the development. The schedule defines the dates for each stage of development and water use associated with that stage. Based on this schedule, we will limit the water entitlements granted for each stage of development to the volume of water that can reasonably be used. At the end of each stage of development, the licensee is required to satisfactorily demonstrate that the scheduled level of water use has been complied with, before being granted additional entitlements. This process will continue until the licensee is actively using the full licensed water entitlement, or until the licence expires.

In fairness to existing and potential licensees, the policy sets reasonable and practical limits on the length of time that licensees are permitted to retain unused portions of their licensed water allocations to meet the water requirements of future development stages. Generally, we will licence large staged developments for up to 5 years. However, we may consider licensing stage developments for small water entitlements for up to 10 years.

This policy also prevents licensees from trading unused water entitlements in normal situations. This approach is intended to prevent licensees from retaining unused entitlements for long periods purely for speculative reasons.

3.5.7.2 Statewide Policy No 10 — Use of Operating Strategies in the Water Licensing Process

We grant licences under *the Rights In Water and Irrigation Act 1914*, giving individuals access to water resources. The impacts of taking the water are generally addressed by including appropriate terms and conditions in each licence granted.

A new policy requiring applicants for water licences and licensees taking large volumes of water or where the impacts of taking the water are significant, to draft and implement operating strategies at their own cost, was released for public comment in February 2003 and was discussed with key stakeholders. Respondents were supportive of the approach taken and comments provided were included when the policy was finalised and endorsed by the Board of the Commission in May 2004.

Operating strategies detail the licensee's responsibilities for managing the impacts of taking and using the water and specify:

- The water source(s) to be used;
- The licensee's land use, water abstraction regime, and the methods and infrastructure used to abstract, treat or distribute water;
- Monitoring and reporting requirements;
- Methods used to manage impacts on the environment and other water users;
- Contingency plans, describing how the licensee will alter their operations to cope with any directions to temporarily reduce water consumption; and
- Water efficiency measures employed.

Licences will include a condition requiring licensees to comply with our approved operating strategies. We will assist licensees to identify the issues that need to be addressed in developing an operating strategy. Operating strategies may also need to be amended from time to time to address changes to our understanding of the water resources status and the issues associated with their management. Any amendments will be carried out in consultation with the licensees. Licensees can also request changes to their operating strategies to address new operating procedures or changes to their water usage.

3.5.7.3 Statewide Policy No 11 — Management of Unused Licensed Water Entitlements

We believe the effective management of licensed water entitlements is essential to achieve the best use of our water resources, especially in areas where those entitlements have reached or are approaching the sustainable limit of that resource.

In 2003 we developed a policy to provide a consistent approach to managing unused licensed water entitlements. The policy, created in consultation with the community, establishes a set of principles that will guide us when making decisions on licensed water entitlements that

have consistently not been fully used and under what conditions these entitlements may be recouped for possible redistribution.

This new policy is important because when licensees consistently do not use part or all of their water entitlement, there is potential for new developments to be refused access to the water resources due to a lack of sufficient water being available, even though not all of the water already allocated is being used. We view these situations as missed opportunities and an unacceptable loss to the development of the State.

We will manage these unused water entitlements in keeping with the growth and demand for accessing water resources. We will adopt a staged management approach depending on the level of use in an area and assign resources where they will be of most benefit. In areas where most or all of the available water has been allocated, we will actively seek and manage the unused water entitlements. In other areas where the demand for water is minimal, our activity will be correspondingly less.

The policy only applies to licensees who have been granted a licence from the Commission and not to licensees who have purchased their water entitlements. Licensees may retain unused water entitlements where it is clearly established, to our satisfaction, that genuine extenuating circumstances have resulted in part or all of the licensed water entitlements not being used.

The introduction of transferable (tradeable) water entitlements and the establishment of a water market require the sound management of water entitlements. Speculation and monopolies of water entitlements are unacceptable to the community and must be prevented by minimising the retention of unused water entitlements.

3.5.7.4 Statewide Policy No 12 — Management of complaints and disputes on watercourses in Western Australia

Properties that have a river or stream running through them are highly sought after for their aesthetic, environmental, recreational and commercial values. Any loss of amenities provided by the watercourse generates considerable anguish to property owners who take steps to protect the features of the watercourse and maintain the commercial activities that depend on accessing sufficient water from the watercourse.

During 2003–04 we developed a policy describing the process for managing stream disputes and the conditions under which the agency will be involved in such disputes. It details the responsibility, actions and information to be provided by landowners accessing the watercourse, if a dispute arises.

The policy on managing complaints and disputes on watercourses was endorsed by the Board of the Commission in May 2004 and places a greater onus on the persons making the complaint to attempt a resolution of the dispute while reducing the agency's involvement in disputes of a minor nature that should easily be resolved between individual parties.

Disputes typically occur during a drought or during periods of low stream flow, particularly when neighbours are accessing the same watercourse and where one landowner gives little consideration to the downstream impacts on the environment and other users when taking water from a stream.

In the future, the number of disputes is expected to increase as more and more people establish properties next to watercourses, increasing the demand for accessing the stream flow. New landowners, who are unfamiliar with the past history of stream flow, may form unrealistic expectations about continued flow and reliance on the watercourse for their water supply. These unrealistic expectations form the basis of many disputes.

It is important for such stream disputes to be addressed in an efficient and effective manner reducing the potential of the dispute escalating and damaging social and commercial activities. We provide advice to landowners on how best to manage stream flow and encourage property owners to take an active role in managing and protecting this precious water resource.

3.5.8 State Water Strategy

The State Water Strategy (SWS) was released in February 2003 in response to public concern over water supplies after two very dry winters and forecasts of a drier climate in the south west.

The SWS identifies 84 government tasks. The Water and Rivers Commission has full responsibility for 29 tasks and is a key supporting agency for a further 26 tasks, giving us a frontline role in the implementation of the Strategy.

The main elements of the draft State Water Conservation Strategy (SWCS), prepared by the Commission with input from the Office of Water Regulation (now the Office of Water Policy) and the Water Corporation, were incorporated into the SWS. Some 119 of our 2003–04 projects were directly linked or were associated with the tasks and implementation of the SWS. Total funding for those projects was around \$11.04m. Of this total around \$4.6m was dedicated to the Rural Water Plan, \$908 000 was for South West Yarragadee investigations, \$495 000 for Gngangara Mound management and \$439 000 for water quality management.

There are many other projects and funding supporting the implementation of SWS tasks where we are not the lead agency but are a key supporting agency. Numerous initiatives that have been identified in the SWS have either been completed or are being implemented. Progress with some of the more notable tasks is as follows:

‘Recognition of the primacy of water quality in the management of drinking water catchments, to protect the long term sustainability of the resource, will be used to guide catchment management decisions.’ Five Department of Environment projects (\$439 453) were identified as supporting this task. Resources are in place for water quality investigations, specialist advice and production of guidelines and policies. The Advisory Committee for Purity of Water is providing a report on progress with this task, however, the acceptance of the primacy of water quality has been difficult to obtain within Government agencies and the community.

‘Develop and implement a sustainable management framework for land and water use of the Gngangara Mound.’ Significant progress has been made on the sustainable management of the Gngangara Mound. Some \$300 000 of National Landcare Program funding has been secured that will supplement the Government’s \$6m initiative over three years to meter private water usage in priority areas of the Mound. Results from this project will assist to better manage the groundwater resources in the Gngangara Mound and help to establish a state-wide position on metering water usage.

‘A water conservation plan will be required before a water allocation licence is issued or renewed. The plan will outline water efficiency objectives and timeframes. Licence conditions will require implementation of the plan to an agreed schedule.’ We are working with key industry groups to develop a structure for water conservation plans that will be linked to water licences.

‘Utilise the integrated resource planning process to ensure that all water source development includes consideration of, and appropriate investment in, conservation measures.’ This was a key initiative in the draft SWCS and is meant to be applied by all water service providers in the state. The Water Corporation is using the process in their water source development planning with our input and involvement.

3.5.9 National Water Initiative

During the year we assisted the Department of the Premier and Cabinet in national working groups to draft a detailed inter-governmental agreement to implement the National Water Initiative, a major program endorsed by the Council of Australian Governments (COAG) in August 2003.

The key objectives of the National Water Initiative are to improve the security of water access entitlements, ensure ecosystem health, encourage the expansion of water trading, establish robust water accounting arrangements and pricing based on full cost recovery principles and encourage water conservation.

However, at the COAG meeting of 25 June 2004, agreement could not be reached and the Premier of Western Australia refused to sign the final National Water Initiative Agreement. The NWI Agreement did not provide sufficient benefits to warrant Western Australia changing its own priorities for the reform of water resource management and water service delivery.

Most states and territories did sign the NWI Agreement which resulted in the allocation of \$200 million in Commonwealth funds to assist in balancing water use and environmental flow in the Murray — Darling Basin.

3.5.10 Land use planning

Over the 2003–04 financial year, we have undertaken several significant projects in partnership with the Western Australian Planning Commission to ensure improved water resources management and natural resource management outcomes through the planning process. Two significant achievements are detailed below.

3.5.10.1 Water Resources Statement of Planning Policy (WRSP)

The Western Australian Planning Commission (WAPC) at its meeting of 22 June 2004 endorsed the ‘Draft Statement of Planning Policy (SPP) – Water Resources’ for public comment.

This policy has been drafted in close consultation with the Land Use Planning Section, which has coordinated advice and input across our divisions. Broadly, the objectives of the policy include:

- to protect, conserve and enhance water resources identified as having significant economic, social, cultural and/or environmental values;
- to assist in ensuring the availability of suitable water resources to maintain essential requirements for human and all other biological life with particular regard to maintaining or improving the quality and quantity of water resources; and
- to promote and assist in the management and sustainable use of water resources.

The Draft SPP — Water Resources includes a range of general and specific provisions by which these objectives are to be met, through local and regional planning strategies, structure plans, schemes, subdivisions and other planning decisions and instruments. The policy provides guidance in the protection and management of surface and groundwater catchments, including consideration of availability of water and waterways management; wetlands, waterways, and estuaries and their buffers; and implementation of total water cycle management principles in the land use planning system. A comprehensive ‘implementation schedule’ and a schedule for ‘Guidelines for the Determination of Appropriate Buffers of Waterways and Estuaries’, based on an assessment of environmental and social criteria and attributes is also included.

3.5.10.2 Administrative Agreement Signed Between DPI and DoE

With the Department for Planning and Infrastructure (DPI — Planning Reform team), we have signed an Administrative Agreement with regard to providing advice on the impact of subdivision, amalgamation and survey strata proposals on natural resources and the environment. The Agreement, which becomes effective on 1 July 2004, is the result of over 12 months of internal negotiations with the DPI to agree on a set of criteria which outlines proposals which may require our advice.

Previously, regions have dealt with a high volume of low impact referrals. This agreement will result in DPI only referring those proposals which are likely to require environmental advice. This should reduce the total number of referrals received from DPI to enable greater focus on strategic land use planning matters.

3.6 Resource Science Division

3.6.1 Overview

The Resource Science Division plans and implements projects to increase the understanding of environmental and water resources systems. Management of technical information is central to the Division’s ability to support a broad spectrum of natural systems research, as well as its ability to evaluate changes to those systems resulting from development pressures. The Division applies knowledge of the State’s environment and water resources to improve strategies, policies and planning initiatives that enhance the management and protection of environmental, social and economic values.

Much of the work of the Division supports the activities and outcomes of other Divisions, as well as the Swan River Trust, and is therefore reported elsewhere. Examples of this are the support provided to the:

- Swan River Trust with sampling, modeling, and assessment of water quality issues, including drain assessments, algal blooms and fish kills;
- Resource Management Division in the assessment and management of the State's aquifers such as the Leederville and Yarragadee aquifers, and the Gnangara and Jandakot water mounds;
- Regional offices for assessment and management of rivers, wetlands and estuaries;
- Regional offices, Environmental Management Division and EPA Services Unit in the assessment of proposals and environmental management and investigations of emissions to air and related air quality impacts;
- Resource Management Division in the provision of surface and groundwater assessments for planning and water licensing purposes, including hydrogeological investigations of the South West Yarragadee; and
- Entire agency in management of extensive water quantity and quality databases.

3.6.2 Water Information Provision

The Resource Information Branch has updated the Perth Groundwater Atlas, due for release in 2004–05. The Atlas will provide industry and the community with information on Perth's shallow groundwater resources and, where reliable water table information is available, includes water table contours covering the same area as the current StreetSmart directory.

We receive water data in many formats from many sources. These are required as a condition of Water Resource Licences to improve and expand the state's knowledge of its water resources.

To improve data collection efficiency, the Resource Information Branch has liaised with consultants to develop electronic data submission templates. This initiative was the result of discussions with members of the Mining and Water Liaison Committee, which was established to address the backlog of hard copy reports being entered into our databases. Provision of reports and data electronically is currently voluntary, however this may become a license condition as licences are renewed.

3.6.3 Air quality management

The Air Quality Management Branch is responsible for the development of air quality policy and studies, ambient air monitoring and provision of scientific advice to the EPA, government, industry and the community. During the year, the Branch has been involved in a range of major projects and initiatives.

In 2003–04, work continued on the implementation of many of the actions contained in the Perth Air Quality Management Plan (AQMP). This is a 30-year plan aimed at improving Perth's air quality for future generations. Actions in the Perth AQMP cover the areas of health effects research, monitoring and modelling research, community education and emissions from vehicles, domestic activities, burning and industrial sources.

During the year, we began a pilot vehicle emissions testing program to assess the effectiveness of replacing vehicle pollution control equipment. Motor vehicle emissions are a significant

contributor to air quality and the trial is initially focusing on petrol vehicles. If this trial proves successful, and subject to Federal funding being made available via the implementation of the National Environment (Diesel Vehicle Emissions) Measure, the pilot project will be expanded to include diesel vehicles.

New funding has been allocated in 2004 for air quality projects across the state. The new funding has enabled the enhancement of the 'Winter Haze Campaign'. Winter haze is largely caused by smoke emissions from home heating using wood. Funds have been allocated to a pilot wood heater replacement program running in three local government areas in 2004. Owners of wood heaters are being encouraged to replace these with cleaner heating options. If successful, the program is likely to be expanded.

New funding is also supporting air quality investigations in regional area such as the Pilbara and South West. This focuses on addressing air quality issues associated with industrial development in these areas. New technology and specialised air monitoring equipment has been brought in to enhance the department's response to pollution and emergency events that impact on air quality. Health studies are also underway to understand the links between air quality and community health.

3.6.4 National Pollutant Inventory

The National Pollutant Inventory (NPI) Internet site <www.npi.gov.au> displays estimates of pollutant emissions from industrial facilities and area-wide sources (airsheds and water catchments). The National Environment Protection Council established the NPI program in 1998 as the first National Environment Protection Measure (NEPM).

The main objectives of the NPI are to provide information on emissions to industry and governments to assist in environmental planning and management, to provide accessible information to the community on pollutant emissions to the environment, and to promote waste minimisation, cleaner production, and efficient energy and resource use. On-screen maps and pie-charts also help to compare the relative environmental contributions of industry emissions with those from everyday activities.

NPI facility data for the fifth NPI reporting year (2002–03) was published on the NPI website in January 2004. In Western Australia, more than 520 facilities reported emission estimates from 76 industry sectors including petroleum, alumina and nickel refineries, power stations, gold and other mining operations, manufacturers, fuel depots, large wineries, breweries and large bakeries.

The DEP NPI Unit provided a continuous service to WA industrial facilities to advise and assist them in their duties under the NPI. A series of Perth and regional workshops was held to assist companies with NPI reporting. On-site audit assessments of six reporting facilities were conducted.

Pollutants from domestic, smaller industry and mobile sources — especially motor vehicles and domestic wood heaters in some areas - contribute a significant proportion of the pollutants released to the environment. The Department estimates some of these 'aggregate emissions' on an area-wide basis in major regions. During 2003–04, a study of NPI emission estimates for the Bunbury regional airshed was published. Also, a study of NPI emission estimates in

the Vasse-Wonnerup catchment continued, with a focus on average annual loadings of nitrogen and phosphorus nutrients.

The NPI Unit coordinated improvements to cyanide emissions calculations in the gold ore processing industry based on work by the A.J.Parker Cooperative Research Centre for Hydrometallurgy. A project commenced to improve estimates of fugitive dust emissions from mining and related activities. NPI information on PM10 was used to determine focus suburbs in the 2004 Pilot Wood Heater Replacement Program.

3.6.5 A statewide strategy for managing algal blooms

During 2003–04, we worked on the development of an implementation plan for a comprehensive strategy to prevent or manage algal blooms in Western Australian waterways and wetlands. Algal blooms have become a common occurrence, particularly in areas of dense population and/or intense land use, and represent the most serious water quality problem in the southern part of the state.

Of approximately 110 Western Australian water bodies that have had reported algal blooms, 14 rivers and estuaries are presently considered to have a high potential for harmful algal blooms, including the Serpentine River, Murray River, Collie River, Swan-Estuary, Vasse-Wonnerup Estuary, Vasse River Lake Powell/Torbay Inlet, Avon River, Blackwood River, Harvey River, Kalgan River, Sleeman River, Moore River/Estuary and the Canning River/Estuary.

The implementation strategy will bring together a range of actions we have developed in response to phytoplankton blooms and nuisance macroalgae throughout the state. These have subsequently been independently reviewed and compared against best practice elsewhere in Australia and overseas. The implementation plan will also take into account regional delivery actions through regional strategies developed under the National Action Plan on Salinity and Water Quality (NAP) and the Natural Heritage Trust (NHT).

The implementation strategy consists of seven key actions:

- Algal Watch — maintaining active surveillance of ‘at risk’ water bodies and reporting to the community.
- Algal Science — developing an understanding of algal bloom causes and triggers.
- Source to Sea — reducing nutrient inputs from all catchment sources.
- River Clean-up Plans — developing and implementing a range of remedial options for managing algal blooms in key areas.
- Restoring Ecosystems — restoring natural processes in river systems to increase their capacity to assimilate nutrients, such as restoring native vegetation and water flows.
- Community Partnerships — facilitating community understanding of algal blooms and involving the community in addressing the causes.
- Reforming Management Arrangements — investigating and implementing solutions to key barriers to effective management of rivers and nutrients, for example, drainage, stormwater, and statutory town planning.

The Aquatic Science Branch coordinates algal response activities within the agency and maintains the nationally recognised Phytoplankton and Ecology Unit laboratory which identifies algae from throughout the state and provides environmental and health warnings. Environmental engineers, aquatic ecologists and chemists within the branch provide a wide range of advice to regional staff in developing remedial actions and responding to blooms.

Due to the apparent increase in potentially toxic algae in the state, we will be instituting new programs to assess algal toxins and the triggers to these new types of phytoplankton. We will also be providing guidance to regional strategies in the development of appropriate catchment management actions.

3.6.6 Indian Ocean Climate Initiative

The Indian Ocean Climate Initiative (IOCI) is a partnership of the State, CSIRO and Bureau of Meteorology, formed by the Western Australian Government to support informed decision-making, on climate variability and change in Western Australia. Water is recognised as one of the key sectors impacted by climate change with a primary impact on both water supply and water dependent environments.

State agency IOCI partners are:

- Department of the Premier and Cabinet
- Department of Environment
- Water Corporation
- Department of Agriculture
- Department for Planning and Infrastructure
- Department of Conservation and Land Management
- Forest Products Commission
- Fire and Emergency Services Authority
- Office of Water Regulation (now the Office of Water Policy)
- Department of Fisheries

The IOCI Panel that oversees program activities consists of contributing state agency partners, research partners, information partners and observers. We coordinate the panel, which has an independent chair who assists with that coordination and with reporting to Government through the Minister for the Environment. The IOCI Panel conducted four official meeting during the past year.

Milestones for 2003–04 include the endorsement and initiation of activities under the Stage 2 Research Agreement and procurement of funding commitments for the first three years of the Initiative, including major contributions from the State Water Strategy and the Office of Science and Innovation. Program resources include \$0.5m per year for specific research initiatives, and equivalent in-kind contributions from research partners. State agencies assist program objectives with additional resources from climate related programs.

The IOCI research and interpretive program is strategically structured and planned in respect to our regional climate regimes and to impacts across climate affected sectors generally. The program aims to support ‘informed adaptation’ through addressing three key climate questions for our region (most particularly the vulnerable South West Region):

- How is climate changing, what is causing climate to change, and what is the current climate baseline?
- How will future climate be affected by the greenhouse signature?
- What are the opportunities for climate prediction, and how can we develop and use these predictions?

An Interpretation and Communication program area was explicitly added to the Stage 2 program to better achieve interpretation and dissemination of research information to meet sectoral needs and community understanding of climate and climate adaptation issues. Communication activities included establishment of a communications sub-committee, development of the IOCI website <www.ioci.org.au> and production of IOCI Bulletins on specific climate topics and on highlights emanating from each IOCI meeting. Information is also made available through research reports, partner networks and links that can be referenced from the IOCI website.

The Initiative has worked closely with industry and agency climate groups by providing climate briefings and running workshops to inform stakeholders and fine-tune climate research direction and outputs.

Importantly, the Initiative has considered, promoted and interpreted to local circumstances the findings of global climate change from groups such as the Inter-governmental Panel on Climate Change and referenced both IOCI and other relevant climate research on a regional Western Australian scale with input to State Strategies for Greenhouse, Water and Sustainability. These efforts have proven instrumental in strengthening links with climate groups, including the Australian Greenhouse Office and the Murray Darling Basin Climate Group, to mutual benefit.

3.6.7 Salinity management program

The main focus of our salinity management program is one of the goals of the State Salinity Strategy (2000):

To protect and restore the key water resources to ensure salinity levels are kept to a level that permits safe, potable water supplies in perpetuity.

Delivery is through highly focused strategic programs, such as the Water Resource Recovery Catchment (WRRC) program as well as more general support and advice for regional NRM groups and for drilling, arterial and small catchment drainage, and input to state-wide clearing regulation and water salinity monitoring.

3.6.7.1 Salinity situation statements for the Water Resource Recovery Catchments

An important component of our salinity management program is to assess the salinity situations of the targeted rivers (Collie, Denmark, Kent, Warren and Helena) and present feasible management options to recover the stream salinity to drinking water quality levels. This work is carried out in close cooperation with the Regional Operations Division.

Collie River

Increasing pressure to fully use the water resources of the Collie River Basin has emphasised the importance of restoring to potable the water in the Wellington Reservoir. The situation statement indicated that inflow salinity into the Wellington Reservoir has stabilised and, with current and predicted plantations, is predicted to go down to 760 mg/L TDS.

After extensive consultations and a community workshop, one option under close scrutiny is a short-term option to divert half the flow of the Collie River East into old coal mining open cut pits. The long-term options include developing more suitable farming systems. Work has started on a Salinity Recovery Plan that will see the implementation of selected management options. The Plan will be released during 2004–05. Funding (\$15m) for the project was announced as part of the State Government's funding for the National Action Plan for Salinity and Water Quality.

Denmark River

The salinity situation statement was released in March 2004. The situation statement showed that annual salinity at the Mt Lindesay gauging station peaked at 1520 mg/L TDS in 1987, has, on average, been declining since, and in an average year is now about 700 mg/L at Mt Lindesay.

Plantations established since 1988 are expected to further reduce the salinity of the river water but not enough to reach the drinking water target. There are feasible options — mostly in the upper catchment — to meet the 500 mg/L TDS target, including tree planting, pasture establishment, revegetation and engineering works. Much more community consultation and evaluation are needed before any options are finalised.

Kent River

More than 90% of the landholders in the Kent River catchment have participated in the recovery program with property plans and works implemented with funds we have provided (see Table 7). The situation statement is in preparation and will be released in October/November 2004.

Table 7: Cost-shared salinity management works by landholders (1998–2003)

	Collie	Warren	Kent/Denmark
Fencing (km)	46	216	274
Revegetation (ha)	104	394	905
Sawlogs (ha)	-	227	361
Perennial pasture (ha)	284	885	661
Drainage/surface water management (km)	16	23	142
Summer forage (ha)	-	-	90
Stock crossings	-	-	26
Number of landholders involved	15	53	65
Number of agreements signed	40	117	92

Warren River

The salinity situation statement is near final draft stage and is due to be released around October 2004. The Tone and Perup subcatchments are the priority management areas as together they produce about two thirds of the total salt load of the Warren River.

Helena River

This river water is still classified as fresh. The situation statement is in preparation and will be released in early 2005.

In addition to the Water Resource Recovery work, our salinity program coordinates projects recommended by the Salinity Taskforce such as the Engineering Evaluation Initiative and the Salinity Investment Framework.

3.6.7.2 Engineering Evaluation Initiative

Engineering works such as deep drainage and groundwater pumping are increasingly being seen by many farmers and catchment groups as viable options to manage salinity, but the use of these is limited by not knowing where the options work best and how to dispose of saline water to avoid harmful downstream impacts. The state government committed \$4m over four years to the Engineering Evaluation Initiative to deliver better engineering approaches to manage salinity.

The EEI consists of three main programs: evaluation of specific engineering options; safe disposal; and regional drainage planning. Work on the nine on-ground projects has begun. The project sites, spread from Morawa in the North to Blackboy Creek 100 kilometres east of Esperance, will evaluate drainage, groundwater pumping, evaporation basins, raised seedbeds, potential downstream impacts and soil chemistry. Drilling has started at some sites to monitor for data before any works are constructed and the Pithara project site is currently being constructed.

Work on the regional drainage planning program has commenced. An interesting initial outcome of this work for the Avon area is that 3500 km² of very flat and poorly drained area in the Avon catchment should probably be considered as part of the Fitzgerald River catchment. The area now thought not to be part of the Avon River catchment includes Lakes Magenta and Lockhart, and the townsite of Newdegate. Further work is now underway to confirm these initial findings.

Salinity Engineering — Better ways to manage salinity, a regular newsletter on progress within this project, is widely distributed by mail, email and on our website <www.environment.wa.gov.au>.

3.6.7.3 Salinity Investment Framework

Many of the State's assets are threatened by rising land and water salinity. The Salinity Investment Framework is a state government initiative to guide public investment of funds into projects with the greatest likelihood of protecting assets of recognized high public value. The report on Phase 1 of the Framework released in October 2003 outlined the State's high-value biodiversity, water, productive land and rural infrastructure assets at risk from salinity.

Phase II of the project identifies our ability to recover high-value assets, contain the rise of salinity or adapt assets to the effects of salinity. A simple desktop appraisal of the technical feasibility — in terms of engineering or vegetative intervention options — has been done and intervention options costed and prioritised according to potential success. Calculations using this method have shown that containing damage to the State's 32 most valuable biodiversity assets alone will cost in the order of \$1 billion over a notional 20 years.

3.6.8 Rural Water Planning

The Rural Water Planning Program continues to make steady progress towards the goal of regional water supply planning in dryland areas of the state to significantly reduce the incidence of serious water deficiency and to improve the reliability of local water supplies.

This is being achieved through the following key initiatives:

- Farm Water Grants Scheme
- Pastoral Water Grants Scheme
- Community Water Supply Program
- Rural Water Planning and technical support
- Strategic Public Water Supplies/ Agricultural Area Dams
- Emergency water response plans

The Rural Water Plan is supported by the State Water Strategy.

Average winter rain helped alleviate some of the more immediate water supply problems that had accumulated in many districts over the previous couple of seasons as the result of the extended drought and low rainfall runoff into farm dams and rainwater tanks. However, the program continues to maintain a watching brief over areas that remain susceptible to extended periods of low rainfall and serious water deficiency. Emergency response plans will continue to be implemented where needed.

A particular focus for 2003–04 was improving long-term water supply planning and preparation for future low rainfall seasons. Important lessons were learned from the drought in respect to the reliability of supplies in many areas. This has highlighted the value of improved planning and targeting of water supply development through a robust planning process that engages a broader network of stakeholders.

A major achievement during the year was a review of the State Rural Water Plan and the formulation of proposed new directions which will enable more emphasis on regional planning and promote efficient utilisation of water resources.

The Rural Water Advisory Committee made a significant contribution to this review. The committee also provided a valuable means of direct contact with rural communities and ensured that stakeholder views and priorities were fully represented.

Minimising the risks associated with a low reliability of supply is one of the program's objectives. Significant emphasis has been placed on improving the level of technical expertise available to assist primary producers and rural communities with water supply developments.

The program was instrumental in the provision of an advanced technical training course for Farm Water Planners/Assessors. Successful completion of this course will lead to accreditation at national competency standards.

The development of linkages with the regional natural resource management planning framework was pursued to ensure complementary benefits between rural water supply development and efforts to protect our natural resources. Increased emphasis was also given to the development of emergency response plans for the drier, eastern parts of the agricultural region, and strong partnerships are being forged with local government to address the needs of rural communities.

The program has begun to play a more active role in water supply management and implementation of water efficiency measures designed to maximise the use of existing water supplies. Water resources planning and more effective use of localised water supplies will be fostered through the program.

3.7 Regional Operations Division

3.7.1 Overview

The Regional Operations Division is in the process of delegating industry licensing to Regional Managers, under Part V of the *Environmental Protection Act 1986*. In conjunction with this delegated responsibility, the Division is ensuring that comprehensive community consultation and involvement occurs as part of the licensing process.

As a result of the Office of the Auditor General's audit into water resource management, Regional Operations has sought to reduce application turnaround time and the backlog of expired licences, and undertake regular compliance auditing of individual licensees. 25 additional staff have been recruited over the last 12 months to undertake this work across our six regions.

Finalisation of new land clearing provisions as a result of amendments to the *Environmental Protection Act 1986* is almost complete following several months of extensive consultation. The introduction of these provisions will allow us to provide a greater level of protection of native vegetation across the state, bringing Western Australia to the forefront of the nation's environmental reforms.

The Division maintains strong links with the six groups responsible for regional resource management across the state. These groups are now finalising their regional resource management strategies with the participation and support of our regional personnel.

Regional Operations is in the third year of a five-year program to implement a water measurement equipment replacement program. Three hundred water level and rainfall sites have now been upgraded, thus reducing the risk of data loss due to instrument failure. The State Reference Network consists of 308 river gauging stations, 230 other surface water sampling sites and 3444 groundwater monitoring bores. Approximately 523 surface water and 2136 groundwater bores are actively monitored. Surface water sampling sites include rainfall and salinity measurement.

In conjunction with its community education and involvement programs, the Division has also implemented new processes and approaches to environmental enforcement and compliance.

Each region has created local environmental enforcement groups to ensure that potential breaches of departmental licences or statutory acts administered by the Department are investigated.

3.7.2 Kwinana Peel Region

3.7.2.1 Kwinana industrial airshed and agency initiatives

During the year, a review of point source air emissions associated with industrial activities has been carried out to assess the appropriateness and effectiveness of monitoring programs at selected facilities in the Kwinana Industrial Airshed. This Gap Emissions Study identified the emissions of significance in the Kwinana Industrial Airshed and compared existing monitoring programs to similar airsheds in Australia.

The key findings were that the nature and degree of air emissions monitoring and ambient air quality monitoring carried out in Kwinana is similar to, or in some cases, more detailed than, monitoring carried out in other Australian jurisdictions where industrial emissions are a significant factor in the local environment. The types of contaminants tested for are generally appropriate to the facilities being regulated. The significant emissions to the airshed have been identified and the monitoring of these and other emissions will be addressed in Stage 2 of the study.

The Stage 2 report in the Gap Emissions Study will be completed in 2004–05 and will address issues including the appropriateness of the data generated under current programs to serve the dual purposes of tracking regulatory compliance and assessing potential environmental impacts. Stage 2 will also provide recommendations to resolve any deficiencies in the current management and monitoring of emissions.

This project is part of an integrated package of initiatives aimed at addressing environmental regulation issues within the Kwinana Industrial Airshed. To complement this study, we will initiate an air toxics study in 2004–05 and will include a monitoring site in the Kwinana Industrial Airshed.

3.7.2.2 Water Allocation

As a result of additional funding in 2003–04, the Water Allocation Program has concentrated on increased surveillance and compliance surveys. Over 90 property surveys have been carried out in the first half of 2004 compared with just 26 for the previous six months.

The program has also issued more than 350 licences with an average turn around time of 61 days. This compares favourably with the state average of 74 days.

The program has also dealt with a large number of applications for dewatering which involve problems with the exposure of acid sulfate soils. The region has developed a methodology for dealing with these applications that is now being used statewide.

A survey of water usage on the Marrinup Brook, which is a major tributary of the Murray River, is almost complete. This survey will provide a more complete picture on current water usage and enable allocation decisions to be made based on a more thorough knowledge of the current levels of abstraction.

3.7.2.3 Cockburn Sound Management Council: Implementing the Environmental Management Plan

During the year, one of the major achievements of the Cockburn Sound Management Council was the development of a Local Planning Policy. Three local government councils united to formalise commitments to better control land uses that can impact on the health of Cockburn Sound.

Over the past 40 years, about 80 per cent of Cockburn Sound's seagrass meadows have been lost, and water quality has declined largely due to contaminants from land-based sources entering the Sound. Groundwater is the main source of contaminants into the Sound, contributing more than 70 per cent of the nitrogen load. Future land uses and activities in the catchment are likely to cause additional groundwater contamination unless suitable controls are implemented as part of the land use planning approval process.

In response to this situation, the Cities of Cockburn and Rockingham and the Town of Kwinana worked cooperatively with the Cockburn Sound Management Council to develop the Local Planning Policy that will enable a consistent and effective approach to the protection and management of Cockburn Sound. After a public comment period, the Cockburn Sound Management Council endorsed an amended version of the Policy in June 2004.

The Local Planning Policy provides guidance to local governments and the Cockburn Sound Management Council when considering development proposals that have the potential to increase contamination of ground and surface water within the Cockburn Sound catchment.

3.7.2.4 Alcoa Alumina Refinery at Wagerup: a tripartite approach to environmental regulation

As part of the decision on re-licensing Alcoa's Wagerup Alumina Refinery in 2003, the Minister for the Environment requested that we take a tripartite approach to developing a new emissions-based licence and to resolving other relevant environmental issues. This approach involves the community, industry and government in decision-making.

In October 2003 the process for establishing the Wagerup Tripartite Group commenced with a public meeting at Yarloop and concluded in early January 2004 with the appointment of five community members from the local communities of Hamel, Waroona and Yarloop. The membership also includes representatives of the Shires of Waroona and Harvey, Alcoa management and employees, and the Departments of Health and Environment.

The early meetings of the Tripartite Group have established open and transparent communication procedures. A meeting report is published each month in the local newspaper and an open invitation has been extended to the broader community to attend the Tripartite Group's meetings. Community representatives on the Tripartite Group have also actively sought input from other community-based groups in the area.

The primary purpose of the Group, to date, has been to work towards producing a licence for the refinery with clear, unambiguous and enforceable conditions, which have the confidence of stakeholders. As a first step towards this goal, the Tripartite Group has developed an action plan for developing new conditions for the licence, and commenced work on drafting conditions for the priority issues of odour, noise and dust for the 2004 licence.

3.7.2.5 Waterways and Catchment Protection

Peel Inlet Management Council

The Peel community now has a new voice in the integrated management of the Peel Harvey waterways. In 2004 the Minister for the Environment, Dr Judy Edwards, appointed eight community members to the Peel Inlet Management Council, which we established to support integrated and coordinated waterways management in the Peel Harvey estuary.

The Council will work closely with the Department of Environment and community stakeholders to promote the values and benefits of Peel's waterways and wetlands. It also includes representatives from the Department of Conservation and Land Management, Department for Planning and Infrastructure, Department of Fisheries, Peel Development Commission, Shire of Waroona, Shire of Murray and City of Mandurah, as well as Department of Environment staff.

