Annual Report

2004-2005

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WATER AND RIVERS COMMISSION
ANNUAL REPORT 2004–2005

The Water and Rivers Commission operates as part of the Department of Environment. Much of the content of this 2004–2005 Annual Report — particularly the Report on Operations — is common to both the Water and Rivers Commission and the Department of Environment.Throughout this report, those operations that relate to WRC outcomes and services are indicated as WRC S1–S7, while those that relate to DoE outcomes and services are indicated as DoE S1–S7. Details of WRC services may be found in Section 2 — About the Water and Rivers Commission.Our achievements are also annotated to indicate where they meet *Better Planning, Better Services* goals, i.e., BSBP G1–G5 (Appendix E).

WATER AND RIVERS COMMISSION
ANNUAL REPORT
OCTOBER 2004

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This report was prepared by the Community Information and Publications Section of the Communications Branch, Department of Environment.

For more information contact:

Department of Environment
Level 4, The Atrium
168 St Georges Terrace
Perth WA 6000

Telephone (08) 6364 6500
Facsimile (08) 6364 6520

Postal address:
PO Box K822
Perth WA 6842

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We welcome your feedback

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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 John Kobelke MLA
MINISTER ASSISTING THE MINISTER FOR WATER RESOURCES

On behalf of the Water and Rivers Commission 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 2004 to 30 June 2005.

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

Verity Allan
CHAIRMAN OF THE BOARD

Foreword

2004–05 has been a year of new initiatives and consolidation in the management and protection of our water resources and environment portfolio.

We are still working through the process of becoming a single legal entity and we have made major advancements in operating cohesively as one corporate structure.

Western Australia is experiencing rapid change in water resources management, due predominantly to marked climatic change.

Over recent years, there has been a further decline in the average rainfall for Perth and the south-west, beyond the already significant decline that started in the early 1970s.

During 2004–05, major achievements included:

- The development of the proposed Groundwater Investigations Program in Western Australia (2005 to 2020)
- Implementation of the Gnangara Mound metering project to install about 1000 meters and monitor water use
- Implementation of major elements of the *Australian Drinking Water Guidelines 2004*, including the development and preparation of Drinking Water Source Protection Assessments
- The preparation of a report on possible future actions for a State Algal Management Strategy
- Preparation of the Western Australian Floodplain Management Strategy
- Promotion of an integrated whole of government approach to wetland management
- Completion of the Stream Salinity and Trend Status Report for the South-West Drainage Division
- Major progress on Engineering Evaluation Initiatives to deliver better engineering approaches to manage salinity

The agency completed a report to the State Government setting out the broad requirements and costs of a coordinated water resources management program for the next decade. This report focussed on improving water resources investigation, assessment, planning and the protection of public and private drinking water sources.

As a result, the agency received a substantial funding boost that will enable a long-term funding base for water resources management and associated initiatives.

Also of significance is the new regional Natural Resource Management (NRM) governance structure for the delivery of NRM objectives. We have been working closely with regional groups to align the NRM strategy priorities with those of the agency to achieve mutual objectives and maximise the use of available funding.

During 2004–05 we provided an extra emphasis on community involvement and stakeholder management including establishing specially focussed community reference groups.

We continue to promote and encourage indigenous engagement across all our businesses so as to ensure appropriate consultation with Aboriginal peoples is strongly embedded within our processes, deliberations and decision making.

Our draft Sustainability Action Plan was developed, supporting the State Sustainability Strategy. This Plan is part of a whole of government requirement for each agency to examine their practices and demonstrate how they are furthering the sustainability agenda in balancing social, economic and environmental values.

As well, our five-year strategic direction was completed identifying long-term goals in environmental and water resources management.

I appreciate the contribution that our highly talented and diverse workforce continues to make and thank them for another year of tremendous support.

Derek Carew-Hopkins
ACTING DIRECTOR GENERAL

1 Contents

2 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 goal, desired outcome and Water and Rivers Commission services

Government strategic goal	Desired outcome	Services
A valued and protected environment	Water resources maintained to assessed sustainable yields, and water quality complies with established criteria in public drinking water source areas	1. Investigation and assessment of water resources to determine sustainable yields 2. Water resource management plans, and regulation of water use 3. Plans and guidelines to protect the quality of water resources
	Waterways and catchments meet established resource condition targets	4. Planning and grants assistance for water supplies in dryland agricultural areas 5. Implementation of catchment, waterways and wetlands management plans 6. Evaluation and implementation in designated catchments of salinity management measures 7. Policies and strategies for drainage and floodplain management

Service 1: Investigation and assessment of water resources to determine sustainable yields

Investigation and assessment of groundwater and surface water resources using drilling, testing, stream gauging, water quality sampling, computer modeling and other analytical techniques to determine sustainable yields for resources under varying climatic conditions.

Service 2: Water resource management plans and regulation of water use

Preparation of plans which set out the availability of water resources in designated areas and how these will be allocated including provisions to the environment, and licensing and regulation to ensure water use does not exceed sustainable yields.

Service 3: Plans and guidelines to protect the quality of water resources

Preparation of plans and guidelines which set out compatible land use zonings and allowable developments in designated surface water catchments and groundwater areas used, or planned to be used, for public drinking water supplies, to ensure water quality is protected to established criteria.

Service 4: Planning and grants assistance for water supplies in dryland agricultural areas

Preparation of plans and allocation of grants for works to improve reliability of water supplies in dryland agricultural areas.

Service 5: Implementation of catchment, waterways and wetlands management plans

Preparation and implementation, in partnership with local communities, of management plans for catchments, waterways, riparian systems, estuaries and wetlands to support healthy ecosystem functioning on a sustainable basis, taking into account environmental, social and economic factors. Management of floodplains and regulation of arterial drainage and native vegetation clearing.

Service 6: Evaluation and Implementation in Designated Catchments of Salinity Management Measures

Preparation and implementation, in partnership with local communities, of salinity abatement plans, including application of land use and engineering measures, to recover and maintain water catchments from salinity.

Service 7: Policies and Strategies for Drainage and Floodplain Management

Planning and advice on drainage and flood management.

2.1 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 6 — Statements of Compliance.

2.2 Organisation profile

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 three 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.

The Department of Environmental Protection became the Department of Environment on 1 July 2004.

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 in 2005–06.

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.

Within Western Australia and nationally there is now widespread recognition that the long-term health of the Australian economy relies heavily on the sustainable use of our water resources and that a well-directed and properly funded water resources management program, underpinned by appropriate expertise, is critical.

Recognising the challenges for Western Australia Government has recently implemented several key water resource management initiatives. In February 2003 the Premier released the first State Water Strategy for Western Australia, which the Commission and Department continues to play a major role in implementing.

Following the 2005 State elections Government established a new Water Resources portfolio with the Premier taking responsibility as the Minister for Water Resources and appointing Minister Kobelke as the Minister Assisting the Minister for Water Resources.

Other changes implemented by Government include the establishment of a Water Resources Cabinet Sub-Committee, an Office of Water Strategy within the Department of the Premier and Cabinet and a State Water Council.

Minister Kobelke was allocated the bulk of the State's water legislation in April 2005. The *Waterways Conservation Act 1976* was also allocated to Minister Kobelke.

The Water Resources Management (Administration) Bill 2003 and Machinery of Government (Water Resources) Amendment Bill 2003 were introduced to State Parliament on 29 November 2003. The purpose of the Bills was to implement the Machinery of Government Taskforce's recommendation to amalgamate water resources management and environmental protection functions.

The Water Resources Management (Administration) Bill 2003 was intended to establish institutional and committee arrangements to support the Minister and the CEO (Director General) of the Department, and to facilitate integrated administration of the Acts dealing with water resources management.

The Machinery of Government (Water Resources) Amendment Bill 2003 was intended to repeal the *Water and Rivers Commission Act 1995* and to transfer the powers and

responsibilities from that Act to the Minister and the CEO of the Department. The Department would also administer the *Environmental Protection Act 1986*.

Both Bills lapsed on 23 January 2005.

On 18 May 2005 the Minister Assisting approved a review and redrafting of the Machinery of Government legislation to help address the inflexibility identified through the allocation of portfolios and to reflect recent decisions of Government in relation to water resources. Drafting instructions were provided to the Minister Assisting on 4 July 2005 for approval.

A new Office of Water Assessment and Planning to combine the water resource management functions within the Department of Environment and the former Office of Water Policy, which ceased to exist on 30 June 2005. At 30 June 2005 this proposal was awaiting approval from the Department of Premier and Cabinet.

2.3 Organisation 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.

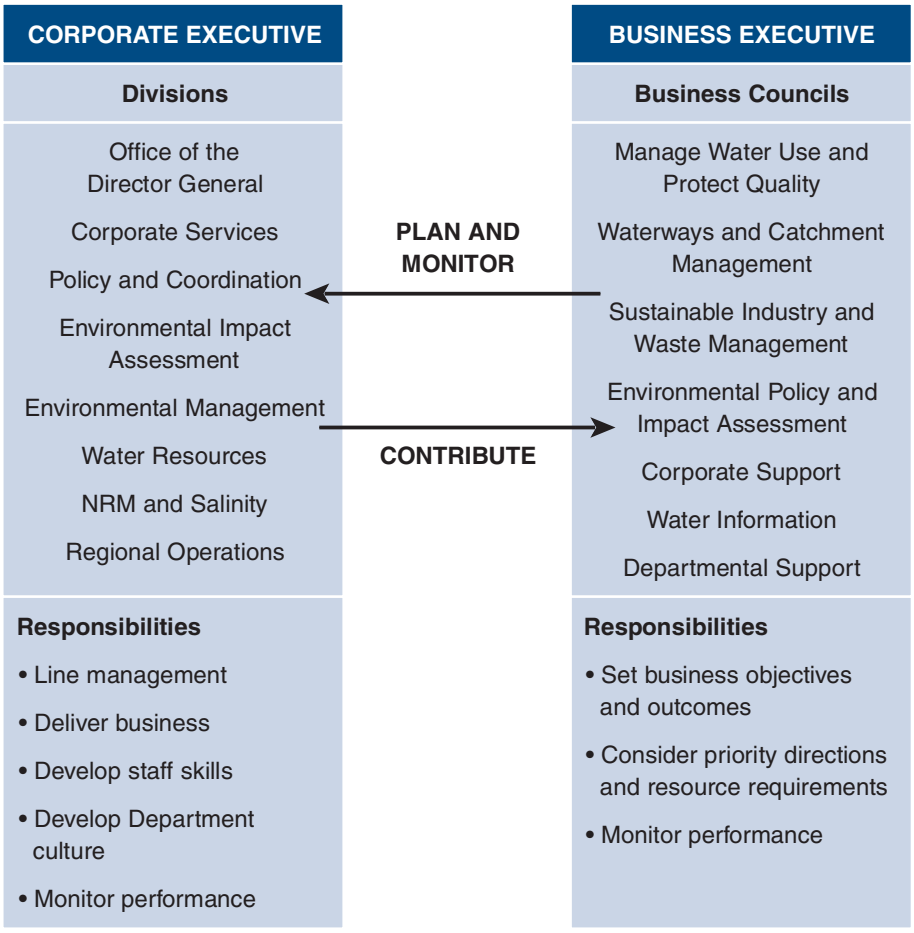


Figure 1: Relationship between the combined Divisional and Business structures of the Water and Rivers Commission and Department of Environment

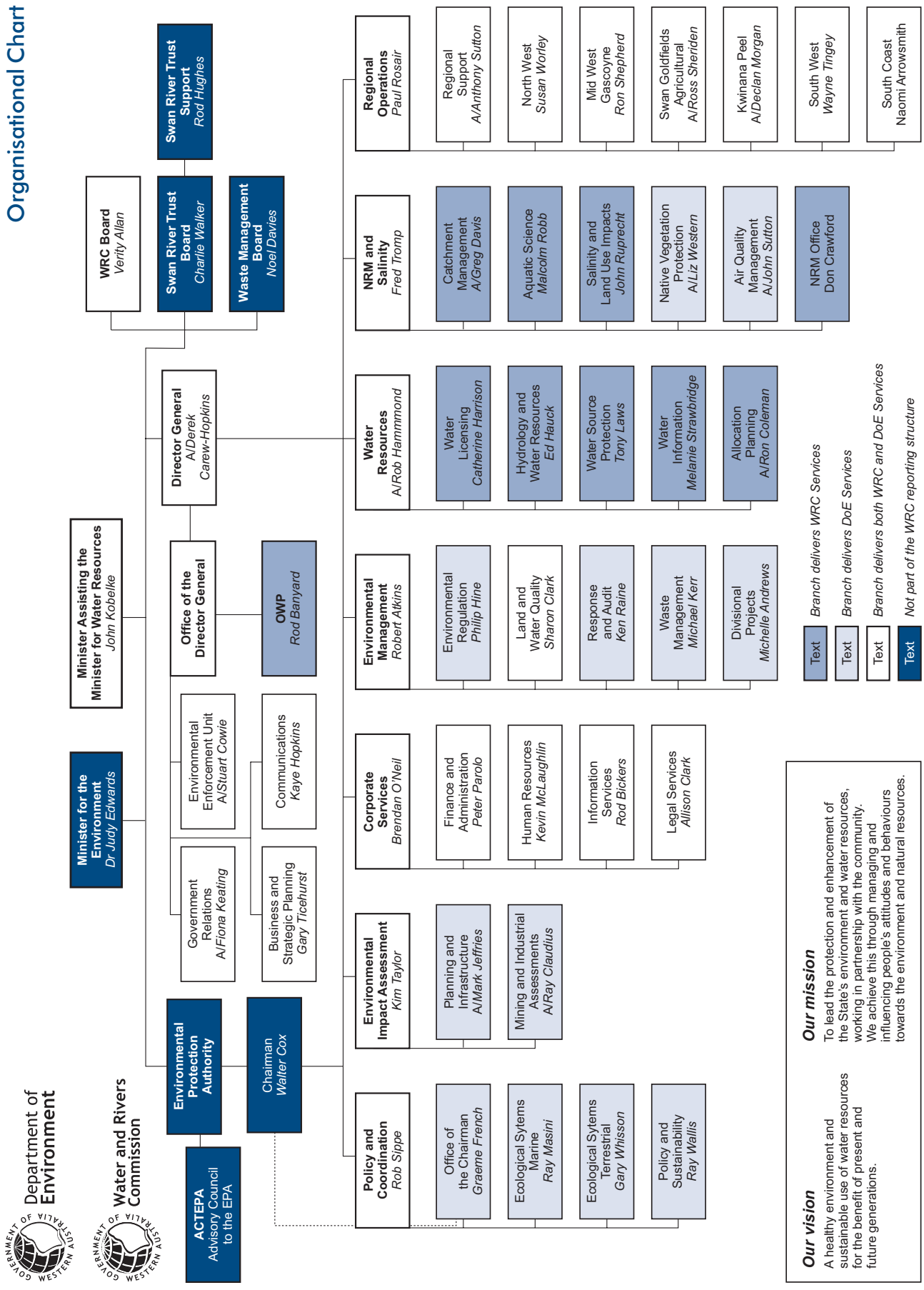


Figure 2: Operating Divisional structure of the amalgamating agency

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

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, Water Resources, NRM and Salinity, and Regional Operations). The activities are managed within seven business areas (Manage Water Use and Protect Quality, Waterways and Catchment Management, Sustainable Industry and Waste Management, Environmental Policy and Impact Assessment, Corporate Support, Water Information, Departmental Support). Long-term plans and objectives are determined through Councils representing each business area. Divisions implement the projects through which these objectives can be achieved.

3 2004–2005 Major achievements

The achievements of the Water and Rivers Commission for 2004–05 have been reported by departmental Business in the Report on Operations, and against our Services and the Goals of the *State Government's Better Planning Better Services — A Strategic Framework for the Western Australian Public Sector*. Throughout the report, footnotes relating to each section indicate the WRC Service 1–7, and the BPBS Goals 1–5.

Service 1: Investigation and assessment of water resources to determine sustainable yields

Development of the proposed Groundwater Investigations Program in Western Australia (2005– 2020). (Section 4.1.2)

Service 2: Water resource management plans and regulation of water use

Implementation of the Gnangara Metering Project to install approximately 1 000 meters on the Gnangara groundwater mound and monitor water use. (Section 5.1.3)

Assessment and issue of a water ;licence to the Ord Irrigation Coorperative for 335 gigalitres per year. (Section 4.1.5)

Service 3: Plans and guidelines to protect the quality of water resources

Implementation of a major element of the Australian Drinking Water Guidelines 2004 — the development and preparation of Drinking Water Source Protection Assessments (DWSPAs) prior to the production of Drinking Water Source Protection Plans (DWSPPs). (Section 4.1.6.1)

Service 4: Planning and grants assistance for water supplies in dryland agricultural areas

The effective implementation and delivery of emergency response arrangements under the 2005 Water Deficiency Declarations in four shires, and completion of the Rural Water Plan Review. (Section 4.1.7)

Service 5: Implementation of catchment, waterways and wetlands management plans

Provision of technical support to all Regional Natural Resource Management Groups to implement National Action Plan/Natural Heritage Trust actions, including decision support modelling, river and estuary understanding, resource conditions, target setting, and monitoring and evaluation frameworks. (Section 4.5)

Preparation of a report on possible future actions for a Statewide Algal Management Strategy, and held the first of a series of regional workshops in June 2005. (Section 4.2.3.1)

Contribution to the wetland section of a Guide to biodiversity incentives programs in Western Australia. (Section 4.2.3.9)

Promotion of an integrated whole-of-government approach to wetlands management, including contribution to the further development of the Swan Coastal Plain Wetlands Environmental Protection Policies. (Section 4.2.3.10)

Service 6: Evaluation and Implementation in Designated Catchments of Salinity Management Measures

Completed the Stream Salinity and Trend Status Report for the South West Drainage Division. (Section 4.2.4.1)

Through the Engineering Evaluation Initiative, we:

- constructed 18 kilometres of deep leveed drain at Pithara;
- constructed 7 kilometres of deep leveed drain and an evaporation basin at Morawa;
- planned and initiated construction of 22 kilometres of deep leveed drain and an evapouration basin at Beacon;
- began studies into acidic groundwater, downstream impacts, and better ways to manage soils after drainage;
- began Regional Drainage evaluation for the Avon River basin as a joint EEI and CSIRO Healthy Country project; and
- conducted various Farmer Forums to present our current state of understanding and early information from studies. (Section 5.2.4.4)

Service 7: Policies and Strategies for Drainage and Floodplain Management

Preparation of the Western Australian Floodplain Management Strategy. (Section 4.2.7)

4 Report on Operations

4.1 Manage Water Use and Protect Quality

4.1.1 Business overview

We are responsible for managing use and protecting the quality of the State's water resources. This includes five main functions:

- Investigating and assessing the State's water resources to determine sustainable yields and provide for State development needs;
- Developing water allocation plans to ensure equitable, efficient and orderly development of resources;
- Licensing and regulating water use to ensure resources are used efficiently and properly;
- Planning and coordination for the protection of water quality, particularly in public drinking water catchments; and
- Planning and grants assistance for farm water supplies in dryland agricultural areas.

Western Australia is experiencing a period of rapid change in water resources management. Rainfall has significantly declined in Perth and much of the south-west over the past few years, exacerbating declines that occurred in the 1970s. This has reduced stream flows and recharge to groundwater aquifers, thereby reducing sustainable yields. At the same time, demand has continued to grow, placing considerable pressures on water resources.

In responding to the State's water issues, the Government has established a coordinated and collaborative approach across government agencies and with private industry sectors involved in the supply and use of water resources. The Agency has maintained a lead role in addressing whole-of-government water priorities, particularly in relation to water resources management matters. We have been the lead agency for 29 tasks under the State Water Strategy. We have substantially completed 24 of these and are well advanced with the others. The focus of our tasks has been on increased management of water use during the drought, improved efficiency of water use, and facilitating water trading.

In 2003, the Auditor General completed a Control, Compliance and Accountability Examination of Management of Water Resources in Western Australia. The review recognised that a number of factors, including the decline in rainfall and increased demands, had seriously affected the management of the State's water resources. It identified a number of major challenges now facing water management in Western Australia. In line with the Auditor General's recommendations, we prepared a Coordinated Water Resources Management Program for WA, which was published in June 2004. This report identifies priorities for managing the State's water resources, resources required, implementation timeframe and funding options.

We have been funded to begin implementing this program and made significant progress during 2004–05. This has included:

- Improving the timeliness of processing water licence applications and significantly reducing the backlog of applications (increasing our licensing effort by 16%, issuing 3939 licences during 2004–05, compared with 3393 licences during 2003–04);
- Doing more compliance inspections to ensure water is being used in accordance with licence conditions (increased from 1701 inspections in 2003–04 to 2574 inspections in 2004–05);
- Reviewing water management plans and practices in highly-allocated areas to see that they meet current requirements;
- Preparing water quality protection plans for public drinking water source areas; and
- Undertaking investigations and assessments of water resources to determine sustainable yields.

WRC S1, S2, S3, S4: BPBS G3, G4, G5

4.1.2 Groundwater Investigations Program in WA (2005–2020)

The Groundwater Investigation Program in Western Australia has been reinstated for the first phase of a 15 year (2005 to 2020) program to assist in achieving our vision of a healthy environment and sustainable use of water resources for the benefit of present and future generations. Groundwater investigation and monitoring underpins the sustainable management of groundwater resources across the State by giving a scientific understanding of groundwater systems. The rapid increase in allocations, progressive shift in water entitlements to higher-value uses, and the need to share water resources between competing users (including the environment), require greater knowledge.

The program addresses a range of concerns, from immediate, short-term management concerns through to strategic needs to support sustainable regional development around the State. The focus of the program is in areas of intense groundwater use and areas where existing groundwater information is insufficient for the required level of groundwater resources assessment.

We intend to start drilling in September 2005 to evaluate groundwater resources in the Shire of Augusta–Margaret River. The program will then focus on the metropolitan area and horticultural districts throughout the Perth Basin, moving to strategic statewide groundwater investigations in 2008–09. Funding has recently been committed for the first four years of the program, rising from $1.25m in 2005–06 to $3.04m in 2008–09.

WRC S1: BPBS G3, G4, G5

4.1.3 Implementation of the Gnangara Metering project

In late April 2004 the State Water Taskforce, which had been established to support the State Water Strategy for Western Australia, presented a report to the Cabinet Sub-Committee on Water detailing the Gnangara Mound and the need to meter the use of water for irrigation.

This report resulted in Cabinet approving $2 million per annum for three years for us to develop and implement a metering program on the Gnangara Mound. Funding was approved by the Department of Treasury and Finance on 16 June 2004 for improved management.

This included:

- Assessment by the EPA that the DoE (WRC) was not meeting compliance obligations on the mound.
- Recognition by Government that this was a whole of Government issue.
- Need for Government to be seen to be responding responsibly to compliance issues on the mound.
- Consolidating information with the aim of better future management of the mound.
- Increased management of private water users and enforcement of licence conditions.
- Ensuring that water is drawn from the Gnangara Mound in a sustainable manner.

The funding is not sufficient to meter all water extracted from the mound for irrigation. As such, we will manage the supply, installation, maintenance and reading of meters on private abstraction in key areas on the mound with water entitlements between 5 000 and 500 000 kilolitres per annum. Allocations above 500 000 kilolitres must install meters as part of the licensing process.

The first phase of the project covers the Carabooda area. Other phases will target metering of private abstraction in additional areas where significant impact on the mound's water resource is being experienced.

There are 131 licences issued in Carabooda; 100 of these will be affected by this project. They draw nearly 8 750 000 kilolitres. There are 29 licences issues for 5 000 kilolitres or less.

Since the State Water Taskforce report, the concept of metering in Western Australia has evolved into a Government funded project of trial meter installations over key areas of the Gnangara Mound. To date the following have been achieved:

- A project scope has been finalised.
- A minimum standard for meter installation in Western Australia developed.
- A pilot project of meter installations has been completed.
- A tender for the supply, installation and maintenance of meters has been designed, advertised and awarded.
- A process for legal access and installations has been developed.
- Four people have been recruited to form the Metering Team.
- Meter installations are progressing well in Carabooda.
- Other areas are being assessed for the next phase of meter installation.

WRC S2: BPBS G3, G5

4.1.4 Understanding the Gnangara Mound

Our State's environment, economic livelihood and the community's lifestyle, health, food production, and industry depend on the availability of affordable good quality fresh water. The most valuable and largest single source of such water in the Perth region is the Gnangara Mound. With its large volume of easily accessible fresh groundwater, the Mound has for

many years supported a variety of ecological, social and economic uses. The importance of the Gnangara Mound has been highlighted in recent years as the Integrated Water Supply System has become increasingly dependent on the groundwater resources of the Mound due to the decreased surface water runoff in the dams.

As part of the Section 46 Stage 2 review work, a Progress report entitled '*The State of the Gnangara Mound*' was submitted to the EPA in June 2005. The report provided a summary of our completed, in progress and planned 2005–06 work with the primary objective of developing a management plan for the Gnangara Mound, including revised Ministerial Conditions. In addition, the report presented historical water level trends with forward projections using the *Perth Regional Aquifer Modelling System* (PRAMS). The modelling considered two climate scenarios, a medium term (28 years, 1976–2004) and a short term (last 8 years). Various management scenarios, incorporating such options as reduction of private abstraction, reduction of public water supply abstraction and rapid clearfelling of pines in certain areas were considered. The report highlighted the fact that climate change is a significant factor on the Mound and that those factors that the DoE (WRC) can directly affect (eg. abstraction) are not enough to offset the water level declines due to climate change.

The main issues identified in work undertaken during 2004–05 are summarised below:

- Groundwater levels are generally falling across the Gnangara Mound. The cause of the falling water levels is understood to be significantly reduced rainfall over the last 30 years, land use changes and increased groundwater abstraction in response to the reduced rainfall. The last eight years of significantly below average rainfall have seen increased rates of decline in areas of concentrated abstraction.
- Some wetlands and groundwater dependent ecosystems (eg. Yanchep Caves) are severely impacted.
- Various management practices constrain and/or compromise competing management objectives. A reduction in controlled burning of large tracts of native vegetation managed by CALM has exacerbated the decreased rainfall recharge by necessitating increased evapotranspiration and impedance of infiltrating rainfall. Likewise, the extensive pine plantations intercept or utilise most, if not all, of the rainfall that falls on the plantation area.
- The Water Corporation (WC) has altered and restricted abstraction from its superficial production bores in an attempt to reduce impacts on groundwater dependent ecosystems.
- In some areas the groundwater allocation limit has been reached and water trading is occurring within the constraints of acceptable impacts on the environment and other users. There is potential for this to create problems when land use change is occurring to mitigate environmental impacts. The metering program will assist in determining any overuse and provide benchmarking for efficiency gains.
- Increasing reliance is being placed on domestic bores to meet water needs in the urban area.
- Managed aquifer recharge (MAR) is being investigated to determine the potential for managing declines in areas of concentrated abstraction, such as Carabooda.
- The Gnangara and East Gnangara Community Consultative Committee, an inter-agency committee whose membership includes DPC, DoE, CALM, DPI, WADA, FPC, WC,

CSIRO and the City of Wanneroo, is attempting to facilitate the development of an integrated management strategy for the Gnangara Mound.

Achieving the best balance between the community's social, economic and environmental aspirations for the Gnangara Mound will most likely require some difficult choices on the part of resource managers, the Government and the community. Allocating water to maintain or expand one type of use would probably mean less water would be available for other uses. Choices need to be made that are fair to those affected and that minimise negative impacts and maximise benefits.

Key private and public sector stakeholders recognise that there is a pressing need for an integrated multi-agency approach to managing the Gnangara Mound. A Department of Environment sponsored study of 60+ of these stakeholders in early 2005 indicated strong support for the endorsement by the executive level of government for an integrated multi-agency planning effort for the Mound. Without this integration the potential for conflicts between land and water planning increases.

Integrated planning will allow the State Government to present a single 'whole-of-government' face to the community and should result in better public involvement outcomes. Integration will improve the sharing of information, the collaborative development of land and water use options, the evaluation of the options and the selection of preferred solutions so that trade-offs and outcomes are supported across the agencies. This will include a whole-of-government evaluation of technological, socio-economic, ecological and human-health considerations. A defining characteristic will be the integration of the land- and water-related aspects of the planning problem. Integration of this planning will also include the implications of climate change for all sectors, an issue which has not been adequately addressed to date.

WRC S1, S2: BPBS G3, G5

4.1.5 Irrigation in the Ord Irrigation District

In September 2004, we issued the Ord Irrigation Cooperative with a licence to take 335 GL/yr of water from the Ord River for distribution and use by their irrigator members in the Ord River Irrigation District. This is the largest annual water entitlement we have granted to date and enables the Cooperative to become fully responsible for the irrigation service and complete the transfer of water-distribution infrastructure from the Water Corporation.

The licence is subject to conditions that require the implementation of a Water Use Improvement Plan. Over the licence period there should be a substantial improvement in irrigation practices, including:

- A water distribution efficiency of 80 per cent by the end of the five year licence.
- Improvements in on-farm irrigation management practices with the aim of achieving a 50 per cent reduction in the dry season irrigation return flows by the end of the licence period.
- Monitoring and reporting on the implementation of best management practices in the use of pesticides and weedicides in the Stage 1 area, to maintain the low concentrations of toxicants recorded in drainage discharges in recent years.

- The active management of areas with high groundwater, through the operation of high capacity dewatering bores to stabilise groundwater levels and lower them in areas adversely affected. In localised areas, where such bores are unlikely to be cost-effective, alternative remedial measures are expected.

The Ord Irrigation Cooperative has already made significant improvements in some practices, especially in response to findings of elevated concentrations of pesticides in drainage waters. As well, several important water control structures in the distribution system are currently being automated. This will significantly improve distribution efficiency, enable improved water scheduling, and contribute to reductions in groundwater accessions.

WRC S2, S3: BPBS G3, G4, G5

4.1.6 Licensing and management of water use

4.1.6.1 Public Drinking Water Supply Sources Protection

Protecting water quality in surface and groundwater Public Drinking Water Source Areas (PDWSAs) is important to ensure the continued delivery of safe, good quality drinking water to consumers in Western Australia for now and in the future.

We aim to protect the quality of these source areas using a mix of statutory, policy and technical guidance measures. All such completed documents are published on our internet site <http://drinkingwater.environment.wa.gov.au >, under Publications>Policies or Guidelines.

The updated *Australian Drinking Water Guidelines 2004*, catchment-to-consumer, multiple-barrier framework is an integral part of our existing catchment protection and management initiatives. Land use pressures within catchments are being compounded by our drying climate, making it more important than ever to safeguard the quality of our limited drinking water sources. In 2004–05, we have worked hard to integrate our efforts with other government agency programs to ensure the value of existing and future sources is recognised and protected.

The following measures are use to protect public drinking water sources:

- Regulatory controls over land use and access to drinking water catchments are administered under the by-laws of the *Metropolitan Water Supply, Sewerage and Drainage Act 1909* and the *Country Areas Water Supply Act 1947*.
- Recommendations made in the National Water Quality Management Strategy document *Australian Drinking Water Guidelines 2004* and State Government Water Source Protection Policies are being implemented.
- Drinking Water Source Protection Assessments and Plans are prepared to inform stakeholders of catchment management issues/risks and deliver negotiated source protection strategies. In partnership with State and local government planning agencies and water service providers, we implement the plans through land use development decisions and regulatory conditions.
- Strategic catchment area land within PDWSAs and in particular adjoining public water supply reservoirs and production bores can be purchased to ensure protection of strategic resources.

- We provide advice on development proposals and other activities in PDWSAs to limit the risk of water contamination.

We have finalised three policies this year:

- *Land Use Compatibility Table Policy* — which sets out the compatible / conditional / incompatible land uses allowed in PDWSAs;
- *Land Acquisition Policy* — which sets out the process for identifying and subsequent purchase of private land within Priority 1 classified land in PDWSAs; and
- *Public Drinking Water Source Protection Policy* — which sets out the principles and practices for the protection of our public drinking water sources.

Drinking Water Source Protection Assessments (prepared by the Water Corporation under our direction) have been completed for Laverton, Gibson, Nabawa, Condingup, Horrocks Beach, Hopetoun, Quickup River, Angove Creek, Bolganup, Bremer Bay, Brookton, Brookton-Happy Valley, Bancell Brook, Greenbushes, Manjimup Dam and Phillips Creek, Millstream (Bridgetown), Lefroy Brook, Denmark, Boyup Brook, Northcliffe, Kirup, Balingup, Bridgetown (Hester), Arrowsmith, Dookanooka, Eneabba and Dathagnoorara. These assessments will be used to begin community consultation in order to develop Drinking Water Source Protection Plans.

We have completed Drinking Water Source Protection Plans for Margaret River, Conjurunup, North Dandalup, South Dandalup and Mount Magnet PDWSAs. The Middle Helena Land Use and Water Management Strategy was released to the public in draft form. We have responded to the issues raised in public submissions.

PDWSA Proclamations have been completed for Moochalabra (Wyndham), Quinninup, Halls Creek, Bolgart, Allanooka-Dongara-Denison and Kununurra.

We have been involved in strategic land acquisition in parts of the Gnangara Mound and at Tanjanerrup (Nannup).

In developing these plans we have faced various challenges and issues, partially brought about by competing land use and increasing recreational pressure in water source areas. Competing for resources can exacerbate problems. We have engaged the community and planning authorities to support adequate protective measures for sustaining water quality in proclaimed catchments. Recent development pressure points have been at Kununurra, Collie, Jurien Bay, and Gnangara. By-laws to protect PDWSAs are currently being reviewed and updated to ensure consistency and relevance. It is necessary to integrate land use planning and water regulation/policy across State and local government agencies to protect drinking water sources (i.e. PDWSAs).

We have completed protection plans for 56 of the 134 public water supply schemes across the State and achieved adequate implementation of source protection measures. With additional funding for 2005–06, we expect to better our 2004–05 output.

WRC S3: BPBS G3, G4

4.1.6.2 Water resources quality protection

Enabling suitable land development while preventing or minimising contamination of our water resources is a major challenge for water resources management. Clean, good quality water sources must be maintained for future generations. To do this we must understand the present quality of the State's diverse water resources and ensure there is effective protection to prevent deterioration of those resources under land use pressure. Recent development pressure points have been at the interface between urban and rural areas.

We meet these challenges mainly by promoting community awareness of the issues and engaging support for adequate protection measures through the development of guidance documents for a wide variety of land use activities. We seek alliances with, and support from, those who have a stake in ensuring a clean water environment.

During 2004–05 we completed Water Quality Protection Notes on: buffers to sensitive water resources; gazetted public drinking water source areas; industrial sites near sensitive environments; nurseries and garden centres; pastoral activities in sensitive environments; roads in sensitive environments, and swimming pools.

A report to the EPA on our approach to implementation of State Water Quality Management Strategy No 6 has been prepared and is with Corporate Executive for review.

We have updated the Environmental Management and Cleaner Production directory for small and medium businesses. *Protecting our drinking water — Recreation in the Perth Hills and South West* and *The big difference to a healthy and polluted river is you* have been published, and we have produced an overview of the Australian Drinking Water Guidelines.

