



WATER AND RIVERS COMMISSION ANNUAL REPORT 2003–2004

The Water and Rivers Commission and the Department of Environmental Protection 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 Water and Rivers Commission and the Department of Environmental Protection.

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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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.

Letter to the Minister

Hon Dr Judy Edwards MLA
MINISTER FOR THE ENVIRONMENT

On behalf of the Board and 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 Water and Rivers Commission 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*.



Verity Allan
CHAIRMAN OF THE BOARD

Foreword

The 2003–04 financial year has been one of further reform for the water resources and environment portfolio.

We have moved closer to becoming one entity legally, with administrative amendments to change the name of the Department of Environmental Protection to the Department of Environment ahead of legislation to amalgamate with the Water and Rivers Commission. In the meantime we operate under a single integrated corporate structure.

Management of Western Australia's water resources has emerged as a high-priority for government, due to increasing pressures on resources and growing community awareness of the issues.

The lack of rainfall in recent years has increased the environmental risk to water allocation for the Perth metropolitan area and the South West agricultural region.

Faced with this, the Commission has moved to improve knowledge of the major groundwater reserves, and generally adopt a more cautious and precise approach to allocations and conserving environmental flows.

One of the major issues relating to the pressures on our water resources involved a complex assessment of the social, economic, ecological and hydrological aspects of pumping water from the South West Yarragadee aquifer.

This was carried out in the Commission's assessment of the Water Corporation's application to draw 45 gigalitres from the aquifer per annum.

Initial results indicated that further work on the environmental impacts is required.

Meanwhile, the Commission advised the Environmental Protection Authority that existing strategies to manage water levels on the Gngangara Mound were inadequate. The State Government subsequently announced a three-year, \$6 million water metering trial on the Gngangara Mound. This will enable the collection of data on private use needed to manage the water resources and associated environmental problems.

The Commission employed more than 20 additional licensing officers across Western Australia to improve the way we manage water licensing, including increased monitoring and surveillance of existing use to ensure water is not wasted or used inappropriately.

We have also continued our work to ensure that the State's water resources are protected and conserved especially recognising that salinity and acid sulfate soils are two key areas that require ongoing measurement and management.

During the year we continued our work on the Engineering Evaluation Initiative, which is a State Government commitment of \$4 million over four years to support engineering projects that would reduce the impacts of salinity. These projects relate to drainage, groundwater pumping and surface water management.

The completion of the Denmark River Salinity Situation Statement found that the river's salinity was declining and that there were feasible options for complete recovery.

Another important achievement was the completion and implementation of the Carnarvon Groundwater Area Management Strategy.

The emerging department recognises that the immense pressure on our water resources demands better knowledge and more comprehensive planning than ever before, to ensure their sustainability.

We also recognise that this can only be achieved with the support and confidence of the Western Australian community, derived through meaningful consultation and involvement in the decision making process.

This commitment extends to our efforts to explore better ways of managing surface waterways, and addressing problems such as excess nutrient run-off and consequent algae blooms.

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.



Derek Carew-Hopkins
ACTING DIRECTOR GENERAL

Contents

Acknowledgments	2
Recommended Reference	2
Letter to the Minister	4
Foreword	5
Contents	7
1 About the Water and Rivers Commission	11
1.1 Governing legislation	12
1.2 Formation of the Department of Environment	12
1.3 Organisation structure	13
1.4 Service Delivery Model	14
1.5 Office of Water Policy	15
1.6 Ministerial Council on Health Environment and Industry Sustainability	16
1.7 The Commission and the Community	17
1.8 WA Environment Awards	18
2 Summary of achievements	19
3 Report on operations	23
3.1 Office of the Director General	23
3.1.1 Overview	23
3.1.2 Government Relations	23
3.1.3 Strategic Planning and Review	24
3.1.4 Environmental Enforcement Unit	24
3.1.5 Communications	25
3.1.6 Evaluation of the Ribbons of Blue/Waterwatch program	26
3.2 Resource Management Division	27
3.2.1 Overview	27
3.2.2 Managing the groundwater of the Gnamptara and Jandakot Mounds	28

3.2.3	Water resource planning in the Blackwood Groundwater Area — South West Yarragadee	29
3.2.4	Natural Resource Management (NRM)	30
3.2.5	Protection of public and private water sources	31
3.2.6	Policy on accessing the Leederville and Yarragadee aquifers in Perth	32
3.2.7	Development of statewide policies	33
3.2.8	State Water Strategy	36
3.2.9	National Water Initiative	37
3.2.10	Land use planning	37
3.3	Resource Science Division	38
3.3.1	Overview	38
3.3.2	Water Information Provision	39
3.3.3	Air quality management	39
3.3.4	National Pollutant Inventory	40
3.3.5	A Statewide strategy for managing algal blooms	41
3.3.6	Indian Ocean Climate Initiative	41
3.3.7	Salinity management program	43
3.3.8	Rural Water Planning	45
3.4	Policy and Coordination Division	46
3.4.1	Overview	46
3.4.2	Environmental Protection Policies (EPPs)	47
3.4.3	State of the Environment reporting program	48
3.4.4	Supporting the State Sustainability Strategy	49
3.4.5	North West Shelf Community-Derived Marine Quality Objectives	50
3.4.6	Background Marine Water Quality Surveys	50
3.5	Environmental Management Division	51
3.5.1	Overview	51
3.5.2	Progress on managing acid sulfate soils in Western Australia	51
3.5.3	Hazardous/Industrial Waste Precinct Stakeholder Involvement Process	52
3.5.4	Priority sites — inspection and auditing	53
3.5.5	Establishment of the policy framework for a new approach to environment licensing and enforcement in Western Australia	53
3.5.6	Implementation of the Unauthorised Discharge Regulations	53

3.5.7	Drafting of amendments to the Noise Regulations	54
3.5.8	Establishment of a mobile chemical and hazardous wastes incident support unit	55
3.5.9	Implementation of the Controlled Waste Tracking System	55
3.5.10	Contaminated sites	56
3.5.11	Review of the Landfill Levy and Waste Management and Recycling Fund	56
3.5.12	Finalisation of the Strategic Direction for Waste Management in Western Australia	57
3.5.13	Implementation of National Packaging Covenant initiatives	57
3.6	Environmental Impact Assessment Division	58
3.6.1	Overview	58
3.6.2	Major assessed projects	58
3.6.3	EPA Guidance Statements	60
3.7	Regional Operations Division	60
3.7.1	Overview	60
3.7.2	Kwinana Peel Region	60
3.7.3	Midwest Gascoyne Region	63
3.7.4	North West Region	67
3.7.5	South West Region	70
3.7.6	Swan Goldfields Agricultural Region	73
3.7.7	South Coast Region	76
3.8	Corporate Services Division	77
3.8.1	Overview	77
3.8.2	Corporate Services Divisional Executive	78
3.8.3	Finance and Administration	78
3.8.4	Information Services	79
3.8.5	Human Resources	80
3.8.6	Legal Services	84
4	Corporate Governance Report	87
4.1	Board Overview	87
4.1.1	Board members	87
4.1.2	Changes to the Board	87
4.1.3	Accountability and independence	87
4.1.4	Performance monitoring and reporting	88

4.1.5	Board member profiles	88
4.1.6	Conflict of interest	91
4.1.7	Ministerial directions	91
4.1.8	Committees and other bodies	91
4.1.9	Board meetings	92
4.1.10	Relationship with the Swan River Trust	93
5	Compliance Reports	94
5.1	Responsible Minister	94
5.2	Statement of compliance with written law	94
5.2.1	Enabling legislation	94
5.2.2	Legislation administered	94
5.3	Statement of compliance with public sector standards	96
5.4	Statement of compliance with environmental conditions	96
5.5	Advertising and sponsorship	99
5.6	The Commission's recycling performance	99
5.7	Energy Smart Government policy	99
6	Performance Indicators	103
	Statement by accountable authority on performance indicators	103
	Performance Framework	104
7	Financial Statements	123
	Appendix A — Regional Office details	147
	Appendix B — Acronyms	146
	Appendix C — Media releases	150
	Appendix D — Publications produced during 2003–04	165
	Publication feedback form	175

1 About the Water and Rivers Commission

The Water and Rivers Commission is responsible for ensuring that Western Australia's water resources are managed to support sustainable economic development and conservation of the environment, for the long-term benefit of the community.

The Commission's outcomes and outputs are achieved by investigating and researching the quality, quantity and location of surface and groundwater resources, making decisions on the allocation and management of water resources, and ensuring that water quality is conserved, protected and enhanced.

Table 1: State government objective, desired outcome and Water and Rivers Commission outputs

Government strategic objective	Desired outcome	Outputs
A valued and protected environment	Sustainable use of water resources for economic development	<ul style="list-style-type: none"> • Water allocation policies • Water information and allocation plans for sustainable development • Regulation, licensing and community awareness • Rural Water Supply Assistance
	Protection and enhancement of the quality of the state's surface and groundwater	<ul style="list-style-type: none"> • Water protection policies, guidelines and regulation • Water resource information, protection plans and works • State development planning and approvals

Output 1: Water Allocation Policies

Plans that provide information on the resource and its values, how it can be accessed to support economic development, sustainable levels of use and associated management criteria, and provide the policy basis for administration of allocation licensing at a local level.

Output 2: Water Information and Allocation Plans for Sustainable Development

Plans that provide information on the resource and its values, how it can be accessed to support economic development, sustainable levels of use and associated management criteria, and provide the policy basis for administration of allocation licensing at a local level.

Output 3: Regulation, Licensing and Community Awareness

Promotion, education, regulation and encouragement of the community in the efficient use of water.

Output 4: Rural Water Supply Assistance

The Commission seeks to increase the availability of reliable water supplies for rural districts.

Output 5: Water Protection Policies, Guidelines and Regulation

A system for administration of the Commission's role in protecting and enhancing the quality and amenity of the State's water resources.

Output 6: Water Resource Information, Protection Plans and Works

Plans that provide information on the resource, its quality, standards that need to be met to protect its quality, and remediation or enhancement activities where necessary.

Output 7: State Development Planning and Approvals

Advice and assessments on the availability, distribution and quality of water to support development proposals, planning and approvals.

1.1 Governing legislation

The Water and Rivers Commission was established under the *Water and Rivers Commission Act 1995*. The Commission administers the *Water and Rivers Commission Act 1995*, the *Waterways Conservation Act 1976*, the *Rights in Water and Irrigation Act 1914* and the *Metropolitan Water Authority Act 1982*.

Other legislation impacting on Commission activities is listed in Section 5 — Compliance Reports.

1.2 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 two years, 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.

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.

No specific legislation was required to change the name of the Department of Environmental Protection. 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 becomes effective July 1, 2004 when the agency will officially start operating as the Department of Environment.

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 Commission and the Department have 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.

1.3 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.

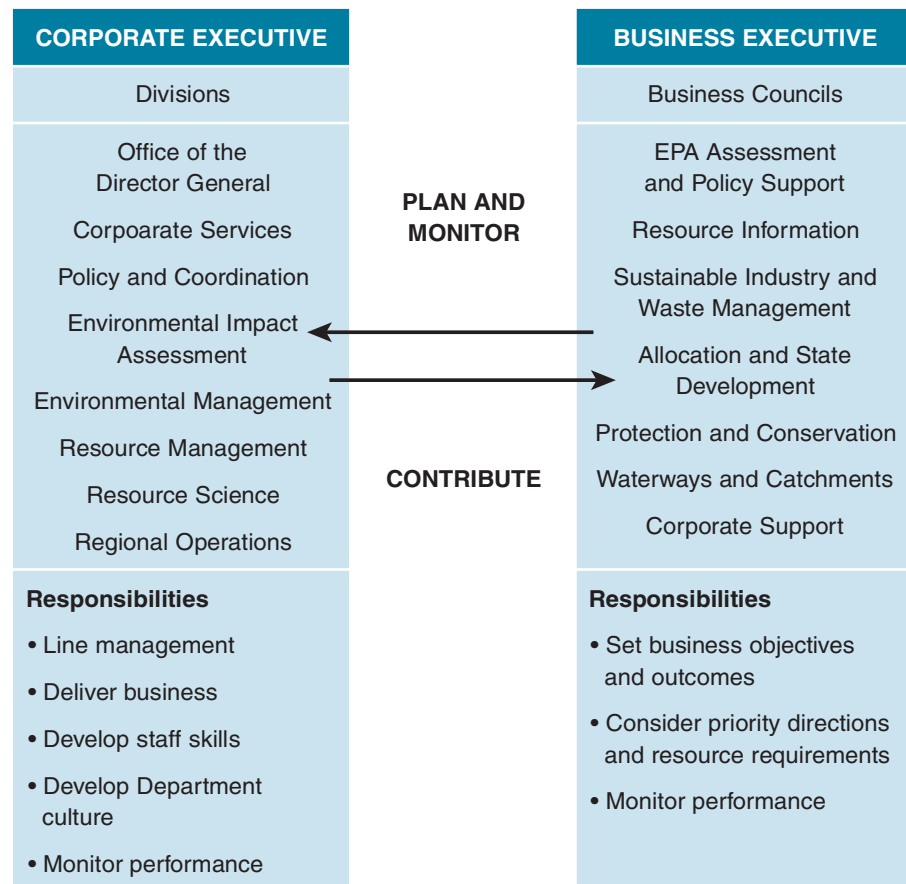


Figure 1: Relationship between the combined Divisional and Business structures of the Water and Rivers Commission and Department of Environmental Protection



Figure 2: Operating Divisional structure of the amalgamating agency

1.4 Service Delivery Model

In 2003–04, the emerging 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 agency’s range of services

involves a complex matrix of interdependencies and therefore demands careful management for successful delivery of outcomes.

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.
- 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.

1.5 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 Water Taskforce to 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.

1.6 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.

1.7 The Commission 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.

1.8 WA Environment Awards

The SGIO 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.

2 Summary of achievements

Output 1: Water Allocation Policies

- Policy on Accessing the Leederville and Yarragadee aquifers in Perth, produced to protect groundwater resources under stress.
- Statewide Policy No.9 — Water Licensing — Staged Developments, produced to provide guidance on acceptable time limits for water use relating to staged developments.
- Statewide Policy No.10 — Use of Operating Strategies in the Water Licensing Process, produced to address more complex licensing issues relating to the taking of water by licensees.
- Statewide Policy No.11 - Management of Unused Licensed Water Entitlements, produced to manage areas at or approaching full allocation status.
- Statewide Policy No. 12 — Management of complaints and disputes on watercourses in Western Australia, detailing the responsibility, actions and information to be provided by landowners accessing a watercourse if a dispute arises.

Output 2: Water Information and Allocation Plans for Sustainable Development

- Framework for statutory Blackwood Subregional Management Plan completed to provide guidance on structure of statutory management plans.
- Carnarvon Groundwater Area Management Strategy completed and implemented to sustainably manage the groundwater resources of the Lower Gascoyne River.