Several key issues have been identified as strategic priorities for the Council to address over the next five years. These include foreshore and wetland protection, recreation management, communication and education.

Economic Development and Recreation Management Plan for the Peel Waterways

During 2003–04, the Economic Development and Recreation Management Plan for the Peel Waterways continued to be implemented under the guidance of local MLA, David Templeman. The Peel Fish Stocking Society Inc. is undertaking one of the recommendations of the plan relating to habitat enhancement and artificial structures are being developed for deployment in the Mandurah Canals.

Acid Sulfate Soils in the Peel Harvey Estuary

An inaugural meeting of state and local government officers was convened in November 2003 to determine the extent of potential acid sulfate soils within the waters of the Peel Harvey estuarine and river system. To date, areas used for the disposal of dredge spoil have been identified and a draft long-term plan for managing dredging is being prepared.

Waterways Conservation Act and Regulation Licences

During the year, the Mandurah office has administered 15 licences (dredging, disposal and retaining wall licences), statutory referrals, development and jetty applications and investigated 70 public complaints. Complaints included fish kills, oil and fuel spills, odour, decomposing weed on beaches and blocking navigational channels, foreshore reserve clearing, litter and debris.

Between February and April 2004 four major fish kill incidents have been investigated, three in the Serpentine River and one in Lake Clifton. Decomposing microalgae and low oxygen levels have contributed to approximately 150,000 dead fish, with five tonnes removed over a four day period from the Serpentine River.

Weed Harvesting

In 2003–04, a total of 4660 tonnes of decomposing algae was removed from Coodanup and Novara beaches. The weed harvesting is undertaken as part of the Peel-Harvey estuary clean up to ensure the estuary shoreline remains a clean and enjoyable place to visit.

3.7.2.6 Land Use and Planning Assessment

The Kwinana Peel Region formally assessed 392 statutory referrals.

3.7.3 Midwest Gascoyne Region

We provide a range of services in the region from offices in Geraldton and Carnarvon. These services include water allocation licensing, hydrogeological advice for groundwater abstraction, stream and groundwater monitoring, waterways protection advice, and flood warning and floodplain management advice.

The region was allocated increased resources during the year to enhance water allocation licensing and compliance management functions. We now manage 1061 water allocation licences, and processed 605 licence applications during the year. We also completed 70 property water use survey visits in high groundwater abstraction concentration areas in the Midwest, an inspection of all licensed properties in Exmouth, and approximately 50 inspections of water licensees. The intensive metering, salinity sampling and compliance program for the 186 licences in the Carnarvon Groundwater Area has been maintained.

The region provided significant technical support to natural resource management (NRM) groups, and in particular to the Northern Agricultural Catchments Council (NACC) and the Gascoyne Murchison Sub-Regional Group. Our Regional Manager is a member of the NACC management committee. During the year the region assisted NACC with the preparation of its Regional NRM Strategy, which is due for release in July 2004. Other projects implemented during the year included foreshore surveys and preparation of River Action Plans for the Hutt and Hill Rivers, and on-ground rehabilitation activities for the implementation of the Chapman and Greenough River Action Plans. We also provided sponsorship to the Moore Catchment Council for a further year. In the rangelands, the region has been active in implementing the Lower Gascoyne River Action Plan, which has included school and community environmental education and involvement in river foreshore rehabilitation activities.

Subsequent events: The Draft Regional NRM Strategy was released on 29 July 2004.

3.7.3.1 Carnarvon Water Allocation Planning

The groundwater resources of the lower Gascoyne River are the lifeblood of the Carnarvon community. A horticultural district, significant to both the regional and State economy, it depends on access to the river's groundwater resources.

In early 2004 we released *Managing the groundwater resources of the lower Gascoyne River — Groundwater Management Strategy* — a document to guide management and allocation of the groundwater resource. The strategy was approved by the Water and Rivers Commission Board but is not a statutory plan under the *Rights in Water and Irrigation Act 1914*.

The strategy was released after two years of planning and extensive community consultation under the guidance of the community-based Carnarvon Water Allocation Advisory Committee. Based on the historical 'Rules of the River' (locally understood guidelines for river management), it includes significant policy changes in the way water is allocated in Carnarvon and addresses a wide range of issues including allocation limits and environmental provisions for the lower Gascoyne River, emergency drought allocations in no flow periods, rules of

abstraction by private users, mechanisms to reduce the aquifer allocation, and provisions for trading of water entitlements.

Since the release of the strategy the region has made substantial progress in implementing its recommendations. Actions that have been undertaken include:

- Renewing Basin A licences for a seven year period as of 1 January 2004
- New conditions placed on licences to enable effective compliance and enforcement
- Enacting and testing emergency water allocations (drought provisions)
- Implementing licence allocation reductions based on salinity risk
- Assessment and approval of licence allocation increases in accordance with agreed guidelines
- Progress with resolving legal access to the riverbed through private user prolongations
- Continuation of monitoring of private bore salinity levels and aquifer status

The strategy has already provided better water security to the horticultural industry and local community, particularly because of its strategies for sustainable use of the resource and the introduction of local allocation management strategies that provide far greater flexibility in water allocation. There is on-ground evidence that the strategy has acted as a catalyst for industry expansion and economic growth in the Carnarvon Irrigation District.

3.7.3.2 Gascoyne River drought ends

The Gascoyne River is the longest river in Western Australia with a catchment covering 73 700 square kilometres. We have five strategically located telemetered river gauging stations in the catchment to provide flood warning advice, as well as ‘run of river advice’ so that the Carnarvon Irrigation District, sand miners, the Shire and interested parties can manage their equipment in the river bed.

The routine river flow data and monitoring of aquifer levels in the Gascoyne River is the principal decision-making tool for setting sustainable allocation limits for river aquifers in the Carnarvon Groundwater Area.

The Gascoyne River has experienced a 31-month dry spell (953 days) — its longest period with no river flow. The existing drought allocation strategy is based on a maximum of 24-months no river flow, and the situation presented us and the local community with new challenges. During the year we implemented a revised drought allocation strategy to ensure groundwater was drawn in a sustainable manner, and many bores in the horticultural district were shut down due to high salinity levels.

The record drought period was broken on 8 January 2004 when the Gascoyne River started flowing at Carnarvon, and flow peaked at approximately 1.8m on 11 January. There were two further river flows in the following five months.

Prior to January, results from the aquifer monitoring in the Carnarvon Groundwater Area showed that the shallow storage levels were only 32 per cent full. In February, after the first significant flow, the shallow storage was approximately 92 per cent full. The latest aquifer status report in June 2004 indicated that the aquifers have been fully recharged.

3.7.3.3 Lower Gascoyne Management Strategy

The Lower Gascoyne Management Strategy (LGMS) was developed by the Shire of Carnarvon to provide a comprehensive and inclusive approach to management of a range of development issues in the Lower Gascoyne region.

In 2000 the State Government committed funding of \$2.1m over four years. As a number of recommendations contained in the LGMS were closely related to a range of water resources management issues, we were nominated as the lead agency and are responsible for administering the funds. A Local Implementation Committee based in Carnarvon was established to better define and oversee implementation of the LGMS Business Plan.

The LGMS funded more than 30 local community projects. On-ground activities included repair of derelict river barrages, river weed control and rehabilitation programs, floodway maintenance, and a water meter replacement program. Research projects included a review of the river hydrology and bathymetry, river groundwater quality and recharge review, an investigation into the feasibility of recharge pits and sheet piling, assessment of the Rocky Pool groundwater aquifer, trials on organic matter enhancement on horticultural crops, a soil capability assessment for horticulture along the lower Gascoyne River floodplain, and a threat risk assessment and management of the Western Flower Thrip. Planning actions included preparation of the Lower Gascoyne River Action Plan, establishing Environmental Water Requirements, preparation and implementation of the Carnarvon Groundwater Area Management Strategy, the coordination of a coastal management strategy, and an Economic Development Strategy for the horticultural industry. Community support actions included sponsorship of a Marketing Officer for the horticultural industry, and funding of the Positive Carnarvon initiative.

Funding for the LGMS finished during the year. In May 2004, following an audit and review of the program, the Local Implementation Committee resolved to cease and no future meetings are planned.

3.7.3.4 Carnarvon Artesian Basin Rehabilitation Program

The Carnarvon Artesian Basin covers about 25 000 square kilometres along the Gascoyne coast. Apart from the Gascoyne River in Carnarvon, the basin is the only reliable water source for industry and coastal communities.

Approximately 140 artesian bores have been drilled into the basin over the last century. As a result of construction techniques and the highly corrosive nature of the water, most bores have either collapsed — resulting in large sub-surface water losses to geological formations from which they can not be recovered — or have significant uncontrolled flows at the surface. The sustainable yield of the aquifer is estimated at 22 gegalitres per year.

During the year, we completed the Carnarvon Artesian Basin Rehabilitation project, a \$4.5m initiative in partnership with the Gascoyne Murchison Strategy that has successfully reduced wastage of water from the artesian aquifer system. 52 uncontrolled bores were decommissioned and 15 new wells were constructed on pastoral properties. In terms of water conservation, the project saved a calculated eight gegalitres of water flowing to waste at the surface, and an estimated 37 gegalitres in sub-surface loss.

From a water resource management perspective the project has secured the sustainability of the Carnarvon Artesian Basin as a resource for industry development and coastal community water supply.

The secondary benefits of the project have been integral to its broad community support. It has significantly improved economic viability for pastoral enterprises by providing water supply infrastructure security, enhanced ability to control stock and feral animals (in conjunction with total grazing management systems), and enabled diversification into a wide range of emerging industries (for example ‘outback’ tourism, aquaculture, horticulture, irrigated pastures, and intensive goat domestication).

3.7.3.5 Hutt and Hill River Action Plans

In recent years we have fostered growing community interest in the protection of rivers in the Midwest. The preparation of river action plans for the Greenough and Chapman Rivers highlighted the value of these river systems and identified rehabilitation priorities. During the year several of the recommendations of these plans were implemented in partnership with landholders and interested community groups.

Through the support of the Northern Agricultural Catchments Council, and with funding from the Natural Heritage Trust, river action planning projects for the Hutt and Hill Rivers — two Midwest rivers with significant permanent freshwater elements — were undertaken during the year.

Local landholders and regional staff undertook a survey along 100 kilometres of the Hutt River, and regional staff surveyed 70 kilometres of the Hill River, to document some of the near pristine reaches and significant ecological diversity of the two river systems.

The Hutt and Hill River Action Plans, with associated foreshore maps, are expected to be published in the second half of 2004.

3.7.4 North West Region

In 2003–04, the focus of our activity in the North West Region has been on growth in the mining sector, changes to the *Environmental Protection Act 1986*, increased interest in medium-scale water development projects, and initiation of the Rangelands Natural Resource Management strategy process.

Staff numbers have increased slightly in line with new responsibilities for vegetation clearing and the Auditor General’s recommendations on water management. The regional services are delivered from offices in Karratha and Kununurra. The Pilbara and Kimberley functions of the former Department of Environmental Protection are largely delivered from the Karratha office.

3.7.4.1 Water

After several years of little rainfall and total reliance on the Millstream aquifer for the West Pilbara water supply, cyclone Monty provided welcome recharge to the aquifer during the year and refilled the Harding Dam, which is expected to be back on-line later in 2004.

Industry growth not only adds to residential demand for water, but also consumes significant volumes of potable water for dust suppression to meet community needs. The iron ore companies have all initiated water efficiency measures at ports, aligned with measures to improve dust management. The Water Corporation has continued its residential demand management program for the West Pilbara and has initiated a program for Port Hedland. At mine sites, initiation of water use efficiency measures will help to reduce uncontrolled discharge to the environment.

Across the Kimberley, increased water use for a range of enterprises, including pastoral diversification and aquaculture initiatives, reflects a shift of interest to small-medium scale water resource developments. Water management in the Ord Irrigation Area Stage 1 has continued to progress, with collaborative work on land and water management.

Under the *Rights In Water and Irrigation Act 1914*, water abstraction is managed through licensing in the four proclaimed Groundwater Areas; Pilbara, Canning-Kimberley, Broome and Derby, and three proclaimed Surface Water Areas; the Ord and Fitzroy catchments in the Kimberley, and all of the Pilbara catchments. The region currently manages 696 groundwater licences under the *Rights in Water and Irrigation Act 1914*. During 2003–04, 178 licences to take groundwater and 23 licences to take surface water were assessed and issued under section 5C of the Act. Use of permits to manage the impacts of new infrastructure on riverbeds and riverbanks has increased.

3.7.4.2 Environmental Protection

During the year, regional staff carried out formal inspections of 35 premises licensed under the *Environmental Protection Act 1986*. To improve effectiveness, inspections at Barrow Island and some of the remote Kimberley mines sites have been conducted jointly with the Departments of Industry and Resources and Conservation and Land Management. In 2003–04 the region has assessed and issued 116 licences — many of which are large and complex — 181 registrations and 61 works approvals. Additionally, advice on regional issues associated with a number of new proposals has been provided to the Environmental Protection Authority.

During the construction of Train 4 of their onshore gas plant, Woodside instigated major changes to reduce emissions. Our role in managing the Works Approval and final certification for Train 4 has provided a context for improvements to the licence and future management.

Growth in the mining sector has driven a high level of involvement with port authorities. Cumulative impacts of dust, water use, noise, water quality and amenity are becoming more significant and efforts to address these inter-related issues show the importance of industry, community and regulators developing shared goals and solutions. Involvement in the implementation phase of the Dampier dredging program has helped to minimise environmental impacts and set up a sound environmental management framework for the future.

3.7.4.3 Water Information

In 2003–04, two cyclones in the Pilbara resulted in a strong demand for river level and flow information. As well as flood warnings, provision of surface water flow and flood information continues as a valuable service to guide public and private infrastructure alignment and construction.

3.7.4.4 Waterways and Catchment

Regional staff have been involved in riparian weed management in both the Pilbara and Kimberley. The annual Fortescue River *Parkinsonia* eradication work was undertaken jointly with Conservation Volunteers Australia. Kununurra staff coordinated a response to a Prickly Acacia infestation on the Durack River with local indigenous people carrying out the eradication.

A very successful waterways awareness program at Halls Creek, in partnership with the language centre and local shire, involved school aged children and adults in fieldwork and interpretation. Preliminary work on management of the Harding River Pools for the Roebourne town enhancement scheme was supported by a grant from the Shire of Roebourne.

In Kununurra, foreshore lease arrangements were renegotiated to deliver improved environmental management outcomes. A drilling program to resolve uncertainties about water quality and reserve boundaries for the Kununurra Water Source Protection Area has been agreed with the Shire of Wyndham, East Kimberley.

3.7.4.5 Natural Resource Management

The Rangelands Natural Resource Management Strategy will be based on strategies from each of the Rangelands sub-regions. In both the Pilbara and Kimberley, NRM steering groups were formed during the year to guide the strategy process. Waterways facilitators, funded by the Natural Heritage Trust, have been based in both the Karratha and Kununurra offices.

3.7.4.6 Pilbara Iron Cape Lambert Water Use Efficiency

The timing of the Pilbara Iron (Robe River) application to begin work on expanding ore loading capacity at Cape Lambert coincided with real pressures on the West Pilbara water supply and ongoing community concerns about dust. In response, Pilbara Iron has committed to implementing a number of improved dust management measures, and has initiated an 'Excellence in Water Management' program. This tool will be used across all the Pilbara Iron ports and mines, and will identify water efficiency opportunities and assist with achievement of water use targets. The Department, Pilbara Iron and the Shire have agreed to establish a mechanism for the formal presentation of new initiatives and progress towards achieving dust and water targets.

3.7.4.7 Ord Catchment National Action Plan

In 2003–04, our Kununurra office was part of a successful partnership bid for National Action Plan (NAP) funding for projects in the Ord River Irrigation Area. The \$312,030 NAP funding is supported by funding from the partners; Ord Irrigation Cooperative, the Department of Agriculture, Ord Land and Water, CSIRO and the Department of Environment. The Water Corporation is also associated with the project.

The projects address groundwater levels, water quality and water use efficiency as part of an integrated package aimed at continued improvements in water management for the irrigation area. Kununurra staff will be involved in on-farm and river water quality projects and the review and interpretation of groundwater information from CSIRO projects. The success of the NAP bid represents a strong local collaboration developed over several years of

negotiation. It also enables the continuation of the CSIRO's irrigation area component of the Ord Bonaparte Program. Further NAP funded projects for the Ord catchment are currently being developed.

3.7.4.8 Roebourne River Pools

During the year, the Shire of Roebourne contracted Karratha staff to carry out a feasibility study to rehabilitate the Harding River Pools within the town of Roebourne. The Harding River (Ngunin) runs through Roebourne, is of great cultural significance to the Aboriginal people, and is a busy area for social activity. Since the damming of the Harding River in 1984, the system has changed considerably with a decrease in flows and lower water levels in the pools, and riparian vegetation has altered with weeds such as date palms and *Parkinsonia* now common.

The recommendation to the Shire was for supplementation through pumping from a new bore near the old town well. The water would be delivered down an old concrete causeway, providing some oxygenation before it reaches the pools. The study identified water volume and infrastructure requirements, environmental impacts and foreshore management options. The project draws on staff expertise in hydrography, water allocation and waterways management. Staff will remain involved through the implementation phase. Participation in the project has raised our profile through a regionally significant project that involves 16 other agencies.

3.7.5 South West Region

The South West Region covers an area of approximately 38,000 square kilometres and delivers on all areas of our businesses. It employs approximately 50 staff and is made up of three regional offices.

Bunbury

The Bunbury office supports the region with regional administration and strategic management. Programs for the Region, delivered out of the Bunbury office include;

- Environmental regulation and management
- Water allocation licensing and management
- Drinking water source and catchment water quality protection (including clearing controls)
- Involvement in natural resources management activities associated with supporting rural and urban development
- Salinity management
- Pollution prevention licensing
- Emergency and pollution response technical expertise and coordination
- Landuse planning advice
- Environmental water provision management
- Operation of the hydrometric network collecting information on surface water, groundwater, and meteorological information

- Floodwarning and response
- Agency land management
- Implementing the Region's estuarine monitoring program
- Supporting the South West NRM region community with technical advice on waterway management.

Geographe Capes

The Geographe Capes office is based in Busselton. This office is currently being upgraded to provide the following services to the Geographe and Cape to Cape districts commencing 1 August 2004.

- Supporting community groups on waterway and catchment issues
- Water allocation licensing and management
- Pollution incident and complaint response
- Supporting the Whicher Water Resource Management Committee

The Geographe Catchment Council (Geocatch) Program operates from the Geographe Capes office. The program supports the Geocatch sub region of the South West Natural Resource Management Region by;

- Supporting community conservation groups involved in natural resource management, and providing training, resources, advice and information
- Supporting the South West Catchments Council's delivery of the South West Regional NRM Strategy

Manjimup

The Manjimup office is currently being upgraded to provide the following services to the Warren/Blackwood district by 1 September 2004.

- Supporting community groups on waterway and catchment issues
- Water allocation licensing and management
- Pollution incident and complaint response
- Salinity management advice
- Agency land management

3.7.5.1 Dumbleyung Strategic Water Management Strategy

In 2003–04, we continued to work in partnership with the Dumbleyung Water Management Steering Committee to progress this project. The Beynon Road Deep Drainage Demonstration Site is one of four demonstration sites being developed as part of the Dumbleyung Water Management Strategy, and was constructed in December 2002. In the last 15 years more than 150 hectares has been lost due to salinity at the site. The rate of decline has increased dramatically in the last three years, and no cereal crop had been planted since 1996. Preliminary analysis of data from the site is indicating that the drain is performing within expectations.

Crop productivity prior to construction was approximately 0.5 t/ha barley but, post-construction, the average yield is 2.65 t/ha barley. Some of this increase can be attributed to the improved seasonal conditions. Bore groundwater levels prior to construction of the drain ranged between 0.6m to 1.4m below the surface. Groundwater levels have dropped by m up to 200m away from the drains. Levels rose approximately 20cm over winter and dropped again over summer. Bore pH levels prior to construction ranged from 3.5 to 3.6. In comparison, water entering the drains had an average pH of 2.8. The levels increase down the system as oxidation and buffering occurs.

Drain discharge from groundwater inflow was predicted to be 143.7 kL/day in the absence of evaporation loss. Post-construction flow rates were equivalent or slightly greater than this for two weeks after construction. Since then, the average discharge from the drain is approximately 35 kL/day of which around one quarter is groundwater. Within six weeks of construction existing vegetation had begun to show signs of regrowth. The Steering Committee has received funding under the Environmental Engineering Initiative to continue monitoring of the site.

3.7.5.2 South West Natural Resource Management Strategy

We continued to work in partnership with the South West Catchments Council during the year to develop a draft natural resource management strategy for the region. The Draft Strategy was released for public comment on 15 June 2004. In the strategy, the natural resource management assets in the region are assessed and the processes likely to impact on these assets are determined.

The strategy aims to achieve integration and coordination in natural resource management. It will direct investment to the highest priorities in the region as determined by stakeholders, increasing the quality and quantity of on-ground outcomes and allowing for the identification and establishment of funding partnerships and other resources for local, catchment and regional partners.

The strategy will guide public spending on the environment of the region for coming years. The prioritisation of targets for improvement in the condition of the natural resources enables a strategic approach to spending limited natural resource management funds for the best possible outcomes.

3.7.5.3 Collie Salinity Recovery Strategy

The Collie Salinity Recovery Strategy for returning fresh water to Wellington Dam has reached design stage. During the year, in partnership with key stakeholders, we estimated and used the social, economic and environmental impacts of 13 possible options to identify five preferred options.

In 2004, feasibility analyses of these preferred options were undertaken, examining the costs and benefits of each option over a time frame of 30 years. This confirmed a short to mid-term strategy of diversion of the saltiest flows of the Collie River (East Branch) into empty mining voids, with longer-term options being a combination of 'high water use' farming systems, tree planting and possibly groundwater pumping.

Discussions also commenced with relevant stakeholders and agencies to resolve remaining important issues, such as possible leakage of diverted water from the voids into surrounding

aquifers, environmental protection, aboriginal heritage and native title. During the year key internal and external stakeholders have been kept well informed, while the broader community has been kept up to date by local and state media attention and information displays held at the Collie Shopping Centre and the Royal Show.

3.7.5.4 DairyCatch: A Dairy — Catchment Partnership

The Geographe Catchment Council (GeoCatch) is coordinating DairyCatch, a statewide partnership program involving Western Dairy Inc and the Department of Agriculture to support best natural resource practice by the WA dairy industry. GeoCatch is a committee of the Water and Rivers Commission Board.

DairyCatch has an initial focus on improving water quality management by implementing best practice effluent plans by the dairy industry. Nutrient management on farms and water use efficiency will also be addressed through on-ground action with funding from the Natural Heritage Trust and the National Landcare Program. It is hoped that with a joint effort the dairy farming industry can strive towards operating more productively while sustaining the natural environment.

Dairy farmers are now eligible for a subsidised ‘best practice’ effluent plan developed with farmers by DairyCatch waste management specialist Tom Long. DairyCatch contributed more than 65 per cent of the cost of the plan to farmers, and farmers were eligible for up to \$5 000 reimbursement for implementation costs. To date, 51 farmers have registered for a plan and 31 plans have been completed.

Dairy farmers who completed a Waterwise course with the Department of Agriculture will be eligible for up to \$5000 to implement their approved irrigation and drainage plans. Four farms have been set up to monitor best practices in Jindong, Harvey, Northcliffe and Denbarker. Other stakeholders involved in the program are WA Farmers, Milk Product Manufacturers’ Association, Harvey Water, the Water Corporation, local government and Dairy Australia.

3.7.5.5 Whicher Water Resource Management Committee

The Whicher Water Resource Management Committee was established under the *Rights in Water and Irrigation Act 1914* to provide a direct link to the community’s views and play an integral part in managing and planning the water resources for the lower South West. Members provide the South West Regional Office with advice and assistance in considering the sustainable allocation and use of water resources in the respective Shires of Augusta-Margaret River, Busselton, Capel and Nannup.

Since its first meeting in September 2002 and in keeping with its statutory role, the Whicher committee has provided a valuable lead in the development of the Blackwood Sub-regional Groundwater Plan which includes Stage 1 of the Southern Yarragadee 45 GL application from the Water Corporation. Further dedicated consultation will be required in Stage 2 including the provision of dedicated advice to the Water and River Commission Board with regard to any subsequent recommendations with the application.

In April 2004 the Whicher Water Resource Management Committee tabled a discussion paper to highlight four, strategic, water resource allocation and planning issues in the region:

- consideration of proclamation as the preferred framework in which to manage surface water;

- development of a common dams policy;
- development of a policy position on environmental dam flows and accompanying by-laws; and
- development of a Greater Whicher Regional Management Plan for both surface water and ground water.

Essentially the discussion paper recommended that we develop and implement an appropriate management approach strategically addressing these four areas across the region. The objective of this approach is to implement sustainable water resource management focussed on outcomes, in conjunction with the local community, within the Whicher region.

3.7.6 Swan Goldfields Agricultural Region

The Swan Goldfields Agricultural Region covers an area of 106.5 million square kilometres and has five regional offices:

- The Ellam Street, Victoria Park office supports the region with regional administration and strategic management, as well as integrated services to Swan North, West and East districts within the region
- The Northam office provides services to the Avon district
- The Kalgoorlie office provides services to the Goldfields district
- The Welshpool Office provides measurement services to the whole region
- The Swan Catchment Centre Program (Middle Swan Office) supports community organisations

3.7.6.1 Swan North, East and West Districts

The operational integration of the Water and Rivers Commission and Department of Environmental Protection to form the Department of Environment has provided an opportunity to greatly improve and streamline the processes for handling all types of planning referrals, environmental assessment and licensing processes within the region. During the year, a number of local government organisations and representatives from the Department for Planning and Infrastructure have been briefed on the new planning referral process.

Since the injection of funding into the water resources business via the Office of the Auditor General's report, we have been able to provide a much higher level of service to our customers. Incoming water allocation licensing applications are processed in a more efficient and timely manner. The backlog in processing applications that existed as a result of the previous resource limitations has also been addressed.

In 2003–04 the transfer of environmental protection licensing to the Swan Goldfields Agricultural Region has proceeded well. A number of investigations have been instigated which will address long-standing issues that are of concern to the community. Another positive outcome is that we now have Natural Resource Management Officers in the field auditing licences and usage on a daily basis.

The Swan-Canning Industry Project continues to evolve with the coordination of a cleaning industry Green Stamp Environmental Accreditation Trial. The project hopes to extend the Motor Trades Association Green Stamp Program to other industry sectors.

The development of Environmental Water Provisions (EWPs) for the Canning River system contributes towards meeting Western Australia's CoAG commitment to develop EWPs for regulated river systems. No model currently exists for the development of EWPs and this project will provide a framework that can be applied to other river systems. It is envisaged that this project will be a staged process, taking place over a five-year period. The Department of Environment, the Natural Heritage Trust and the Swan River Trust, through its Swan-Canning Cleanup Program, jointly fund both the Swan-Canning Industry Project and the EWPs for the Canning River projects.

3.7.6.2 Avon District

The Northam office services approximately 120 000 square kilometres of the Avon region and, with the integration of the Water and Rivers Commission and Department of Environmental Protection, the licensing program for the Avon has been transferred from Ellam Street to Northam. Notices of Intent for Drainage and Clearing continue to be assessed for the whole of the Swan Goldfields Agricultural region by the Northam office and it maintains the regional administration centre for accounts' management.

During the year, two major publications were released, *WRM 33 Natural Resource Management Plan for the Brockman River Catchment* and *WRM 38 Foreshore and channel assessment of Wundowie Wetland and Magnolia Creek*. Two River Restoration Workshops were also held. The office attended both Dowerin and Newdegate Field Days and generated considerable community interest with the recently constructed river demonstration model.

The Northam office has provided assistance to the Avon Catchment Council in its development of the Avon Natural Resource Management (NRM) Strategy. Staff have collected data on both regional and local NRM assets to assist in setting the priorities for future projects in the region.

3.7.6.3 Goldfields District

The Kalgoorlie office services about one million square kilometres of the Goldfields region and, with mining the predominant industry in the area, the Kalgoorlie office's main role is the auditing and inspection of licensed premises. With the integration of the Water and Rivers Commission and Department of Environmental Protection, the Environmental Protection licensing function has transferred from Ellam Street to Kalgoorlie.

During the year, there has been a continued integration of Groundwater Licensing and Environmental Protection Licensing through site inspections and the allocation of responsibility for premises to individual officers. There has also been a continued improvement of investigations and investigative technique since the formation of the Environmental Enforcement Unit (EEU) in mid 2003.

With 222 complaints and 50 notifiable incidents reported during the year, increased staffing levels from two to five have been welcomed.

Over the Christmas period and in early January 2004, the southern areas of Boulder experienced an odour event that resulted in a significant number of complaints being received by the Kalgoorlie Office. The office investigated the source and impact of the odours, with the help of the combined expertise of the Environmental Enforcement Unit, the Pollution Response Unit and the Air Quality Branch. In response to the investigation, an Environmental Protection Notice was issued to a waste management company requiring them to empty their evaporation ponds. This matter is now subject to legal proceedings.

3.7.6.4 Regional Measurement

Welshpool Measurement Operations provides data from the regions' hydrometric network, collecting information on surface water, groundwater, and meteorological installations. The environmental reporting for Jandakot has recently been transferred from the Kwinana Peel Region to the Swan Goldfields Region.

The Welshpool field office also implements the estuarine monitoring program and the provision of flow and meteorological data for the Swan River Trust's Swan-Canning Cleanup Program. The measurement group was busy in 2003–04 with the implementation of the Engineering Evaluation Initiative project. Two gauging stations have been installed at Pithara with another four sites to be constructed in 2004.

The group has also been heavily involved with the installation and operation of Load Measuring Units sites for the Aquatic Science Branch and water quality monitoring in Piesse Gully to investigate the use of herbicides and pesticides in the area.

3.7.6.5 Swan Catchment Centre

The Swan Catchment Centre is a key regional delivery unit for Natural Resource Management (NRM). During the past year, the team in Middle Swan has been providing support to the Swan Catchment Council's development of the Swan Region Strategy for Natural Resource Management. With the release of the strategy in April 2004 for public comment, work is now focussed on delivering both a revised strategy and the investment plan for government accreditation and, ultimately, the distribution of Natural Heritage Trust funding later this year. The Centre has also been working closely with the Council to align catchment groups to Strategy objectives.

The Swan Catchment Centre provides support to the Council's management of the Swan Alcoa Landcare Program. In 2003–04, 34 community environmental groups undertaking 95 projects received more than \$450 000 in Swan Alcoa Landcare Program funding.

Centre programs continue to support more than 250 community conservation groups involved in natural resource management, providing training, resources, advice and information, managing funding opportunities and project development. 23 community training workshops were delivered to more than 600 community members and NRM professionals in the Swan Region. The Community Conservation Directory has also been updated and is now provided on the Internet for easy access by the community.

Ribbons of Blue/Waterwatch WA is also delivered from the Centre in the Swan region. This year the Ribbons of Blue team continued their assistance and support to community and catchment groups in implementing and reviewing their long-term water quality monitoring

programs and assisting in water quality and macroinvertebrate monitoring of river restoration sites. Ribbons of Blue continues to support more than 100 school groups by providing professional development for teachers and strategic educational opportunities through a range of 'Snapshot' events and hands-on experiences. The Department of Environment, the Natural Heritage Trust and the Swan River Trust, through its Swan-Canning Cleanup Program, jointly support the program at the Swan Catchment Centre.

3.7.7 South Coast Region

During the past year, the South Coast Region has consolidated the delivery of its new and combined functions caused by the integration of the Department of Environmental Protection and the Water and Rivers Commission. It has streamlined its environmental regulatory function by offering a one-stop shop to stakeholders, industry and the community on all issues related to pollution management and licensing.

Current priorities include reviewing industry licence conditions for relevance and appropriateness of conditions, and working with local government and other stakeholders to ensure the successful devolution and operation of other environmental regulatory functions. The departmental roles of environmental assessment coupled with land use planning were integrated last year and the streamlining of these processes, trialed in the region, has proved a successful model for the combined department.

In 2003–04, considerable work has been undertaken in conjunction with the regional community consultation group, SCRIPT, to develop a Regional Natural Resource Management Strategy which has now been released for public comment under the title Southern Prospects 2004–2009. This document is the blueprint for obtaining future NRM funding investment for the region and is the successful product of collaboration and partnership between government agencies and South Coast community groups.

Community catchment groups across the region have continued to be supported by regional staff on specific projects. Achievements throughout the year include the launching of the Wilson Inlet Implementation Plan for Nutrient Reduction, which identifies the actions community Landcare groups are now implementing.

In the Kent and Denmark Catchment Salinity Recovery Program, both areas having been identified as possible future water resources, the launch of the Denmark Salinity Statement provided a milestone for the program. Monitoring of salinity levels in the Denmark River indicates a reversal of salinity through changed catchment management practices, a first for the state in combating the salinity problem. Discussions to develop a community partnership for catchment management for the Wellstead Estuary have also begun recently. Water Resource Allocation in the region is also under review and an audit of groundwater use for areas such as Marbellup is currently being undertaken.

3.7.7.1 Watershed Torbay

The Watershed Torbay 'whole of catchment' restoration project commenced in June 2001, with a contractual partnership between the Water and Rivers Commission and Land and Water Australia. The project is due for completion in June 2005.

This major demonstration project is now in the third of its four year term and current work is aimed at tackling water quality issues throughout the catchment in order to have an impact on the proliferation of algal blooms in Lake Powell, Marbellup Brook and Torbay Inlet.

The overarching aim of the Watershed Torbay project is to demonstrate the community and environmental benefits of investing in waterways restoration at a catchment scale.

3.8 Corporate Services Division

3.8.1 Overview

This Division provides a range of corporate services to the Department. The span of our role is quite broad and delivered through four key branches and the divisional executive group. These include Finance and Administration, Human Resources, Legal Services, and Information Services. Staff attached to the Divisional Executive also undertake a number of important projects. We have a close association with the Office of the Director General and currently manage a range of key initiatives for Corporate Executive.

Our core services include the development and maintenance of quality policies, procedures and business tools for effective management of finances, assets, people, information, communications and external relations. We also provide specialist advice, as in legal advice and guidance and other services aimed at enhancing the profile and operations of the organisation.

3.8.2 Corporate Services Divisional Executive

Corporate Services plays an important role in our effective operation. In 2003–04 key projects commenced or completed included:

- negotiating a single CBD accommodation and reviewing regional accommodation needs to meet current demands and improving local work space;
- merger of the former Office of Water Regulation functions into the new department;
- the development of conceptual models and strategies for implementing corporate reforms as part of the government's Functional Review implementation programs; and
- a range of internal initiatives associated with Eco-Office and Travelsmart to support government sustainability objectives.

The shift in 2005 towards a single CBD building will bring together almost 60 per cent of our staff under one roof. This will greatly assist in the merger process and enhance business processes and staff relationships.

The Functional Review will bring significant reform to the way we operate, particularly in acquiring people, assets and goods and materials to perform our functions. The centralised operation of financial, procurement and human resources services at Cannington, as part of a shared services cluster, will need to be carefully managed and implemented internally.

