



Australian Government

Land & Water Australia

ANNUAL OPERATIONAL PLAN 2004-05

Land & Water Australia's mission is to provide:

*National leadership in generating knowledge, informing debate
and inspiring innovation and action in sustainable natural resource
management.*

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Foreword

The task of investing in natural resource management (NRM) research and development on behalf of the taxpayer in the national interest is one of great responsibility. We need to anticipate the sorts of knowledge that the Australian community will require in the future, ideally some years in advance of that need being widely perceived. Land & Water Australia will continue to work closely with the Australian Government in aligning our investments closely to Government priorities, both the National Research Priorities, and major policy and program investments through the National Action Plan for Salinity and Water Quality and the Natural Heritage Trust.

Land & Water Australia was established under the provisions of the *Primary Industries and Energy Research and Development (PIERD) Act of 1989*, within the Australian Government Agriculture, Fisheries and Forestry portfolio. Our mandate is to invest in R&D on one of four national research priorities: “An Environmentally Sustainable Australia”. The specific priority goals under this priority that are core business for Land & Water Australia are:

- ◆ *Water - a critical resource*
- ◆ *Transforming existing industries*
- ◆ *Overcoming soil loss, salinity and acidity*
- ◆ *Sustainable use of Australia's biodiversity*

Land & Water Australia targets and manages its investments strategically, working closely with its stakeholders. The Corporation is one of 14 R&D Corporations and Companies (RDCs), whose central feature is that R&D investments are managed corporately by independent boards; combining industry and government funding; and active engagement of industry to keep research grounded and to enhance its adoption.

This is Land & Water Australia's fourth Annual Operational Plan under the current Strategic R&D Plan 2001-6. In 2004-5 we will be investing in and managing a range of R&D programs that will contribute to the Corporation's mission and the Australian Government priorities for natural resource management. These include the following planned outputs:

- Enhanced capacity for Australia's primary industries to manage natural resources sustainably.
- A new Master Farmers network will be initiated to bring together some of the most sustainable farm businesses in Australia, to share insights on sustainability at a farm scale that can inform our R&D portfolio and rural industries more generally.
- Catchment assessment tools and design rules for river and riparian restoration will be provided to regional NRM bodies across Australia.
- A new form of Land & Water Australia Fellowship will be established to enable leading mid-career researchers to undertake seminal research of a synthesis nature within their fields.
- Hundreds of on-farm trials and demonstrations of more productive grazing systems on saline lands will be implemented through the Land, Water and Wool initiative.
- A new program on Environmental Water Allocation will develop better ways to measure the benefits from environmental flows.
- The Grain and Graze program, in partnership with the grains and meat industries, will develop eight regional pilots in National Action Plan regions, exploring the relationship between targets for water quality and nutrients at catchment scale, and farm-scale cropping and grazing systems.
- Synthesis products summarising learnings from a decade of research through the National Dryland Salinity Program will be marketed to catchment and regional bodies, farmers and rural industries, and all tiers of government.

- Major projects funded through the Managing Climate Variability program will start work on the development of better seasonal forecasting tools within a range of commodities and the water management sector.
- World class science at the frontiers of landscape ecology will continue to study the impacts of habitat restoration and fragmentation at a landscape scale, funded through the Native Vegetation Program.
- River protection, rather than expensive rehabilitation of degraded rivers, will be the focus of work that seeks national agreement on mechanisms to protect rivers of high conservation value. Existing knowledge in Northern Australia will be integrated to show how to develop land use while protecting valuable rivers and water resources.
- Several projects funded through the General Call will research important aspects of natural resource management by indigenous people.
- Through our Social and Institutional Research Program and Tropical Rivers Initiative we will continue research relevant to national water reforms. A project to commence in 2004-05 will focus on improved understanding of social and economic issues associated with the sustainable management of northern rivers to inform the development of better governance, policies and programs.

In addition to these new research initiatives, this year will also see intensive work to broker and negotiate partnerships and refine detailed R&D Plans for future investments that the Land & Water Australia Board will be assessing in December 2004 for commencement in July 2005. A tropical rivers initiative will provide crucial knowledge that is so essential to inform the inevitable debates about the development of water resources in Australia's north. New applied research on **social and institutional** issues in natural resource management will underpin the continuing reform agenda in water and vegetation management and in regional arrangements for natural resource management. New research on **vegetation and biodiversity management** at a landscape scale will have significant conservation and productivity implications on the vast majority of the continent outside the reserves system.

Land & Water Australia is playing a leading role in delivering the science needed to manage Australian landscapes more sustainably. In addition to our existing portfolio of more than 1500 completed R&D projects, we have a significant research portfolio of 249 projects in 20 programs involving 25 partners underway, and four new R&D initiatives being developed. The large number of partnerships that the corporation manages, and the fact that about half of our total expenditure comprises third party funds, indicates that Land & Water Australia is playing a critical broking and coordination role in natural resource management R&D. Importantly, the corporation is adding value to this impressive research effort with: a strategic and focused knowledge management effort aimed at improving adoption of research outputs; leading edge web-based tools to assist people to interrogate the entire research portfolio; and catalytic investments to build long term innovation capacity in natural resource management.