We provided guidance in public forums and on an individual project basis on numerous topics concerning the protection of public and private water sources. Highlights were:

- EPA sponsored community forums on managed aquifer recharge with treated wastewater.
- Advice to Dairycatch program.
- Support for mining management and planning liaison group covering Alcoa's mining activities in the hills catchments.

WRC S3: BPBS G3, G4, G5

4.1.7 Emergency response arrangements under the 2005 Water Deficiency Declarations

Very low rainfall in many parts of the dryland agricultural region during winter and poor runoff into farm dams and rain tanks resulted in severe water shortages on many farming properties over summer 2004–05.

Our Rural Water Planning program played a pivotal role in emergency water response arrangements in several districts and helped to secure many farming businesses against the effects of on-farm water supply failure.

Water Deficiency Declarations were approved in four shires in the south eastern wheatbelt and south coastal areas. Over 7000 kL of livestock water was then line-hauled to central

receival points from which local landholders were able to collect supplies. We managed the declaration process in close consultation with the Department of Agriculture and local government. It was a major achievement for the Rural Water Planning program.

The impact of the 2004–05 drought was reduced by past achievements of the Rural Water Planning Program. The Government's exposure to the cost of hauling livestock water was kept to manageable levels.

Our achievements are consistent with the Program's key objectives to:

- Encourage self-sufficiency in on-property (farm) water supply;
- Improve the reliability, continuity and quality of on-property water supply; and
- Provide rural communities with reliable emergency water supply arrangements.

We pursue these objectives through:

- Farm Water Grants Scheme;
- Pastoral Water Grants Scheme;
- Community Water Supply Program;
- Water Deficiency Arrangements; and
- Agricultural Area Dams.

We made major progress towards establishing a network of strategic emergency water sources throughout the dryland agricultural region. These will be readily accessible to landholders when on-farm supplies are seriously depleted. This was made possible through the participation and cooperation of key stakeholders, particularly local government and rural communities.

Importantly, the continued support and encouragement of the Rural Water Advisory Committee has ensured stakeholder views and priorities are fully represented in the development and implementation of strategic water supply projects.

During the year we began work that will ultimately see the development of emergency farmland response plans for each of the dryland shires in the agricultural region. The emergency response plans will help to ensure an orderly and measured response to critical deficiencies of on-farm water supplies. This will help minimise the economic and social impact of water shortages on farming businesses.

Other achievements during the year included allocating over 160 new farm and pastoral water grants totalling $1.7 million for water supply improvements on properties. Five major strategic community water supply projects, with a value of over $1 million, were also approved.

The Rural Water Planning Program plays an important role in ensuring the availability of technical expertise to assist primary producers to develop new water supplies. The Conservation and Earthworks Training Program was initiated during 2004–05, with the assistance of the Department of Agriculture. We have completed the second intake of trainers.

WRC S4: BPBS G1, G2, G3, G4, G5

4.2 Waterways and Catchment Management

4.2.1 Business overview

Our Waterways and Catchment Management Business operates to ensure that Western Australia's waterways and catchments meet established natural resource condition (NRM) targets. We strive for the healthy functioning of the State's rivers, watercourses, wetlands, estuaries and drainage systems, and the ecosystems which they support and with which they interact. We run programs that seek to ensure that the effects of flooding on human safety and property are minimised, that the effects of salinity are mitigated, and that native vegetation is protected through a system of clearing permits. The outcomes in terms of strategic planning, technical support, and customer services are integrated and delivered at the regional level, supported by central policy, planning, coordination and specialist support functions.

At a strategic level, we are represented on, or support, a range of NRM bodies, including the State's Natural Resource Management Council (which advises the State's Government NRM Ministers), and the Commonwealth and State Natural Resource Management Ministerial Council (and its various supporting committees, including the Joint Steering and State Investment Committees for delivering the Natural Heritage Trust and National Action Plan for Salinity and Water Quality programs). We also work in strong partnerships with the incorporated regional NRM groups and other State Government agencies involved in NRM.

WRC S5, S6, S7: BPBS G1, G2, G3, G4, G5

4.2.2 Luke Pen Scholarship Fund

The Luke Pen Scholarship Fund was established in 2004, to honour the life and work of the late Dr Luke Pen. The Scholarship aims to support honours projects for research into waterways management. In its inaugural year, an honours scholarship was awarded to Ms Fiona Gibson, from The University of Western Australia, who studied 'The implications of Water Borne Pathogens on the Management of an Oyster farm at Oyster Harbour, Albany'. Fiona produced a report of her findings, which included a bioeconomic model to evaluate and improve the efficiency of the oyster farm. This model looked at simulated oyster growth and how closures of the oyster farm, due to pollution, may affect profit.

In May 2005, scholarships were presented to two students — Aimee Silla of the University of Western Australia and Vicky Hartill of Murdoch University.

Aimee's project focuses on assessing the impact of cattle access to riparian areas on the macroinvertebrate population of the Kalgan River. It is hoped that this project will aid recommendations of best practice for managing cattle access to streams while minimising biodiversity impacts.

Vicky's project focuses on primary and secondary saline lake systems in the Wheatbelt, assessing the salt and hydrological change tolerance of different plant species, generating some data on seed germination under differing saline conditions, and highlighting the differences between the two types of lake systems. The aim of the project is to increase the understanding of saline lake systems in the Wheatbelt.

We have allocated a total of $50 000 ($10 000 per year for five years) to successful university honours students.

WRC S5: BPBS G1, G3

4.2.3 Wetlands and Waterways

4.2.3.1 Statewide Algal Management Strategy

The Statewide Algal Management Strategy is being developed as a whole-of-government approach to mitigate the impacts and reduce the frequency of algal blooms across the State. The Strategy will provide focus and key technical and scientific support to regional delivery.

The draft Statewide Algal Management Strategy developed out of an increased understanding of cause and effects, actions required to mitigate symptoms, and lessons learnt from already existing whole-of-catchment programs. Since an independent review in 2000, elements of the Strategy have been revised, based on changes in local, national and international best practice, and identification of gaps. Recommendations for improvement have been incorporated into the current draft.

The Strategy consists of seven key areas of activity:

- *Algal Watch*: surveillance of algal species and development of expertise in analysis and detection of algal toxins;
- *Algal Triggers*: understanding the causes of algal bloom development and/or toxicity;
- *Source to Sea*: reducing nutrient delivery from catchments to reduce algal growth;
- *Bloom Response*: coordinating response to algal blooms and subsequent management;
- *Restoring Ecosystems*: promoting programs that aim to restore natural processes in river systems to increase their capacity to assimilate nutrients;
- *Community Partnerships*: facilitating community understanding of algal blooms and involving the community in addressing the causes;
- *Reforming Management Arrangements*: embedding nutrient reduction and estuary protection measures in current and future planning policy.

We aim to implement the Strategy through key steps, which provide focus and direction in working towards final adoption as a whole-of-government approach. In 2005, a series of workshops will be held to facilitate consultation with regional stakeholders; the Minister for the Environment; Science Dr. Judy Edwards attended the first of these in Bunbury on 10 June 2005. Steps have been taken towards establishing a cross-agency Harmful Algal Committee, along with developing protocols for incident response (i.e. algal bloom response protocol). We will continue to work with other State Government agencies and local government to implement the Strategy. Guidance will also be given for each Natural Resource Management region to achieve this aim.

A Statewide Algal Management Strategy Coordinator has been appointed. The coordinator will provide a point of contact for the Strategy and use any feedback to update the draft to a final, fully implemented Strategy.

WRC S5: BPBS G3, G4, G5

4.2.3.2 Waterways Strategy

During 2004–05 we continued to work with regional NRM groups to identify waterways management issues and solutions as part of the development of their Regional Strategies and investment plans. This ensured that regional strategies complement and support the proposed statewide strategy and also helped to build partnerships with regional groups for delivery of waterways management. Waterways management issues covered with the groups included water allocation, water use, water conservation, salinity, drainage, flooding, water flow and water quality.

The State Waterways Strategy will become the third in a series of high level documents that guide water management in Western Australia. The other two (already completed) are the State Water Strategy and the State Wetlands Conservation Strategy. We have now developed a draft Waterways Strategy, to be used as a consultation tool with key stakeholders. This sets out:

- The importance and requirements for waterways management;
- Strategic actions for waterways management that will revitalise and improve management approaches; and
- The strategic gaps between past, current and future needs and activities for waterways management.

During 2005–06, we will consult regional NRM groups and other peak organisations to finalise the Strategy and prepare an implementation plan.

WRC S5: BPBS G3, G4, G5

4.2.3.3 Fish kills, response and protocols

We share a fish kill incident coordination program with the Department of Fisheries. The program began in late 1997 following several large-scale fish kills throughout the state. The program is still evolving because of the complexity in trying to respond quickly to kill incidents that are often in very remote locations across the state or where fish samples are not in good enough condition to undertake meaningful pathology. It is also compounded by the fleeting nature of many kills where water quality conditions that have led to fish deaths occur for a short time and have dissipated before we can measure and sample the water. Furthermore, resources to respond to all kill incidents are limited and this is why both Departments share the responsibility of the program.

In general there is an operational understanding that we will respond to incidents in inland and most estuarine waters while the Department of Fisheries will respond to incidents in coastal-marine and some estuarine waters. Altogether, the Department of Fisheries (DoF) provide pathology services, fish kill kit maintenance and stock impact assessments while we provide environmental assessment, water quality advice, response coordination and legal assistance in pollution incidents.

To date over 350 officers from both the Departments have been trained and this number has increased significantly since 2000. In 2004–05, we held three training courses in conjunction with the Department of Fisheries and trained over 35 officers from Carnarvon to Margaret

River including Fremantle. A proper fish kill incident response is one that is safe and gathers good environmental, biological and pathological data. This requires technical training based on a certified training course and is not suitable for the public.

In 2004–05, 31 fish kills were reported and investigated. Up to the end of 2002, we considered that the number of fish killed was insignificant and did not pose any ecological problems. However, since 2003 after large-scale incidents occurred in the lower Serpentine, Swan-Canning, Collie and Greenough Rivers, the Departments of both Environment and Fisheries have been focussed on trying to understand environmental trends or possible pollution causes that previously were undetected, as well as possible effects on fish stocks.

The general conclusion however, is that climate change with drier and less rain conditions is generating reduced water flows in rivers, making the aquatic environment more prone to poor conditions that can kill fish. In turn this is linked to poor catchment practices, sloppy fishing leaving litter and dead fish around, and less flushing of stagnant waters exacerbated by the lack of natural flows. The combination of possible fish kill causes, many acting together, has led authorities to start developing multiple factor models that help better predict when and where kill incidents are more likely to occur.

WRC S5: BPBS G2, G3, G4, G5

4.2.3.4 Pilbara/Kimberley rivers and foreshores

In addition to hosting two North West NHT-funded Rivercare positions, we had significant involvement in developing the Rangelands Natural Resource Management Strategy and Investment Plan. Implementation of the Strategy and Investment Plan will help improve catchment and waterways management through the alignment of regional and State Government priorities and strategic allocation of funding to priority areas. Involvement in the strategy development process has assisted in the progression of a Pilbara river policy.

Regional officers have worked closely with indigenous communities to facilitate improved waterway planning and management. Support provided to the Juluwarlu Corporation to capture Aboriginal culture values along the Fortescue, Sherlock and Harding rivers will contribute to future water use planning and policy. It will also assist us to manage tourism and recreational impacts by building respect and awareness through publications. We undertook similar work with the Mirriwoong Gajerrong Traditional Owners and other stakeholders on the Ord River to assist with local planning and management decisions. We also worked on a project with the Mirima Language Centre to put Mirriwoong interpretive signage along the Lower Ord River to assist with waterway management.

The unique values of the Pilbara and Kimberley rivers and foreshores required separate foreshore assessment surveys. The Pilbara Foreshore Assessment survey is nearing completion. The survey is tailored towards helping landowners manage their foreshore environment. The completion of 15 foreshore assessment surveys in the East Kimberley has helped refine a Kimberley River Health Assessment Program. This will improve landholder and community understanding of waterway health and potential impacts of poor land management.

We are working with the Department of Fisheries to define the feasibility requirements for a fish way on the Kununurra Diversion Dam to address impacts on migratory fish species.

The need for the study was identified at the Fourth Australian Technical Workshop on Fishways, to which we provided significant support.

WRC S5: BPBS G1, G2, G3, G4, G5

4.2.3.5 River restoration — waterways on-ground works

Swan Goldfields Agricultural Region

We have been working with the Northam Friends of the Avon River, Westnet Employment Services Work for the Dole and the Town of Northam for the past four years to restore an island on the Avon River at Northam. In 2001 this resulted in a program of weed removal and revegetation to complement the native species appearing on the island. The restoration program took into account the excellent potential of the island for waterbird habitat and shelter. This program of revegetation and weed removal (by herbicide spraying and physical removal) was repeated in 2002 and 2003 as the island developed. There are now few weeds. The native plants are flowering and setting seed.

The island is now a safe haven for many local and migratory bird species from the threat of foxes and cats. The island has become a living window into the natural processes of a recovering river. It shows how the Avon River, with a little help, can slowly repair itself.

The SGA region has also conducted river restoration workshops for the Henley Brook-West Swan Catchment Group and the Yellagonga Catchment Group. A large number of people attended and feedback was positive. Over the past year the region has provided technical support for many on-ground projects, including stock crossings at Wooroloo Brook, Living Streams at City of Bayswater, constructed wetlands at City of Gosnells and riffle structures in Kalamunda.

The region supports local government authorities, catchment and friends groups. Activities include site visits to discuss management options and presentations at catchment group meetings. Bannister Creek Catchment Group, Nature Reserves Preservation Group, Lesmurdie Brook, Two Rivers Catchment Group, Friends of Crumpet Creek, Armadale Gosnells Landcare Group and the Eastern Hills Catchment Management Project are among those supported. The region also provides input to technical working groups.

WRC S5: BPBS G1, G2, G3, G4, G5

North West Region

In 2004–2005 the River Health Assessment Program continued to be developed and trialed in the East Kimberley. Fifteen sites were assessed this year, which has helped further define the program. The long term aim of the program is to develop a model that can be used by community groups and landholders to gain a broad understanding of waterway health in their areas and understand the potential risks of the impacts of poor land management.

We have had considerable input into the development of a local foreshore planning process during 2004–05. We undertook extensive community consultation and the community will now provide future directions in defining and providing for the many uses of foreshores and waterways.

The North West Region has also been tackling invasive species, like *Parkinsonia* (a weed of national significance), which has formed dense thickets along the Fortescue River. Recent floods associated with Cyclone Monty aided the spread of this weed. We undertook four mapping and control trips and are progressing a data management plan to monitor the effectiveness of spraying programs.

The condition of the foreshore environment and aesthetics of the pools adjacent to the Roebourne Township has been deteriorating since the commissioning of the Harding Dam upstream in 1984. We have implemented a monthly monitoring program to measure the natural recession of the pool levels following the flood associated with Cyclone Monty. This will improve the current understanding of the water balance process and the effect of pool levels on aquatic and riparian vegetation. A rehabilitation program has been proposed that will include supplementation of the pools and foreshore rehabilitation.

WRC S5: BPBS G3, G4

Fishways

The Minister for the Environment officially opened the Hotham River rock ramp fishway in Boddington on 29 September 2004. Three rock ramp fishways and one vertical slot fishway have now been built in Western Australia. Sampling conducted on the Hotham River before the fishway was constructed in March 2003 recorded thousands of western minnows schooling below Lion's Weir, indicating it was a major barrier to fish movement. Further monitoring of the fishway found it to be successful, with hundreds of fish found using the fishway on each sampling occasion during the peak migratory period in spring. The fishway prevented aggregation of fish downstream of the weir, which previously made them vulnerable to predation.

We developed designs to retrofit two waterway crossings that presented barriers to fish passage. William Street on the Hotham River in Boddington and South West Highway on Bancell Brook in Waroona were retrofitted earlier this year to allow migrating fish to move upstream.

We presented the results of these fishway projects at the 4th Australian Technical Workshop on Fishways in Kununurra during May 2005 and at the 4th Australian Stream Management Conference in Launceston during October 2004.

WRC S5: BPBS G3, G4

South Coast

During 2004–05, strategic river restoration in catchments along the South Coast was implemented in two ways. Stream protection and restoration is a component of larger scale projects managed by sub-regional NRM groups. Currently these projects are the Catchment Demonstration Initiative (CDI) in the Upper Fitzgerald River and an NHT-funded project in the Upper West River catchment, both relevant to the Fitzgerald National Park. The second set of restoration works has been largely through small grants to individual land-holders, administered by local NRM groups. Enviro-funds have been a mainstay as an incentive for land-holders to fence their streams. The South Coast Regional Initiative Planning Team (SCRIPT) has funded works for defined target areas through its Southern Incentives program.

Overall, restoration activity has been quite low, but this could be attributed to potential projects being put on hold until the Investment Framework for the Regional NRM Strategy is completed.

An interesting aspect of stream restoration works, and one that has attracted a wider range of interest in fencing off streams and wetland, has been the lifting of general fencing subsidies from a maximum of $600 to $2000 per kilometre. This has been estimated as a jump from roughly 20 per cent of the overall cost of a fence to nearly 50 per cent, moving the role of the grants as an 'incentive' to the status of a 'partnership'.

We have also received requests from catchment coordinators for advice on appropriate stream crossing design. These have usually entailed a site visit and a talk with land-holders about what they are intending to do and what might be needed, followed by some technical information for the coordinators. Stream crossing issues have provided a good opportunity to discuss broader river function issues with individual farmers. These discussions have highlighted the fact that many people lack knowledge about how streams work. With respect to general bed and bank erosion stabilisation, there has been negligible activity.

WRC S5: BPBS G3, G4

Kwinana Peel Region

In conjunction with partner organisations including the Peel Harvey Catchment Council, the Harvey River Restoration Trust, and the Friends of Rivers Peel, we have undertaken extensive river restoration in the Kwinana Peel Region. These works have included 52 kilometres of fencing, 60 hectares of foreshore revegetation, and construction of five riffles and three stock crossings. Through fencing support projects, we have secured commitments from landholders to undertake a further 108 hectares of revegetation. One fishway was constructed on Bancell Brook in the Harvey River basin. A River Action Plan for the Murray River downstream from Pinjarra was completed. Community education activities included three field days and two river restoration seminars.

WRC S5: BPBS G3, G4

Catchment Management Branch

During 2004–05, our Catchment Management Branch has provided technical advice and support for river restoration at over 40 sites throughout the State. This support has included surveying, modelling and engineering assessment of river degradation problems, design of rehabilitation works, supervision of construction, preparation of tender and contractual documents, assistance with project management, community consultation and preparation of funding applications.

Examples of recent projects include:

- Design of instream habitat enhancement works on the Harvey River, Harvey;
- Design and supervision of erosion control works and crossings on Marrinup Brook, Pinjarra;
- Assessment and scoping restoration options for Yakamia Creek, Albany;
- Surveying and design of riffle sequences to stabilise bed erosion on Gunyulgup Brook and a tributary of the Carbunup River in the Shire of Busselton;

- Design of a farm crossing to manage livestock access on Tren Creek, Capel;
- Design of retrofitting works at Ewington Weir, Collie, to improve safety, restore fish passage and enhance the environment (works postponed to summer 05–06).

The river restoration and fish passage projects we undertook during 2004–05 have mostly been low cost and successfully done in partnership with landowners, regional officers and local community groups. These demonstrations of river restoration have been used for community education and training. They encourage broader adoption of the techniques. The project sites have been used during workshops and field days and the results of the trials promoted in guidelines, including Western Australia's River Restoration Manual.

We held a week-long River Restoration Workshop in Margaret River in October 2004. Knowledge sharing and project support for river management officers is also maintained through the River RATs (River Restoration Action Team). This statewide network, established in 1996, continue to meet every few months, and regularly seek and share information via an email group.

WRC S5: BPBS G3, G4

4.2.3.6 The challenge of setting estuarine water quality targets

For many years, staff of our Aquatic Science Branch have been developing an understanding of the function of Western Australian estuaries and how they react to the myriad pressures on them. Estuaries can be loosely defined as semi-enclosed bodies of water where surface and freshwater mix. Most Australians know of at least one because they either live on one or holiday there.

As we move to develop catchment-wide regional strategies to prevent the loss of functional and amenity values in estuaries, we seek some measures of the changes we would like to see as well as measures of decline that can act as warning signs.

In the language of the NAP and NHT, we are seeking resource condition targets which match our long term aspirational targets for a particular waterway. To do this, we need to have an understanding of both the current condition and what the desired condition may look like. As scientists, we do this in terms of what we can measure, which we call indicators and from these we set targets. We have to pick an indicator that is sensitive to the changes we may make through our investments in the catchment.

The most commonly measured indicators are of water quality such as nutrients, temperature, salinity and dissolved oxygen. It is tempting and desirable to use these as targets. Recently, we analysed water quality data for the estuaries of the South Coast and applied the guideline values of the National Water Quality Management Strategy to see where they would lie.

This exercise reveals the subtlety of where one can go astray. The guideline values were set for pristine waterways and we are setting targets for modified to highly modified estuaries, in which we can clearly not go back to a pristine state. The nutrient concentration of a water body is also a function of the amount of plant growth, in terms of microalgae and macroalgae and seagrasses that may remove nutrients from the water. It is primarily for this reason that seemingly intact estuaries such as Hammersly Inlet in the Fitzgerald National Park seem worse than the Wilson or Welstead inlets.

For estuaries for which we have a good understanding, such as Wilson Inlet, we can set a range of targets that not only include nutrients but also bottom water oxygen and the extent of plant growth. We hope to develop a range of indicators and targets for Western Australian estuaries to meet the needs of the regional strategies. They will be specific to the estuary and take into account the desired condition of that estuary and an understanding of its response to threats from our activities.

WRC S5: BPBS G3, G4

4.2.3.7 South West estuarine water quality targets and situation statements

Leschenault Estuary

We maintain a data set on the Leschenault Estuary back to the mid 1980s and the contributing rivers stretching back to the 1940s. Currently water quality monitoring occurs at eight sites in the estuary basin and the estuarine sections of the rivers, these sites are sampled fortnightly between the months of November and April.

We have recently undertaken two projects to review the state of the Leschenault Estuary and Inlet. One project will review the physical and biological data for the estuary and inlet and the other, which has recently been completed, was a 'Community and Perceptions Recommendations' paper. Both projects will help determine the strategic direction for the Leschenault Catchment.

The open water estuarine section has reasonable water quality, although there is community concern over sediment movement and decreasing areas of sea grasses. The riverine section of the estuary is subjected to elevated nutrient levels and decreasing summer flows, which cause algal blooms and fish kills.

WRC S5: BPBS G3, G4

Vasse-Wonnerup Estuary

The Vasse-Wonnerup estuarine system is of great ecological and social importance, yet it has become degraded by changes to the natural hydrological regime and eutrophication. Algal blooms are common, however there have been no fish deaths in the past year. The Vasse Estuary flood gates are new replacement structures and are managed to maximise the system to support fish health. The bar was opened in late December 2004, instead of January 2005 as scheduled, because of the toxic effects of rotting sea grass. The system remains an important waterbird feeding and breeding habitat. It is listed under the Ramsar Convention as a wetland of international significance.

We have monitored water quality in this system since 1996. The main parameters used to monitor the health of the Vasse-Wonnerup Estuary are total phosphorous, total nitrogen, dissolved oxygen, temperature and phytoplankton. Routine monitoring occurs between December and May. Water quality in the Lower Vasse River is extremely poor. Concentrations of total nitrogen are high to very high and concentrations of total phosphorus are very high. Overall median values in this area were 1.8 mg/L total nitrogen and 0.20 mg/L total phosphorus over the monitoring period (August 1996 to March 2004). Nutrient concentrations tend to be highest during summer and autumn.

The Lower Vasse River Cleanup Program began in 1999 and continues. The program aims to improve the ecological health of the Lower Vasse River. Projects developed cover components such as:

- Sediment treatment and removal;
- Restoring river ecology;
- Rural catchment management; and
- Urban catchment management.

Measurable improvements in the health of the river continue to be monitored through water quality and biological monitoring.

WRC S5: BPBS G3, G4

Hardy Inlet

We have monitored the Hardy Inlet for various physio-chemical water quality parameters on a fortnightly basis at 12 sites for the past six years. The monitoring has provided baseline information on seasonal and long-term patterns that can assist in identifying any changes that may be occurring.

We are currently compiling a Condition Statement for the Hardy Inlet Estuarine System. This will describe the current environmental condition of the waterway.

Algal blooms are routinely reported in West Bay (within the estuary) and occasionally in the riverine sections of the estuary. *Trichodesmium* blooms have occurred over the past three years in the Hardy Inlet near the entrance and can at times extend for hundreds of kilometres near the shore. Strong westerly breezes can blow the bloom inshore into the lower end of the inlet where it rapidly dies. There is extremely strong community interest in proactively managing the system to minimise the changes in the inlet and its surrounds.

WRC S5: BPBS G3, G4

Warren/Donnelly

The Warren River and Donnelly River Estuaries are largely unmodified and isolated. There is currently no existing monitoring program for the estuaries. The Warren catchment is modified, regulated and nutrient supplemented. The lower Warren River has had algal blooms in the past couple of years, which indicates nutrient enrichment. These blooms have occurred in a recreational section of the Warren River.

Both estuaries are closed systems during summer. The bars are breached during winter, changing them from brackish to fresh.

The Yarragaddee Aquifer discharges into the Donnelly River system, supporting the wetland and estuarine system throughout the summer.

We conducted a preliminary investigation on the Donnelly River in 2004 for water quality. Results indicated relatively fresh and significant flows of water in the summer.

WRC S5: BPBS G3, G4

4.2.3.8 Beach Health

The State Government agreed to put in place a stormwater monitoring program, in consultation with Local Government, for drains that currently discharge into the ocean at popular recreation sites. The Beach Watch Program was initiated with $50 000 funding from the State Government. It was followed by the Beach Health Program, with an additional $212 000 from the Swan Catchment Council. We coordinate the programs in consultation with other stakeholders. The funds will enable a proper evaluation of the pollution potential of stormwater drains and provide the incentive for pollution reduction strategies in stormwater management plans produced by local government.

Stormwater runoff is a major threat to the quality of coastal systems, waterways and estuaries in many parts of urban Australia. It comprises all forms of runoff from urban areas where flows are exacerbated by the increasing network of impervious surfaces such as roads, roofs, footpaths and car parks. Stormwater is essentially rainwater plus anything else collected from these surfaces. The water flows through a network of drains and pipes into receiving waters, carrying with it contaminants collected along the way. These contaminants may include:

- Toxicants — household chemicals, petroleum products, garden pesticides and herbicides;
- Nutrients — fertilisers, surfactants, eroding soils, lawn clippings, pet faeces and sewage overflows;
- Pathogenic organisms — pet faeces, manures and sewage overflows;
- Litter — plastic containers, junk mail, glass and cans; and
- Suspended solids — from organic matter, soils eroded from construction sites, roads and market gardens.

Increasing urbanisation leads to an increase in run-off. This process concentrates freshwater flows to localised receiving waters, including built systems (retention ponds and basins) and natural environments (lakes, estuaries and near-shore coastal waters). As a result, contaminants may collect in these localised areas. This can lead to reduced water and sediment quality or ecosystem changes, such as reduced biodiversity. Stormwater contaminants may also lead to social impacts, such as health warnings issued to swimmers, beach goers and other users of these marine areas.

The Draft Swan Regional NRM Strategy has identified a major gap with regards to baseline understanding of stormwater quality at beach outfalls and potential impacts on near-shore marine environments. There is currently only patchy monitoring of the stormwater drains that discharge into the ocean at metropolitan beaches. No research has been done on the impacts of stormwater discharges on coastal ecosystems in Western Australia.

The Beach Health program will investigate:

- Faecal indicators, nutrients, heavy metals and hydrocarbons for the major coastal stormwater drains — water quality component;
- Accumulation of contaminants in sediments at local beaches;
- Groundwater flows to the marine environment;
- Dispersal rates of stormwater in calm and rough conditions; and

- The effects of contaminants on nearshore marine environments.

In addition, the Beach Health Program will include a report and community education on the potential impacts of stormwater discharge (e.g. brochures and signage). Information generated will also assist Local Government in preparing stormwater management plans.

So far we have located 100 drains. Of these, 70 have been targeted as high priority to monitor for contaminants during rainfall. Priority was based on accessibility, safety, discharge directly to beach or ocean and frequency of human use. Almost 50 of the high priority drains have been sampled for water and sediment contaminants in May and June 2005. It is hoped that by the end of winter, all drains will be sampled at least once, and some more frequently, to gauge the temporal changes in contaminants.

We have begun a pilot study to investigate the effect of contaminants on nearshore marine environments. Productivity of microphytobenthos will be used as the indicator of stormwater impact. We will investigate groundwater flows to the marine environment and dispersal of stormwater in calm and rough conditions in the next financial year.

WRC S5: BPBS G3, G5

4.2.3.9 Contribution to the guide to biodiversity incentives programs in WA

The document *Biodiversity Incentive Programs in Western Australia* was published in June 2004 as a collaborative effort between the Department of Environment, Department of Conservation and Land Management, Department of Agriculture, National Trust of Australia (WA), World Wide Fund for Nature and Greening Australia WA. The document collates information on incentive programs that are currently operating in Western Australia. It is intended as a guide for facilitators and coordinators of natural resource management to assist private landholders in the management, protection and rehabilitation of bushland and natural wetlands on their properties.

The document is divided into sections, including:

- A flow diagram of a series of questions to direct the reader to the appropriate sections of the document;
- A matrix summary, outlining the different incentive programs and the relevant region and land management type;
- A description of the incentive programs available in Western Australia;
- A list of lead organisations and the programs they offer; and
- Contact details for Natural Resource Management Councils, and the Departments of Conservation and Land Management and Environment.

WRC S5: BPBS G3, G5

4.2.3.10 Whole-of-government approach to wetland management

We are represented on the State Wetland Coordinating Committee (WCC), which facilitates a whole-of-government approach to wetland protection and management, through the implementation of the Wetlands Conservation Policy for Western Australia (Government of

Western Australia, 1997). Sub-committees have been formed to progress actions identified within the Wetlands Conservation Policy for Western Australia. We are represented on these sub-committees, as are other members of the WCC and other relevant stakeholders.

The Wetland Status Working Group is developing the Framework for Mapping, Classification and Evaluation of Wetlands in Western Australia to ensure statewide coordination and consistency in the approach to wetland mapping, classification and evaluation projects. The Wetland Restoration and Management Manual Steering Committee is developing *A guide to managing and restoring wetlands in Western Australia*. This will consolidate techniques for wetland restoration and management into one document for use by the community and government. The Wetland Buffers Working Group is developing *A Land Use Planning Guideline for the Determination of Wetland Buffer Requirements* for whole-of-Government application in decision making.

WRC S5: BPBS G3, G5

4.2.4 Salinity

4.2.4.1 Stream salinity and trend status report for the south-west drainage division

We are releasing a report on stream salinity status and trends of south-west Western Australia. The report considers data from the past 20 years on the South Coast, South West, Swan-Avon and Northern Agricultural areas of the South West Drainage Division.

Data from river gauging stations was analysed to calculate means and trends for salinity, salt load and flow, as well as salt output to input ratios.

An assessment of salinity levels of streams in the South West has shown salinity increases in many rivers, partly due to low rainfall. Where efforts have been targeted, some reductions in salinity were found. For instance, over the past 20 years, stream salinities of forested catchments were either unchanged or decreasing. Most of the current decreasing trends were found in the Water Resource Recovery Catchments.

Results indicate that salinity levels were possibly levelling off in some catchments, while in other areas the trend towards strong increases in salinity continued.

The study found, on average, about 4700 gigalitres (GL) of water flows out of the rivers of the South West into the ocean each year. With that water are 7.5 million tonnes of salt — nearly four tonnes for every person in Western Australia. It would take 625 000 twelve-tonne farm trucks (more than 1700 per day) to carry this much salt.

Of our rivers, 10 per cent are now marginal, 21 per cent brackish, and 25 per cent moderately to highly saline. Only 44 per cent remain fresh. At many of the sites, stream salinity was still found to be rising.

The rivers with the most salt were the Avon River (1.5 million tonnes), the Blackwood River (1 million tonnes), Moore and Murray Rivers (about 600 thousand tonnes each).

The saltiest (gauged) river in the South West, based on a 10 year average, is the Lockhart River in the Avon. It has an average annual salinity of 33 900 mg/L, slightly lower than seawater. Second is the Lort River on the South Coast, with a salinity of about 27 000 mg/L.

We have recommended further research be undertaken to investigate the interactions between decadal climate variability and land use changes and to assess their relative impact on salinity trends.

WRC S6: BPBS G3, G4, G5

4.2.4.2 Salinity Investment Framework — Phase II

We are developing a new process to help ensure that public money being spent on countering salinity is effectively spent. This approach to natural resource management — the Salinity Investment Framework — involves directing resources to the most important public assets that may feasibly be protected.

Plants, animals, wetlands, lakes, rivers, roads, rural towns and agricultural land are all examples of natural resource assets. In the South West Agricultural Zone they are all at risk from salinity. The current amount of farmland affected by salinity is 820 000 hectares. This is increasing at about 14 000 hectares per year. The prediction is that 4.4 million hectares of farmland is at risk.

The total land at risk from salinity is 5.4 million hectares. These areas at risk are potentially 50 to 100 years away from the full effects of salinity. Reduced rainfall — as experience in last 25 years — may reduce the final area affected by salinity and even the rate per year.

Given the time available, it is important that we identify and protect high value natural resource assets by developing new industries and better engineering approaches. Managing the impacts of salinity is not an easy task. A lot of work needs to be done — with limited funds — to protect these assets.

The Salinity Investment Framework leads to support for changes on agricultural land in two ways:

- Through direct investment in solutions that achieve the desired objective. This can include changing management of specific farmland to protect priority assets, where such investment is cost-effective; and
- Through industry development to create new technologies and land-uses that allow farmers to farm sustainably on a more profitable and broad basis.

Phase I of the Salinity Investment Framework was completed in October 2003. This report established which NRM assets were of high value and high risk from salinity. Phase II of the project identified our ability to achieve the management goal — recover, contain or adapt — for each asset. To do this, a simple desktop appraisal of the technical feasibility, in terms of engineering or vegetative intervention options, was done for the high value and high threat assets from Phase I. The intervention options were costed and the high value–high threat assets have been prioritised according to potential success of intervention options (high, medium, low) and cost (high, medium and low).

WRC S6: BPBS G2, G3, G4, G5

4.2.4.3 Dumbleyung Strategic Water Management Strategy

In 2004–05, we continued to work in partnership with the Dumbleyung Water Management Steering Committee and Department of Agriculture to progress this project. Beynon Road Deep Drainage Demonstration Site is one of four demonstration sites being developed as part of the Dumbleyung Water Management Strategy. Monitoring of the Beynon Road site has continued this year. A preliminary report has been completed with analysis of the first year's monitoring data. This indicates, as predicted, that downstream impacts from the deep drainage site are minimal, with little effect on salinity, nutrient transport, and heavy metals. No indication of acid sulphate soils has been recorded, with low pH levels discharging from the drain being buffered readily by the Doradine Creek.