3.8.3 Finance and Administration

During the year the move toward the development of shared service groups, known as clusters, under the Government's functional review initiative has required a thorough assessment of the corporate services functions we provide. Strategies are being developed to assist with a smooth transition of activities from the agency to the cluster. This has coincided with the centralisation of procurement activities to the Department of Treasury and Finance. Staff transfers and alignment will occur in early 2005.

Significant changes are being introduced after the adoption of the international accounting standards issued by the Financial Reporting Council and Australian Accounting Standards Board. During the year, there has been ongoing review of the implications and impacts of these changes. The current reform agenda and changes have been a priority for the branch and will continue to be well into next year.

The introduction of the merchant payment facilities for statewide application was completed during the year. This has allowed clients to settle accounts via post, telephone, credit cards or EFTPOS. The branch has developed and begun to implement a new bar coding system for fixed assets recording and counting. This will produce significant efficiencies for the management of our assets records..

3.8.4 Information Services

During 2003–04, there were significant developments in our IT infrastructure and information management. A number of information systems have been developed to support our business needs, including the Controlled Waste Tracking system, the Clearing Control Permit system, and the Incidents Complaints and Enforcement Management system. Other systems still under development include the Contaminated Sites Management system and the National Pollution Inventory system. A number of other systems have also had major enhancements such as the inclusion of a GIS viewer in the Water Resources Licensing system.

A key initiative in the management of our IT infrastructure in 2003–04 was to replace all older and incompatible computer workstations to enable the department to work from a single computing platform. A total of 170 Macintosh computers and 295 aging PC workstations were replaced. In addition to this, 15 regional and 23 central servers were replaced under our Capital Replacement program. Bringing this core infrastructure up to date enables us to upgrade the operating systems and office tools to current versions over the coming months.

Our e-mail addresses were changed, moving from the old 'wrc' and 'environ' domains to 'environment' <firstname.surname@environment.wa.gov.au> in preparation for the 'single-entity' Department of Environment.

A review of the data communications network to the our regional offices has resulted in plans for significant upgrades to that network. This upgrade will deliver increased bandwidth to regional offices enabling better performance and improved access to information systems and network services.

There have been a number of information management initiatives commenced in 2004 which are due to be completed early in the 2004–05 financial year. These follow the development of the Department of Environment's draft record-keeping plan (as required by the *State Records Act 2000*). The draft plan has been submitted to State Records Office.

Key information management initiatives underway include:

- The review of our information management structures and protocols
- The development of a corporate information plan
- The development of a GIS strategic plan
- The development of a IT disaster recovery plan
- The development of a Corporate Data Model
- The development of the Department of Environment's Internet and Intranet web sites, in collaboration with the Communications Branch

- A staff awareness campaign to ensure understanding of their record-keeping obligations, our information management protocols and facilities available.

3.8.5 Human Resources

The Human Resources Branch provides services to the Department of Environmental Protection, the Water and Rivers Commission, the Keep Australia Beautiful Council and the Swan River Trust. It acts as a bureau to the Office of Water Regulation (abolished on 31 December 2003 to form the Office of Water Policy), part of the Economic Regulation Authority (ERA) and the Heritage Council.

While ensuring ongoing delivery of the full range of Human Resource consultancy services across the merging departments, intense efforts were made during the year to prepare and embed policies and systems which would serve the amalgamation of the several entities forming the Department of the Environment. During the year the Branch has focused on maintaining services while developing best practice policies and systems for the future amalgamation, in anticipation of the legislative changes to establish the Department of the Environment. This has resulted in the development of numerous people management initiatives which will be implemented after the amalgamation.

Organisational and cultural development has been the focus of these initiatives, to reflect our strategy of a multi-faceted approach to facilitate a healthy and innovative cultural ambience for organisational behaviour in the workplace.

Consistent with change management principles, we consulted widely with staff to move seamlessly from differing practices and policies to an infrastructure which best supports the internal and external needs of our people management practices.

Achievements that will contribute to this focused holistic framework of sound people management in the new Department include the following complementary organisational and cultural development initiatives:

- A cornerstone project was undertaken and completed to update all establishment and occupancy data within the CONCEPT HRMIS in preparation for operating as a single entity. The system will reflect the new unified structure from 1 July 2004, and is capable of informing both the ongoing discrete organisations as well as the single entity. The management information now available provides a significant improvement in corporate and unit level data for governance needs.
- The HR Web Kiosk was embedded for all staff and upgraded with the addition of menu items and formatting changes. Some of the new features include a pull down calendar on all date fields and personal flexi time sheet. Stage 2 of the roll out, due to be implemented in 2004–05, will include an e-Recruitment facility, which will show all Expressions of Interest positions available in the Department and staff will be able to apply for these positions online.
- An extensive staff consultation process was undertaken in the preparation of a single entity Code of Conduct, Equity and Diversity Management Plan and a Disability Services Plan to ensure that the content has been kept relevant to the needs of staff and the new Department. These initiatives will contribute significantly to the cultural development of the Department of Environment — valuing the rich history from the diverse organisations forming it, and providing an agreed approach at all levels in a framework committed to appropriate and ethical behaviour and embracing further the richness of a caring, diverse

workplace. The key role for all staff, with particular ongoing accountability of Directors and managers in fostering this workplace ethos through implementation of the values and practices in these codes and plans, is to ensure the success of the implementation strategy that has been commenced.

- Issues of workplace stress and contextual response to all forms of harassment issues including bullying, and the establishment of a Grievance Officer Network which provides continual support and training for all Grievance Officers. During the year 15 employees graduated in Grievance Officer Training and were appointed Grievance Officers. These officers provide an invaluable and largely unseen contribution to positive workplace relationships and early resolution of concerns.

Complementary to these initiatives has been extensive consultancy by human resource consultants to assist managers deal with a substantial caseload of more complex interpersonal, industrial, disciplinary, and performance issues. This service ensures a responsive organisation intent on providing early intervention and resolution in such situations.

The design, development and implementation of a corporate induction system in November 2003 was a major step forward in providing managers with the appropriate tools and support to socialise new staff into their chosen workplace. It is well established that appropriate induction has performance and productivity benefits.

The Branch also developed and implemented a whole of agency framework and initiatives for Occupational Safety and Health (OS&E), including:

- The development and implementation of an OS&H operating accountability framework identifying hierarchical and reporting structures;
- The development of the Department's OS&H Management Manual defining the overall model, principles and standards to be applied at all work sites;
- The creation of strategic and operating committees to handle organisational level planning and initiatives and local operational issues;
- The provision of specialist training of management and employee Safety and Health Representatives and conducting senior management awareness sessions;
- The provision of employee support material through the intranet site, including a self help office based ergonomic program supported by access to contract ergonomists;
- The introduction of a organisation-wide voluntary flu vaccination program, which was taken up by a third of the workforce; and
- The introduction of a restructured site inspection program to accommodate the full range of business activities and associated risk categories.

A complementary initiative has been the review and implementation of a simplified and elegant performance development and management process — the Enhanced Performance Development Conversation System. This provides staff and managers with the tools to assist in building their relationship, and their relationship with the organisation, providing the foundation for ongoing performance and contribution improvement to reflect individual and group development needs. We also commenced development of an agency-wide, needs-based training and development framework. This initiative complements a Manager Development Program pilot that is in the process of review and evaluation for likely application across all management levels.

In our primary operational services, we have developed a service centre approach to service delivery. In 2003–04 a high volume per staff ratio of 236 individual positions were advertised externally and filled by way of merit selection. This included the management of two separate recruitment pools for specialist job families. Internally, some 150 Expressions of Interest were managed. Our recruitment work has been complemented by our partnership with Spherion to provide a high quality and timely recruitment service. We also facilitated the recruitment and appointment of three Director level SES processes.

Payroll through CONCEPT was achieved at a very high quality/low error process, a pleasing result in view of the multiple paygroups that are processed for the amalgamating agencies.

The abolition of the Office of Water Regulation and its replacement with the Office of Water Policy and the Economic Regulation Authority resulted in the transfer of all affected staff to the Department from 1 January 2004. Structures for the two new units were completed and signed off early in May 2004. A process was developed for populating these units with staff transferred from the Office of Water Regulation, in the first instance. The case management of the redeployment process is being managed through human resource consultancy.

A significant role in achieving organisational outcomes is achieved through servicing a range of boards and committees including the Swan River Trust, the Water and Rivers Commission Board and the Environmental Protection Authority. The Human Resources Branch completed a review of policies and procedures for the recruitment and appointment processes, and consulted on new policies and procedures including corporate governance and Code of Conduct requirements for Boards.

Customer service and responsiveness to complaints has seen the development of policy and process for external complaint handling.

Through all the human resource initiatives and services, a critical factor is communication, awareness raising, consultation and presence. Initiatives developed and maintained have included fortnightly corporate reporting on human resource initiatives and developments, monthly dedicated ‘hot readings’ on human resource matters to all staff, and an increased presence in the extensive regional office network. With ongoing communication and relationship building, the Branch has provided an extensive framework and suite of tools which will serve staff and the Department well as they are implemented and used to shape the culture of a best practice organisation

3.8.5.1 People

The numbers of staff shown in the table below are those employed by the Department of Environmental Protection. In addition, a total of 452 staff were employed by the Water and Rivers Commission.

Table 8: Department of Environmental Protection staff

	2002-03	2003-04
Full-time permanent staff	186	236
Part-time permanent staff	14	21
Fixed term contract staff	43	53
Re-deployed staff	0	10
Total staff	243	320
Staff recruited	66	129

3.8.5.2 Recruitment and Selection

The Department of Environmental Protection manages recruitment and selection for the agency itself, the Officer of the Heritage Commission (OHC) and Keep Australia Beautiful Council (KABC).

126 positions were advertised during the year, 121 for the Department of Environment and five for the Office of the Heritage Commission. 58 of these positions were filled by internal applicants (58 — Department of Environmental Protection and 0 — Office of the Heritage Commission). 45 of these positions were filled by external applicants (40 — Department of Environmental Protection and five — Office of the Heritage Commission). 17 positions are still subject to recruitment and selection at the end of the reporting period.

Spherion Outsourcing Solutions supplies recruitment and selection services to the agency. The contract began in January 2001 and ceased in May 2004. As a result of a formal tender process, Spherion successfully applied for the ongoing contract due to the company's ability to partner the agency in its recruitment campaigns, and its expertise in e-recruitment. This contract is for a 12-month period with a maximum of a further three 12-month extensions dependent upon performance and business needs.

3.8.5.3 Worker's Compensation

Five worker's compensation claims were lodged during the financial year. There were two claims involving lost time, with a total of 35 days of work time lost.

3.8.5.4 Grievance Officers

The agency has appointed employees who wish to assume a Grievance Officer role. All new Grievance Officers have undertaken formal training and have successfully completed an 'Assessment of Competency' as a Grievance Officer before taking up the role. Existing Grievance Officers must successfully complete refresher training every two years. A network of Grievance Officers exist to meet the needs of staff and provide support to each other.

The agency has developed new Grievance, Harassment and Discrimination guidelines which reflect all legislative changes.

11 grievances were raised in the 2003–04 financial year, all of which were resolved informally.

3.8.5.5 Disability Services

The agency continues to provide appropriate services and facilities for stakeholders with disabilities. Renovations undertaken within any agency facility throughout the State take into account the recommendations of the Disability Access Audit.

3.8.5.6 Public Sector Standards

During 2003–04, four requests for a right of review of the Public Sector Standards were received.

Two requests related to recruitment and selection. Neither request for a right of review was resolved directly between the complainant and the Department. Both (two) requests for right of review were referred to the Public Sector Standards Commission for resolution. Both (two) requests were dismissed.

One request related to a right of review for a potential breach of the Public Sector Standards was raised in relation to Temporary (Acting) Deployment. This request was referred to the Public Sector Standards Commission for resolution. The request was upheld.

All policies and procedures adopted by the agency in support of Public Sector Standards in Human Resource Management are accessible to staff on the Intranet.

3.8.5.7 Ethical Standards

The agency requires all employees and contractors to exercise high standards of ethical behaviour in performing their duties, as set out in the Department of Environmental Protection's Code of Conduct. No breaches of the Department of Environmental Protection Code of Conduct were found to have occurred during 2003–04.

3.8.6 Legal Services

Legal Services provides legal advice to the CEO and the Department. In 2003–04, tasks included advising on legislation, management of litigation, and management of prosecutions arising before 1 July 2003, in liaison with the State Solicitor's Office.

3.8.6.1 Legislation

The *Environmental Protection Amendment Act 2003*, the *Carbon Rights Act 2003* and the *Contaminated Sites Act 2003* were progressed through Parliament.

3.8.6.2 Litigation

Sulman v Atlas Group, the Department of Environmental Protection and others District Court 1620 of 2002.

The matter is ongoing.

Donald John Moore v Department of Environmental Protection and others, CIV 1656 of 2004

Donald Moore has lodged a writ claiming unspecified damages for loss of plant, stock and equipment following an incident at a Bentley waste paper warehouse in 1997. Appearances have been filed on behalf of the Department, present and former staff.

Kostanich & Others v Shire of Carnarvon and Water & Rivers Commission

Carnarvon flood claim for damages alleging that flood management activities around the townsite of Carnarvon led to damage to property. Preparation for trial continues.

3.8.6.3 Prosecutions

Rose Valley Cheese Company Pty Ltd.

Charge: On 12 July 2001, failed to comply with a condition of licence to ensure that wastewaters were not irrigated or otherwise disposed of on-site. Prosecuted under section 58 of the *Environmental Protection Act*. Decision of guilty handed down 27 August 2003. Fined \$5000 and costs of \$1357.

Ransberg Pty Ltd trading as WA Bluemetal Pty Ltd.

Charges: Between 10 April 2001 and 12 May 2001, being the occupier of certain premises failed to (a) comply with the prescribed standard for the emission of noise in regulation 11(40(a) of the Noise Regulations and (b) take all reasonable and practicable measures to prevent or minimise the emission of noise from the premises. Prosecuted under section 51 of the *Environmental Protection Act* and regulations 6(1) and 6(2) of the Environmental Protection (Noise) Regulations 1997. Necessary calibration of noise monitoring equipment was inadequate to sustain the charge. On 2 February 2004, the Department offered no evidence. The Magistrate dismissed the charges and awarded \$5020 in costs awarded to the defendant.

William Edward Kierath

Charge: Between March and April 2002, without authorisation excavated peat from a Uduc wetland. Prosecuted for contravention of the Environmental Protection (Swan Coastal Plain Lakes) Policy Approval Order 1992. Decision of guilty handed down 12 February 2004. Fined \$600 and costs of \$903.

BGC Australia Pty Ltd.

Charge: Causing pollution on 21 to 24 June 2001 by the spillage of oil at BGC Fibre Cement, Canning Vale. The Department alleged this oil found its way via a drainage system into the Whaleback Golf Course lake, Parkwood. Prosecuted for breach of sections 49(3) of the *Environmental Protection Act*. On 23 June 2004, the Department discontinued the prosecution and withdrew the complaint when, before the hearing, the defence provided compelling expert evidence.

Tiwest Pty Ltd.

Charges: Released an estimated 1400 kilograms of chlorine gas from the Tiwest pigment plant at Kwinana, causing pollution by affecting three workers at the nearby BP Oil Refinery and causing an unreasonable emission. Prosecuted for breaches of sections 49(3) and 49 (5) of the *Environmental Protection Act*. The Magistrate found that the offences had been committed but that defences had been made out under section 74. The decision of not guilty handed down 28 June 2004. Defendant therefore acquitted of both charges. \$151 930 in costs awarded to the defendant.

3.8.6.4 Freedom of Information

During the year 61 Freedom of Information Applications were processed. Of these, 53 were for non-personal information and three were for personal information. Five applications were withdrawn but no applications were refused.

Six applications were made for internal review and five applications went to external review. The average time for an application to be reviewed was 37 days.

The main areas of interest included proposals submitted for assessment, water licensing, contaminated sites, compliance with licence conditions and land clearing.

3.8.6.5 Due Diligences requests for information applying to private land

690 requests were processed at an average 58 per month.

4 Compliance Reports

4.1 Responsible Minister

The Department of Environmental Protection's primary responsibility during the reporting period was to the Minister for the Environment, who exercised authority under the *Environmental Protection Act 1986*.

4.2 Statement of compliance with written law

4.2.1 Legislation administered

Legislation administered by the Department of Environmental Protection and the Water and Rivers Commission as at 30 June 2004:

Acts

- *Country Areas Water Supply Act 1947*
- *Environmental Protection Act 1986 (as amended)*
- *Environmental Protection (Landfill) Levy Act 1998*
- *Freedom of Information Act (1992)*
- *Metropolitan Water Authority Act 1982*
- *Metropolitan Water Supply, Sewerage and Drainage Act 1909*
- *National Environmental Protection Council (Western Australia) Act 1996*
- *Rights in Water and Irrigation Act (1914)*
- *Swan River Trust Act 1988*
- *Water Boards Act 1904*
- *Water and Rivers Commission Act 1995*
- *Waterways Conservation Act 1976*
- *Water Agencies (Powers) Act 1984*

Regulations

- *Clean Air Regulations 1967*
- *Clean Air (Control of Fibreglass Fumes and Dust) Regulations 1982*
- *Clean Air (Determination of Air Impurities in Gases discharged into the Atmosphere) Regulations 1983*
- *Noise Abatement (Noise Labelling of Equipment) Regulations (No.2) 1985*

- Environmental Protection Regulations 1987
- Environmental Protection Amendment Regulations (No. 2) 1998
- Environmental Protection (*Abattoirs*) Regulations 2001
- Environmental Protection (*Abrasive Blasting*) Regulations 1998
- Environmental Protection (*Concrete Batching and Cement Product Manufacturing*) Regulations 1998
- Environmental Protection (*Controlled Waste*) Regulations 2001
- Environmental Protection (*Diesel and Petrol*) Regulations 1999
- Environmental Protection (*Domestic Solid Fuel Burning Appliances and Firewood Supply*) Regulations 1998
- Environmental Protection (*Fibre Reinforced Plastics*) Regulations 1998
- Environmental Protection (*Goldfields Residential Areas*) (*Sulphur Dioxide*) Regulations 1992
- Environmental Protection (*Kwinana*) (*Atmospheric Wastes*) Regulations 1992
- Environmental Protection (*Liquid Waste*) Regulations 1996
- Environmental Protection (*Metal Coating*) Regulations 2001
- Environmental Protection (*NEPM-NPI*) Regulations 1998
- Environmental Protection (*Noise*) Regulations 1997
- Environmental Protection (*Recovery of Vapours from the Transfer of Organic Liquids*) Regulations 1995
- Environmental Protection (Rural Landfill) Regulations 2002
- Rights in Water and Irrigation Regulations 2000
- Rights in Water and Irrigation Amendment Regulations (No.2) 2002
- Rights in Water and Irrigation Exemption and Repeal (Section 26C) Order 2001

Environmental Protection Policies

- Environmental Protection (*Swan Coastal Plain Lakes*) Policy 1992
- Environmental Protection (*Gnangara Mound Crown Land*) Policy 1992
- Environmental Protection (*Peel Inlet - Harvey Estuary*) Policy 1992
- Environmental Protection (*Kwinana*) (*Atmospheric Waste*) Policy 1999
- Environmental Protection (*Goldfields Residential Areas*) (*Sulphur Dioxide*) Policy 1992
- Environmental Protection (*Ozone Protection*) Policy 2000
- Environmental Protection (*South West Agricultural Zone Wetlands*) Policy 1998
- Environmental Protection (*Swan and Canning Rivers*) Policy 1998

Orders

- Environmental Protection (Gold Extraction Operations) Exemption Order 1993

4.3 Statement of compliance with public sector standards

In the administration of the Department of Environmental Protection, I have complied with the Public Sector Standards in Human Resource Management, the WA Public Sector Code of Ethics and our Code of Conduct.

I have put in place procedures designed to ensure such compliance and have conducted appropriate internal assessments to satisfy myself that the statement made above is correct.

During 2003–04, four requests for a right of review of the Public Sector Standards were received. Details of the resolution of these requests can be found in Section 3.8.5.6.



Derek Carew-Hopkins
ACTING DIRECTOR GENERAL

4.4 Advertising and sponsorship

Under Section 175Ze of the *Electoral Act 1907*, the Department of Environmental Protection reports the following expenditure on marketing and advertising during 2003–04:

Class of Expenditure	Total expenditure for class	Name of person/agency where total annual payments are greater than \$1500
Advertising agencies	Nil	-
Market Research organisations	Nil	-
Polling organisations	Nil	-
Direct mail organisations	Nil	-
Media advertising	\$146 155	Marketforce (\$48 165 of this figure is advertising of staff vacancies)
Total Expenditure	\$146 155	

4.5 Government Waste Paper Recycling

The State Government of Western Australia recycled an average of 64.3 tonnes* of waste paper per month from its metropolitan agencies during the year. A total of 771 tonnes of waste paper was recycled during the year. This is an increase of 17 tonnes across the public sector from the previous financial year (754 tonnes).

* Statistics represent July 2003 — June 2004. Based on this data, a monthly average of 64.3 tonnes was collected from across metropolitan based State Government agencies during the year.

4.6 The Department's recycling performance

In 2003–04, the DEP's Perth office recycled 6530 kilograms of waste paper under the State Government's Waste Paper Recycling Program. This is an increase of 1935 kilograms over the previous year (4595 kilograms). The Department continued to recycle plastics, aluminium and steel cans, glass and milk cartons in all kitchen areas through the implementation of the department's Eco-office Program. We also continued to support a worm farm, using food scraps collected in kitchen areas across the department.

4.7 Energy Smart Government policy

In accordance with the Energy Smart Government policy we have committed to achieving a 12 per cent reduction in non-transport related energy use by 2006–07 with a 6 per cent reduction targeted for 2003–04. In previous years, data was reported separately for the Department of Environmental Protection and the Water and Rivers Commission. Although the merger is not completely progressed for the Water and Rivers Commission at this stage, for all intents and purposes and ease of data gathering and reporting, this year's data has been combined for the Department of Environment as a whole.

Table 9: Summary Energy Consumption Data

End Use Category Energy Smart Government Program			Baseline Data 2001-2002	Actuals 2003-2004
Office buildings —	Energy Consumption	GJ	6 068	6 561
tenant services				
Other facilities	Energy Consumption	GJ	1 186	1 662
Total			7 254	8 223
Office buildings —	Energy Cost	\$	251 983	272 933
tenant services				
Other facilities	Energy Cost	\$	52 020	54 416
Total			304 003	327 349
Office buildings —	Greenhouse Gas	Tonnes	1 539	1 649
tenant services	Emissions	of CO ₂		
Other facilities	Greenhouse Gas	Tonnes	303	420
	Emissions	of CO ₂		
Total			1 842	2 069

The variation between the baseline data (2001–02) and the actual data (2003–04) represents a 13.36 per cent increase in the Department of Environment's stationary energy consumption and hence the 6 per cent reduction target on total energy consumption has not been achieved. This can be explained by the huge growth experienced by DoE since the inception of the program, with an approximately 45 per cent increase in staff numbers since the baseline year. It should be noted that DoE has reduced energy consumption per capita by 30 per cent since the baseline year. Furthermore, we have ministerial commitments to artificially maintain the water levels in wetlands and waterbodies such as Lake Nowergup to maintain ecological

functions. This is achieved through the use of groundwater pumping bores which consume high amounts of electricity, especially during times of drought when they are operated on a constant basis. Had all bores and monitoring stations' energy consumption been excluded from the data, the overall increase would only have been 7.8 per cent.

Table 10: Performance Indicators by End Use Category

End use category	Annual energy consumption					
	Baseline data 2001-02 (MJ/FTE)	Actual 2003-04 (MJ/occupancy)	Baseline data 2001-02 (MJ/m ²)	Actual 2003-04 (MJ/m ²)	Baseline data 2001-02 (GJ)	Actual 2003-04 (GJ)
Office buildings —						
tenant services	10 498	7 464	385	443	6 068	6 561
Other facilities	NA	NA	NA	NA	1 186	1 662

During the year, the Department's Corporate Executive endorsed the establishment of a full-time employee position to work on Eco-office and TravelSmart implementation throughout the agency. This encompasses the Energy Smart Government Program. The Eco-office committee continues to operate successfully under the direction of its chairperson and Energy Executive, Mr Brendan O'Neil. The Eco-office committee and the new full-time position will have the role of ongoing investigation and implementation of energy saving initiatives within the Department, with particular focus on the collocation to our new premises.

**AUDITOR GENERAL****INDEPENDENT AUDIT OPINION****To the Parliament of Western Australia****DEPARTMENT OF ENVIRONMENT
PERFORMANCE INDICATORS FOR THE YEAR ENDED JUNE 30, 2004****Audit Opinion**

In my opinion, the key effectiveness and efficiency performance indicators of the Department of Environment are relevant and appropriate to help users assess the Department's performance and fairly represent the indicated performance for the year ended June 30, 2004.

Scope***The Chief Executive Officer's Role***

The Chief Executive Officer is responsible for developing and maintaining proper records and systems for preparing performance indicators.

The performance indicators consist of key indicators of effectiveness and efficiency.

Summary of my Role

As required by the Financial Administration and Audit Act 1985, I have independently audited the performance indicators to express an opinion on them. This was done by looking at a sample of the evidence.

An audit does not guarantee that every amount and disclosure in the performance indicators is error free, nor does it examine all evidence and every transaction. However, my audit procedures should identify errors or omissions significant enough to adversely affect the decisions of users of the performance indicators.

A handwritten signature in blue ink, appearing to read 'D D R Pearson'.

D D R PEARSON
AUDITOR GENERAL
October 15, 2004

5 Performance Indicators

Performance indicators have been developed to enhance public accountability and to help the Department of Environmental Protection to assess and monitor its performance. Indicators are required to be relevant, free from bias and quantifiable (*Financial Administration and Audit Act 1985*).

In compliance with the requirements of Treasurer's Instruction 904, the DEP's audited performance indicators relate to the Department's outcome, which is management, conservation and enhancement of the environment.

The DEP achieves its goal of environmental protection by working with and through many other organisations, some of which take primary responsibility for parts of the environment. Audited performance indicators are provided for issues for which strategies are in place or under investigation by the DEP. There are several distinct outputs against which the performance indicators are reported.

Tables shown represent amounts for the financial year 2003–04 and the previous two years.

Certification of Performance Indicators for the year ended 30 June 2004

I here by certify that the performance indicators are based on proper records, are relevant and appropriate for assisting users to assess the Department of Environmental Protection's performance, and fairly represent the performance of the Department of Environmental Protection for the financial year ending 30 June 2004.



Derek Carew-Hopkins
ACCOUNTABLE OFFICER

15 August 2004

Abbreviations used in Audited Performance Indicators

°C = degrees Celsius

ANZECC = Australia and New Zealand Environment Conservation Council

AQMP = Air Quality Management Plan

CBD = Central Business District

CEO = Chief Executive Officer

CO = carbon monoxide

DEP = Department of Environmental Protection

DOE = Department of Environment

EIA = Environmental Impact Assessment

EPA = Environmental Protection Authority

EPP = Environmental Protection Policy

FWXL = flow-weighted mean concentration

gPb/L = grams of lead per litre

GWP = global warming potential

hPa = hectopascal

IWDF = Intractable Waste Disposal Facility

kg = kilogram

kL = kilolitre

km = kilometre

kPa = kilopascals

KIC = Kwinana Industry Council

LOA = level of assessment

LWTP = liquid waste treatment plant

m⁻¹ = per metre

ML = megalitres

mg/m³ = milligrams per cubic metre

µg/m³ = micrograms per cubic metre

µg/L = micrograms per litre

µg/Pb/L = micrograms of lead per litre

MAFRL = Marine and Freshwater Research Laboratory

n.a. = not available

NEPM = National Environment Protection Measure

NH&MRC = National Health and Medical Research Council

NO₂ = nitrogen dioxide

O₃ = ozone

% = per cent

PAN = Pollution Abatement Notice

Pb = lead

PCB = polychlorinated biphenyls

PM₁₀ = particles less than 10 microns (µm)

PM_{2.5} = particles less than 2.5 microns (µm)

ppb = parts per billion

ppm = parts per million

SO₂ = sulphur dioxide

SoE = State of the Environment Report for Western Australia 1998

STD = standard

STP = standard temperature (0°C) and pressure (1013.25 hPa)

t = tonne

TP = total phosphorus

USEPA = United States Environment Protection Agency

WA = Western Australia

WHO = World Health Organisation

Performance Framework

The performance framework below shows the relationships between what we sought to achieve and our performance indicators. Our main outcome is divided into sub-outcomes, which are separately identified into the management and enhancement of the environment, and the conservation and enhancement of the environment.

Management and enhancement of the environment pertains to the activities involved in formulating the environmental protection policies, managing environmental impact assessments and managing regulatory functions so as to enhance environmental outcomes. The management of contaminated sites and coordination of pollution incident responses along with an increased focus on increasing our knowledge and understanding of environmental systems under threat, provide further elements of the environmental management and enhancement role.

Conservation and enhancement of the environment relates to the provision of community advice aimed at promoting positive environmental behaviours, development of waste reduction, recycling and safe disposal options, and conservation of wetlands through policy development. Policy development focused on minimising discharges into the environment and prevention or abatement of pollution are further elements of the conservation and enhancement role.

SUB OUTCOMES	
Management	Conservation and Enhancement
PI 1 Photochemical smog (as measured by ozone) in the Perth metropolitan area.	
PI 2 Haze in the Perth metropolitan area and the South West (as measured by visual distance loss and particles).	
PI 3 Nitrogen dioxide in the Perth metropolitan area.	
PI 4 Carbon monoxide in the Perth metropolitan area and Bunbury.	
PI 5 Sulphur dioxide in Kwinana and Kalgoorlie.	
PI 6 Nutrient-related water quality of Cockburn Sound.	
PI 7 Dust.	
PI 8 Regulation of industry.	
	PI 9 Referral of projects to the EPA that may have a significant effect on the environment.
	PI 10 Compliance with environmental conditions placed on approved development proposals through the environmental impact assessment process.

Effectiveness Indicator 1

Photochemical smog (as measured by ozone) in Perth

Desired outcome

That photochemical smog, as measured by ozone in Perth's atmosphere, is reduced by the introduction of management strategies resulting in environmentally acceptable levels.

Objective

To monitor, analyse and report on the level of ground level ozone in the atmosphere. The target population is the Perth metropolitan community. Outputs include:

- monitoring, analysis and reporting;
- implementing the Perth Air Quality Management Plan (AQMP); and
- NEPM reporting.

The Perth AQMP is a 30 year plan to improve Perth's air quality, containing 12 initiatives comprising 43 programs. Air quality monitoring data will be used to perform regular reviews of trends in Perth's air quality to ensure that the management strategies in the Perth AQMP are effective in improving overall air quality in Perth.

Relevance to output description

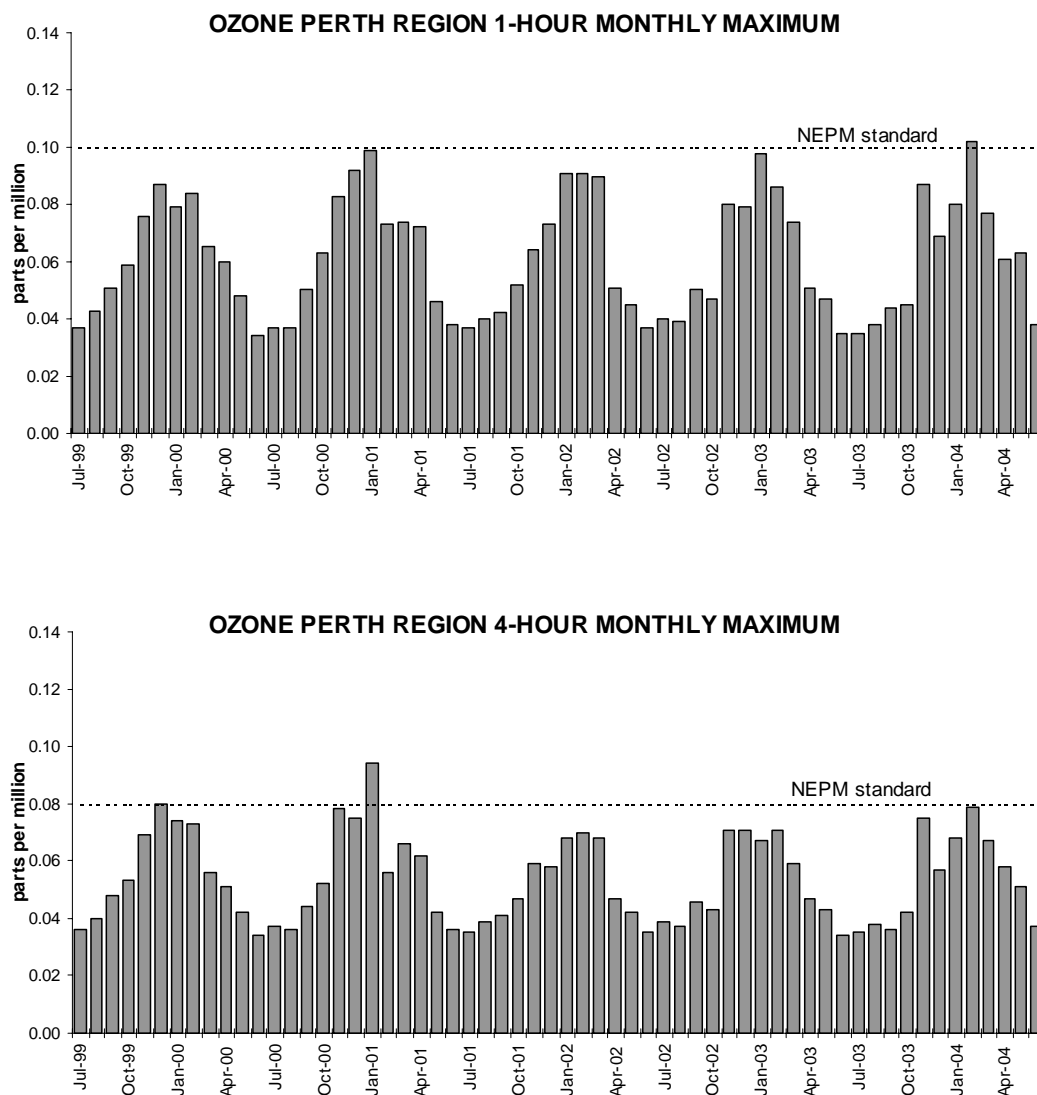
Ozone at ground level can be detrimental to human health, and can damage vegetation and buildings. The issue should not be confused with ozone in the troposphere that acts to filter ultra-violet radiation.

Photochemical smog has been identified in the 1998 WA State of the Environment Report as having an environmental status rating of three. A rating of five indicates the highest priority for Government and community action, while a rating of one has the lowest priority.

Effectiveness indicator

The effectiveness indicator is the extent to which ozone levels are below the NEPM standard of 0.1 ppm averaged over 1 clock hour, and 0.08 ppm averaged over 4 clock hours. Ozone concentrations at all sites in the Perth Metropolitan region were below the 4-hour NEPM standard during 2003–04. Two sites, Rockingham and Rolling Green exceeded the 1-hour NEPM standard once during 2003–04.

The highest 1-hour averaged concentration of 0.102 ppm was recorded at Rockingham during February 2004. The highest 4-hour concentration during 2003–04 was 0.079 ppm, recorded at Rockingham in February 2004.



The graph shows the maximum 1-hour averaged of ozone concentration for each month across the Perth metropolitan area. It demonstrates the seasonal fluctuation of ozone levels, with the highest levels occurring during summer months.