1. Background

1.1 Establishment

Land & Water Australia¹ is a statutory corporation established under the provisions of the *PIERD Act*, within the Australian Government's Agriculture, Fisheries and Forestry portfolio.

Land & Water Australia is specifically responsible for research and development (R&D) aimed at the productive and sustainable management of the land, water and vegetation resources underpinning Australia's primary industries and regional communities. We do not fund general atmospheric or marine research or research on urban issues.

As an Australian Government Authority, the Corporation has a particular charter to foster national collaboration in order to improve the efficiency and effectiveness of this R&D effort. The Corporation emphasises the establishment of national research programs, most of which are supported jointly by several partner organisations, which bring together resource managers and researchers to identify priorities and to ensure that research findings are adopted and implemented. The Strategic R&D Plan 2001-6 takes an integrated approach to program design and implementation and to the development of packages of information relevant to decision-makers.

A Board of nine Directors governs the Corporation. The Board develops policy, evaluates the Corporation's performance and delegates committees to work on specific activities. The Parliamentary Secretary to the Minister for Agriculture, Fisheries and Forestry appoints incoming Directors for a three year period. The Corporation staff carry out the day-to-day work involved in establishing R&D programs and in developing, implementing, supporting, communicating and reviewing R&D work. Land & Water Australia is only one of several organisations involved in this endeavour. Responsibilities in natural resource management, whether for legislation, policy, programs or onground works, are distributed across all levels of government, community-based groups such as catchment committees and Landcare groups, rural industries and individual landholders.

1.2 Land & Water Australia Mission and Objectives

Our Mission is *to provide national leadership in generating knowledge, informing debate and inspiring innovation and action in sustainable natural resource management.*

The corresponding corporate objectives and performance indicators as detailed in the 2001-2006 R&D Plan (R&D Plan) are shown in Figure 1 overleaf.

¹ Formerly and legally the Land and Water Resources Research and Development Corporation

Figure 1. Relationship between Land & Water Australia Corporate Objectives and Performance Measures.

OBJECTIVE	MEASURE
LEADERSHIP: To be, and be seen to be, at the forefront of Australian thinking on sustainable natural resource management.	Stakeholder feedback through surveys. The extent to which our R&D investment puts issues on the national agenda.
INFLUENCE: To maximise the impact of the Corporation’s investments, at onground policy and institutional levels in improving the sustainability of natural resource management.	Application of R&D results, as measured through analyses and surveys of adoption rates. The ratio of total R&D effort in programs (both cash and in-kind expenditure) to the core Land & Water Australia investment.
RELEVANCE: To ensure that the Corporation targets investment where it can make a real difference, by meeting critical natural resource policy and management needs.	The degree of alignment of Land & Water Australia-funded R&D effort with issues identified by key stakeholders and natural resource management experts as critical national priorities. Stakeholder feedback through surveys.
RETURN ON INVESTMENT: To maximise the return on public funding invested through the Corporation.	A target average of at least 10:1 average benefit: cost ratio, across the R&D and communication effort funded by the Corporation.
ACCOUNTABILITY: To meet all statutory obligations and accountability requirements in a comprehensive, timely and transparent manner.	Independent and internal audit reports; feedback from DAFF and ANAO; and the timeliness of compliance.