More extensive downstream impact studies have begun this year. We have contributed to works in this area by CSIRO, The University of Western Australia and Murdoch University. This work will more accurately describe any significant ecological impacts to the system from the deep drainage works, if any.

A social impact study brief for indigenous values and assets has been prepared and will be let by August 2005. Contractors are also undertaking a social survey of landholders to ensure planning includes effective community consultation.

Other studies completed include geophysical analysis of the Dumbleyung Zone Paleochannel, the draft cost-benefit analysis of three drainage options in the Dumbleyung Zone, and the draft paper on groundwater response to drainage within the Dumbleyung Catchment of Western Australia. We have contributed half of the funding to this. The other half has come from the Natural Heritage Trust and the Engineering Evaluation Initiative.

WRC S6: BPBS G1, G3, G4, G5

4.2.4.4 Engineering Evaluation Initiative achievements

The State Government committed $4 million over four years to the Engineering Evaluation Initiative (EEI) to deliver better engineering approaches to manage salinity. Many farmers and catchment groups see engineering works, such as deep drainage and groundwater pumping, as viable options to manage salinity. The use of these measures is limited by not knowing where the options work best and how to dispose of saline water to avoid harmful downstream impacts.

The EEI consists of three main programs:

- Evaluation of specific engineering options;
- Safe disposal; and
- Regional drainage planning.

We have begun work on the nine on-ground projects sites, spread from Morawa in the north to Blackboy Creek, 100 kilometres east of Esperance. We will evaluate drainage, groundwater pumping, evaporation basins, raised seedbeds, potential downstream impacts and soil chemistry.

This year the EEI has:

- Constructed 18 kilometres of deep leveed drain at Pithara.

- Constructed seven kilometres of deep leveed drain and evaporation basin at Morawa.
- Planned and initiated construction of 22 kilometres of deep leveed drain and evaporation basin at Beacon.
- Begun studies into acidic groundwater, downstream impacts, and better ways to manage soils after drainage.
- Begun Regional Drainage evaluation for the Avon River basin as a joint EEI and CSIRO Healthy Country project.
- Conducted Farmer Forums at Dumbleyung and Dalwallinu to present the current state of understanding and early information from studies.

Regular newsletters on progress within this project are produced. Salinity Engineering — Better ways to manage salinity is widely distributed by mail, email and our website <http://salinity.environment.wa.gov.au>.

WRC S6: BPBS G3, G4, G5

4.2.4.5 Recovery Catchments

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.

We deliver this through:

- Highly focused strategic programs, such as the Water Resource Recovery Catchment (WRRC) program;
- More general support and advice for regional NRM groups;
- Drilling, arterial and small catchment drainage;
- Input into State-wide clearing regulation; and
- Water salinity monitoring.

WRC S6: BPBS G3, G4

Salinity Situation Statements for the Water Resource Recovery Catchments

An important component of our salinity management program is to assess the salinity 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.

Collie River

We are making good progress with the Collie River Salinity Recovery Plan, which is likely to prescribe the diversion of saline flows of the East Collie River and vegetation to reduce

salinity in the Wellington Reservoir. In the Recovery Plan, the saltier flows from the river are to be diverted away from the Wellington Reservoir. Water with a salinity of 600 mg/L TDS will be left to flow into the reservoir. This is seen as an option for the short to intermediate term. It can be implemented fairly quickly and can achieve significant results within a year of the first diversion. Existing and planned vegetation will also play a role in freshening water of the Wellington reservoir (refer to table below).

Agreements between the State and Federal Governments are being finalised and a project to implement the recovery plan is due to be announced in August. Meanwhile, we are working with Harvey Water and Griffin Coal on the first component of the Plan, a 1.5–3 gigalitre trial (Stage 1) diversion of the East Collie River to divert water into a former coal mining void. The Stage 1 trial will improve water quality for irrigators and allow us to evaluate whether there is any leakage of salty water into surrounding aquifers.

WRC S6: BPBS G3, G4, G5

Denmark River

The Denmark River is strategically important to the South Coast Region and could be a major source of water for any new major industry. The report Salinity Situation Statement: Denmark River published in 2004 revealed that recent bluegum plantations in the Denmark catchment are predicted to bring the river salinity down from 678 mg/L to 631 mg/L. Salinity is decreasing by about 8 mg/L TDS per year. Whether there will be a second rotation of these plantations after harvesting will be decided by corporate managers on the basis of productivity. Our modelling of longer-term salinity, flow and salt loads used scenarios with and without second rotations of these plantations.

The target salinity in the Denmark River is 500 mg/L TDS at Mt Lindesay by 2020. Work is about to start on the economic, social and environmental benefits and costs of a range of options to achieve this. Consideration will be given to technical, economic and management feasibility. Much more community consultation and evaluation are needed before any options are finalised.

WRC S6: BPBS G3, G4

Kent River

The Kent River Salinity Situation Statement is nearly completed. The report will show that salinity trends at Styx Junction are still increasing. However, the rate of rise (salinity) has decreased from 43 mg/L/yr (1983-1990) to 12 mg/L/yr (1991-1998). The significant decrease in rate of rise can be attributed to extensive bluegum plantations established in the Upper Kent catchment during this period. Groundwater level trends also show a similar pattern, indicating water levels in a significant portion of the Upper Kent catchment are either steady or declining. The report highlights that large scale interventions are required to restore the water quality to fresh. A hypothetical indication of this scale is that upper catchment clearing levels would need to be reduced from 46 per cent to 18 per cent.

WRC S6: BPBS G3, G4

Warren River

The Warren River Salinity Situation Statement is about to be published. The Tone and Perup sub-catchments are the priority management areas. Together they produce about two thirds of the total salt load of the Warren River.

WRC S6: BPBS G3, G4

Helena River

This river water is still classified as fresh. The situation statement is in preparation. It suggests that inflows to Helena Reservoir from the western and south western catchment tributaries are largely fresh. Most of the salt inflow to the reservoir comes from the upper (north east) portion of the Helena River.

WRC S6: BPBS G3, G4

Implementation in Water Resource Recovery Catchments

Our Regional Operations Division coordinates 'on-ground' planning and implementation of salinity management works in four of the Water Resource Recovery Catchments on a cost-share basis (refer to table below).

Table 2: Cost-shared salinity management works by landholders (1998–2005)

	Collie	Warren	Kent/Denmark
Fencing (km)	46	217	303
Revegetation (ha)	105	395	1030
Sawlogs (ha)	-	227	361
Perennial pasture (ha)	405	901	806
Drainage/surface water management (km)	26	27	158
Summer forage (ha)	-	-	90
Stock crossings	-	-	28
Number of landholders involved	15	55	65?
Number of agreements signed	47	123	121

WRC S6: BPBS G3, G4, G5

4.2.4.6 Engineering Salinity Solutions — 1st National Salinity Engineering Conference

We played an integral role in organising and running the 1st National Salinity Engineering Conference held at the Burswood International Resort on 9-12 November 2004.

Delegates working or involved in dryland salinity or irrigation salinity attended the conference. The Minister for the Environment, Dr Judy Edwards, opened the conference and a welcome address was given by the Governor of Western Australia.

Topics covered included drainage design and assessment, groundwater pumping, saline water use, salinity mapping, salinity and roads, urban salinity, environmental impact assessment,

and catchment and regional scale engineering. Key messages from the conference on using engineering to manage salinity included:

- Start the planning process with where you are going to discharge the water.
- Careful planning is essential.
- There are many things to consider — at farm, catchment and regional scales.
- Keep an open mind on engineering options.

Feedback from delegates was overwhelmingly positive.

The Proceedings of the Conference were published, and papers contributed by staff are noted in Appendix D.

WRC S6: BPBS G3

4.2.5 Implementation of the Environmental Protection (Clearing of Native Vegetation) Regulations 2004

The *Environmental Protection (Clearing of Native Vegetation) Regulations 2004* were gazetted on 30 June 2004 and the clearing provisions of the *Environmental Protection Amendment Act 2003* were proclaimed on 8 July 2004. The new clearing provisions replace the Notice of Intent to Clear process under the *Soil and Land Conservation Regulations 1992*. Clearing of native vegetation requires a clearing permit, unless a valid exemption applies. The assessment of clearing is against a set of principles in Schedule 6 of the *Environmental Protection Act 1986* that consider land degradation, water quality and biodiversity. The CEO must also take into consideration planning instruments and other relevant matters in making a decision on whether or not to issue a clearing permit.

Since the proclamation of the clearing provisions, we have received 661 applications to clear land. Of these, 359 have been finalised, granting the clearing of approximately 9950 hectares, including approximately 7750 hectares for mining purposes. Currently, applications totalling approximately 19 370 hectares are awaiting completion of assessment or further information from the proponent. Of the 661 applications, 35 were Notices of Intent to clear under Regulation 4 of the *Soil and Land Conservation Regulations 1992*, which were transferred to us on 8 July.

There are no statutory time frames in the clearing provisions of the amended Act, except for appeals which must be lodged within 28 days of the issue of a clearing permit. However, we have adopted the 90-day period to complete an assessment, in line with the Notice of Intent to clear procedures. The 90-day period starts on acceptance of the application and advertising. The average time to process applications to either grant or refusal stage (excluding those withdrawn) has been 98 days.

Additional resources were made available to us in January 2005. We have progressively recruited new assessing officers, based in the regions, into the program to assess backlog and priority clearing applications. The central Branch of our Native Vegetation Protection program was also re-structured and provides operational and policy support to the regions. We have introduced refinements to the administration processes, resulting in applications

being dealt with in a more efficient and timely manner. Monitoring of regional workloads and performance are undertaken on an ongoing basis, and regional resource allocations adjusted to meet demand and alleviate backlog pressure.

Appeals have been lodged for 29 of the 185 decisions made to date. Nineteen of these appeals have been determined, with ten dismissed and nine allowed in part. Issues arising from these appeals will help us improve the way we deal with applications to clear.

We have continued to work on an incentives program for protecting native vegetation. To this end we have investigated existing incentives and assistance mechanisms and identified gaps in current incentives available to landholders.

We have developed a format for purpose permits that provides for a program of clearing for a purpose. It allows multiple areas to be applied for under a single approval gives the proponent greater flexibility.

We have prepared two sets of Amendment Regulations. The first Amendment Regulations fixed a problem with Item 2 of Regulation 5 (Clearing to prevent imminent danger or damage to a significant portion of the environment) identified by the Joint Standing Committee on Delegated Legislation and extended the transitional exemption for road widening and realignment under Item 23 of Regulation 5. They were gazetted on 21 January 2005. A second set of Amendment Regulations has been prepared and is under consideration by the Governor in Executive Council. These make changes based on the operation of the clearing provisions of the *Environmental Protection Act 1986* since 8 July 2004 and feedback from stakeholders, proponents, regulators and advisory agencies and the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004*.

On 8 April 2005, the Minister for the Environment declared the Environmental Protection (Environmentally Sensitive Areas) Notice 2005 under s.51B of the EP Act. These are areas of significant environmental assets where exemptions in regulations do not apply and therefore a clearing permit would be required.

DoE S2: BPBS G3, G4, G5

4.2.6 Natural Resource Management support

The Natural Heritage Trust (NHT) and the National Action Plan on Salinity and Water Quality (NAP) were endorsed and signed by the State and Commonwealth Governments in December 2002 and September 2003 respectively, through two agreements known as the Bilateral Agreements. The NHT agreement identified $60 million combined contributions from the State and Commonwealth Governments, over three years. The NAP agreement was for $316 million over four years.

A key outcome of the Bilateral Agreements for NHT and NAP was the establishment or recognition of six regional NRM Groups in Western Australia:

- South Coast Regional Initiative Planning Team;
- South West Catchments Council;
- Avon Catchment Council;
- Swan Catchment Council;

- Northern Agricultural Catchments Council; and
- Rangelands NRM Coordinating Group.

During 2004–05, the NRM Groups developed regional NRM Strategies (except for the Rangelands Group which is expected to do so during 2005–06). These were accredited by both Governments. The Strategies were developed in a community-driven process in partnership with the State agencies, including the Department of Environment, and involving extensive consultation. The strategies identify regional priorities for strategic investment of public funds. The groups (with the exception of the Rangelands) also developed and finalised Investment Plans.

We continued to provide the services of an Executive Officer to the Regional Chairs Coordinating Group to support their operations.

WRC S5: BPBS G3, G4, G5

4.2.7 Western Australian Floodplain Management Strategy

Western Australia has an average annual flood damage bill of $18 million. Severe floods, such as Moora (1999) and Carnarvon (2000), do not frequently occur in Western Australia so the extent of flooding and its consequences are usually soon forgotten. The cost of recovery and response activities associated with these floods is immense. Studies indicate that for every dollar spent on mitigation, between two and three dollars are saved in the response and recovery phases. The most effective strategy for reducing the long-term impact of natural hazards, such as flooding, is to promote mitigation activities.

A draft Western Australian Floodplain Management Strategy has now been developed by the WA Floodplain Management Council, a committee of the Water and Rivers Commission Board. Its development involved close consultation with stakeholders. Two workshops were held. The draft Strategy sets out Statewide policy guidelines and clearly identifies roles and responsibilities of key stakeholders. It sets out ten programs that have a regional focus with links to a possible natural resource management framework. These are institutional reform, information management, best practice planning and development, management of environmental values, insurance, land use planning and control of works on floodplains, flood studies and floodplain management plans, structural works and assets, flood warning and flood monitoring and emergency response and recovery planning. The draft Strategy has been endorsed by the Board of the Water and Rivers Commission and the State Water Strategy Taskforce.

The cost to implement the draft Strategy's programs is estimated at $30.7 million over 10 years for Federal ($8.3 million), State ($14.1 million) and Local Government ($8.3 million). The majority of these costs (i.e. $23.1 million over 10 years) are related to existing and proposed flood mitigation works, with funding estimated to be 1:1:1 (Federal:State:Local). The remaining funding (i.e. $7.6 million over 10 years) would be for projects such as developing a State Floodplain Management Manual ($200 000), progressing the State's floodplain mapping program ($300 000 per year), and improving the State's flood forecasting and warning service ($200 000 per year).

A Cabinet Submission on the draft WA Floodplain Management Strategy was forwarded to the Minister for the Environment for State Government endorsement. Progress was halted due to the State Government election. The draft Strategy will now be revised slightly and re-submitted to State Government for endorsement.

WRC S7: BPBS G3, G4, G5

4.2.8 Stormwater Management Manual

We are preparing a Stormwater Management Manual for Western Australia. It will provide coordinated guidance on current best management principles and practice for stormwater management in Western Australia. Developers, environmental consultants, environmental / community groups, industry, Local Government, water resource suppliers and State Government departments and agencies will find it useful. We are preparing the manual as a series of stand-alone chapters which are being released following extensive stakeholder consultation. The manual was launched in May 2004 with the release of three chapters: Chapter 1 — *Introduction*, Chapter 2 — *Understanding the Context*, and Chapter 8 — *Education and Awareness for Stormwater Management*.

In May 2005, Chapter 7 — *Non-Structural Controls* and a decision flow chart for planners and designers titled *Decision Process for Stormwater Management in WA* were released.

Preparation and stakeholder consultation for Chapter 3 — *Best Planning Practice for Stormwater Management*, Chapter 4 — *Water Sensitive Urban Design*, Chapter 5 — *Stormwater Management Plans*, Chapter 6 — *Retrofitting* and Chapter 9 — *Structural Controls* has been ongoing throughout the year.

WRC S7: BPBS G3, G4, G5

4.3 Office of Water Policy

4.3.1 Business overview

The Office of Water Policy has been restructured. Its functions were integrated within the Department of Environment in July 2005. To ensure that legislative responsibility and administrative clarity exists across the water portfolio, the management of water-related matters, resources, licensing, pricing and regulation and statutes has been realigned.

Subsequent to the reporting period, the Office of Water Strategy was set up in the Department of Premier and Cabinet on 1 July 2005. It will support the Minister for Water Resources by:

- Providing high-level advice to the Government on water strategy;
- Coordinating Government activity in water, including new source development, demand management, and water re-use;
- Providing executive support to the State Water Council, the Cabinet Standing Committee for Water, the Premier's Water Foundation, and other committees involved in the implementation of the state water strategy; and,
- Facilitating the development and implementation of strategic water initiatives.

BPBS G2, G3, G4, G5

4.3.1.1 Water Legislation Amendment (Competition Policy) Bill

A particular focus for 2004–05 was drafting the Water Legislation Amendment (Competition Policy) Bill, which is the fourth legislative initiative in a series of measures taken over the past decade to implement national competition policy and improve the institutional structure of the water industry in Western Australia.

The Bill was introduced into Parliament on 1 June 2005 and has had its Second Reading Speech.

This Bill makes amendments to legislation, which were recommended by the National Competition Policy Legislation Reviews and endorsed by Cabinet. Competition payments to Western Australia have been withheld until it is deemed that significant progress has been made in making the required legislative reforms.

The legislation provides better value, more-efficient water supplies to Western Australian consumers. The most significant aspects of the legislation will:

- Require the Water Corporation to seek Ministerial approval to compulsorily take land and extend this power to other licensed water service providers;
- Establish common penalties for similar offences under the various water-related Acts; and
- Increase the flexibility for service providers to enter into agreements to provide services.

BPBS G2, G3, G4, G5

4.3.1.2 Water Boards Bill

The National Competition Policy Legislation Review of the *Water Boards Act 1904* recommended that the Act be replaced with new legislation.

New legislation is required to provide the Bunbury and Busselton Water Boards with broader powers in line with the review recommendations.

The Water Boards representatives support the recommendations and wish to see the legislation updated. This is mainly because they would like to have broader powers, similar to those enjoyed by the Water Corporation, such as the power to enter into a wider range of commercial activities.

The new legislation will enable the providers to expand their business to:

- Provide services outside their Water Area;
- Provide a full range of water services (including sewerage, drainage and irrigation);
- Make a profit;
- Participate in joint ventures, acquire undertakings and acquire subsidiaries;
- Develop technology, software or other intellectual property that relates to providing water services;
- Manufacture any product, or by-product that relates to a function.

The review of the Act gives OWP, Treasury and the water boards an excellent opportunity to work together and develop legislation that is workable and relevant to the modern water

industry. Drafting instructions are currently being prepared and it is anticipated that a Bill will be introduced into Parliament during the 2005–06 financial year.

BPBS G2, G3, G4, G5

4.3.1.3 Extension of enactments — by-laws and regulations

Work is in progress to extend legislative powers to private service providers, which will provide them with the authority to:

- Enter private property;
- Rate customers;
- Construct works.

Provisions that apply to the Water Corporation, which are listed in Schedule 2 of the *Water Services Licensing Act 1995*, may be extended by regulation to apply to licensees. These licensees include Local Governments who provide sewerage services, the Ord Irrigation Cooperative, Gascoyne Water Cooperative, Nilgen Services Company, and the Rottnest Island Authority.

BPBS G2, G3, G4, G5

4.3.1.4 Great Southern Water Industry Strategic Plan

During 2004–05, we initiated a program aimed at developing regional water supply planning to satisfy demand. The Great Southern Region has been identified as the first region in which to develop a water supply services framework. We will use information regarding the economic value of the allocation of water for different uses, and a supply capacity assessment, to identify options for meeting the future water supply service needs for the region.

The key objectives of the project are to:

- Identify areas where there may be inadequate water supply services, based on demand projections and current (and planned) water supply capacities;
- Develop strategies to manage identified inefficient or unsustainable (high volume water use, low value) commercial uses of water;
- Identify and assess opportunities for water recycling and water transfers (primarily intra-regional transfers); and,
- Identify and assess options and suitable institutional arrangements for increasing supply capacity.

BPBS G2, G3, G4, G5

4.3.1.5 Sustainable indigenous communities

Through the OWP, we provide specialist input on water services provision and related infrastructure for indigenous communities. We work as an invited representative on the Indigenous Remote and Town-based Communities Group, convened by the Department of Premier and Cabinet (DPC). Our representative is also a member of the DPC's Services Working Group for negotiating a new State/Commonwealth Bilateral Agreement on Indigenous Affairs.

In November 2004 we participated in and delivered an address to an historical Aboriginal Town Reserves Forum and Workshop. Sixty representatives from the community and Government began developing a coordinated inter-agency strategy for the sustainable future of Western Australia's town-based indigenous communities.

We have also participated in various discussions and deliberations of the two groups. This work has included drafting a possible strategic perspective, from which bilateral negotiations with the Commonwealth on water services to indigenous communities could be approached. Toward the end of 2004, the work of the two groups was coordinated in order to prepare for the detailed technical discussion expected to take place in funding and strategy workshops with the Commonwealth Government in July 2005.

BPBS G1, G3, G4, G5

4.3.1.6 Infrastructure security

The security of the State's critical water infrastructure was addressed in a briefing by the Office of Water Policy, Water Corporation and State Protection Services to the Western Australian Police Service on protection and security arrangements for the State's critical water infrastructure.

Subsequently, we arranged similar briefings for the Bunbury and Busselton Water Boards and liased with State Protection Services to facilitate the participation of executive managers from the two boards on the District Emergency Management Committee for the South West Police District. The new arrangements ensure that the boards are rapidly informed of any issues that may impact on facilities within their areas of responsibility. They also provide for presentations by the Counter Terrorism and State Protection Portfolio and other agencies involved in preparedness for, and response to, terrorism.

All three of the State's major water service providers are now conversant with State and National arrangements under the National Counter Terrorism Plan. They are kept informed of developments in infrastructure security and share relevant information.

BPBS G5

4.3.1.7 Western Australian Water Industry Awards

The WA Water Industry Awards highlight the significant and ongoing contribution of Western Australia's water industry researchers and innovators. The awards were initiated in 1998 to promote research and innovation in the State's water industry.

In 2004 a total of 23 high quality nominations from 16 organisations were received, a decrease from previous years.

2004 winners included:

- Category 1 — Rural/Remote Water Supply: Shire of Mt Marshall for a project that controls surface-water run-off on private properties.
- Category 2 — Water Treatment/Recycling: CSIRO Land and Water for their Halls Head Indirect Reuse Project.
- Category 3 — Excellence in Customer Service: No winner for this category.

- Category 4 — Plumbing Product or System: ClevaCorp Pty Ltd for the GE ClevaCorp Shower Arm — an extendable arm and nozzle for use in hospitals and care facilities.
- Honourable mention — WA Hydraulic Consultants for producing the reference guide, A Guide to Cross Connection Control in Potable Water Supply Systems.
- Category 5 — Water Conservation: Town of Mosman Park for its 'Total Water Cycle Project'.
- Category 6 — Irrigation/Drainage Project: Bookleaf Pty Ltd t/a Holman Industries for its automatic watering control system, WaterSmart™.
- Minister's Award for Excellence — Town of Mosman Park.

BPBS G1, G3, G4, G5

4.4 Water Information

4.4.1 Business overview

The Auditor General's 2003 report on Water Resource Management in Western Australia found a significant decline in surface water measurement since the late 1990s. The number of gauging stations we operated fell by 30 per cent, resulting in reduced flow measurement, rainfall measurement and water quality sampling. Additionally, there has been a considerable decline in the installation of new monitoring bores. This is inhibiting the collection of information to assess water resource management programs, sustainable groundwater limits, and the effects of pumping, land use and climatic variability on groundwater systems.

The Auditor General's report also found that reduced funding has led to a marked decline in the quality of data collected, which affected the ability to process and store data on the water information database. This is inhibiting access to current data, not only for the Department of Environment, but also for private companies seeking data for their water investigations.

As a response to the Auditor General's report, our Water Information Business received an additional $625 000 in 2004–05 and future years to start to address these issues.

4.4.2 Collecting water resource information

Five of the six new career-start Natural Resource Management Officers (hydrographic skills) have been recruited, as identified in our response to the Auditor General's report. An intensive training program began at the end of March. The program combines field experience in regional offices with in-house training on a comprehensive range of technical and occupational health and safety components. Trainees are also undertaking the core units from the Hydrography Certificate IV (NSW TAFE).

4.4.3 Management and provision of water resource information

We have recruited two new Data Management Officers to improve data management and provision procedures. We have developed performance measures that will allow the Business Council to assess the impact of new measurement staff on improvements to data timeliness and quality. Baseline information is being determined now, and will be reported at the end of

the financial year. It is expected that it will take two to three years to show measurable improvements.

The Perth Groundwater Atlas 2nd Edition (2004) was launched by the Minister Assisting the Minister for Water Resources, on 16 June 2005. 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. The atlas also contains information on salinity and acid sulphate soil risk.

4.5 Sustainable Industry and Waste Management

4.5.1 Business overview

Our Sustainable Industry and Waste Management Business works with industry and the community to ensure emissions and discharges to the environment meet environmental standards, and that waste management practices meet agreed performance targets.

We are responsible for industry licensing, noise regulation, pollutant inventories, controlled waste regulation, pollution incident response, Ministerial approval auditing, contaminated sites regulation, acid sulfate soil mapping, waste management policy, and air quality monitoring.

Community demands for higher environmental standards and industry expectations of greater regulatory efficiency have shaped our priorities and achievements in the past year.

We have begun to review all industry licences to improve enforceability and place greater focus on environmental outcomes. To support these reforms, the Department is also focussing its efforts on developing a clear and transparent policy framework, and enhancing our staff recruitment and retention strategies to ensure we have experience officers delivering industry licensing in Perth and our regional offices.

Statewide implementation of the Controlled Waste Regulations is well advanced, supported by the Controlled Waste Tracking System introduced last year and targeted inspection programs in key regional areas.

We have assembled a highly skilled contaminated sites team to implement the new contaminated sites legislation, expected to be proclaimed later in 2005.

The Waste Management Board has developed a new strategic direction for waste management. It places particular emphasis on waste prevention and targeting priority waste products.

We started the Perth Air Toxics Study and completed the Pilbara Air Quality Study. Additional resources were secured for air quality work, which makes an important contribution to strategic planning and development in Western Australia.

We have begun implementing the Keating Review (government approval processes) recommendations that relate to industry licensing and auditing of Ministerial approvals, so as to improve timeliness and outcomes in those areas.

DoE S4, S5: BPBS G3, G4

4.5.2 Strategic Waste Initiatives and Community Grants Schemes

Following the statutory review of the Waste Management and Recycling Fund (WMRF) and the release of the Strategic Direction for Waste Management in Western Australia, two new schemes were launched in September 2004 by the Minister for the Environment. These are designed to improve the way we view and manage waste in Western Australia.

The Strategic Waste Initiatives Scheme (SWIS) has been established to provide support to assist others in contributing to achieving the vision of *Towards Zero Waste* in Western Australia. This support includes, but is not limited to, financial support and can be provided for projects that are consistent with the goals and objectives identified in the *Statement of Strategic Direction for Waste Management in Western Australia* released in September 2004. A Business Plan will be published annually by the Waste Management Board to identify the key focus areas for which project support is available.

We established the Community Grant Scheme to provide funding for small projects (generally local-scale) that improve waste management in Western Australia or provide technical information to communities that may be affected by waste management projects.

Both schemes were advertised in September 2004 and applications closed in November. The Waste Management Board assessed applications and made recommendations for funding support to the Minister for the Environment. Six projects were awarded SWIS grants totalling $1 070 000 and seven projects were awarded Community Grants Scheme grants totalling $32 417.

The projects funded under the SWIS included: a workplace recycling program for small to medium enterprises; an away-from-home recycling project for Rottnest Island; continuation of support provided to the Centre of Excellence in Cleaner Production; a wood-waste recycling initiative in Malaga; a sustainable industry program in Bellevue; and support for the national Compost Supply Chain Roadmap project.

The Community Grants Scheme included funding for: a vermiculture project; community recycling projects in Dongara and Dandaragan; a packaging recycling project in Augusta; a bag smart project in Esperance; and a coastal litter awareness project.

Other grants were made to St Mary's Industries, Kalgoorlie, and to Enterprise in the Community. The grant to St Mary's Industries was to purchase processing equipment for its recycling facility. This additional equipment will enable an increase in throughput of recyclable material from 150 tonnes to 200 tonnes per month. Enterprise in the Community develops a bag smart awareness among communities of the problems caused by plastic shopping bags and helps them to develop strategies towards solutions. Following the development of a pilot scheme, programs were delivered to 15 communities around the State.

DoE S4: BPBS G3, G4

4.5.3 Household Chemical Waste Program

Household chemical wastes are leftover products used by householders. They arise from cleaning, disinfecting, gardening, pet care, painting, hobbies, pest control, motor vehicles, floor and pool maintenance, and personal care products. These materials can pose a threat to public safety and the environment when they end up in land fills or are indiscriminately dumped into stormwater and sewerage systems.

There are seven free household chemical waste drop-off facilities in the Perth metropolitan area. They are located at local and regional landfills and waste transfer stations and funded by the local government authorities operating these facilities.

We provide support for dealing with household chemical waste, particularly:

- A recovery and disposal strategy, which establishes a coordinated approach for the safe storage, recovery, and disposal of household chemicals;
- A funding strategy, which explores long-term funding to sustain the program;
- A communication strategy, which changes the community's attitudes and behaviours regarding their purchases;
- Storage and disposal of household chemicals; and
- A waste avoidance strategy, which promotes industry partnerships through product stewardship and extended producer responsibility. This will identify opportunities to avoid producing harmful household chemical wastes and optimise recovery of chemicals.

Our Household Chemical Waste project seeks to work collaboratively with stakeholders on post-consumer recovery and on reducing waste at source. We work with industry in waste minimisation and recovery. Consumers continue to have a role through environmentally sensible purchasing practices and in resource recovery.

In this project we have:

- Launched a paint recycling trial (Paintback™), in collaboration with Bunnings, Dulux, SimsMetal and Mindarie Regional Council. The community can deliver its unused paint to Tamala Park at Mindarie, where it will be decanted. It is then moved to the Dulux facility at O'Connor. Dulux will remanufacture the paint for sale at Bunnings in early September 2005.
- Formed a Technical Advisory Group to assist in decision-making on technical issues for the project. The group has representatives from State Government agencies with regulatory roles over, or direct interest in, the drop-off centres and the project generally.
- Cleared household chemical wastes from the Mindarie Regional Council's Tamala Park facility and Eastern Metropolitan Regional Council's Red Hill facility.

DoE S5: BPBS G3

4.5.4 National Packaging Covenant

The National Packaging Covenant (NPC) was extended to 14 July 2005 to allow time for the National Packaging Covenant Council to review the performance of the Covenant and develop a revised Covenant proposal. Environment Ministers will be considering endorsement of the revised NPC at the Environment Protection and Heritage Council meeting in July 2005.

As a signatory to the original NPC, the Government of Western Australia established a Jurisdictional Recycling Group (JRG), which was responsible for identifying and assessing appropriate use of NPC transitional funding to support the development of sustainable kerbside recycling in Western Australia. One project was granted funding and has been completed.

The grant was used to engage consultants to assess the viability of kerbside recycling in regional Western Australia and to investigate opportunities for cost-effective transport of recyclables from regional areas to Perth, other major Western Australian or interstate centres, or overseas markets.

Based on investigations of various transport options and development of an economic model of viability, a series of recommendations was suggested in the final report. From these, potential projects to be assessed by the JRG in the future are being considered, subject to renewal of the Covenant.

DoE S5: BPBS G3, G4

Subsequent events: The revised NPC was endorsed on 1 July 2005 for commencement on 14 July 2005.

4.5.5 Hazardous/Industrial Waste Treatment 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. The 3C has developed a stakeholder involvement program to establish 'technology suitability' and 'site selection' criteria for future hazardous/industrial waste treatment facilities in Western Australia. It is in the process of short-listing sites that it considers suitable for establishing hazardous/industrial waste precincts. Government endorsed the site selection criteria and the technology suitability criteria. This enabled the 3C to begin a site selection process that will lead to a recommendation to Government.

The program began 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 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.

Between September and December 2004, nominations were called for potential sites for hazardous/industrial waste treatment precincts. Private parties nominated 17 sites. Government nominated 920 sites on land owned by the State. The 3C has shortlisted sites with a view to exhibiting eight sites for public comment later in 2005. We have assisted the 3C with this work.

We have also assisted the 3C in developing a classification system for hazardous waste. It will be used to describe which wastes would need to be treated in waste precincts. Government endorsed this in principle in April 2005.

DoE S5: BPBS G3, G4, G5

4.5.6 Industry regulation

During 2004–05, we began systematically reviewing all licences granted under Part V of the *Environmental Protection Act 1986*. The review is based on the Independent Strategic Review of Licence Conditions undertaken by Welker Environmental Consultancy. Our objective is to ensure that licences and their conditions are more relevant, understandable, legally enforceable and consistent with our current policies. We expect to complete the review by December 2006.

We established a framework to support the review of licences and other reform initiatives associated with industry licences. We rated every licensed premises in Western Australia according to the following six criteria: likelihood of operation malfunction; consequence (environmental impact) of operation malfunction; complexity of operation; compliance issues; environmental management system; and community interest or concern.

This prioritisation framework is now providing a targeted approach to the process of reviewing licences, with those licenced premises being rated as a higher priority generally being reviewed first. The framework also guides our approach to inspections.

Consistent with our Regional Services Delivery Model, the capacity to provide regionally-based services that improve customer interface and service provision was greatly enhanced when the authority to grant licences, works approvals and registrations was delegated to regional managers on 6 September 2004.

Before this delegation of authority occurred, we established a quality assurance (QA) program to ensure we presented a consistent approach to industry licensing, decision making, and condition setting. Once the QA program, which adopts a risk management and continuous improvement approach, is completed, staff from our Licensing Policy Unit will undertake an audit to identify areas that should be the focus of greater regional support, further training and improvement.

We have also been developing a range of licensing policy positions to support the licensing system. We have begun our review of the prescribed premises list, which is the other major element of the licence reform agenda.

DoE S2: BPBS G3, G4

4.5.7 Implementation of project approval process improvements

We support the objectives of approval process improvements and are helping implement the approved recommendations arising from the Keating Review. We have provided a senior staff member to coordinate implementing improvements in our systems and approval processes. This process is planned to extend over at least one year. These improvements include improved licence conditions processes and structure, earlier scoping of key environmental issues, improved integration with other agencies, improved guidelines to proponents, and improved community access to web-based information. Intensive staff training scheduled for early 2005–06 is already well advanced.

We are also working with the Department of Industry and Resources to identify duplication and overlap in our activities and to remove or minimise these, consistent with Keating recommendations.

Additional funding has been allocated to this business area, specifically associated with these reforms and additional staff are being recruited to ensure that agreed timelines and streamlining objectives for major resource projects are met. This will include industry licensing (works approvals and licensing) and the auditing/clearance of conditions associated with Ministerial approvals.

Two specific project grants to assist this process have been received from DoIR. These will be used for staff training (three-day DoE training workshops for licensing staff are scheduled for July) and improved community access to web-based Part 5 statutory documents and systems. Other projects, including database software upgrades and detailed process mapping, are currently being considered, subject to funding availability.