Year	Exceedences (per site)		Year	Exceedences (per site)	
	1 hr	4 hr		1 hr	4 hr
1999-2000	0	0	2000	0	0
2000-2001	0	2	2001	0	2
2001-2002	0	0	2002	0	0
2002-2003	0	0	2003	0	0
2002-2004	2	0	2004 (6 months)	2	0

The table shows the number of days each year that 1-hour and 4-hour ozone concentrations exceeded the NEPM standard at one or more monitoring stations. The National Environmental Protection Council has set a goal that by 2008 the standard is not to be exceeded more than once per year at any one station. Exceeding the ozone standard indicates elevated levels of photochemical smog and is of concern to the Department.

The NEPM goal of no more than 1 exceedance per calendar year (at each site) was met during 2003.

Effectiveness Indicator 2

Haze in Perth and the South West (as measured by visual distance loss and particles)

Desired outcome

That atmospheric haze levels are reduced by the introduction of management strategies resulting in environmentally acceptable levels.

Objective

To monitor particle levels in Perth, and the South West and the incidence of days on which visual distance in Perth and the South West is affected as well as identify the cause of haze events. The target population is the community in urban and regional centres. Outputs include:

- monitoring, analysis and reporting;
- implementing the Perth Air Quality Management Plan (AQMP); and
- NEPM reporting.

The Perth AQMP is a 30 year plan to improve Perth's air quality, containing 12 initiatives comprising 43 programs. Air quality monitoring data will be used to perform regular reviews of trends in Perth's air quality to ensure that the management strategies in the Perth AQMP are effective in improving overall air quality in Perth.

Relevance to output description

Research locally, overseas and interstate is showing that fine particles in the air are the cause of, or major contributors to, respiratory illness. Visual distance loss is also a cause for considerable public concern and is a major contributor to loss of air quality in Perth and the South West. The identification of the cause of the increase in particles in the air in Perth and the South West will support other initiatives to ensure the air in these areas remains healthy.

Effectiveness indicator

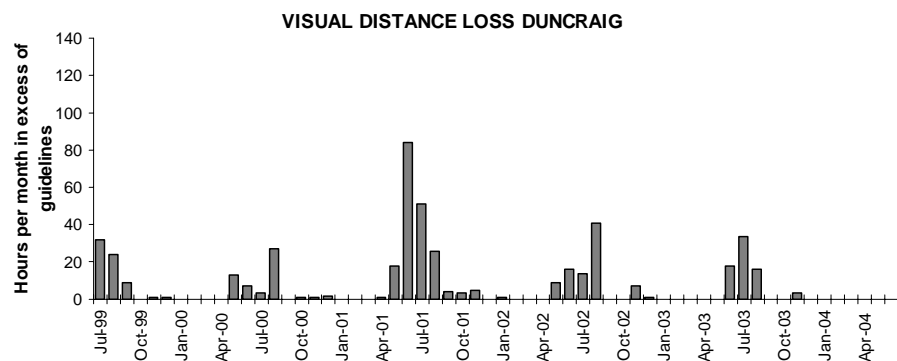
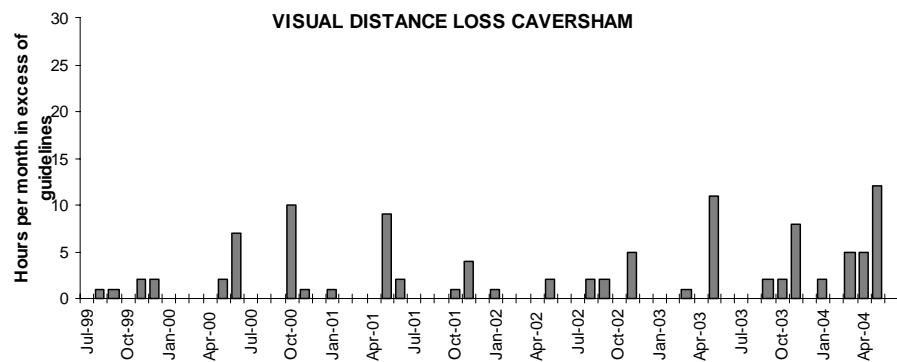
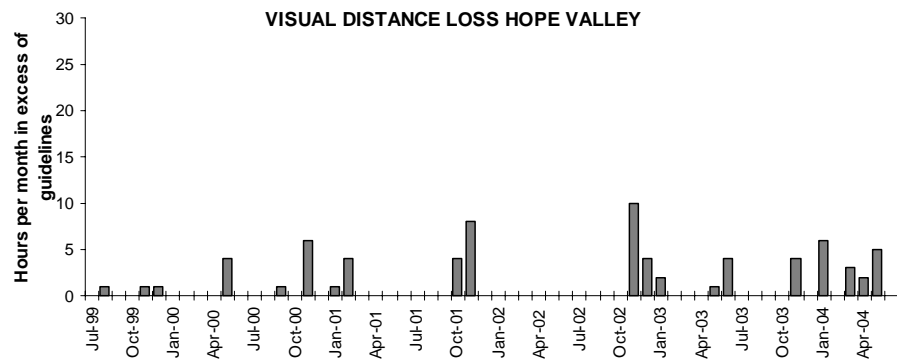
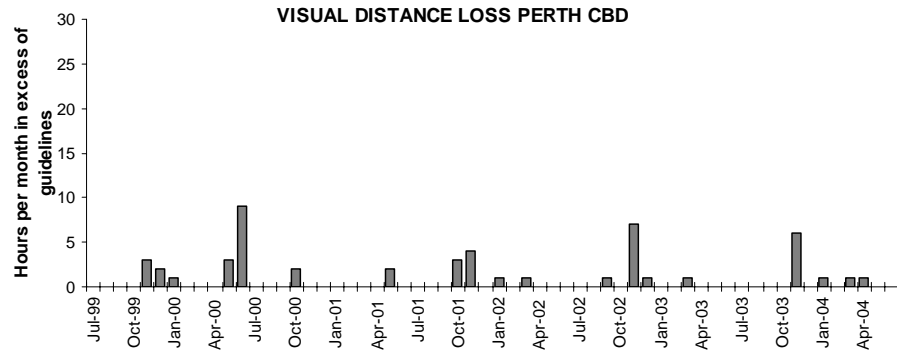
The effectiveness indicators are the extent to which the following are minimised:

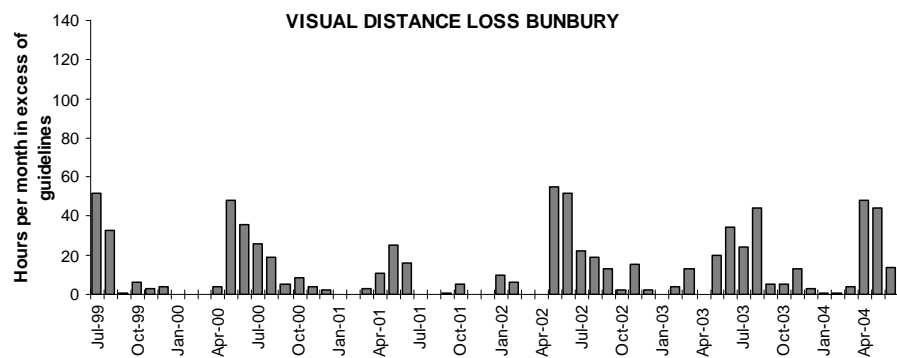
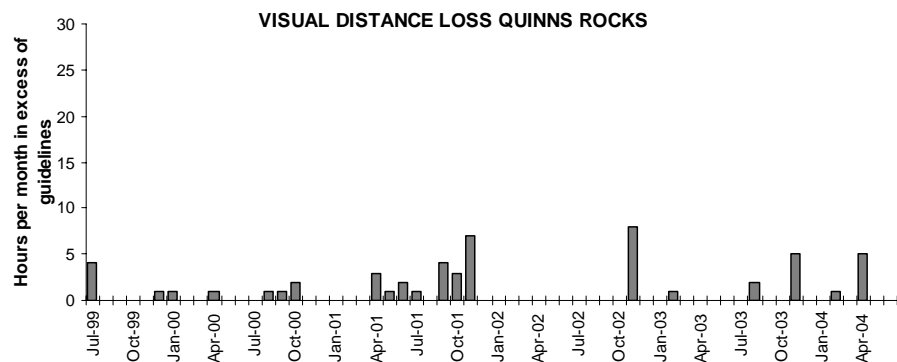
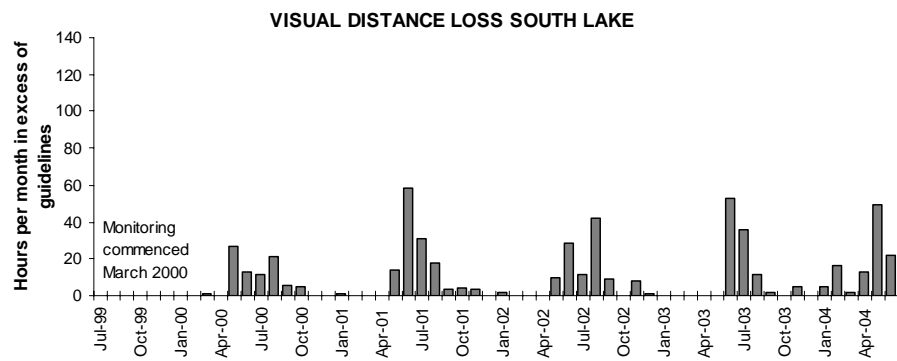
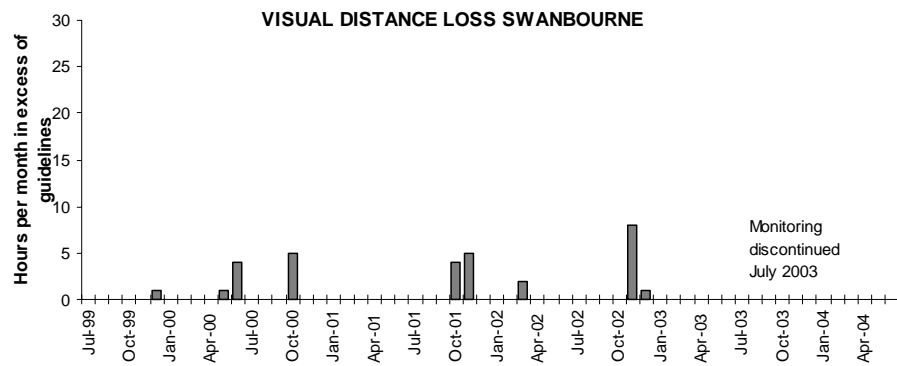
- a) visual distance loss — as measured against the Victorian EPA guideline (20 km visual distance),
- b) particle levels — as measured against the NEPM standard (particles as PM_{10}).

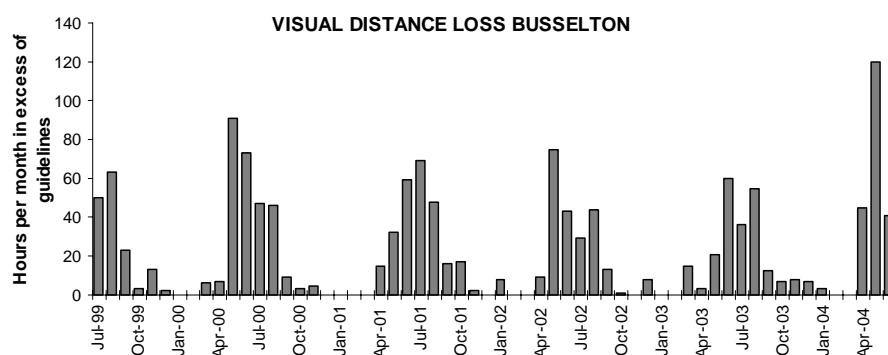
a) Visual distance loss

There are no standards for haze within WA, however the department uses the Victorian EPA guideline, which is equivalent to a visual distance of approximately 20 kilometres.

The graphs highlight the number of hours each month where visibility has been reduced by haze. The main causes of haze include motor vehicle exhaust emissions, domestic wood heaters, bushfires and burning of open vegetation.







Year to year variations in the number of hours of visual distance loss are normal and are generally influenced by various factors such as average winter time air temperature, and the amount of rainfall received.

Visual distance loss (clock hours per year)

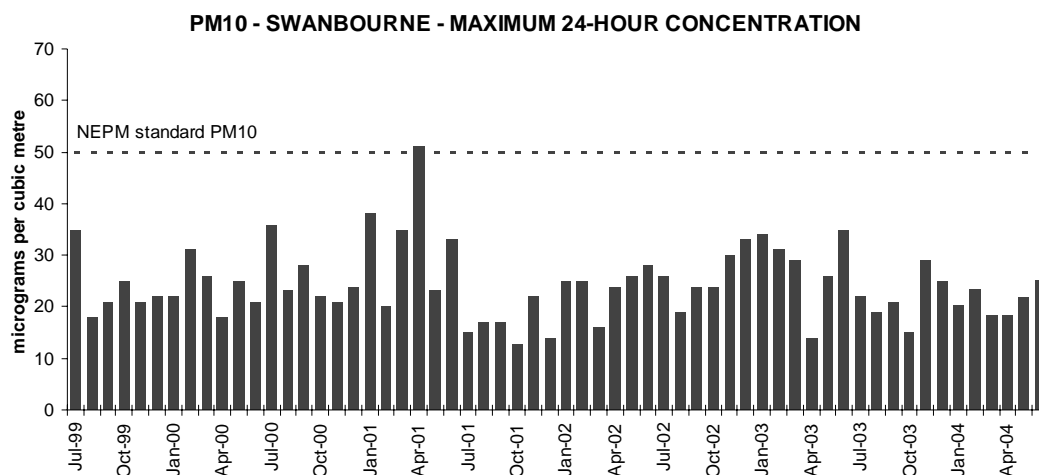
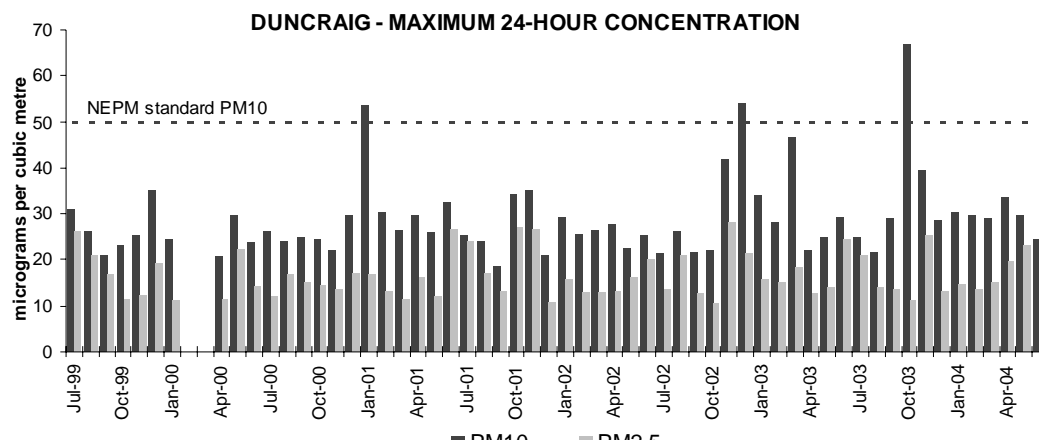
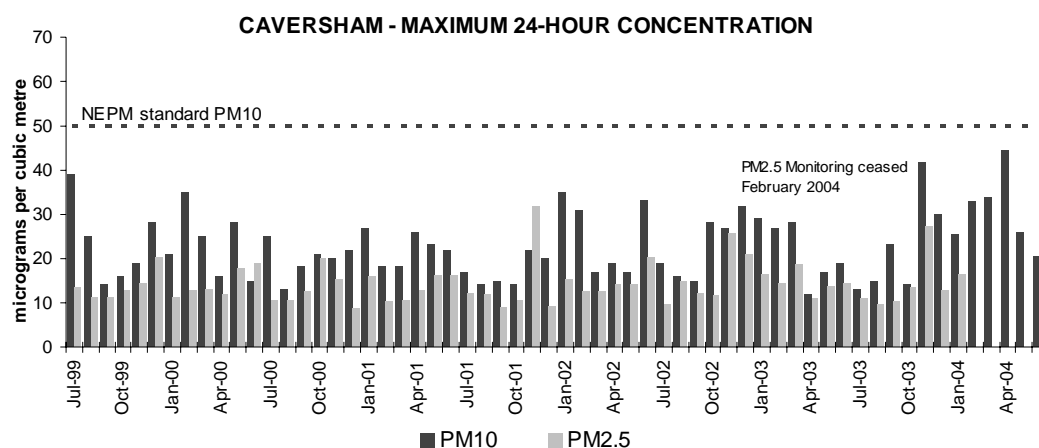
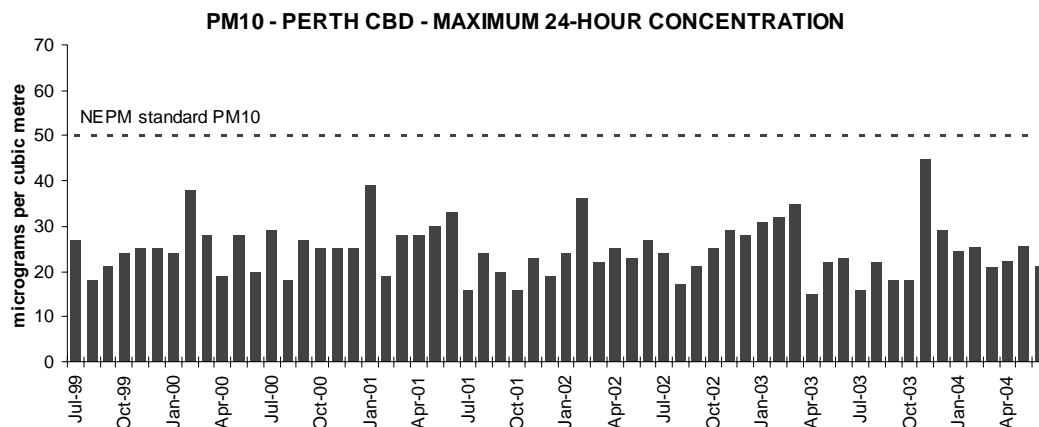
	1999-2000	2000-01	2001-02	2002-03	2003-04
Perth CBD	18	4	9	10	9
Hope Valley	7	12	12	21	20
Caversham	15	23	8	21	36
Duncraig	87	137	115	81	53
Swanbourne	6	5	11	9	-
South Lake	-	116	99	124	161
Quinns Rocks	7	10	15	9	13
Bunbury	187	119	129	144	206
Busseton	331	216	287	194	334

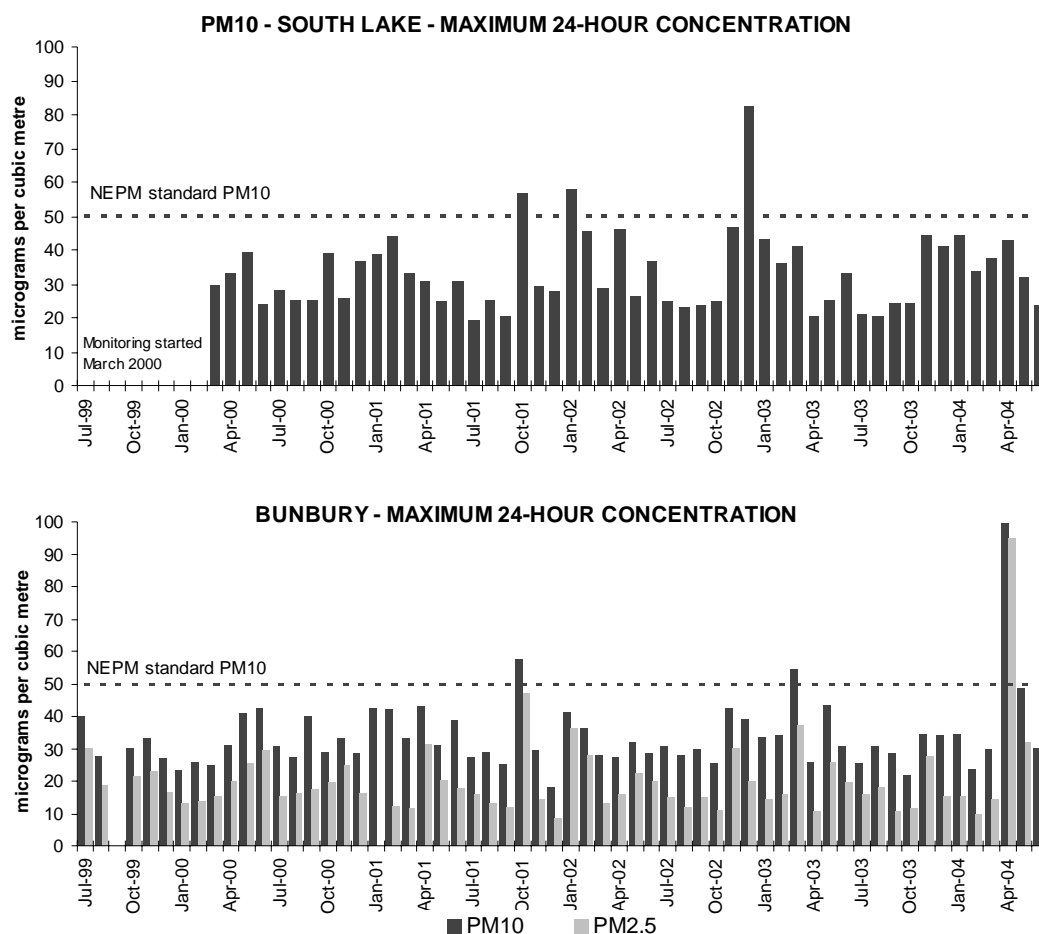
b) Particle levels

The National Environment Protection Council has set a standard of $50 \mu\text{g}/\text{m}^3$ 24-hour average for PM_{10} with a goal that by 2008 the standard is not to be exceeded on more than five days per year at any one monitoring station.

The NEPM was varied in 2003 to include standards for $\text{PM}_{2.5}$. The new standards, known as Advisory Reporting Standards, are $25 \mu\text{g}/\text{m}^3$ averaged over 24 hours and $8 \mu\text{g}/\text{m}^3$ averaged over one year. There are no compliance goals associated with these Advisory Reporting Standards.

The graphs show the maximum 24 hour concentration of particles less than 10mm (PM_{10}) and less than 2.5mm ($\text{PM}_{2.5}$) in diameter at various sites in the Perth metropolitan area and Bunbury.





The following table lists exceedances of the NEPM standard for PM_{10} of $50 \mu\text{g}/\text{m}^3$ averaged over 24 hours and the advisory standard for $PM_{2.5}$ of $25 \mu\text{g}/\text{m}^3$ averaged over 24 hours during 2003–04.

Location	Date	PM_{10} ($\mu\text{g}/\text{m}^3$)	$PM_{2.5}$ ($\mu\text{g}/\text{m}^3$)	Probable cause
Duncraig	29 October 2003	66.7		Machinery grading compound
Duncraig	8 November 2003		25.2	Prescribed Burning in SW
Bunbury	8 November 2003		27.5	Prescribed Burning in SW
Caversham	29 November 2003		27.3	Prescribed Burning in SW
Bunbury	8 April 2004	53.6	31.4	Prescribed Burning in SW
Bunbury	17 April 2004	99.5	94.9	Prescribed Burning in SW
Bunbury	28 April 2004	60.1	47.9	Prescribed Burning in SW
Bunbury	29 April 2004	56.5	48.2	Prescribed Burning in SW
Bunbury	5 May 2004		32.0	Prescribed Burning in SW

The NEPM goal for PM_{10} of no more than 5 exceedance per calendar year (at each site) was met during 2003.

The annual averages for each site measuring $PM_{2.5}$ are shown in the following table. The advisory standard for $PM_{2.5}$ has set an annual standard of $8 \mu\text{g}/\text{m}^3$.

Annual Average Concentration of Particles as PM_{2.5}

Location	1999	2000	2001	2002	2003
Caversham	7.2	7.4	7.6	8.1	8.0
Duncraig	8.6	8.0	8.6	9.2	8.9
Bunbury	9.3	9.3	8.7	9.0	8.6

The average concentration of particles as PM_{2.5} for Duncraig in 2000 was incorrectly given as 9.0 in last year's annual report.

Effectiveness Indicator 3

Nitrogen dioxide in Perth

Desired outcome

That nitrogen dioxide levels in Perth are reduced by the introduction of management strategies resulting in environmentally acceptable levels.

Objective

To monitor, analyse and report on the level of nitrogen dioxide in the atmosphere. The target population is the community in the Perth metropolitan area. Outputs include:

- monitoring, analysis and reporting;
- implementing the Perth Air Quality Management Plan (AQMP); and
- NEPM reporting.

The Perth AQMP is a 30 year plan to improve Perth's air quality, containing 12 initiatives comprising 43 programs. Air quality monitoring data will be used to perform regular reviews of trends in Perth's air quality to ensure that the management strategies in the Perth AQMP are effective in improving overall air quality in Perth.

Relevance to output description

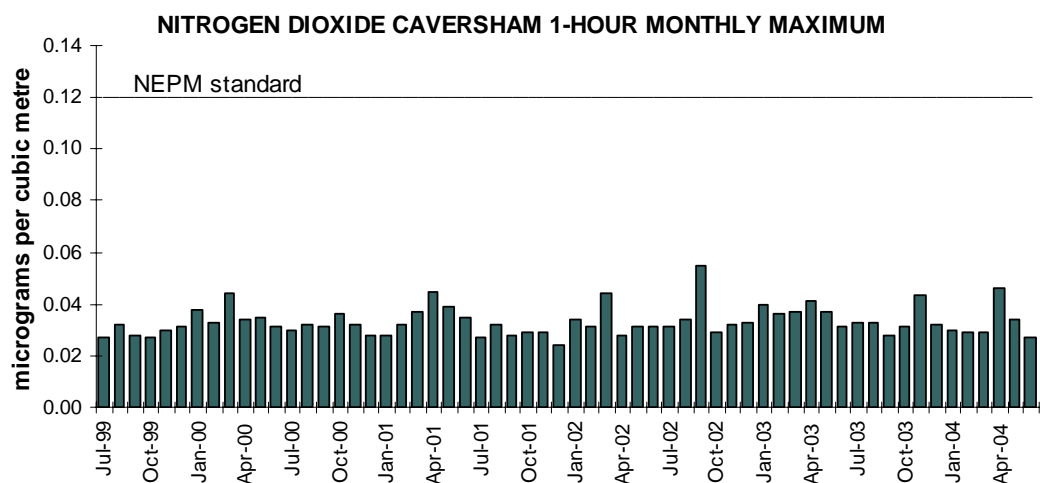
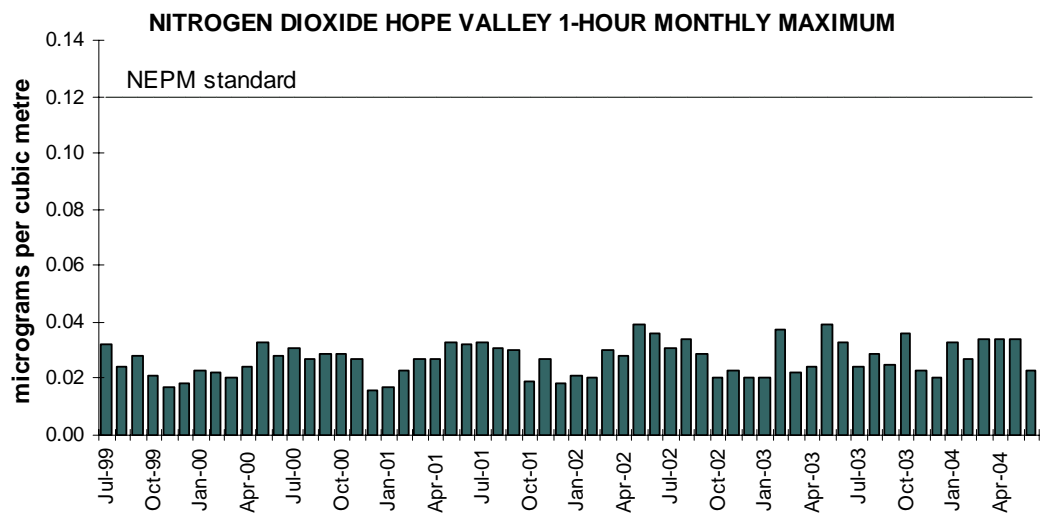
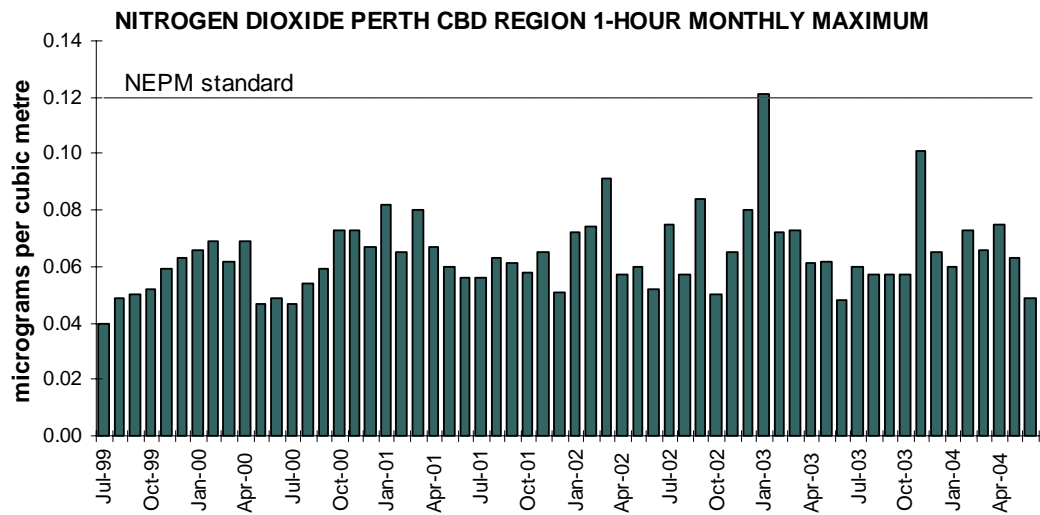
Nitrogen dioxide is a precursor for photochemical smog and an indicator of potential reduction in air quality. Nitrogen dioxide is an indicator of industrial activity and motor vehicle use. Nitrogen dioxide is a respiratory irritant.

Effectiveness indicator

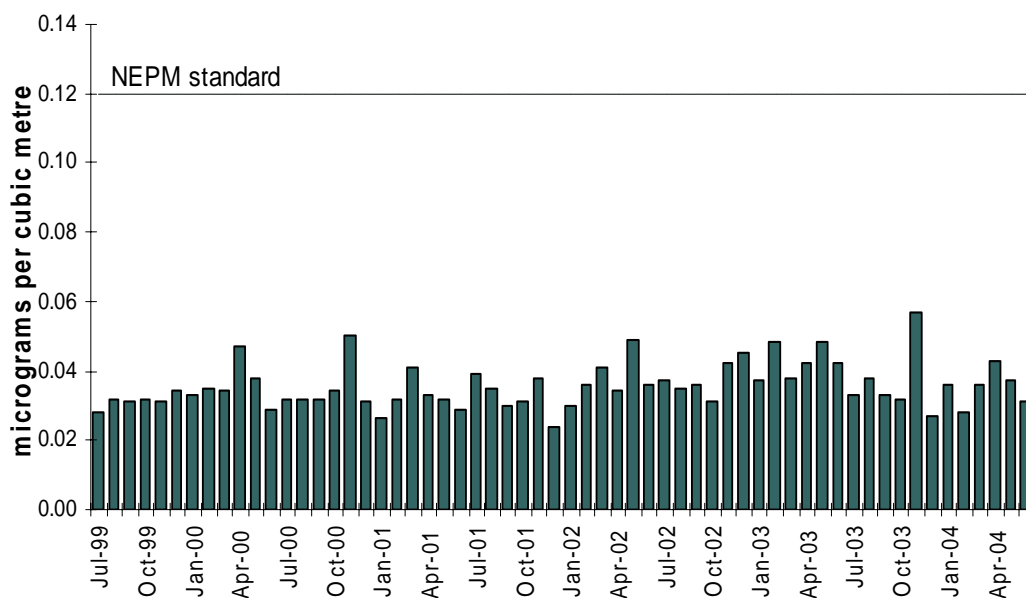
The effectiveness indicator is the extent to which nitrogen dioxide levels are below the NEPM standard of 0.12 ppm averaged over 1 clock hour and 0.03 ppm averaged over a calendar year. The National Environment Protection Council has set a goal that by 2008 the 1 hour average standard is not to be exceeded more than once per year, and the annual average standard is not to be exceeded.

The graphs below show the maximum 1-hour averaged nitrogen dioxide concentration measured in Perth's air.

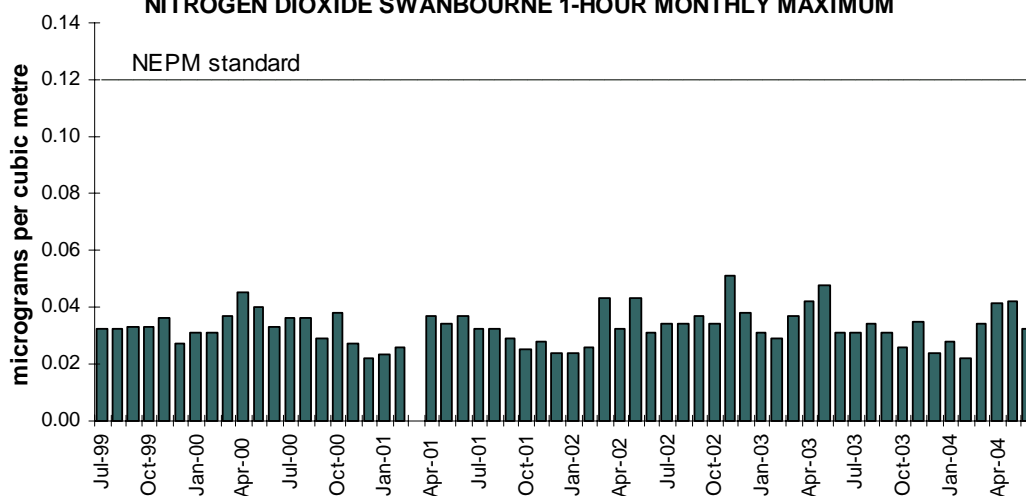
No exceedances of the 1-hour NEPM standard occurred in Perth during 2003–04. The highest 1-hour averaged nitrogen dioxide concentration measured during 2003–04 was 0.101ppm at the Perth CBD site in November 2003.