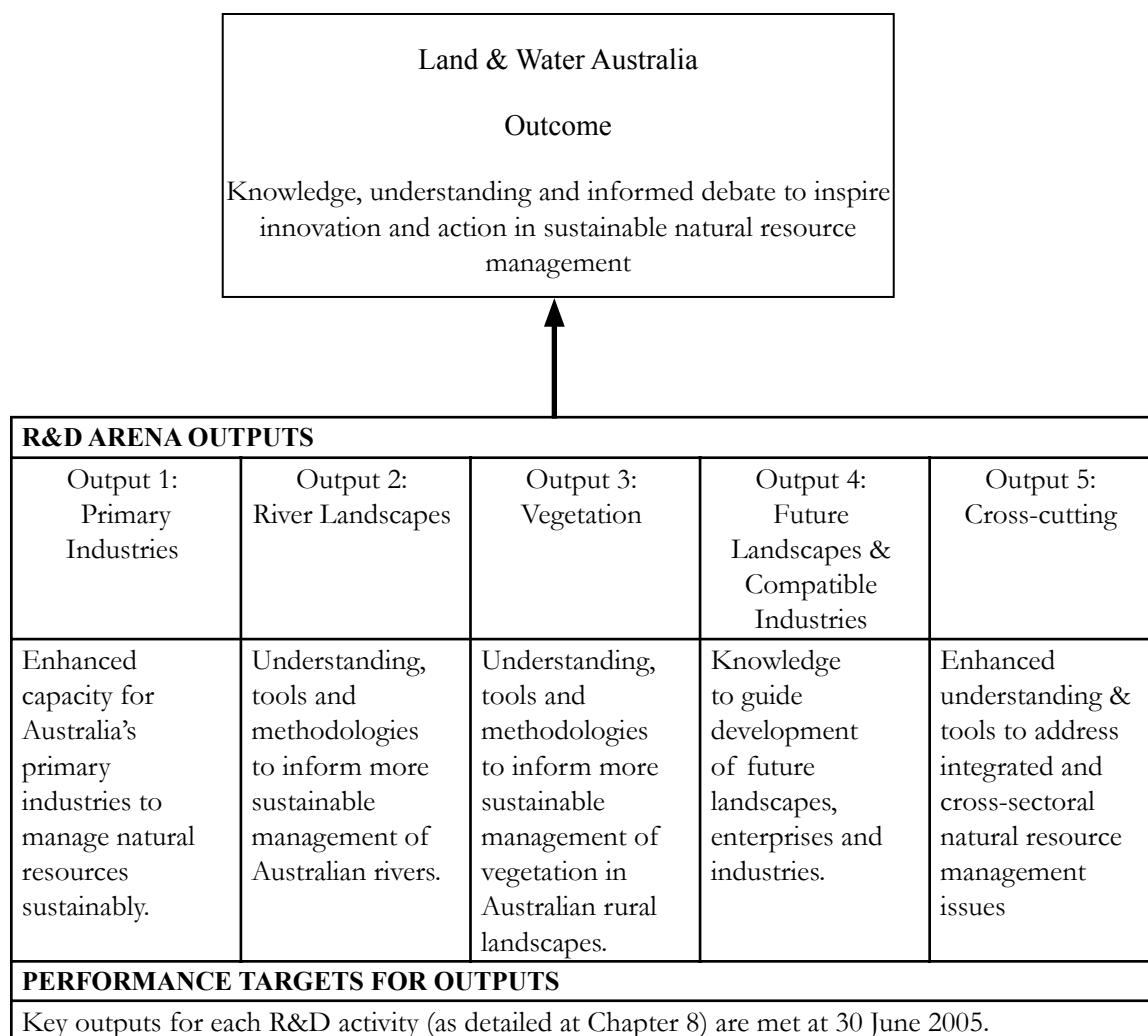
In keeping with the Australian Government’s accrual-based budget framework, the Corporation’s planning, operating and reporting framework is centred on delivering outputs that help to achieve clearly stated planned outcomes.

Outcomes are the results, impacts or consequences of actions by the Corporation in the wider Australian community and environment. Outputs are the goods and services that the Corporation produces for external organisations or individuals. Inputs are resources — in the form of people, expertise, materials, energy, facilities and funds — that we use to produce outputs.

The very nature of R&D and associated communication and adoption activities means that it takes time for investments and actions to produce an effect. Outputs that occur during a particular year generally result from inputs of previous years. In turn, almost all outcomes are achieved as a result of outputs of previous years. Actual time lags vary according to the activities involved. Further, the given outcome is likely to be the product of a number of outputs, which in turn result from a diversity of inputs. Given the complexities of the natural resource management issues we are tackling and their often-large spatial and temporal scales, attribution of cause and effect is also notoriously difficult.

Land & Water Australia works towards one outcome, reflected in the Corporation’s mission statement. Figure 2 shows the relationship between the outcome and the contributing outputs for the Corporation. The total R&D investments of the Corporation across its research portfolio are directed towards this outcome. The output and outcome structure is consistent with our contribution to the 2004-05 Portfolio Budget Statements for the Agriculture, Fisheries & Forestry Portfolio. A copy is at Appendix C. Activities in the areas of Portfolio Management, Communication & Adoption and Business Management contribute to each of the five outputs - refer Chapter 8.

Figure 2. Relationship between Land & Water Australia Outcome, contributing outputs and strategies



1.3 Accountability Requirements

To meet accountability requirements and to provide an adequate reporting mechanism to stakeholders, Land & Water Australia prepares the following documents:

- *Strategic R&D Plan* - provides a strategic overview of how we intend to achieve our mission and objectives. The 2001-2006 R&D Plan took effect from 1 July 2001.
- *Annual Operational Plan (AOP)* - provides a detailed account of the specific developments and activities (including the budget) planned for the forthcoming year. This is the fourth AOP under the term of the R&D Plan.
- *Annual Report* - records and measures achievements against each of the developments and activities listed in the AOP, and meets other statutory reporting requirements. The 2003-2004 Annual Report will comply with the Finance Minister's order on the Report of Operations (CAC Orders) in line with the *Commonwealth Authorities and Companies Act 1997 (CAC Act)*.

In addition, the Corporation is required to report formally to its representative organisations (the National Farmers’ Federation and the Australian Conservation Foundation) on an annual basis and in preparing the R&D Plan. The legislated objects of all R&D corporations are set out in section 3 of the *PIERD Act*. Sub-sections 3(a) to (c) respectively cover primary industry and community benefits, sustainability of natural resources, and social capital development — equating to the economic, environmental and social components of ecologically sustainable development to which the R&D corporations direct their efforts. Sub-section 3(d) encompasses accountability.