DoE S2: BPBS G3, G4

4.5.8 Controlled waste

The Environmental Protection (Controlled Waste) Regulations were gazetted 1 July 2004. Administering the Regulations includes licensing carrier companies transporting controlled waste on public roads, training and licensing drivers, and licensing tanks on vehicles carrying bulk liquid waste.

We held information sessions for industry sectors and local governments and provided training opportunities across the State.

In the 2004–05 year, we licensed 140 carrier companies. Some 410 drivers have attended training and subsequently been granted licences and 250 vehicle (tanks) have passed inspection to become licensed.

We conducted compliance audits of carriers and controlled waste generators in Osborne Park (March), Bunbury and the south west (April), Maddington (May), and Karratha and Port Hedland (June). Conducting the audits in the second half of the year enabled industry to become familiar with its obligations under the Regulations before being audited.

In the 2004–05 year the total volume of waste tracked on public roads via the Controlled Waste Tracking System was 422 972 kilolitres. The major waste streams contributing to this total were biological waste (51 per cent), oils and emulsions (18 per cent) and alkalis (15 per cent). Hazardous wastes, such as chromium and cyanide wastes, made up less than one per cent of the total waste transported in Western Australia.

A total of 46 977 controlled waste tracking forms were activated to track controlled waste from its point of generation to its point of disposal. Of these, 77 per cent were activated via the electronic Controlled Waste Tracking System; the remainder were paper controlled waste tracking forms. However, industry is entering a large number of these into the tracking system (approximately 50 per cent), freeing up our Controlled Waste Section's time for issues, such as Regulation compliance audits.

DoE S2: BPBS G3, G4

4.5.9 Brookdale Liquid Waste Treatment Facility

Following the closure of the Brookdale Liquid Waste Treatment Facility (LWTF) on 31 December 2003 and the departure of the site operator in late June 2004, we have been

working with the community to develop a plan for the first stage of a comprehensive decommissioning process for the site.

The Detailed Site Investigation Plan (DSI) was approved by the Minister for Environment in March 2005, after being open for public comment, subject to peer review, and endorsed by the EPA. A tender to implement this plan closed at the end of June 2005, with work scheduled to commence in late August 2005.

The DSI is the first phase of a three-part decommissioning process. It involves comprehensive sampling of the site to identify and characterise any contamination. The results of the DSI will then be used to develop a Site Management Plan outlining how any contamination will be cleaned up. The final part of the decommissioning process will be the development of a Water Monitoring Plan for long term groundwater monitoring, if that is necessary.

Following completion of the whole decommissioning process the site will be returned to its owner, the Water Corporation. The Water Corporation continues to operate a sewerage pump station on part of the site.

DoE S2: BPBS G3, G4

4.5.10 Mount Walton Intractable Waste Disposal Facility

The Mt Walton Intractable Waste Disposal Facility is a Class V landfill situated in the Goldfields region of Western Australia. The facility accepts low-level radioactive and chemical wastes for which no other reuse, recycling, treatment or disposal methods are available. The facility is operated under strict Ministerial Conditions and only accepts waste generated in Western Australia. No disposal operations were undertaken at the facility during 2004–05.

In March 2005 responsibility for the operation of the Mt Walton facility was transferred from Waste Management (WA), a body corporate of the Department of Environment, to the Department of Housing and Works. This transfer was necessary to remove the potential conflict of interest that existed because we were involved in both the operation and regulation of the facility. We are now the regulator of the facility.

DoE S2: BPBS G3, G4

4.5.11 Incident response

Our Pollution Response Unit (PRU) continued to provide a 24-hour pollution emergency response service and responded to 81 pollution incidents and emergencies during the year. These included several significant hazardous materials fires, such as the Bayswater Scrap Metal fire, which burnt for three days and covered much of the northern suburbs of Perth in dense smoke. We worked around the clock to monitor potentially toxic gas emissions to enable decisions to be made to protect the health of the community. Other incidents included chemical spills, major sewage spills into the Swan River, dangerous goods truck crashes and fires, and oil spills into waterways. In each instance, we took actions to protect the environment and public health. We collected evidence that enabled enforcement action to be taken by the Department and other agencies, such as Worksafe and the Department of Health.

We also provided pollution response training to local government environmental health officers, rangers, police officers and our regional staff. We have conducted proactive incident prevention

inspections of many high risk industrial sites in conjunction with Fire and Emergency Services and the Department of Industry and Resources.

We have also conducted industry blitzes on several industry sectors to detect pollution offences and to change poor environmental behaviours and actions. These have included industrial boat repainting operations and radiator repairers. Good results have been achieved in each case.

DoE S2: BPBS G3

4.5.12 Contaminated sites

4.5.12.1 Contaminated sites legislation update

The Contaminated Sites Amendment Bill 2005 was introduced into the Legislative Assembly (Lower House) on 7 April 2005, passed by the Legislative Assembly on 19 May 2005, and second read in the Legislative Council (Upper House) on 25 May 2005.

The Contaminated Sites Regulations were released for public comment over October and November 2004. We reviewed the submissions received, and the target date for presenting final draft Regulations to the Minister, in preparation for gazettal, is late 2005.

Commencement of the *Contaminated Sites Act 2003* is anticipated before the end of 2005, once the Amendment Bill is passed and the Contaminated Sites Regulations have been finalised and gazetted.

We have begun to put the known and suspected contaminated sites currently on our records into the internal electronic Reported Sites Register, of which the publicly-available database will be a part, has begun. We are progressing with the classification of these sites to enable publication of the publicly-available database.

Two new draft guidelines were released for public comment in early 2005:

- The Use of Risk Assessment in Contaminated Site Assessment: Guidance on the overall approach outlines the approach we adopt for using risk assessment to assess and manage contaminated site issues; and,
- Contaminated Sites and the Landuse Planning Process provides assistance to planning authorities at State and local levels in considering contamination when making planning decisions.

DoE S3: BPBS G3, G4

4.5.12.2 Contaminated site and acid sulfate soil assessments

Our Land and Water Quality Branch provides specialist technical advice to other areas of the Department and external parties, such as community groups, industry and Local Government, in relation to the assessment and management of contaminated sites and areas affected by acid sulfate soils or water.

During the 2004–2005 financial year, we reviewed and provided advice on 364 reports relating to contaminated sites, and 233 reports relating to acid sulfate soils and water. These reports were submitted by proponents of land developments, or their environmental consultants, in

relation to compliance with planning and Ministerial conditions, dewatering licence requirements, and general queries regarding contamination and acid sulfate soil/water issues. These statistics relate only to reports prepared by environmental consultants –we responded to many more e-mail and telephone enquiries.

DoE S3: BPBS G3, G4

4.5.12.3 Acid sulfate soils

We have continued our program of educating the community, industry and local government authorities about the importance of managing the effects of disturbing acid sulfate soils. As part of this program, we worked closely with the Centre for Sustainable Mine Lakes from Curtin University to organise a conference on the issue in Mandurah in August 2004. This conference enabled stakeholders in the Peel Region to meet national experts and to help develop management responses. Eleven community workshops were run in regional centres to enable natural resource management groups and local government authorities to assess and manage impacts from disturbed acid sulfate soils. In addition, 10 briefings were provided to specific industry groups and local government authorities.

Significant environmental impacts from acid sulfate soils were identified at Baigup Reserve in Bayswater. A regional groundwater acidification problem on the Gnangara and Jandakot Mounds has the potential to cause environmental problems in wetlands in the region. Preliminary investigations at Baigup indicated that runoff and groundwater discharge from the site contain high concentrations of metals. We started work with the Swan River Trust to develop long-term management strategies for the site. We also initiated a program to assess the magnitude and extent of soil and water acidity problems on the groundwater mounds, so they can be ameliorated.

DoE S3: BPBS G3, G4

Acid sulfate soils risk mapping

We have mapped acid sulfate soils (ASS) on the lower Swan Coastal Plain. This has significantly improved understanding of ASS occurrence and identified more areas with a high risk of ASS in Western Australia. Coring at over 450 sites has been completed between Mandurah and Dunsborough. Potential acid sulfate soils have been identified in predominantly sandy soils. This regional approach has found over 20 sites with acid sulfate soils where disturbance by drainage, excavations, dewatering or groundwater use has resulted in the release of sulphuric acid.

In November, the ASS risk map for the Peel Region was completed and updated in planning systems to improve implementation of the WA Planning Commission Planning Bulletin 64, Acid Sulfate Soils. The mapping identified 110 per cent more area around the estuary with shallow ASS than was initially predicted, an increase from 5 500 hectares to over 11 000 hectares of ‘high-risk’ areas. Between Moore River and Dunsborough, on the Swan Coastal Plain, over 10 per cent (or 88 000 hectares) is considered to have a risk of shallow acid sulfate soils, and just under 60 per cent (around 430 000 hectares) may have deep ASS (more than three metres below the surface). This map has also been included in the Groundwater Atlas that we launched in June 2005 to alert groundwater users to possible risks of disturbing ASS from over-use of water resources.

We have compiled draft ASS risk maps for much of the Pilbara coastline and parts of the South West and South Coast. These are being complemented by strategic on-ground investigations. Initial work on the Scott Coastal Plain has identified extensive areas of shallow ASS up to 40 metres above sea-level. It is unusual to have such extensive shallow soils high in the landscape.

Results from the mapping project have also been communicated through community workshops and information sessions from Chittering to Augusta. The one-day workshops have involved landholders, landcare practitioners, local government officers, catchment co-ordinators and agency officers. Each workshop involved a few hours of presentations on acid sulfate soils followed by a session at a field site with acid sulfate soils. They covered practical advice on identifying and managing the soils.

DoE S3: BPBS G3, G4

4.5.13 Air quality

4.5.13.1 Pilbara Air Quality Study

The Pilbara Air Quality Study report was released in the fourth quarter 2004. The study found that dust levels in the region were high, but other key pollutants comfortably complied with national standards.

The study was undertaken to better understand how to manage air quality in Pilbara coastal centres, in light of forecast industrial growth. It has provided valuable information on the regional meteorology, which affects the dispersion of air pollutants, and also on the current levels of the most common air pollutants.

The study found that the National Environment Protection (Air Toxics) Measure (NEPM) standard for particulate matter less than 10 microns in diameter (PM10) was exceeded more often than one day in three for most years between 1999 and 2003 at the Port Hedland town monitoring-site. The study indicated that the high particle levels were predominantly caused by local industrial sources near Port Hedland, although smoke from bushfires and dust storms contributed significantly on occasions.

The volume of iron ore and other commodities to be shipped through Port Hedland is likely to increase significantly in the near future in response to increasing demand. Increases in throughput will have the potential to exacerbate the dust problem if effective action is not taken. BHPB, the largest operation at the port, is implementing a major program to reduce dust from their operation.

With other Government stakeholders, we have identified issues that require resolution, including:

- the need to expand the current dust monitoring network and the need for independent operation;
- understanding the relative contributions from industry and other sources;
- examining the effectiveness of current licensing conditions, as they relate to dust management;

- The need to better understand the health effects of dust in which iron ore particles are a significant constituent. The Department of Health has initiated studies to address this issue.

Outcomes of the Pilbara Air Quality Study are contributing to several other Government and industry initiatives being undertaken to further assess and address issues of dust in the Pilbara Region.

The Department for Planning and Infrastructure conducted the Port Hedland Enquiry by Design study, which brought together technical specialists, including DoE staff, to work with members of the Port Hedland community to develop plans for the future growth and development of the town.

The Department of Industry and Resources (DoIR) has initiated the Cumulative Impact Assessment study for the port area of Port Hedland. The results of this study will be used to better assess proposals for increases in iron ore handling by port users.

An inter-agency working group was established to ensure a coordinated approach is taken to the management of air quality in the Pilbara and planning outcomes in coastal centres. This working group includes local government and the Pilbara Development Commission.

DoE S1: BPBS G3, G4

4.5.13.2 Perth Background Air Quality (Air Toxics) study begun

Early in 2004, the Minister for Environment announced a study into the levels of air toxics within the Perth metropolitan region. The study was initiated following community consultation and feedback. Its main aims were to:

- gather data on levels of ambient air toxics over one year in different urban environment settings within the Perth metropolitan area;
- compare the measured levels against guidelines proposed in the National Environment Protection (Air Toxics) Measure (NEPM) and against guidance levels set by other authorities (such as USEPA, WHO, etc);
- compile the air quality data in a suitable format to facilitate health risk assessments and future epidemiological studies; and
- engage and encourage all stakeholders to participate in the study, including the community, special interest groups, other State and Federal Agencies and industry.

In partnership with the Chemistry Centre of Western Australia, we have begun monitoring for polycyclic aromatic hydrocarbons (PAHs), volatile organic compounds (VOCs), carbonyl compounds, heavy metals and particles. Monitoring is being undertaken at existing metropolitan air quality monitoring sites (Duncraig, Queens Building and Hope Valley). The study scope was significantly extended to include monitoring at seven additional metropolitan sites using passive diffusion samplers, following further consultation with Kwinana stakeholders, including the local community and the Kwinana Industry Council (KIC). Continuous monitoring for particles will also be conducted at two strategic locations in the Kwinana/Rockingham area.

Local community members are also involved in the study. They are collecting air samples at times when the air quality is perceived to be below acceptable levels.

DoE S1: BPBS G3

4.5.13.3 Alcoa Wagerup air quality technical investigations

We undertook technical investigations and activities in relation to the Alcoa Wagerup Alumina Refinery, as part of an ongoing program to address community concerns over air quality in the region. Over the past year we:

- Conducted an air quality survey of Alcoa's Wagerup refinery and surrounding area (from Waroona down to Harvey), in conjunction with the Chemistry Centre of WA, using our newly-acquired portable Gas Chromatograph/Mass Spectrometer (GC/MS).
- Compiled and published the 'Wagerup 2003 (PID) Ambient Air Sampling Program' report (109 pp) and presented it to the Wagerup Community Working Group.
- Continued the community ambient air sampling program utilising our newly-acquired silica-lined sampling canisters. This began at Wagerup and subsequently extended to include Kwinana and Rockingham.

We provided significant technical input to air quality matters through our membership of the Wagerup Community Working Group.

Our SODAR equipment was deployed at Wagerup to monitor upper air dynamics to refine input data to modelling of dispersion within the region. This work is ongoing.

With CSIRO Atmospheric Research, we provided technical specification of pilot programs to utilise advanced monitoring technologies in the area. This will provide a better understanding of air quality issues.

We will be increasing our focus on air quality issues in Wagerup over the next year and are planning a number of technical initiatives with CSIRO and the Chemistry Centre of WA.

DoE S1: BPBS G3, G4

4.5.14 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 sixth NPI reporting year (2003–04) was published on the NPI website in January 2005. In Western Australia, 573 facilities reported to the NPI from 81

industry sectors, including petroleum, alumina and nickel refineries, power stations, gold and other mining operations, manufacturers, fuel depots, poultry farming, water suppliers and large bakeries.

Our NPI Unit provided a continuous service to Western Australian industrial facilities to advise and assist them in their duties under the NPI. We held a series of Perth and regional workshops to assist companies with NPI reporting. We completed on-site audit assessments of seven reporting facilities.

Pollutants from smaller industry, domestic, 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 2004–05, we published a study of NPI emission estimates in the Vasse-Wonnerup catchment, with a focus on average annual loadings of nitrogen and phosphorus nutrients.

We continued to coordinate improvements to calculations of cyanide emissions in the gold ore processing industry. A project to improve estimates of fugitive dust emissions from mining and related activities continued through 2004–05.

We developed an internal data management system to streamline procedures for data processing, maintenance of contact information, and storage of emission data.

DoE S1: BPBS G3, G4

4.5.15 Western Australian Greenhouse Gas Inventory

The 2004 WA Greenhouse Strategy contains action items for the Department to establish a WA Greenhouse Gas Inventory (WAGGI), with reporting requirements for significant emitters from industry and Government agencies.

Mandatory annual reporting of greenhouse gases will be required of significant industry and government emitters, at trigger points decreasing from 500 000 tonnes CO_2-e/year* to 100 000 tonnes CO_2-e/year over three years. Forecasts and strategies to minimise anticipated emissions will be required. Those organisations reporting emissions to the inventory will have their operations audited. A summary of the WAGGI will be released to the public every three years.

The WA Greenhouse Gas Inventory will contribute to: recording and tracking Western Australian emissions; promoting abatement of greenhouse emissions; and providing experience for greenhouse gas emitters in establishing internal inventories for potential future emissions trading and national reporting. Organisations can benefit from reporting greenhouse gas emissions by developing strategies to manage and reduce greenhouse gas emissions, and identifying energy efficiency and other cost saving opportunities.

A large range of national and international activities, protocols and guidelines related to greenhouse emissions estimation and reporting are being considered in developing the WAGGI. In 2004–05, a draft Briefing Paper was released for initial consultation with an industry

* CO_2 equivalent (CO_2-e) The universal unit of measurement to indicate the global warming potential (GWP) of each of the six greenhouse gases, expressed in terms of the GWP of one unit of carbon dioxide. It is used to evaluate different greenhouse gases against a common base.

focus group. A final Briefing Paper will be released, recognising concerns over national consistency with a wide range of Government energy and greenhouse reporting programs at interstate and Commonwealth levels. We are participating on a related national Ministerial Council Working Group on Energy and Greenhouse Reporting.

We made preparations for developing a legal basis for mandatory reporting, as well as an initial reporting form and database features.

DoE S1: BPBS G3, G4

4.6 Environmental Policy and Impact Assessment

4.6.1 Business overview

Our Environmental Policy and Impact Assessment business provides services to two main bodies: the Minister and Government; and the Environmental Protection Authority (EPA). As such, we:

- coordinate, develop and analyse environmental policy and ensure effective implementation;
- manage the EPA's formulation of statutory Environmental Protection Policies (EPPs) and non-statutory State Environmental Policies (SEPs);
- coordinate State of the Environment reporting and provide sound, accurate and timely information about the environment to the community to promote positive environmental behaviours;
- provide advice in response to enquiries, about rights, responsibilities and issues in relation to the environment from other government agencies, Parliamentary members, industry and the community;
- manage the environmental impact assessment process for the EPA, enabling sound environmental advice on development proposals and planning schemes amendments to be provided to the government, developers and the public to ensure the environment is protected for the community; and
- plan and implement projects aimed at increasing knowledge and understanding of environmental systems under threat of pressure, and apply this knowledge to the development of environmental quality objectives, strategies and policies to improve the management and protection of the environment by government, industry and the community.

The EPA reports annually separately under s.21 of the *Environmental Protection Act 1986*.

DoE S7: BPBS G3, G4

4.6.2 EPA Position Statements on Policies

As part of its overarching responsibilities to provide environmental policy advice, the EPA has developed a series of policies entitled Position Statements.

During 2004–05, the following were finalised and are viewable and downloadable from <www.epa.wa.gov.au>: Environmental Protection of Wetlands; Environmental Protection

and Ecological Sustainability of the Rangelands; Towards Sustainability; and Principles of Environmental Protection.

The Authority also released a Preliminary Position Statement of Environmental Offsets which has attracted considerable interest inside and outside Australia. The EPA's intent is to provide some leadership in this area and to provide the basis of a whole-of-government approach to environmental offsets. To this end, we have contributed to the paper's development, along with the Department for Planning and Infrastructure and the Department of Conservation and Land Management. The EPA received insightful and challenging comments on its Preliminary Position Statement during its public review period and has subsequently revised it. Because of the nature of changes made, the Authority has released a second version for additional comment before finalising the Position Statement.

The articulation of policy for environmental offsets has particular relevance to our role in permitting vegetation clearing. There is a specific power to address offsets (s.51I(2)(6) of the *Environmental Protection Act 1986*).

DoE S7: BPBS G3, G4

4.6.3 Environmental Protection Policies

4.6.3.1 Swan and Canning Rivers Environmental Protection Policy

Riverplan, the Comprehensive Management Plan and Implementation Strategy for the Swan and Canning Rivers Environmental Protection Policy, was released in August 2004. The Swan River Trust's Riverplan implementation team has begun work on the tasks identified in Riverplan. The Riverplan implementation team has undertaken a pilot project to assess how the current and planned activities of State agencies and local governments help to meet the objectives of the EPP. Information collected through these assessments will be incorporated into the second stage of Riverplan implementation, which aims to collate and present information about environmental values and pressures on a spatial basis. The statutory review of the EPP has been deferred until after the Swan River Trust's new Swan and Canning Rivers legislation has been adopted.

DoE S7: BPBS G3

4.6.3.2 Swan Coastal Plain Wetlands Environmental Protection Policy

The draft Swan Coastal Plain Wetlands Environmental Protection Policy, which seeks to provide statutory protection to wetlands with high ecological values, was released by the EPA on 19 July 2004. During the 13-week public consultation period a large number of submissions were received. These resulted in some changes to the draft Policy, Regulations and associated Wetlands Register. The EPA transmitted the revised draft Policy to the Minister for the Environment who consulted for a further two weeks. In early January this year, the Minister established a three-member Regulatory Impact Assessment Panel to provide broad advice on the social, economic and environmental implications of the Policy. The panel reported with recommendations on 30 June 2005. The Minister will determine the future direction of the Policy.

DoE S7: BPBS G3

4.6.3.3 State Environmental Policies (SEPs)

A State Environmental Policy (SEP) is a non-statutory Government policy position on a particular aspect of the environment. It is enabled under Part II (s.17(3)) of the *Environmental Protection Act (1986)* and is developed in its first stages by the Environmental Protection Authority (EPA). Following a public consultation process, it can be approved by the Minister for the Environment and adopted by Cabinet on a whole-of-Government basis.

A SEP is a relatively new policy instrument. The concept of SEPs was developed in 2004 following amendments to the Environmental Protection Act that provided wider-reaching powers of environmental protection, such as Environmental Harm provisions and clearing controls. These Act amendments shifted policy emphasis away from statutory Environmental Protection Policies (EPPs), which are developed under Part III with the force of Law. There became a greater need for a more flexible policy instrument, which would provide guidance on matters of environmental significance without the need for coercive powers.

The first SEP was released by the Government in January 2005 for the protection of Cockburn Sound. The EPA has also initiated the development of a SEP for the coastal zone.

DoE S7: BPBS G3, G4

4.6.3.4 State Environmental (Cockburn Sound) Policy 2005

Western Australia's first State Environmental Policy was released in January 2005 for the protection of the environmental quality of Cockburn Sound. The new policy takes a precautionary approach to environmental management, where early warning levels will help trigger preventative action to prevent environmental impacts that might threaten the long-term ecological sustainability of the Sound. It is backed by the recently expanded powers under the *Environmental Protection Act 1986*, including environmental harm, clearing controls (e.g. seagrass) and unauthorised discharge regulations.

The policy empowers the Cockburn Sound Management Council to report annually to the Minister for the Environment on the 'State of the Sound' and for the Minister to table that report in Parliament.

The policy was released in conjunction with the Environmental Management Plan for Cockburn Sound and its Catchment, prepared by the Cockburn Sound Management Council, and two supporting technical documents published by the EPA. All four documents are available on our website at <http://policy.environment.wa.gov.au> and on the Cockburn Sound Management Council website at <http://csmc.environment. wa.gov.au>.

DoE S7: BPBS G3

4.6.3.5 State of Environment reporting program

The EPA is compiling the next State of Environment Report. We have been providing ongoing support throughout the year to the EPA on this program. This support has included: executive support to the various groups in the program; liaising with State and Federal agencies, peak bodies, universities, local government and community groups; data acquisition and analysis; and preparing reports.

We have prepared a website for the EPA on the State of Environment. The website is at <www.soe.wa.gov.au>.

DoE S7: BPBS G3, G4

4.6.4 Marine

4.6.4.1 Background marine quality surveys

In 2003 we undertook water quality surveys in and around the Dampier Archipelago and at Port Hedland with the CSIRO. Our aim was to determine dissolved concentrations of heavy metals (such as cadmium, copper and mercury) and organic chemicals (for example, petroleum hydrocarbons) in marine waters. The seawater analyses were conducted by the CSIRO Centre for Advanced Analytical Chemistry and the National Measurement Institute (formerly AGAL), two recognised leaders in marine chemistry in Australia.

The results of the work indicate that the coastal waters of the Pilbara region are generally of very high quality, with no organic chemicals detected in any of the samples and dissolved concentrations of metals approaching those found in the open ocean. There were localised elevations of some metals in inner port areas. Nonetheless, at the time of sampling, the metal concentrations met the ANZECC & ARMCANZ (2000) environmental quality guidelines for a very high level of ecological protection at all but one site. The exception was at the inner harbour at Port Hedland, where copper and zinc levels were moderately elevated.

This work confirms that the ANZECC & ARMCANZ (2000) water quality guidelines for toxicants are a useful tool for assessing marine environmental quality and for managing the effects of wastewaters discharged to the marine environment.

We have now also conducted a baseline survey for marine sediment quality in Exmouth Gulf and off the major coastal towns of the Pilbara coast to assess the suitability of the national sediment quality guidelines for this region. Most metals and persistent chemicals discharged to the marine environment will eventually accumulate in the sediments and, if contamination is severe, plants and animals living at the seabed can be affected. Sediment quality is therefore important as an indicator of marine ecosystem health and as a trigger for environmental management.

DoE S7: BPBS G3, G4

4.6.4.2 North West Shelf marine quality objectives

Community and stakeholder views on environmental values and environmental quality objectives for the Exmouth Gulf and Pilbara marine environments were obtained during a public consultation process we conducted from September to November 2004.

We mailed information kits to over 300 organisations. Public awareness meetings were held in Port Hedland, Karratha, Onslow, Exmouth, and also in Perth, and stakeholder forums have been held in these centres. Responses from the public consultation have been analysed and will be used to help develop goals for environmental quality to manage the effects of waste inputs and developments, and to maintain a healthy marine environment.

This process is in response to government commitments to implement the National Water Quality Management Strategy and is jointly funded by the State and Federal Governments through the National Heritage Trust as a Rangelands Natural Resource Management Region Priority Project.

Over 150 submissions were received. Respondents included private individuals, community groups and indigenous organisations, small businesses, industry and resource corporations, peak bodies, local government and State agencies. The majority of submissions were received from the Pilbara and Exmouth areas, with Perth metropolitan addresses the next largest group.

The great majority of community and stakeholder responses indicated support for a well-integrated regional plan of environmental quality objectives. Environmental values were seen by many respondents as a personal priority and as the future basis for regional development. The most popular marine uses for the region were recreational boating, tourism and enjoyment of unspoilt coastal and marine environments. Analysis of the responses showed that people place a high importance on the ecological sustainability of uses, industries and developments for the coastal waters between Exmouth and Cape Kerauden.

The vast majority of respondents (91 per cent) want there to be some marine areas that are totally protected from waste inputs and maintained at a pristine level, because of their high biological diversity.

A clear majority of respondents (77 per cent) were unwilling to accept waste inputs anywhere that would make water quality unsuitable for social uses, such as fishing and swimming.

Opinion was fairly evenly divided on whether effects on marine life from waste inputs in some localised areas would be acceptable in return for important uses and developments.

In relation to a plan of marine quality objectives for the region, concerns were raised about its influence and flexibility with regard to future developments, its status as policy guidance, and the specific marine quality criteria that would be used to evaluate marine monitoring programs and trigger management action, if necessary.

Frequent reference was made to the role of natural events (e.g. cyclones) and the need to account for these when setting the marine quality objectives. Interest was also shown in the relevant criteria of the marine quality objectives. The importance of having adequate baseline data and coordinating surveillance monitoring programs was emphasised.

Integrating the marine quality objectives with regional planning, marine conservation reserves, natural resource management plans, and the environmental impact assessment and licensing processes was considered important.

We will now prepare and submit a report to the Environmental Protection Authority and the Rangelands NRM Region Coordinating Group to mark the end of this phase of consultation. This report will contain: a summary of the consultation undertaken; a synopsis of the community/stakeholder views, including key issues raised and how these have been addressed; and a revised set of draft environmental quality objective areas for the study region.

The next major phase of the Pilbara Coastal Waters project will be to develop specific criteria for water and sediment quality indicators. We have completed surveys of background marine water and sediment quality for the region. These regional data will be used with

approaches recommended by the Australian Water Quality Guidelines to develop the criteria. Once developed, the criteria will be used as benchmarks against which to assess the results of monitoring programs and to determine whether the environmental quality objectives are being achieved and the environmental values protected.

DoE S7: BPBS G3, G4, G5

4.6.5 Terrestrial

Through our Terrestrial Ecosystems Branch, we provide competent, professional advice to the EPA and the Minister on terrestrial biodiversity and biodiversity conservation issues. We do this by:

- Developing EPA Guidance Statements and biodiversity policy generally, to support the statutory environmental impact assessment functions of the EPA. The function of this policy is to help clarify EPA expectations in relation to specific key biodiversity issues, and to guide proponents and their consultants to identify and if possible avoid significant impacts on biodiversity in project planning and decision-making. Current EPA policy development includes, developing technical appendices for EPA Guidance Statements 51 and 56 that provide guidance respectively on flora/vegetation and fauna survey undertaken for environmental impact assessment purposes. This project is being developed in collaboration with CALM and other key stakeholders. We are also developing a draft Guidance Statement outlining the EPA's expectations for revegetation for proposals assessed by the EPA, and updating Guidance Statement 10. Guidance Statement 10 helps identify areas of environmental significance in the regions around Perth and so enables proponents to avoid these sites if possible or to understand and plan for the likely requirements of environmental impact assessment.
- Providing advice on the impacts of planning schemes and development proposals on biodiversity values for the Environmental Impact Assessment Division and directly to the EPA, as part of the statutory environmental impact assessment process. A key component of this role is the provision of advice to proponents early in the environmental impact assessment process that enables gaps in information to be addressed or amendments to proposals to reduce the likely level of impact.
- Developing 'whole-of-government' policy and strategic advice to address key threats to biodiversity conservation and management, through representation of the Department on various formal committees such as the Dieback Consultative Council, Dieback Response Group, State Weeds Committee, State Wetlands Committee, and other forums;
- Developing and implementing 'whole-of-government' bioregional scale biodiversity conservation planning mechanisms, in collaboration with other agencies. The current development of a Bush Forever Metropolitan Region Scheme Amendment and Statement of Planning Policy are key statutory planning mechanisms that will provide formal planning recognition and protection for Bush Forever Sites. Swan Bioplan is a similar newly funded regional biodiversity conservation planning project that will cover the remainder of the Swan Coastal Plain from the Moore River to Dunsborough and the Darling and Whicher Scarps. It will be undertaken in a collaborative program with other key government agencies,

local government and NRM regional bodies, and is intended to update the knowledge and understanding of biodiversity values and conservation priorities across the region, and develop or promote a range of new and equitable conservation implementation mechanisms.

DoE S7: BPBS G3, G4, G5

4.6.6 Environmental Impact Assessment Services

4.6.6.1 Environmental Impact Assessment Services overview

Our 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*.

We completed 40 formal assessments and the resulting reports on those assessments in 2004–05. 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 2004–05

Level of Assessment	No. of Assessments
Formal Assessments (ERMP, PER, ER, Change to Conditions)	21
Environmental Protection Statement (EPS), Assessment on Referral Information (ARI)	13
Proposal Unlikely to be Environmentally Acceptable (PUEA)	2
Section 16 Strategic Advice	4

DoE S6: BPBS G2, G3, G4, G5

4.6.6.2 Memorandum of Understanding on petroleum referrals

A Memorandum of Understanding between the EPA and Department of Industry and Resources (DoIR) on the referral of onshore petroleum proposals was signed on 17 December 2004. We negotiated the MOU on behalf of the EPA. It was developed in consultation with the petroleum industry and the conservation movement and has the support of both. The MOU, which covers seismic surveys, exploration drilling, pipelines and production facilities, provides clear criteria for DoIR to refer proposals to the EPA. The use of such interagency MOUs was clearly supported by the Keating Review as a means to reduce duplication and overlap. The MOU, which includes specific provisions to ensure public transparency, is working very effectively. The new MOU complements the offshore petroleum MOU between the EPA and DoIR, which was signed on 3 June 2004.

DoE S6: BPBS G2, G3, G4, G5

4.6.6.3 Major assessed projects

Western Power power procurement process

Western Power commissioned a tender process for the construction of a generating facility with approximately 300 MW base-load capacity, to be operational by December 2008. Tenders were required to have obtained environmental approval for any tender bid by June 2005. This requirement lead to four separate coal-fired power station proposals in the Collie area and one gas-fired power station at Kwinana being referred and assessed by the EPA, even though only one station would be built under the tender. The coal-based proposals were for the Bluewaters Power Station Phase 2 and two proposals for expansion of the Collie Power Station, as well as a portion of Bluewaters Power Station Phase 1.

We provided a substantial amount of advice to the EPA. In relation to the coal-fired proposals, major environmental issues related to greenhouse gas and atmospheric emissions (including sulphur dioxide), noise, ash disposal, saline discharge to the sea, and surface and groundwater. Following consideration of the issues, the EPA advised that:

- Combined cycle, gas-fuelled power plants represent best practice for large scale power generation, and greenhouse gas emissions should be measured against this standard.
- A coal-fired power station without full greenhouse gas offsets will not deliver the best environmental outcome. Proponents should mitigate all or part of the extra greenhouse gases produced.
- Air quality is likely to be an emerging issue in Collie.
- European Directive 2001/80/EC is regarded as best practice for sulphur dioxide control.
- Shutdown of the old Muja A and B plants by 2007, as announced by Western Power, is supported to improve air quality.
- Noise can be managed if additional best practice noise attenuation measures are employed. Cumulative noise impacts will require attention.
- Full environmental costs should be included in electricity production costs, otherwise the whole community pays for reduced environmental quality.
- For the Kwinana gas-fired power station, the main issues identified by the EPA were nitrogen oxides, greenhouse gases, and noise. The EPA recommended that the discharge of nitrogen oxides and greenhouse gases be the subject of specific conditions in the environmental approval.

DoE S6: BPBS G2, G3, G4, G5

Iron ore expansions

The mineral export boom has seen an increase in the number of iron ore projects being considered by the EPA. Three project expansions were assessed by the EPA. These were for the Marillana Creek (Yandi) mine, Wheelarra Hill mine and Goldsworthy mines in the Pilbara, all related to BHP Billiton.

While the Marillana (Yandi) mine has specific issues associated with Marillana Creek, some issues were common to each of the proposed expansions. These included:

- Impacts to groundwater and groundwater-dependent ecosystems associated with mine dewatering;
- Potential impacts to conservation of significant flora and fauna associated with clearing and mining activities;
- Impacts to Aboriginal heritage.

In addition, the EPA provided advice on the new railway and port infrastructure proposed for the Pilbara by Fortescue Metals Group Limited (FMG). The main environmental issues addressed by the EPA were:

- Loss of terrestrial flora and fauna through clearing;
- Interruption to surface water hydrology;
- Loss of mangroves and benthic primary producer habitat;
- Dust and noise emissions from port construction and operations;
- Impact of dredging and reclamation on marine and sediment quality.

Iron ore mining associated with this infrastructure is still being assessed by the EPA.