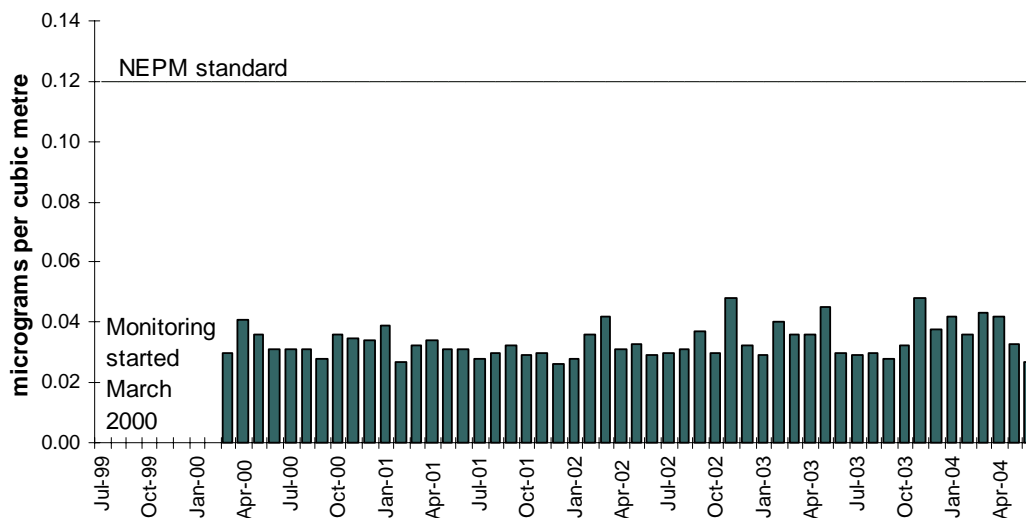
NITROGEN DIOXIDE DUNCRAIG 1-HOUR MONTHLY MAXIMUM

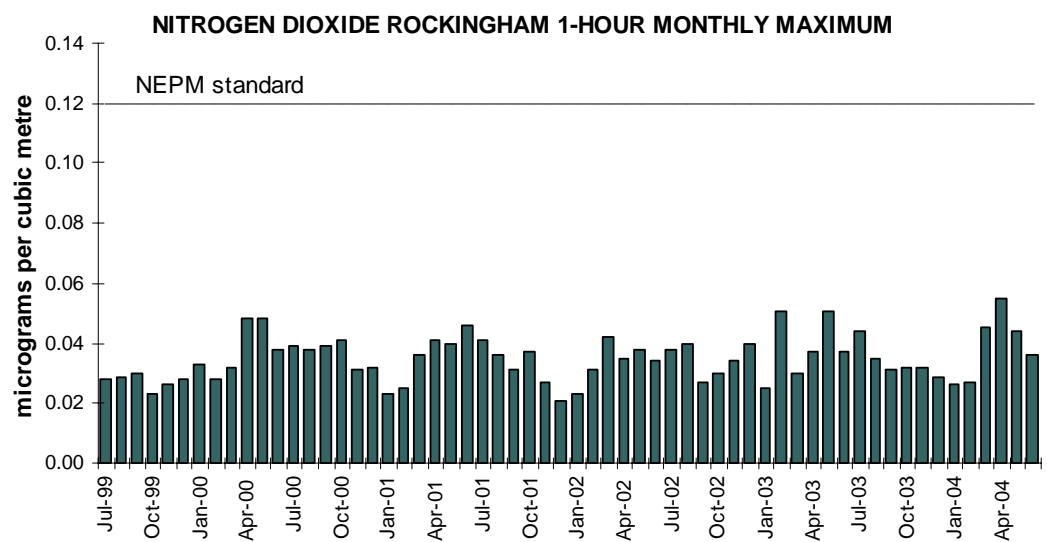
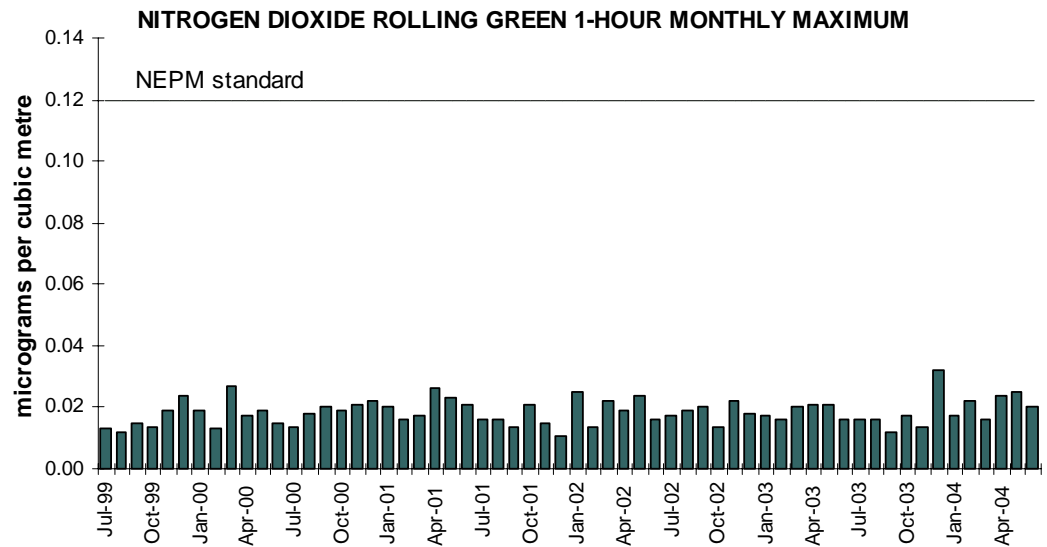
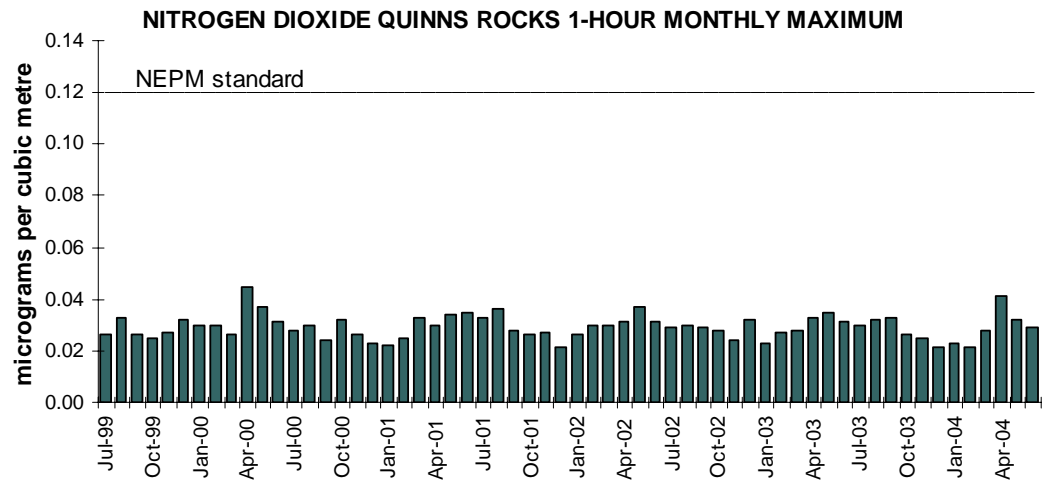


NITROGEN DIOXIDE SWANBOURNE 1-HOUR MONTHLY MAXIMUM



NITROGEN DIOXIDE SOUTH LAKE 1-HOUR MONTHLY MAXIMUM





All concentrations measured in 2003–04 were below the annual NEPM standard.

During 2003, the NEPM standard of 0.03 parts per million nitrogen dioxide averaged over a calendar year was not exceeded in Perth.

Annual averages nitrogen dioxide ppm

	1999	2000	2001	2002	2003
Perth CBD	0.017	0.018	0.019	0.020	0.020
Hope Valley	0.005	0.005	0.005	0.005	0.005
Caversham	0.006	0.007	0.006	0.006	0.007
Duncraig	0.008	0.008	0.009	0.009	0.009
South Lake	-	0.008	0.008	0.008	0.008
Swanbourne	0.007	0.008	0.007	0.006	0.006
Quinns Rocks	0.004	0.004	0.004	0.004	0.004
Rolling Green	0.002	0.002	0.003	0.002	0.002
Rockingham	0.006	0.007	0.007	0.006	0.006

Effectiveness Indicator 4

Carbon monoxide in Perth

Desired outcome

That carbon monoxide levels in Perth are reduced by the introduction of management strategies resulting in environmentally acceptable levels.

Objective

To monitor, analyse and report on atmospheric carbon monoxide levels in Perth. The target population is the community in the Perth metropolitan area. Outputs include:

- monitoring, analysis and reporting;
- implementing the Perth Air Quality Management Plan (AQMP); and
- NEPM reporting.

The Perth AQMP is a 30 year plan to improve Perth's air quality, containing 12 initiatives comprising 43 programs. Air quality monitoring data will be used to perform regular reviews of trends in Perth's air quality to ensure that the management strategies in the Perth AQMP are effective in improving overall air quality in Perth.

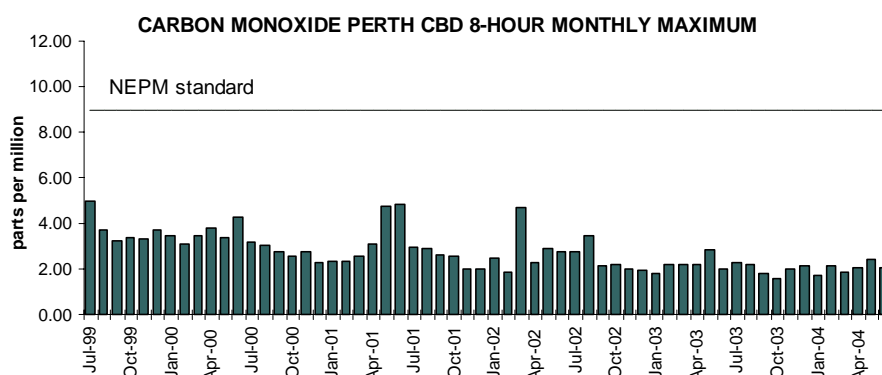
Relevance to output description

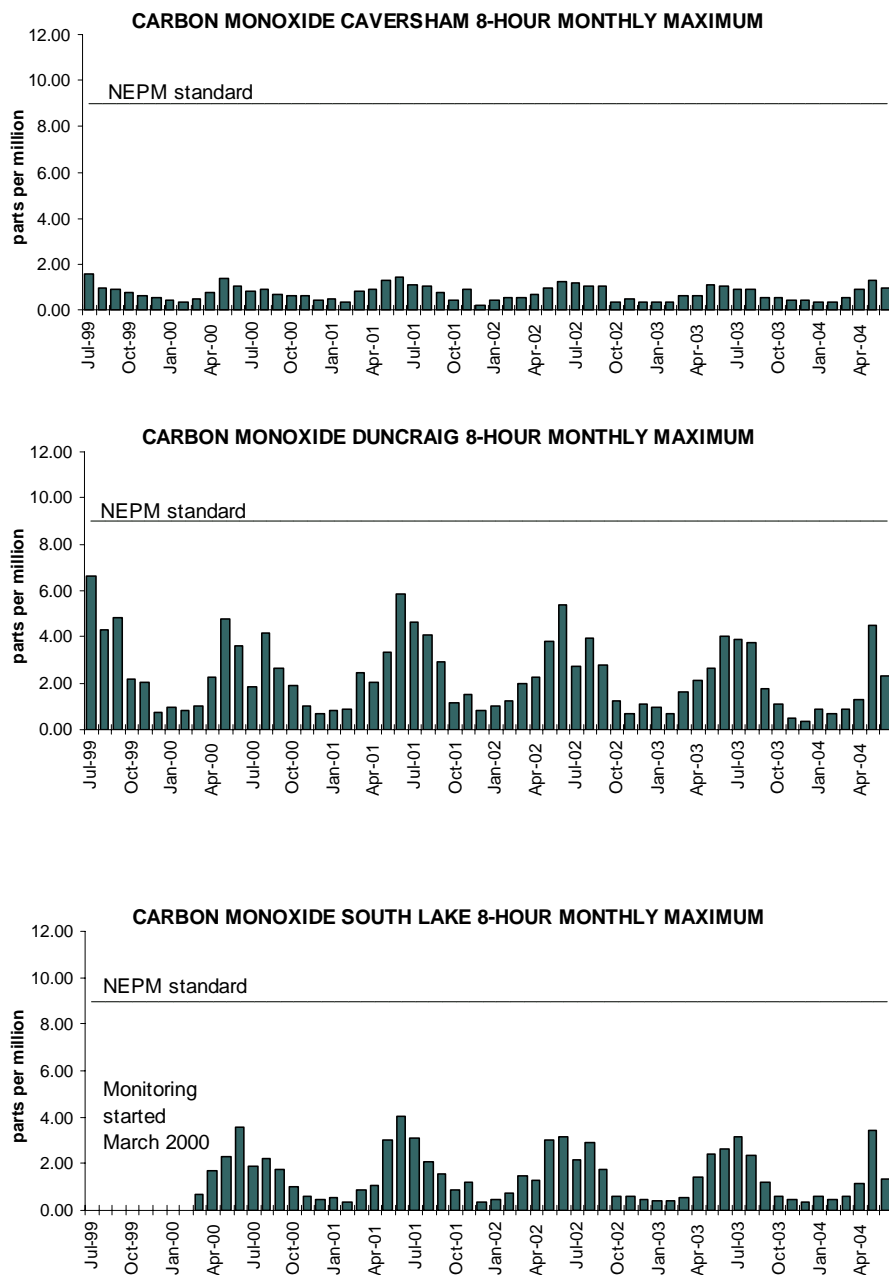
Given the major causes of carbon monoxide, critical locations for performance measurement are in Perth (vehicle emissions) and suburban sites Duncraig, Caversham and South Lake (wood heater emissions).

Effectiveness indicator

The effectiveness indicator is the extent to which carbon monoxide levels in Perth are below the NEPM standard of 9 ppm averaged over 8-hours. The National Environment Protection Council has set a goal that by 2008 the standard is not to be exceeded more than once per year.

The highest carbon monoxide concentration during 2003–04 was recorded at Duncraig during May 2004. The concentration of 4.5 parts per million represents approximately 50% of the NEPM standard.





The graphs show that the maximum 8-hour averaged level of carbon monoxide concentrations measured across Perth's metropolitan area is below the NEPM standard. The elevated concentrations in the Perth CBD are due to motor vehicle traffic, while those in Duncraig, Caversham and South Lake are predominantly due to emissions from wood burning heaters.

Effectiveness Indicator 5

Sulphur dioxide in Kwinana and Kalgoorlie

Desired outcome

That atmospheric sulphur dioxide levels in airsheds are reduced by the introduction of management strategies resulting in environmentally acceptable levels.

Objective

To ensure atmospheric levels of sulphur dioxide in the area covered by the Kalgoorlie and Kwinana Environmental Protection Policies (EPPs) do not exceed policy requirements. The policies set air quality objectives for sulphur dioxide (and particles for Kwinana). The objectives are achieved by setting licence conditions for environmental performance on industry. The target population is the community in the Environmental Protection Policy areas. Outputs include:

- monitoring, analysis and reporting;
- implementing the Perth Air Quality Management Plan (AQMP); and
- NEPM reporting.

The Perth AQMP is a 30 year plan to improve Perth's air quality, containing 12 initiatives comprising 43 programs. Air quality monitoring data will be used to perform regular reviews of trends in Perth's air quality to ensure that the management strategies in the Perth AQMP are effective in improving overall air quality in Perth.

Relevance to output description:

Sulphur dioxide at significant levels is dangerous to human health, particularly for those who suffer from asthma, and can affect some plant species.

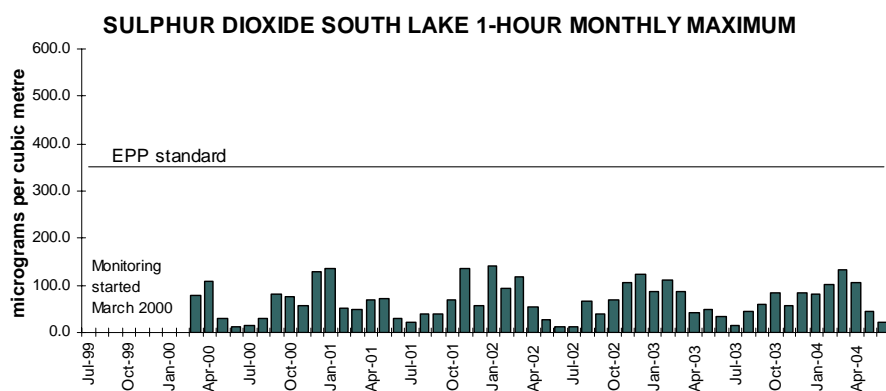
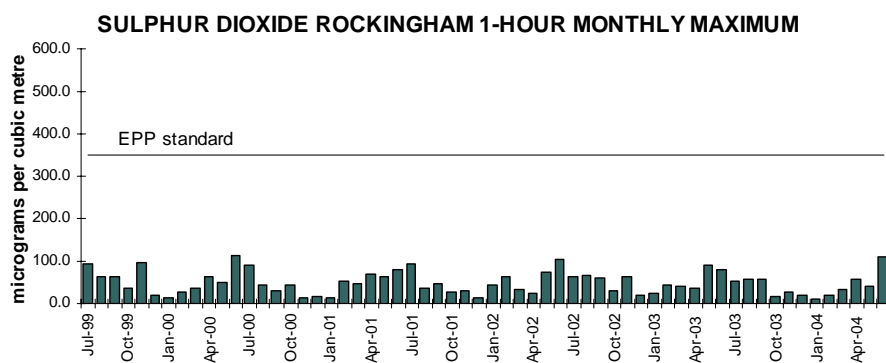
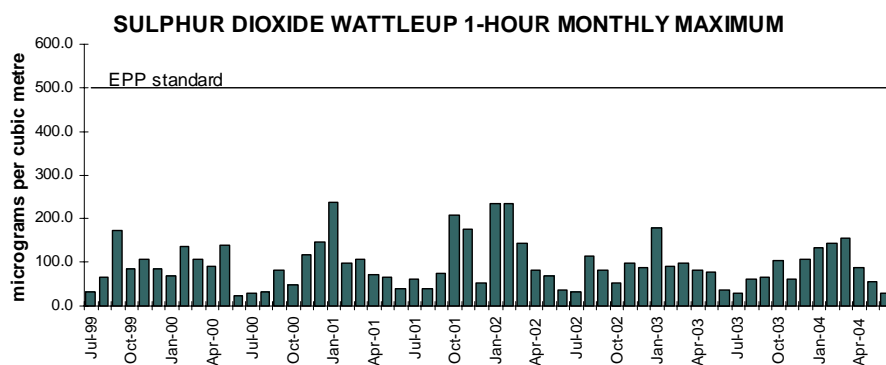
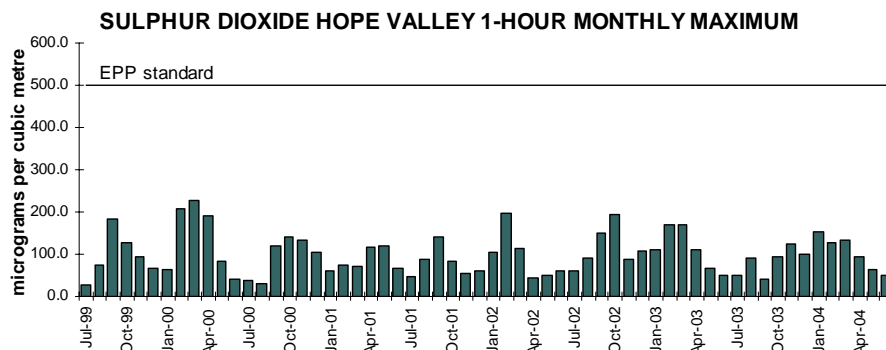
Effectiveness indicator

The effectiveness indicator is the extent to which levels of sulphur dioxide meet requirements set by the Environmental Protection Policies, and the NEPM standards.

The National Environment Protection Council has set standards of 0.20 ppm (equivalent to approximately $570\mu\text{g}/\text{m}^3$ @ STP) 1-hour average, 0.08 ppm (equivalent to approximately $228\mu\text{g}/\text{m}^3$ @ STP) 24-hour average with a goal that by 2008 the standard is not to be exceeded more than 1 day per year, and 0.02 ppm annual average with a goal that by 2008 the standard is not to be exceeded. All concentrations measured in 2003–04 were below the 1-hour, 24-hour and annual NEPM standards.

The Kwinana Environmental Protection Policy has set 1 hour averaged standards for sulfur dioxide of $500\mu\text{g}/\text{m}^3$ for Area B and $350\mu\text{g}/\text{m}^3$ for Area C. All concentrations measured in 2003–04 were below the EPP standards.

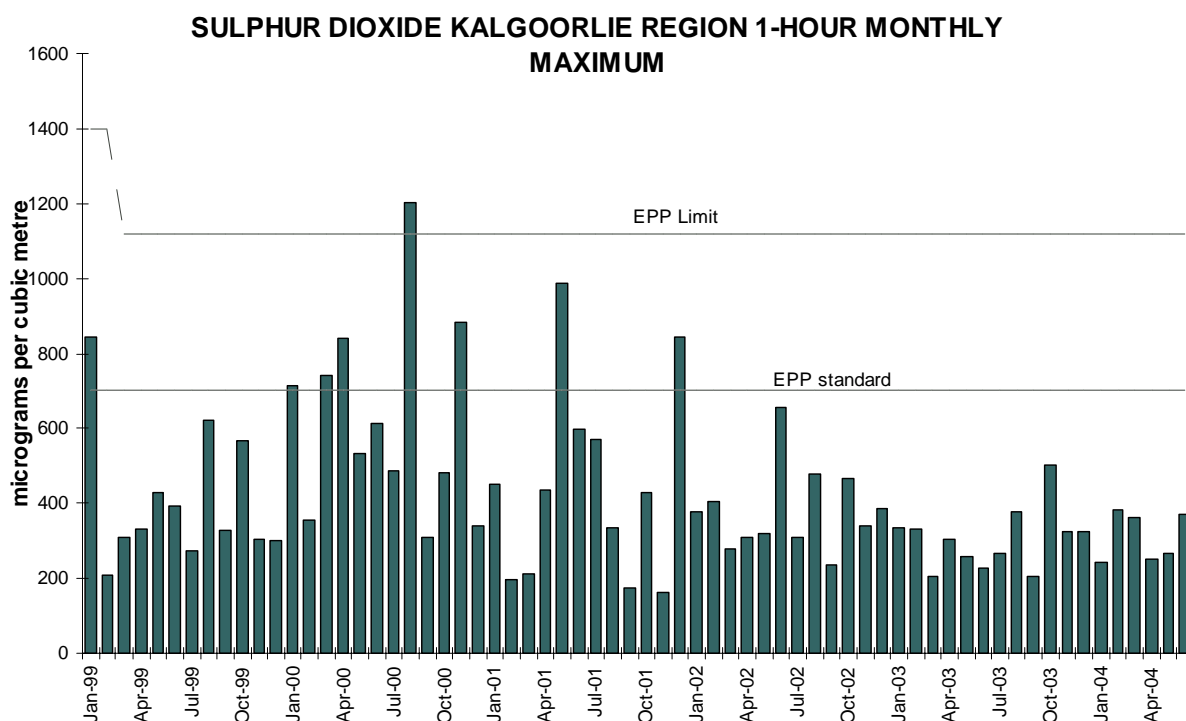
The graphs show the monthly peak of one-hour average of sulphur dioxide concentrations at the department's monitoring stations.



Note: While the NEPM for Ambient Air Quality requires measurements on the basis of ‘clock hours’, the data is presented on the basis of ‘running hours’ to maintain consistency with EPP standards.

Annual averages for sulphur dioxide in Perth (ppm)

Year	Hope Valley	Wattleup	Rockingham	South Lake
1999	0.001	0.002	0.002	n/a
2000	0.001	0.001	0.001	0.001
2001	0.001	0.001	0.001	0.001
2002	0.001	0.001	0.001	0.001
2003	0.001	0.001	0.001	0.001



Note: ‘Standard’ means the concentration of an atmospheric waste, which is desirable not to be exceeded.

‘Limit’ means the concentration of an atmospheric waste, which shall not be exceeded.

While the NEPM for Ambient Air Quality requires measurements on the basis of ‘clock hours’, the data is presented on the basis of ‘running hours’ to maintain consistency with EPP standards.

The graph shows the monthly peak of 1-hour average of sulphur dioxide concentrations at all monitoring sites in the Kalgoorlie region. These readings have been provided by industry and have not been formally verified by the department. The number of exceedences of the standard and limit is shown in the table below. No exceedence of the 24-hour average or the annual average was recorded in 2003–04.

Exceedances of environmental protection policy for the Goldfields

Year	Exceedences of EPP standard	Exceedences of EPP limit
1999	1	0
2000	9	1
2001	4	0
2002	0	0
2003 (6 months)	0	0

Exceedences of NEPM standards

	Calendar Year					
	1999	2000	2001	2002	2003	2004 (6 months)
Kalgoorlie Airport	0	3	0	0	0	0
Boulder Shire Yard	0	0	1	0	0	0
Coolgardie Primary School	0	1	0	0	0	0
Hannans Golf Club	0	1	0	0	0	0
Kambalda	0	0	0	0	0	0
Kalgoorlie Council Yard	0	2	0	0	0	0
Kalgoorlie Regional Hospital	0	0	1	0	0	0
Kurrawang	1	1	0	0	0	0
Metals Exploration	0	0	1	0	0	0
Westrail Freight Yard	0	1	0	0	0	0

The highest concentration of sulphur dioxide at Kalgoorlie during financial year 2003–04 was 0.158 ppm recorded at the Boulder Shire Yard site in October 2003. This represents approximately 79% of the NEPM standard. The NEPM goal of no more than 1 exceedence per year (at each site) was met during 2003.

Effectiveness Indicator 6

Nutrient-related water quality of Cockburn Sound

Desired outcome

That the quality of Cockburn Sound waters should be sufficient to support the environmental values established by the EPA in its publication 'Perth Coastal Waters: environmental values and objectives (EPA, 2000). The key outcome is related to the effectiveness of the environmental management of Cockburn Sound.

Objective

To ensure that the environmental quality objectives, designated by the EPA to support the environmental values established for Cockburn Sound waters, are achieved and maintained. The environmental quality objectives for Cockburn Sound identified in the Revised Draft Environmental Protection (Cockburn Sound) Policy 2002 are: maintenance of ecosystem integrity; maintenance of seafood for human consumption; maintenance of aquaculture; maintenance of primary contact recreation; maintenance of secondary contact recreation; maintenance of aesthetic values; and maintenance of industrial water supply.

Environmental quality criteria are the benchmarks that can be used to assess whether the environmental quality objectives are being achieved or maintained.

The EPA has developed environmental quality criteria for each environmental quality objective (EPA, 2002) to support the Revised Draft Environmental Protection (Cockburn Sound) Policy. It is anticipated that the policy will be gazetted within the next financial year. Once this has occurred, this effectiveness indicator for nutrient-related water quality of Cockburn Sound will be replaced by the report cards comparing environmental quality against the final environmental quality criteria that support the policy. This will be made available via the Environmental Management Plan public reporting mechanisms established by the Cockburn Sound Management Council and not through the Department's Annual Report.

Draft nutrient-related environmental quality criteria (Source: Southern Metropolitan Coastal Waters Study (1991-1994): Final Report, 1996) are shown as interim targets (0.8 mg l⁻¹ for chlorophyll *a* and 0.08 m⁻¹ for light attenuation coefficient) in the attached figures.

The target population is dischargers of nutrients to Cockburn Sound.

Outputs include:

- Regular monitoring, analysis and reporting of summer water quality of Cockburn Sound;
- Regular survey, assessment and reporting of the health of seagrasses in Cockburn Sound;
- Release of the Revised Draft Environmental Protection (Cockburn Sound) Policy 2002, and the Explanatory document for the policy;
- Release of the Revised Environmental Quality Criteria Reference Document (Cockburn Sound), November 2002;
- Release of the Interim Environmental Management Plan for Cockburn Sound and its Catchment, December 2002; and,

- Release of the Revised Manual of Standard Operating Procedures for Environmental Monitoring against the Cockburn Sound Environmental Quality Criteria (March 2004).

Relevance to output description

Excessive nutrient inputs are a major threat to the ecological health of Cockburn Sound. Excess nutrients are detrimental to the health of aquatic ecosystems, and have caused the loss of extensive areas of seagrass in Cockburn Sound. Phytoplankton concentration (measured as chlorophyll *a*) and water clarity (measured as light attenuation coefficient) provide indices of the nutrient-related health of Cockburn Sound.

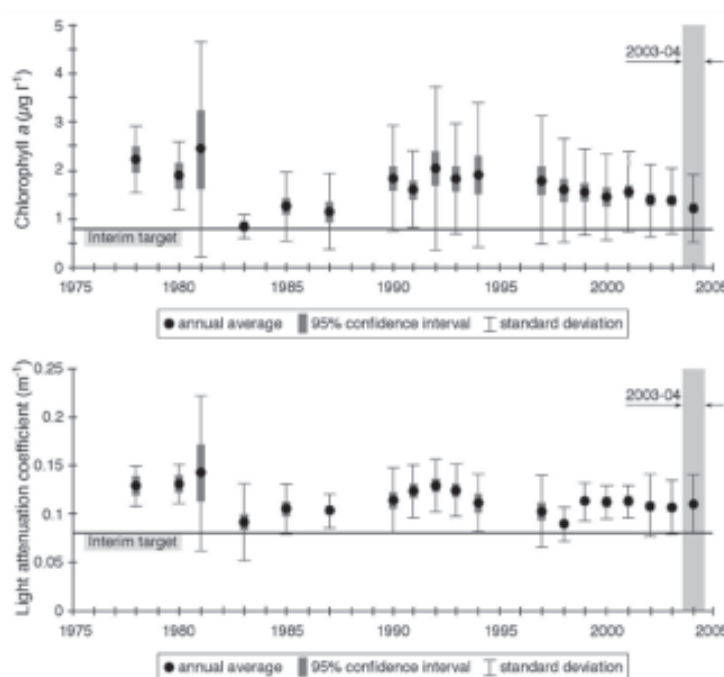
Effectiveness indicator

The nutrient-related water quality of Cockburn Sound measured by the phytoplankton concentration and water clarity.

One of the primary effects of nutrients on the marine environment is to stimulate the growth of phytoplankton which in turn reduces the clarity of the water, shading seagrasses and other bottom plants from essential sunlight. Phytoplankton abundance (measured as chlorophyll *a* concentration) and water clarity (measured as light attenuation coefficient - the reduction in light intensity per metre of water) are therefore good indicators of nutrient related water quality.

Summer water quality in Cockburn Sound

(Source: Department of Environmental Protection 1978-94; Latchford *et al.*, 1997; Hale *et al.*, 1998; Hale and Paling, 1999, 2000, 2001 and 2002; Wilson and Paling, 2003 and 2004)



Note: (1) Of the sampling sites, one in Jervoise Bay had to be relocated in 1997-98 due to the construction of a breakwater. This resulted in two new sites being established, one inside

and one outside the breakwater. The datum point shown includes data for the site outside the breakwater.

(2) Data were not available from the site outside of the breakwater from early December 1997 to mid January 1998.

(3) This year's data supplied by Marine and Freshwater Research Laboratories (MAFRL) and funded by Kwinana Industries Council (KIC).

These two graphs show greater than 20-year time series of phytoplankton concentration and light attenuation coefficient for Cockburn Sound during the summer months (December–March). Each point on these graphs is derived from a large number of measurements from throughout the sound. The error bar associated with each point represents the 95% confidence interval (shaded area). The standard deviation (thin vertical line) has also been included to indicate the variability of each year's data.

The trend shows that, since the 1970s when the water quality of the Sound was at its poorest and *Posidonia* seagrass meadows disappeared from the eastern margin, both chlorophyll *a* levels and the light attenuation coefficient in Cockburn Sound decreased in the early 1980s, then increased again during the mid-late 1980s, and early 1990s. Chlorophyll *a* concentration has generally trended downward since the mid 1990s. Water clarity has also shown a similar trend to chlorophyll *a* up until 1998. Light attenuation coefficient rose in the late 1990s and stayed constant through to 2001. Light attenuation reduced in 2002, indicating an improvement to the preceding three years. This improvement was maintained in 2003 with the most recent data in 2004 suggesting a slight reduction in water clarity.

References:

- EPA (2002). *Revised Environmental Quality Criteria Reference Document (Cockburn Sound), a supporting document to the draft Environmental Protection (Cockburn Sound) Policy 2002*. November 2002. Report 20. Environmental Protection Authority, Perth, WA.
- EPA (2000). *Perth's coastal waters: Environmental values and objectives – the position of the EPA, a working document*. February 2000. Report 17. Department of Environmental Protection, Perth, WA.

Effectiveness Indicator 7

Dust

Desired outcome

A reduction in dust levels below department guidelines or standards, where they apply. Best management practice in existing and future development.

Objective

To protect the health and amenity of the public and local environments by:

- reducing dust levels below department guidelines or standards, where appropriate; and
- ensuring that best management practices are achieved in existing and future development.

(Source: Environment WA 1998 SoE Report, page 50)

The target population is communities in urban, industrial and mining areas. Outputs include:

- best management practices for dust suppression and management; and
- dust control guidelines for urban development.

Relevance to output description

Atmospheric dust resulting from industrial activity and urban land clearing and development can have severe effects on amenity and can cause short-term nuisance events and local ecological impacts. Health impacts from atmospheric dust have not been detected.

Effectiveness indicator

Reduction in the number of complaints relating to dust received by the department.

Number of dust complaints received by the department

	Metro	Kwinana	Bunbury	Karratha	Kalgoorlie	Geraldton	Albany*	Total
1995-96	169	58	6	59	n.a	59		333
1996-97	145	40	52	13	21	21		292
1997-98	110	10	55	21	36	42		374
1998-99	183	52	39	9	32	38		353
1999-00	107	72	52	15	22	15		283
2000-01	80	162	40	21	59	21		383
2001-02	32	73	37	9	25	12		188
2002-03	74	91	23	12	19	11		230
2003-04	34	80	49	28	10	12	9	222

* This is the first year of measurement.

The increase in complaints in the South West Region were mainly associated with Bunbury Port, but also with intensive vegetable growing. The increase in the dust complaints North West Region was mainly associated with iron ore ship loading at Dampier and Port Headland and an abrasive blasting operation.

Effectiveness Indicator 8

Regulation of Industry

Desired outcome

Prescribed development activities with the potential to pollute are properly regulated.

Objective

To ensure that those industries with the potential to pollute as defined under the *Environmental Protection Act* are regulated to meet environmental conditions and standards. Licensing ensures that industry's environmental performance can be audited.

The target population is prescribed industries that are regulated, and within Western Australia.

Outputs include:

- licences issued;
- inspections of licensed premises; and
- enforcement activities.

Relevance to output description

Licensed industries are able to be assessed for environmental performance through an inspection program.

Effectiveness indicator

Activities (mining, industrial and agricultural) that are subject to an operating licence are inspected and evaluated against the environmental protection requirements of the licence conditions.

Indicators are based on licence compliance on inspection, and environmental incidents (complaints) received.

In previous Financial Years the Department has considered those industries that are 'substantially' compliant with conditions as 'compliant'. From 2002–03 financial year through the creation of the Environmental Enforcement Unit we have changed the focus to industry being either 'compliant' or 'not compliant' with all conditions of licence.

Indicators for industry regulation

	1999-00	2000-01	2001-02	2002-03	2003–04
Number of regulated premises (1)	1957	2204	2100	2316	2228
Number of active licences	910	986	844	719	843
Number of licensed prescribed premises inspected	425	377	269	259	262
Percentage of inspected premises compliant with licence conditions	81%	85%	85%	60%	66%

(1) Regulated premises includes licensed premises and registered premises. Registration requires compliance with regulations or the provisions of Environmental Protection Act. Regulations have been introduced for fibre reinforced plastics, abrasive blasting, concrete batching, cement product manufacturing industries and rural landfills (added 2002-03).