Output 3: Regulation, Licensing and Community Awareness

- The Commission is the lead agency for 29 tasks in the State Water Strategy (SWS) and the key supporting agency for 26 tasks. During the year, the draft State Water Conservation Strategy was released for comment and key elements incorporated into the SWS.
- Integrated Resource Planning introduced to major water service providers.
- Tightening up of appeal process to ensure policies are being consistently applied.
- Implementation of a comprehensive training program for licensing officers.
- Recruitment of staff to overcome backlog of licensing applications and assess applications in a timely fashion.

Output 4: Rural Water Supply Assistance

- Completion of the review of the Rural Water Plan (RWP) resulting in dryland water deficiency being tackled more strategically and in partnership with Local Government.

- The RWP was re-focused to ensure that water supply initiatives are implemented consistent with the aims and objectives of regional Natural Resource Management (NRM) strategies and planning.
- Completion of an evaluation of the Farm Water Grants Scheme confirming its outcomes are being substantially met.
- Incorporation of the Rural Water Plan into the State Water Strategy.
- Local Government has been actively engaged in planning local responses to water supply development and provision of emergency water supplies.
- Progression of the Rationalisation of Agricultural Area Dams such that final disposal recommendations are planned for completion in at least ten Shires by the first quarter of 2004-05.

Output 5: Water Protection Policies, Guidelines and Regulation

- Draft policy on Public Drinking Water Source Protection released for public comment.
- A Recreation Policy for Priority 1 Crown Land within Public Drinking Water Source Areas was released.
- Land Use Compatibility Policy consistent with the Statement of Planning Policy 2.7 Public Drinking Water Sources has been developed.
- Drinking Water Source Protection Plans released for Cambalin, Margaret River, Preston Beach, and Mt Magnet.
- Water Quality Protection Notes have been prepared for six land use activities, and Environmental Guidelines have been finalised for poultry farming.
- A recreation map for the drinking water catchments in the Perth Hills and the South West has been prepared in conjunction with the Department of Land Information and the Water Corporation.
- The Implementation Framework for Western Australia for the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality*, and *Water Quality Monitoring and Reporting* (NWQMS Guidelines 4 and 7) has been released and rolled out to NRM Regional Groups.

Output 6: Water Resource Information, Protection Plans and Works

Salinity

- Trial area (20ha) in Collie-Wellington catchment successfully replanted to local provenance.
- Completed the Salinity Investment Framework (SIF) to ensure that public investment is directed to projects with the best potential to protect assets of high public value threatened by salinity.

- Completed evaluation of management options for Collie River with an economic analysis of management options to recover Wellington Reservoir water from excessive salinity.
- Implemented on-ground salinity management options in the Denmark, Kent, Warren and Collie Recovery Catchments.
- Completion of the Denmark River Salinity Situation Statement, which found that the salinity of the Denmark River has started to decline and that feasible options for complete recovery are available.

Waterways

- Assisted the community to improve rivers and estuaries through preparation of river action plans, catchment management plans and regional strategies, provision of technical advice for waterways restoration and supported the community in understanding and monitoring rivers and estuaries.
- Developed monitoring and evaluation protocols for regional strategies in support of the National Action Plan for Salinity and Water Quality (NAP)/Natural Heritage Trust (NHT) 2.
- Completion of the draft Western Australia Floodplain Management Strategy.
- Assessment of the State's groundwater and surface water resources in support of planning and management needs in high water use and water source development areas including the Gnamptarra Mound and the South West Yaragadee groundwater proposal.
- In partnership with Department of Agriculture, we announced the four Catchment Demonstration Initiative catchments across the State for Upper Coblaine, Wallatin Creek, Fitzgerald River and Gillingarra-Koojan.
- Stage 2 of the Indian Ocean Climate Initiative in support of climate research in Western Australia commenced.
- Commenced site evaluation and regional drainage planning as part of the Engineering Evaluation Initiative.
- Implemented management protocols for the incidence of fish kills.
- Implemented key actions of Swan Canning Cleanup Program.
- Completion of Statewide Algal Strategy (SAS) with a clear focus for future actions. Provided advice, health warnings and remediation guidance for nuisance algal blooms over a wide geographic range.

Wetlands

- Ongoing implementation of the State Wetlands Policy involving partnership with other government agencies to develop a consistent approach for the protection of wetlands.
- Continued to focus on conservation category wetlands to ensure their protection.

Output 7: State Development Planning and Approvals

- Two Bills were delivered to Parliament to disband the Water and Rivers Commission (WRC) and merge with the Department of Environment (DoE) as requested by Machinery of Government review.
- Assisted the Department of the Premier and Cabinet in negotiations over the National Water Initiative (NWI).
- Finalised administrative agreement with Department of Industry and Resources regarding exploration tenements.
- Inclusion of strategic water resource information into town planning schemes and policies.
- Statement of Planning Policy for Water Resources with Department for Planning and Infrastructure (DPI).
- Agreement with DPI on the use of standard conditions for subdivision and development proposals.

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 agency has a coordinated and proactive approach to strategic issues management, as well as responsibility on critical issues.

The new structure covers four strategic functions:

Government Relations: Dealing with political 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 political interface issues, ensuring that flow of information between the Department, the Minister's Office and other parts of government is maintained.

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 percent 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 Environmental Enforcement Unit assumed responsibility for our enforcement policy and procedures as of 1 July 2003.

The Unit investigated, reviewed or assisted with over 149 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 of Environmental Protection (now the Department of Environment).

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 look 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 June 30, 2004.

Media Relations also continued to expand its horizons 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. In other areas, SITA Environmental Solutions 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.

The 2002-03 Waters and Rivers Commission Annual Report, produced by the Communications Branch, won a Silver Lonnie Award for excellence in annual reporting. The awards, presented by the Western Australian Division of the Institute of Public Administration Australia, are concerned with effective communication of relevant and appropriate information to key stakeholders.

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 respondees 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 Resource Management Division

3.2.1 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.

3.2.2 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.

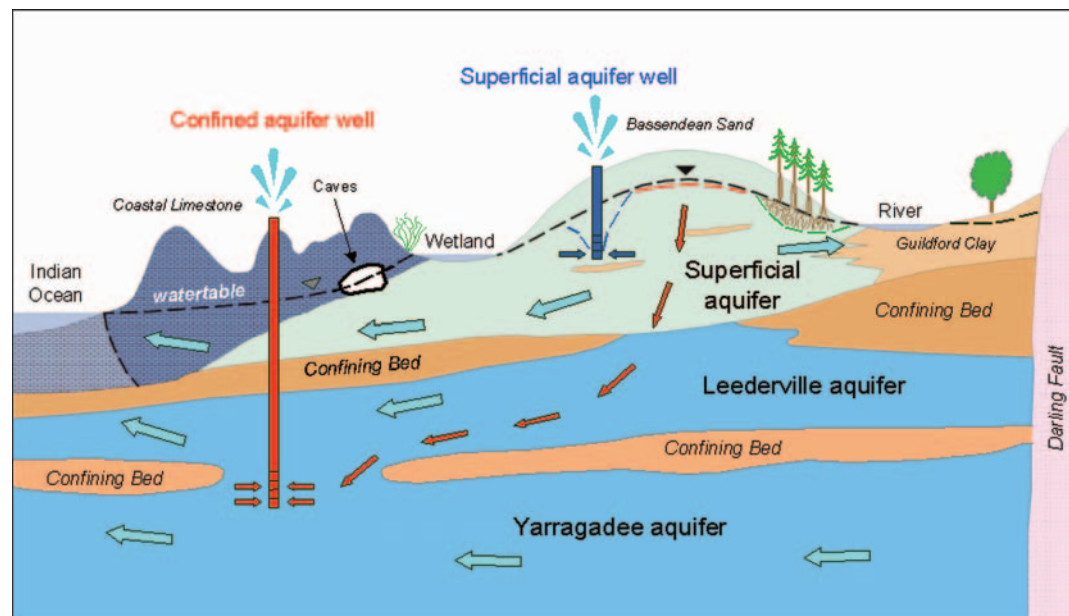


Figure 3: Gngangara Mound — Schematic hydrogeological cross-section

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.

The Water and Rivers Commission is responsible for meeting *Environmental Protection Act* Ministerial conditions relating to minimum water levels at wetlands or in areas of native vegetation. In 2003–04, several of these conditions were breached. Further explanation of these breaches can be found in Section 5.4.

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.

3.2.3 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>.

3.2.4 Natural Resource Management (NRM)

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, Western Australia 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 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 \$318m for NAP and \$60m for NHT NRM in WA over the next five years.

3.2.5 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:

- Water 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.

3.2.6 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, are reaching their 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.

3.2.7 Development of statewide policies

3.2.7.1 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.

3.2.7.2 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.

3.2.7.3 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.

3.2.7.4 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.

3.2.8 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.

3.2.9 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.

3.2.10 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.

3.2.10.1 Water Resources Statement of Planning Policy (WRSPP)

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.

3.2.10.2 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.

3.3 Resource Science Division

3.3.1 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;
- the Resource Management Division in the assessment and management of the State’s aquifers such as the Leederville and Yarragadee, and the Ngangara and Jandakot water mounds;
- Regional offices for assessment and management of rivers, wetlands and estuaries;
- our 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;

- the 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
- the entire agency in management of extensive water quantity and quality databases.

3.3.2 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.

3.3.3 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 areas 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.

3.3.4 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. We estimate 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.

3.3.5 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 West 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.

3.3.6 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 meetings 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.

3.3.7 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.

3.3.7.1 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 2). The situation statement is in preparation and will be released in October/November 2004.

Table 2: 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.

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.

3.3.7.2 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 \$4 million 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 our website <www.environment.wa.gov.au>.

3.3.7.3 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.

3.3.8 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.

3.4 Policy and Coordination Division

3.4.1 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.

3.4.2 Environmental Protection Policies (EPPs)

3.4.2.1 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.

3.4.2.2 Peel Inlet–Harvey Estuary EPP

A draft Discussion Paper was developed in January 2003 as part of the EPA advice to the Minister on the 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.

3.4.2.3 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 and a document outlining how the EPP will be implemented will be released by the EPA for public consultation.

3.4.2.4 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.

3.4.2.5 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.

Subsequent events: The draft Swan Coastal Plain Wetlands EPP was released on 19 July 2004.

3.4.2.6 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.

3.4.2.7 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.

Subsequent events: The draft State Environmental (Cockburn Sound) Policy was released for public comment on 22 October 2004. Once reviewed in the light of public comment and approved by government, the policy will be backed by the expanded powers in the Environmental Protection Act and will authorise the Cockburn Sound Management Council to report annually on the 'State of the Sound' and have this report tabled in Parliament.

3.4.2.8 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.

3.4.3 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, due for release in 2006. The Minister announced this undertaking during the International Sustainability Conference in Fremantle in September 2003. Previous State of 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.

3.4.4 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 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 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*

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

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*

3.4.5 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. 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.

3.4.6 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.

3.5 Environmental Management Division

3.5.1 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.

3.5.2 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.

3.5.3 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>.

3.5.4 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 in 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.

3.5.5 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.

3.5.6 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.

3.5.7 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)

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

The new 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 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*.

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

3.5.10 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 its 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.

3.5.11 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.

3.5.12 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.

3.5.13 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.

Regional Transport Economics Study

Started 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.

3.6 Environmental Impact Assessment Division

3.6.1 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 3: 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

Details of these assessments can be found in the 2003–04 Department of Environmental Protection Annual Report.

3.6.2 Major assessed projects

3.6.2.1 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.

3.6.2.2 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.

3.6.2.3 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.

3.6.2.4 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.

3.6.3 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.

3.7 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. Twenty-five 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 we administer 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 4,660 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 percent full. In February, after the first significant flow, the shallow storage was approximately 92 percent 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 a 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 of Environment, 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, 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 (Ngurin) 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 0.6 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 have 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 \$5000 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, namely:

- 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 groundwater.

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 that is 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 also 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 early 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 provide 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 Situation 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. 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;
- the 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% 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 tangible efficiencies for the management of our assets records.

Significant lease negotiations were completed during the year by the branch. Allanooka Farm is a large rural property near Dongara owned by the Commission, beneath which is the aquifer that supplies Geraldton with water. Its lease was renewed after considerable negotiation, ensuring that the property can be farmed while still achieving water quality objectives. The lease of portion of reserve 31165 was renewed with the incorporation of best practices in environmental management.

3.8.4 Information Services

During 2003–04, there were significant developments in our information technology (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 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 the 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 providing information about 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 to 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&H), 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 (ERA) 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 Water and Rivers Commission. In addition, a total of 320 staff are employed by the Department of Environmental Protection (DoE as of 1 July 2004).

	2002-03	2003-04
Full-time permanent staff	293	345
Part-time permanent staff	24	28
Fixed term contract staff	75	79
Re-deployed staff	0	0
Total staff	392	452
Staff recruited	65	107

3.8.5.2 Recruitment and selection

The Water and Rivers Commission manages recruitment and selection for the agency itself, the Swan River Trust (SRT), the Swan Catchment Centre and the Officer of the Heritage Commission (OHC).

107 positions were advertised during the year, 103 for the Water and Rivers Commission and four for the Swan River Trust. 67 of these positions were filled by internal applicants: 65 for the Water and Rivers Commission and two for the Swan River Trust. 40 of these positions were filled by external applicants (38 for the Water and Rivers Commission and two for the Swan River Trust). Six 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 3 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 four claims involving lost time, with a total of 232 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 exists 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.

Nine grievances were raised in the 2003–04 financial year.

Nine grievances were resolved informally.

No grievances were resolved through a formal process.

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, one request for a right of review of the Public Sector Standards for Recruitment and Selection was received.

The request related to recruitment and selection. This request for a right of review was unable to be resolved directly between the complainant and the Department. The request for a right of review was referred to the Public Sector Standards Commission for resolution, and was subsequently dismissed.

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 Environment's Code of Conduct.

No breaches of the 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 agency. 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 of 58 per month.

4 Corporate Governance Report

4.1 Board Overview

The Board of Management is the governing body of the Water and Rivers Commission with legislative authority to perform the functions, determine the policies and control the affairs of the Commission. The Chief Executive is responsible for day-to-day operations.

The Board approves corporate goals, direction, performance targets, operating and capital budgets, and ensures proper risk management processes are in place. It monitors operating, financial, environmental and safety performance through monthly reports, and ensures legal compliance and ethical behaviour.

Board meetings are normally held once a month in the Commission's Boardroom in Perth.

4.1.1 Board members

The backgrounds and experience of the Board's seven members are diverse. The Board comprises:

- Chairman
- Deputy Chairman
- Four members
- Chief Executive (appointed for the term of office)

The Minister appoints the Chairman, Deputy Chairman and non-executive Board members, who hold office for up to three years. Non-executive Board members are eligible for re-appointment and their duties are not full-time. There is no limit on the time a Board member may serve on the Board. The Minister may remove a Board member from office at any time.