DoE S6: BPBS G2, G3, G4, G5

4.6.6.4 EPA Guidance Statements

We also assist the EPA to produce Guidance Statements on environmental factors that are important during impact assessment. One Guidance Statement was released as a revised draft in 2004–05.

Draft Guidance 33

On behalf of the EPA, we have been preparing a substantial revision of a 1997 Guidance Statement that provided information and advice for local government, State government agencies, consultants, proponents and the community on the protection, enhancement and conservation of the environment as part of land use planning and development. This revised draft updates previous information and provides advice on an increased number of environmental issues.

The revised Draft Guidance 33 explains how the environmental impact assessment process operates for town planning schemes and development proposals. It then provides advice on many of the environmental issues that need to be considered as part of the process, by outlining how to determine and address the significance of those issues during project planning. It also explains the involvement of the EPA and environmental impacts assessment. Issues discussed in the Guidance relate to biophysical components of the environment, such as vegetation, fauna, wetlands, waterways, water resources, land degradation and landforms. Pollution issues about air quality, water quality, contamination, waste management and noise are also covered, as are social issues, including heritage and visual amenity.

DoE S6: BPBS G2, G3, G4, G5

Formal Assessments (Other than Assessment on Referral Information and Environmental Protection Statement)

Bulletin No.	Title	Release date
1142	Resource Recovery Facility, Lot 505, Neerabup Industrial Area	July 2004
1147	Denison 3D Seismic Survey — Shire Of Irwin	September 2004
1150	Cliff Head Oil Field Development — 20 km south of Dongara, Shire of Irwin	October 2004
1152	Relocation of Herne Hill Quarry Operation, Amendment of Implementation Conditions	November 2004
1154	Cockburn 2 Combined Cycle Gas Turbine, Change to Environmental Conditions	November 2004
1155	Review of Environmental Conditions on the Gnangara and Jandakot Mounds	November 2004
1156	East Clontarf Residential Development	December 2004
1157	Clay Excavation Lots 7, 20, 60, 63, and 64 (previously part lot 1 and lots 222, 27, 26, 25, 28 and 7) Hallett and Copley Roads, Upper Swan	December 2004
1158	Shire of Harvey District Planning Scheme No. 1 Amendment No. 13 — Point Douro	January 2005
1159	New Road from Tom Price to Karratha	January 2005
1160	Bluewaters Power Station	January 2005
1165	Expansion of Monkey Mia Dolphin Resort	February 2005
1169	Land Clearing and Quarry Extension, Avon Loc 1881, Lots 11 and 14 Horton Rd, The Lakes	April 2005
1170	Western Extension of Nickol Bay Quarry	May 2005
1172	Barge Site, Laydown Area and Access Road, Gumboot Bay, North Kimberley	May 2005
1173	Pilbara Iron Ore and Infrastructure Project: Port and North-South Railway (Stage A)	May 2005
1175	Final Remediation Works for the Former Cresco Site, Bayswater	June 2005
1176	Collie B Power Station	June 2005
1177	Bluewaters Power Station Phase II	June 2005
1178	Collie Power Station Expansion	June 2005
1182	Ammonium Nitrate Production Facility Expansion, Kwinana	June 2005

Assessment on Referral Information (ARI) and Environmental Protection Statement (EPS)

Bulletin No.	Title	Release date
1143	Taking of seven plants of *Caladenia huegelii* and clearing of approximately 3.3 hectares of potential habitat, Lot 1580 Warton Road, Southern River	July 2004
1144	Hepburn Avenue extension, between Mirrabooka Avenue and The Avenue, Landsdale	August 2004

Continued …

… continued

Bulletin No.	Title	Release date
1146	Mineral Sands Mine, Gingin	September 2004
1162	Campbell Road Estate Super-lot subdivision	January 2005
1163	Kwinana Liquor Burner — Emissions Reduction Project	January 2005
1164	Gas Pipeline To Nifty Copper Operations	February 2005
1166	Marillana Creek (Yandi) Life of Mine Proposal, Mining Leases 270SA and 47/292, 90 km north-west of Newman	April 2005
1167	Temporary Relocation of Total Waste Management's Evaporation Ponds to the Mungari Industrial Estate	April 2005
1168	Wheelarra Hill Iron Ore Mine Extension	April 2005
1171	Goldsworthy Iron Ore Mines Extension Project	May 2005
1174	Kwinana Gas-Fired Power Station	May 2005
1181	Ellendale 4 Diamond Project, West Kimberley	June 2005
1183	Kemerton Silica Sand Mining Revised Proposal	June 2005

Proposal Unlikely to be Environmentally Acceptable

Bulletin No.	Title	Release date
1179	Building Licence for Single Residence, Lot 1613 Barrett Street Southern River	June 2005
1180	Residential Subdivision, Lot 1613 Barrett Street Southern River	June 2005

Section 16 Strategic Advice

Bulletin No.	Title	Release date
1145	Plans for Bauxite Mining and Haul Road Stream Crossing in Some Car Informal Reserves, ML 1SA	August 2004
1151	Review of the Fire Policies and Management Practices of the Department of Conservation and Land Management	November 2004
1153	Dampier to Bunbury Natural Gas Pipeline Corridor Widening — Kwinana to Bunbury Project	November 2004
1161	Plan for haul road stream crossing in Coolibah CAR Informal Reserve, Ml 1SA	January 2005

Guidance Statements

Bulletin No.	Title	Release date
33	**Draft Environmental Protection Guidance Statement** No. 33. Policies, Guidelines and Criteria for Assessing Planning Schemes	June 2005

DoE S6: BPBS G2, G3, G4, G5

4.7 Departmental Support Business

4.7.1 Business overview

The aim of this Business is to provide high quality, coordinated services, products and tools in all aspects of corporate communications, issues management, community involvement and facilitation, environmental education, information publishing and distribution, e-commerce (Internet and intranet specifically) and front of house information services.

Key achievements for the Business in 2004–05 included:

- Successful completion of a follow-up Quality of Working Life Survey, with the results showing a significant improvement in most aspects of work since the original survey in 2003;
- Development and implementation of an Enforcement and Prosecutions Policy.
- Preparation of guidelines to assist the Department for Planning and Infrastructure and local government incorporate waterways management considerations into their land use planning activities.
- Launch of the Environmental Education Strategy and Action Plan for implementation across government and the appointment of an Advisory Committee.
- Running of a Cultural Awareness workshop for senior departmental managers, which provided the attendees with insights into indigenous history and the opportunity to understand the significance of indigenous culture.
- A review of regional service delivery to better integrate products and services that are centrally supported and regionally delivered.

4.7.1.1 Communications

Our major achievements for 2004–05 included launching a new corporate identity early in the year.

We designed and implemented a new look reflecting the blues and golds of Western Australia's sky, land and water. This badging was incorporated into a suite of corporate materials, including publications, posters, signage, electronic applications and other promotional material. It was also used in developing new internet and intranet web sites and will feature in the new corporate wardrobe, which was developed during the year. As part of this process, the telephone messages on hold service was updated and implemented across the agency.

As a result of an internal restructure, our Community Information and Publications Section now provides a comprehensive range of publishing and community information services. These range from initial conception and development of corporate information products, to publication and hardcopy and electronic distribution, and stock control. We manage information and resource requests and operate traditional library services.

The Media Relations Section provides media writing and media liaison services, speech writing and issues management advice. In recent years, we have developed expertise in risk and issues management. In 2004–05, this was balanced with a concerted pro-active approach

to enable the agency's achievements to receive a heightened public profile through a range of internal and external communications.

Our Community Involvement section continued to assist staff in improving their capacity to engage the community. The section offered a range of training opportunities to staff including the development of effective facilitation skills and managing aggressive behaviour. Additionally, section staff have also been pro-active in providing support and advice to project managers across the agency on how to engage the community in key projects.

Environmental Education continued its crucial role in raising awareness of environmental issues and encouraging people to protect and preserve the environment through behavioural change. During the year, the Environmental Education Strategy and Action Plan was launched for implementation across government and an Advisory Committee was appointed.

In late 2004–05 the Advisory Committee undertook an audit of environmental education programs currently being run in Western Australia. The audit will help the Committee develop a good understanding of the status of environmental education in the State, including existing strengths and weaknesses. The Committee's Chair has also met with many local and interstate key stakeholders.

4.7.1.2 Corporate governance

A key component within our corporate governance framework has been developing and implementing a more robust risk management framework. We have established a risk register identifying key risks facing the organisation. Considerable progress has been made on implementing risk mitigation strategies for extreme and high risks. The next challenge is to further embed risk management into the organisation's culture, such that managing risk becomes the way we operate.

4.7.1.3 Strategic planning and review

Emphasis during 2004–05 has been on providing a stronger sense of clarity and purpose about our priorities. This has culminated in the Corporate Business Plan and Strategic Direction Document. The Corporate Business Plan identified our key priorities and deliverables for 2004–05 and was positively embraced by internal and external stakeholders. The Strategic Direction focuses on a longer period (2005–09). It provides a summary of desired outcomes, identifying significant issues and trends and defining planned achievements for the new Department during a period of ongoing change. Like the Corporate Business Plan, this document is a positive step forward. It clarifies our purpose and objectives and provides staff and stakeholders with a sense of purpose, in terms of how the Agency intends to contribute to the sustainable development of Western Australia while protecting its natural resources, and managing with its appropriated financial, human and asset resources.

4.7.1.4 Enforcement support

Our Environmental Enforcement Unit (EEU) was established in 2003 as a result of recommendations from the Robinson review into Departmental Enforcement and Prosecution Guidelines (available in full on our website <www.environment.wa.gov.au>). The EEU contributes to the protection of the environment through the provision of quality specialist

investigative and enforcement support throughout the Agency and has experienced significant milestones during its second year.

We adopted and implemented our Enforcement and Prosecutions Policy in November 2004. This policy is an important tool through which we intend to promote and achieve environmental improvement through compliance. The fundamental principles of the policy are designed to deliver outcomes through a framework of transparency and clarity, while supporting equity, fairness and consistency. The policy acknowledges the need for investigative objectivity and provides recognition of natural justice, due process and the public interest. In adopting the policy, we recognise that prosecution is an enforcement tool to be employed where it is the most appropriate response to a particular incident, after consideration of all circumstances. This policy is readily available to the public from our website.

The EEU is responsible for taking the lead role involving investigations into major incidents. We have conducted or assisted with over 45 departmental investigations into a broad range of environmental events. We have successfully concluded investigations throughout the State, in partnership with regional staff, resulting in prosecutions or the application of other sanctions. We have upgraded the Incident and Complaints Management System (ICMS), a state-of-the-art computer system for recording incidents and case management of investigations. Regularly-updated enforcement statistics are now available on our website.

As part of our quality assurance role and commitment to enhanced training, we have been involved in developing a revamped Regulatory Officers' Training Course. A Memorandum of Understanding between our department and the Western Australian Police is currently under consideration for the co-delivery of generic and specialised training modules. The framework will build on existing training and ensure regulatory training is provided to Department of Environment and Local Government Authority Officers at an appropriate level. The Western Australian Police Academy is a registered training organisation and runs Western Australia's prime facility for enforcement education. Our affiliation with the Western Australia Police Service will provide our staff with opportunities to train at a state-of-the-art facility and obtain a nationally accredited certificate in an investigative environment.

Memoranda of Understanding (MOUs) have been signed between the Department of Environment and both the Western Australia Police and Department of Fisheries. The MOUs record the understanding between the agencies regarding information exchanged when administering and enforcing legislation, for which each agency has responsibility. The MOUs will remain in force for the next two years and will be reviewed after a year. The agreements do not allow for a *carte blanche* exchange of information between the agencies, instead they facilitate a free exchange of information that is relevant to investigations being conducted by the Police, Fisheries and the DoE. In essence, they increase efficiency by allowing investigators to seek and retrieve information quicker than has occurred in the past. The documents arise from the whole-of-Government approach to dealing with certain matters and the Government's agenda of encouraging collaboration between its agencies.

4.7.1.5 EEU finalised prosecutions for 2004–05

The following Department of Environment criminal prosecutions were subject to a final court determination during 2004–05.

Charge Number: Bunbury 04/3047

After conducting an investigation the Department of Environment charged a 36 year old Binningup farmer under section 26(B)(3)(b) of the *Rights in Water Irrigation Act 1914* over the construction of a non artesian well in a proclaimed area.

It was alleged in the Bunbury Court of Petty Sessions that in June 2003 the defendant, who lives on a Binningup farming property, caused a well measuring 390 metres by 20 metres to be constructed on his property for the purpose of crop irrigation.

The defendant pleaded guilty to 'causing the unlicensed construction of a non artesian well in a proclaimed area' contrary to section 26B(6) of the *Act* and was fined $5 000 and ordered to pay $497.70 costs.

Charge Number: Kalgoorlie 2267/04

After conducting an investigation the Department of Environment charged a Boulder based waste treatment company under Section 49(5)(a) of *the Environmental Protection Act 1986* concerning the unreasonable emission of odours.

It was alleged in the Kalgoorlie Court of Petty Session that on January 2, 2004 a strong odour was emitted from the company's facility to the residential areas of Boulder affecting the comfort and amenity of the populace.

The defendant pleaded guilty to 'emitting an unreasonable emission' and was fined $7 500.

Charge Number: Manjimup 290/04

After conducting an investigation the Department of Environment charged a 50 year old Manjimup man under section 12B (1) and (2) of the *Country Area Water Supply Act 1947* over the unlicensed clearing of trees.

It was alleged in the Manjimup Court of Petty Sessions that between August 31 and December 21, 2002 the defendant, who lives on a farming property in Manjimup, cleared approximately half a hectare of land by removing 44 native Marri and *Melaleuca* trees from his property without a clearing licence.

The area of land cleared was subject to clearing controls to prevent further salinity of the Warren River catchment water resources for which the defendant had previously received $7 500 compensation for not being permitted to clear the land.

The defendant pleaded guilty to 'allowing trees to be removed from a farming property without a clearing licence' and was fined $600, ordered to pay $277.70 in costs and to restore the vegetation.

Charge Number: Perth 03/52724

After conducting an investigation the Department of Environment charged a 31 year old man, formerly of Quinn's Rocks, under Section 49(3) of the *Environmental Protection Act 1986* over a diesel spill into the Swan River.

It was alleged in the Perth Court of Petty Sessions that on September 16, 2003 the defendant caused pollution by allowing an estimated 300–600 litres of diesel fuel to spill into the Swan River from a vessel while it was being refuelled at the Barrack Street Jetty.

The defendant pleaded guilty to 'causing pollution' and was fined $2 000 and ordered to pay $557.70 costs.

Charge number: Perth 04/53469

After conducting an investigation the Department of Environment charged a Kwinana based company under regulation 3(1) of the *Environmental Protection (Unauthorised Discharge) Regulations 2004* concerning the discharge of caustic soda.

It was alleged in the Perth Court of Petty Sessions that between June 22 and June 23, 2004 the company discharged between 490 and 1750 kilolitres of caustic soda into the environment from storage tanks at its Kwinana storage facility.

The defendant pleaded guilty to the 'unauthorised discharge of a prohibited material' and was fined $11 000 and ordered to pay $628.45 costs.

4.8.1.6 Legal services

In 2004–05, our Legal Services Branch completed tasks that included legislative advice, management of litigation and providing general legal advice to staff and the Director General. Freedom of Information is handled by a coordinator within the branch.

Our achievements included completing the *Legal Advice Policy* and the *Environmental Protection Amendment Act Guide*. We expanded our expertise to include two legislation officers and a senior legal adviser. We established processes to meet the requirements of the newly formed State Administrative Tribunal (SAT).

Advising

The State Administrative Tribunal (SAT) came into operation in January 2005, and existing appeal rights under water-related legislation were replaced by a right of review by SAT. The SAT legislation placed significant additional administrative requirements on the agency, and Legal Services Branch assisted staff in reviewing and developing agency processes to meet SAT requirements. Our Legal Services Branch has also provided ongoing legal advice and support to staff to process and progress SAT reviews of decisions.

Legislation

We provided advice on a wide range of legislative matters including the:

- Environmental Protection (Controlled Waste) Regulations 2004;
- Environmental Protection Regulations 1987;
- Environmental Protection (Environmentally Sensitive Areas) Notice 2005.

Litigation

Sulman v Atlas Group, the Department of Environment and Others

District Court 1620 of 2002.

A claim for damages in relation to regulation of the Atlas Tipsite Mirrabooka. The matter is ongoing.

Elwood v Pioneer and Minister for the Environment

Supreme Court CIV 2181 of 2001

An action for damages in relation to alleged loss of visual amenity. No orders are sought against the Minister.

Western Australian Planning Commission, the Department of Environment and Others: Ex Parte South Fremantle/Hamilton Hill Resident's Association Inc.

Supreme Court CIV 1016 of 2005

An application for a writ of certiorari to quash the WAPC decision to approve the project on the former ANI/Bradken site at South Beach, Fremantle.

4.8.1.7 Land planning and development advice

During the 2004–05 financial year we continued to develop our partnership with the Western Australian Planning Commission, improved our internal systems to respond to land use planning referrals, and we worked with industry to better understand their needs.

Standard subdivision conditions

The WAPC has been reviewing its manual of standard subdivision conditions. Our Land Use Planning Section has been involved in this review, to coordinate the inclusion of natural resource management conditions we commonly request.

Conditions are constructed so they are legally enforceable, commonly understood and relevant to planning. We can now request conditions from the standard conditions manual for NRM issues and be confident that they will be acceptable to the WAPC. It also reduces the need for our advice to be interpreted, which should result in a clearer understanding on both sides.

Model scheme text for draft Water Resources Statement of Planning Policy

To support the implementation of the WAPC draft Water Resources Statement of Planning Policy (WRSPP), our Land Use Planning Section has prepared guidelines to assist the Department for Planning and Infrastructure and Local Government incorporate waterways management considerations into their land use planning activities.

It is envisaged the Land Use Planning and Waterways Management Manual will be the first in a series of guidance documents to assist land use planning agencies and proponents implement all the water resource considerations in the draft WRSPP.

Statutory Referral System

The Statutory Referral System (SRS) allows the Department of Environment and the Swan River Trust (SRT) to track and process land use planning and other referrals. The SRS has facilities to allow:

- The entering and registration of proposals;
- Review of a proposal (i.e. accessing our GIS data and examining it with regards to a particular proposal);
- Electronic referral of the proposal to other officers for comment;
- Adding comments and conditions to a proposal;
- Producing correspondence and documentation regarding a proposal (e.g. Planning Officer Report, Response);
- Record information regarding the clearance of any conditions imposed upon the proposal; and
- Generate reports to help evaluate work load and plan land use planning activities.

The recent redevelopment offers:

- Improved speed performance for regional users;
- Improved user interface;
- Improved reporting capabilities; and
- Easy integration with other internal and external systems.

The SRS will enable us to provide comprehensive and timely advice to referral agencies. It will also provide information to more effectively plan for our land use planning activities.

Urban Development Institute of Australia review of environmental approval processes

The Urban Development Institute of Australia (WA Division) (UDIA) has recently undertaken an industry-based review of the environmental approvals process. The review was coordinated by UDIA under its Environmental Process Review Steering Committee. It was supported by our Land Use Planning Section.

The report makes some useful recommendations related to:

- Resourcing within agencies (DoE / EPA and CALM);
- Policy coordination, direction or clarity ;
- Officer training;
- Officer knowledge and experience;
- Opportunity to deal with issues at ‘pre-lodgement’ phase; and
- Accessing decision makers and senior officers.

We will coordinate the implementation of the recommendations contained within this review.

4.8 Corporate Support

4.8.1 Business overview

Corporate Support's primary role is to provide policies, systems and processes to support the planning, management and development of the department's people, assets, finances and information resources. The Business also provides funds for the central and regional management of 'fixed' or agency 'oncosts'. Oncosts include payments for management of accommodation, electricity, vehicles and fuels and employee related expenses such as superannuation, payroll tax and other whole of agency charges. It also funds administrative functions such as reception and administrative support to several divisions.

4.8.2 Information services

We have devoted significant effort over the last year to developing strategic information plans. These plans include the GIS Strategic Plan, the Corporate Data Model, the Disaster Recovery Plan, and the Strategic Information Plan (2005–2009).

We have also focussed on improving information management practices. We have developed an information management model and an information management business structure, both of which are now being implemented. The model and structure will be key elements in the establishment of an electronic document management system over the next 12 months. Additionally, an ongoing awareness program is running to assist staff in understanding their responsibilities under the *State Records Act* and our information management structures and protocols.

Our information and communication technology (ICT) servers have undergone a major upgrade in operating systems, with Microsoft Server 2003 relacing the NT operating system. A new desktop computer management system has also been implemented, enabling our Information Services Branch staff to more easily support network users and to roll out new software across the Agency.

Our 19 regional and metropolitan offices have had their communications links to the computing centre at the Hyatt upgraded. This has improved staff access to our information and application systems.

Significant planning is in progress to support our move to the Atrium Building. As this is a phased move, our ICT services will need to be maintained to all regional and metropolitan offices, including the Hyatt and Hartley buildings, while moving the ICT computing centre to the new building. Our ICT staff have also been heavily involved in the planning stages of the new accommodation design.

Information systems have been developed or upgraded to support the business needs of the Agency. These include:

- The National Pollutant Inventory System (allowing us to record the companies that have submitted pollution reports, store details of the pollutants reported, have a mechanism for forwarding these reports to the central register in Canberra, and receive back from Canberra the yearly report for Western Australian submissions);

- The Contaminated Sites Management System;
- The Statutory Referrals System; and
- The Incidents and Complaints Management System.

4.8.3 Finance and administration

During the year, we continued the move toward the development of clusters under the Government's functional review initiative. We are developing strategies to assist with a smooth transition of activities from the agency to the cluster. The centralisation of procurement activities and staff to the Department of Treasury and Finance was successfully completed.

Significant changes are being introduced with the adoption of the international accounting standards as issued by the Financial Reporting Council and Australian Accounting Standards Board. Review of the implications and impacts of this change has been ongoing and, in 2004–05, included reference to the adoption and impact of the new standards.

The ongoing reform agenda and changes have been the single most important priority for our Finance Branch and will be so well into the next year, with the intended alignment with the Shared Services Centre being October 2006.

We have completed purchases of properties at Wanneroo and Tanjanerap for water quality protection. We have successfully concluded negotiations with Native Title holders regarding joint management of Reserve 31165 (at Lake Argyle) and compulsorily acquired land at Yunderup (Wilgie Creek) for recreation and drainage.

4.8.4 Human resources

Our Human Resources Branch provides the full range of human support services to the Department of Environment, the Water and Rivers Commission, the Keep Australia Beautiful Council and the Swan River Trust. It has also acted as a bureau to the Heritage Council.

Human Resources also services a range of boards and committees, including the Swan River Trust, the Water and Rivers Commission Board and the Environmental Protection Authority.

While delivering the full range of services across agencies, this year we have focussed on mapping and assessing HR products and services to anticipate the impact of the start of the functional review implementation (FRIT) arrangements. The FRIT process will progressively centralise delivery of various HR products and services. A complex range of translation issues need to be worked through (including design of systems, training and preparation of staff and launch of new systems) to ensure the changes are implemented effectively. This has been instrumental in planning and applying our resources and priorities, in addition to maintaining the basic HR business deliverables.

4.8.4.1 Attracting and selecting staff

Recruitment and selection are primary operational services and we have continued to evolve a service-centre approach to providing these services.

For 2004–05, 327 individual positions were advertised externally and filled by way of merit selection. Of these, 123 positions were filled by external applicants (122 DoE and one Heritage Council).

These figures include the management of seven separate recruitment pools for specialist job families. Internally, some 118 temporary appointments and transfers were set up and managed to completion. Internal recruitment work has been complemented by managing a partnership with Verossity (previously Spherion Outsourcing Solutions). Verossity Pty Ltd contributes various tailored support services to the recruitment and selection processes.

4.8.4.2 Supporting staff

Payroll

Payroll Services are delivered through an external systems provider (Talent 2). This provider has continued to deliver a high quality service with few errors. This is an effective result, given the complexities of multiple pay groups that require processing.

The HR Web Kiosk is a self-service Intranet based tool. A recent upgrade to the system now includes an E-Recruitment instrument. This component is a self-service generated process that enables candidates to apply, and managers to process, applications on line.

Movement

Managing staff movement across the agency is a key to its business success, ensuring the right resources are strategically placed to meet demands and priorities. To accommodate this flexibility, we reviewed the movement process used by managers. This resulted in a more responsive and accountable format being developed and implemented.

Occupational Safety and Health (OS&H)

We continue to make inroads with our OS&H system, at both strategic and operational levels. Our employee/management representative committees play a major role in molding the delivery of this system's outcomes, providing focus on key initiatives undertaken by the Agency. The committees have been further supported with the appointment of an OS&H specialist.

The cornerstone for this year's work was the review of the agency's health and its OS&H systems, which included a systems gap analysis, a training needs analysis, and a statewide systems and operations external audit. The outcomes from these findings will help us formulate strategic and operations plans for 2005–06.

Other important achievements have come from:

- A series of training programs for appointed staff in the role of either Safety and Health Representative, building emergency Warden, or worksite First Aid Officer;
- First aid training being progressively extended to all field staff;
- Awareness raising sessions for management and staff;
- Further upgrading of the dedicated webpages for OS&H and Emergencies;

- Strengthening the communication program, including regular newsletter releases, introducing field handbooks, delivering information sessions to employee representative groups and various operations teams;
- Status reporting at different levels of the agency;
- Building special health programs, such as flu vaccinations, which saw a 25 per cent jump in participants from last year; and
- Release of the Safety Management Manual as a means to establishing a clear direction for the organisation's occupational safety and health strategy and operational framework.

4.8.4.3 Developing staff

Induction

Under the induction policy, all new staff must be formally inducted. We monitor the ongoing implementation of the induction process and this year have also worked to enhance and upgrade the core induction system. Upgrades include new corporate information modules and local workplace induction information to supplement corporate induction requirements.

Training and development

Extensive training and development activities occur across our organisation, including formal courses in regulatory response, licensing, inspector and investigation training, and specific work-directed training. This training is delivered across the multiple functional areas of the water, environment and river management accountabilities.

Ongoing training in facilitation and community involvement is provided to staff throughout the year through professionally developed courses. Access to on-the-job training is available in all areas of the organisation. Through our Performance Development Conversation program, both personal and job competency are identified and acted on, including access to relevant training.

The appointment of a training coordinator will enable enhanced planning in the approach to managing training at all levels, with particular initial emphasis on management/leadership and graduate development.

Performance management

The Performance Development Conversation (PDC) is a structured conversation process focussed on clarifying direction and tasks, training requirements, relationship building, and career development. The PDC is a key element in our people development strategy and all staff are expected to participate in the PDC in each six-monthly cycle. Monitoring of the current round shows significant progress to achieving full PDC implementation. In this round, we conducted a comprehensive evaluation of the PDC, which will help improve the process. We are currently assessing results of the evaluation.

Workplace relations

Our staff are employed under the provisions of the *Public Service Award 1992* and the *Public Service General Agreement 2004*, excluding six employees who are covered by the

Australian Workers' Union (Western Australian Public Sector) Award 2002 and the *Australian Workers' Union (Western Australian Public Sector) Waters and Rivers Commission Certified Agreement 2005*. During 2004–05, the latter Agreement was specifically negotiated by the employer for coverage of its AWU staff.

4.8.4.4 Staff separation

Exit process

The honest feedback that staff provide when leaving the organisation is considered important. Beyond the reasons for leaving, key information from exiting staff can include important intellectual property that should be retained and broad ideas to improve the organisation or the experience of working in the organisation. However, creating the conditions where exiting staff will provide that information honestly is a difficult challenge. We are currently reviewing the exit process, with the intention of setting up a new exit system that does establish those conditions. Until the review is concluded, we have put in place an interim exit arrangement, that requires only basic exit information to be provided. The design of the new process will incorporate new options to encourage and support exiting staff to provide real feedback to the organisation beyond just their reasons for leaving. This will include reflections on their working experience, important things that they consider should be passed on and options to provide input on organisation improvements.

Redeployment

We are continuing to case manage staff redeployed due to changes in the arrangement of the Office of Water Regulation. There have been several successful placements, providing scope for staff to establish themselves in new careers or opportunities. Other redeployment staff waiting placement continue to provide valuable work outputs as a contribution to the business deliverables.

5 Obligatory Reporting

5.1 Disability Services Plan Outcomes

Our 2003–2006 Disability Services Plan was implemented in June 2004 and since this time, we have progressed a range of initiatives to address a number of strategies and targets.

Employment statistics show we are continuing to realise community and business benefits by engaging and involving people with disabilities. During the 2004–05 year, fifteen people identified with disabilities were employed directly, while numerous others were involved through our community based programs.

Staff awareness and understanding of identified accountabilities has been embedded with the release of the Plan and support from human resource management information sessions incorporating disability service deliverables. This has been supported by the development of a complaints handling system that recognises and accommodates people with disabilities. Release of this will be through our internet site.

Internally, staff Grievance Officers are appointed and specifically trained to handle grievance matters, including dealing with staff members with disabilities.

Other identified initiatives are in development and planned to be brought in as a part of the current Plan's final year of operation.

5.2 Cultural Diversity and Language Services Outcomes

There has been an increased recognition for the Department's stakeholders to play a larger role in the development of policy and planning initiatives that better reflect the community that we service. Together with other business activities, the Department has been building a stronger relationship with indigenous communities across the State.

An example of this commitment has been with the initiative to engage Nyungah groups in the Swan and Canning River Plan, which identifies places of spiritual significance along the rivers. This has been further expanded with the establishment of forums for indigenous community representatives and major infrastructure managers to discuss potential impacts on the rivers.

Implementation of the Council of Australian Government's (COAG) reconciliation action plan continues to be a major focus. This has created a number of opportunities to increased participation and long term partnerships with indigenous people, which has incorporated :

- consultation into water licensing and vegetation processes;
- inclusion in water management groups;
- support for the development of property management planning on indigenous lands. A template for the future has been the Land Management Agreement being developed between the Water and Rivers Commission and local indigenous groups governing the land at Lake Argyle; and

- input into many aspects of the Department's business planning, such as river restoration activities.

5.3 Youth Outcomes

'Environmental education plays a key role in raising awareness and changing individuals' attitudes, values and behaviour towards achieving sustainability. As such, environmental education is a significant tool in environmental management and the pursuit of sustainability, alongside more traditional tools such as policy, regulation and compliance' — Environmental Education Strategy, November 2004.

We are committed to the development of positive behavioural changes by all Western Australians that help minimise their individual and collective impact on the environment. We acknowledge that the development of positive behaviours is a life-long learning process and consequently the agency conducts environmental education, community involvement and community capacity building programs and initiatives that include people of all ages from all walks of life.

We have been the lead agency in the development and implementation of the State Government's Environmental Education Strategy and Action Plan which was launched by the Minister for the Environment in November 2004. State Cabinet has appointed an Environmental Education Advisory Committee, Chaired by Mr Gary Hodge, to oversee the implementation of the Action Plan. We continue to support this important initiative.

An important focus of our environmental education program is on primary, secondary and tertiary students. In partnership with the Departments of Education and Training and Conservation and Land Management and the Commonwealth Department of Environment and Heritage, we are currently developing a 'Sustainable Schools' initiative that will help to ensure that all students develop positive environmental values by providing a holistic framework across the curriculum. The initiative is being trialed in twenty government and non-government schools.

We continue to run three schools based environmental education programs; AirWatch, Ribbons of Blue/Waterwatch and Waste Wise. There are over five hundred schools actively involved in these innovative programs. We also collaborate with other environmental education providers to help maximise the efficient use of resources and effort.

Our Community Education section through these school programs provided pre and post-service training to many teachers during 2004–05.

5.4 Waste Paper Recycling

The State Government of Western Australia recycled an average of 68 tonnes* of waste paper per month from its metropolitan agencies during the year. A total of 815 tonnes of waste paper was recycled during the year. This is an increase of 44 tonnes across the public sector from the previous financial year (771 tonnes).

* Statistics represent July 2004–June 2005. Based on this data, a monthly average of 68 tonnes was collected from across metropolitan based State Government agencies during the year. Data for June 2005 estimated.

In 2004–05, our East Perth office recycled 6 818 kg of waste paper under the State Government's Waste Paper Recycling Program. This figure includes paper recycled by the Keep Australia Beautiful Council.

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.

5.5 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 an 8% reduction targeted for 2004–05. In the baseline year, 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 again been combined for the DoE as a whole.

Table 4: Summary Energy Consumption Data

Energy Smart Government Program	Baseline (2001–2002)	2003–2004*	2004–2005*	Variation (%)	
				2003–04 to 2004–05	Baseline to 2004–05
Energy Consumption (GJ)	7 254	8 246	8 814	6.0%	21.0%
Energy Cost ($)	304 003	328 392	350 685	6.7%	15.0%
Greenhouse Gas Emissions (tonnes of CO_2)	1 842	2 075	1 126	2.4%	15.4%
Performance Indicators: Office — Tenant light and power					
Megajoules per square metre	385	445	420	-6.0%	9.0%
Megajoules per person	10 498 (per FTE)	7 504 (per Occupant)	7 034	-7.0%	33.0%

The variation between the baseline data (2001–02) and this year's data (2004–05) represents a 21% increase in our stationary energy consumption and hence the 8% reduction target on total energy consumption has not been achieved. This can be explained by the huge growth we have experienced since the inception of the program, with approximately an 8% increase in staff numbers since the baseline year. It should be noted that we have reduced energy consumption per capita by 33% 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 annual increase from 2003–04 would have only been 1.5%.

Our Eco-Office Committee continues to operate under the direction of its chairperson and Energy Executive, Mr Brendan O'Neil. During this year, a full-time employee dedicated position to work on Eco-Office and TravelSmart continued to implement the Energy Smart

Government Program throughout the agency. Particular focus has been directed towards our new head office premises, ensuring that energy efficiencies are incorporated into the fit-out and new behaviour protocols for staff. During 2005–06, the focus will be turning to our regional office sites through rolling out of the program on a state-wide basis.

5.6 Regional Development Policy

We are committed to implementing the State Government's Regional Development Policy Regional Western Australia — A Better Place to Live released in November 2003. The overall goal of this Policy is to ensure that regional Western Australia is strong and vibrant.