Figure 3 below lists the four *PIERD Act* objects and outlines how the Corporation is addressing them. Further details of the activities and their coverage are in Chapter 8.

Figure 3. Link between *PIERD Act* and Land & Water Australia activities

OBJECT (<i>PIERD ACT</i> SECTION 3)	CORRESPONDING LAND & WATER AUSTRALIA ACTIVITY
(a) Increasing the economic, environmental or social benefits to members of primary industries and to the community in general by improving the production, processing, storage, transport or marketing of the products of primary industries.	The planned output for the first of the Corporation’s five R&D arenas — “Enhanced capacity for Australia’s primary industries to manage natural resources sustainably” — encompasses this object. The Corporation works with primary industries (particularly through commodity R&D corporations) towards sustainable use of natural resources through profitable farming systems.
(b) Achieving the sustainable use and sustainable management of natural resources.	This object underpins the entire spectrum of the Corporation’s business, as evidenced by the Corporation’s mission (“to provide national leadership in generating knowledge, informing debate and inspiring innovation and action in sustainable natural resource management”) and the planned outputs of all five R&D arenas.
(c) Making more effective use of the resources and skills of the community in general and the scientific community in particular.	The Corporation makes use of its extensive networks in the general and scientific communities to help in the design, development and implementation of its R&D programs and projects. Our scanning and scoping work enables us to minimise duplication of effort and make best use of limited scientific resources. Our communication & adoption strategy has a specific objective to equip present and future land managers, policy makers, educators and others with the knowledge and tools to expand their capabilities in achieving sustainable natural resource management. We also build new research capacity through the scholarships and fellowships we fund, in particular PhD scholarships.
(d) Improving accountability for expenditure on R&D activities in relation to primary industries.	The Board of Land & Water Australia places a very high priority on having the personnel and systems in place to meet all statutory obligations and accountability requirements in a comprehensive, timely and transparent manner.

1.4 Format of Annual Operational Plan

This AOP gives effect to Land & Water Australia's R&D Plan 2001-2006 for the financial year 2004-05. It takes into account the *PIERD Act* objects and the Australian Government R&D priorities specified by the Minister for Agriculture, Fisheries and Forestry to all rural R&D corporations. It is based on our capacity to fund new and continuing programs to the value of \$25.0 million.

IN ACCORDANCE WITH SUB-SECTION 25(2) OF THE <i>PIERD ACT</i>, THIS AOP:	PAGE NUMBER
• Specifies the broad groupings of R&D activities that the Corporation proposes to fund, wholly or partly, during 2004-05.	22-39
• Describes how and to what extent funding those activities will:	
– give effect to the R&D Plan in force during that financial year; and	22-39
– in particular, pursue the strategies outlined in the R&D plan and help to achieve the objectives described in the R&D plan.	22-39
• Provides an estimate of:	
– the total amounts likely to be spent by Land & Water Australia in respect of each broad grouping of R&D activities the Corporation proposes to fund during 2004-05;	22-39
– the total of all other amounts likely to be spent during the financial year (as per section 33 of <i>PIERD Act</i>) including the payment or discharge of the expenses and liabilities incurred by the Corporation, in payment of remuneration and allowances, expenditure for each broad grouping of R&D activities, for administration, and for servicing the Board Selection Committee; and	20-21
– the total of all income likely to be paid to Land & Water Australia.	20-21

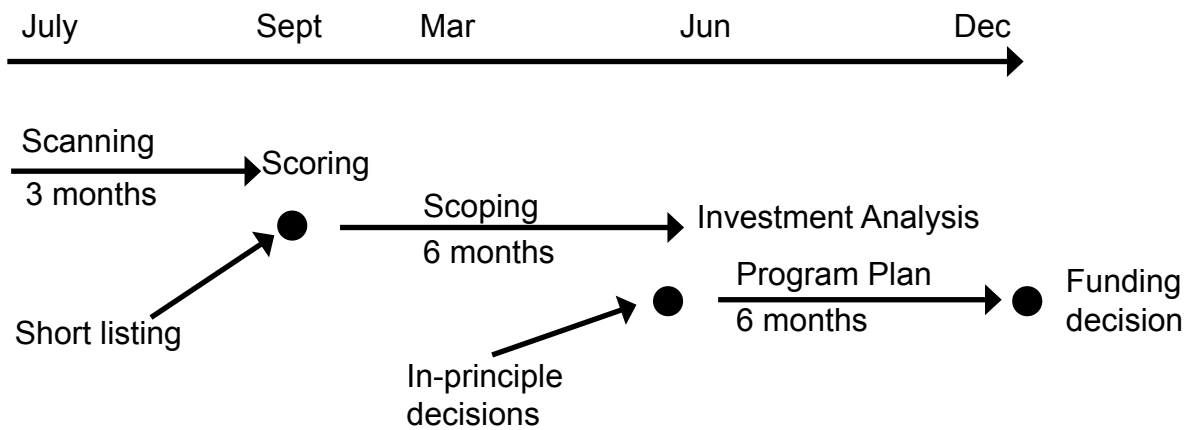
The Corporation is also required under the *CAC Act* to provide budget estimates for each financial year. Details of the budget estimates are included in the 2004-05 Portfolio Budget Statement. A copy is at Appendix C.