4.1.2 Changes to the Board

Mr Ken Webster retired as Board Chairman in August 2003, and was replaced by Ms Verity Allan. Dr Des Kelly retired as a Board member in November 2003.

New Board members appointed during the reporting period were Dr Tony Allen, Jane Madgwick, Sue Metcalf and Peter Eggleston. Jane Madgwick resigned from the Board in November 2003.

Mr Derek Carew-Hopkins was appointed acting Chief Executive from 14 April 2003.

4.1.3 Accountability and independence

The Board operates within the guidelines of the *Water and Rivers Commission Act 1995* and in accordance with the *Public Sector Management Act 1995* and the Commission's Code of Conduct. The Board has a Code of Conduct for all Boards and Committees of the Commission.

4.1.4 Performance monitoring and reporting

The Commission provides written monthly reports on its activities and financial statements to the Board. Additionally, performance is evaluated at 31 December and 30 June each year. Annual performance is reported to the Minister and Parliament in the Commission's Annual Report.

4.1.5 Board member profiles

Verity Allan — Chairman (October 2003 to present)

Ms Allan has a strong background in urban planning and community relations. She runs a consultancy which specialises in sustainable development and assessment. Ms Allan is currently a member of the Western Australian Planning Commission, Statutory Planning Committee, Liveable Neighbourhoods Steering Committee and the Advisory Council to the EPA. She is also a member of the Armadale Redevelopment Authority (ARA) and Chairman of the ARA Urban Water Management Steering Committee. Ms Allan has held senior positions with the Housing Industry Association (Western Australia/Asia Region), City of Fremantle, East Perth Redevelopment Project and Burswood Bridge and Road Committee. Ms Allan has also been a lecturer and unit controller with the School of Architecture and Planning, Curtin University.

Ken Webster — Chairman (retired August 2003)

Mr Webster was Chairman of the Water Authority of Western Australia from July 1990 until December 1996, presiding over several major studies involving community consultation and a significant increase in the environmental awareness and commitment of the Authority. Previously, he was Director of Water Resources with the Authority for five years and for 17 years before that he was Chief Engineer Water Resources with the Public Works Department. Mr Webster has comprehensive experience and expertise in management of natural resources, particularly in respect to land/water interactions and in planning and policy making for sustainable use of water resources, including membership of the WA Water Resources Council. He is a member in the General Division of the Order of Australia (AM) for his service to water resources and was awarded the Centenary Medal.

Jos Chatfield — Deputy Chairman

Mrs Chatfield runs an Australian plant nursery with capacity for three million seedlings on her family farm at Tammin. She is the deputy chairman of the Water and Rivers Commission Board, Chairman of the State Water Reform Council and chair of the Tammin Land Conservation District Committee. She has held positions on Greening WA, CSIRO, the Advisory Council to the EPA (ACTEPA), Gordon Reid Foundation, State NHT Assessment Panel, and the National Soil Conservation Committee. Mrs Chatfield is involved in developing policy on conservation, bio-diversity and natural resource management, projects linking rural and urban communities, developing networks between scientists and farmers, and has worked to encourage land managers to become involved in Landcare. Mrs Chatfield is a Commissioner of the Australian Heritage Commission, member of the Forests and Natural Environment subcommittees and chairs the Commission's Finance and Audit Committee. She was awarded the Centenary Medal for service to natural resource management, landcare and land conservation.

Des Kelly (retired November 2003)

Dr Kelly has more than 40 years experience in state government and retired from the position of Chief Executive Officer, Department of Resources Development. He graduated from the University of Western Australia in 1955 with a Bachelor of Engineering with First Class Honours in Civil Engineering and was awarded a PhD from the University of London in 1963. His early work was on construction projects with the Harbours and Rivers Branch of the Public Works Department. Subsequently, he was involved on behalf of the state in the establishment of major resource developments and their associated infrastructure. In 1980, Dr Kelly was appointed Under Secretary of the Department of Minerals and Energy.

His service with that agency was acknowledged in 1992 when he was made a Member in the General Division of the Order of Australia (AM) for his service to mining. He was also awarded the Centenary Medal.

Rod Willox

Mr Willox was appointed to the Board in 1999. He holds degrees in Medical Science and Pathology, also a Diploma in Occupational Health & Safety Management. He is a graduate (Colonel) of the Australian Defence College, a former director of a risk management consultancy and worked in the security industry in the USA for a period.

Mr Willox was formerly Chairman of the RSL War Veterans' Homes Board, Deputy Mayor of the City of Stirling and the metropolitan member of the Local Government Advisory Board. He is a member of the Mindarie Regional Council, Deputy Chairman of the Swan River Trust, the Municipal Waste Advisory Council and the Centre for Organic Waste Management (Murdoch University). Mr Willox is also a member of the State Council of the Royal Association of Justices and is Chairman of the Australia Day Council of WA. In 1997 he was invested into the Sovereign Order of St John of Jerusalem Knights Hospitaller. He is a Member of the Order of Australia (AM) for services to local government, the environment and the community, and was awarded the Centenary Medal for service to defence and the Australian community.

Tony Allen (commenced October 2003)

Dr Allen is a career hydrogeologist including 30 years' experience with the Western Australian Geological Survey and eight years with the consultancy Rockwater Pty Ltd. Early in his career, Dr Allen helped locate the Allanooka water supply for Geraldton and reviewed the groundwater resources of the Kimberley Plateau. On completion of his PhD, Dr Allen conducted a major investigation of groundwater resources along the Gascoyne River, and began the assessment of groundwater resources in the Perth region. During his career with the Geological Survey, Dr Allen wrote about 40 papers on aspects of hydrogeology of Western Australia, and recently a history of hydrogeology in WA and on groundwater as a strategic resource in WA. Prior to his appointment to the Water and Rivers Commission Board, Dr Allen was appointed to tribunals dealing with appeals against the Commission's decisions on groundwater allocation.

Jane Madgwick (October–November 2003)

Ms Madgwick was appointed Regional Manager of the WWF Australia following employment in several conservation and ecologist positions, including 10 years as Head of Conservation

with the Broads National Park in the United Kingdom. Prior to her arrival in Western Australia, Ms Madgwick was employed with the European and Middle East Freshwater Program for WWF International. She has been a member of several international environmental groups and, in Western Australia, was a community member of the Natural Resource Management Council. Ms Madgwick resigned from the Water and Rivers Commission Board in November 2003 to accept an overseas appointment.

Sue Metcalf (commenced May 2004)

Ms Metcalf has wide ranging experience in local government, planning and catchment management. She is currently Chair of the Swan Catchment Council and has been involved in development of the Swan Region Natural Resource Management Strategy. Ms Metcalf is Chair of the Chittering Valley Land Conservation District Committee and Deputy Chair of the Ellen Brook Integrated Management Committee. During her period as a Councillor and President of the Shire of Chittering (1990-99), Ms Metcalf chaired the Planning/Environment Committee, participated in the development of the Town Planning Scheme based on catchment management principles, and was the Council representative to the original Gnangara Land Use Management Strategy. She is a past President of the State and National Australian Local Government Women's Association and a member of the Australian Local Government Association. As a non-urban local government representative on the Western Australian Planning Commission, Ms Metcalf chaired the Avon Arc Strategy and was a panel member for hearings on water issues for the State Planning Strategy.

Peter Eggleston (commenced May 2004)

Mr Eggleston has a background in education including various roles from school-based to statewide advisory, organisation development and policy setting positions. He also has 15 years experience in the mining industry including senior positions with Rio Tinto Ltd and Hamersley Iron Pty Ltd. In these positions, Mr Eggleston designed successful strategies to enhance government and community relations and employee communications and negotiated the landmark Yandi Land Use Agreement with three Aboriginal language groups and the innovative Eastern Guruma Agreement. As Group Co-coordinator for Sustainable Development, Mr Eggleston successfully integrated sustainable development policy into Rio Tinto's managed businesses. He has been a government-appointed member of the Aboriginal Economic Development Council, State Training Board and the Charitable Collections Advisory Committee. Mr Eggleston is currently the Corporate Affairs Director for GRD NL.

Derek Carew-Hopkins — Acting Chief Executive (14 April 2003–present)

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 Parliament 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.

4.1.6 Conflict of interest

The Commission has procedures for identifying, preventing or resolving conflicts of interest. These procedures are outlined in the Code of Conduct.

All Commission personnel with duties related to the negotiation of a contract must disclose current or prospective interests to their immediate supervisor. The interest of a member's immediate family must also be disclosed, if they are known. Where a person possesses such an interest, then either the basis of that interest should be discontinued, or the person should cease the duties involved or obtain management permission to continue.

Board members are also required to declare conflicts of interest.

4.1.7 Ministerial directions

There were no ministerial directions given during 2003–04.

4.1.8 Committees and other bodies

The Board has established a number of committees, councils and management authorities to advise on the development and implementation of protection policies for the State's water resources. In particular, the following councils and committees provide advice to the Board on various matters:

The Cockburn Sound Management Council — coordinates environmental management and planning for Cockburn Sound and its catchment. (See Section 3.7.2.3 for a report on the council's activities.)

The Geographe Catchment Council — established in July 1997 as a community-based council to deliver integrated Natural Resource Management to the Geographe catchment and adjacent marine environment. (See Section 3.7.5 for a report on the activities of the Geographe Catchment Council.)

Water Resource Management Committees (Whicher and Gingin/Dandaragan) — provides assistance and advice to the Commission in the areas of management, allocation and planning for water resource, setting water allocation objectives and principles, coordinating and undertaking community consultation for water resources management planning, creating local by-laws, dispute resolution and integration of community views on matters relating to water resources.

Western Australian Floodplain Management Council — established to coordinate floodplain management activities throughout the state.

Audit Committee — established to review and approve the Commission's audit plans, reports and activities.

Water Resource Allocation Committee — established to advise on policy development, planning and management for surface and groundwater resources.

Catchment Councils/Management Groups (Peel, Wilson, Avon, Leschenault) — provide community advice on catchment and waterways management and coordinate local management planning.

Potable Water Supply Recovery Catchment Teams (Kent and Denmark) — provide advice to commission staff on recovery of the potable water supply, as well as promoting programs in local community. The Collie and Warren Potable Water Supply Recovery Catchment Teams fulfill the same role but are not established by legislation.

Water Resources Advisory Committees — advise the Commission on water allocation issues in management areas. These are gradually being replaced by Water Resource Management Committees.

The State Water Reform Council and the Stakeholder Council have not met for several years and are currently under review as part of the legislative change to create the Department of Environment:

4.1.9 Board meetings

The number of meetings of the Board and committees and number of meetings attended by each member during the 12 months ended 30 June 2004 are as follows:

Table 4: Meeting attendance

	Water and Rivers Commission Board Meetings	Audit Committee	Water Resources Allocation Committee	Swan River Trust
MEETINGS HELD	10	0	10	24
Member				
Ms V Allan	8		4	
Mr K C Webster	2			
Mrs J Chatfield	9			
Dr D R Kelly	4		5	
Mr R M Willox	9			20
Dr T Allen	8		1	
Ms J Madgwick (October-November 2003)	1			
Ms S Metcalf (May 2003 to present)	1			
Mr P Eggleston (May 2003 to present)				
Mr D Carew-Hopkins, Acting CEO (14 April 2003 to present)	9			
Mr D McFarlane, A/CEO (representing Mr D Carew-Hopkins)	1			

4.1.10 Relationship with the Swan River Trust

The Swan River Trust was established under the *Swan River Trust Act 1988* to manage the Swan-Canning river system. The philosophies and functions of the Commission and Trust are very similar and complementary, with the Commission having a very close relationship with the Trust. The Swan River Trust is a separate legal entity and requires separate accounting and reporting.

5 Compliance Reports

5.1 Responsible Minister

Our primary responsibility during the reporting period was to the Minister for the Environment, who exercised authority under the *Water and Rivers Commission Act 1995*.

5.2 Statement of compliance with written law

5.2.1 Enabling legislation

The Water and Rivers Commission was established under the *Water and Rivers Commission Act 1995*.

5.2.2 Legislation administered

Legislation administered by the Water and Rivers Commission and the Department of Environmental Protection as at 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

5.3 Statement of compliance with public sector standards

In the administration of the Water and Rivers Commission, 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.

There were no applications for breach of standard reviews made during 2003–04.



Derek Carew-Hopkins
ACTING DIRECTOR GENERAL

5.4 Statement of compliance with environmental conditions

As part of the conditions set by the Minister for the Environment, the Water and Rivers Commission is responsible for meeting water level criteria for wetlands and vegetation on the Gnangara and Jandakot groundwater mounds. These conditions are outlined in the 'Jandakot Groundwater Scheme Stage 2 Public Environmental Review (PER)', the 'Gnangara Mound Groundwater Resources Review of Proposed Changes to Environmental Conditions' and the 'East Gnangara Environmental Water Provisions Plan PER'. Water level criteria are set with the objective of maintaining a low level of risk to the ecological values of these sites. Over the 2003–04 financial year, non-compliances of the criteria up until the end of May 2004, occurred at 22 of the almost 80 criteria sites. This is the same number of total non-compliances as occurred over the 2002–03 financial year. The major causes of non-compliances were a combination of public and private groundwater abstraction, influence from nearby pine plantations (Gnangara Mound), continuing below average rainfall (dry climate), and failure of supplementation schemes to meet water level requirements at two of three of the wetlands that are artificially maintained.

Gnangara/East Gnangara

There was non-compliance with a total of fifteen water level criteria on the Gnangara Mound in 2003–04. This is one less non-compliance than for 2002–03.

Absolute water level criteria were not met for Lake Jandabup and Coogee Springs which have artificial maintenance schemes (recharge from confined aquifer bores). Supplementation of Lake Jandabup by the Water Corporation maintained levels satisfactorily until the end of February 2004 after which date it failed to match the falling levels. The maintenance scheme at Coogee Springs was not operated in 2003–04 because the ecological value of the wetland has continued to decline and a review concluded that the value would never be met in the current environment of continual decline in groundwater level and incompatible land use adjacent to the wetland. Absolute water levels were also non-compliant for Lake Nowergup which is artificially maintained by the Water and Rivers Commission. For Lake Nowergup, however, the levels that were maintained according to the levels proposed in the Section 46

Progress Report (2003) to the EPA prevented further decline of fringing vegetation and enabled some recovery of the affected vegetation.

Preferred minimum spring peak levels were not met at Lake Mariginiup. Public abstraction wells are several kilometres to the east of this wetland and the nearest of these have not been operated for a decade or more. However, though still within current official allocation limits, there is a significant amount of private abstraction occurring around Lake Mariginiup, which is likely to be a major factor in local water level declines.

Lake Joondalup was also non-compliant with preferred summer minimum levels. Though public abstraction bores are several kilometres to the east of the lake, there is also significant private use of groundwater between the public supply bores and the lake, which is likely to be affecting lake levels. However, the preferred minimum criterion for Lake Joondalup was set to preserve the landscape amenity of the lake, rather than to protect specific ecological values, so this non-compliance of the preferred minimum under the current low rainfall conditions is not considered significant.