During 2004–05, we continued to implement a number of key regional initiatives which contribute directly to the strategic outcomes of the Policy. These included:

- Watershed Torbay — The first national demonstration project for the National Rivers consortium, and seeks to restore the whole Torbay catchment near Albany. During the last year regular workshops on a range of topics were held, including fertiliser management, macroinvertebrate monitoring, and the use of sedges for revegetation.
- The Water Quality Improvement Plan for the Peel-Harvey System is funded through the Coastal Catchments Initiative. During 2004–05, significant progress was made on a large range of projects including: development of a model for water sensitive design for inclusion in the Town Planning Scheme, a generic management agreement with landowners for erecting fencing to exclude stock from waterways, and a community consultation process to identify waterways to be protected by the Water Quality Improvement Plan.
- The Alcoa Wagerup Tripartite Group provides a forum for community, government and Alcoa representatives to address matters relating to the environmental management of Alcoa's Wagerup Refinery. During 2004–05 the Tripartite Group played a key role in the re-issuing of Alcoa's environmental licence.
- As part of the Roebourne Enhancement Scheme, the Shire of Roebourne contracted our North West Region's Karratha office to carry out a feasibility study to rehabilitate the Harding River Pools within the Town of Roebourne. The overall project involves sixteen agencies.
- A successful partnership bid for National Action Plan (NAP) funding for projects in the Ord River Irrigation Area resulted in over $300 000 of NAP project funding, which will contribute to a program of work to be developed and implemented by the project partners including the Ord Irrigation Cooperative, the Water Corporation, Department of Agriculture, Department of Environment, CSIRO, and the local community group, Ord Land and Water. The success of the NAP bid represents a strong collaboration between government, industry and community, which has been developed over several years.
- The South Coast Regional Wetland program focused in 2004–05 on the wetlands of the Two Peoples Bay Nature Reserve, 20 km east of Albany, and Roberts Swamp, 100 km north west of Esperance. The program is a joint initiative between ourselves and local community group Green Skills.
- The Lower Vasse Cleanup Program is an ongoing program developed by the Geographe Catchment Council, ourselves and the Shire of Busselton with strong support from the

community. The program is an example of a successful partnership approach to addressing water quality problems and improving ecological and social values of the river. A comprehensive review was conducted of the Program during 2004–05.

- The Water Resource Recovery Catchment (WRRC) program continued throughout 2004–05. We also provided more general salinity support and advice for regional NRM groups. Important components of the salinity management program are the salinity situation statements which report on the salinity situations of the targeted rivers (Collie, Denmark, Kent, Warren).

5.7 Evaluations

The Manage Water Use and Protect Quality Business and Waterways and Catchment Management Businesses were the subject of an organisational structure review during the year. This review focussed on realigning the Water Resource Management and Natural Resource Management structures with the Treasury business outcomes and outputs. The aim was to create single lines of accountability for the business outputs products and services. A new organisational structure was developed that reflected the changed accountabilities, accommodated the increased resources to some areas and supported a work environment in which the goals of the Department could be met. The review was completed in December 2004.

Following the February 2005 State election, the Government established a new Water Resources portfolio. This created a significantly different Governance structure for water resources management in Western Australia. In response to this, the Office of Water Assessment and Planning was created within the Department. The Office of Water Assessment and Planning will focus on the areas of water resource assessment, water resource planning, water information and asset management and water licensing and trading. The Department undertook a review of the current DoE organisational structures associated with these functions and the Office of Water Planning. A new combined organisational structure was established.

The new Office of Water Assessment and Planning supports the Manage Water Use and Protect Quality Business, the Water Information Business, the Floodplain Management output, the Land Planning and Development and advice output and the some functions of the now abolished Office of Water Planning. The establishment review was completed in June 2005.

5.8 Information Statement (*Freedom of Information Act 1992*, s96–97)

Our Information Statement underwent a major revision in July 2003, and minor revisions in October 2003 and July 2004. It is available on our website, and relates to all information held by the Department of Environment, the Environmental Protection Authority, the Waste Management Board, the Waters and Rivers Commission, the Swan River Trust and the Keep Australia Beautiful Council, including its availability and accessibility, in accordance with the associated Acts. The statement also includes information on the legislation we administer, and the divisional structure and decision-making functions. Further review and update of the Information Statement is planned for late 2005.

Freedom of Information

During the year, we processed 94 Freedom of Information Applications. This was a substantial increase in numbers. One application was transferred to another agency and four application requests were withdrawn. Of the 76 applications completed by 30 June 2005, the average time taken to process each one was 38 days. The section received 314 requests for searches of departmental records relating to property.

Three applications were made for an internal review of our decision and the same three applications went to an external review. The most used exemption was for deletion of personal information. Other exemptions included the Cabinet and Executive Council, commercial information, law enforcement, legal professional privilege, deliberative processes and State financial or property affairs.

The major areas of interest were property enquiries, water and discharge licences, and environmental management.

We have developed a Freedom of Information Manual and new precedent letters.

5.9 Recordkeeping Plans

The State Records Office has cleared the Recordkeeping Plans of the Department of Environment and Water and Rivers Commission. Full approval will be obtained pending modification and the finalisation and approval of the Retention and Disposal Schedule.

A program on recordkeeping practices has been developed and is being delivered to staff.

A comprehensive package of in-house material has been developed to assist staff in the use of the Department's records management system and augment existing training programs.

5.10 Advertising and Sponsorship

In accordance with section 175ZE of the *Electoral Act 1907*, we incurred the following expenditure in advertising, market research, polling, direct mail and media advertising:

1. Total expenditure for 2004–05 was $ 491 735.

2. Expenditure was incurred in the following areas:

Table 5: Advertising expenditure

Class of Expenditure	Total expenditure for class	Name of person/agency where total annual payments are greater than $1600
Advertising agencies	Nil	-
Market Research organisations	Nil	-
Polling organisations	Nil	-
Direct mail organisations	Nil	-

Continued …

… continued

Class of Expenditure	Total expenditure for class	Name of person/agency where total annual payments are greater than $1600
Media advertising	$491 735	Brainestorm Production — $2 416.00 Dept of Agriculture (share of media costs) — $2 059.62 Finishingline Digital — $1 915.00 Marketforce Production (includes advertising for vacant positions) — $280 351.60 Media Decisions WA — $193 222.83 Royal Agricultural Society — $4 470.00 State Law Publisher — $2 295.93
Total Expenditure	**$491 735**	

5.11 Sustainability

The Government released the *Sustainability Code of Practice for Government Agencies and the Resource Guide for Implementation* in September 2004. The Code requires agencies to examine their practices and develop a Sustainability Action Plan (2005–07) to demonstrate how each agency is furthering the sustainability agenda. A draft Sustainability Action Plan was required from agencies by the end of December 2004.

Our draft Sustainability Action Plan (SAP) was developed and submitted to Department of the Premier and Cabinet in the required time. The draft may be viewed at <http://www.sustainability.dpc.wa.gov.au>. The Plan emphasised the fundamental sustainability character of the legislation we administered and of our core business and operations. Our work is principally about protection and management of the State's environment and natural resources for the long term benefit of the Western Australian community.

The draft SAP focuses on Strategic Planning, Environmental Performance, and Capacity Building of staff within the agency, for the 2005–06 period. Our Strategic Plan and Business Plan link closely to the draft SAP.

5.12 Equal Employment Opportunity Outcomes

We implemented our first Equity and Diversity Operational Plan in June 2004 to enhance our legislative requirements relating to equity, equal opportunity and diversity. In conjunction with the Plan we also produced the associated Disability Services Plan and redefined our in-house Code of Conduct. The emphasis has been to reinforce our ethos of promoting a diverse workforce that operates within an environment that values equity principles. The plan outlines strategic actions seen as key to achieving stated objectives and ways in which to evaluate and measure the actions undertaken.

The success of this Plan has been reflected in a number of achievements, including the drive to establish a workforce that is representative of the community. Our employment program produced increases in the targeted areas of indigenous Australians (up 0.23%), women in senior management (up 7%) and youth under 25 years (up 3%). The number of people with disabilities remained stable for the year.

Our objective to promote a culture that is receptive and open to equity, equal opportunity (EEO) and diversity has been progressed with the creation and promotion of the Statement of Intent for Equity and Diversity, and the institution of the Equity and Diversity Plan itself. Both documents are on our intranet for all staff to access and incorporate into their business planning and practices. We have an active Grievance Officer network that supports management in providing an advisory service to staff with equity and other similar concerns, including bullying and harassment in the workplace. This network is being strengthened as new appointments progress. A number of internal workshops were held to raise awareness of relevant equity issues and to provide an understanding of the processes available to address such matters. Five grievances were formally reported in 2004/05 and have been successfully dealt with.

Numerous cross cultural awareness sessions have been conducted with both senior management and operational staff, including a specific communication program to expand the knowledge of indigenous people and their culture. We have contracted indigenous elders to facilitate this ongoing program.

Another key objective identified in the Plan is to encourage leadership in shaping a diverse workforce. One initiative progressing is the construction of a framework for identifying leadership potential and leadership development that recognises the diversity of our workforce. This framework will be help managers identify leadership qualities in their employees. Supporting this, reviews of job descriptions are continuing, to ensure that the selection criteria for jobs promote our equity and diversity objectives, that vacancies are accessible to all applicants, and that the recruitment process reflects our commitment to equity and diversity.

Further, as a part of the Plan's Indigenous Employment Strategy, a full time position of Indigenous Affairs Coordinator has been identified for establishment and appointment. An Indigenous Landcare Traineeship Scheme is another new program that has been implemented to underpin this Strategy, with the latest placement being progressed for the Kununurra area.

We are committed to encouraging a work/life balance for all employees, as a part of our focus on equality in the workplace. A recent Quality of Work Life Survey was conducted to measure employee's satisfaction with their work/life balance and attitudes to related Departmental policies. This, together with focus group feedback, has resulted in a review of human resource policies, including flexible working hours and working from home. In-house news articles are targeting these changes on a monthly 'roll-out' basis.

5.13 Corruption Prevention

Through our Code of Conduct, we continue to promote and develop a workforce that is ethical, fair and transparent in its dealings. We have undertaken several actions to educate and involve staff in reviewing workplace behaviours and process controls. Our actions include:

- Improving governance within Community Boards and committees and ensuring that adequate Codes of Conduct, delegations and meeting procedures are appropriate;
- Developing a new Audit Plan which aims to assess the effectiveness, efficiency and performance of all business processes at least once every three (3) years;
- A comprehensive risk review of our business, and its processes. Mitigation strategies have been developed and are being implemented to improve performance, or enhance management control over potential risks;
- Enhancing business performance reporting and evaluation; and
- Several reviews of business processes to ensure that appropriate delegations are in place and administered. We initiated key reviews in procurement and contract management, financial delegations, land planning, acquisition and management and asset management.

We will continue our drive in 2005–06 to enhance business controls and further develop staff understanding and commitment to an ethical, fair and diligent workplace.

5.14 Public Interest Disclosures

During 2004–05 we began to develop and implement processes to accept and assess complaints and disclosures from the public and departmental staff. An electronic systems has been developed and implemented to manage complaints. We have appointed the Director Corporate Services as the PID Officer, and he has worked with Corporate Executive to outline the role and responsibilities involved in public interest disclosures. In conjunction with the implementation of our Code of Conduct, education sessions have commenced to improve staff awareness and understanding.

For 2004–05 we received no (0) public interest disclosures and 18 complaints against the department. 17 of the 18 complaints relate to the department exceeding timeframes in responding to license, clearing or land development proposals. We continue to review and improve our processes to ensure our services are timely and meet agreed customer needs.

6 Statements of Compliance

6.1 Responsible Minister

The Water and Rivers Commission's primary responsibility from 1 July 2004 to 11 April 2005 was to the Minister for the Environment, who exercised authority under the *Water and Rivers Commission Act 1995*. From 12 April 2005 to 30 June 2005, following the State Government election and reallocation of water resources legislation, our primary responsibility was to the Minister assisting the Minister for Water Resources under the same Act.

6.2 Statement of compliance with written law

6.2.1 Legislation administered

Legislation administered in part or whole by the Department of Environment and the Water and Rivers Commission as at 30 June 2005:

Acts

- *Country Areas Water Supply Act 1947*
- *Country Towns Sewerage Act 1948*
- *Environmental Protection Act 1986 (as amended)*
- *Environmental Protection (Landfill) Levy Act 1998*
- *Freedom of Information Act 1992*
- *Health Act 1911*
- *Interpretation Act 1984*
- *Land Administration Act 1997*
- *Land Drainage Act 1925*
- *Land Drainage (Validation) Act 1996*
- *Metropolitan Water Authority Act 1982*
- *Metropolitan Water Supply, Sewerage and Drainage Act 1909*
- *Metropolitan Water Supply, Sewerage and Drainage Board (Validation) Act 1977*
- *Millstream Station Acquisition Act 1982*
- *National Environmental Protection Council (Western Australia) Act 1996*
- *Public Works Act 1902*
- *Rates and Charges (Rebates and Deferments) Act 1992*
- *Rights in Water and Irrigation Act 1914*
- *Swan River Trust Act 1988*
- *Town Planning and Development Act 1928*
- *Water Agencies (Powers) Act 1984*
- *Water Agencies Restructure (Transitional and Consequential Provisions) Act 1995*
- *Water Boards Act 1904*
- *Water and Rivers Commission Act 1995*

- *Waterways Conservation Act 1976*
- *Water Services Licensing Act 1995*
- *Water Supply, Sewerage, and Dr*ainage Act 1912

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

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
- Rights in Water and Irrigation Exemption and Repeal (Section 26C) Order 2001

Copies of legislation relevant to the Department of Environment are available on the State Law Publishers' website at <http://www.slp.wa.gov.au/statutes/av.nsf/doe>.

6.3 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. Water level criteria are set with the objective of maintaining a low level of risk to the ecological values of these sites.

Over the 2004–05 financial year, non-compliances of the criteria up until the end of June 2005, occurred at 25 of the almost 80 criteria sites, three more than during the 2003–04 financial year. It should be noted that there were no significant impacts, such as wholescale vegetation collapse or widespread tree deaths, associated with any of the recorded non-compliances.

6.3.1 Gnangara/East Gnangara

There was non-compliance with 17 water level criteria on the Gnangara Mound in 2004–05, two more than for the previous year.

Non-compliant wetlands included: Lake Jandabup, Coogee Springs, Lake Nowergup Lake Mariginiup, Lake Joondalup, Loch McNess, Lake Yonderup, Lexia 186, and Lexia 94.

Non-compliant vegetation monitoring bores included: four in the Mirrabooka borefield area, one in the Wanneroo borefield area, two in the vicinity of the Pinjar borefield and one near Lake Jandabup.

Vegetation and fauna surveys were conducted as part of the environmental compliance conditions for the Mound. Although there appears to be a general decline in wetland vegetation condition over the last ten years, the monitoring of the overstorey health and understorey composition of the selected wetlands on the Gnangara Mound has not yielded conclusive findings. During 2004–05, there has been some regeneration of wetland trees and, in contrast to previous years, over half of the wetlands have not shown a decline in condition of wetland trees and/or shrubs.

Seventeen wetlands were monitored for macroinvertebrates and water quality. The mean macroinvertebrate family richness in spring (peak water levels) was the lowest spring average in nine years of monitoring. Results for summer/ autumn monitoring (low water levels) was equal to the lowest mean macroinvertebrate family richness recorded in ten years of monitoring. It is likely that with most wetland water levels being lower than for any previous monitoring spring period, that such declines have played a role in observed decline of mean macroinvertebrate richness. The augmentation of water levels for Lake Jandabup and Lake Nowergup may be lessening the decline in macroinvertebrate family richness for these wetlands.

Monitoring of frog populations has occurred since 2000 in the East Gnangara area. Tadpoles hatched in both wetlands in 2003, however, this was only the case for one wetland (EPP173) in 2004 as the second wetland (Lexia 86) was dry most of the year. Although there is no clear evidence of impacts from falling groundwater levels, contraction of the local breeding range of frog species may have taken place.

Reptile captures at wetlands revealed a rich reptile fauna. Mammal captures were few, although evidence of Honey and Pygmy Possums, unusual in such close proximity to Perth.

6.3.2 Jandakot Mound

There was non-compliance with a total of 8 water level criteria on the Jandakot Mound in 2004–05.

Non-compliant wetlands included: Forrestdale Lake, North Lake, Shirley Balla Swamp, Beenyup Road Swamp, Bibra Lake, and Banganup Lake.

During 2004–05, there was non-compliance with one criteria phreatophytic vegetation monitoring bore (JM29) and one rare flora monitoring bore (JM45).

A wetland vegetation survey indicated that, for the year of 2004, tree health showed similar to improved condition relative to that measured in 2003. However, the 2004 Triennial Terrestrial Vegetation Survey indicated a continuing trend of a general decline of most tree and understorey species at all sites since 1997. The observed trend reflects a move towards vegetation more tolerant of drier conditions, with a retraction of true wetland species.

Despite a decrease in the maximum depth at all wetlands in 2005 compared to the year of 2004, in all but three wetlands macroinvertebrate richness and community composition has remained similar. Three wetlands had reduced community compositions because they were either dry or had very shallow surface water. For the first time since 1996, Shirley Balla Swamp had insufficient water to conduct macroinvertebrate sampling. The similarity of the composition of the aquatic invertebrate communities at control and impact wetlands suggest that the Jandakot Groundwater Scheme Stage 2 is not having a major effect on Jandakot wetlands.

Nutrient concentrations, turbidities and chlorophyll sampling in spring 2004 indicated values amongst the lowest ever recorded. The low rainfall in 2004 may have reduced nutrient flushing into the wetlands.

Longer term trends indicate major weed invasions have occurred across the dry lakebeds of most wetlands.

6.3.3 Management of public and private abstraction

We have 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 (Section 5.1.4) under the *Environmental Protection Act 1986* of environmental conditions set on the Jandakot and Gnangara groundwater resources. A report,

The State of the Gnangara Mound, was provided to the EPA in June 2005 as part of the review. The report detailed the current state of the Gnangara Mound and indicated that reduced rainfall recharge due to the drying climate trend of the last 30 years was primarily responsible for the observed declining water level trends. The report also provided modelling results of future climate scenarios that suggest that various proposed management options such as increased burning of native vegetation, accelerated clearing of pines and managed aquifer recharge may provide relief in certain areas, but that climate change was the most significant element effecting water levels on the Gnangara Mound. Any proposed changes to private or public abstraction would provide little if any relief to most groundwater dependent ecosystems.

In addition to the Section 46 review, we are involved in a number of other projects concerned with improving management of the Mound, including development of a hydrogeological computer model (PRAMS), investigating potential for wastewater reuse for horticulture, and production of a Gnangara Mound Water Allocation Plan. The most significant project begun in 2004–05 has been a metering project. This $6M, three year project has been funded by the Government to install cumulative flowmeters on selected areas of the Gnangara Mound such as the concentrated abstraction area of Carabooda. The information gathered will assist in determining actual abstraction and benchmark irrigation efficiency gains.

We are also 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. Our Swan Goldfields Agricultural Region has been engaged in intensive water use compliance surveys for some areas of the Mound. Results have contributed to defining target areas for the implementation of a measurement of use program involving metering irrigators in high risk areas of the Gnangara Mound over a staged three year period A water use compliance survey by our Kwinana-Peel Region for the Banjup sub-area of the Jandakot Groundwater Area, determined that there was a much greater under-utilisation of water than for the few properties that were exceeding their licensed allocation. We are also continuing to work with local government authorities which must comply with the 9 a.m. to 6 p.m. sprinkler restrictions common to domestic garden watering. Projects are underway to improve irrigation efficiencies of parks and gardens and recreation areas.

To improve the coordination of the complex land and water management issues on the Gnangara Mound, the Gnangara and East Gnangara Community Consultative Committee was formed in early 2000. The Committee meets annually and has broad representation from land and water management agencies and from members of peak industry and indigenous groups.

The ongoing significant decreases in rainfall since 1998 have had a major impact on groundwater recharge and water levels across the mounds over that period. This is reflected in the increase in non-compliances. Through the Gnangara and East Gnangara Community Consultative Committee, we are also working with other government agencies to better manage the impacts of pine plantations, native vegetation, and land-use planning decisions on water levels.

6.4 Compliance with Public Sector Standards and Ethical Codes

6.4.1 Compliance with Human Resources Management Standards

The employment practices of the Department have, in the main, complied with the Standards and guidelines of the Office of the Public Sector Standards Commissioner (OPSSC). During the 2004–05 year there were four claims of breach of standards lodged for which one breach was determined. In this case, the recommended redress actions determined by the Department were endorsed by the OPSSC and successfully followed through.

6.4.2 Compliance with Codes of Ethics and Codes of Conduct (Ethical Codes)

The Codes adopted by the Department are the employment centrepiece for the way all staff relate to others, both internal and external, which has over the last twelve months, been reinforced through interactive team awareness sessions. A greater consistency of understanding has been realised through this initiative. A recently completed review of the Code of Conduct has realigned the existing documentation to current standards and practices.

Several potential non-compliance issues surrounding information mismanagement were raised during this period. All matters were successfully resolved without the need for implementing disciplinary processes.

7 Boards and Committees

7.1 Water and Rivers Commission Board

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.

7.1.1 Board members

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

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

The Chairman, Deputy Chairman and non-executive Board members are appointed by the Minister. They 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 at any time remove a Board member from office.

7.1.2 Changes to the Board

No changes to the Board occurred in the period 1 July 2004–30 June 2005.

7.1.3 Accountability and independence

The Board operates within the guidelines of the *Water and Rivers Commission Act 1995*. The Board operates 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.

7.1.4 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.

7.1.5 Board member profiles

Verity Allan — Chairman

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 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.

Jos Chatfield — Deputy Chairman

Mrs Chatfield runs a 3 million seedling capacity Australian plant nursery 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.

Rod Willox

Rod Willox was appointed to the Board in 1999. He holds degrees in Medical Science (Curtin) and Pathology (UWA) as well as a Diploma in Occupational Health & Safety Management. He is also a graduate (Colonel) of the Australian Joint Services Staff College. Mr Willox has extensive experience in local Government and served for several years as metropolitan member of the Local Government Advisory Board. He is a member of numerous community organisations including Mindarie Regional Council, WA Municipal Waste Advisory Council, and Boards of the Organic Waste Research Centre (Murdoch University) and Swan River Trust. Mr. Willox is also Chairman of the Australian Day Council of WA. He was made a Member of the Order of Australia (AM) for his services to local government, the environment and the community, and more recently was awarded the Centenary Medal for services to defence and the Australian Community.

Tony Allen

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 decision on groundwater allocation.

Sue Metcalf

Ms Metcalf has wide ranging experience in local government, planning and catchment management. She is currently the 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

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-ordinator 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

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.

7.2 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.

Four disclosures of interest were declared during the reporting period, and these were managed in accord with our Code of Conduct.

7.3 Ministerial directions

There were no ministerial directions given during 2004–05.

7.4 Committees and other bodies

The Board relies on 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:

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

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

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

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, create local by-laws, dispute resolution and integration of community views on matters relating to water resources.

The **Geographe Catchment Council** was established in July 1997 as a community-based council to deliver integrated Natural Resource Management to the Geographe catchment and adjacent marine environment.

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

The **Cockburn Sound Management Council** (CSMC) — coordinates environmental management and planning for Cockburn Sound and its catchment.

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. In addition, the Collie and Warren Potable Water Supply Recovery Catchment Teams fulfil 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 following committees are currently under review as part of the legislative change to create the Department of Environment:

State Water Reform Council — established to assist the Commission with the process of legislative change.

Stakeholder Council — established to advise on the Commission's performance and key issues.

7.5 WRC Board Committees and Councils: Annual Reports 2004–05

Broome Groundwater Advisory Committee

The Broome Groundwater Advisory Committee was established under S26GK of the *Rights in Water and Irrigation Act*. It has the function of stewardship of groundwater and may undertake or assist the Commission in some or all of the following:

- Promoting the efficient use of groundwater to avoid waste
- Publishing information relating to groundwater
- Developing, in consultation with the community and Commission, management and allocation plans and policies and regulations to manage the control of the use of local groundwater
- Assisting in the resolution of disputes related to the use of the local groundwater
- Advising the Board on policies in relation to groundwater
- Considering and recommending projects for conserving, managing or using groundwater
- Helping develop programs that will protect and enhance the groundwater of the region
- Making recommendations on the issue of groundwater licences
- Providing a focus for community input on groundwater management and
- Liaising with the community and providing information on groundwater issues.

The Broome Groundwater Advisory Committee did not meet during 2004–05.

Carnarvon Water Allocation Advisory Committee

The Carnarvon Water Allocation Advisory Committee (CWAAC) met on three occasions during 2004–05. A review of CWAAC was undertaken in 2004, and the Board endorsed new membership.

The new Terms of Reference for CWAAC are:

- To provide assistance and advice on matters relating to the functions of Department to the extent that the Department asks the Committee to do so;
- To contribute to the ongoing implementation of the Carnarvon Groundwater Management Strategy;
- To provide advice and recommendations for non - conforming licence applications and applications in areas of conflict over water use; and
- To liaise and consult with local licensees and interest groups to improve awareness and obtain local input on water resource management matters.

In early 2004, the Board endorsed the Lower Gascoyne Groundwater Local Area Management Strategy. The primary role of CWAAC during 2004–05 has been to provide advice to the agency on implementation of the Management Strategy. This has included providing advice during the year on proposed water licence water allocation reductions and increases, removal of sleeping allocations, and a local policy on surface water licensing. There has been limited flow in the Gascoyne River during 2004–05 and as a result there has been a significant decline in water quality and quantity in the river aquifers. The CWAAC has contributed to our consideration of drought allocation management requirements for 2005-06.

Canning-Wungong-Southern Rivers Irrigation Advisory Committee

The Committee was established to provide advice on the management of surface water resources to the agency and the WRC Board.

The Committee met once in 2004–05. The main area of allocation is on licensing surface water use along the Canning, Wungong and Southern Rivers. The main focus is on applications for licence renewals.

The DoE is implementing a project with funding from the Swan Catchment Council through the Natural Heritage Trust, with partnership contributions from the Water Corporation and the Swan River Trust, to determine environmental water requirements and provisions along this river system. This is part of a process to establish a new allocation strategy for the river system which has greatly reduced flows compared to pre-European conditions. The committee was briefed on the progress of this project and provided comment into the process.

Cockburn Groundwater Advisory Committee

The Cockburn Groundwater Advisory Committee was established under S26GK of the *Rights in Water and Irrigation Act 1914*. The Committee did not meet during the 2004–05 financial year and last met in May 2002. The Kwinana Peel Region is currently reviewing the continuation of the Committee

Rockingham Groundwater Advisory Committee (previously Stakehill Groundwater Advisory Committee)

The WRC Board formally dissolved the Rockingham Groundwater Advisory Committee at its meeting held Friday, 25 November 2004.

Serpentine-Dandalup-Murray Rivers Advisory Committee

The Serpentine-Dandalup-Murray Rivers Advisory Committee was established under S26GK of the *Rights in Water and Irrigation Act 1914*. The Committee did not meet during the 2004–05 financial year and last met in February 2003. Although the Committee has not formally met, they have been involved in the decision-making process for applications along the fully allocated Serpentine River during late 2004. The Kwinana-Peel Region is currently reviewing the continuation of the Committee.

South West Coastal Groundwater Advisory Committee

The South West Coastal Groundwater Advisory Committee was established under S26GK of the *Rights in Water and Irrigation Act 1914*. The Committee became part of the Kwinana Peel Region with the boundary changes and did not meet during the 2004–05 financial year. The Kwinana Peel Region is currently reviewing the continuation of this committee.

Swan Groundwater Advisory Committee

The Committee was established to provide advice on the management of groundwater resources to the agency and the WRC Board.

As groundwater resources are largely fully allocated in the area, the priorities for management of the resource are on auditing compliance with existing licenses, and applications for groundwater licence renewals. The Committee can make recommendations on groundwater abstraction applications and represents community opinions on allocation decisions. The Committee met once for these purposes in 2004–05.

In 2004–05, the Committee also met jointly with the Wanneroo Groundwater Advisory Committee to be updated on DoE's work on understanding the mound and to provide feedback as appropriate. This meeting also considered an approach to the formation of a Gnangara Mound Water Resources Management Committee.

Wanneroo Groundwater Advisory Committee

The Committee was established to provide advice on the management of groundwater resources to the agency and the WRC Board.

The Committee can make recommendations on groundwater abstraction applications and represents community opinions on allocation decisions. The committee met once for these purposes in 2004–05.

In 2004–05 the Committee also met jointly with the Swan Groundwater Advisory Committee to be updated on DoE's work on understanding the mound and to provide feedback as appropriate. This meeting also considered an approach to the formation of a Gnangara Mound Water Resources Management Committee.

Warren Water Management Area Advisory Committee

The Warren Water Management Area Advisory Committee was established under S26 of the Rights in Water and Irrigation Ac 1914t to:

- Provide advice to the Water and Rivers Commission on specific licence applications.
- Provide advice to the Water and Rivers Commission on surface water management and allocation policies.
- Assist with the development of management plans
- Assist with the preparation of information pamphlets
- Liaise with licensees and interest groups to improve awareness and obtain local input.
- Liaise with licensees to resolve conflicts over water use.

The WWMAAC held two meeting in 2004–05 regarding licensing and policy development in the proclaimed Warren and Donnelly River systems.

In May 2005 a preliminary workshop was held to identify the goals of the Advisory Committee and identify issues to be developed into projects at a workshop in August 2005.

The Committee has identified the need for sustainable water management to continue to occur in a way that supports regional growth. Issues that have been identified include:

- Continue to develop an understanding of the changes in water use in the district and pressures on the Water Resources.
- An understanding of climate change and how it may affect surface water licences in the district.
- How to manage the issue of the separation of land titles and water titles.
- Metering of water use — Will it lead to charges?
- Horticultural trends in the region.
- Changes in water quality in the region.
- Understanding and managing environmental flows.

Water Resources Management Committees

Gingin Dandaragan Water Resource Management Committee

The Gingin Dandaragan Water Resource Management Committee was active in 2004–05 owing to the increasing demand for groundwater for a variety of horticultural uses in the Gingin and Jurien groundwater areas. Surface water allocation, and riparian zone management issues were also addressed by the committee, particularly along Gingin and Lennard Brooks.

Five meetings of the Committee were held in 2004–05.

The Committee assisted the agency in its assessments of surface water and groundwater abstraction applications. In 2004–05 some of the major achievements were agreement to the Board's recommended Code of Conduct, and constitution.

The committee has also had a major input into the development of a water allocation Merit Selection Process for the Guilderton sub areas of the Gingin Groundwater Area.

Whicher Water Resource Management Committee

The Whicher Water Resources Management Committee was established under S26GK of the Rights in Water and Irrigation Ac 1914.

The Committee is intended to be the vehicle for community involvement in the management of water resources. They will provide the respective Regions with a direct link to the views of the local community. In addition, they will also provide advice and assistance in considering various matters, including allocation and use of water resources within a defined boundary of the region.

The Committee recommends and advises on the areas of:

1. The management, allocation and planning for all water resources.
2. Setting water allocation objectives and principles.
3. Coordinating community consultation planning for water resource management.
4. Creation of local by-laws, if required.
5. A central means of input for both the region and the community into each others respective positions.

Generic (to be presented and discussed at the next Whicher Committee meeting)

- Provide advice and assistance to the community and Department of Environment (DoE) in the management, allocation and use of water resources in the locality;
- Assist in setting water allocation objectives and principles;
- Coordinate community consultation in the preparation of plans of management of the water including regional, sub-regional and local area management plans;
- Provide input on regional, sub-regional and local area management plans;
- Perform functions in relation to local by-laws and plans or as delegated by the (DoE);
- Assist the (DoE) in the resolution of disputes;
- Ensure that the (DoE) is aware of the community's views on water resource issues; and
- Communicate policy positions and strategies of the (DoE) to the community and stakeholders.

In April 2004, the Whicher Water Resource Management Committee (Whicher) prepared an internal discussion paper to highlight four directly related water resource allocation and planning issues of concern within the region:

1. Consideration of proclamation as the preferred framework in which to manage surface water;
2. Development of a common dams policy;
3. Development of a policy position on environmental dam flows and accompanying by-laws; and
4. Development of a Greater Whicher Regional Management Plan for both surface water and groundwater.

Essentially, the paper recommended DoE develop and implement an appropriate management approach strategically addressing these four areas across the region to truly implement sustainable water resource management within the Whicher region that is outcome focussed in conjunction with the local community.

DoE agreed with the core thrust of the paper and asked Whicher to take their concerns along with recommendations for addressing them to the community. Accordingly, in December 2004 Whicher released a Community Briefing Note entitled 'The Way Forward for Water Resource Management in the Whicher Region'.

An accompanying consultation program was developed for local, district and regional communities as well as key industry groups and stakeholders including Local Government in order to provide them with information and to have the issues debated. Public meetings in support of the Community Briefing Note were also held in Augusta, Busselton, Capel, Margaret River and Nannup.

Public submissions on the Community Briefing Note closed on the 30 June 2005 and nearly all agreed that surface water management was a priority and that proclamation was seen as the best means available to address it and provide resource security to both the environment and commercial users.

Throughout 2004–05, Whicher continued to provide advice and assistance to the DoE with regard to the development of a sub-regional groundwater management plan for the Blackwood Groundwater Area (GWA) triggered by the Water Corporation's 45 GL/annum application from the Yarragadee aquifer.

Salinity Recovery Teams

For more detail on the achievements of the Salinity Recovery Teams, see Section 4.2.4

Kent Denmark Recovery Team

Since 1998, the Kent Denmark Recovery Team has partnered with the agency to guide the implementation of the Government's Salinity Strategy in the Kent and Denmark Water Resource Recovery Catchments.

The target of the Salinity Strategy's Water Resource Recovery Program is to achieve water of potable quality in the Denmark River by 2020 and in the Kent River by 2030.

The Recovery Team has worked with the DoE to achieve these targets, providing stakeholder input to analysis of river and catchment information and assessment of management options, and guiding the cost sharing of salinity management works with landholders.

The Recovery Team is in its seventh year of funding the recovery of water quality in the Kent and Denmark Recovery Catchments and has recently achieved a milestone of allocating a total of $750 000 for works. Combined landholder and government investment in recovering water quality in the catchments over these seven years is estimated to be approximately $1.4 million.

A major focus of the Recovery Team during 2004-2005 has been to provide stakeholder review comment on the draft Kent Salinity Situation Statement written by the DoE. The next

phase for the Team will be to provide input into the analysis of impacts of management options and to agree on the preferred course of action.

The Recovery Team met on 2 December 2004 and 12 May 2005 and dealt with the following key issues;

- Review of draft Kent Salinity Situation Statement.
- Denmark Salinity Recovery Plan.
- Walpole Wilderness Area and related issues.
- WRC land management in the Kent Recovery Catchment.
- Cost sharing of salinity management works and property planning updates.
- Kent River Land Conservation District Committee oral history of the Kent River project.
- Survey of Recovery Catchment landholders.
- Review of interim cost sharing arrangements.
- Seedling project.
- Draft of newsletter to landholders.

Collie Recovery Team

The Collie Salinity Recovery Team was established under the *Water and Rivers Commission Act 1995* s.13 to:

- Promote the protection and restoration of the key water resources of the Collie River Catchment.
- Help develop community impetus and action to reduce salinity in the Collie River and Wellington Dam.
- Guide and direct the changes needed for restoring fresh water in the Collie River catchment.
- Provide leadership in the partnership between government and the Collie catchment community working on the Collie River Salinity Recovery Plan.

During 2004–05, the Collie Recovery Team worked with the Western Australian and Australian governments to develop the $30 million Collie River Salinity Recovery Project. It also provided input to the implementation of the Stage 1 Trial of the Collie River East Diversion Project, and provided community and industry advice to Government in respect of recovery strategies.