Level of environmental incidents (complaints received)

	1999-00	2000-01	2001-02	2002-03	2003–04
Percentage of registered and licensed premises against which one or more environmental incidents (complaints) were received	11.1%	10.5%	12%	10 %	*4.5%

* The Department introduced a new complaints recording system (ICMS) during the 2003–04 financial year. As a result, accurate data required to calculate this indicator was unable to be determined. This has reduced the number of licensed and registered premises to which one or more complaints were registered.

Effectiveness Indicator 9

Referral of projects to the EPA that may have a significant effect on the environment.

Desired outcome

That the environment is protected from unacceptable impacts of development.

Objective

Within the context of the EIA process:

- to evaluate the potential environmental impacts of referred projects;
- to determine the most appropriate assessment and regulatory mechanisms by which the referred projects can be managed; and
- for those projects with potentially significant environmental impacts, to recommend an appropriate level of environmental impact assessment to the EPA.

The target population is the potential proponents, the government, the community of WA and the EPA.

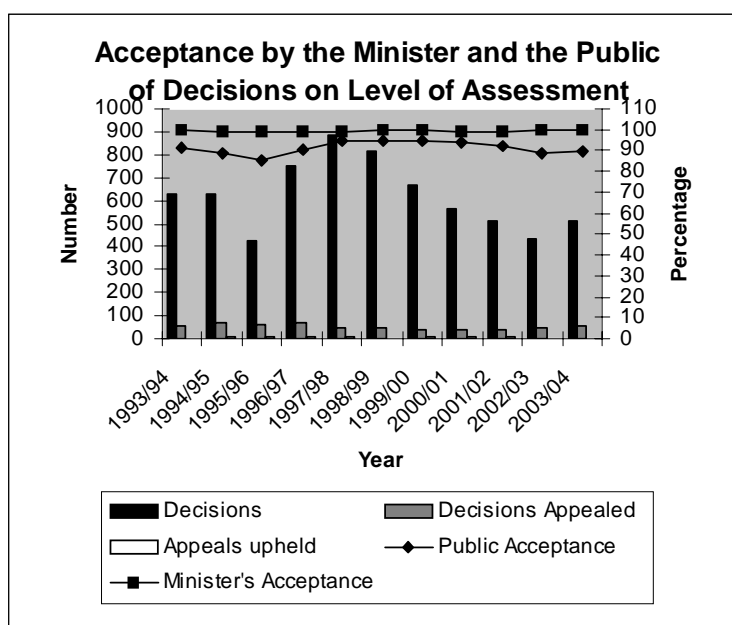
Relevance of output description

Through the EIA Division's evaluation of project referrals, the appropriate level of assessment is determined such that the resultant regulatory regime is able to manage the potential environmental impacts of the proposed development or planning scheme.

Effectiveness indicator

The acceptance rate by the EPA, the Minister and the public of the level of assessment recommended by the EIA Division.

Acceptance of level of assessment decisions

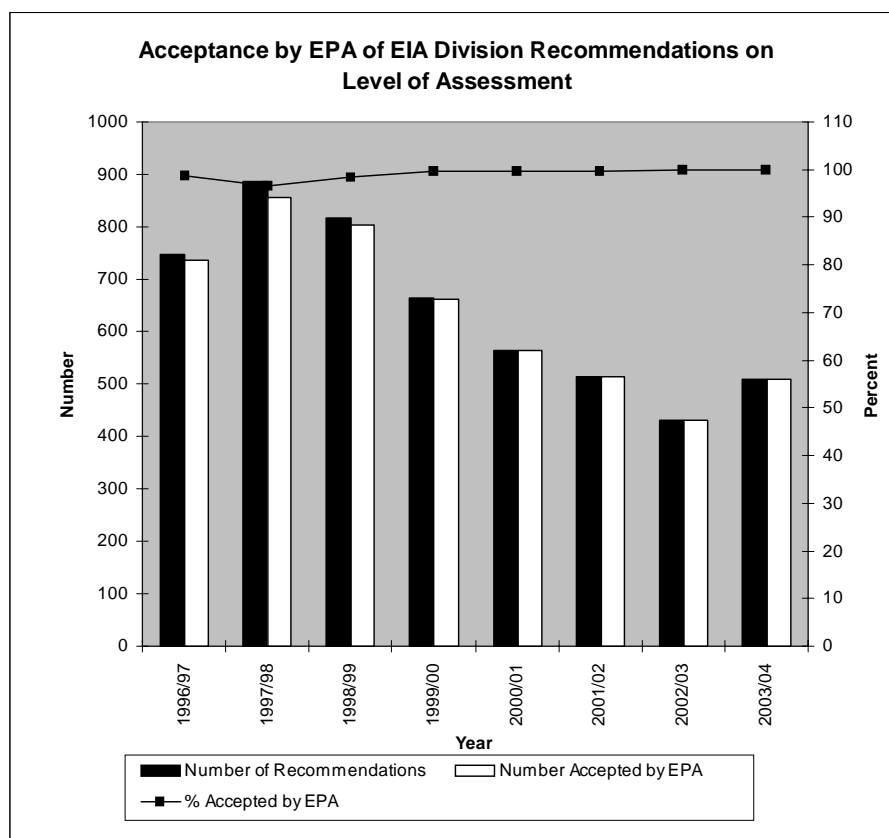


‘Public acceptance’ is the number of decisions which were not appealed expressed as a percentage of the total number of decisions.

‘Minister’s acceptance’ is the number of decisions which were not changed by the Minister expressed as a percentage of the total number of decisions.

The graph shows the rate of acceptance by the Minister for the Environment and the public of EPA decisions on level of assessment for developed proposals.

When a level of assessment is set on a referral, there is a 2 week appeal period where the community or agencies can lodge an appeal to the Minister for the Environment and Heritage and ask that the referral be assessed more fully. The Minister makes a decision on any appeals received and either dismisses the appeal or upholds the appeal and raises the level of assessment. An effectiveness benchmark of 90% has been set for the percentage of referrals that do not have the level of assessment raised through the appeals process. In 2003–04 the percentage achieved was 100%.



The graph shows the rate of acceptance by the EPA of the EIA Division recommendations on level of assessment for proposals referred to the EPA.

When a referral is received by the EPA, the staff of the EIA Division look at what is proposed and if necessary seek advice from other agencies to determine the likely environmental impacts. The EIA Division then makes a recommendation to the EPA on the appropriate level of assessment for each referral. A benchmark for the acceptance, by the EPA of EIA Division recommendations has been set a minimum of 95%. In 2003–04 the percentage of recommendations accepted by the EPA on level of assessment was 100%.

Effectiveness Indicator 10

Compliance with environmental conditions placed on approved development proposals through the environmental impact assessment process.

Desired outcome

Through the EIA process, that the environment is protected from an unacceptable level of damage and an acceptable level of environmental performance is maintained by proponents.

Objective

By auditing the environmental conditions developed as part of the EIA process:

- the EPA and the Minister are assisted to achieve continual improvement of the environmental conditions;
- proponents are assisted to set or to clarify the required environmental standards;
- the DEP is able to monitor the implementation of the projects; and
- the DEP makes public a record of the regulatory process.

The target population is the proponents, the government, the EPA and the community of WA.

Outputs include:

- ministerial statements of conditions;
- audit tables;
- *desk audits assessing compliance based on information submitted to the department*
- *site audits visits to the project site where evidence of compliance or non-compliance is collected;* and
- bi-monthly non-compliance reports.

Relevance to output description

The environmental performance of proponents is able to be monitored through an audit program and, therefore, encouraged to improve continually.

Effectiveness indicator*Compliance rate of audited projects with environmental conditions.****Project compliance with environmental conditions***

	2000-01	2001-02	2002-03	2003-04
Number of active projects as at 30 June	297	285	305	330
Number of projects audited	108	135	169	147
Number of projects in non-compliance	15	6	9	7
Compliance rate of audited projects	86%	96%	95%	95%

Fewer projects were audited in 2003–04 than in the previous 12 month period, partly due to the high complexity of the projects that were audited during the year and partly as a result of high staff turnover in the audit section. A planned review of the enforceability of Ministerial Conditions was not carried out, but has been carried over to financial year 2004–2005. A review of the Part IV audit function was completed in June 2004. The study made a number of recommendations aimed at increasing the effectiveness of the Audit section in fulfilling its core responsibility for verifying compliance of projects with Ministerial Conditions.

Efficiency Indicators for Key Outputs

Performance in terms of the number of products and services provided in 2003–04 has been similar to past years with the exception of regulated premises. In this area the introduction of the Controlled Waste System represents a significant enhancement to the way in which waste is managed in the state. The new system provides a significantly enhanced coverage enabling the department to scrutinise where and when waste is generated, who transports the waste, and where the waste is treated or disposed of.

There are also some certain costs, the subject of factors outside the control of the Department, which have been excluded from measurement in assessing the Department's operational efficiency. The main costs excluded, are as follows:

	2001-02 (\$m)	2002-03 (\$m)	2003-04 (\$m)
Liquid waste treatment charges	2.9	1.8	0.0
Recycling grants	5.9	4.6	6.4
Air quality special grant projects	0.3	0.2	0.0
Co-disposal of waste with industry	0.9	0.6	0.0
Community programs and payments	0.7	0.3	0.8
Office of Water Policy	0.0	0.0	1.0
Waste Control Pty Ltd fire cleanup	1.4	0.0	0.0
Costs associated with Brookdale closure	0.0	2.5	0.7
Morangup Remediation – non recurrent payment	0.0	0.0	1.2
Total	12.1	10.0	10.1

Indicator	Note	2001-02	2002-03	2003-04
Policy, Education and Advice				
Cost per Environmental Policy Program	2	256 589	304 135	220 015
Environmental Impact Services				
Cost per Environmental Impact Assessment Performed	1	138 027	113 303	121 757
Cost per Compliance Audit	6	4 903	7 747	10 214
Pollution Regulation				
Cost per Regulatory Instrument	4	2 451	3 460	4 249
Cost per Recycling Grant Administered	5	4 205	2 614	3 652
Waste Management				
Cost per Regulated Premises	3	263	405	170
Environmental Systems				
Cost per Air Monitoring Station Report	7	89 365	80 206	193 751

Notes

1 Environmental Impact Assessments

	Quantity	Actual expenditure	Unit cost
Cost per Environmental Impact Assessment performed	50	\$6 087 831	\$121 757

Forty assessment reports for the Environmental Protection Authority were produced during 2003–04, cost of, which were prepared under Part IV of the *Environmental Protection Act 1986*. A weighting of 1, 2, 3, was applied to these reports, reflecting primarily the complexity and public involvement in the assessment. The weighting details are as follows:

One — Environmental Protection Statement, Proposal Unlikely to be Environmentally Acceptable, Section 16 (of EP Act), Formal Assessments, Section 46 (of EP Act), Consultative Environmental Review.

Two — Public Environmental Report, Environmental Review.

Three — Environmental Review and Management Program.

The calculated total weighting assigned to the assessment reports was 50. The cost per formal assessment has slightly increased as a result of reduced assessments. As reported in past years small quantities combined with large costs result in reasonable fluctuations.

2 Environmental Policy Programs

	Quantity	Actual expenditure	Unit cost
Cost per Environmental Policy Program	25	\$5 500 369	\$220 015

Environmental policy programs include the Department's contribution to statutory environmental protection policies (EPPs) that are issued by the Environmental Protection Authority. Environmental policy programs also include non-statutory policies and programs undertaken by the Department.

There has been a reduction in the unit cost which is largely attributable to additional EPPs being completed during the year. In addition, variations in complexity of EPPs contribute to the fluctuation in unit cost.

3 Regulated Premises

	Quantity	Actual expenditure	Unit cost
Cost per Regulated Premises	12 257	\$2 089 994	\$170

The Department has a responsibility to ensure that waste generated by the community is appropriately disposed of. After almost two years in development, an Internet based electronic waste tracking system has been implemented known as the Controlled Waste Tracking System.

This system replaces the former paper based system and brings many efficiencies through improved processing and handling.

The new Controlled Waste System has significantly expanded the range of wastes that are regulated. Whereas the former system covered only liquid waste, the new system has been expanded to include a range of wastes including solvents, resulting in a significant increase in the number of premises regulated. The significant increase in premises regulated together with the improved efficiency of the new system result in the reduction in unit cost.

4 Regulatory Instruments

	Quantity	Actual expenditure	Unit cost
Cost per Regulatory Instrument	2 590	\$11 005 148	\$4 249

The Department works to prevent pollution through the control of waste emissions and potentially polluting activities. It does this by assessing relevant environmental issues and negotiating works approval or licence conditions as well as issuing works approvals, licences and registrations. Premises are inspected for compliance with conditions or regulations and investigations are carried out where complaints are made. Enforcement action is taken where conditions or regulations have been breached. The relevant legislation for this work falls under Part V of the *Environmental Protection Act 1986* and associated regulations.

Performance for 2003–2004 reflects an increased regulatory emphasis through compliance assessment and enforcement activities which has occurred following the introduction of new resources into the area.

5 Recycling Grants Administered

	Quantity	Actual expenditure	Unit cost
Cost per Recycling Grant Administered	168	\$613 607	\$3 652

The Waste Management and Recycling Fund includes programs which provide grants to a range of waste reduction and recycling activities. Three rounds of Resource Recovery Rebate Scheme payments for local government recycling totalling about \$3.8 million, were administered during the year. Grants were paid to more than 60 individual councils in each of these funding rounds.

While the advertising of WMRF grants for waste reduction and recycling programs has been suspended while the fund undergoes a review, some new strategic project grants were approved. In total there were 168 grant funding projects administered during the year.

6 Compliance Audits

	Quantity	Actual expenditure	Unit cost
Cost per Compliance Audit	92	\$939 655	\$10 214

Compliance audit under Section 48 of the *Environmental Protection Act* involves either desk or field audit. The relative weighting associated with the effort and cost of these is estimated to be 0.6 and one respectively. The weighted total audits on this basis, for the year was 92. The unit cost has increased from the previous year which is largely attributable to the reduction in the quantity of compliance audits undertaken during the year.

7 Air Monitoring Station Reporting

	Quantity	Actual expenditure	Unit cost
Cost per Air Monitoring Station Report	112	\$2 325 011	\$193 751

Ambient air quality is monitored at various monitoring stations in the metropolitan area and some regional centres. Air quality parameters monitored are NO₂, SO₂, ozone, PM₁₀ particles, CO and Pb. Not all parameters are measured at all stations. Measurements of these parameters are assessed against national health standards and goals as specified under the National Environment Protection Measure (NEPM) for Air Quality and reported on a monthly basis (i.e. 12 monthly reports were produced in 2003–04).

Trends over time for these parameters are also recorded and reported monthly to:

- determine compliance with NEPM standards and goals which are set to protect human health;
- gauge effectiveness of long term air quality management strategies and controls;
- assess effectiveness of industry emission controls and management strategies; and
- inform State of Environment reporting.

Under the National *Environment Protection Act*, the State is required to monitor the six air quality parameters described above and report annually to the Commonwealth on the extent of compliance against the specified national standards and goals.

The significant variation in unit cost is largely attributable to a significant investment in the replacement of air monitoring station equipment. In addition, a change in accounting treatment relating to the purchase of assets resulted in equipment that was previously capitalised being expensed within the current year.

**AUDITOR GENERAL****INDEPENDENT AUDIT OPINION****To the Parliament of Western Australia****DEPARTMENT OF ENVIRONMENT
FINANCIAL STATEMENTS FOR THE YEAR ENDED JUNE 30, 2004****Audit Opinion**

In my opinion,

- (i) the controls exercised by the Department of Environment provide reasonable assurance that the receipt and expenditure of moneys, the acquisition and disposal of property, and the incurring of liabilities have been in accordance with legislative provisions; and
- (ii) the financial statements are based on proper accounts and present fairly in accordance with applicable Accounting Standards and other mandatory professional reporting requirements in Australia and the Treasurer's Instructions, the financial position of the Department at June 30, 2004 and its financial performance and cash flows for the year ended on that date.

Scope***The Chief Executive Officer's Role***

The Chief Executive Officer is responsible for keeping proper accounts and maintaining adequate systems of internal control, preparing the financial statements, and complying with the Financial Administration and Audit Act 1985 (the Act) and other relevant written law.

The financial statements consist of the Statement of Financial Performance, Statement of Financial Position, Statement of Cash Flows, Output Schedule of Expenses and Revenues, Summary of Consolidated Fund Appropriations and Revenue Estimates, and the Notes to the Financial Statements.

Summary of my Role

As required by the Act, I have independently audited the accounts and financial statements to express an opinion on the controls and financial statements. This was done by looking at a sample of the evidence.

An audit does not guarantee that every amount and disclosure in the financial statements is error free. The term "reasonable assurance" recognises that an audit does not examine all evidence and every transaction. However, my audit procedures should identify errors or omissions significant enough to adversely affect the decisions of users of the financial statements.

D D R PEARSON
AUDITOR GENERAL
October 15, 2004

4th Floor Dumas House 2 Havelock Street West Perth 6005 Western Australia Tel: 08 9222 7500 Fax: 08 9322 5664

6 Financial Statements

Certification of Financial Statements for the year ended 30 June 2004

The accompanying financial statements of the Department of Environmental Protection 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 financial year ending 30 June 2004 and the financial position as at 30 June 2004.

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



Peter Parolo
PRINCIPAL ACCOUNTING OFFICER

13 August 2004



Derek Carew-Hopkins
ACTING ACCOUNTABLE OFFICER

13 August 2004

Statement of financial performance
for the year ended 30 June 2004

	Note	2004 \$000	2003 \$000
COST OF SERVICES			
Expenses from ordinary activities			
Employee expenses	4	18 276	14 289
Supplies and services	5	7 706	9 608
Depreciation expense	6	421	569
Administration expenses	7	3 617	2 934
Accommodation expenses	8	2 395	2 122
Grants and subsidies	9	5 258	5 238
Capital user charge	10	1 041	1 105
Other expenses from ordinary activities	11	56	312
Total cost of services		38 770	36 177
Revenues from ordinary activities			
<i>Revenue from operating activities</i>			
User charges and industry contributions	12	12 684	6 435
<i>Revenue from non-operating activities</i>			
Proceeds from disposal of non-current assets		-	3
Other revenues from ordinary activities	14	892	583
Total revenues from ordinary activities		13 576	7 021
NET COST OF SERVICES		25 194	29 156
REVENUES FROM GOVERNMENT	15		
Output appropriations		23 296	25 710
Liabilities assumed by the Treasurer		(360)	265
Assets assumed/(transferred)		(535)	-
Resources received free of charge		428	542
Total revenues from State Government		22 829	26 517
TOTAL CHANGES IN EQUITY OTHER THAN THOSE RESULTING FROM TRANSACTIONS WITH WA STATE GOVERNMENT AS OWNERS		(2 365)	(2 639)

The Statement of Financial Performance should be read in conjunction with the accompanying notes.

Statement of financial position as at 30 June 2004

	Note	2004 \$000	2003 \$000
Current Assets			
Cash assets	25(a)	5 183	7 877
Restricted cash assets	16	9 468	10 246
Receivables	17	1 727	1 466
Amounts receivable for outputs	18	857	823
Other assets	19	73	13
Total Current Assets		17 308	20 425
Non-Current Assets			
Restricted cash assets	16	-	455
Amounts receivable for outputs	18	782	377
Property, plant and equipment	20	1 420	1 607
Total Non-Current Assets		2 202	2 439
TOTAL ASSETS		19 510	22 864
Current Liabilities			
Payables	21	498	263
Provisions	23	2 462	1 937
Other liabilities	22	3 380	6 867
Total Current Liabilities		6 340	9 067
Non-Current Liabilities			
Provisions	23	2 084	1 501
Total Non-Current Liabilities		2 084	1 501
TOTAL LIABILITIES		8 424	10 568
Equity			
	24		
Contributed equity		1 955	800
Asset revaluation reserve		15	15
Accumulated surplus		9 116	11 481
Total Equity		11 086	12 296
TOTAL LIABILITIES AND EQUITY		19 510	22 864

The Statement of Financial Position should be read in conjunction with the accompanying notes.

Statement of cash flows
for the year ended 30 June 2004

	Note	2004 Inflows (Outflows) \$000	2003 Inflows (Outflows) \$000
CASH FLOWS FROM STATE GOVERNMENT			
Output appropriations		22 104	24 930
Capital contributions		497	-
Holding account drawdowns		823	800
Net cash provided by State Government		23 424	25 730
Utilised as follows:			
CASH FLOWS FROM OPERATING ACTIVITIES			
Payments			
Employee costs		(17 857)	(13 428)
Supplies and services		(9 813)	(6 698)
Accommodation costs		(2 397)	(2 119)
Other payments		(9 695)	(5 956)
Capital user charge		(1 041)	(1 105)
GST payments on purchases		(1 516)	(1 309)
Receipts			
Other receipts		1 218	583
User charges and industry contributions		12 531	6 887
GST receipts on sales		224	184
GST receipts from taxation authority		1 186	1 221
Net cash used in operating activities	25(b)	(27 160)	(21 740)
CASH FLOWS FROM INVESTING ACTIVITIES			
Proceeds from sale of non-current physical assets		-	3
Purchase of non-current physical assets		(779)	(294)
Net cash used in investing activities		(779)	(291)
Net (decrease)/increase in cash held		(4 515)	3 699
Cash assets at the beginning of the financial year		18 578	14 879
Cash assets transferred from other agencies		588	-
CASH ASSETS AT THE END OF THE FINANCIAL YEAR	25(a)	14 651	18 578

The Statement of Cash Flows should be read in conjunction with the accompanying notes.

Output schedule of expenses and revenues for the year ended 30 June 2004

	Policy, Education and Advice		Environmental Impact Services		Pollution Regulation		Waste Management		Environmental Systems		Total	
	2004 \$000	2003 \$000	2004 \$000	2003 \$000	2004 \$000	2003 \$000	2004 \$000	2003 \$000	2004 \$000	2003 \$000	2004 \$000	2003 \$000
COST OF SERVICES												
Expenses from ordinary activities												
Employee expenses	4 755	3 860	3 425	3 332	5 292	3 092	2 101	2 010	2 703	1 995	18 276	14 289
Supplies and services	571	552	578	775	2 547	4 416	3 292	2 780	718	1 085	7 706	9 608
Depreciation expense	25	34	38	51	78	105	64	87	216	292	421	569
Administration expenses	420	408	522	436	1 422	873	425	532	828	685	3 617	2 934
Accommodation expenses	366	268	530	505	815	701	323	310	361	338	2 395	2 122
Grants and subsidies	291	667	31	574	706	705	3 865	2 637	365	655	5 258	5 238
Capital user charge	1052	112	135	143	127	135	597	633	77	82	1 041	1 105
Other expenses from ordinary activities	8	42	14	78	16	91	9	48	9	53	56	312
Total cost of services	6 541	5 943	5 273	5 894	11 003	10 118	10 676	9 037	5 277	5 185	38 770	36 177
Revenues from ordinary activities												
User charges and industry contributions	203	243	27	(62)	6 658	510	5 675	5 640	121	104	12 684	6 435
Proceeds from disposal of non-current assets	-	-	-	-	-	1	-	1	-	1	-	3
Other revenues from ordinary activities	144	44	66	11	76	52	467	462	139	14	892	583
Total revenues from ordinary activities	347	287	93	(51)	6 734	563	6 142	6 103	260	119	13 576	7 021
NET COST OF SERVICES	6 194	5 656	5 180	5 945	4 269	9 555	4 534	2 934	5 017	5 066	25 194	29 156
REVENUES FROM GOVERNMENT												
Output appropriations	3 1091	3 431	5 859	6 466	6 805	7 511	3 595	3 967	3 928	4 335	23 296	25 710
Liabilities assumed by the Treasurer	(47)	35	(91)	67	(105)	77	(56)	41	(61)	45	(360)	265
Assets assumed/(transferred)	(71)	-	(135)	-	(156)	-	(83)	-	(90)	-	(535)	-
Resources received free of charge	57	73	108	136	125	158	66	84	72	91	428	542
Total revenues from State Government	3 048	3 539	5 741	6 669	6 669	7 746	3 522	4 092	3 849	4 471	22 829	26 517
CHANGE IN NET ASSETS	(3 146)	(2 117)	561	724	2 400	(1 809)	(1 012)	1 158	(1 168)	(595)	(2 365)	(2 639)

The Output Schedule of Expenses and Revenues should be read in conjunction with the accompanying notes.

Summary of consolidated fund appropriations and revenue estimates for the year ended 30 June 2004

	2004 Estimate \$000	2004 Actual \$000	Variance \$000	2004 Actual \$000	2003 Actual \$000	Variance \$000
PURCHASE OF OUTPUTS						
Item 73 - Net amount appropriated to deliver outputs	22 894	23 296	402	23 296	25 710	(2 414)
Total appropriations provided to deliver outputs	22 894	23 296	402	23 296	25 710	(2 414)
CAPITAL						
Item 147 - Capital contribution	497	497	-	497	-	497
GRAND TOTAL OF APPROPRIATIONS	23 391	23 793	402	23 793	25 710	(1 917)
Details of Expenditure by Outputs						
Policy, Education and Advice	5 251	6 541	1 290	6 541	5 943	598
Environmental Impact Services	5 489	5 273	(216)	5 273	5 894	(621)
Pollution Regulation	13 296	11 003	(2 293)	11 003	10 118	885
Waste Management	10 667	10 676	9	10 676	9 037	1 639
Environmental Systems	4 053	5 277	1 224	5 277	5 185	92
Total cost of outputs	38 756	38 770	14	38 770	36 177	2 593
Less total revenues from ordinary activities	(14 888)	(13 576)	1 312	(13 576)	(7 021)	(6 555)
Net cost of outputs	23 868	25 194	1 326	25 194	29 156	(3 962)
Adjustments ^(a)	(974)	(1 898)	(924)	(1 898)	(3 446)	1 548
Total appropriations provided to deliver outputs	22 894	23 296	402	23 296	25 710	(2 414)
Capital expenditure						
Purchase of non-current physical assets	497	779	282	779	294	485
Adjustment for other funding sources	-	(282)	(282)	(282)	(294)	12
Capital contribution (appropriation)	497	497	-	497	-	497
DETAILS OF REVENUE ESTIMATES						
Revenues disclosed as Administered Revenues	-	-	-	-	5 085	(5 085)

(a) Adjustments are related to movements in cash balances and other accrual items such as receivables, payables and superannuation

The Summary of Consolidated Fund Appropriations, Variance to Budget and Actual should be read in conjunction with the accompanying notes.

This Summary provides the basis for the Explanatory Statement information requirements of TI 945, set out in Note 29.

Statement of trust fund accounts for the year ended 30 June 2004

1. Specific Purpose Grants from Industry	2004 \$	2003 \$
Balance at 1 July	842 727	1 225 578
Receipts	1 318 1603	933 503
	2 160 887	2 159 081
Payments	(785 827)	(709 077)
	1 375 060	1 450 004
Recoup transfers	10 000	(607 277)
Balance at 30 June held in bank account	1 385 060	842 727
These balances are held in the following sub accounts:		
Air Toxics	210 125	210 125
AirWatch	63 335	103 880
Christmas and Cocos (Keeling) Islands	65 409	65 409
Cockburn Sound EPP	62 632	67 168
Community Action Plans	1 841	1 841
Cycling 100	(3 824)	(3 824)
Drain Licensing	-	9 969
Ecoplan	43 539	31 232
Environmental Impact Assessment	31 313	61 328
F/Dale LWTP — Environmental Monitoring Account	4 112	8 158
Global Environment Protection Activities	72 173	72 173
Industry Training Courses	1 628	9 072
Marine Studies	57 037	21 821
Midas Project	19 982	19 982
NPI Trust	140 625	216 200
NPS Conference	2 642	12 642
PCW Consultative Process	689	689
Perth Haze Study	-	2 857
Pilbara Air Study Completion	-	1 679
Pollution Incident Response	40	7 392
State of the Environment Trust	115 192	78 828
Travel Smart	190	4 249
Urban Air Pollution Studies	-	8 001
Voluntary GPS Liquid Waste Levy	127 052	223 476
Voluntary Waste Tracking Liquid Waste Levy	77 670	88 204
Waste Paper Recycling Program	214	214
World Environment Day	-	1 242
Acid Sulfate Soil Workshop	5 556	23 286
Water Quality Improvement Plan for the Peel-Harvey system	30 185	60 000
Regulation review to protect the Peel-Harvey system	13 090	36 363
Peel-Harvey Decision Support System	-	36 363
Environmental Values & Quality Objectives NW Shelf	93 592	-
Perth Region Plant Biodiversity Project	24 678	-
BGC Voyager Quarry	17 982	-
USEPA Pollution Response Training	10 216	-
EPP — Odour Buffers Around WWTP	72 000	-
WA Water Industry Awards	14 145	-
	1 375 060	1 450 004

PURPOSE: For the conduct of Environmental Studies/Activities funded by donations.

(a) Recoup of expenditures from other funding sources incorrectly expended through this trust account. Funding sources include the department's operating account and the Waste Management and Recycling Fund Trust account.

Statement of trust fund accounts (continued)
for the year ended 30 June 2004

2. Wastetrack Management Trust	2004	2003
	\$	\$
Balance at 1 July	712 898	1 585 502
Receipts	3 177	457 204
	716 075	2 042 706
Payments – Waste treatment	(452)	(1 329 808)
Balance at 30 June held in bank account	715 623	712 898

PURPOSE: To hold monies raised from liquid waste generators who, by regulation, must register their premises and are invoiced in advance for waste treatment according to established schedules.

The Wastetrack Management Trust account will cease to operate once the expenditure met by Consolidated Fund has been recouped. The balance of the trust account will be refunded to industry and other persons on a pro rata basis of funds contributed.

3. Waste Management and Recycling Trust Fund	2004	2003
	\$	\$
Balance at 1 July	8 620 019	6 604 083
Receipts	5 963 213	5 696 426
	14 583 232	12 300 509
Payments	(7 866 909)	(3 680 490)
Balance at 30 June held in bank account	6 716 323	8 620 019

PURPOSE: To encourage the conservation of resources and energy through waste reduction and recycling. To promote, support and encourage viable alternatives to landfill disposal of waste. To encourage applied research and the development of appropriate waste management, waste reduction and recycling infrastructure and markets. The Fund will be used to fund nominated programs and other waste management initiatives established by the Minister for the Environment on the advice of the Waste Management Board.

NOTES TO THE FINANCIAL STATEMENTS

for the year ended 30 June 2004

1 Departmental mission and funding

The department's mission is to ensure, with people across the community, that our environment, with the life it supports, is protected now and into the future.

The department is predominantly funded by Parliamentary appropriations. It receives substantial contributions from user charges. The financial statements encompass all funds through which the department controls resources to carry on its functions.

In the process of reporting on the department as a single entity, all intra-entity transactions and balances have been eliminated.

The Office of Water Regulation (OWR) was abolished on 31 December 2003. Its functions have been split between the newly established Economic Regulation Authority and the Department of Environmental Protection effective as at 1 January 2004.

An application was approved by the Treasurer to transfer the unexpended portion of the OWR's appropriation to the respective agencies in accordance with section 25 of the Financial Administration and Audit Act. The net assets were apportioned based on each entity's requirements in carrying out their respective functions.

The Machinery of Government Taskforce has recommended that most of the divisions of the Department of Environmental Protection be amalgamated with the Water and Rivers Commission to form the Department of Environment. The completion of the amalgamation is contingent on the passage of amendments through parliament to the *Environmental Protection Act 1986* and the *Water and Rivers Commission Act 1995*.

The Executive Council has redesignated the Department of Environmental Protection as the Department of Environment effective as at July 1, 2004.

2 Significant accounting policies

The following accounting policies have been adopted in the preparation of the financial statements. Unless otherwise stated these policies are consistent with those adopted in the previous year.

General statement

The financial statements constitute a general purpose financial report which has been prepared in accordance with Accounting Standards, Statements of Accounting Concepts and other authoritative pronouncements of the Australian Accounting Standards Board, and Urgent Issues Group (UIG) Consensus Views as applied by the Treasurer's Instructions. Several of these are modified by the Treasurer's Instructions to vary application, disclosure, format and wording. *The Financial Administration and Audit Act* and the Treasurer's Instructions are legislative provisions governing the preparation of financial statements and take precedence over Accounting Standards, Statements of Accounting Concepts and other authoritative

pronouncements of the Australian Accounting Standards Board, and UIG Consensus Views. The modifications are intended to fulfil the requirements of general application to the public sector, together with the need for greater disclosure and also to satisfy accountability requirements.

If any such modification has a material or significant financial effect upon the reported results, details of that modification and where practicable, the resulting financial effect, are disclosed in individual notes to these financial statements.

Basis of accounting

The financial statements have been prepared in accordance with Accounting Standard AAS 29.

The statements have been prepared on the accrual basis of accounting using the historical cost convention, except for certain assets and liabilities which, as noted, are measured at fair value.

Administered assets, liabilities, expenses and revenues are not integral to the department in carrying out its functions and are disclosed in the notes to the financial statements, forming part of the general purpose financial report of the department. The administered items are disclosed on the same basis as is described above for the financial statements of the department. The administered assets, liabilities, expenses and revenues are those which the Government requires the department to administer on its behalf. The assets do not render any service potential or future economic benefits to the department, the liabilities do not require the future sacrifice of service potential or future economic benefits of the department, and the expenses and revenues are not attributable to the department.

As the administered assets, liabilities, expenses and revenues are not recognised in the principal financial statements of the department, the disclosure requirements of Accounting Standard AAS 33, Presentation and Disclosure of Financial Instruments, are not applied to administered transactions.

(a) Output appropriations

Output appropriations are recognised as revenues in the period in which the department gains control of the appropriated funds. The department gains control of appropriated funds at the time those funds are deposited into the department's bank account or credited to the holding account held at the Department of Treasury and Finance.

(b) Contributed equity

Under UIG 38 'Contributions by Owners Made to Wholly-Owned Public Sector Entities' transfers in the nature of equity contributions must be designated by the Government (owners) as contributions by owners (at the time of, or prior to transfer) before such transfers can be recognised as equity contributions in the financial statements. Capital contributions (appropriations) have been designated as contributions by owners and have been credited directly to Contributed Equity in the Statement of Financial Position.

(c) Net appropriation determination

Pursuant to section 23A of the *Financial Administration and Audit Act*, the net appropriation determination by the Treasurer provides for retention of the following moneys received by the department:

- proceeds from fees and charges;
- Commonwealth specific purpose grants and contributions;
- revenues derived from the sale of real property;
- one-off revenues with a value of less than \$10 000 derived from the sale of property other than real property; and
- other departmental revenue.

In accordance with the determination, the department retained \$13.576m in 2004 (\$7.021m in 2003).

Retained revenues may only be applied to the outputs specified in the 2004 Budget Statements.

(d) Grants and other contributions

Grants, donations, gifts and other non-reciprocal contributions are recognised as revenue when the department obtains control over the assets comprising the contributions. Control is normally obtained upon their receipt.

Contributions are recognised at their fair value. Contributions of services are only recognised when a fair value can be reliably determined and the services would be purchased if not donated.

(e) Revenue recognition

Revenue from the sale of goods and disposal of other assets and the rendering of services, is recognised when the department has passed control of the goods or other assets or delivery of the service to the customer.

(f) Acquisitions of assets

The cost method of accounting is used for all acquisitions of assets. Cost is measured as the fair value of the assets given up or liabilities undertaken at the date of acquisition plus incidental costs directly attributable to the acquisition.

Assets acquired at no cost or for nominal consideration, are initially recognised at their fair value at the date of acquisition.