Loch McNess was non-compliant with its absolute summer minimum criterion for the second year in a row (never previously), largely as a result of artificial maintenance trials, during which the lake was used as a temporary source of water to artificially maintain some of the Yanchep cave streams. Water levels in the lake have since recovered. The use of groundwater from new bores to supplement the caves is expected to prevent non-compliance with water levels in Loch McNess in the future.

Lake Yonderup had a minimum level 2 mm below absolute criteria. It is questionable whether this is a non-compliance as such a small margin may be within the potential error of record.

There was non-compliance with the absolute minimum criterion at Lexia wetland 186 in the East Gngangara area. Public abstraction from the Lexia bore-field to the west of the wetland was restricted to bores furthest from the wetland and the borefield quota was limited to reduce potential pressure on the wetland. Vegetation at the wetland continues to dry in response to the lowering watertable, although there has been no significant collapse of vegetation in the Lexia area.

There was also non-compliance with interim minimum water level for EPP173 in the East Gngangara area. However, as this is only an interim criteria, it is questionable whether this should be classified as a point of non-compliance.

Criteria were non-compliant in six Gngangara vegetation monitoring bores; MM53, MM55B and MM59B in the Mirrabooka borefield area, WM1 in the Wanneroo borefield area, PM6 in the vicinity of the Pinjar borefield and JB5 near Lake Jandabup. This total is one less than for 2002-03. Vegetation monitoring showed no significant collapse of groundwater-dependent native vegetation, though there is a continuing trend across the Gngangara Mound for species preferring drier conditions to slowly replace those preferring wetter conditions.

The Commission is concerned about the continuing groundwater level declines across the Mound and, as well as curtailing groundwater abstraction from Water Corporation borefields (more than 40 bores turned off), has escalated programs to reduce private abstraction. In addition to the Section 46 review, there are number of other projects involving the Water and Rivers Commission that are concerned with improving management of the Mound, including development of a hydrogeological computer model (PRAMS), investigation potential for

wastewater reuse for horticulture, and production of a Gngangara Mound Water Allocation Plan. The Water and Rivers Commission is working with the Department of Agriculture to improve the water use efficiency of agricultural irrigators on the Mound through the WaterWise on the Farm program. The Water and Rivers Commission also works with local government to improve irrigation efficiencies of parks and gardens and recreation areas. Local government must now comply with the 9am to 6pm sprinkler restrictions applicable to domestic garden watering from bores. The Commission's Swan Goldfields Agricultural Region has been engaged in intensive water use compliance surveys for some areas of the Mound. Results will contribute to a new program recently funded for the implementation of a measurement of use program involving metering irrigators in high risk areas of the Gngangara Mound over a staged three year period. This will greatly improve the level of knowledge of actual water use on the Mound and assist in management strategies to promote sustainable use of groundwater resources.

Vegetation and fauna surveys were conducted as part of the environmental compliance conditions for the Mound. These vegetation surveys, while not conclusive, indicated that most wetlands have suffered declines in conditions of wetland trees and shrubs. Some trees deaths have occurred across the Mound and weeds continue to be an issue. The vegetation decline seen in the annual monitoring has continued through summer, however, the several wetlands remain unchanged, or have been reported as been in good condition.

Frog surveys in the East Gngangara area included a more intense focus than in previous years concentrating on two rather than six wetlands. Due to this change in methodology, comparisons cannot be sensibly made with past years hence results are to be considered as baseline data. Results indicated that there has been failed recruitment of the Moaning Frog, and the Quacking Frog was not recorded due most likely to lack of suitable habitat.

Jandakot Mound

There were seven non-compliance of criteria on the Jandakot Mound during 2003–04. Forrestdale Lake and North Lake were non-compliant for absolute summer minimum water level criteria as has occurred for the past several years.

Shirley Balla Swamp dried early in the summer (before the end of January), and the nearby Beenyup Road Swamp was also non-compliant for preferred summer water level minimum criteria in 2003–04. Public supply bores to the east and west of these areas have been switched off since 1998, however it is likely licensed private use in the vicinity is affecting groundwater levels to some degree. Other non-compliances of absolute minimum criteria levels were reported for Forrestdale Lake, North Lake, Banganup, Bibra Lake, and JM45.

Vegetation monitoring in Spring 2003, showed that tree health scores had fallen for most transects, some to their lowest recorded levels. Despite this decline in tree health in some areas, it appears that the condition of understorey vegetation at most lakes has not declined since the previous year.

Management of public and private abstraction

The Water and Rivers Commission is well aware of the current drought situation and increasing non-compliance with water level criteria on the Jandakot and Gngangara Mounds. It has taken action to address these non-compliances by switching off more than 40 of the Water

Corporation's production wells, mostly in the superficial aquifer, and shifting abstraction to confined aquifers, which have a much lower impact on water table levels.

The number of non-compliances of water level criteria in recent years has prompted a Section 46 review of the environmental conditions set on the Jandakot and Gngangara groundwater resources. The review is considering not only water level criteria, but also management of public and private groundwater use, pine plantation management and internal compliance monitoring and management issues. Significant attention will be on the management of Environmental Water Provisions under the current (and likely future) scenario of a dry climate and increasing demand for water. More details on the review are contained in Section 3.2.2 of this annual report and on our website.

To improve the coordination of the complex land and water management issues on the Gngangara Mound, the Gngangara Mound Coordination Committee has recently been formed. This Committee is composed of representatives from land and water management agencies and from members of peak industry and indigenous groups.

5.5 Advertising and sponsorship

Under Section 175Ze of the *Electoral Act 1907*, the Commission 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	\$90 568	Marketforce (\$47 926 of this figure is advertising of staff vacancies)
Total Expenditure	\$90 568	

5.6 The Commission's recycling performance

In 2003–04, the Commission's East Perth office recycled 4330 kilograms of waste paper under the State Government's Waste Paper Recycling Program.

We continued to recycle plastic, aluminium and steel cans, glass and milk cartons in all kitchen areas throughout the Commission through the implementation of our Eco-office Program.

5.7 Energy Smart Government policy

In accordance with the Energy Smart Government policy we have committed to achieving a 12% reduction in non-transport related energy use by 2006-07 with a 6% 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 5: Summary Energy Consumption Data

End Use Category	Energy Smart Government Program		Baseline Data 2001–02	Actuals 2003–04
Office buildings — tenant services	Energy Consumption	GJ	6 068	6 651
Other facilities	Energy Consumption	GJ	1 186	1 662
Total			7 254	8 223
Office buildings — tenant services	Energy Cost	\$	251 983	272 933
Other facilities	Energy Cost	\$	52 020	54 416
Total			304 003	327 349
Office buildings — tenant services	Greenhouse Gas Emissions	Tonnes of CO ₂	1 539	1 649
Other facilities	Greenhouse Gas Emissions	Tonnes of CO ₂	303	420
Total			1 842	2 069

The variation between the baseline data (2001-02) and the actual data (2002-03) represents a 13.36 per cent increase in the Department's stationary energy consumption and hence the 6% reduction target has not been achieved. This can be explained by the huge growth experienced by the Department 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 we have 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 have only been 7.8 per cent.

Table 6: 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 have the role of 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****WATER AND RIVERS COMMISSION
PERFORMANCE INDICATORS FOR THE YEAR ENDED JUNE 30, 2004****Audit Opinion**

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

Scope***The Board's Role***

The Board 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 11, 2004

6 Performance Indicators

Statement by accountable authority on performance indicators

We hereby certify that the performance indicators are based on proper records, are relevant and appropriate for assisting users to assess the Water and Rivers Commission's performance, and fairly represent the performance of the Water and Rivers Commission for the financial year ended 30 June 2004.



Verity Allan
BOARD CHAIRMAN



Mr Derek Carew-Hopkins
ACTING CHIEF EXECUTIVE / BOARD MEMBER

28 August 2004

Performance Framework

The performance framework below shows the relationships between what we sought to achieve and our performance indicators. The agency delivers two key outcomes on behalf of government.

Sustainable use of water resources for economic development relates to a series of activities that together enable the Commission to:

- Assess the quantity of water in its natural state,
- Establish the quantity of water required to sustain the body itself and the environment that depends on it,
- Allocate water for use by people to support economic or social needs;
- License and regulate the withdrawal of water from water sources without impacting on the environment; and
- Educate and promote initiatives with other government agencies on the efficient use of
- Water and support for rural sectors.

The key relationships between our performance indicators and the two primary functions are:

Planning	Management
Percentage of licensed use covered by a formal management plan – Board approved – Senior management approved	Percentage of Groundwater Management Areas with licensed allocation in excess of management objectives
Accrual Cost of building, maintaining and operating the State Reference Network for the collection of water resources quality and quantity information	Average accrual cost per Gigalitre of water managed in accordance with agreed management plan Accrual cost of issuing, managing and administering Water Allocation Licenses
Average level of deficiency per grant round	Percentage of grant applications assessed within target deadline Administrative cost per grant application

Protection and enhancement of the quality of the state’s surface and groundwater is aimed at maintaining or improving the health of our waterways, wetlands and public water sources. Like Allocation, there are two primary functions of planning and management. Management includes on the ground actions aimed at restoring or enhancing the land that surrounds the water source.

Planning	Management
	Surface water quality — Annotated hydrograph of Colлие River
The extent to which management objectives have been developed for rivers, estuaries and wetlands	The extent to which rivers, estuaries and wetlands water quality meet agreed management objectives
	The extent to which the waterways are protected while providing facilities for public use
The extent to which management objectives have been developed to guide the protection of the state's public water supply catchments/basins	Accrual cost per km ² of catchment where management and improvement activities are undertaken
	Average accrual cost per statutory referral
	Average water supply protection cost (per Gigalitre) covered by an agreed management plan

Summary of key performance indicators

Outcome: Sustainable use of water resources for economic development

Objective: Water use is within sustainable limits

Effectiveness Indicators

	Note No.	Unit Actual	12 months June 02	12 months June 03	12 months June 04	Target
Percentage of licensed use covered by a formal management plan	A					
– Board Approved		%	59	51	52	100
– Senior Management Approved		%	31	32	31	100
Percentage of Groundwater Management Areas with licensed allocation in excess of management objectives	B	%	15.3	13.8	14.2	< 5

Efficiency Indicators

Average accrual cost per Gigalitre of water managed in accordance with agreed management plan (3113 GL)	C	Avg \$ cost	5606	3203	2589	To maintain
Accrual cost of issuing, managing and administering Water Allocation Licenses	D	Avg \$ cost	215	260	248	To reduce
Accrual Cost of building, maintaining and operating the State Reference Network for the collection of water resources quality and quantity information	E	Avg \$ cost per work unit	2051	1884	2990	To reduce

Objective: Rural water supply assistance**Effectiveness Indicators**

	Note No.	Unit Actual	12 months June 02	12 months June 03	12 months June 04	Target
Average level of deficiency per grant round	F	%	44	46	46	> 25

Efficiency Indicators

Percentage of grant applications assessed within target deadline	G	Score %	43	100	100	100%
Administrative cost per grant application	H	Avg \$ cost	1267	2768	5664	To reduce cost

Outcome: Protection and enhancement of the quality of the state's surface and groundwater**Objective: Clean and healthy water resources****1. For rivers, estuaries and wetlands**

Restore high risk/critical water dependent systems to functional condition
 Slow rate of decline of water salinity in priority catchments
 Reduced algal blooms, pollution and fish kills in priority areas

2. For public water supply

Quality of existing public water supply resources are maintained

Effectiveness Indicators

	Note No.	Unit Actual	12 months June 02	12 months June 03	12 months June 04	Target
Surface water quality — Annotated hydrograph of Collie River	I	Graph				To improve
The extent to which management objectives have been developed for rivers, estuaries and wetlands	J	%	63	63	63	63%
The extent to which rivers, estuaries and wetlands water quality meet agreed management objectives	K	%	64	64	61	To improve
The extent to which the waterways are protected while providing facilities for public use	L	No. of pollution complaints	114	102	72	To reduce
The extent to which management objectives have been developed to guide the protection of the state's public water supply catchments/basins	M	% of water supply protection plans completed	37	32	35	100%

Efficiency Indicators

	Note No.	Unit Actual	12 months June 02	12 months June 03	12 months June 04	Target
Accrual cost per km ² of catchment where management and improvement activities are undertaken	N	Cost \$ per km ²	52	42	35	To reduce
Average accrual cost per statutory referral	O	Cost \$ per referral	892	470	692	To reduce
Average water supply protection cost (per Gigalitre) covered by an agreed management plan (3113 GL)	P	Cost \$ per GL	603	883	881	To reduce

NOTES TO THE PERFORMANCE INDICATORS

for the year ended 30 June 2004

- A. Percentage of licensed use covered by a formal management plan**
- Board approved
 - Senior management approved

Outcome: Sustainable use of water resources for economic development

Objective: Water use is within sustainable limits

The Commission aims to have formal plans indicating the amount of water available and allocation policies for all areas where licensing is carried out. The indicator may be used to assess performance by showing the extent to which water resources are being allocated to beneficial uses following public consultation. The long term objective is to ensure all water allocated is covered by a plan that is agreed with stakeholders, and government representing the environment and future generations.

Relevance to desired outcome

This indicator reflects the effectiveness of the Commission in managing water use in accordance with formal (Board approved) management plans, for the sustainable benefit of the community. The present indicator relates to groundwater management.

The indicator has been derived by determining the volume of water licensed for use in accordance with formal management plans and dividing it by the total volume of water licensed for use in the State. Not all the water used in the State requires licences. Licensing is introduced when use grows to levels which require management.

Effectiveness measure

Formal plans are defined to mean those plans which are endorsed by the previous Water Authority of Western Australia's Board, or the current Water and Rivers Commission Board following an appropriate level of community involvement in their formulation. The formal plans require independent review by the Water Resources Allocation Committee (WRAC) before Board approval. All water resource management plans must be endorsed by WRAC and the Board before they are released for public review. The Commission aims to have 100% of the plans approved by WRAC and the Board.

Note B provides a summary of the Commission's performance in managing these planned objectives.

B. Percentage of groundwater management areas with use in excess of management objectives

Outcome: Sustainable use of water resources for economic development

Objective: Water use is within sustainable limits

Having set water allocations for environmental, social and economic demand in plans, the Commission aims to license and regulate water usage, such that it does not exceed management or sustainable levels.

The effectiveness of the management of the resource is reflected in whether the resource is being used in excess of management objectives, based on assessed available resources. Performance may be assessed by viewing increases in areas that over-use the source, indicating a need for improved resource management in those areas.

Relevance to desired outcome

The indicator is relevant to the outcome because it shows how the Commission's management is ensuring sustainable benefits from groundwater. The indicator has been derived by determining the number of groundwater management areas with a licensed use greater than the management objectives described in the plans and dividing this by the total number of groundwater management areas in the State.