1.5 Portfolio Investment Framework

The Corporation has a Portfolio Investment Framework that provides a transparent approach to the allocation of R&D investment. The key steps are described in the flowchart at Figure 4.

In December 2004 three newly scoped R&D initiatives will be presented as formal program plans for Board approval. In early 2005, ongoing environmental scanning will be synthesised into potential future research investments to commence the next investment planning phase.

Figure 4. Portfolio Investment Framework



2. Investment Environment

2.1 Opportunities

2.1.1 Government Priorities and Programs

As detailed in Chapter 3 below, the Corporation will continue to align its R&D activities to government policies and programs. We will also contribute to government policy related to the management of land, water and vegetation resources, in particular by working wherever possible to ensure that R&D outputs inform delivery of the National Action Plan for Salinity & Water Quality (NAP), the Natural Heritage Trust (NHT), and the National Water Initiative (NWI). This is a particular challenge for the corporation given the shift to a regional delivery model through almost sixty regional bodies to implement the ambitious investment targets of these major national programs.

2.1.2 Collaboration with agricultural R&D corporations

In an effort to forge better links with on-ground managers of land and water resources, the Corporation will continue to develop strategic partnerships with rural industry groups, in particular through fellow R&D corporations. We have been particularly successful in such partnerships in the broadscale industries. For example Land, Water & Wool is a major partnership between Land & Water Australia and Australian Wool Innovation Ltd (AWI). Its aim is to deliver innovative solutions for improved wool industry productivity while improving the natural resource base.

The Grain and Graze Program in partnership with the Grains R&D Corporation and Meat and Livestock Australia (MLA) commenced in 2003 and will consolidate its initial projects during 2004-5. This major farming systems program aimed at mixed farms, integrates productivity and sustainability goals at farm and paddock scale, informed by targets and priorities for soil, water and nutrient management at a landscape scale. It is brokering joint programs between regional industry groups and the regional bodies set up to deliver the NAP and NHT. This is a very innovative approach that has great potential to bridge the gulf between catchment targets and farming practices at paddock and farm scales.

The Managing Climate Variability R&D Program contracted its first round of new R&D projects in early 2004, with strong funding support from the Grains, Sugar and Rural Industries R&D Corporations, MLA, AWI, Dairy Australia (DA) and the Department of Agriculture, Fisheries and Forestry (DAFF). The Murray Darling Basin Commission (MDBC) has committed to join the program as a funding partner in 2004-5. This program will make a major contribution to the development and extension of better seasonal forecasting tools to improve risk management for both productivity and natural resources management gains in a highly variable climate.

The Corporation will continue its support of the Joint Venture Agroforestry R&D Program, in partnership with the Rural Industries R&D Corporation (RIRDC) and the Forests and Wood Products R&D Corporation. It will also continue to be a partner alongside most of the RDCs in the Cooperative Venture for Capacity Building for Rural Innovation managed by RIRDC.

2.1.3 Improved Marketing Strategy for Australia based on 'clean and green' image

Recent disease outbreaks and public health scares in Europe and North America have underlined the importance of Australia's 'clean and green' image for food production. It is important for Australian land and water users and managers to be able to demonstrate and verify the environmental soundness of their management practices. The Corporation's industry R&D programs in particular are aimed at improving current recommended practices.

2.2 Challenges

2.2.1 Connecting with the regional delivery model of the NAP and NHT

The rationale for a regional delivery model for the National Action Plan and the Natural Heritage Trust is very sound, as that is an appropriate scale for many of the types of investment needed through these programs. However it has had perhaps unintended consequences in making it much more difficult for national science agencies to deliver their research in such a way that it can be easily picked up by and used by the newly emerging regional bodies at this scale. The transaction costs for LWA in trying to have a direct relationship with each of the 60 or so regions are prohibitive. On the other hand, passive measures such as the website and a 1800 number are unlikely to be very effective in all regions, and the key point of regional delivery is to tailor solutions to regional needs. The key questions for us include how many regions can we realistically service, in what way, and how to choose which ones. This will be a key focus of a new Knowledge and Adoption Strategy being developed in mid-2004.

2.2.2 Decline in resources provided by collaborative partners

It is increasingly difficult to secure funding partnerships at a program level for national collaborative R&D programs. There is a wide range of research and NRM organisations, all with external earnings targets, trying to lever funds from other organisations to improve their own funding bases. Land & Water Australia will continue to foster partnerships where possible in order to engage the key stakeholders at the outset to maximise the ownership and adoption of R&D results, to minimise duplication of effort and to make the best use of limited research resources.