Warren Recovery Team

The Warren Recovery Team was established under the *Water and Rivers Commission Act 1995* s.13 to provide leadership in advocating and promoting feasible land use options that will achieve potable water, profitable land uses and equitable sharing of costs for the benefit of the whole community.

The team undertakes to make decisions on the best available information and to seek continuous improvement, ensuring that:

- No farmer will be worse off in implementing works for public benefit;
- No farmer will be forced to sell their land; and
- Water quality goals will be met.

During 2004–05, major achievements were:

- '*A fresh future for water — Warren River*' Brochure developed to outline plan for the future, including the Strategic Plan and an overview of the Catchment.
- The *Warren Salinity Situation Statement* prepared in draft for comments and approval.
- The *Farm Forestry Implementation Project* — a Forest Products Commission. Team provided full support for the project implementation in the South West Region.

Local Catchment/Waterways — Groups

Avon Waterways Committee

During 2004–05 the Avon Waterways Committee met six times. It had major input in to development of the integrated water program for the Avon Catchment Council's NRM strategy. The Committee was also involved in the production of foreshore assessment studies for the Dale and Upper Avon Rivers and provided input into four river recovery plans.

In the year ahead, the Committee is likely to have a substantial involvement in advising DoE on implementing two major projects, which the DoE has submitted Expressions of Interest to the Avon Catchment Council to implement. These are the Avon Rivers Waterway Management project ($736 000) and the Healthy Ecosystems project (DoE component $805 000).

Community Steering Committee — Watershed Torbay (formally disbanded 29 June 2005) Torbay Catchment, South Coast Region

This Committee was set up for a specific project with a finite life-span (Watershed Torbay Catchment Restoration — Planning and Research, June 2001 – June 2005). The Committee members attended their last meeting on 29 June 2005.

The Community Steering Committee was the central river restoration team. It comprised members who have intimate knowledge of the local area and who represent the major land uses and interests associated with the Torbay catchment. It acted as a melting pot for the various perspectives of landholders, government agencies, scientists and other stakeholders. The Steering Committee worked successfully towards developing community objectives, catchment vision, management strategies, actions and implementation strategies. The steering committee was a special projects committee of the Torbay Catchment Group (TCG), and reported back to the TCG.

Achievements:

- Attendance at regular six-weekly meetings to end of June 2005, to progress development of the Watershed Torbay Catchment Restoration Plan (June, August, September and November 2004; April, May 2005).
- Committee Chairperson attended project support team meetings (core project management group), held six weekly throughout the project timeframe (July, September, December 2004; April, May, June 2004).
- Participation in Farming Systems workshop to develop targets and actions for the Restoration Plan (September 2004).

- Participation in Drainage Management workshops to increase understanding of operation of drainage district, analyse management options, and develop targets and actions for the Restoration Plan (September, December 2004; January 2005).
- Participation as community representatives and advocates of the Watershed Torbay project, in community workshops to further develop the Restoration Plan (17, 18 and 19 February 2005).
- Review and endorsement of the Watershed Torbay Catchment Restoration Plan – 29 June 2005.

Wilson Inlet Management Advisory Group

The Wilson Inlet Management Advisory Group (WIMAG) provides advice to the Department of Environment on issues related to the management of Wilson Inlet.

The main focus for WIMAG from May 2004 to August 2005 was overseeing the implementation of the Nutrient Action Plan and reviewing the structure and function of the Group.

The partnership agreement between WIMAG and DoE expired in late 2004, necessitating a review of the Group's structure and function. The Group is currently considering the findings of the working group formed to assess a range of structures and will put its recommendations to DoE in Sept 2005.

WIMAG met on eight occasions between May 2004 and August 2005 and where relevant, provided advice to DoE on the implications for the management of Wilson Inlet of the following;

- Recognition of Morley Beach as important area for wading birds and worthy of protection, propose upgrading to reserve status;
- Safety concerns regarding Poddyshot boat launching facility, new jetties proposed through recreational boating scheme;
- Fire Management Plan for the Shire of Denmark, foreshore access issues;
- Feedback following sand bar openings in August 2004 and June 2005;
- Fisheries and DPI support for a funding application for flat oyster trial;
- Re-development of the Rivermouth Caravan Park;
- Weed Strategy for the Shire of Denmark to incorporate inlet foreshore;.
- Salinity Situation Statement for the Denmark River Recovery Catchment;
- Review of Department of Fisheries research priorities, overview of presentation to Council by Rod Lenanton;
- Foreshore clearing, debate over local and state government role;
- Shire of Denmark review of management policies relating to Wilson Inlet;
- Rivermouth dredging proposal, results from preliminary investigation into Acid Sulphate Soils, implications for local aquaculture;
- State NRM Conference scheduled for October 2005;
- Rivermouth Marine Survey — DPI and Shire of Denmark; and
- Appointment of Council delegates on WIMAG.

WIMAG also received presentations on the following issues;

- Wilson Inlet Catchment Snapshot Results (A. Maughan, May 2004);
- East versus West Wilson Inlet Bar Opening (Ben Chuwen, WISE, July 2004);

- Denmark Community Windfarm (Craig Chappelle and Paul Llewellyn, July 2004);
- South Coast Recreational Fishing Review (J. Froud, July 2004). Fisheries Management Paper No 182 — A Quality Future for Recreational Fishing in the South Coast;
- Foreshore Survey Reports for the Denmark to Hay River Subcatchment Tributaries and the Waterways of the Upper Denmark River and the Springs Catchment (Upper Hay River) (B.Schur, Green Skills, November 2004);
- Modelling of ocean inflow and outflow (N. Boughton, November 2004); and
- Wilson Inlet Nutrient Reduction Action Plan Implementation — update reports tabled March and May 2005 (D. Rushton, DoE)

During public forum time WIMAG received presentations from members of the public on the following;

- Reintroduction of the use of garfish nets into the south coast estuarine fishery;
- Department of Fisheries understanding of estuarine ecology to play a pivotal role in Wilson Inlet management decisions;
- Aesthetic impacts of inlet navigation lights on foreshore residents;
- Communicating the implementation of the Wilson Inlet Nutrient Reduction Action Plan (WINRAP);
- Denmark Classic Boat Association floating jetty proposal;
- Deep Sewerage for the area between Little River and Ocean Beach Caravan Park; and
- Dredging of channels in the inlet delta.

Local Catchment/Waterways — Councils

Leschenault Catchment Council

The Leschenault Catchment Council Inc was established under s13 of the *Water and Rivers Commission Act 1995*.

Mission — To develop ways to achieve a sustainable, healthy and productive catchment in partnership with the community.

Vision — Environmental values within the Leschenault Catchment restored, enhanced and protected, while creating social, cultural and economic opportunities for present and future generations.

The Leschenault Catchment Council Incorporated (LCC Inc.) Constitution was amended and lodged with Department of Consumer and Employment Protection April 2005.

During 2004–05, major projects included:

- Environmental education and awareness — Ribbons of Blue.
- Community partnership to address sedimentation in Leschenault waterways.
- Waterway and wetland restoration — Settlers Estate, Australind; Collie River Elbow Erosion Control, Australind; Glen Huon EPP Wetland, Eaton; Linking Communities – Collie River, Australind; Community Foreshore Restore — Preston River, Boyanup
- Supporting strategic planning — SCP Biodiversity Project; SCP Drainage Project; Protection of biodiversity assets, Mumballup.

Peel Inlet Management Council

The Peel Inlet Management Council was established under the *Water and Rivers Commission Act 1995* in 2003.

On 21 July 2004 the Peel Inlet Management Council adopted the Water and Rivers Commission Board Partnership Agreement and meetings were convened on a bi-monthly basis during the year.

The member induction process continued. Presentations on key waterways issues were held, including: acid sulfate soils; dredging and disposal, management of Peel Harvey crab and fish stocks; Shire of Murray Planning and Development Scheme No. 5 Local Planning Strategy; Parts 4 and 5 Environmental Protection Act 1986 and Regulations; and Department of Environment Corporate Business Plan and Strategic Direction.

During the year the Peel Inlet Management Council reviewed and endorsed Peel Inlet Management Area Guidelines for dredging and dewatering, retaining walls, jetties, and commercial vessel operations.

The Council continued to work with the community and government agencies by providing advice to the Murray River Working Group, Boating Facilities Study for the Peel Region, Wilgie Creek Restoration Group, the Economic Development and the Recreation Management Plan for the Peel Waterways Committee. Advice was also provided to the Department of Environment on a total of fourteen Waterways Conservation Act 1976 licences.

The community members also continued in their role as Community Consultative Committee for the Peel Regional Park establishment plan being prepared by the Department for Planning and Infrastructure.

Regional Councils

Cockburn Sound Management Council

The Cockburn Sound Management Council is a Committee of the Board of the Water and Rivers Commission under Clause 15 of Schedule 1 of the *Water and Rivers Commission Act 1995*.

The objects of the Council are to:

1. Facilitate and coordinate ongoing environmental management between Government, industry and the community to achieve a set of environmental goals covering the waters of Cockburn Sound and Owen Anchorage and their catchments.
2. In relation to Cockburn Sound, to develop an Environmental Management Plan (EMP), under delegated authority from the Environmental Protection Authority that would:
   (a) Recognise and facilitate multiple use management of Cockburn Sound.
   (b) Incorporate environmental quality objectives and criteria of the Environmental Protection Policy.
   (c) Foster integration between environmental planning and management for the land and marine environment.

The Cockburn Sound EMP is to be consistent with an Environmental Protection Policy initiated and developed under the Environmental Protection Act 1986, for endorsement by the Ministerial Council (on advice of the Minister for the Environment) for the waters of Cockburn Sound and its catchments.

3. In relation to Owen Anchorage, to develop an Environmental Management Plan (EMP) that would:

   (a) Recognise and facilitate multiple use management of Owen Anchorage.

   (b) Incorporate environmental quality objectives and criteria of the Environmental Protection Policy.

   (c) Foster integration between environmental planning and management for the land and marine environment.

4. Administer and coordinate implementation of the Environmental Management Plans for Cockburn Sound and Owen Anchorage, and publicly report on the implementation of the plans.

5. Coordinate the management of pollution impacts on Cockburn Sound and Owen Anchorage and their catchments.

6. Investigate, monitor, review and report on environmental objectives, criteria and targets where appropriate in accordance with the Environmental Management Plans for Cockburn Sound and Owen Anchorage.

7. Coordinate and/or undertake research and investigations as a basis for development and implementation of environmental and management objectives for Cockburn Sound and Owen Anchorage.

8. Report annually to the Ministerial Council and the Board of the Water and Rivers Commission on progress.

Key activities undertaken by the Cockburn Sound Management Council in 2004–05 include:

- Coordination of environmental monitoring programs within the Cockburn Sound.
- Preparation of a series of Report Cards outlining the health of Cockburn Sound. These Report Cards utilise the data collected through monitoring programs and include data from various stakeholders.
- Annual reporting to the community through a series of community forums.
- Facilitated meetings in relation to development proposals for Cockburn Sound.
- Preparation and distribution of newsletters to the community.
- Provision of advice and comment on development proposals within Cockburn Sound and its catchment.
- Finalisation of the *State Environmental (Cockburn Sound) Policy, 2005* and the *Environmental Management Plan for Cockburn Sound and its Catchment*. These policies were released by the Minister for the Environment in January 2005.
- Secured funding for extension of Councils' activities into Owen Anchorage.

Geographe Bay Catchment Council

The Geographe Bay Catchment Council will submit its 2004–05 Annual Report to the WRC Board at a future date. Its 2003-04 Annual Report was received by the WRC Board at is meeting held 24 June 2005.

Special Purpose Groups

WA Floodplain Management Council (formally disbanded 8 June 2005)

The WA Floodplain Management Council was established under S13 of the *Water and Rivers Commission Act 1995* to provide high level liaison and coordination of floodplain management activities throughout the State.

The WA Floodplain Management Council's main task is to develop a draft WA Floodplain Management Strategy which will improve the effectiveness of floodplain management and reduce future losses caused by floods.

In December 2004, the Water and Rivers Commission Board endorsed the draft Strategy and a Cabinet Submission was then forwarded to the Minister for Environment to gain Government endorsement and approval for the Department of Environment to implement the Strategy's programs including obtaining funding through the budgetary process. This action is still currently in progress. The work associated with the expected endorsement of the Strategy will be done at departmental level.

The WA Floodplain Management Council was disbanded on 8 June 2005.

Engineering Evaluation Initiative Steering Committee

The Engineering Evaluation Initiative Steering Committee (EEI SC) was established as a committee of the Water and Rivers Commission Board in May, 2002 under S13 of the *Water and Rivers Commission Act 1995* to develop best management practice, simple site tests and decision support tools for deep drains, groundwater pumping, relief wells and siphon bores, and surface water management. The Committee is a skill based steering committee with membership from State, Commonwealth and Local government officers, farmers, contractor, and researchers.

The EEI SC met three times during 2004–05 for full committee meetings to discuss issues arising from the on-ground projects and the research projects begin conducted throughout the EEI program. These decisions included, additional funding for projects, types of monitoring required, drain design and evaporation basin design. A field trip was also organised for the committee to see the on-ground works being conducted around the state.

As well as making decisions on technical issues, the Committee has also been active in attending field days, farmer forums and visits to some of the EEI project sites with the Minister for Environment. The Steering Committee also attended the Salinity Engineering Conference held in November 2004.

7.6 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.

7.7 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 2005 are as follows:

Table 6: Meeting attendance

	WRC Board	Audit and Risk Management Committee	Water Resources Allocation Committee	Swan River Trust	Swan River Trust Sub-committee
Meetings held	**11**	**2**	**10**	**17**	**11**
Ms V Allan	10		8		
Mrs J Chatfield	10				
Mr R M Willox	11	2		15	9
Dr T Allen	11		6		
Ms S Metcalfe	10				
Mr P Egglestone	8				
Mr D Carew-Hopkins	9	1			
Mr R Banyard (representing Mr D Carew-Hopkins)	1				
Mr B O'Neil (representing Mr D Carew-Hopkins)	1	1			

AUDITOR **GENERAL**

INDEPENDENT AUDIT OPINION

To the Parliament of Western Australia

WATER AND RIVERS COMMISSION
PERFORMANCE INDICATORS FOR THE YEAR ENDED 30 JUNE 2005

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 30 June 2005.

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.

D D R PEARSON
AUDITOR GENERAL
23 September 2005

4th Floor Dumas House 2 Havelock Street West Perth 6005 Western Australia Tel: 08 9222 7500 Fax: 08 9322 5664

8 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 2005.

Verity Allan
CHAIRMAN OF THE BOARD

Jos Chatfield
DEPUTY CHAIRMAN

26 August 2005

Performance Framework

The performance framework below shows the relationships between government goals, agency level government desired outcomes and the agency's services. During the 2004–05 financial year the department revisited the performance management framework so as to improve the reliability and relevance of performance information.

Government Goal: To ensure that Western Australia has an environment in which resources are managed, developed and used sustainably, biological diversity is preserved and habitats protected.

The agency delivers two desired outcomes on behalf of government:

1. Water resources maintained to assessed sustainable yields, and water quality complies with established criteria in public drinking water source areas relates to a series of activities that together enable the Commission to provide the following services:

- Investigate and assess water resources to determine sustainable yields;
- Develop water resource management plans, and regulate water use;
- Develop plans and guidelines to protect the quality of water resources;
- Develop planning and grants assistance for water supplies in dryland agricultural areas.

The key relationships between our performance indicators and these functions are:

Effectiveness

- Number of water resources with licensed allocation exceeding assessed sustainable yields;
- Number of contamination occurrences exceeding drinking water standards in public drinking water source areas;

Efficiency

- Average cost per water resource assessment;
- Average cost per gigalitre of water licensed;
- Average cost per protection plan developed;
- Processing costs as % of total grants.

2. Waterways and catchments meet established resource condition targets relates to a series of activities that together enable the Commission to provide the following services:

- Implement catchment, waterways and wetlands management plans;
- Evaluate and implement, in designated catchments, salinity management measures;
- Develop policies and strategies for drainage and floodplain management.

The key relationships between our performance indicators and these functions are:

Effectiveness

- The number of exceedances of resource condition targets in designated catchments;
- Number of nuisance algal blooms recorded annually.

Efficiency

- Average cost per km of river managed in designated catchments;
- Average cost per km^2 of designated catchments where salinity management measures are implemented;
- Average cost per provision of advice.

Summary of key performance indicators

Desired Outcome: Water resources maintained to assessed sustainable yields, and water quality complies with established criteria in public drinking water source areas

Effectiveness Indicators

	Note	Unit	12 months actual	12 months June 04	Target 05–06
Percentage of water resources with licensed allocation exceeding assessed sustainable yields	**A**	%	14.2%	11.8%	10.1%
Number of contamination occurrences exceeding drinking water standards in public drinking water source areas	**B**	No.	0	0	0

Efficiency Indicators

	Note	Unit	12 months actual	12 months June 04	Target 05–06
Service 1 — Investigation and assessment of water resources to determine sustainable yields					
Average cost per water resource assessment	**C**	Avg $ cost	148 134	152 911	178 911
Service 2 — Water resource management plans, and regulation of water use					
Average cost per gigalitre of water licenced	**D**	Avg $ cost	10 271	8 724	7 028
Service 3 — Plans and guidelines to protect the quality of water resources					
Average cost per protection plan developed	**E**	Avg $ cost	1 159 500	437 333	374 843
Service 4 — Planning and grants assistance for water supplies in dryland agricultural areas					
Processing costs as % of total grants	**F**	Costs as %	0.70%	0.53%	7.2%

Desired Outcome: Waterways and catchments meet established resource condition targets

Effectiveness Indicators

	Note	Unit actual	12 months June 04	12 months June 05	Target 05–06
The Percentage of exceedances of resource condition targets in designated catchments	**G**	%	40%	40%	40%
Number of nuisance algal blooms recorded annually	**H**	No.	533	313	400

Efficiency Indicators

	Note	Unit actual	12 months June 04	12 months June 05	Target 05–06
Service 5 — Implementation of catchment, waterways and wetlands management plans					
Average cost per km of river managed in designated catchment	**I**	Avg cost $	23	24	1 377
Service 6 — Evaluation and implementation in designed catchments of salinity management measures					
Average cost per km^2 of designated catchments where salinity management measures are implemented	**J**	Avg cost $	625	690	904
Service 7 — Policies and strategies for drainage and floodplain management					
Average cost per provision of advice	**K**	Avg cost $	8 947	7 100	17 217

NOTES TO THE PERFORMANCE INDICATORS
for the year ended 30 June 2005

A. Percentage of water resources with licensed allocation exceeding assessed sustainable yields

Desired Outcome: Water resources maintained to assessed sustainable yields, and water quality complies with established criteria in public drinking water source areas

Relevance to desired outcome

The Commission is responsible for ensuring orderly, equitable and efficient use of water resources and to ensure that water resources are not used in a way that results in unacceptable environmental impacts. Having set sustainable limits for environmental, social and economic demand in plans, the Commission aims to license and regulate water usage, such that it does not exceed these limits.

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.

The indicator is relevant to the outcome because it shows how the Commission is managing water resources so as to ensure the long term availability of this scarce resource. The indicator has been derived by determining the number of groundwater resources (of which there are 693 sedimentary groundwater resources in the State) that have a licensed use greater than the management objectives.

Effectiveness measure

There are currently 11% of the groundwater resources in the State that are licensed over the allocation limit. This is under review and it is anticipated that this percentage figure will reduce significantly, due to the increased focus on management planning.

The target number of water resources with a licensed allocation exceeding sustainable yields is expected to reduce as a result of an increased focus on licensing and regulation activities. This will be assisted through the receipt of additional funding of $1million for water resource management in the coming year.

B. Number of contamination occurrences exceeding drinking water standards in public drinking water source areas

Desired Outcome: Water resources maintained to assessed sustainable yields, and water quality complies with established criteria in public drinking water source areas

Relevance to desired outcome

A key objective of the Commission is to prepare drinking water source protection plans for all public drinking water sources throughout Western Australia, in order to ensure safe, good

quality water supplies that need minimal treatment to meet the requirements of the Australian Drinking Water Guidelines.

The task of protecting water quality is met by a number of initiatives such as catchment and source protection plans, environmental guidance documents, and regulatory controls over land use and access to drinking water catchments. The measurement of water quality is assessed against Department of Health standards, which are based on the Australian Drinking Water Guidelines.

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. In addition, there is a high demand of access to our surface water reservoirs and their catchments and the resultant activities can place a high contamination risk on the water source.

Effectiveness measure

The indicator is derived by recording the number of contamination occurrences exceeding drinking water standards in public drinking water source areas. The aim of the indicator is to ensure that drinking water standards in public drinking water source areas are protected so as to minimise the risks to public health.

C. Average cost per water resource assessment

Desired Outcome: Water resources maintained to assessed sustainable yields, and water quality complies with established criteria in public drinking water source areas

Relevance to desired outcome

Assessment of the State's water resources is a key component of the Commissions water resource management function. This is necessary so as to ensure that adequate water resources are available to meet the State development needs and to ensure that resources are not used in a way that results in unacceptable environmental impacts. This is done through a program of coordinating investigation programs, analysing information carrying out modelling, and providing information in terms of maps and Geographical Information System data bases.

Efficiency measure

	Quantity	Expenditure	Unit Cost
Average cost per water resource assessment	56	$8 563 000	$152 911

The indicator is derived by dividing the total cost of service for investigation and assessment of water resources to determine sustainable yields divided by the total number of water resource assessments completed. There has been a slight increase in the unit cost between 2003–04 and 2004–05 largely attributable to an increase in the share of the capital user charge during 2004–05. The unit cost for 2005–06 is anticipated to increase due to the receipt of additional funding for Water Resources Management of approximately $1 million, which will be used for additional assessment activities.

D. Average cost per gigalitre of water licenced

Desired Outcome: Water resources maintained to assessed sustainable yields, and water quality complies with established criteria in public drinking water source areas

Relevance to desired outcome

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 licence — a key instrument in allocating water to users. As demand for water grows and the volume of licences increase, the Commission aims to maintain, or reduce, the average cost of administering a licence.

The licencing of water resources is a key component in ensuring that the State's water resources are sustainably managed. As part of the licencing activities the Commission undertakes assessment activities, compliance and enforcement activities aimed at ensuring licence conditions are being met. This indicator shows the efficiency with which the Commission administers water allocation licences.

Efficiency measure

	Quantity	Expenditure	Unit Cost
Average cost per gigalitre of water licenced	1 630	$14 220 000	$8 754

The indicator is derived by dividing the total cost of service for water resource management plans and the regulation of water use by the total volume of water licenced. The reduction in unit cost from 2003–04 to 2004–05 is largely due to increased licencing of water resources which saw the volume of water licenced increase from 1 443 to 1 630 gigalitres. The target unit cost for 2005–06 is also expected to reduce due to improved efficiency in licencing activities assisted by the expansion of metering particularly in relation to the Gnangara Mound.

E. Average cost per protection plan developed

Desired Outcome: Water resources maintained to assessed sustainable yields, and water quality complies with established criteria in public drinking water source areas

Relevance to desired outcome

The development of protection plans is a key component of the Commission's strategy in managing the States water resources. The development of protection plans is necessary to ensure that water source areas are offered maximum protection so as to ensure safe, good quality water supplies that will require minimal treatment in order to meet the requirements of the Australian Drinking Water Guidelines.

The indicator is relevant to the desired outcome because it provides a measure of cost efficiency of the development of protection plans. 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's heavy reliance on groundwater for water supply together with its generally sandy soils makes the underlying groundwater vulnerable to contamination. At 30 June 2005 there were 139 protection plans listed for completion within the State of which 54 were completed. These 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 dependent on circumstances some plans may not be required or may be combined with other plans and prioritised for completion.

Efficiency measure

	Quantity	Expenditure	Unit Cost
Average cost per protection plan developed	6	$2 624 000	$437 333

The indicator is derived by taking the total cost of service for plans and guidelines to protect the quality of water resources less the capital user charge associated with land holdings divided by the number of protection plans developed. The substantial reduction in unit costs from 2003–04 to 2004–05 is largely due to the 2003–04 year containing only 2 completed protection plans whereas the 2004–05 year contained 6 completed protection plans. In addition, the ability to complete more plans has been enhanced by the development of water source protection assessment documents enabling improved consultation and increased efficiency in plan development. The projected unit cost for 2005–06 is expected to reduce due to improved efficiency in plan development enabling the completion of an estimated 6 plans.

F. Processing costs as % of total grants

Desired Outcome: Water resources maintained to assessed sustainable yields, and water quality complies with established criteria in public drinking water source areas

Relevance to desired outcome

As part of the Commission's obligation to plan for sustainable development of the State's water resources, facilitating a planned approach to addressing serious water deficiencies in dryland areas of the State and to better prepare for periods of drought and low rainfall is a core element. The Rural Water Program enables the coordination of rural water supply matters, implementation of projects designed to improve the reliability of existing water supplies and the development of new water supplies.

The processing cost per grant application as a % of total grants provides an indication of the efficiency of the Commission in administering the Rural Water Grants Schemes. The administrative costs include those costs incurred in processing and determining grant applications, processing grant payments and monitoring, evaluating and editing grants.

Efficiency measure

	Quantity	Expenditure	Unit Cost
Processing costs as a % of total grants	189	$939 000	$4 968 (0.53%)

The average cost per application is derived by calculating the total cost for the rural water supply assistance service, less grants allocated divided by the total number of grant applications. The service includes grant payments totaling $1.395 million, which are exempt from the calculation.

The percentage processing cost has reduced from 0.70% in 2003–04 to 0.53% in 2004–05 largely due to an increase in the number of grant applications received, up from 143 to 189. The unit cost for 2005–06 is anticipated to increase due to effect of deferring costs of approximately $2.3 million from 2004–05 into 2005–06.

G. The percentage of exceedances of resource condition targets in designated catchments

Desired Outcome: Waterways and catchments meet established resource condition targets

Relevance to desired outcome

A key objective of the Commission is to provide adequate protection of the State's waterways and catchments, undertaking research, planning, and undertaking on the ground works such as salinity management measures. Additionally, the Commission develops policy so as to protect waterways and catchments.

The measurement of concentrations of total nitrogen and total phosphorous in tributaries of the Swan Canning Catchment against target levels ensures that our key waterways and catchments are effectively managed.

Effectiveness measure

The management of water catchments is a complex science with a number of resource condition targets set so as to assist the Commission in assessing its effectiveness in adequately protecting the State's waterways and catchments. This indicator measures concentrations of total nitrogen and total phosphorous in 15 tributaries of the Swan Canning against target levels. Both short and long term targets have been developed so as to recognise the long timeframes required for catchment management initiatives to affect nutrient levels within the catchment tributaries.

Over the course of the next few years resource condition targets will progressively be developed for regional waterways in line with the National Action Plan (NAP) and National Heritage Trust (NHT) guidance.

H. Number of nuisance algal blooms recorded annually

Desired Outcome: Waterways and catchments meet established resource condition targets

Relevance to desired outcome

A key objective of the Commission is to provide adequate protection of the State's waterways managing and responding to minimise the impact of algal blooms on our waterways.

Effectiveness measure

The management of our catchments and waterways within established resource condition targets is one way in which the Commission can limit the number and impact of algal blooms. To achieve this, sampling is undertaken primarily in the Swan-Canning Catchment, MidWest and from within the Southern Region. The criteria for recording an algal bloom is where concentration exceeds 15 000 cells or greater per millilitre (ml). This represents a level where algal colour may be visible to the public and is therefore used as the basis for reporting.

Whilst the data indicates a reduction in the number of algal blooms between 2003–04 and 2004–05, algal blooms are affected by many factors, including complex scientific factors related to environmental conditions and climate.

I. Average cost per km of river managed in designated catchments

Desired Outcome: Waterways and catchments meet established resource condition targets

Relevance to desired outcome

The indicator is relevant to the desired outcome because it provides a measure of cost effectiveness of the management of our waterways and catchments. The objective of this indicator is to maintain the current level of improvement in catchment and water resource standards at minimal cost.

Efficiency measure

	Quantity	Expenditure	Unit Cost
Average cost per km of river managed in designated catchment	567 750 km	$13 678 000	$24

The indicator is derived by calculating the total cost of service for implementation of catchment, waterways and wetlands management plans divided by the total area of waterways under management. The unit cost has remained relatively unchanged from 2003–04 to 2004–05.

There is expected to be a significant increase in the unit cost for 2005–06 due to the receipt of additional funding of approximately $1.4 million comprised of external funding from catchment groups ($1 million) and consolidated funding ($0.4 million) relating to the Cockburn Sound Management Plan and the Lower Murray Action Plan. In addition, the target unit cost was derived using the number of kilometres of river managed whereas the actual results for 2003–04 and 2004–05 were derived by using the number of kilometres of key catchments, considered to be the appropriate measurement unit.

J. Average cost per km² of designated catchments where salinity management measures are implemented

Desired Outcome: Waterways and catchments meet established resource condition targets

Relevance to desired outcome

Salinity is a widespread problem in the State. The preparation and implementation, in partnership with local communities, of salinity abatement plans, including application of land use and engineering measures, to recover and maintain water catchments from salinity is a vital tool in the management of our catchments and waterways.

Efficiency measure

	Quantity	Expenditure	Unit Cost
Average cost per km² of designated catchments where salinity management measures are implemented	11 253	$7 761 000	$690

The unit cost is calculated by dividing the total cost of service for evaluation and implementation in designated catchments of salinity management measures divided by the total area in which recovery catchments and engineering initiatives are in place. The unit cost has remained relatively static between 2003–04 and 2004–05. The anticipated unit cost for 2005–06 is expected to increase from $594 to $904 due to expenses totalling approximately $1.8 million relating to salinity being deferred into the 2005–06 year.

K. Average cost per provision of advice

Desired Outcome: Waterways and catchments meet established resource condition targets

Relevance to desired outcome

The indicator is relevant to the desired outcome as it provides a measure of cost efficiency of providing expert technical advice relating to floodplain management and drainage. The development of strategies for floodplain management to promote wiser use of floodplains with regard to major flooding and to ensure there is adequate flood protection for existing and future development is a key component of this service. The activities involve policy development, floodplain mapping, providing floodplain development advice and flood mitigation measures. In terms of drainage, the focus is on policy development, assessment and planning and research and development so as to underpin effective land use that adequately considers drainage issues.

Efficiency measure

	Quantity	Expenditure	Unit Cost
Average cost per provision of advice	479	$3 401 000	$7 100

The unit cost is calculated by dividing the total cost of service for policies and strategies for drainage and floodplain management divided by the total number of units of advice provided. The significant reduction in unit cost from 2003–04 to 2004–05 is largely due to a significant increase in the amount of advice provided, up from 256 to 489. The projected unit cost for 2005–06 indicates a significant increase, which is largely attributable to the receipt of additional funding, comprised of $1.9 million Commonwealth funding, $2.5 million of deferred funding from 2004–05 relating to the Carnarvon Flood Mitigation Strategy and the carryover of funds totaling approximately $2 million.

AUDITOR **GENERAL**

INDEPENDENT AUDIT OPINION

To the Parliament of Western Australia

WATER AND RIVERS COMMISSION
FINANCIAL STATEMENTS FOR THE YEAR ENDED 30 JUNE 2005

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 30 June 2005 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 and the Notes to the Financial Statements.

Summary of my Role
As required by the Act, I have independently audited the accounts and financial statements to express an opinion on the controls and financial statements. This was done by looking at a sample of the evidence.

An audit does not guarantee that every amount and disclosure in the financial statements is error free. The term "reasonable assurance" recognises that an audit does not examine all evidence and every transaction. However, my audit procedures should identify errors or omissions significant enough to adversely affect the decisions of users of the financial statements.

D D R PEARSON
AUDITOR GENERAL
23 September 2005

4th Floor Dumas House 2 Havelock Street West Perth 6005 Western Australia Tel: 08 9222 7500 Fax: 08 9322 5664

9 Financial Statements

Certification of financial statements for the year ended 30 June 2005

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 2005 and the financial position as at 30 June 2005.

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
PRINCIPAL ACCOUNTING OFFICER

26 August 2005

Verity Allan
BOARD CHAIRMAN

26 August 2005

Jos Chatfield
BOARD MEMBER

26 August 2005

Statement of financial performance
for the year ended 30 June 2005

	Note	2005 $000	2004 $000
COST OF SERVICES			
Expenses from ordinary activities			
Employee expenses	2	26 736	25 921
Supplies and services[(a)]	3	15 132	15 177
Depreciation expense	4	1 463	1 475
Borrowing costs expense	5	68	85
Accommodation expenses	6	2 589	1 998
Grants and subsidies	7	4 060	2 993
Capital user charge	8	10 197	8 539
Other expenses from ordinary activities	9	14	270
Total cost of services		60 259	56 458
Revenues from ordinary activities			
Revenue from operating activities			
User charges and fees	10	81	54
Commonwealth grants and contributions	11	2 097	734
Recoup from Swan River Trust	12	2 327	2 068
Revenue from non-operating activities			
Interest revenue	-	257	
Proceeds from disposal of non current assets	1	41	
Other revenues from ordinary activities	13	4 471	5 369
Total revenues from ordinary activities		8 977	8 523
NET COST OF SERVICES		51 282	47 935
REVENUES FROM STATE GOVERNMENT	15		
Service appropriation		52 861	44 156
Assets transferred		-	(910)
Liabilities assumed by the Treasurer		275	-
Resources received free of charge		485	447
Total revenues from State Government		53 621	43 693
CHANGE IN NET ASSETS		2 339	(4 242)
Net increase(decrease) in asset revaluation reserve	25	(9 649)	49 043
Total revenues, expenses and valuation adjustments recognised directly in equity		(9 649)	49 043
TOTAL CHANGES IN EQUITY OTHER THAN THOSE RESULTING FROM TRANSACTIONS WITH WESTERN AUSTRALIAN STATE GOVERNMENT AS OWNERS		(7 310)	44 801

(a) Administration expenses are included in supplies and services.

The Statement of Financial Performance should be read in conjunction with the accompanying notes.

Statement of financial position
as at 30 June 2005

	Note	2005 $000	2004 $000
Current Assets			
Cash assets	26(a)	13 503	8 382
Restricted cash assets	16	106	30
Receivables	17	746	1 103
Amounts receivable for services	18	1 446	800
Other assets	19	244	87
Total Current Assets		16 045	10 402
Non-Current Assets			
Amounts receivable for services	18	4 898	4 024
Property, plant and equipment	20	136 594	147 005
Total Non-Current Assets		141 492	151 029
Total Assets		157 537	161 431
Current Liabilities			
Payables	21	373	355
Interest-bearing liabilities	22	413	477
Provisions	23	5 567	4 344
Other liabilities	24	1 039	1 030
Total Current Liabilities		7 392	6 206
Non-Current Liabilities			
Interest-bearing liabilities	22	423	559
Provisions	24	2 392	2 575
Developer bonds		106	30
Total Non-Current Liabilities		2 921	3 164
Total Liabilities		10 313	9 370
NET ASSETS		147 224	152 061
Equity	25		
Contributed equity		12 186	9 713
Reserves		137 370	147 019
Accumulated surplus/(deficiency)		(2 332)	(4 671)
TOTAL EQUITY		147 224	152 061

The Statement of Financial Position should be read in conjunction with the accompanying notes.