Effectiveness measure

About fifty percent of licensed groundwater areas are covered by formal ground water management plans with the highest priority placed in areas with high utilisation levels. About 14.2% of declared groundwater management areas have allocations close to, or at the level of sustainability. Exceeding management limits does not mean that the resources are over-allocated. The Commission establishes precautionary management levels allowing for the environment. The areas where licensed allocations exceed management limits include Mullewa, Mingenew, Central Exmouth and Cowaramup.

Other groundwater sources are approaching the sustainable threshold and need closer management to ensure sustainability. This closer management will require increased levels of policy development, resource monitoring and re-evaluation, user compliance monitoring and community education and awareness raising. Development pressures also require the Water and Rivers Commission to extend the areas of licensed water use.

The Commission will also need to expedite its review of existing plans in high priority areas with relatively high utilisation levels to maintain sustainability.

C. Accrual cost per Gigalitre of water managed in accordance with agreed management plans

Outcome: Sustainable use of water resources for economic development

Objective: Water use is within sustainable limits

The Commission's internal objective is to adequately manage the state's water resources at a minimum long-term cost. This indicator is holistic in that it considers the total planning effort expended by the Commission and divides it by the quantity of water allocated. It is beneficial in that as demand for water grows, so too does the management and regulatory effort required by the Commission. The target for the Commission is to maintain a stable level of effort. This statement is correct but the Commission is not meeting its target as identified in the Auditor General's report.

Relevance to desired outcome

This indicator shows the efficiency with which the Commission manages the allocation of water to economic, social and environmental uses. The indicator represents the activities associated with developing and implementing water management plans and policies.

Efficiency measure

The reduction in unit costs results from the continued growth in water allocated to meet state development needs. The financial investment in this output has increased as part of the response to the Auditor Generals report into management of the states water resources.

D. Cost of issuing, managing and administering water allocation licenses

Outcome: Sustainable use of water resources for economic development

Objective: Water use is within sustainable limits

The Commission's internal objective is to adequately manage the state's water resources at a minimum long-term cost. This indicator illustrates the cost of administering a water allocation license – a key instrument in allocating water to users. As demand for water grows and the volume of licenses increase, the Commission aims to maintain, or reduce, the average cost of administering a license.

Relevance to desired outcome

This indicator shows the efficiency with which the Commission administers water allocation licences. Licensing of allocations in declared areas is a statutory function of the Commission. Licensing is essential to ensure the objectives of water management are met, and that inappropriate precedents are not set. It is one of the primary mechanisms for managing the state's water allocations.

Efficiency measure

The indicator has been derived by determining the number of licenses administered (27 706) and dividing this into the actual costs of the Licensing (\$6.87m).

The decrease in unit cost is largely attributable to an increase of some 13% in the number of licences being administered. Additional funding received as part of the department's response to the Auditor General's report has seen additional focus on processing of licences.

E. Accrual cost of building, maintaining and operating the State Reference Network for the collection of water resources quality and quantity information

Outcome: Sustainable use of water resources for economic development

Objective: Water use is within sustainable limits

Underpinning water allocation planning and licensing is the need for timely and accurate water resource and environmental information. The Commission maintains an extensive network of water measurement sites. These surface water and ground water measurement sites provide valuable information for the management of water resources, sustainable development of water resources, and for the management of flood-related hazards.

Relevance to desired outcome

The indicator has been derived by determining the number of operating sites, and dividing this into the total network operating costs (\$7.9m). The actively monitored State Water Reference Network consists of approximately 523 surface water and 2136 groundwater bores.

Efficiency measure

The increase in unit costs is largely attributable to the injection of additional resources into monitoring of water resources. Similarly there has been an increase in the size of the State Water Reference Network, which reflects increased priority in monitoring sites.

In terms of surface water monitoring, there has been a net reduction in sites. In most cases, sites that are not being actively monitored are not demolished. This is due to changing priorities for surface water data, as the caretaker approach enables reopening to occur at minimal cost.

Rural Water Supply Assistance

Outcome: Sustainable use of water resources for economic development

Objective: Rural water supply assistance

The Commission administers the State Rural Water Plan (RWP) which aims to provide a planned and considered approach to recurrent water supply problems that have affected farmland within dryland agricultural areas of the State. A key feature of the Plan is the

provision of financial incentives to improve water supplies. Three grant schemes operate under the Plan one of which is the Farm Water Grants Scheme (FWGS). The FWGS which accounts for almost 85% of available grants, is targeted at commercial broadacre farmers suffering from serious on-farm water deficiency and whose land is not connected to a reticulated water supply. The Scheme provides grants for the investigation, design or development of water supplies for domestic, crop-spray and livestock use.

The Scheme assists commercial broadacre farmers in seven key regions of the dryland agricultural area of the State receiving less than 600 mm of average annual rainfall.

Farm water shortages have historically led to productivity losses, domestic hardship and increased water cartage costs for farmers.

The FWGS encourages farmers in water-deficient areas to develop reliable, on-farm water supplies with the assistance of Government grants of up to \$15 000. Farmers have 18 months from the date their grant is approved to undertake on-farm water supply improvements and then lodge a claim for payment with the Water and Rivers Commission.

The other grants schemes provided under the RWP, Community Water Supply Program and Pastoral Water Grants Scheme while smaller in terms of grant numbers are nonetheless important in addressing serious water deficiency in rural areas.

F. Average level of deficiency per grant round

Outcome: Sustainable use of water resources for economic development

Objective: Assistance is provided to water deficient farmers

One of the primary outcome objectives of Farm Water Grants Scheme is to contribute to a reduction in the level of on-farm water deficiency. It is expected that as more farmers suffering from the most serious water shortages are allocated grants over time, the average level of water deficiency across the agricultural area will decline.

To be considered for farm water grant an applicant is required to demonstrate the need for improved water supplies on their property. Applicants are assisted in this regard by an approved Farm Water Planner/Assessor who determines the total water supply and demand on the farm, calculates the level of water deficiency and allocates an appropriate point score to reflect this deficiency. The on-farm deficiency point score is one of the factors used to determine an applicant's eligibility for a grant.

A minimum deficiency score of 25 is required to qualify for consideration of a farm water grant although on average the deficiency score for applicants approved has been significantly higher than this.

Relevance to desired outcome

The use of deficiency scores for each applicant enables the Commission to ensure that the Schemes are correctly targeting the farmland in the greatest need of water supply improvements. Moreover, average on-farm deficiency levels from one grant round to another can be monitored to assess the overall trend in water deficiency levels across the various agricultural districts of the State.

Effectiveness measure

Average level of deficiency			
00–01	01–02	02–03	03–04
49%	44%	46%	46%

Fluctuations in the average level of deficiency from one grant round to another are to be expected. Factors such as low commodity prices and low farm income limit the capacity of some farmers to plan on-farm water supply improvements and to apply for a grant. The same influences also discourage farmers from maintaining existing farm water supply infrastructure, thus reducing water yield. A decline in the average deficiency level will become more prominent over a ten to fifteen year period when the full effect of on-farm water supply improvements, made possible with the availability of farm water grants, becomes measurable.

Additionally on-farm water deficiency itself may be affected by many other interacting factors such as:

- Rainfall and runoff variability from year to year;
- Salinity problems caused by raising groundwater tables;
- The adoption of minimum tillage techniques which lead to less runoff; and
- Increased tree planting which leads to less runoff.

The occurrence and impact of the first two of these factors are impossible to predict or control either by farmers or the Water and Rivers Commission. The latter two factors are generally decisions for the individual farmers that are made in isolation from issues such as water deficiency. The combined effect of these factors means the average level of water deficiency may vary significantly between grant rounds in the short to medium term.

G. Percentage of grant applications assessed within target deadline

Outcome: *Sustainable use of water resources for economic development*

Objective: Assistance is provided to water deficient farmers

The Commission has made a commitment to finalise assessment of grant applications and notify all applicants within two months of a grant round closing.

Relevance to desired outcome

The percentage of grant applications assessed within the target deadline is an indicator of the efficiency of the Commission in processing the application documents. Providing prompt assistance and assurance of grants to farmers is critical to enabling farm planning and actions to be taken to support farm practices.

Efficiency measure

Total number of Farm Water grant applications				Total number of Farm Water grant applications assessed within two months of the grants round closing				AUDITED KEY PERFORMANCE INDICATOR Percentage of grant applications assessed within target deadlines			
00–01	01–02	02–03	03–04	00–01	01–02	02–03	03–04	00–01	01–02	02–03	03–04
179	389	194	125	179	167	194	125	100%	43%	100%	100%

Since 2002–03 when the systems for handling and processing grant applications were reviewed, there has been a significant improvement in the timeliness of assessing grant applications. The reduction in grant applications from the previous year is largely due to the 2002–03 drought conditions which resulted in increased demand for grants.

H. Administrative cost per grant application

Outcome: Sustainable use of water resources for economic development

Objective: Assistance is provided to water deficient farmers

The Commission has made a commitment to finalise assessment of grant applications and notify all applicants within two months of a grant round closing.

Relevance to desired outcome

The administrative cost per grant application provides an indication of the efficiency of the Commission in administering the Farm Water Grants Scheme. However, it should be noted that the Farm Water Grants Scheme is one of seven sub programs delivered under the rural water supply output and the total costs also include those associated with the administration of these initiatives and are unable to be separated. The administrative costs include those costs incurred in processing and determining grant applications, processing grant payments and monitoring, evaluating and editing grants.

Efficiency measure

Total number of grant applications				Total cost in \$000s				AUDITED KEY PERFORMANCE INDICATOR Cost per grant application			
00–01	01–02	02–03	03–04	00–01	01–02	02–03	03–04	00–01	01–02	02–03	03–04
179	389	194	125	674	493	537	703	3765	1267	2768	5624

The average cost per application is derived by dividing the total cost for the rural water supply assistance output, less grants allocated by the total number of grant applications. The output includes grant payments totalling \$1858 million, which are exempt from the calculation.

The increase in cost is largely due to a reduction in the number of grant applications, as the preceding year experienced greater demands for grants due to the drought conditions.

I. Surface Water Quality — Annotated Hydrograph of Collie River

Outcome: Protection and enhancement of the quality of the state’s surface and groundwater

Objective: Clean and healthy water resources — Slow rate of decline of water salinity in priority catchments

Salinity is a widespread problem in the State and similar management activities have been put in place in other catchments. The Collie River is representative of the success of more intensive management efforts.

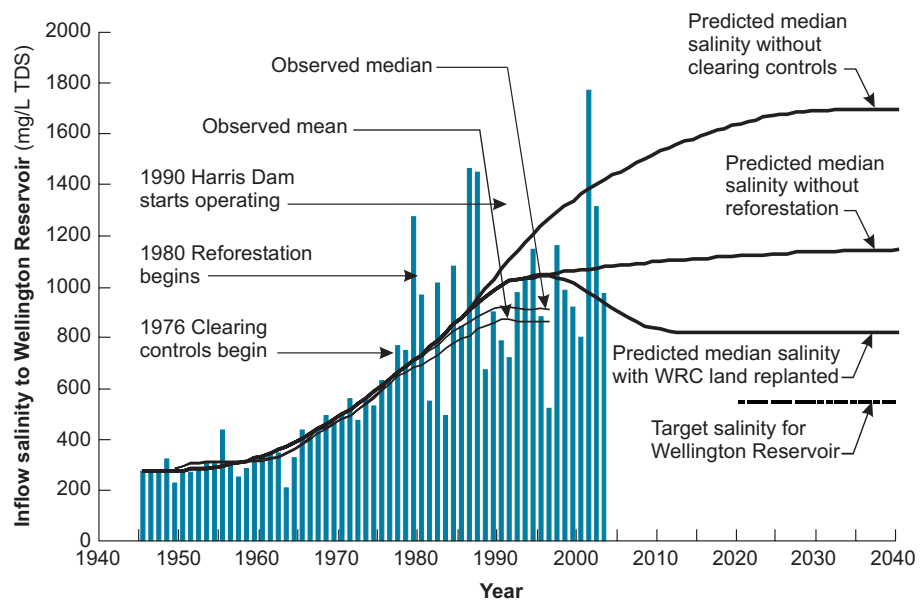
Relevance to desired outcome

This indicator shows changes in the water quality of a surface water resource degraded by increasing salinity. Whilst the Commission is implementing improvement strategies within 5 key catchments, Collie River is reported because of the data available and because it is the catchment which management effort has focused on the most. As more data becomes available, performance trends will be reported for the other catchments.

The initial increases in salinity have been a result of changes in land use, and the ongoing trend reflects the effects of management activities aimed at limiting or reducing the salinity.

Effectiveness measure

A Strategic Action Plan for managing salinity in the Collie River catchment above the Wellington Dam has been prepared by the Collie Recovery Team as required in the State Salinity Strategy, 2000. The plan is based on a clear water quality target: to reduce the salinity of the Collie River at Mungalup Tower Gauging Station (the nearest point of measurement to the Wellington Dam) to 680 mg/L TDS by the year 2015. The target is to achieve an average of 500mg/L TDS in the dam itself. As the graph illustrates initiatives such as reforestation, drainage and catchment management activities are slowly beginning to reduce salinity levels.



Surface water quality in the Collie Catchment

The predicted salinities are those expected in years of median rainfall. The higher curve shows what was expected if clearing had continued in the catchment and there was no other action to limit the development of dryland salinity. The lower curve shows the expected result from limiting further clearing from 1976 and reforestation between 1980 and 1990. Subsequent initiatives to help farmers integrate water management with agriculture are expected to result in even lower salinity in the long term.

Observed salinities are lower in years of above median rainfall and higher in years of below median rainfall. Consequently, significant trends in observed values can only be determined certainly over a period of many years. The record unfolding in recent years is considered to show a favourable result, although not conclusive evidence that, in the long run the salinity of inflow will be the same or lower than predicted. The 2001-03 result is significantly higher than past results (and the current trend) as a result of the low annual rainfall.

J. The extent to which management objectives have been developed for rivers, estuaries and wetlands, and

K. The extent to which rivers, estuaries and wetlands water quality meet agreed management objectives

Outcome: Protection and enhancement of the quality of the state's surface and groundwater

Objective: Clean and healthy water resources

For rivers, estuaries and wetlands

- Restore high risk/critical water dependent systems to functional condition
- Slow rate of decline of water salinity in priority catchments
- Reduced algal blooms, pollution and fish kills in priority areas

Relevance to desired outcome

The aim of the Water and Rivers Commission is not to return catchments to the pre-developed state; it is to help manage catchments so they remain economically productive without degrading the resource.

The Commission recommends using water quality targets as a series of benchmarks to be achieved. With this system no consideration is given to the pre-development state of the system or the condition of other similar systems. Only the waterbody's current state determines the target. The target defines the 'now' and compliance monitoring defines deviations from now. If water quality is currently known to be poor the target level is set so it will 'fail' the compliance test. It will continue to 'fail' until there has been a measurable improvement in water quality.