Declining state resources may have a significant effect on the adoption component of Corporation projects, and hinders agencies' capacity to maintain their long-term commitment to major programs. A corollary of the run-down in extension services at state and territory levels is that R&D corporations have to allocate an increasing proportion of their budgets to adoption-focused activities.

3. Government Priorities and Programs

3.1 National Research Priorities

The Australian Government announced new national research priorities in December 2002. These priorities are to be applied across Government, with all research and research funding bodies of the Commonwealth expected to implement the priorities. Figure 5 below outlines how Land & Water Australia is implementing the national priorities.

The Corporation has a critical role in implementing the first priority: an Environmentally Sustainable Australia. As the initiator and manager of the National Dryland Salinity Program, we have coordinated much of the research that underpins the National Action Plan on Salinity and Water Quality. The Corporation has commenced new national research initiatives in Managing Climate Variability, Sustainable Irrigation, and Grain and Graze with significant commitments from the Australian Government and our sister RDCs.

Land & Water Australia has also been contracted by the Australian Government to manage the second phase of the National Land and Water Resources Audit, a key program of the NHT. Our other research programs as detailed at Chapter 8 provide national leadership in science for managing rivers, vegetation and the crucial social and institutional dimensions of land and water management, on which successful implementation of both policy reform and on-ground change often rests. The Corporation is now actively developing ways of raising the awareness, utility and adoption of this knowledge through strong knowledge exchange and communication strategies.

3.2 Government Priorities for Rural Research

The Government has indicated its ongoing financial commitment to R&D and recognition that the system of rural research and development corporations plays a critical role in taking science into the paddock. In

March 2003, the Parliamentary Secretary to the Minister for Agriculture, Fisheries and Forestry wrote to all R&D Corporations outlining the Government's new priorities for rural research and development to increase the competitiveness and sustainability of Australia's rural industries. The Corporation's response against each of the seven priority areas is summarised in Figure 5, and expanded upon further below.

Figure 5. Land & Water Australia R&D Activities that relate to National Research Priorities and RDC Priorities

RURAL R&D PRIORITIES	NATIONAL RESEARCH PRIORITIES AND RELATED PRIORITY GOALS	RELATED LWA R&D ACTIVITIES
Sustainable natural resource management	Environmentally sustainable Australia: <ul style="list-style-type: none"> - Water a critical resource - Transforming existing industries - Overcoming soil loss, salinity & acidity - Sustainable use of Australia's biodiversity 	This is our core business and relates to all R&D activities as detailed at Chapter 8 Rivers Arena- Output 2 Primary Industries Arena - Output 1 (in particular LWW, G&G & MCV) Futures Arena – Output 4 Vegetation Arena – Output 3 (in particular NVP)
Improving competitiveness through whole of industry approach		Principally collaboration with other RDCs, related to Primary Industries Arena - Output 1 (LWW, MCV & G&G programs) and Cross-cutting Arena – Output 5 (Cooperative Venture for Capacity Building for Innovation in Rural Industries)
Maintaining and improving confidence in the integrity of Australian agricultural food, fish & forestry products	Promoting and maintaining good health: <ul style="list-style-type: none"> - Preventative Health 	The Corporation has an indirect role in this priority through its partnerships with the other RDCs
Improved trade and market access		We have an indirect role in this priority through partnerships with the other RDCs
Use of frontier technologies	Frontier Technologies for Building & Transforming Australian Industries: <ul style="list-style-type: none"> - Frontier technologies & new industries - Advanced Materials 	Key priority for 2004-05 General Call. We also have an indirect role in this priority through our partnerships with the other RDCs. Identified as a major potential driver for landscape change, both in terms of production systems and in addressing sustainability issues.
Protecting Australia from invasive diseases and pests	Safeguarding Australia <ul style="list-style-type: none"> - Protecting Australia from invasive diseases & pests 	Our role in this priority is through our partnerships with the other RDCs
Creating an innovative culture		Through building innovation capacity through a wide range of scholarships and fellowships, and through significant end-user involvement in our R&D programs, we continually foster an innovative culture in the context of sustainability.

3.2.1 Sustainable natural resource management

The Corporation's core business relates to protecting and enhancing the natural resource base that underpins rural Australia. Work ranges from developing a better understanding of the key processes that drive Australian ecosystems, to the effective uptake of improved management through industry best practice guidelines. We work with the other R&D corporations to ensure a coordinated R&D effort for NRM across each of the commodity industries. The Corporation also has a strong relationship with the Government in implementing the NAP and NHT (see below at Section 3.3 and 3.4).

3.2.2 Improving competitiveness through whole of industry approach

The Corporation ensures a whole of industry approach in all its collaborative activities with RDCs, such as incorporating ecological sustainability into the PROGRAZE farming systems package and the NRM products developed as part of the Land, Water & Wool initiative.