Assets costing less than \$5 000 are expensed in the year of acquisition (other than when they form part of a group of similar items which are significant in total).

(g) Depreciation of non-current assets

All non-current assets having a limited useful life are systematically depreciated over their estimated useful lives in a manner which reflects the consumption of their future economic benefits.

Depreciation is calculated on the straight line basis, using rates which are reviewed annually. Expected useful lives for each class of depreciable asset are:

Furniture and equipment

– Noise and air monitoring equipment	5 years
– Air monitoring sheds	5 years
– GPS tracking equipment	10 years
– Other equipment	10 years
– Computer hardware and software development	3 years
– Information system	10 years

(h) Revaluation of land

The department has a policy of revaluing land every three years on the basis of current market buying values. The revaluation of the department's land undertaken by the Valuer General's Office are recognised in the financial statements.

(i) Leases

The department has entered into a number of operating lease arrangements for buildings, office equipment and motor vehicles where the lessor effectively retains all of the risks and benefits incident to ownership of the items held under the operating leases. Equal instalments of the lease payments are charged to the Statement of Financial Performance over the lease term as this is representative of the pattern of benefits to be derived from the leased property.

(j) Cash

For the purpose of the Statement of Cash Flows, cash includes cash assets and restricted cash assets. These include short-term deposits that are readily convertible to cash on hand and are subject to insignificant risk of changes in value.

(k) Accrued salaries

The accrued salaries suspense account (refer note 16) consists of amounts paid annually into a suspense account over a period of 10 financial years to largely meet the additional cash outflow in each eleventh year when 27 pay days occur in that year instead of the normal 26. No interest is received on this account.

Accrued salaries (refer note 22) represent the amount due to staff but unpaid at the end of the financial year, as the end of the last pay period for that financial year does not coincide with the end of the financial year. Accrued salaries are settled within a few days of the financial year end.

The department considers the carrying amount of accrued salaries to be equivalent to the net fair value.

(l) Receivables

Receivables are recognised at the amounts receivable as they are due for settlement no more than 30 days from the date of recognition.

Collectability of receivables is reviewed on an ongoing basis. Debts which are known to be uncollectible are written off. A provision for doubtful debts is raised where some doubts as to collection exists and in any event the debt is more than 60 days overdue.

(m) Payables

Payables, including accruals not yet billed, are recognised when the department becomes obliged to make future payments as a result of a purchase of assets or services. Payables are generally settled within 30 days.

(n) Employee benefits***Annual leave***

This benefit is recognised at the reporting date in respect to employees' services up to that date and is measured at the nominal amounts expected to be paid when the liabilities are settled.

Long service leave

The liability for long service leave expected to be settled within 12 months of the reporting date is recognised in the provisions for employee benefits, and is measured at the nominal amounts expected to be paid when the liability is settled. The liability for long service leave expected to be settled more than 12 months from the reporting date is recognised in the provisions for employee benefits and is measured at the present value of expected future payments to be made in respect of services provided by employees up to the reporting date. Consideration is given, when assessing expected future payments, to expected future wage and salary levels including relevant on costs, experience of employee departures and periods of service. Expected future payments are discounted using market yields at the reporting date on national government bonds with terms to maturity and currency that match, as closely as possible, the estimated future cash outflows.

Superannuation

Staff may contribute to the Pension Scheme, a defined benefits pension scheme now closed to new members, or to the Gold State Superannuation Scheme, a defined benefit lump sum scheme now also closed to new members. All staff who do not contribute to either of these schemes become non-contributory members of the West State Superannuation Scheme, an accumulation fund complying with the Commonwealth Government's Superannuation Guarantee (Administration) Act 1992. All of these schemes are administered by the Government Employees Superannuation Board (GESB).

The superannuation expense comprises the following elements:

- (i) change in the unfunded employer's liability in respect of current employees who are members of the Pension Scheme and current employees who accrued a benefit on transfer from that Scheme to the Gold State Superannuation Scheme; and
- (ii) employer contributions paid to the Gold State Superannuation Scheme and the West State Superannuation Scheme.

The superannuation expense does not include payment of pensions to retirees, as this does not constitute part of the cost of services provided by the department in the current year.

A revenue 'Liabilities assumed by the Treasurer' equivalent to (i) is recognised under Revenues from State Government in the Statement of Financial Performance as the unfunded liability is assumed by the Treasurer. The GESB makes the benefit payments and is recouped by the Treasurer.

The department is funded for employer contributions in respect of the Gold State Superannuation Scheme and the West State Superannuation Scheme. These contributions were paid to the GESB during the year. The GESB subsequently paid the employer contributions in respect of the Gold State Superannuation Scheme to the Consolidated Fund.

Employee benefit on-costs

Employee benefit on-costs are recognised and included in employee benefit liabilities and costs when the employee benefits to which they relate are recognised as liabilities and expenses. (See note 4 and 23)

(o) Resources received free of charge or for nominal value

Resources received free of charge or for nominal value which can be reliably measured are recognised as revenues and as assets or expenses as appropriate at fair value.

(p) Site rehabilitation — Mt Walton

There were no amounts credited to the Site Rehabilitation Provision account for the financial year end 2004. This was due to no disposal operation taking place during the financial year.

The provision was established to provide for costs of rehabilitating the Mt Walton disposal site after the final intractable waste operation takes place in the future.

(q) Comparative figures

Comparative figures are, where appropriate, reclassified so as to be comparable with the figures presented in the current financial year.

(r) Rounding of amounts

Amounts in the financial statements have been rounded to the nearest thousand dollars, or in certain cases, to the nearest dollar.

3 Outputs of the Department

Information about the department's outputs and, the expenses and revenues which are reliably attributable to those outputs is set out in the Output Schedule.

The five key outputs of the Department:

Output 1: Policy, Education and Advice

Coordinate the development and analysis of environmental policy, ensure its effective implementation, manage the formulation of statutory Environmental Protection Policies (EPP), coordinate State of the Environment reporting and provide sound, accurate and timely information about the environment to the community to promote positive environmental behaviours. To provide advice in response to enquires about rights, responsibilities and issues in relation to the environment from other government agencies, parliamentary members, industry and the community.

Output 2: Environment Impact Services

Management of the environmental impact assessment process for the Environmental Protection Authority (EPA) and enforcement of conditions for the Minister, enabling sound environmental advice on development proposals and planning schemes/amendments to be provided to the government, developers and the public, to ensure the environment is protected for the community.

Output 3: Pollution Regulation

The development and enhancement of legislation systems, processes and policies, to ensure that discharges into the environment are minimised, and pollution of the environment is prevented or abated, and that contaminated sites are identified and managed. The administration of the provisions of Part V of the *Environmental Protection Act* through issuing regulatory instruments and taking enforcement actions to ensure achievement of environmental objectives and compliance with regulatory standards.

Output 4: Waste Management

To develop a waste management strategy based on resource recovery and product stewardship and to facilitate and regulate to ensure its implementation in order to reduce the amount of waste produced and its impact on the environment and public health, through the application of the waste management hierarchy (ie. reduce, recycle, safe disposal).

Output 5: Environment Systems

Plan and implement projects aimed at increasing our knowledge and understanding of environmental systems under threat of pressure and apply this knowledge to the development of environmental quality objectives, strategies and policies to improve the management and protection of the environment by government, industry and the community.

	2004	2003
	\$000	\$000
4 Employee expenses		
Wages and salaries	16 072	12 227
Change in employee entitlements	1 108	691
Superannuation	1 096	1 371
	<u>18 276</u>	<u>14 289</u>

Change in employee benefits include superannuation, workers compensation premiums and other employment on-costs associated with the recognition of annual and long service leave liability. The related on-costs liability is included in employee benefit liabilities at Note 23.

During the year, officers previously employed by the Office of Water Regulation were transferred to the department as the Office ceased operations effective as at 31 December 2003. Further salary increases can be attributed to the formation of the Environmental Enforcement Unit.

	2004 \$000	2003 \$000
5 Supplies and services		
Consultant and contractors	5 975	7 446
Lease rental payments	748	374
Advertising	173	118
Other	810	1 670
	<u>18 276</u>	<u>9 608</u>
6 Depreciation expense		
Furniture and equipment	250	316
Computer hardware and software development	171	253
	<u>421</u>	<u>569</u>
7 Administration expenses		
Communications	600	882
Consumables	599	523
Maintenance	1 335	788
Other staff costs	1 083	741
	<u>3 617</u>	<u>2 934</u>
8 Accommodation expenses		
Other expenses	68	37
Lease rentals	2 327	2 085
	<u>2 395</u>	<u>2 122</u>
9 Grants and subsidies		
Recurrent grants incurred during the year	<u>5 258</u>	<u>5 238</u>
Large proportion of grants paid were for the Waste Management Recycling Grants and the Resource Recovery & Rebate scheme paid to local authorities.		
10 Capital user charge		
	<u>1 041</u>	<u>1 105</u>

A capital user charge rate of 8% has been set by the Government and represents the opportunity cost of capital invested in the net assets of the department used in the provision of outputs. The charge is calculated on the net assets adjusted to take account of exempt assets. Payments are made to the Department of Treasury and Finance on a quarterly basis.

	2004 \$000	2003 \$000
11 Other expenses from ordinary activities		
Doubtful debts expense	46	(157)
Carrying amount of non-current assets expensed ^(a)	-	469
Carrying amount of non-current assets disposed of	10	-
	<u>56</u>	<u>312</u>

(a) A number of non-current assets were expensed during 2002–03 due to a change in accounting policy in relation to the non-current asset register threshold value increase from \$1 000 to \$5 000.

12 User charges and industry contributions

Paid into trusts	5 904	6 287
Pollution licence fees	6 475	-
Waste control permit fees	305	-
Other restricted cash assets — Waste Management (WA)	-	148
	<u>12 684</u>	<u>6 435</u>

Pollution licence fees were previously disclosed under administered revenues (note 33). A net appropriation agreement is now in place with the Treasurer to retain these revenues. Waste control permit fees is a new charge enabled under the *Environmental Protection (Controlled Waste) Regulations 2004*. There is also a net appropriation agreement in place for Waste control permit fees.

13 Net gain/(loss) on disposal of non-current assets

Gain on disposal of non-current assets

– Noise pollution	-	3
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Loss on disposal of non-current assets

– Furniture and equipment	(10)	-
Net gain/(loss)	<u>(10)</u>	<u>3</u>

14 Other revenues from ordinary activities

Interest received	427	455
Other departmental revenue	465	128
	<u>892</u>	<u>583</u>

	2004 \$000	2003 \$000
15 Revenues (to)/from Government		
Appropriation revenue received during the year:		
Output appropriations ^(a)	23 296	25 710
	<u>23 296</u>	<u>25 710</u>
The following liabilities have been assumed by the Treasurer during the financial year:		
– superannuation ^(b)	(360)	265
Total liabilities assumed by the Treasurer	<u>(360)</u>	<u>265</u>
The following assets have been assumed from/(transferred to) other state government agencies during the financial year: ^(c)		
– Land	(535)	-
Total assets assumed/(transferred)	<u>(535)</u>	<u>-</u>
Resources received free of charge ^(d)		
Determined on the basis of the following estimates provided by agencies:		
Office of the Auditor General ^(e)	-	58
Department of Housing and Works	34	28
Department of Land Information	126	335
State Solicitor's Office	268	121
	<u>428</u>	<u>542</u>
	<u>22 829</u>	<u>26 517</u>

- (a) Output appropriations are accrual amounts reflecting the full costs of outputs delivered. The appropriation revenue comprises a cash component and a receivable (asset). The receivable (holding account) comprises the depreciation expense for the year and any agreed increase in leave liability during the year.
- (b) The assumption of the superannuation liability by the Treasurer is only a notional revenue to offset the notional superannuation expense reported in respect of current employees who are members of the pension scheme and current employees who have a transfer benefit entitlement under the Gold State scheme.
- (c) From 1 July 2002 non-discretionary non-reciprocal transfers of net assets (ie.restructuring of administrative arrangements) have been classified as Contribution by Owners (CBOs) under TI 955 and are taken directly to equity. During the year, land was transferred to LandCorp for the remediation purposes.
- (d) Where assets or services have been received free of charge or for nominal consideration, the department recognises revenues (except where the contributions of assets or services are in the nature of contributions by owners in which case the department shall make a direct adjustment to equity) equivalent to the fair value of the assets and/or the fair value

of those services that can be reliably determined and which would have been purchased if not donated, and those fair values shall be recognised as assets or expenses, as applicable.

- (e) Commencing with the 2003–04 audit, the Office of the Auditor General will be charging a fee for auditing the accounts, financial statements and performance indicators. The fee for the 2003–04 audit (\$71 500) will be due and payable in the 2004–05 financial year.

	2004 \$000	2003 \$000
16 Restricted cash assets		
Current ^(a)		
Accrued salaries suspense account ^(b)	651	-
Specific Purpose Grants from Industry	1 385	843
Wastetrack Management Trust	716	713
Waste Management and Recycling Trust Fund	6 716	8 620
Waste Management (WA)	-	70
	<u>9 468</u>	<u>10 246</u>
Non-current		
Accrued salaries suspense account ^(b)	-	455

- (a) These cash items are restricted as to their use by the department through legislation and trust fund activity.

- (b) Amount held in suspense account is only to be used for the purpose of meeting the 27th pay in a financial year that occurs every 11 years. The payment will occur in the next financial year.

17 Receivables

Current		
Trade debtors	1 552	1 468
Provision for doubtful debts	(94)	(148)
GST receivable	269	146
	<u>1 727</u>	<u>1 466</u>
Provision for doubtful debts		
Opening balance	148	305
Write-offs approved during the financial year	(100)	-
	<u>48</u>	<u>305</u>
Increase/(decrease) in provision for doubtful debts	46	(157)
Closing balance	<u>94</u>	<u>148</u>

	2004 \$000	2003 \$000
18 Amounts receivable for outputs		
Current	857	823
Non-current	782	377
	<u>1 639</u>	<u>1 200</u>

This asset represents the non-cash component of output appropriations. It is restricted in that it can only be used for asset replacement or payment of leave liability.

19 Other assets

Current		
Inventory - AirWatch kits	8	13
Prepaid salaries	65	-
	<u>73</u>	<u>13</u>

20 Property, plant and equipment

Land		
At cost	-	535
At valuation (Waste disposal site)	15	15
	<u>15</u>	<u>550</u>
Furniture and equipment		
At cost	4 025	4 115
Accumulated depreciation	(2 769)	(3 249)
	<u>1 256</u>	<u>866</u>
Computer hardware and software development		
At cost	1 544	1 481
Accumulated depreciation	(1 395)	(1 290)
	<u>149</u>	<u>191</u>
Information system		
At cost	184	184
Accumulated depreciation	(184)	(184)
	<u>-</u>	<u>-</u>
	<u>1 420</u>	<u>1 607</u>

(a) The revaluation of land was performed in June 1999 in accordance with an independent valuation by the Valuer General's Office. Fair Value of land has been determined on the basis of current market buying values. The valuation were made in accordance with a policy of revaluation every three years.

The revaluation due in 2002 has been postponed pending the completion of the amalgamation (see note 1). The department considers there to be no material difference between the carrying value and the fair value of the assets.

Reconciliations

Reconciliations of the carrying amounts of property, plant and equipment at the beginning and end of the current financial year are set out below.

	Land	Furniture & equipment	Computer equipment	Information system	Total
	\$000	\$000	\$000	\$000	\$000
2004					
Carrying amount at start of year	550	866	191	-	1 607
Additions	-	650	129	-	779
Disposal	(535)	(10)	-	-	(545)
Revaluation increments	-	-	-	-	-
Depreciation	-	(250)	(171)	-	(421)
Carrying amount at end of year	15	1 256	149	-	1 420

	2004	2003
	\$000	\$000

21 Payables

Trade payables	498	263
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22 Other liabilities

Accrued salaries	221	365
Accrued expenses	2 919	6 479
Unearned revenue	19	-
Other	221	23
	<u>3 380</u>	<u>6 867</u>

23 Provisions

Current		
Annual leave	1 551	1 170
Long service leave	911	767
	<u>2 462</u>	<u>1 937</u>
Non-current		
Long service leave	1 794	1 211
Site rehabilitation — Mt Walton (refer to note 2(p))	290	290
	<u>2 084</u>	<u>1 501</u>

The settlement of annual and long service leave liabilities gives rise to the payment of employment on-costs including superannuation and workers compensation premiums. The liability for such on-costs is included here. The associated expense is included under Change in employee benefits (under Employee expenses) at Note 4.

The department considers the carrying amount of employee benefits to approximate the net fair value.

	2004	2003
	\$000	\$000

Employee Benefit Liabilities

The aggregate employee benefit liability recognised and included in the financial statements is as follows:

Provision for employee entitlements:

Current	2 462	1 937
Non-current	1 794	1 211
	<u>4 256</u>	<u>3 148</u>

Movements in Provisions

Movements in each class of provisions during the financial year, other than employee benefits, are set out below.

Site rehabilitation – Mt Walton

Carrying amount at start of year	290	162
Additional provisions recognised	-	128
Payments/other sacrifices of economic benefits	-	-
Carrying amount at end of year	<u>290</u>	<u>290</u>

24 Equity

Equity represents the residual interest in the net assets of the department. The Government holds the equity interest in the department on behalf of the community. The asset revaluation reserve represents that portion of equity resulting from the revaluation of non-current assets.

Contributed equity

Opening balance	800	800
Capital contributions ^(a)	<u>1 155</u>	<u>-</u>
Closing balance	<u>1 955</u>	<u>800</u>

(a) Capital Contributions have been designated as contributions by owners and are credited directly to equity in the Statement of Financial Position.

	2004 \$000	2003 \$000
Reserves		
Asset revaluation reserve: ^(b)		
Opening balance	15	15
Net revaluation increments/(decrements):		
Land	-	-
Closing balance	15	15

(b) The asset revaluation reserve is used to record increments and decrements on the revaluation of non-current assets, as described in accounting policy note 2(h).

Accumulated surplus		
Opening balance	11 481	14 120
Change in net assets	(2 365)	(2 639)
Closing balance	9 116	11 481
Total equity	11 086	12 296

25 Notes to the statement of cash flows

(a) Reconciliation of cash

Cash at the end of the financial year as shown in the Statement of Cash Flows is reconciled to the related items in the Statement of Financial Position as follows:

Cash assets	5 183	7 877
Restricted cash assets (refer to note 16)	9 468	10 701
	14 651	18 578

(b) Reconciliation of net cost of services to net cash flows used in operating activities

Net cost of services	(25 194)	(29 156)
Non-cash items:		
Depreciation expense	421	569
Doubtful debt expense	(54)	(157)
Carrying amount of non-current assets expensed	-	469
Superannuation expense	(360)	265
Resources received free of charge	428	542
Net (gain)/loss on sale of property, plant and equipment	-	(3)
(Increase)/decrease in assets:		
Current receivables	(84)	452
Other current assets	(60)	2

	2004 \$000	2003 \$000
Increase/(decrease) in liabilities:		
Current payables	235	4 474
Current provisions	525	571
Other current liabilities	(3 487)	(97)
Non-current provisions	583	247
Net GST receipts/(payments)	(106)	96
Change in GST in receivables/payables	(17)	(14)
Net cash used in operating activities	<u>(27 170)</u>	<u>(21 740)</u>

26 Commitments for expenditure

(a) Non-cancellable operating lease commitments

Commitments in relation to leases contracted for at the reporting date but not recognised as liabilities are payable:

Within 1 year	2 516	2 358
Later than 1 year and not later than 5 years	3 896	5 335
Later than 5 years	-	-
	<u>6 412</u>	<u>7 693</u>

These commitments are all inclusive of GST.

27 Contingent liabilities and contingent assets

Contingent Liabilities

In addition to the liabilities incorporated in the financial statements, the department has the following contingent liabilities:

(a) Litigation in progress

The department has a pending litigation that may affect the financial position to the value of \$50 000 in relation to a breach of contract. The department's name has been removed from the litigation list however, there are a number of departmental employees that are implicated in the action. The department has disclaimed the liability and will defend any action.

Contingent Assets

There were no contingent assets that would materially affect the department.

28 Events occurring after reporting date

There were no events after balance date that would materially affect the financial statements or disclosures.

29 Explanatory Statement

The Summary of Consolidated Fund Appropriations and Revenue Estimates discloses appropriations and other statutes expenditure estimates, the actual expenditures made and revenue estimates and payments into the Consolidated Fund, all on an accrual basis.

The following explanations are provided in accordance with Treasurer's Instruction 945. Significant variations are considered to be those greater than 10%.

(i) Significant variances between estimate and actual — Total appropriation to deliver outputs:

	2004 Estimate	2004 Actual	Variance
	\$000	\$000	\$000

There were variances in the following output expenditures:

Policy, Education and Advice	5 251	6 541	1 290
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The variation is mainly attributable to the transfer of the Office of Water Policy (\$0.754m) to the Department of Environmental Protection and carryover funds (\$0.450m) associated with the Water Quality Improvement Plan and Policy Development projects.

Pollution Regulation	13 296	11 003	(2 293)
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The variation is mainly attributable to deferred expenditure of \$1.9m associated with the remediation of the Waste Control site and under expenditure of approximately \$0.420m with respect to Contaminated Sites and full roll out of the Environmental Enforcement Unit (EEU).

Environmental Systems	4 053	5 277	1 224
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The variation is mainly associated with carryover expenditure from 2002–03 of \$0.630m and additional expenditure associated with the purchase of monitoring equipment (\$0.6m) previously capitalised, which is now expensed under an accounting policy change which has increased the asset capitalisation threshold.

(ii) Significant variances between actual and prior year actual — Total appropriation to purchase outputs:

Net amount of appropriation provided to deliver outputs for the year

	23 296	25 710	(2 414)
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The variation is primarily attributable to the department net appropriating revenues in 2003–04 associated with pollution licenses and controlled waste which resulted in a net reduction to the amount of appropriation provided to purchase outputs. The department also received additional funding for several new initiatives which contributed to the variation on total appropriation received in 2003–04 as follows:

Brookdale closure	(3 700)
Net Appropriation of revenues	(6 704)

	2004 Actual	2003 Actual	Variance
	\$000	\$000	\$000
Remediation Waste Control Site — Bellevue	2 600		
Contaminated Sites	2 023		
Pollution Licensing and Enforcement	1 372		
Bellevue Inquiry	1 030		
Morangup Remediation	1 200		
Retained Revenue — Section 23A Financial Administration and Audit Act	13 576	7 021	6 555

The variation is primarily attributable to the department net appropriating revenues in 2003–04 associated with pollution licenses and controlled waste previously recognised as Administered.

Output Expenditure

Environmental Impact Services	5 273	5 894	(621)
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The variation is largely attributable to the fact that the 2003 year contained expenditure associated with carryovers from the 2001–02 year.

Waste Management	10 676	9 037	1 639
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The variation is mainly associated with expenditure associated with the Morangup site remediation which received additional funding of \$1.2m in 2003–04.

(iii) Significant variances between estimate and actual — Capital Contribution:

No significant variance.

(iv) Significant variances between actual and prior year actual — Capital Contribution:

Capital Contribution provided for capital services	497	-	497
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The variation is due to additional funding being provided for new assets associated with new resource proposal, Response to the Bellevue Enquiry (\$0.320m) funded in 2003–04 and an adjustment to the holding account breakdown by the Department of Treasury and Finance.

(v) Significant variances between estimate and actual, and actual and prior year actual — Total administered appropriations:

No administered appropriations.

(vi) Significant variances between estimate and actual, and actual and prior year actual — Administered revenues:

	2004 Estimate	2004 Actual	Variance	2004 Actual	2003 Actual	Variance
	\$000	\$000	\$000	\$000	\$000	\$000
	-	-	-	-	5 085	(5 085)

Variation is due to the department net appropriating revenues in 2003-04 associated with pollution licensing and controlled waste which were previously recognised as administered.

30 Financial Instruments

(a) Interest Rate Risk Exposure

The following table details the department's exposure to interest rate risk as at the reporting date:

		Fixed interest rate maturities					Total
		Weighted average effective interest rate	Variable interest rate	Less than 1 year	1 to 5 years	More than 5 years	
2004		%	\$000	\$000	\$000	\$000	\$000
Financial Assets							
Cash assets			-	-	-	-	5 183
Restricted cash assets	5.1		6 716	-	-	-	2 752
Receivables			-	-	-	-	1 727
			6 716	-	-	-	9 662
Financial Liabilities							
Payables			-	-	-	-	498
Other liabilities			-	-	-	-	3 380
			-	-	-	-	3 878
2003							
Financial assets	4.9		8 620	-	-	-	11 420
Financial liabilities			-	-	-	-	7 126

(b) Credit Risk Exposure

The carrying amount of financial assets recorded in the financial statements, net of any provisions for losses, represents the department's maximum exposure to credit risk.

(c) Net Fair Values

The carrying amount of financial assets and financial liabilities recorded in the financial statements are not materially different from their net fair values, determined in accordance with the accounting policies disclosed in note 2 to the financial statements.

(d) Government agencies

Amounts owing by other government agencies are guaranteed and therefore no credit risk exists in respect of those amounts. In respect of other financial assets, the carrying amounts represent the department's maximum exposure to credit risk in relation to those assets.

The following is an analysis of amounts owing by other government agencies:

	2004 \$000	2003 \$000
Government agencies of other jurisdictions	80	6
Local Government agencies	1 254	1 200
Commonwealth Government — ATO (GST)	269	146
	<u>1 603</u>	<u>1 352</u>

31 Remuneration of Senior Officers*Remuneration*

The number of senior officers, whose total of fees, salaries, superannuation and other benefits for the financial year, fall within the following bands are:

\$	2004	2003
50 001 – 60 000	1	-
110 001 – 120 000	1	-
120 001 – 130 000	1	1
130 001 – 140 000	1	2

The total remuneration of senior officers is: 421 389

The superannuation included here represents the superannuation expense incurred by the department in respect of senior officers.

No senior officers are members of the Pension Scheme.

32 Affiliated bodies

The Environmental Protection Authority (EPA) is a government affiliated body in that it received financial support from the department. The EPA is not subject to operational control by the department.

Recurrent

Employee expenses	579	452
Other staff costs	16	41
Communications	10	10
Supplies and services	24	254
Consumables	14	13
Other	2	2
	<u>645</u>	<u>772</u>

	2004 \$000	2003 \$000
33 Supplementary information		
<i>Write-offs</i>		
Unrecoverable amounts written-off by the Governor	100	-
<i>Losses through theft, defaults and other causes</i>		
Losses of public monies and public and other property through theft or default	-	-
Amount recovered	-	-
	-	-
<i>Gifts of public property</i>		
Gifts of public property provided by the Department	-	-

34 Administered expenses and revenues

Expenses

Revenue paid to Treasury	-	5 243
Total administered expenses	-	5 243

Revenues

Waste licences	-	458
Pollution licences and permits	-	4 627
Total administered revenues	-	5 085

These revenues and expenses are no longer administered. They are now controlled by the department and a net appropriation agreement is in place with the Treasurer (see note 12).

35 International Financial Reporting Standards

The Department of Environmental Protection is adopting international accounting standards in compliance with AASB 1 *First-time Adoption of Australian Equivalents to International Financial Reporting Standards* (IFRS).

AASB 1 requires an opening balance sheet as at 1 July 2004 and the restatement of the financial statements for the reporting period to 30 June 2005 on the IFRS basis. These financial statements will be presented as comparatives in the first annual financial report prepared on an IFRS basis for the period ending 30 June 2006.

AASB 1047 *Disclosing the Impacts of Adopting Australian Equivalents to International Financial Reporting Standards* requires financial reports for periods ending on or after 30 June 2004 to disclose:

1. How the transition to Australian equivalents to IFRSs is being managed

The Finance and Administration branch within the Department has been assessing and monitoring the impact of IFRS. The Department has undertaken the services of Stamfords Advisors and Consultants to review the effect of IFRS upon the date of each IFRS milestone. The first milestone being the determination of the opening balances (1 July 2004) based on the IFRS changes.

As at the first milestone the review has concluded that the department has adequate Financial Management Information Systems to collect the necessary information to comply with IFRS and to establish opening balances under IFRS at 1 July 2004.

The effect of IFRS will continue to be monitored in case of changes in the Department's circumstances or operations.

2. Key differences in accounting policies that are expected to arise from adopting Australian equivalents to IFRS

The department considers that no key differences in accounting policies are expected to arise from adopting Australian Equivalent to IFRS and the impact on presentation and disclosure is expected to be minimal.

Appendix A — Regional Office details

SWAN GOLDFIELDS AGRICULTURAL REGION

7 Ellam Street
VICTORIA PARK WA 6100

Telephone (08) 6250 8000
Facsimile (08) 6250 8050

Northam office

254 Fitzgerald Street
NORTHAM WA 6401
(PO Box 497, Northam WA 6401)

Telephone (08) 9622 7055
Facsimile (08) 9622 7155

Kalgoorlie office

Viskovich House
377 Hannan Street
KALGOORLIE WA 6430

Telephone (08) 9021 3243
Facsimile (08) 9021 3529

KWINANA PEEL REGION

Suite 4, Parmelia House
165 Gilmore Avenue
KWINANA WA 6167
(PO Box 454, Kwinana WA 6966)

Telephone (08) 9411 1777
Facsimile (08) 9419 5897

Mandurah office

Suite 8, Sholl House,
21 Sholl Street
MANDURAH WA 6210
(PO Box 332, Mandurah WA 6210)

Telephone (08) 9550 4222
Facsimile (08) 9581 4560

Cockburn Sound Management Council

Shop 1, 15 Railway Terrace
ROCKINGHAM WA 6168
(PO Box 5161, Rockingham Beach WA 6969)

Telephone (08) 9591 3837
Facsimile (08) 9528 5387

SOUTH WEST REGION

35–39 McCombe Road
BUNBURY WA 6230
(PO Box 261, Bunbury WA 6231)

Telephone (08) 9726 4111
Facsimile (08) 9726 4100

The Geographe Capes District office

Suite 2, 72 Duchess Street
BUSSELTON WA 6280
(PO Box 269 Busselton WA 6280)

Telephone (08) 9781 0111
Facsimile (08) 9754 4335

MIDWEST GASCOYNE REGION

81 Forrest Street
GERALDTON WA 6530
(PO Box 73, Geraldton WA 6531)

Telephone (08) 9964 5978
Facsimile (08) 9964 5983

Carnarvon office

211 Robinson Street
CARNARVON WA 6701
(PO Box 81 Carnarvon WA 6701)

Telephone (08) 9941 4921
Facsimile (08) 9941 4931

NORTH WEST REGION

Lot 980 Cherratta Road, KIE
KARRATHA WA 6714
(PO Box 836 Karratha WA 6714)

Telephone (08) 9144 2000
Facsimile (08) 9144 2610

Kununurra office

Lot 225 Bandicoot Drive
KUNUNURRA WA 6743
(PO Box 625 Kununurra WA 6743)

Telephone (08) 9166 4100
Facsimile (08) 9168 3174

SOUTH COAST REGION

5 Bevan Street
ALBANY WA 6330
(PO Box 525 Albany WA 6331)

Telephone (08) 9842 5760
Facsimile (08) 9842 1204

Denmark office

Suite 1, 55 Strickland Street
DENMARK WA 6333

Telephone (08) 9848 1866
Facsimile (08) 9848 1733

Appendix B — Glossary and acronyms

Acronyms

3C	Core Consultative Committee (to the Waste Management Board)
ANZECC	Australia and New Zealand Environment Conservation Council
AQMP	(Perth) Air Quality Management Plan
ARI	Assessment on Referral Information
BTEX	A collective term for the volatile organic compounds benzene, toluene, ethylbenzene and xylene
CBD	Central Business District
CITES	(United Nations) Convention on International Trade of Endangered Species
CoAG	Council of Australian Governments
CSMC	Cockburn Sound Management Council
DOIR	Department of Industry and Resources
DPI	Department for Planning and Infrastructure
EEI	Engineering Evaluation Initiative
EIS	Environmental Impact Statement
EPA	Environmental Protection Authority
EPACIS	EPACIS (EPA Corporate Information System)
EPHC	Environment Protection and Heritage Council
EPP	Environmental Protection Policy
EPS	Environmental Protection Statement
ER	(Planning Scheme) Environmental Review
ERMP	Environmental Review and Management Program
FWGS	Farm Water Grants Scheme
HVAS	High Volume Air Sampler
IOCI	Indian Ocean Climate Initiative
IWDF	Intractable Waste Disposal Facility
IWSS	Integrated Water Supply Scheme
KIC	Kwinana Industry Council
LOA	Level of Assessment
LOR	Limit of Reporting
LWTF	Liquid Waste Treatment Facility

MAFRL	Marine and Freshwater Research Laboratory
NEPM	National Environment Protection Measure
NH&MRC	National Health and Medical Research Council
NPI	National Pollutant Inventory
NRM	Natural Resource Management
PCR	Progress and Compliance Report
PER	Public Environmental Review
Pop①	Pollution Prevention Information
PPLH	Pollution Prevention Licensor's Handbook
PUEA	Proposal Unlikely to be Environmentally Acceptable
RRRS	Resource Recovery Rebate Scheme
RWAC	Rural Water Advisory Committee
SOER	State of the Environment Reporting
SPP	Statement of Planning Policy
SRG	Stakeholder Reference Group
TRIM	Total Records Information Management
USEPA	United States Environment Protection Agency
VOC	Volatile Organic Compound
WA	Western Australia
WHO	World Health Organisation
WMRF	Waste Management and Recycling Fund
WRMP	Water Resource Management Plan
WWRMC	Whicher Water Resources Management Committee

Abbreviations

Mtpa	million tonnes per annum
°C	degrees Celsius
CO	carbon monoxide
FWXL	flow-weighted mean concentration
gPb/L	grams of lead per litre
GWP	global warming potential
hPa	hectopascal
kg	kilogram
kL	kilolitre

km	kilometre
kPa	kilopascals
m ⁻¹	per metre
ML	megalitres
mg/m ³	milligrams per cubic metre
µg/m ³	micrograms per cubic metre
µg/L	micrograms per litre
µg/Pb/L	micrograms of lead per litre
n.a.	not available
NO ₂	nitrogen dioxide
O ₃	ozone
%	per cent
Pb	lead
PCB	polychlorinated biphenyls
PM ₁₀	particles less than 10 microns (µm)
PM _{2.5}	particles less than 2.5 microns (µm)
ppb	parts per billion
ppm	parts per million
SO ₂	sulphur dioxide
STD	standard
STP	standard temperature (0°C) and pressure (1013.25 hPa)
t	tonne
TP	total phosphorus

Appendix C — Media releases

JUNE 2004

- 30 June 2004 Stage one of the Kwinana industrial airshed Gap emissions study completed
- Stage one of a study commissioned by the Department of Environment to determine the adequacy of the current emissions monitoring programs in the Kwinana industrial airshed was completed today.
- 30 June 2004 Department to investigate chemical spill
- The Department of Environment is conducting inquiries in relation to a caustic soda spill at Alcoa World Alumina's Kwinana refinery which occurred on 23 June 2004.
- 30 June 2004 Department of Environment name change official
- The Department of Environmental Protection will officially become the Department of Environment when legislative changes take effect today.
- 23 June 2004 Liquid fertiliser spill in Bindoon
- The Department of Environment's Pollution Response Unit last night responded to a truck roll over and liquid fertiliser spill on the Great Northern Highway south of Bindoon, which blocked the highway for several hours.
- 23 June 2004 Water catchment protection mapped out
- The Department of Environment, in conjunction with the Water Corporation today launched a new project to encourage the community to protect our vital drinking water catchments in the Perth Hills and the South West region.
- 18 June 2004 Marbelup Brook water use survey
- The Department of Environment is encouraging Marbelup Brook landowners to participate in a water use survey to help protect their future water use in the area.
- 10 June 2004 Collie Fish Kill Pathology Test Results
- Pathology tests conducted on dead fish found in the Collie River between The Elbow and Eaton foreshore on 25 May 2004 indicated that the bacteria *Listonella anguillarum* was present in some fish and may have contributed to their deaths.
- 4 June 2004 Environmental Code of Practice for Poultry Farms released
- Environmental guidelines for poultry farms will help to reduce dust and odour impacts on nearby communities.
- 3 June 2004 New Peel Inlet Management Council formed
- The Peel community now has a new voice in the integrated management of the Peel Harvey waterways.