The targets represent a series of management benchmarks that encourage continual improvement towards an ultimate desired state. A continual lowering of the bar until water quality is acceptable is the best the Commission can hope to achieve. For waterbodies in

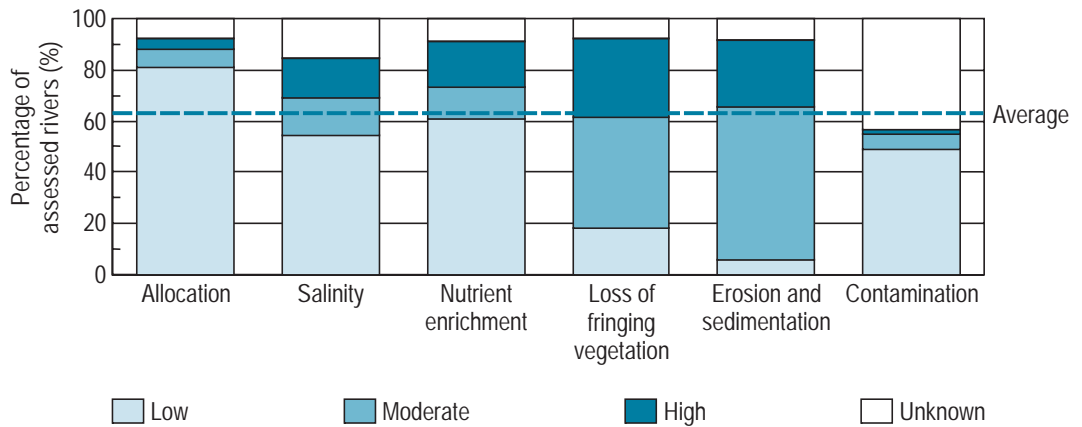
which water quality is known to be currently good, the target level will help identify emerging degradations.

Effectiveness measure

In 2003–04 the Commission has continued to work with many stakeholders and the result is similar to past years. However, on a catchment by catchment basis there have been both positive and negative changes. The extent to which the results are affected by low annual rainfall is not exactly known, although minor trends may be starting to emerge. Whilst the Commission has achieved improvements in some areas, it is too early to understand the effects of lower rainfall versus the continued catchment works and improvements. The small decline in performance targets, or increase in salinity, nutrient or sediment may result from decreasing annual rainfalls and lower than expected water levels and stream flows.

It would be extremely difficult to assess every single watercourse in Western Australia. This has resulted in a set of key, significant watercourses being identified in each region. It is against this ‘total’ that the condition summary graphs have been prepared.

The capacity for the state to manage and restore waterways has had a significant boost during 2003–04. Through the National Action Plan for Salinity and Water Quality (NAP) and the Natural Heritage Trust (NHT), additional funds will be invested in natural resource management in Western Australia in the next 4 years. The funding will be delivered through the development of six regionally based natural resource management strategies with the WRC as a partner in this process. A key element of these strategies will be identifying the identifying values for estuaries, rivers and creeks and developing management approaches to protecting and restoring systems throughout the state.



Summary of the condition of Western Australia’s rivers

The table above outlines the key influences and impacts on the condition of the State’s rivers. Many of our objectives are aimed at maintaining the existing impacts at a low or moderate level. An extensive review of the Commission data and trends indicate that our water resources continue to slowly degrade.

L. The extent to which the waterways are protected while providing facilities for public use

Outcome: Protection and enhancement of the quality of the state's surface and groundwater

Objective: Clean and healthy water resources

1. For Rivers, estuaries and wetlands

- Restore high risk/critical water dependent systems to functional condition
- Reduced algal blooms, pollution and fish kills in priority areas

Relevance to desired outcome

The Commission is charged with ensuring that gazetted waterways remain clean and aesthetic values are maintained. Furthermore, that recreational and social needs for the resource are managed appropriately with environmental values.

Effectiveness measure

This indicator is assessed through two measures.

1. Number of pollution complaints

Management Authority	Number of Complaints 2001–2002	Number of Complaints 2002–2003	Number of Complaints 2003–2004
Leschenault Inlet	7	8	6
Peel Inlet	96	75	56
Albany Waterways	9	16	8
Avon River	0	3	2
Wilson Inlet	2	0	0
Total	114	102	72

Pollution complaints may relate to incidents which are not significant in their effects, or the pollution may not in fact reach the waterway because of effective pollution response by the Commission and other authorities. The Commission continues to encourage and educate communities and industry groups in the management of waterways. Community support in restoration activities has reduced debris. The reduction in complaints can also be attributable to improved pollution management by industry.

2. Level of compliance with license conditions

(Number of licenses and % of compliance)

Management Authority	2001–02		2002–03		2003–04	
	No.	% Compliance	No.	% Compliance	No.	% Compliance
Leschenault Inlet	3	100	2	100	2	100
Peel Inlet	5	100	11	100	15	100
Albany Waterways	4	100	2	50	1	100

There has been a growth in the number of licences, especially in the Peel Inlet. Importantly, the level of compliance with licence conditions continues to be high.

M. The extent to which management objectives have been developed to adequately protect public water supply for current and future generations

Outcome: Protection and enhancement of the quality of the state's surface and groundwater

Objective: Clean and healthy water resources — For public water supply

- **Quality of existing public water supply resources are maintained**

Relevance to desired outcome

A key objective aim of the Water and Rivers Commission is to provide adequate protection of the state's public water supplies. Protection is not just for today, but also for future generations. The effective management of surface and ground water catchment areas is paramount to minimising water supply production costs and protecting public health.

The primary impact on the quality of our water resources result from the activities carried out in surface water catchments and on the land covering our groundwater resources. In some areas of the state these land uses are incompatible with protection objectives and the resource itself is at risk. Dealing with these incompatible land uses and influencing State and Local Government planning processes are the primary means of achieving good outcomes for the state.

Western Australia relies heavily on groundwater for *water supply* and the generally sandy soils make the underlying groundwater highly vulnerable to groundwater contamination in this State. At 30 June 2004 there were 136 water source protection plans listed for completion in the State, of which 47 were completed. The plans are an essential tool for guiding land use, and in turn adequate levels of protection of drinking water sources. New plans may be added to the list as required, and depending on circumstances some plans may not be required or may be combined with other plans and prioritised for completion.

Effectiveness measure

In 2003–04 plans for Kununurra and Carnarvon were released. A modified source protection program was also implemented consistent with the Western Australian Planning Commission's Statement of Planning Policy for Public Drinking Water Sources (June 2003) and development of a 2003 Australian Drinking Water Guidelines framework document. The revised program resulted in preparation of 15 Drinking Water Source Protection Assessments in 2003–04 (These cover Horrocks Beach, Nabawa, Fitzroy Crossing, Northcliffe, Condingup, Gibson, Laverton, Manjimup, Padbury, Greenbushes, Kirup, Bridgetown, Millstream, Mullalyup and Boyup Brook). These 'Assessment' documents represent the first stage in development of the publicly consulted source protection plans.

The source protection assessments and plans, together with Commission policies (eg. *Land use Compatibility in Public Drinking Water Source Areas Policy* and *draft Protecting Public Drinking Water Source Areas Policy*), will guide state and local planning authorities in managing land within drinking water catchments. The assessments and plans are important

instruments for managing land use, ensuring future and existing developments either avoid, minimise or manage impacts on important drinking water resources.

This indicator has not changed significantly in 2003–04 due to implementation of the modified protection program and priority development of the drinking water ‘assessment’ documents. With the modified program now implemented, new indicators will need to be developed for future reports.

N. Accrual cost per km² of catchment where management and improvement activities are undertaken

Outcome: Protection and enhancement of the quality of the state’s surface and groundwater

Objective: Clean and healthy water resources

1. For rivers, estuaries and wetlands

- Restore high risk/critical water dependent systems to functional condition
- Slow rate of decline of water salinity in priority catchments
- Reduced algal blooms, pollution and fish kills in priority areas

2. For public water supply

- Quality of existing public water supply resources are maintained

Relevance to desired outcome

This indicator shows the efficiency with which the Commission utilises its resources across the key management areas (catchments) of the state. When combined with indicators G and H, an assessment can be made on the level of resourcing appropriate to the improvements or achievements being attained.

The objective of this indicator is to maintain the current level of achievements or improvements in catchment and water resource standards at minimum cost.

Efficiency measure

The 2003–04 total costs for protecting and enhancing key waterways including estuaries and wetlands was \$20.140 million. The total area of the key catchments which impact on waterways is approximately 567 750 km².

The reduction in unit costs is largely attributable to a reduction in external grants from the Commonwealth of approximately \$2.2 million and the deferral of salinity funding into 2004–05.

O. Average accrual cost per statutory referral

Outcome: Protection and enhancement of the quality of the state’s surface and groundwater.

Objective: Clean and healthy water resources

For rivers, estuaries and wetlands

- Restore high risk/critical water dependent systems to functional condition

- Slow rate of decline of water salinity in priority catchments
- Reduced algal blooms, pollution and fish kills in priority areas

For public water supply

- Quality of existing public water supply resources are maintained

Relevance to desired outcome

The primary impact on the quality of our water resources result from the activities carried out in surface water catchments and on the land covering our groundwater resources. In some areas of the state these land uses are incompatible with protection objectives and the resource itself is at risk. Dealing with these incompatible land uses and influencing other planning processes to avoid more are the primary means of achieving good outcomes for the state.

The Commission provides advice on land and development proposals to the Ministry for Planning, Local Government, and other land planning authorities. Our advice is commonly known as a Statutory Referral. Through this advice the Commission seeks to influence land planning in order to protect water resources from potential pollution or adverse environmental impacts.

Efficiency measure

In 2003–04 the Commission received 1881 referrals from which advice was provided. The decrease in referrals (2070 — 2002–03) results from the Commission’s decision to process critical state development and land use proposals only. This strategy was decided in 2001-02 in an effort to provide improved service to key state priorities and defer more routine applications to local authorities and planning bodies.

The increased complexity associated with land use and industry applications has required additional research and effort which has contributed to an increase in the unit cost.

P. Average water supply protection cost (per allocated Gigalitre) covered by an agreed management plan

Outcome: Protection and enhancement of the quality of the state’s surface and groundwater

Objective: Clean and healthy water resources — For public water supply

- Quality of existing public water supply resources are maintained

Relevance to desired outcome

Like allocation objectives, the Commission has a key objective to protect water supply sources and ensure water quality for current and future generations. This indicator reflects the efficiency with which the Commission provides a number of services (such as protection plans, policies and advice) for the volume of water that is protected.

Efficiency measure

The unit cost has remained relatively unchanged for 2003–04.



AUDITOR GENERAL

INDEPENDENT AUDIT OPINION

To the Parliament of Western Australia

WATER AND RIVERS COMMISSION FINANCIAL STATEMENTS FOR THE YEAR ENDED JUNE 30, 2004

Audit Opinion

In my opinion,

- (i) the controls exercised by the Water and Rivers Commission provide reasonable assurance that the receipt, expenditure and investment 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 Commission at June 30, 2004 and its financial performance and cash flows for the year ended on that date.

Scope

The Board's Role

The Board 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 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.

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

D D R PEARSON
AUDITOR GENERAL
October 11, 2004

7 Financial Statements

Certification of Financial Statements for the year ended 30 June 2004

The accompanying financial statements of the Water and Rivers Commission have been prepared in compliance with the provisions of the *Financial Administration and Audit Act 1985* from proper accounts and records to present fairly the financial transactions for the year ending 30 June 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 the particulars included in the financial statements misleading or inaccurate.



Brendan O'Neil
ACTING PRINCIPAL ACCOUNTING OFFICER

27 August 2004



Verity Allan
BOARD CHAIRMAN

27 August 2004



Rodney Willox
BOARD MEMBER

27 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	2	25 740	22 750
Supplies and services	3	10 200	10 363
Depreciation expense	4	1 475	1 561
Borrowing costs expense	5	85	98
Administration expenses	6	5 290	4 853
Accommodation expenses	7	1 866	1 963
Grants and subsidies	8	2 993	6 305
Capital user charge	9	8 539	8 151
Other expenses from ordinary activities	10	270	172
Total cost of services		56 458	56 216
Revenues from ordinary activities			
Revenue from operating activities			
User charges and fees		54	70
Commonwealth grants and contributions	11	734	2 754
Recoup from the Office of Water Regulation	12	92	184
Recoup from Swan River Trust	13	2 068	1 902
Revenue from non-operating activities			
Interest revenue		257	234
Proceeds from disposal of non current assets		41	-
Other revenues from ordinary activities	15	5 277	6 209
Total revenues from ordinary activities		8 523	11 353
NET COST OF SERVICES		47 935	44 863
REVENUES FROM STATE GOVERNMENT	16		
Output appropriation		44 156	44 140
Assets transferred		(910)	-
Resources received free of charge		447	512
Total revenues from State Government		43 693	44 652
CHANGE IN NET ASSETS		(4 242)	(211)
Net increase in asset revaluation reserve		49 043	-
Total revenues, expenses and valuation adjustments recognised directly in equity		49 043	-
TOTAL CHANGES IN EQUITY OTHER THAN THOSE RESULTING FROM TRANSACTIONS WITH WESTERN AUSTRALIAN STATE GOVERNMENT AS OWNERS		44 801	(211)

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	27(a)	8 382	16 951
Restricted cash assets	17	30	86
Receivables	18	1 103	1 607
Amounts receivable for outputs	19	800	1 300
Prepayments	20	87	4
Total Current Assets		10 402	19 948
Non-Current Assets			
Amounts receivable for outputs	19	4 024	2 604
Property, plant and equipment	21	147 005	99 199
Total Non-Current Assets		151 029	101 803
Total Assets		161 431	121 751
Current Liabilities			
Payables	22	355	218
Interest-bearing liabilities	23	477	336
Provisions	24	4 344	3 961
Other liabilities	25	1 030	1 379
Total Current Liabilities		6 206	5 894
Non-Current Liabilities			
Interest-bearing liabilities	23	559	900
Provisions	24	2 575	9 772
Developer bonds		30	86
Total Non-Current Liabilities		3 164	10 758
Total Liabilities		9 370	16 652
NET ASSETS		152 061	105 099
Equity			
Contributed equity	26	9 713	7 552
Reserves		147 019	97 976
Accumulated deficiency		(4 671)	(429)
TOTALEQUITY		152 061	105 099

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 GOVERNMENT			
Output appropriations		41 936	42 075
Capital contributions		1 400	1 900
Holding account drawdowns		1 300	800
Net cash provided by State Government		<u>44 636</u>	<u>44 775</u>
Utilised as follows:			
CASH FLOWS FROM OPERATING ACTIVITIES			
Payments			
Employee costs		(25 069)	(24 517)
Supplies and services		(17 106)	(16 568)
Borrowing costs		(84)	(98)
Capital user charge		(8 539)	(8 151)
GST payments on purchases		(2 107)	(2 054)
Grants and subsidies		(3 104)	(6 131)
Receipts			
User charges and fees		54	70
Commonwealth grants and contributions		1 099	2 754
Receipts from state government agencies		2 160	2 086
Interest received		287	232
GST receipts on sales		1 116	700
GST receipts from taxation authority		950	1 346
Other receipts		5 417	5 362
Net cash used in operating activities	27(b)	<u>(44 926)</u>	<u>(44 969)</u>
CASH FLOWS FROM INVESTING ACTIVITIES			
Proceeds from sale of non-current physical assets		41	-
Purchase of non-current physical assets		(1 224)	(639)
Net cash used in investing activities		<u>(1 183)</u>	<u>(639)</u>
CASH FLOWS FROM FINANCING ACTIVITIES			
Repayment of borrowings		(200)	(200)
Net cash used in financing activities		<u>(200)</u>	<u>(200)</u>
Net decrease in cash held		(1 673)	(1 033)
Cash assets at the beginning of the financial year		17 037	18 070
Cash assets transferred to other Departments	26(b)	(6 952)	-
CASH ASSETS AT THE END OF THE FINANCIAL YEAR	27(a)	<u>8 412</u>	<u>17 037</u>

The Statement of Cash Flows should be read in conjunction with the accompanying notes.