3.2.3 Maintaining and improving confidence in the integrity of Australian agricultural food, fish & forestry products

The emergence of 'clean green' marketing, and the threat of non-tariff trade barriers being imposed on Australia's exports, make the Corporation's research vital in winning and maintaining overseas markets and in increasing farm productivity. Our research investment is developing improved methods of resource management that are taken up by rural industries. Rural industries are direct partners in many of our programs, so promoting a whole-of-industry approach that brings productivity and sustainability together. The National Land and Water Resources Audit has provided invaluable information regarding Australia's natural resource condition.

3.2.4 Use of frontier technologies

The Corporation has identified biotechnology as a major potential driver for landscape change, both in terms of production systems and in addressing sustainability issues. The Corporation has recently completed a review of biotechnology implications for our R&D portfolio. A new research investment in 2004-05 will focus on reviewing technologies that have potential for landscape scale ecological and industrial applications. Previously, the Corporation had reviewed opportunities for bio-engineering plant species to control water and nutrients.

3.2.5 Improved trade and market access

Our research programs, in association with the other RDCs, are helping landholders to diversify and produce new and improved high-value products (for example agroforestry products and productive use of saline lands) which satisfy the needs of both environmental sustainability and the domestic and export markets.

The Corporation also supports the development of increased processing and value adding, through work into the management and re-use of wastes from rural industries. Research into improved farming systems for Australian landscapes incorporates opportunities for new rural industries based on agroforestry and higher-value crops that are more suitable to the environment.

3.2.6 Protecting Australia from invasive diseases and pests

The Corporation has minimal direct R&D responsibility for protecting Australia from invasive diseases and pests. However, we cooperate with the commodity-based R&D corporations to ensure that effective risk management strategies are in place to protect Australian industries and the underlying natural resource base.

3.2.7 Creating an innovative culture

Adoption of research results that inform and encourage more innovation in the implementation of sustainable NRM practices is a high priority for the Corporation. This is the key objective of the Communication & Adoption Strategy (see below).

Land & Water Australia has a number of strategies to develop the innovation skills and abilities of the natural resource management sector and related research institutions.

- Thirty postgraduate students, most pursuing PhD degrees in important areas of future knowledge needs for Australia.
- A new initiative in 2004-5 will fund fellowships for leading mid-career researchers to enable them to undertake seminal work of a synthesis nature within their fields of expertise.
- Australia-wide assessments of water, soil health and biodiversity status made available through an interactive website and The Australian Natural Resources Atlas and Data Library² provided by the National Land and Water Resources Audit³.
- A wide range of manuals and guidelines on sustainable NRM practices for diverse audiences.
- National databases including Australian Agricultural and Natural Resources On-line (AANRO)⁴, as well as the Corporation's own website and Innovations Database⁵.
- Travelling Fellowships allowing young Australian researchers to access knowledge and skills not readily available in Australia. Overseas researchers, with specialist skills absent in Australia, are also invited to Australia to transfer knowledge and skills.
- We are a partner in the Cooperative Venture for Capacity Building for Innovation in Rural Industries. Other partners include RIRDC, Dairy Australia, GWRDC, SRDC, MDBC, MLA, GRDC and the Department of Agriculture, Fisheries and Forestry (DAFF). The Cooperative Venture is coordinating a program of R&D to ensure an effective rural industries research, education and extension system.
- Training programs for resource managers and researchers.
- Close liaison with industries, providing direct knowledge and technology transfer to producers through well-established existing industry mechanisms.
- Community Fellowships give non-scientists the opportunity to share insights and experiences in NRM with a wider audience. The fellowships, funded by a philanthropic trust, have attracted great interest from community groups and the media.

3.3 Major Government Priorities – National Action Plan, Natural Heritage Trust and National Water Initiative

The Australian Government's Natural Heritage Trust (NHT) has provided a substantial boost to the level of on-ground work in environmental management. Land & Water Australia has established good links with the NHT through programs including the National Land and Water Resources Audit, National Dryland Salinity Program (NDSP), National Rivers Consortium, the Riparian Lands R&D Program, and the Social and Institutional Research Program. Such linkages help to ensure:

- that research findings are available to managers in a readily accessible form; and
- that the information needs of those managers are incorporated within R&D programs.

The National Action Plan for Salinity and Water Quality and NHT2 are generating community demands for access to up-to-date information, decision support tools and scientific and technical expertise. We are actively exploring opportunities with the Department of Agriculture, Fisheries and Forestry (DAFF), Department of Environment and Heritage (DEH) and several regional and catchment bodies to build stronger partnerships at national and regional levels.

² http://audit.ea.gov.au/ANRA/atlas_home.cfm

³ <http://www.nlwra.gov.au/>

⁴ <http://www.infoscan.com.au/id/web/searchstreamline.htm>

⁵ <http://www.infoscan.com.au/id/web/browse.htm>

The Grain and Graze program, in partnership with the Grains R&D Corporation (GRDC), and Meat and Livestock Australia (MLA) is brokering projects in eight National Action Plan regions that will combine farming systems research work with the targets (for example water quality) being set in regional and catchment strategies. This work tackles one of the most challenging aspects of these major national programs – how to match catchment-scale targets and imperatives with farm- and paddock-scale action.