Statement of cash flows
for the year ended 30 June 2005

	Note	2005 Inflows (Outflows) $000	2004 Inflows (Outflows) $000
CASH FLOWS FROM GOVERNMENT			
Service appropriation		50 541	41 936
Capital contributions		2 500	1 400
Holding account drawdowns		800	1 300
Cash assets transferred to other Departments		(27)	(6 952)
Net cash provided by State Government		53 814	44 636
Utilised as follows:			
CASH FLOWS FROM OPERATING ACTIVITIES			
Payments			
Employee costs		(25 338)	(25 069)
Supplies and services		(17 507)	(17 106)
Borrowing costs		(66)	(84)
Grants and subsidies		(4 011)	(3 104)
Capital user charge		(10 197)	(8 539)
GST payments on purchases		(2 072)	(2 107)
Receipts			
User charges and fees		78	54
Commonwealth grants and contributions		2 143	1 099
Receipts from state government agencies		2 332	2 160
Interest received		27	287
GST receipts on sales		419	1 116
GST receipts from taxation authority		1 597	950
Other receipts		4 892	5 417
Net cash used in operating activities	**26(b)**	(47 703)	(44 926)
CASH FLOWS FROM INVESTING ACTIVITIES			
Proceeds from sale of non-current physical assets		1	41
Purchase of non-current physical assets		(715)	(1 224)
Net cash used in investing activities		(714)	(1 183)
CASH FLOWS FROM FINANCING ACTIVITIES			
Repayment of borrowings		(200)	(200)
Net cash used in financing activities		**(200)**	**(200)**
Net increase/(decrease) in cash held		5 224	(1 673)
Cash assets at the beginning of the financial year		8 412	17 037
CASH ASSETS AT THE END OF THE FINANCIAL YEAR	**26(a)**	**13 609**	**8 412**

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 2005

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.

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) Service appropriation

Service 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 revenues are 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 $5 000 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 estimated useful lives in a manner which reflects the consumption of their future economic benefits.

Depreciation is calculated on the straight line basis, using rates which are reviewed annually. Expected useful lives for each class of depreciable asset are:

Buildings	20 years
Infrastructure	11–20 years
Plant, machinery and equipment	5–20 years
Computing equipment and accessories	3–5 years
Furniture and fittings	7–10 years
Measurement sites	20–40 years

(g) Revaluation of land, buildings and infrastructure

The Commission has a policy of valuing land and buildings at fair value. Buildings are valued at both cost and 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. Other assets are recognised at cost.

(h) Leases

The Commission has entered into a number of operating lease arrangements for the rental 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 properties, equipment and vehicles.

(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.

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 for 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

Leave benefits are calculated at renumeration rates expected to be paid when the liabilities are settled. A liability for long service leave is recognised after an employee has completed four years of service. An actuarial assessment of long service leave undertaken by PriceWaterhouse Coopers Actuaries in 2004 determined that the liability measured using the short hand method was not materially different from the liability measured using the present value method of expected future payments.

This method of measurement of the liability is consistent with the requirements of Accounting Standard AASB 1028 'Employee Benefits'.

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).

From 30 June 2004, the Treasurer has assumed the liability for pension and pre-transfer benefit superannuation liabilities. The assumption was designated as a contribution by owners under TI 955(3)(iv) on 30 June 2004.

The superannuation expense comprises the following elements:

(a) change in the unfunded employer's liability in respect of current employees who are members of the Pension Scheme and current employees who accrued a benefit on transfer from that Scheme to the Gold State Superannuation Scheme; and

(b) employer contributions paid to the Gold State Superannuation Scheme and the West State Superannuation Scheme.

The superannuation expense does not include payment of pensions to retirees, as this does not constitute part of the cost of services provided by the Commission in the current year.

A revenue 'Liabilities assumed by the Treasurer' equivalent to (iii)(a) is recognised under Revenues from State Government in the Statement of Financial Performance as the

unfunded liability is assumed by the Treasurer. The Commission is funded for employer contributions in respect of the Gold State Superannuation Scheme and the West State Superannuation Scheme. These contributions were paid to the GESB during the year. The GESB subsequently paid the employer contributions in respect of the Gold State Superannuation Scheme to the Consolidated Fund.

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

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 23).

(o) Accrued salaries

Accrued salaries (refer note 24) 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 of amounts

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

	2005 $000	**2004** $000
2 Employee expenses		
Wages and Salaries	21 134	19 986
Superannuation	2 688	2 939
Change in long service leave entitlements	464	595
Change in annual leave entitlements	576	271
Other related expenses [(a)]	1 874	2 130
	26 736	25 921

(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 23.

	2005 $000	**2004** $000
3 Supplies and services		
Communications	1 159	1 042
Consultants and contractors	5 011	5 705
Consumables	2 906	2 696
Repairs and maintenance	157	186
Service related	4 831	4 480
Travel	637	669
Other	431	399
	15 132	15 177
4 Depreciation expense		
Furniture and fittings	4	6
Buildings	91	96
Infrastructure	89	88
Plant, machinery and equipment	188	189
Computing equipment and accessories	209	214
Measurement sites	882	882
Total Depreciation	1 463	1 475
5 Borrowing costs expense		
Interest paid	68	85
6 Accommodation expenses		
Lease rentals	1 767	1 380
Repairs and maintenance	403	206
Cleaning	109	94
Other	310	318
	2 589	1 998
7 Grants and subsidies		
Recurrent	4 060	2 993
8 Capital user charge		
	10 197	8 539

A capital user charge rate of 8% has been set by the Government for 2004–2005 and represents the opportunity cost of capital invested in the net assets of the Commission used in the provision of services. 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.

	2005 $000	2004 $000
9 Other expenses from ordinary activities		
Carrying amount of non-current assets disposed of	13	76
Doubtful debts expense	-	193
Sundry operating expenses	1	1
	14	270
10 User charges and fees		
	81	54
11 Commonwealth grants and contributions		
Land and Water Resources Research and Development Corporation	95	192
Natural Heritage Trust	405	311
Department of the Environment and Heritage	59	63
Department of Transport and Regional Services	1 533	168
CSIRO Marine and Atmospheric Research	5	-
	2 097	734
12 Recoup from Swan River Trust		
	2 327	2 068
13 Other revenues from ordinary activities		
ALCOA	124	182
Other grants	1 807	1 981
State grants and advances	-	198
Recoups from other state government agencies	1 141	744
Recoups from other private/commercial agencies	292	1 431
Lease of commercial land and buildings	119	85
Other miscellaneous revenues	988	748
	4 471	5 369
14 Net gain/(loss) on disposal of non-current assets		
Gain on disposal of Non-Current Assets		
Plant and equipment	1	33
Gain on disposal of Non-Current Assets	1	33
Loss on disposal of Non-Current Assets		
Buildings	-	(59)
Computing equipment	(13)	(3)
Plant and equipment	(4)	
Loss on disposal of Non-Current Assets	(13)	(66)
Net gain/(loss)	(12)	(33)

	2005 $000	2004 $000
15 Revenues from Government		
Appropriation revenue received during the year:		
Service appropriations [(a)]	52 861	44 156
	52 861	44 156
The following liabilities have been assumed by the Treasurer during the financial years — Superannuation	275	
Total liabilities assumed by the Treasurer	275	-
The following assets have been assumed from/(transferred to) other state government agencies during the financial year:[(b)]		
Land	-	(910)
Total assets assumed/(transferred)	-	(910)
Resources received free of charge [(c)]		
Determined on the basis of the following estimates provided by agencies:		
State Solicitors Office	12	80
Department of Education and Training	70	-
Department of Housing and Works	9	6
Department of of Land Administration	394	361
	485	447
Total revenues from Government	53 621	447

(a) Service appropriations are accrual amounts reflecting the full costs of services delivered. The appropriation revenue comprises of a cash component and a receivable (asset). The receivable (holding account) comprises of the estimated depreciation expense for the year and any agreed increase in leave liability during the year.

(b) Land transferred to Water Corporation due to it being 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.

16 Restricted cash assets		
Current		
Developer Bonds	106	30

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

	2005 $000	2004 $000
17 Receivables		
Current		
Trade debtors	350	940
Provision for doubtful debts	(7)	(194)
GST receivable	393	324
Other accrued income		
Interest receivable	-	30
Other receivables	10	3
	746	1 103
18 Amounts receivable for services		
Current	1 446	800
Non-current	4 898	4 024
	6 344	4 824

This asset represents the non-cash component of service appropriations. It is restricted in that it can only be used for asset replacement or payment of leave liability.

19 Other assets		
Current		
Western Australian Treasury Corporation	3	3
Prepayments	241	84
	244	87
20 Property, plant and equipment		
Land at fair value[(a)]	115 962	125 567
Disposals	-	-
	115 962	125 567
Buildings at fair value[(a)]	1 653	1 820
Accumulated depreciation	(35)	(282)
	1 618	1 538
Infrastructure at cost or fair value[(a)]	1 823	1 766
Accumulated depreciation	(331)	(340)
	1 492	1 426
Computing equipment at cost	2 032	2 257
Accumulated depreciation	(1 582)	(1 714)
	450	543
Furniture and fittings at cost	82	82
Accumulated depreciation	(75)	(71)
	7	11

	2005 $000	2004 $000
Measurement sites at cost	25 425	25 425
Accumulated depreciation	(8 742)	(7 858)
	16 683	17 567
Plant, machinery and equipment at cost	2 577	2 375
Accumulated depreciation	(2 195)	(2 022)
	382	353
Total Property, plant and equipment	**136 594**	**147 005**

(a) The revaluation of land and buildings was performed during the year ended 30 June 2005 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 annual revaluation.

Reconciliations

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

2005	**Land** $000	**Buildings** $000	**Computing equipment** $000	**Furniture and fittings** $000	**Measure-ment sites** $000	**Plant, machinery and equipment** $000	**Total** $000
Carrying amount at start of year	125 567	1 538	543	11	17 567	353	147 005
Additions	369	-	129	-	-	217	715
Disposals	-	-	(13)	-	-	-	(13)
Transferred	-	-	-	-	-	-	-
Adjustments	-	-	-	-	(2)	-	(2)
Revaluation increment/(decrement)	(9 974)	171	-	-	-	-	(9 648)
Depreciation	-	(91)	(209)	(4)	(882)	(188)	(1 463)
Carrying amount at end of year	115 962	1 618	450	7	16 683	382	136 594

	2005 $000	2004 $000
21 Payables		
Current		
Trade payables	373	355
	373	355

	2005 $000	2004 $000

22 Interest-bearing liabilities

Current		
Borrowings from WA Treasury Corporation	413	477
Non-current		
Borrowings from WA Treasury Corporation	423	559
	836	1 036

Net Fair Values

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

23 Provisions

Current		
Annual leave	2 969	2 393
Long service leave	2 598	1 951
	5 567	4 344
Non-current		
Long service leave	2 392	2 575
	2 392	2 575

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	5 567	4 344
Non-current	2 392	2 575
	7 959	6 919

The settlement of annual and long service leave liabilities gives rise to the payment of employment on-costs including superannuation, payroll tax and workers compensation premiums. The liability for such on-costs is included here. The associated expense is included under Other related expenses (under Employee expenses) at Note 2.

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

	2005 $000	2004 $000
24 Other liabilities		
Accrued expense	961	619
Accrued salaries	(2)	339
Accrued fringe benefits tax	51	48
Stale cheque holding account	24	24
Unearned revenue	3	-
	1 039	1 030
25 Equity		
Contributed equity		
Opening balance	9 713	7 552
Capital contributions [(a)]	2 500	1 400
Assets transferred to other Departments [(b)]	(27)	(6 952)
Contribution by owners [(c)]	-	7 713
Closing balance	12 186	9 713

(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 was transferred to Department of Treasury and Finance during the year ended 30 June 2004 to meet future superannuation liabilities. Cash asset from interest received was transferred to Department of Treasury and Finance during the year ended 30 June 2005.

(c) Assumption of superannuation liability by the Treasurer (refer Notes 1(n)(iii) and 23).

Accumulated deficiency		
Opening balance	(4 671)	(429)
Change in net assets	2 339	(4 242)
Closing balance	(2 332)	(4 671)
Reserves		
Asset revaluation reserve [(a)]		
Opening balance	80 847	31 804
Net revaluation decrement:		
Land and buildings	(9 649)	49 043
Closing balance	71 198	80 847
Fixed assets acquired under restructuring arrangements	66 172	66 172
Total reserves	137 370	147 019
Total Equity	147 224	152 061

(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).

	2005 $000	2004 $000

26 Notes to the statement of cash flows

(a) Reconciliation of cash

Cash at the end of the financial year as shown in the Statement of Cash Flows is reconciled to the related items in the Statement of Financial Position as follows:

Cash assets	13 503	8 382
Restricted cash assets (refer to Note 16)	106	30
	13 609	8 412

(b) Reconciliation of net cost of services to net cash flows provided by/(used in) operating activities:

Net cost of services	(51 282)	(47 935)
Non-cash items:		
Doubtful debts expense	(187)	193
Depreciation expense	1 463	1 475
Resources received free of charge	485	447
Superannuation liabilities transferred to Department of Treasury and Finance	-	7 713
Superannuation liabilities assumed by the Treasurer	275	-
Net loss on disposal of non-current assets	12	35
(Increase)/decrease in assets:		
Receivables	590	365
Prepayments	(157)	(83)
Accrued Income	23	170
Increase/(decrease) in liabilities:		
Payables	(18)	137
Accrued salaries	(339)	(325)
Provisions	1 040	(7 007)
Other liabilities	348	(24)
Developer bonds	76	(56)
Net GST receipts/(payments)	(56)	(41)
Change in GST in receivables/payables	(12)	10
Net cash used in operating activities	(47 703)	(44 926)

	2005 $000	2004 $000

27 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	3 173	2 620
Later than 1 year and not later than 5 years	10 736	2 225
Later than 5 years	31 689	56
	45 598	4 901
Representing:		
Cancellable operating leases	28	-
Non-cancellable operating leases	45 570	4 901
	41 598	4 901

These commitments are all inclusive of GST.

28 Contingent liabilities and contingent assets

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

(a) Claim for compensation in relation to taking by consent of portion of Lot 187 and 188 Yunderup for purpose of public recreation and drainage — Section 248 *Land Administration Act*.

The financial effect of this claim is estimated to be $615 000.

(b) Pending litigation matter in relation to Breach of *Rights in Water and Irrigation Act 1904* — Clover Cattle Pty Ltd, Liveringa Station Fitzroy Basin.

It is not practicable to estimate the potential financial effect of this claim at this point in time.

(c) Pending litigation matter in relation to clearing of native vegetation on Victoria location 10598 Cockleshell Gully Road Shire of Dandaragan.

It is not practicable to estimate the potential financial effect of this claim at this point in time.

(d) Pending litigation matter in relation to action brought by Mr Elwood against Pioneer Concrete (WA) Pty Ltd and the Minister for the Environment. No monetary claim is made against the Minister for Environment who is joined simply to be bound by the result. The only potential financial liability of the Minister will be for the part of the plaintiff's costs in the event that the plaintiff is successful.

It is not practicable to estimate the potential financial effect of this claim at this point in time.

The Commission has no contingent assets at 30 June 2005.

29 Events occurring after reporting date

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

30 Explanatory statements

a) Significant variations between estimates and actual results for the financial year

Details and reasons for significant variations between estimates and actual results are detailed below. Significant variations are considered to be those greater than 10% or $500 000.

SERVICES	Note	2005 Actual $000	2004 Actual $000	Variance $000
Plans and guidelines to protect the quality of water resources	(i)	8 700	10 303	1 603
Planning and grants assistance for water supplies in dryland agricultural areas	(ii)	3 058	2 333	(725)

Explanation of variances

(i) **Plans and guidelines to protect the quality of water resources**

Over expenditure mainly due to additional funding received that is associated with Capital User Charge, a significant proportion of which is allocated to this service.

(ii) **Planning and grants assistance for water supplies in dryland agricultural areas**

Under expenditure mainly due to delays in grant payments associated with Rural Water Planning programs.

b) Significant variations between actual and prior year actual — Total appropriation to purchase services:

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% or $500 000.

SERVICES	Note	Estimate 2005 $000	Actual 2005 $000	Variance $000
Investigation and assessment of water resources to determine sustainable yields	(i)	8 563	7 703	860
Water resource management plans, and regulation of water use	(ii)	14 220	14 821	(601)
Plans and guidelines to protect the quality of water resources	(iii)	10 303	8 750	1 553
Planning and grants assistance for water supplies in dryland agricultural areas	(iv)	2 333	2 711	(378)
Implementation of catchment, waterways and wetlands management plans	(v)	13 678	13 068	610
Evaluation and implementation in designated catchments of salinity management measures	(vi)	7 761	7 034	727
Policies and strategies for drainage and floodplain management	(vii)	3 401	2 371	1 030
Total Cost of Services		60 259	56 458	3 801

Explanation of variances

(i) **Plans and guidelines to protect the quality of water resources**

Increase in expenditure due to higher employee and capital user charge expenses.

(ii) **Water resource management plans, and regulation of water use**

Decrease in expenditure due to lower amount of grants and subsidies paid out during the year and a reduction in supplies and services related expenses incurred in delivering services.

(iii) **Plans and guidelines to protect the quality of water resources**

Increase in expenditure due to higher employee and capital user charge expenses.

(iv) **Planning and grants assistance for water supplies in dryland agricultural areas**

Under expenditure mainly due to delays in grant payments associated with Rural Water Planning programs.

(v) **Implementation of catchment, waterways and wetlands management plans**

Increase in expenditure is mainly due to higher accommodation expenses and an increase in grants and subsidies paid out during the financial year.

(vi) **Evaluation and implementation in designated catchments of salinity management measures**

Increase in expenditure is mainly due to an increase in grants and subsidies paid out during the financial year.

(vii) **Policies and strategies for drainage and floodplain management**

Increase in expenditure is mainly due to an increase in grants and subsidies paid out during the financial year.

31 Financial instruments

(a) Interest rate risk exposure

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

		Fixed interest rate maturity					
	Weighted average effective	**Variable rate**	**Less than 1 year**	**1 to 5 years**	**More than 5 years**	**Non-interest bearing**	**Total**
2005	%	$000	$000	$000	$000	$000	$000
Financial Assets							
Cash assets		-	-	-	-	13 503	13 503
Restricted cash		-	-	-	-	106	106
Receivables		-	-	-	-	746	746
Interest receivable		-	-	-	-	-	-
		-	-	-	-	14 355	14 355
Financial Liabilities							
Payables		-	-	-	-	373	373
WATC	6.4	-	413	423	-	-	836
Other liabilities		-	-	-	-	1 039	1 039
Developer bond		-	-	-	-	106	106
		-	413	423	-	1 518	2 354
2004							
Financial assets	5.1	30	-	-	-	9 485	9 515
Financial liabilities	6.8	-	477	559	-	1 415	2 451

(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:

	2005 $000	2004 $000
Western Australian Government agencies	121	132
Government agencies of other jurisdictions	118	312
Private sector	9	334
Commonwealth Government	96	(142)
Commonwealth Government — ATO (GST)	393	321
	737	1 099

(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.

32 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:

$	2005	2004
0–10 000	0	5
10 001–20 000	5	3
20 001–30 000	0	1
30 001–40 000	1	0
160 000–170 000	1	1

The total remuneration of the members of the Accountable Authority is:	276	258

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.

	2005 $000	2004 $000

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:

$	2005	2004
100 001–110 000	0	2
120 001–130 000	2	2

The total remuneration of the members of Senior Officers is:	253	462

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.

33 Remuneration of the Auditor

Remuneration to the Auditor-General for the financial year is as follows:

Auditing the accounts, financial statements and performance indicators	53	49

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'.

35 Impact of Adopting Australian Equivalents to IFRS

The impact of adopting AIFRS including the key differences in accounting policies

Reconciliation of total equity as presented under previous AGAAP to that under AIFRS:

	30 June 2005 $000	**1 July 2004** $000
Total equity under previous AGAAP	147 224	152 061
Adjustments to accumulated surplus/(deficiency):	-	-
Total equity under AIFRS	147 224	152 061

Reconciliation of surplus/(deficit) for the period as presented under previous AGAAP to that under AIFRS:

	30 June 2005 $000
Surplus/(deficit) for the period under previous AGAAP:	(7 310)
Adjustments to surplus/(deficit):	-
Surplus/(deficit) for the period under AIFRS	(7 310)

The impacts disclosed are management's best estimates at the time of preparing the 2005 financial statements and that the amounts/impacts may change in circumstances where the Accounting Standards and/or interpretations applicable to the first AIFRS financial statements are amended or revised.

Appendix A — Regional Office details

SWAN GOLDFIELDS AGRICULTURAL REGION
7 Ellam Street
VICTORIA PARK WA 6100

Telephone (08) 6250 8000
Facsimile (08) 6250 8050

Northam office
254 Fitzgerald Street
NORTHAM WA 6401
(PO Box 497, Northam WA 6401)

Telephone (08) 9622 7055
Facsimile (08) 9622 7155

Kalgoorlie office
Viskovich House
377 Hannan Street
KALGOORLIE WA 6430

Telephone (08) 9021 3243
Facsimile (08) 9021 3529

KWINANA PEEL REGION
Suite 4, Parmelia House
165 Gilmore Avenue
KWINANA WA 6167
(PO Box 454, Kwinana WA 6966)

Telephone (08) 9411 1777
Facsimile (08) 9419 5897

Mandurah office
Suite 8, Sholl House,
21 Sholl Street
MANDURAH WA 6210
(PO Box 332, Mandurah WA 6210)

Telephone (08) 9550 4222
Facsimile (08) 9581 4560

Cockburn Sound Management Council
Shop 1, 15 Railway Terrace
ROCKINGHAM WA 6168
(PO Box 5161, Rockingham Beach WA 6969)

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

SOUTH WEST REGION
35–39 McCombe Road
BUNBURY WA 6230
(PO Box 261, Bunbury WA 6231)

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

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)

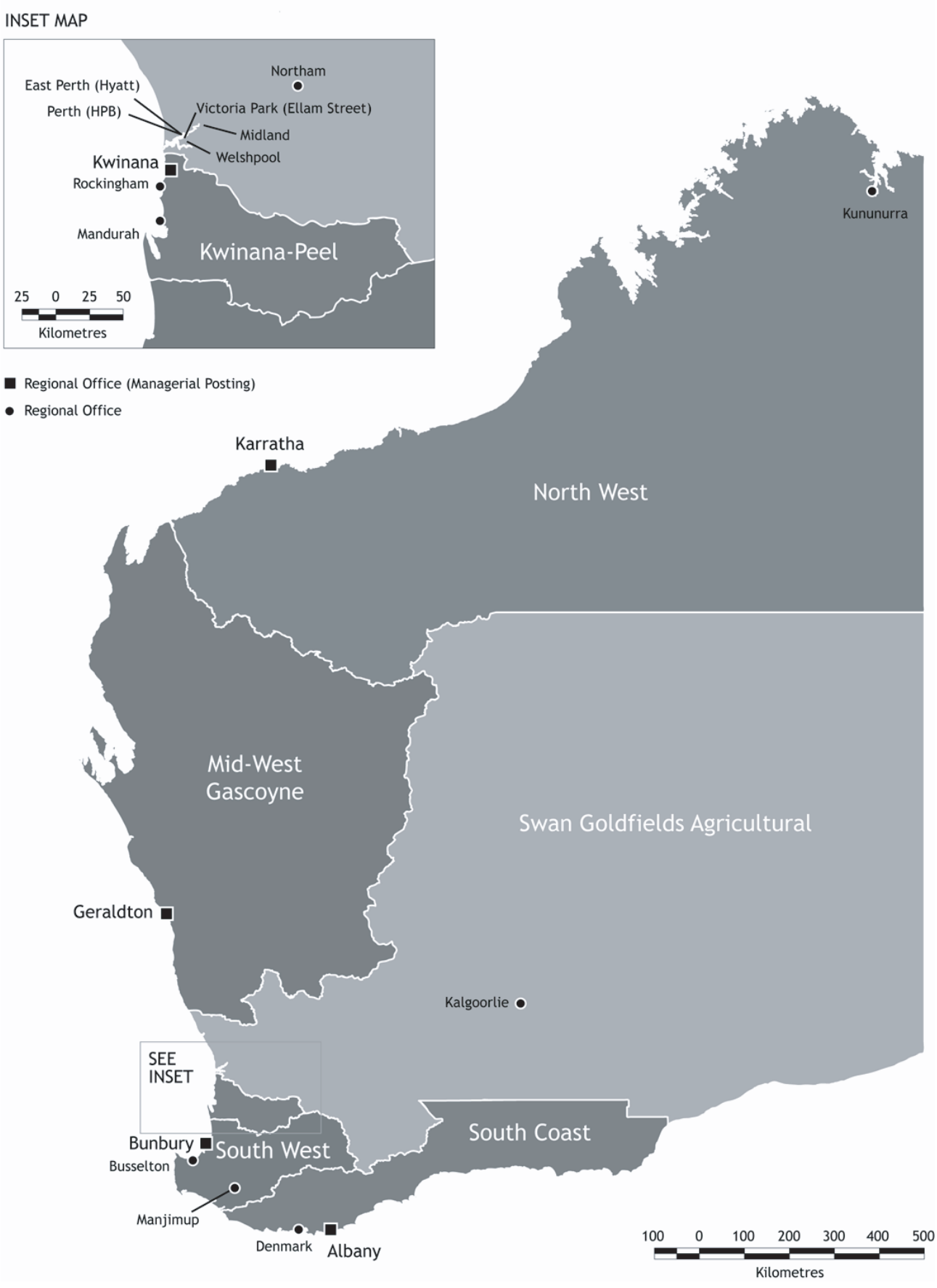
Telephone (08) 9166 4100
Facsimile (08) 9168 3174

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



Department of Environment Regional Map

Appendix B — Acronyms

3C	Core Consultative Committee (to the Waste Management Board)
AGAL	Australian Government Analytical Laboratories
ANZECC	Australian and New Zealand Environment and Conservation Council
AQCC	Air Quality Coordinating Committee
AQMP	(Perth) Air Quality Management Plan
ARI	Assessment on Referral Information
ARMCANZ	Agriculture and Resource Management Council of Australia and New Zealand
ASS	Acid Sulfate Soils
AWU	Australian Worker's Union
BPBS	Better Planning, Better Services (See Appendix E)
CALM	(Department of) Conservation and Land Management
CBD	Central Business District
CDI	Catchment Demonstration Initiative
COAG	Council of Australian Governments
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DoE	Department of Environment
DoF	Department of Fisheries
DoIR	Department of Industry and Resources
DPC	Department of the Premier and Cabinet
DPI	Department for Planning and Infrastructure
DSI	Detailed Site Investigation
EEI	Engineering Evaluation Initiative
EEU	Environmental Enforcement Unit
EIA	Environmental Impact Assessment
EIS	Environmental Impact Statement
EPA	Environmental Protection Authority
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

FMG	Fortescue Metals Group Limited
FPC	Forest Products Commission
FRIT	Function Review Implementation Team
Gc/MS	Gas Chromatograph/Mass Spectrometer
GIS	Geographic Information System
GL	Gigalitre (1 GL = 1 billion litres)
ha	hectare
HR	Human Resources
ICMS	Incident Complaints Management System
ICT	Information and Communication Technology
JRG	Jurisdictional Recycling Group
KIC	Kwinana Industrial Council
km	kilometre
LWTF	Liquid Waste Treatment Facility
mg/L	milligrams per litre
MOU	Memorandum of Understanding
NAP	National Action Plan (on Salinity and Water Quality)
NEPM	National Environment Protection Measure
NPC	National Packaging Covenant
NPI	National Pollutant Inventory
NHT	Natural Heritage Trust
NRM	Natural Resource Management
OPSSC	Office of the Public Sector Standards Commissioner
OS&H	Occupational Safety and Health
OWP	Office of Water Policy
PAH	Polycyclic Aromatic Hydrocarbon
PDC	Performance Development Conversation
PDWSA	Public Drinking Water Source Area
PER	Public Environmental Review
PRAMS	Perth Regional Aquifer Modelling System
PRU	Pollution Response Unit
PUEA	Proposal Unlikely to be Environmentally Acceptable
QA	Quality Assurance

RATs	River Restoration Action Team
SAP	Sustainability Action Plan
SCRIPT	South Coast Regional Initiative Planning Team
SEP	State Environmental Policy
SRS	Statutory Referral System
SRT	Swan River Trust
SWIS	Strategic Waste Initiatives Scheme
TDS	Total Dissolved Salts
UDIA	Urban Development Institute of Australia
USEPA	United States Environmental Protection Authority
VOC	Volatile Organic Compound
WA	Western Australia
WADA	Western Australian Department of Agriculture
WAGGI	Western Australian Greenhouse Gas Inventory
WAPC	Western Australian Planning Commission
WC	Water Corporation
WCC	(State) Wetland Coordinating Committee
WHO	World Health Organisation
WMRF	Waste Management and Recycling Fund
WRRC	Water Resource Recovery Catchment
WRSPP	Water Resources Statement of Planning Policy

Appendix C — Publications produced during 2004–05

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.

Guides under the Environmental Protection Act 1986

A guide to clearing permits under the Environmental Protection Act 1986, Department of Environment, June 2005.

A guide for local governments — Clearing native vegetation, Department of Environment, June 2005.

A guide to exemptions and regulations for clearing native vegetation under the Environmental Protection Act 1986, Department of Environment, June 2005

Landfill & Waste

Landfill waste classification and waste definition 1996 (As amended), Department of Environment, July 2005.

Water Resource Management Report Series (WRM)

Foreshore and channel assessment of the Mortlock River east, Department of Environment, WRM 41, March 2005.

Gordon-Frankland compendium, Department of Environment, WRM 44, August 2004.

Hutt River Foreshore Assessment, Department of Environment, WRM 45, February 2005.

Water Resource Protection Report Series (WRP)

North Dandalup Pipehead Dam Catchment Area Drinking Water Source Protection Plan, Department of Environment, WRP 54, June 2005.

South Dandalup Dam Catchment Area, South Dandalup Pipehead Dam Catchment Area — Drinking water source protection plan Integrated Water Supply System, Department of Environment, WRP 55, June 2005.

Conjurunup Creek Pipehead Dam Catchment Area Drinking Water Source Protection Plan, Department of Environment, WRP 56, June 2005.

Water Quality Protection Notes

Dairy processing plants, Department of Environment, July 2004.

Gazetted Public Drinking Water Source Areas, Department of Environment, May 2005.

Irrigation with nutrient rich wastewater, Department of Environment, July 2004.

Roads in sensitive environments, Department of Environment, July 2004.

Wineries and distilleries, Department of Environment, August 2004.

Buffers to sensitive water resources, Department of Environment, June 2005.

Liners for containing pollutants using synthetic membranes, Department of Environment, June 2005.

Swimming pools, Department of Environment, June 2005.

Hydrogeological Record Series (HG)

Proposed groundwater investigation program in Western Australia (2005 to 2020), Department of Environment, HG 10, October 2004.

Hydrogeology of groundwater dependent ecosystems in the Northern Perth Basin, Department of Environment, HG 11, June 2005.

River Science Series

River Science 3. Algal blooms in the Swan-Canning rivers: Patterns, causes and history, Department of Environment & Swan River Trust, Printed May 2005.

River Science 4. Nitrogen and phosphorus cycles, Department of Environment & Swan River Trust, Printed May 2005.

Books

Scum Book, Department of Environment & Swan River Trust, February 2005.

Perth Groundwater Atlas (Second Edition), Department of Environment, May 2005 Price: $110 including GST.

Other Reports, Booklets and Catalogues

Estimation of rare design rainfalls for Western Australia, Department of Environment, February 2005.

Aggregated emissions of total nitrogen and total phosphorus to the Vasse-Wonnerup catchment, Western Australia, Department of Environment, August 2004.

Climate change, catchment runoff and risks to water supply in south Western Australia, Department of Environment, August 2004.

River Action Plan for Gynudup Brook and Tren Creek, Department of Environment & GeoCatch, October 2004.

DRAFT Environmental Management Plan for the Cockburn Sound and its catchment, Department of Environment, December 2004.

Towards a Statewide Algal Management Strategy, Department of Environment, June 2005.

Reports to the Community

Water quality and hydrodynamics of the Moore River estuary and surrounds: March – November 2002, Department of Environment, July 2004.

The Pilbara Coastal Water Quality Consultation: An update — April 2005, Department of Environment, June 2005.

Manuals and Kits

Riparian plants of the Avon catchment — Field guide, Department of Environment, July 2004.

Pilbara Coastal Waters Consultation — Public Consultation Kit and Questionnaire, Department of Environment, September 2004.

Urban stormwater manual — Section 7. Non structural controls, Department of Environment, June 2005.

Pamphlets, Brochures and Posters

Applying for clearing permits — Information pamphlet, Department of Environment, July 2004.

Clearing in country area water supply catchments — Information pamphlet, Department of Environment, July 2004.

Clearing exemptions. How they work — Information pamphlet, Department of Environment, July 2004.

Working together to share and protect our water, Department of Environment, August 2004.

Working together to assess development proposals for the future, Department of Environment, August 2004.

Working together to reduce and manage waste, Department of Environment, August 2004.

Working together for best practice management and regulation of industry, Department of Environment, August 2004.

Working together for a sustainable future, Department of Environment, August 2004.

Working together to effectively manage land use impacts, Department of Environment, August 2004.

Department of Environment — Our vision, our mission information pamphlet, Department of Environment, August 2004.

Corporate Business Plan 2004–2005, Department of Environment, July 2004.

Salinity & Land Use Impacts (SLUI)

WEC-C modelling of the Yarragil 4X — an undisturbed forested catchment, Department of Environment, SLUI 35, September 2004. Printed in November 2004.

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Stream salinity status and trends: south-west Western Australia, Department of Environment, SLUI 38, January 2005. Printed May 2005.

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Appendix E — Better Planning: Better Services Goals

Better Planning: Better Services — A Strategic Planning Framework for the Western Australian Public Sector was released in November 2003 and is 'a concise statement of the State Government's intentions to improve the quality of life for all Western Australians'.

The document presents five strategic Goals for Government:

Goal 1: People and Communities

To enhance the quality of life and wellbeing of all people throughout Western Australia.

Goal 2: The Economy

To develop a strong economy that delivers more jobs, more opportunities and greater wealth to Western Australians by creating the conditions required for investment and growth.

Goal 3: The Environment

To ensure that Western Australia has an environment in which resources are managed, developed and used sustainably, biological diversity is preserved and habitats protected.

Goal 4: The Regions

To ensure that regional Western Australia is strong and vibrant.

Goal 5: Governance

To govern for all Western Australians in an open, effective and efficient manner that also ensures a sustainable future.

The Water and Rivers Commission operates as part of the Department of Environment.

Much of the content of this 2004–2005 Annual Report — particularly the Report on Operations — is common to both the Water and Rivers Commission and the Department of Environment.

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