NOTES TO THE FINANCIAL STATEMENTS for the year ended 30 June 2004

1. 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.

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*. This is anticipated to be completed around December 2004.

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 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.

(a) Output appropriations

Output Appropriations are recognised as revenues in the period in which the Commission gains control of the appropriated funds. The Commission gains control of appropriated funds at the time those funds are deposited into the Commission'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. Capital appropriations which are repayable to the Treasurer are recognised as liabilities.

(c) Grants and other contributions revenue

Grants, donations, gifts and other non-reciprocal contributions are recognised as revenue when the Commission 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.

(d) Revenue Recognition

Revenues from user charges and fees represent revenue earned from license fees and charges under the *Rights, Water and Irrigation Act*, the *Waterways Conservation Act* and the *Water and Rivers Commission Act*. Other revenue is fully described in the Statement of Financial Performance and notes to the accounts.

Revenue from the sale of goods and disposal of other assets and the rendering of services, is recognised when the Commission has passed control of the goods or other assets or delivery of the service to the customer.

(e) Acquisition 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 \$5000 are expensed in the year of acquisition (other than where they form part of a group of similar items which are significant in total).

(f) Depreciation of non-current assets

All non-current assets having a limited useful life are systematically depreciated over their 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. Useful lives for each class of depreciable asset are:

Buildings	20–80 years
Plant, machinery and equipment	5–20 years
Computing equipment and accessories	3–5 years
Furniture and fittings	7–10 years
Measurement sites	40 years

(g) Revaluation of land, buildings and infrastructure

The Commission has a policy of valuing land, buildings and infrastructure at fair value. The annual revaluations of the Commission's land and buildings undertaken by the Valuer General's Office are recognised in the financial statements. Infrastructure assets are being progressively revalued to fair value under the transitional provisions in AASB 1041 Revaluation of Non-Current Assets (8.12)(b). The valuations were undertaken by the Valuer Generals Office. (see note 21) Other assets are recognised at cost.

(h) Leases

The Commission has entered into a number of operating lease arrangements for rent of buildings, office equipment and motor vehicles where the lessors effectively retain 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.

(i) 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.

(j) 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 uncollectable are written off. A provision for doubtful debts is raised where some doubt as to collection exists and in any event where the debt is more than 60 days overdue.

(k) Investments

Investments are brought to account at the lower of cost and recoverable amount. Interest revenues are recognised as they are accrued.

(l) Payables

Payables, including accruals not yet billed, are recognised when the Commission becomes obliged to make future payments as a result of a purchase of assets or services. Payables are generally settled within 30 days.

(m) Interest-bearing liabilities

Borrowings from WA Treasury Corporation predominantly represent debt assigned to the Commission on separation from the Water Authority. An additional amount was borrowed to fund land purchases in the Blackwood area.

Borrowings are recorded at an amount equal to the net proceeds received. Borrowing costs expense is recognised on an accrual basis.

(n) Employee benefits

Employee benefits have been transferred from those Government Agencies for whom employees worked prior to the creation of the Water and Rivers Commission on 1 January 1996. Benefits have been calculated on a continuing service basis as follows:

i) 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.

ii) 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.

iii) 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 and 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).

On 30 June 2004, unfunded liabilities relating to the Pension Scheme and the pre-transfer benefit for employees who transferred to the Gold State Superannuation Scheme were assumed by the Treasurer. The amount assumed by the Treasurer is disclosed at Note 26 Equity.

The Pension Scheme and the pre-transfer benefit for employees who transferred to the Gold State Superannuation Scheme are extinguished by payment of the employer contributions to the GESB.

The liability for superannuation charges under the Gold State Superannuation Scheme and West State Superannuation Scheme are extinguished by payment of employer contributions to the GESB.

The note disclosure required by paragraph 6.10 of AASB 1028 Employee Benefits (being the employer's share of the difference between employee's accrued superannuation benefits and the attributable net market value of plan assets) has not been provided. State scheme deficiencies are recognised by the State in its whole of government reporting. The GESB's records are not structured to provide the information for the Commission. Accordingly, deriving the information for the Commission is impractical under current arrangements, and thus any benefits thereof would be exceeded by the cost of obtaining the information.

iv) Employee benefit on-costs

Employee benefit on-costs, including payroll tax 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 2 and 24).

(o) **Accrued salaries**

Accrued salaries (refer note 25) 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. The Commission considers the carrying amount approximates net fair value.

(p) **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.

(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**

Amounts in the financial statements have been rounded to the nearest thousand dollars, or in certain cases, to the nearest dollar.

	2004 \$000	2003 \$000
2 Employee expenses		
Wages and Salaries	19 986	19 987
Superannuation	2 939	1 124
Change in long service leave entitlements	595	(711)
Change in annual leave entitlements	271	342-
Other related expenses ^(a)	1 949	2 008
	<u>25 740</u>	<u>22 750</u>

- (a) These employee expenses include payroll tax and workers compensation premiums and other employment on-costs associated with the recognition of annual and long service liability. The related on-costs liability is included in employee benefits liabilities at note 24.

	2004 \$000	2003 \$000
3 Supplies and services		
Consultants and contractors	5 706	5 252
Service related	4 494	5 111
	10 200	10 363
4 Depreciation expense		
Buildings	184	168
Plant, machinery and equipment	189	269
Computing equipment and accessories	214	232
Furniture and fittings	6	10
Measurement sites	882	882
	1 475	1 561
5 Borrowing costs expense		
Interest paid	85	98
6 Administration expenses		
Communications	1 042	1 528
Consumables	2 681	1 961
Other staff costs	1 567	1 364
	5 290	4 853
7 Accommodation expenses		
Lease rentals	1 380	1 613
Repairs & maintenance	486	350
	1 866	1 963
8 Grants and subsidies		
	2 993	6 305
9 Capital user charge		
	8 539	8 151

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 Commission 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
10 Other expenses from ordinary activities		
Carrying amount of non-current assets disposed of	76	7
Doubtful debts expense	193	(2)
Sundry operating expenses	1	167
	270	172
11 Commonwealth grants and contributions		
Land and Water Resources Research and Development Corporation	192	253
Natural Heritage Trust	311	1 980
Environment and Heritage	63	31
Dept of Transport & Regional Services	168	381
CSIRO Marine Research	-	109
	734	2 754
12 Recoup from Office of Water Regulation		
	92	184
13 Recoup from Swan River Trust		
	2 068	1 902
14 Net loss on disposal of non-current assets		
Gain on disposal of Non-Current Assets		
Plant and equipment	33	-
Gain on disposal of Non-Current Assets	33	-
Loss on disposal of Non-Current Assets		
Buildings	(59)	-
Computing equipment	(3)	(7)
Plant and equipment	(4)	-
Loss on disposal of Non-Current Assets	(66)	(7)
Net loss	(33)	(7)
15 Other revenues from ordinary activities		
ALCOA	182	157
Other grants	1 981	1 303
State grants and advances	198	48
Recoups from other state government agencies	652	2 257
Recoups from other private/commercial agencies	1 431	840
Lease of commercial land and buildings	85	53
Other miscellaneous revenues	748	1 551
	5 277	6 209

	2004 \$000	2003 \$000
16 Revenues from Government		
Appropriation revenue received during the year:		
Output appropriations ^(a)	44 156	44 140
	<u>44 156</u>	<u>44 140</u>
The following assets have been assumed from/(transferred to) other state government agencies during the financial year: ^(b)		
Land	(910)	-
Total assets assumed/(transferred)	<u>(910)</u>	<u>-</u>
Resources received free of charge ^(c)	-	-
Determined on the basis of the following estimates provided by agencies:		
Office of the Auditor General ^(d)	-	46
Department of Land Administration	361	398
Crown Solicitors Office	80	67
Department of Housing and Works	6	1
	<u>447</u>	<u>512</u>
Total revenues from Government	<u>43 693</u>	<u>44 652</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) Land Transferred to Water Corporation due to incorrectly allocated to Water and Rivers Commission in 1996 as part of the Transfer Order.
- (c) Where assets or services have been received free of charge or for nominal consideration, the Commission recognises revenues 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.
- (d) Commencing with the 2003–4 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 (\$53 900) will be due and payable in the 2004–05 financial year.

17 Restricted cash assets

Current		
Developer Bonds	30	86

The cash held in this account is to be used in repaying bond monies.

	2004 \$000	2003 \$000
18 Receivables		
Trade debtors	940	1 114
Provision for doubtful debts	(194)	-
GST receivable	324	290
Other accrued income		
Interest receivable	30	19
Other receivables	3	184
	1 103	1 607
19 Amounts receivable for outputs		
Current	800	1 300
Non-current	4 024	2 604
	4 824	3 904
<p>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.</p>		
20 Prepayments		
Western Australian Treasury Corporation	87	4
21 Property, plant and equipment		
Land at fair value ^(a)	125 567	77 081
Disposals	-	-
	125 567	77 081
Buildings at cost	3 586	3 514
Accumulated depreciation	(622)	(897)
	2 964	2 617
Computing equipment at cost	2 257	2 499
Accumulated depreciation	(1 714)	(1 931)
	543	568
Furniture and fittings at cost	82	82
Accumulated depreciation	(71)	(65)
	11	17
Measurement sites at cost	25 425	25 425
Accumulated depreciation	(7 858)	(6 976)
	17 567	18 449

	2004 \$000	2003 \$000
Plant, machinery and equipment at cost	2 375	2 442
Accumulated depreciation	(2 022)	(1 975)
	353	467
Total Property, plant and equipment	147 005	99 199

- (a) The revaluation of land was performed in June 2004 in accordance with an independent valuation by the Valuer General's Office. Fair value has been determined on the basis of current market buying values. The valuation was made in accordance with a regular policy of revaluations every 3 years.

Reconciliations

Reconciliations of the carrying amounts of property, plant and equipment at the beginning and end of the current and previous financial year are set out below.

	Land	Buildings	Computing equipment	Furniture and fittings	Measure- ment sites	Plant, machinery and equipment	Total
2004	\$000	\$000	\$000	\$000	\$000	\$000	\$000
Carrying amount at start of year	77 081	2 617	568	17	18 449	467	99 199
Additions	955	-	191	-	-	78	1 224
Disposals	-	(69)	(2)	-	-	(3)	(74)
Transferred	(910)	-	-	-	-	-	(910)
Revaluation increments	48 441	600	-	-	-	-	49 041
Depreciation	-	(184)	(214)	(6)	(882)	(189)	(1 475)
Carrying amount at end of year	125 567	2 964	543	11	17 567	353	147 005

22 Payables

Trade payables	355	218
	355	218

23 Interest-bearing liabilities

Current	477	336
Non-current	559	900
	1 036	1 236

Net Fair Values

The Commission considers the carrying amount of borrowings approximates their net fair values.

	2004	2003
	\$000	\$000
24 Provisions		
Current liabilities		
Annual leave	2 393	2 122
Long service leave	1 951	1 839
	<u>4 344</u>	<u>3 961</u>
Non-current liabilities		
Long service leave	2 575	2 092
Superannuation	-	7 680
	<u>2 575</u>	<u>9 772</u>

On 30 June 2004 unfunded liabilities relating to the Pension Scheme and the pre-transfer benefit for employees who transferred to the Gold State Superannuation Scheme were assumed by the Treasurer. An expense equivalent to the movement in this liability during the financial year has been included in Employee Expenses in the Statement of Financial Performance.

Employee Benefit Liabilities

The aggregate employee benefit liability recognised and included in the financial statements is as follows:

Provision for employee benefits:

Current	4 344	3 961
Non-current	2 575	9 772
	<u>6 919</u>	<u>13 733</u>

The Commission considers the carrying amount of employee benefits approximates their net fair values.

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 at note 2. Employee expenses under Other related expenses.

25 Other liabilities

Accrued expense	619	641
Accrued salaries	339	664
Accrued fringe benefits tax	48	51
Stale cheque holding account	24	23
	<u>1 030</u>	<u>1 379</u>

	2004	2003
	\$000	\$000
26 Equity		
Contributed equity		
Opening balance	7 552	5 652
Capital contributions ^(a)	1 400	1 900
Assets transferred to other Departments ^(b)	(6 952)	-
Contribution by owners ^(c)	7 712	-
Closing balance	9 713	7 552
(a) Capital appropriations, termed capital contributions, have been designated as contributions by owners and are credited straight to equity in the Statement of Financial Position.		
(b) Cash asset transferred to Department of Treasury and Finance to meet future superannuation liabilities.		
(c) Assumption of superannuation liability by the Treasurer (refer notes 1(n) iii and 24).		
Accumulated deficiency		
Opening balance	(429)	(218)
Change in net assets	(4 242)	(211)
Closing balance	(4 671)	(429)
Reserves		
Asset revaluation reserve ^(a)		
Opening balance	31 804	31 804
Net revaluation increments:		
Land and buildings	49 043	-
Closing balance	80 847	31 804
Fixed assets acquired under restructuring arrangements	66 172	66 172
Total reserves	147 019	97 976
Total Equity	152 061	105 099

(a) The asset revaluation reserve is used to record increments and decrements on the revaluation of non-current assets, as described in accounting policy note 1(g).