1 June 2004 Albany Groundwater Area Survey 2004

The Department of Environment is encouraging landholders within the Albany Groundwater Area to participate in a water use survey over the next three months.

MAY 2004

31 May 2004 Water use surveys in the Midwest

Water use surveys conducted by the Department of Environment in the Mid West region have revealed that one in three property owners in known horticulture irrigation hotspots are operating commercially without an appropriate water licence.

31 May 2004 Statewide Saltwatch events aim to increase salinity awareness

Regional schools and community groups will have an opportunity to better understand Western Australia's salinity issues through State-wide 'Saltwatch' events over the next two weeks.

25 May 2004 Fish kill in Collie River

The Department of Environment has advised that people and their pets should avoid contact with dead or dying fish in the Collie River between The Elbow and Eaton foreshore.

25 May 2004 Wonders of water open to students

More than 40 school groups across the Perth metropolitan area are participating in the annual 'Water Wonders Snapshot' to help assess the health of the Swan Region's waterways.

24 May 2004 Jandakot Mound under stress

The Department of Environment has advised the Environmental Protection Authority that low water levels on the Jandakot Mound were causing minor stress to vegetation in some wetland areas.

20 May 2004 Algal levels safe in the Blackwood River

Monitoring by the Department of Environment has found that algae levels in the Blackwood River at Bridgetown are now within safe limits for recreation.

17 May 2004 Nominations called for Water Resource Management Committee

Community members from the Whicher region are invited to play an integral part in managing and planning the water resources for the area by nominating for one of the five (5) occasional vacancies on the Whicher Water Resource Management Committee.

17 May 2004 Gnangara Mound under stress

The Department of Environment has advised the Environmental Protection Authority that existing strategies to manage water levels on the Gnangara Mound need major review.

14 May 2004 ToxFree asked to stop processing batteries

The Department of Environment today issued Eli Eco Logic with an Environmental Field Notice to stop processing lithium batteries at its Kwinana waste management facility.

- 12 May 2004 Illegal dumping targeted in City of Swan
- 12 May 2004 Total Waste Management empties its ponds on time
The Department of Environment yesterday issued Total Waste Management in Boulder with a certificate verifying compliance with an Environmental Protection Notice to empty its ponds.
- 6 May 2004 Pollution response to Kwinana chemical fire
- APRIL 2004
- 29 April 2004 Alumina refinery charged
The Minister for the Environment today announced that the Department of Environment is prosecuting a company operating an alumina refinery in Wagerup for allegedly causing pollution and breaching its licence conditions.
- 27 April 2004 Man guilty for illegal dumping of chemicals
The Department of Environment has successfully prosecuted an individual for breaching the Environmental Protection Act by allowing controlled waste be removed from his business premises without a permit.
- 15 April 2004 Algae levels drop to safe limits in the Harvey Irrigation Dam
Monitoring by the Department of Environment and the Water Corporation indicates that algae levels in the Harvey Irrigation Dam are now within safe limits for recreation.
- 15 April 2004 Trichodesmium algal bloom detected
Routine water monitoring by the Department of Environment and the Swan River Trust has detected low levels of the potentially harmful blue green algae Trichodesmium in the Fremantle harbour, near the Leeuwin boat ramp in East Fremantle, as well as in patches in the Mandurah canals.
- 8 April 2004 Fish kill incident on Lake Clifton, Mandurah
The Department of Environment is advising people to avoid handling or eating dead fish or crustaceans found along Lake Clifton in Yalgorup National Park in Mandurah following reports of a fish kill today.
- 1 April 2004 Algae levels drop to safe limits in the Collie River
Monitoring by the Department of Environment indicates that algae levels on the Collie River near 'The Elbow' are now within safe limits.
- MARCH 2004
- 31 March 2004 DoE to investigate eastern Kununurra water reserve for possible release
The Department of Environment will investigate the eastern part of the Kununurra water reserve to assess whether the land could be released for development.

- 31 March 2004 Licence upgrades leads to improvements in dust emissions
- Dust emissions from Cockburn Cement Limited's Munster plant are expected to decrease following changes to the company's environmental licence by the Department of Environment.
- 30 March 2004 TravelSmart Workplace: cleaner air equals better health
- The city's 410 000 car commuters are being urged to switch to greener transport alternatives to improve the quality of Perth's air — and their health.
- Car bodies, tyres, building rubble and other rubbish dumped on vacant land and in the bush to avoid tipping fees is a growing issue that costs the City of Swan more than \$100 000 each year.
- 29 March 2004 Leschenault Estuary Boardwalk and Groyne closed for repairs
- The Leschenault Estuary boardwalk and groyne will be closed to public access for one month for repairs.
- 25 March 2004 DoE investigating odour complaints at Talloman
- The Department of Environment is investigating ongoing complaints by members of the Hazelmere community about odours from the Talloman rendering plant.
- 24 March 2004 Toxic algal bloom spreading on Blackwood
- Ongoing sampling along the Blackwood River in Bridgetown has detected that a potentially toxic blue-green algal bloom under the Bridgetown bridge has extended a further five hundred metres upstream.
- 17 March 2004 Algal bloom detected on Bridgetown's Blackwood River
- The Department of Environment is monitoring a potentially harmful algal bloom in the Blackwood River at Bridgetown.
- 17 March 2004 Algal bloom detected on Bridgetown's Blackwood River
- 12 March 2004 High levels of *Heterocapsa* algae in Serpentine River
- Routine water monitoring by the Department of Environment has detected rising levels of *heterocapsa* algae in the Serpentine River.
- 9 March 2004 TWM works approval application rejected
- The Department of Environment has rejected a works approval application lodged by Total Waste Management for a new evaporation pond at its waste treatment facility in Boulder.
- The Department of Environment's pollution response unit and regional officers attended the Tox Free waste management facility in Kwinana this morning to manage environmental impacts following a fire at the site.
- FEBRUARY 2004
- 27 February 2004 Alcoa Wagerup Tripartite Group now active
- The Alcoa Wagerup Tripartite Group is now functioning and has adopted agreed terms of reference and operating principles.

- 24 February 2004 Algae bloom in the Collie River
- The Department of Environment is investigating a dinoflagellates algal bloom in the Collie River at the Elbow. A dinoflagellate is a type of algae.
- 24 February 2004 Waste Wise schools sponsorship shows support for environmental education
- Students at more than 225 schools throughout the State will benefit from a unique sponsorship arrangement between the Department of Environment's Waste Wise schools program and SITA Environmental Solutions.
- 24 February 2004 Algae bloom in the Collie River
- The Department of Environment is investigating an algal bloom in the Collie River at the Elbow.
- 23 February 2004 Fish kill incident on the Serpentine River
- The Department of Environment is advising people to avoid handling or eating dead fish or crustaceans found along the Serpentine River following reports of a fish kill today.
- 20 February 2004 Unrestricted pumping to continue on the Gascoyne River at Carnarvon
- The Department of Environment today re-opened unrestricted pumping for horticulturalists on the Gascoyne River during February after recent heavy rains bolstered river flows.
- 19 February 2004 Potentially harmful algal bloom confirmed in Harvey Irrigation Dam
- A potentially harmful blue-green algal bloom has been detected in the Harvey Irrigation Dam.
- 18 February 2004 Fauna deaths in pipeline trench
- The Department of Environment will formally direct mining company Newcrest to work harder to prevent fauna from dying in the Port Hedland to Telfer gas pipeline trench.
- 16 February 2004 All clear on TWM waste pond clean up
- Total Waste Management has complied with an Environmental Protection Notice, which directed the company to clean up its most odorous pond by February 15.
- 13 February 2004 Algae increasing in the Collie River
- The Department of Environment is monitoring a potentially harmful algae species in the Collie River at the Elbow.
- 13 February 2004 Guilty verdict in Uduc Wetland excavation trial
- The Department of Environment has successfully prosecuted an individual for breaching the Environmental Protection Act by excavating a wetland without the required approval.
- 13 February 2004 TWM waste pond clean up on track
- Clean up work to address strong odours from waste ponds at Total Waste Management in Boulder is on track, with the most odorous pond expected to be finished by Sunday.

- 9 February 2004 Loongana Lime complies with Environmental Field Notice deadline
- Loongana Lime has complied with two Environmental Field Notices requiring it to act to ensure the safe storage and disposal of drums of grease and oil on its site.
- 6 February 2004 Tiwest trial ends Monday
- The trial in relation to charges brought against Tiwest Pty Ltd by the Department of Environment is due to end on Monday, February 9, in Court 91 of the Perth Court of Petty Sessions.
- 5 February 2004 DoE issued Environmental Field Notice on Water Corporation
- The Department of Environment yesterday issued an Environmental Field Notice to the Water Corporation following a sewage leak at Waterworks Road, Brookdale.
- 5 February 2004 Department investigates three incidents in Goldfields
- The Department of Environment is investigating three possible breaches to the Environmental Protection Act in the Goldfields, director regional operations Paul Rosair said today.
- 3 February 2004 Further results on air testing at Wagerup released
- A report detailing ambient levels of carbonyl compounds in the Wagerup region has found levels to be below national and international health guidelines.
- JANUARY 2004**
- 30 January 2004 Algal bloom threat at Wilgie Creek, North Yunderup reduced due to flushing
- The Department of Environment yesterday installed a pump to flush Wilgie Creek in North Yunderup and reduce potential odour and algae problems this summer.
- 30 January 2004 Environmental Protection Notice issued on TWM
- The Department of Environment today issued Total Waste Management in Boulder with an Environmental Protection Notice to undertake actions to reduce odours.
- 29 January 2004 Emission gap study for Kalgoorlie-Boulder
- The Department of Environment will conduct a study to better understand background air quality throughout the whole of Kalgoorlie-Boulder.
- 28 January 2004 Timeframe extended for comment on South West water issues
- The Department of Environment has acknowledged the concerns of south west community members and extended the comment period on the South West Yarragadee multi-criteria matrix to February 6th.
- 28 January 2004 Information sessions planned for odour problems
- People wanting more information on odour problems in South Boulder are invited to attend an information session to be held at the Boulder Town Hall on Thursday 29 and Friday 30 January.

- 27 January 2004 Department of Environment steps up industry inspections
- The Department of Environment has increased its unannounced inspections at industry sites in Kalgoorlie as part of a stronger regulatory presence in the region, acting chief executive officer Derek Carew-Hopkins said today.
- 27 January 2004 Loongana Lime to provide plan for drum storage
- The Department of Environment has issued two environmental field notices on Loongana Lime to ensure the safe storage of drums on-site, acting chief executive officer Derek Carew-Hopkins said today.
- 22 January 2004 Nickel found in rain water tanks near Esperance Port
- Tests conducted by the Department of Environment, the Esperance Port Authority and the Shire of Esperance on water in rain water tanks near Esperance Port have found nickel at levels above drinking water guidelines.
- 20 January 2004 DoE welcomes new environmental protection officer to Carnarvon
- Environmental protection service delivery has expanded in the Midwest Gascoyne following the recent appointment of a new officer in Carnarvon.
- 19 January 2004 Tiwest faces court on two charges
- A trial in relation to charges brought against Tiwest Pty Ltd by the Department of Environment began today.
- 16 January 2004 Progress on odour remediation in Boulder
- The Department of Environment today received a detailed plan from Total Waste Management on addressing odour issues at its South Boulder plant.
- 12 January 2004 Unrestricted pumping declared on Gascoyne River at Carnarvon
- The Department of Environment today declared ‘Unrestricted Pumping’ from the Gascoyne River after substantial rains replenished the flow over the weekend.
- 11 January 2004 DoE odour investigation continuing
- The Department of Environment is continuing its investigation into odour issues in the Boulder area, but the responsible party can not yet be identified for legal reasons.
- 9 January 2004 Gascoyne River returns to Carnarvon
- Carnarvon residents were greeted this morning by a rising Gascoyne River. Midwest Gascoyne regional manager Ron Shepherd said the Gascoyne River leadwaters arrived at the North West Coastal Highway Bridge at 5.40am this morning, reached a 1.4 metre depth by 12.00 noon, and continued to rise.
- 8 January 2004 DoE investigating drum storage at Loongana Lime
- The Department of Environment is investigating a possible licence breach relating to stored drums at Loongana Lime in Kalgoorlie.

5 January 2004 Intensive sampling aims to get to the bottom of algal scum

An intensive sampling program is under way in the Murray River to determine the relationship between the formation of scum and algal blooms, acting regional manager Anthony Sutton said today.

2 January 2004 Department of Environment calls on public to assist with odour investigation

The Department of Environment is calling on local residents to assist with an investigation into odour complaints from the Boulder area today.

DECEMBER 2003

29 December 2003 South West Yarragadee decision-making process declared

Community members are urged to comment on the decision-making criteria to be used by the Department of Environment in its assessment of the Water Corporation's application to draw water from the South West Yarragadee aquifer.

24 December 2003 Tis the season for algal blooms

People are advised to avoid contact with a number of algal blooms in waterways in the southern metropolitan area, acting regional manager Kwinana Peel region Anthony Sutton said today.

23 December 2003 Local students take colourful approach to stormwater pollution

Denmark Primary students have taken part in a colourful, educational project to raise community awareness about the impacts of stormwater pollution on waterways.

23 December 2003 Red tide at Administration Bay

The Department of Environment has advised people to avoid contact with a red scum on water at Administration Bay, Mandurah until further notice.

19 December 2003 Algal bloom warning for Albany waters

The Department of Environment has warned people living and visiting near the Torbay Inlet and Lake Powell to be on the lookout for potentially harmful algal blooms.

18 December 2003 Prestigious National win for Blackwood environmental partnership

The highly successful Blackwood waterwatch program has been recognised in the Prime Minister's Awards, where WA Plantation Resources won WA's Excellence in Community Business Partnerships category.

17 December 2003 Potentially harmful algal bloom confirmed in Vasse River

Routine sampling has detected a potentially harmful blue-green algal bloom on Busselton's Vasse River.

9 December 2003 Studies show Yarragadee a substantial water source

Recent studies show the South West Yarragadee aquifer could supply significantly more water than is currently being drawn, regional manager Wayne Tingey announced today.

4 December 2003 DoE to investigate possible dust hazard at Gosnells

The Department of Environment (DoE) is looking for ways to improve dust management and monitoring in the area surrounding the Rinker Group (trading as Readymix) operations at Martin, in the City of Gosnells.

2 December 2003 Tis the season to be waterwise

Perth householders with backyard bores are reminded to be waterwise this summer and use groundwater resources efficiently, watering only between the hours of 6 p.m. and 9 p.m.

NOVEMBER 2003

27 November 2003 Administration Bay algal bloom dissipated

Rains and winds over the weekend have caused the algal bloom at Administration Bay, Mandurah, to dissipate with no fish kills occurring.

11 November 2003 South west Yarragadee aquifer investigation — economics report

A report providing details of current and future water demands in the South West Region is now available to the public.

9 November 2003 Second round of funding offered to fence drains entering Wilson Inlet

Farmers in the Cuppup, Sleeman and Lake Sadie catchments are encouraged to apply for a second round of funding totalling \$15 000, which has been made available to fence drains entering Wilson Inlet.

5 November 2003 Prestigious win for environmental partnership

The highly successful BlackwoodWaterwatch program has been recognised in the Prime Minister's Awards, where WA Plantation Resources won WA's Excellence in Community Business Partnerships category.

5 November 2003 Kalamunda's hidden creeks

The Kalamunda community has been invited to discover more about the area's hidden creeks through a free three-week course organised through the Department of Environment's Swan Catchment Centre and the Nature Reserves Preservation Group.

4 November 2003 Plan to reduce nutrients in Wilson Inlet launched

An action plan aimed at improving the condition of Wilson Inlet was launched in Denmark recently by the Member for Albany Peter Watson MLA, on behalf of the Minister for Environment.

OCTOBER 2003

31 October 2003 Abundance of sea lettuce at the Vasse floodgates

Community members are being urged to limit their use of fertilisers on gardens, lawns and paddocks in the catchment and near the Vasse Floodgates, which are experiencing a dense growth of green macro-algae.

- 30 October 2003 Hollywood Hospital takes up the TravelSmart Challenge
- More than 1100 employees from the hospital have joined the TravelSmart Workplace program to help alleviate parking problems and reduce Greenhouse gases and vehicle emissions.
- 30 October 2003 Fremantle Hospital takes up the TravelSmart Challenge
- Fremantle Hospital is leading the way in helping to keep Perth's air clean. More than 2000 employees from Fremantle Hospital have joined the TravelSmart Workplace program to alleviate parking problems and reduce greenhouse gas emissions.
- 28 October 2003 Experts train WA staff in pollution response
- In an Australian first, staff from the world's most highly respected Environment Protection Agency are in WA to train officers from Government and industry, Director Environmental Management Robert Atkins announced today.
- 28 October 2003 Public information sessions on environmental and health progress at Bellevue
- Public information sessions will be held at Bellevue to update local residents on environmental and health issues related to the Waste Control fire in February 2001.
- 27 October 2003 Community invited to provide input into future management of Canning and Southern
- Community members are invited to take part in workshops hosted by the Canning Environmental Flows Steering Committee on the health and future management of local waterways.
- 24 October 2003 Results on community-based air testing at Wagerup released
- A report detailing further community-based testing of volatile organic compounds (VOCs) in the atmosphere in the Wagerup region has been released by the Department of Environment.
- 24 October 2003 2002 Air Quality Monitoring Study completed for Western Australia
- The Department of Environment released today its annual summary report on ambient air quality monitoring in Western Australia for 2002.
- 23 October 2003 Carnarvon student announced as winner in Water Week State Schools Competition
- A Carnarvon student was announced as a winner by the Department of Environment today for his entry in the Statewide Ribbons of Blue/Waterwatch WA Schools Competition.
- 16 October 2003 Odours and algae problems may occur at Wilgie Creek in North Yunderup this summer
- The Department of Environment is concerned that odour and algae problems in Wilgie Creek in North Yunderup may continue this summer.
- 16 October 2003 Illegal tyre dumping attracts penalties
- The Department of Environment reminds the community that unapproved dumping or transport of used tyres is illegal and may attract penalties under environmental protection regulations.

- 13 October 2003 Stage one of the Kwinana industrial airshed Gap emissions study completed
- Stage one of a study commissioned by the Department of Environment to determine the adequacy of the current emissions monitoring programs in the Kwinana industrial airshed was completed today.
- 7 October 2003 Charge laid over Barrack Street Jetty diesel spill
- The Department of Environment's Environmental Enforcement Unit has charged an individual over a diesel spill at the Barrack Street jetty last month.
- 3 October 2003 Esperance residents invited to hands-on wetlands session
- Community members are invited to participate in an informative, hands-on field trip to a local wetland next Wednesday, as part of the South Coast Regional Wetland program coordinated by GreenSkills and the Department of Environment.
- SEPTEMBER 2003
- 30 September 2003 Technip Oceania takes up the TravelSmart Workplace Challenge
- Perth-based company Technip Oceania and the Department of Industry and Resources (DOIR) are two city offices leading the way in helping to keep Perth's air clean.
- 30 September 2003 South Perth takes up the TravelSmart Workplace Challenge
- South Perth-based local and State Government offices are leading the way in keeping Perth's air clean.
- 30 September 2003 \$3m chemical fire at Welshpool factory
- Government agencies worked side by side to minimise risk and potential harm at a chemical fire in Welshpool over the long weekend. The Fire and Emergency Services Authority FESA used environmentally aware firefighting techniques to battle the blaze at Ramprie Laboratories in Division Street, Welshpool on Sunday evening (28.9.03).
- 25 September 2003 New environmental laws give watchdog more teeth
- State Parliament has passed the Environmental Protection Amendment Bill, marking the biggest reforms in Western Australian environmental law since the Environmental Protection Act 1986.
- 24 September 2003 KCGM licence to be amended
- The Department of Environment will amend Kalgoorlie Consolidated Gold Mines' environmental licence following an investigation into arsenic emissions from the company's Gidgi roaster.
- 17 September 2003 Action required by CSBP to prevent river contamination
- A Department of Environment assessment of water, sediment and fish in drains and river near Bayswater has found that contaminated groundwater from CSBP's former Bayswater fertiliser plant has not affected the Swan River.

- 11 September 2003 Agricultural studies reveal future industry water needs in South West
- Future demands on water resources by the dairy, horticulture and viticulture industries in the South West are estimated to amount to an additional 72 gigalitres of water each year in aggregate, according to three agricultural studies commissioned by the Department of Environment.
- 9 September 2003 Ecological study for Yarragadee complete
- An ecological study of the Yarragadee aquifer has identified 56 ecosystems located in the Blackwood groundwater area, 20 of which are considered to be of high importance, Department of Environment South West Regional Manager Wayne Tingey said today.
- 8 September 2003 New environmental licence issued to Alcoa Kwinana
- A new environmental licence has been issued to Alcoa World Alumina's Kwinana operation to replace its Best Practice Environmental License that was downgraded on June 30.
- 2 September 2003 Geraldton dredge put on notice
- The Department of Environment has rejected claims by the Geraldton Port Authority that a statutory direction issued to the GPA by the department may exacerbate damage to seagrass caused by the Geraldton Port expansion project.
- 1 September 2003 Students investigate WA waterway health
- Students across Western Australia will roll up their sleeves and participate in the annual Macroinvertebrate Snapshot organised by Ribbons of Blue/Waterwatch WA next week.
- AUGUST 2003
- 28 August 2003 Cheese company fined for breach of licence
- The Rose Valley Cheese Company has been fined \$5000 and ordered to pay \$1377 in court costs for breaching its licence issued under the Environmental Protection Act 1986.
- 28 August 2003 Free public forum on Swan and Canning Rivers tonight
- Members of the public will have an opportunity to discuss what is being done to manage the health of the Swan and Canning Rivers at a free public forum to be held by the Swan River Trust at Midland tonight.
- 22 August 2003 Cockburn Sound land use memorandum of understanding signed
- Three local councils united today to formalise commitments to develop a planning mechanism to control land use in Cockburn Sound.
- 22 August 2003 Free public forums to help save Swan and Canning Rivers
- The Swan River Trust is providing community members with an opportunity to discuss what caused the algal bloom and fish kills in the Swan and Canning Rivers earlier this year and what is being done to manage the health of the rivers.

- 22 August 2003 DoE to remove rubbish from McGlade Road Foreshore Reserve in Carnarvon
- The Department of Environment will coordinate river restoration work to remove debris, including car bodies and concrete, along the McGlade Road foreshore area of the Gascoyne River between 25 August and 12 September 2003.
- 19 August 2003 Alcoa Kwinana residue area dust monitoring review completed
- An independent review of dust monitoring data at Alcoa World Alumina's Kwinana operation has been completed.
- 18 August 2003 Algal levels at Chinaman's Pool low but warning continues
- Follow-up laboratory testing at Chinaman's Pool on the Lower Gascoyne River has found that levels of potentially toxic cyanobacteria are low, but warnings to avoid recreational contact remain.
- 18 August 2003 Yarragadee of significant cultural importance to Aboriginal locals
- A study into the cultural value of groundwater resources in the South West has highlighted the importance of regional fresh water to Aboriginal people for domestic, cultural and spiritual use.
- 14 August 2003 Saline Yenyening Lakes water released to Avon River
- A controlled release of hyper-saline water was discharged to the Avon River on Monday to freshen the upstream Yenyening Lake system.
- 12 August 2003 New workshops to offer free advice on nutrient-wise gardens
- Environment Minister Judy Edwards will launch a series of free gardening workshops at the Swan Canning Cleanup Program's annual community forum on Sunday to help keep our rivers healthy.
- 11 August 2003 Officers investigate source of fuel odours on Lord Street
- Department of Environment Pollution Response officers were on site in East Perth today, investigating the source of fuel odours on Lord Street.
- 8 August 2003 Department issues notice for oil spill at Kewdale
- The Department of Environment was quick to respond to a 750 litre oil spill at a transport company on Noble Street, Kewdale this week, Pollution Response manager Ken Raine said today.
- 7 August 2003 Avon Waterways Committee members wanted
- People living in the Avon River Basin are invited to apply for appointment to a community-based committee that will provide advice and guidance on waterways management in the area.
- 7 August 2003 Air quality report shows emissions are low
- The Department of Environment released its findings on an independent report into air emissions from the Cockburn Cement Limited (CCL) Munster plant at a meeting of the Community Working Group last night.

- 5 August 2003 Innovative project to reduce nutrients in Peel-Harvey estuary
- An innovative project to pump nutrient rich water from the Harvey River for use in industry will reduce the amount of low quality drainage water entering the Peel-Harvey estuary.
- 5 August 2003 Kellerberrin Rivercare Workshop
- Community members of Kellerberrin and surrounding shires are encouraged to participate in a free workshop on waterway management and restoration.
- JULY 2003
- 31 July 2003 Response to chemical spill swift and successful
- Pollution Response Officers from the Department of Environment responded to a report of a chemical leak at a site in South Fremantle last week.
- 30 July 2003 Potentially toxic algal confirmed in Chinaman's Pool
- Laboratory testing has found potentially toxic cyanobacteria in Chinaman's Pool on the Lower Gascoyne River.
- 22 July 2003 Local committee wanted for Canning River flows project
- Local representatives are needed to form a steering committee to assist the Department of Environment (DoE) in establishing sustainable flows for the Canning River System.
- 22 July 2003 Tiwest granted second trial adjournment
- Tiwest Pty Ltd has sought and was granted a second adjournment of the trial relating to two alleged breaches of the Environmental Protection Act.
- 18 July 2003 Public forums to update community on Yarragadee investigation
- A series of public forums about the Yarragadee aquifer investigation will be held in the South West this month.
- 18 July 2003 New staff to tackle pollution
- The first round of new jobs to strengthen the role of the State's environmental watchdog will be advertised this weekend.
- 15 July 2003 Latest pollution study backs government air quality initiatives
- Key initiatives to improve Perth's air quality — including keeping Australia's cleanest petrol regulations and building the southern rail link — were essential to addressing Perth's air pollution, Environment Minister Dr Judy Edwards said today.
- 10 July 2003 Swan, Canning algal bloom is over
- The toxic algal bloom in the Swan and Canning rivers is over. Results from samples collected on Monday, 7 July and Tuesday, 8 July, and released late yesterday again show the *Karlodinium micrum* bloom which was responsible for killing thousands of fish in the past two months has ended.

- 7 July 2003 Katanning Student Detectives Investigate Big Trouble In Small Town
Katanning Primary School students put their detective skills to work recently when they participated in the nationwide Murder Under the Microscope competition.
- 7 July 2003 Swan River heavy metals results made public
The first results of an investigation into heavy metal levels in the Swan River have been released to the public by the Department of Environment today.
- 1 July 2003 Toxic bloom ends
The toxic algal bloom in the Swan and Canning rivers appears to have ended as a result of the recent heavy rains.

Appendix D — Publications produced during 2003–04

Most new publications are available to download in PDF format from the Department of Environment's website at <www.environment.wa.gov.au>. Many publications are also available on CD.

Water Resource Management Report Series (WRM)

Foreshore and channel assessment of Wundowie wetland and Magnolia Creek, Department of Environment, WRM 38, April 2004

Foreshore and channel assessment of Mortlock River north, Department of Environment, WRM 39, Printed June 2004

Jerdacuttup River action plan, Department of Environment, WRM 43, May 2004

Water Resource Technical Report Series (WRT)

Salinity situation statement Denmark River, Department of Environment, WRT 30, March 2004

Water Resource Protection Report Series (WRP)

Kununurra Water Reserve-Drinking Water Source Protection Plan. Kununurra Town Water Supply interim report, Department of Environment, WRP 51, September 2003

Hydrogeological Map Explanatory Notes Series (HM)

Hydrogeology of the Pemberton — Irwin Inlet 1:250 000 sheet, Department of Environment, HM 8, May 2004

Hydrogeology of the Laverton 1:125 000 sheet, Department of Environment, HM 9, June 2004

Hydrogeology of the Leonora 1:125 000 sheet, Department of Environment, HM 10, June 2004

Hydrogeology of the Sir Samuel 1:125 000 sheet, Department of Environment, HM 11, June 2004

Salinity and Land Use Impacts Series (SLUI)

Hydrogeology of the Muir-Unicup Catchment, Department of Environment, SLUI 22, September 2003

A review of groundwater pumping to manage dryland salinity in Western Australia, Department of Environment, SLUI 25, February 2004

Preliminary assessment of rainfall and groundwater trends in areas of wandoo, Department of Environment, SLUI 27, printed August 2003

Water yeild response to land use change in south-west Western Australia, Department of Environment, SLUI 31, November 2003

Salinity Investment Framework, Interim Report — Phase 1, Department of Environment, SLUI 32, June 2004

River Science Series

Developing targets for the Swan-Canning Cleanup Program, Department of Environment, River Science 7, April 2004

Guidelines

Guidelines for controlled waste generators, Department of Environment, March 2004

Guidelines for controlled waste carriers, Department of Environment, March 2004

Guidelines for controlled waste treatment of disposal sites, Department of Environment, March 2004

State Water Quality Management Strategy No.6-Implementation framework for WA for the Australian & New Zealand guidelines for fresh & marine water quality & wq monitoring and reporting (Guidelines No.4&7 National Water Quality Management Strategy), Department of Environment, January 2004.

Policies

Policy on accessing the Leederville and Yarragadee aquifers in Perth, Department of Environment, September 2003

Department of Environment Brickworks Licensing Policy, Department of Environment, October 2003

Accessing the Leederville and Yarragadee aquifers in Perth, Department of Environment, Statewide Policy No.15, March 2004

Other Reports, Booklets and Catalogues

Discussion paper — Litter abatement in Western Australia, Department of Environment, July 2003

Review of the Government's response to the 1998 State of the Environment report, Department of Environment, September 2003

Western Australian Environment Awards 2003 — Awards Book, Department of Environment, October 2003

Department of Environmental Protection 2002 — 2003 Annual Report, Department of Environmental Protection, October 2003

Water and Rivers Commission 2002 — 2003 Annual Report, Water and Rivers Commission, December 2003

Managing groundwater resources if the Lower Gascoyne River (Carvarvon) WA — Groundwater Management Strategy, Department of Environment, January 2004

Reports to the Community

Wilson Inlet nutrient reduction action plan (summary), Department of Environment, Printed July 2003

South West Yarragadee-Blackwood groundwater area. Fact sheet 1: Current investigations into groundwater in the South West, Department of Environment, July 2003

South West Yarragadee-Blackwood groundwater area. Fact sheet 2: Investigations into groundwater in the South West — A history, Department of Environment, July 2003

South West Yarragadee-Blackwood groundwater area. Fact sheet 3: The South Yarragadee aquifer, Department of Environment, July 2003

South West Yarragadee-Blackwood groundwater area. Fact sheet 4: The Leederville aquifer, Department of Environment, July 2003

South West Yarragadee-Blackwood groundwater area. — Ecological water requirements for the Blackwood groundwater area: Progress report, Department of Environment, July 2003

South West Yarragadee-Blackwood groundwater area. — Economic issues for the South West Yarragadee water formation, Department of Environment, July 2003

South West Yarragadee-Blackwood groundwater area. — Groundwater investigations and modelling, Department of Environment, July 2003

South West Yarragadee-Blackwood groundwater area. — Overview, Department of Environment, July 2003

Assessment levels for soil, sediment and water. Draft for public comment. Department of Environment, December 2003

A fresh future for water. Denmark River — Salinity situation statement summary, Department of Environment, March 2004

Tidy Towns community progress awards 2004 tips and information, Department of Environment, February 2004

Wilson Inlet report to the community No.7 — Ruppia in Wilson Inlet, Department of Environment, November 2003

Manuals and Kits

Wood heater & firewood information kit for environmental health officers, Department of Environment, June 2004

Stormwater Management Manual for Western Australia, section 1 — introduction, Department of Environment, February 2004

Stormwater Management Manual for Western Australia, section 2 — Understanding the context, Department of Environment, February 2004

Stormwater Management Manual for Western Australia, section 8 — Education and awareness for stormwater management, Department of Environment, February 2004

Pamphlets, Brochures and Posters

Flows in the Canning River system information pamphlet, Department of Environment, July 2003

Western Australia's Waterways — 4 poster set, Department of Environment, August 2003

Airwatch information brochure, Department of Environment, December 2003

Department of Environment Code of Conduct brochure, Department of Environment, December 2003

Environmental harm — Information pamphlet on changes to the Environmental Protection Amendment Act 2003, Department of Environment, February 2004

Algae: Blooms, scum and recreation information pamphlet, Department of Environment, February 2004

Contaminated sites — Information pamphlet on the Contaminated Sites Act 2003, Department of Environment, February 2004

Waste Wise Schools Program information pamphlet, Department of Environment, February 2004

Protecting native vegetation — Information pamphlet on changes to the Environmental Protection Amendment Act 2003, Department of Environment, March 2004

More efficient processes — Information pamphlet on changes to the Environmental Protection Amendment Act 2003, Department of Environment, March 2004

Helping business take care of the environment — Information pamphlet on changes to the Environmental Protection Amendment Act 2003, Department of Environment, March 2004

Controlled waste regulations — Information pamphlet on the Environmental Protection (Controlled Waste) Regulations 2004, Department of Environment, March 2004

Salinity Management Program information brochure, Department of Environment, March 2004

Wood heating replacement program information pamphlet, Department of Environment, June 2004

Wood heating replacement program rebate promotional poster, Department of Environment, June 2004

Wood heating replacement program rebate checklist poster, Department of Environment, June 2004

Waste Management

Strategic directions for waste management in Western Australia, Department of Environment, August 2004

Strategic directions for waste management in Western Australia — summary, Department of Environment, August 2004

Western Australia's Waste Management & Recycling Fund — Recommendations for the statutory review of the fund, Department of Environment, August 2004

Water Quality Protection Notes

Chemical blending, Department of Environment, September 2004

Groundwater monitoring bores, Department of Environment, March 2004

Irrigation with nutrient-rich wastewater, Department of Environment, June 2004

Land filling with inert materials, Department of Environment, June 2004

Land use compatibility in Public Drinking Water Source Areas, Department of Environment, June 2004

Orchards in sensitive environments, Department of Environment, April 2004

Soil amendment to improve land fertility by-products, Department of Environment, May 2004

Publication feedback form

The Department of Environmental Protection welcomes feedback to help us to improve the quality and effectiveness of our publications. Your assistance in completing this form would be greatly appreciated.

Please consider each question carefully and rate them on a 1 to 5 scale, where 1 is poor and 5 is excellent (*please circle the appropriate number*).

Publication title: DEPARTMENT OF ENVIRONMENTAL PROTECTION ANNUAL REPORT 2003–2004

How did you rate the quality of information? 1 2 3 4 5

How did you rate the design and presentation of this publication? 1 2 3 4 5

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