27 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:

	2004	2003
	\$000	\$000
Cash assets	8 382	16 951
Restricted cash assets	30	86
	<u>8 412</u>	<u>17 037</u>

(b) Reconciliation of net cost of services to net cash flows used in operating activities

Net cost of services	(47 935)	(44 863)
Non-cash items:		
Depreciation expense	1 475	1 561
Resources received free of charge	447	512
Superannuation Liabilities transferred to Department of Treasury and Finance	7 713	-
Net loss on disposal of non-current assets	35	7
(Increase)/decrease in assets:		
Receivables	365	(663)
Prepayments	(83)	-
Accrued Income	170	(186)
Increase/(decrease) in liabilities:		
Payables	137	438
Accrued salaries	(325)	(282)
Provisions	(6 814)	(1 492)
Other liabilities	(24)	59
Developer bonds	(56)	-
Net GST receipts/(payments)	(41)	(8)
Change in GST in receivables/payables	10	(52)
Net cash used in operating activities	<u>(44 926)</u>	<u>(44 969)</u>

28 Commitments for expenditure

Lease commitments

Commitments in relation to leases contracted for at the reporting date but not recognised as liabilities, are payable as follows:

Within 1 year	2 620	2 372
Later than 1 year and not later than 5 years	2 225	3 212
Later than 5 years	56	179
	<u>4 901</u>	<u>5 763</u>

These commitments are all inclusive of GST.

29 Contingent liabilities and contingent assets

In addition to the liabilities incorporated in the financial statements, the Commission has the following contingent liabilities:

There are seven pending litigation matters in relation to damage caused by flooding in the Carnarvon and Gascoyne areas. It is not practicable to estimate the potential financial effect of these claims at this point in time.

The Commission has no contingent assets at 30 June 2004.

30 Events occurring after reporting date

No events have occurred after reporting date which materially impact on the financial statements.

31 Explanatory statements

a) Significant variations between actual and prior year actual - Total appropriation to purchase outputs:

Details and reasons for significant variations between actual results with corresponding items of the preceding year are detailed below. Significant variations are considered to be those greater than 10% and \$500 000.

	Note	2004 Actual \$000	2003 Actual \$000	Variance \$000
Water Allocation Policies	(i)	1 180	1 935	(755)
Water Information and Allocation Plans for Sustainable Development	(ii)	14 829	11 036	3 793
Regulation, Licensing and Community Awareness		6 875	6 370	505
Rural Water Supply Assistance	(iii)	2 566	2 949	(383)
Water Protection Policies, Guidelines and Regulation		9 567	8 998	569
Water Resource Information, Protection Plans and Works	(iv)	20 140	23 950	(3 810)
State Development Planning and Approvals	(v)	1 301	971	330
		56 458	56 209	249

Explanation of variances

(i) Water Allocation Policies

Variation mainly due to re-apportioning of the capital user charge to Regulation, Licensing and Community Awareness which reflects the realigning of businesses with the merger of Department of Environmental Protection and the Water and Rivers Commission.

(ii) Water Information and Allocation Plans for Sustainable Development

Variation mainly due to the re-apportioning of the capital user charge (\$1.4m) from other outputs which reflects the realigning of the business and an increase in the share of corporate overhead (\$0.9m). There was also increased external funds received, which resulted in increased expenditure associated with the Gascoyne Murchison Strategy (\$0.530m), Blackwood Groundwater Area project (\$0.579m) and the Ord River Environmental Water Regulations and Provisions project (\$0.1m).

(iii) Rural Water Supply Assistance

Variation largely due to lower than anticipated grant payments in 2003–04.

(iv) Water Resource Information, Protection Plans and Works

The variation is mainly due to a reduction in NHT funding from the Commonwealth which reduced grant payments and associated overhead.

(v) State Development Planning and Approvals

Variation largely due to additional funding received in 2003–4 associated with the preliminary response to the Auditor General's report on Water Resource Charges and the South West Yarragadee Investigations.

b) Comparison of Estimates and Actual Results

Section 42 of the Financial Administration and Audit Act requires statutory authorities to prepare annual budget estimates. Treasurer's Instruction 945 Explanatory Statement requires an explanation of significant variations between these estimates and actual results.

Significant variations are considered to be those greater than 10% of budget. The figures below represent the total cost of the output on an accrual basis.

OUTPUTS	Note	Estimate 2004 \$000	Actual 2004 \$000	Variance \$000
Water allocation policies		1 169	1 180	11
Water information and allocation plans for sustainable development	(i)	12 768	14 829	2 061
Regulation, licensing and community awareness	7 288	6 875	(413)	-5.667%
Rural water supply assistance	(ii)	4 460	2 566	(1 894)
Water protection policies, guidelines and regulation	(iii)	10 765	9 567	(1 198)
Water resource information, protection plans and works		18 895	20 140	1 245
State development planning and approvals	(iv)	1 886	1 301	(585)
		<u>57 231</u>	<u>56 458</u>	<u>(773)</u>

Explanation of variances — Actual to estimate

With the merging of the Department of Environmental Protection and the Water and Rivers Commission business roles are being continually reassessed and resources previously budgeted under State Development Planning and Approvals (iv) and Water Protection Policies, Guidelines and Regulation (iii) were reallocated into Water Information and Allocation Plans (i) in 2003–04. This results from the transfer of staff to regional groups who then undertake several roles rather than a centre of expertise role.

(ii) Rural Water Supply Assistance

Variation is largely due to additional 2002–03 carryover expenditure of \$0.4m and the deferment of \$2.3m of 2003–04 expenditure to 2004–05.

32 Financial instruments

(a) Interest rate risk exposure

The following table details the Commission's exposure to interest rate risk as at the reporting date:

	Weighted average effective interest rate	Variable rate	Fixed interest rate maturities			Non-interest bearing	Total
			Less than 1 year	1 to 5 years	More than 5 years		
2004	%	\$000	\$000	\$000	\$000	\$000	\$000
Financial Assets							
Cash assets		-	-	-	-	8 382	8 382
Restricted cash		-	-	-	-	30	30
Receivables		-	-	-	-	1 073	1 073
Interest receivable	5.1	30	-	-	-	-	30
		30	-	-	-	9 485	9 515
Financial Liabilities							
Payables		-	-	-	-	355	355
WATC	6.8	-	477	559	-	-	1 036
Other liabilities		-	-	-	-	1 030	1 030
Developer bond		-	-	-	-	30	30
		-	477	559	-	1 415	2 451
2003							
Financial assets	4.9	4 816	-	-	-	13 828	18 644
Financial liabilities	6.8	-	537	653	46	1 683	2 919

(b) Credit Risk Exposure

The Commission does not have any significant exposure to any individual customer or counter party. Amounts owing by other government agencies are guaranteed and therefore no credit risk exists in respect to those amounts. In respect of other financial assets the carrying amounts represent the Commission's maximum exposure to credit risk in relation to those assets. All financial assets are unsecured.

The following is an analysis of amounts owing within the categories of government and private sector:

	2004	2003
	\$000	\$000
Western Australian Government agencies	132	188
Government agencies of other jurisdictions	312	663
Private sector	334	263
Commonwealth Government - ATO (GST)	321	290
Commonwealth Government — ATO (GST)	321	290
	1 099	1 404

(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 1 to the financial statements.

33 Remuneration of members of the accountable authority and senior officers*Remuneration of members of the Accountable Authority*

The number of members of the Accountable Authority, whose total of fees, salaries, superannuation and other benefits for the financial year, fall within the following bands are:

\$	2004	2003
0–10 000	5	0
10 001–20 000	3	3
20 001–30 000	1	1
30 001–40 000	1	0

The total remuneration of the members of the Accountable Authority is:

265	99
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The superannuation included here represents the superannuation expense incurred by the Commission in respect of members of the Accountable Authority.

No members of the Accountable Authority are members of the Pension Scheme.

The increase of members in 2003–2004 is due to the inclusion of members who were appointed and retired during the financial year.

Remuneration of Senior Officers

The number of Senior Officers other than Senior Officers reported as members of the Accountable Authority, whose total of fees, salaries, superannuation and other benefits for the financial year, fall within the following bands are:

\$	2004	2003
100 001–110 000	1	0
110 001–120 000	1	0
120 001–130 000	2	2
170 001–180 000	0	1
260 001–270 000	0	1
300 001–310 000	0	1
330 001–340 000	0	1

The total remuneration of the members of the Senior Officers is:

489

1 152

The superannuation included here represents the superannuation expense incurred by the Commission in respect Senior Officers other than Senior Officers reported as members of the Accountable Authority.

No Senior Officers are members of the Pension Scheme.

34 Related and affiliated bodies

The Water and Rivers Commission currently does not provide any assistance to other agencies which would deem them to be regarded as related or affiliated bodies under the definitions included in Treasurer's Instruction 951 Related and Affiliated Bodies .

2004	2003
\$000	\$000

35 Supplementary financial information

Write-Offs

Accounts receivable	-	-
Petty cash shortage	-	-
	-	-

	2004	2003
	\$000	\$000
Losses through theft, defaults and other clauses		
Loss of property through theft/fraud	-	-
Amount recovered	-	-
Net loss of property through theft/fraud	-	-
Gifts of public property		
Gifts of public property provided by the Commission	-	-

36 International financial reporting standards

The Water and Rivers Commission 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 Commission have been assessing and monitoring the impact of IFRS. The Commission 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 Commission 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 Commission's circumstances or operations.

2. Key differences in accounting policies that are expected to arise from adopting Australian equivalents to IFRS

The Commission 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.

37 Output information

	Indirect		Water allocation policies plans for sustainable development		Water information and allocation community awareness		Regulation, licensing and		Rural water supply assistance guidelines and regulation		Water protection policies, protection plans and works		Water resource information, and approvals		State development planning		TOTAL	
	2003 \$000	2002 \$000	2004 \$000	2003 \$000	2004 \$000	2003 \$000	2002 \$000	2003 \$000	2002 \$000	2003 \$000	2002 \$000	2003 \$000	2002 \$000	2003 \$000	2002 \$000	2003 \$000	2002 \$000	
COST OF SERVICES																		
Expenses from ordinary activities																		
Employee expenses	8 726	-	784	672	6 845	5 541	4 373	3 727	363	287	1 958	1 262	10 753	10 579	664	682	25 740	22 750
Supplies and services	3 859	-	188	441	3 570	2 615	945	1 161	219	162	342	357	4 652	5 509	284	118	10 200	10 363
Depreciation expense	1 476	-	39	49	372	370	254	215	17	18	69	67	658	809	66	33	1 475	1 561
Borrowing costs expense	85	-	2	3	21	23	15	14	1	1	4	4	38	51	4	2	85	98
Administration expense	3 576	-	108	97	1 605	1 427	785	554	77	39	213	144	2 314	2 525	188	67	5 290	4 853
Accommodation expense	1 636	-	45	57	570	510	285	247	19	21	94	77	780	1 013	73	38	1 866	1 963
Grants and subsidies	143	-	4	104	132	293	157	351	1 858	2 412	50	46	786	3 083	6	16	2 993	6 305
Capital user charge	8 539	-	2	506	1 646	217	15	79	9	7	6 824	7 034	39	296	4	12	8 539	8 151
Other expenses from ordinary activities	270	-	8	6	68	42	46	23	3	2	13	7	120	88	12	4	270	172
Total cost of services	28 309	0.00	1 180	1 935	14 829	11 038	6 875	6 371	2 566	2 949	9 567	8 998	20 140	23 953	1 301	972	56 458	56 216
Revenues from ordinary activities																		
User charges and fees	(56)	-	(1)	1	14	17	10	10	1	1	3	3	25	37	2	1	54	70
Commonwealth grants and contributions	(734)	-	21	85	185	653	126	380	8	32	34	119	327	1 427	33	58	734	2 754
Recoup from the Office of Water Regulation	(92)	-	3	6	23	44	16	25	1	2	4	8	41	95	4	4	92	184
Recoup from Swan River Trust	(2 068)	-	56	59	521	451	356	262	24	22	97	82	922	986	92	40	2 068	1 902
Interest revenue	(257)	-	8	8	65	55	44	32	3	3	12	10	114	121	11	5	257	234
Proceeds from disposal of non current assets	(43)	-	-	-	11	-	7	-	-	-	2	-	19	-	2	-	41	-
Other revenues from ordinary activities	(5 277)	-	145	195	1 329	1 471	907	856	61	73	247	267	2 353	3 217	235	130	5 277	6 209
Total revenues from ordinary activities	(8 52)	0.00	232	354	2 148	2 691	1 466	1 565	98	133	399	489	3 801	5 883	379	238	8 523	11 353
NET COST OF SERVICES	19 782	0.00	948	1 581	12 681	8 347	5 409	4 806	2 468	2 816	9 168	8 509	16 339	18 070	922	734	47 935	44 863
REVENUES FROM GOVERNMENT																		
Output appropriation	(44 156)	-	1 217	1 382	11 123	10 461	7 593	6 083	509	518	2 064	1 900	19 685	22 869	1 965	927	44 156	44 140
Assets transferred	(910)	-	(26)	-	(229)	-	(156)	-	(10)	-	(43)	-	(406)	-	(40)	-	(910)	-
Resources received free of charge	(447)	-	12	16	113	121	77	71	5	6	21	22	199	265	20	11	447	512
Total revenues from Government	(43 693)	0.00	1 203	1 398	11 007	10 582	7 514	6 154	504	524	2 042	1 922	19 478	23 134	1 945	938	43 693	44 652
CHANGE IN NET ASSETS	(23 911)	0.00	255	(183)	(1 674)	2 235	2 105	1 348	(1 964)	(2 292)	(7 126)	(6 587)	3 139	5 064	1 023	204	(4 242)	(211)

Appendix A — Regional Office details

SWANGOLDFIELDSAGRICULTURALREGION

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 422
Facsimile (08) 9581 4560

Cockburn Sound Management Council

Shop 1, 15 Railway Parade
ROCKINGHAM WA 6168
(PO Box 5161, Rockingham Beach WA 6969)

Telephone (08) 9591 3837
Facsimile (08) 9528 5387

SOUTHWEST REGION

21–35 McCombe Road
BUNBURY WA 6230
(PO Box 261, Bunbury WA 6231)

Telephone (08) 9726 4111
Facsimile (08) 9726 4100

Geocatch Network Centre

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

25 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 — Acronyms

3C	Core Consultative Committee (to the Waste Management Board)
AQMP	(Perth) Air Quality Management Plan
ARI	Assessment on Referral Information
BP	British Petroleum
BTEX	A collective term for the volatile organic compounds benzene, toluene, ethylbenzene and xylene
CCI	Chamber of Commerce
CITES	(United Nations) Convention on International Trade of Endangered Species
COAG	Council of Australian Governments
CSBP	Wesfarmers CSBP (Cumming Smith British Petroleum)
CSMC	Cockburn Sound Management Council
CTS	Cleanaway Technical Services
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
ERS	Environmental Recovery Services
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
LOR	Limit of Reporting
LWTF	Liquid Waste Treatment Facility
MTA	Motor Traders Association
NEPM	National Environment Protection Measure
NPI	National Pollutant Inventory
NRM	Natural Resource Management
PCR	Progress and Compliance Report
PER	Public Environmental Review
PopⓈ	Pollution Prevention Information
PPLH	Pollution Prevention Licenser'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
VOC	Volatile Organic Compound
WMRF	Waste Management and Recycling Fund
WRMP	Water Resource Management Plan
WWRMC	Whicher Water Resources Management Committee

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 Hazellmere 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 6p.m. and 9p.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 yield 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 & water 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 in 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 wastewatert, 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

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