Land & Water Australia is currently developing a new Knowledge and Adoption Strategy that will be initiated during 2004-05. A key priority for this strategy is to work out how we can better ensure that the best available science is accessible to the regional delivery frameworks for the National Action Plan, Natural Heritage Trust and the National Water Initiative.

4. Overview of 2004 – 2005 Activities

4.1 Research & Development

HIGHLIGHTS

Land & Water Australia will be investing in and managing a range of R&D programs that will contribute to the Corporation's mission. During 2004-05, the Corporation is expected to conduct the following activities:

- Ongoing management of significant program initiatives including large collaborative partnerships for sustainable grain & grazing systems, environmental water allocation and climate variability. Catchment assessment tools and design rules for river and riparian restoration will be provided to regional NRM bodies across Australia.
- Sustainable Grazing on Saline Land networks in WA, SA, Vic and NSW in place with grower groups undertaking activities. Research project and demonstrations sites on productive native vegetation and riparian management in place, with local field days and activities held which engage wool growers. An advocates program creating opportunities for grower leaders in NRM to share their experience with other growers.
- "Riparian Management Principles and Practices on Wool Growing Properties" complete and widely available.
- Tools which support on-farm strategic decision making in response to climate forecasts being tested and trialed by wool growers in the pastoral zone.
- Tools for pastoral country management which match productivity gains with environmental benefits being trialled by producers.
- A new program on Environmental Water Allocation will provide demonstrated outcomes from environmental flows and adaptive management rules.
- River protection, rather than expensive rehabilitation of degraded rivers, will be the focus of work that seeks national agreement on mechanisms to protect rivers of high conservation value. Existing knowledge in Northern Australia will be integrated to show how to develop land use while protecting valuable rivers and water resources.
- Development of climate variability tools for catchment management groups, primary producers and water managers.
- Sustainable Irrigation will target knowledge to commodity groups for improved water use efficiency.
- Options for maximising environmental, economic and social benefits from pastoral land use in the East Kimberley will be developed collaboratively by researchers, pastoral managers, government agencies and regional stakeholders utilising the integrated regional database and decision support tools developed by the Ord Bonaparte Program.
- Implementation of an innovative interdisciplinary project within the Future Landscapes Program examining the interactions between indigenous health outcomes, participation in land management programs and landscape health.
- Publication of a detailed analysis of patterns, trends and potential drivers of future change in Australian landscapes and their management.
- Establishment of a new 'Master Farmers' network bringing together some of the most sustainable producers in Australia to share and promulgate their knowledge.
- Establishment of a new category of Research Fellowships that will 'free up' some leading mid-career researchers to undertake seminal work of a synthesis nature within their fields.
- Provision of postgraduates scholarships, travelling and visiting fellowships to enhance the Australian R&D capacity for improved natural resource management.

In order to meet its mission and objectives, within the context of the *PIERD Act* objects, the core business of the Corporation is the establishment of national research programs. These programs are supported by partner organisations, and aim to bring together resource managers and researchers to jointly identify priorities and ensure that research findings are adopted and implemented. Further development of these programs and their efficient management, supported by professional business and communication support will remain core business for Land & Water Australia in 2004-2005. Chapter 8 details each R&D activity in terms of the input-output and outcome structure.

In partnership with and on behalf of five other rural RDCs, DA, DAFF and other partners, we will commence the first round of research projects funded through the Managing Climate Variability Program. These will deliver improved seasonal forecasting tools within specific commodities and for better water resource management, and generic research that will develop the next generation of methodologies to assist resource managers in Australia to better manage extreme climate variability.

The Corporation has allocated \$3m over five years towards a new collaborative Environmental Water Allocation Program that will commence in 2004-05. Its key objective is to improve decisions made on environmental flow regimes in Australian rivers.

The National Land and Water Resources Audit will implement a range of activities to extend Audit findings and know-how to a range of catchment groups, industries and natural resource management agencies. The Audit coordinates the collation of data and information as a basis to report on the condition of natural resources in Australia, and to assist in monitoring and evaluating the effectiveness of major national initiatives including the Natural Heritage Trust and the National Action Plan for Salinity and Water Quality.

Land & Water Australia will again be advertising a General Call for R&D applications in June 2004, with project funding to commence in 2005-2006. The General Call will have a funding allocation of around \$1.5 million and focus on highly innovative projects.

As part of the portfolio investment framework, in 2003 the Corporation identified the following R&D issues for detailed scoping and analysis;

- Tropical Rivers
- Social and Institutional Research
- Biodiversity/Ecosystem services
- Native Vegetation

These scoping reviews have now been developed into draft R&D Plans, with the bottom two combined into one program. The Board will determine its future investments in these areas from 2005-6 onwards at its December 2004 meeting.

4.2 Portfolio Management

Portfolio management incorporates the following key elements of organisational change and operational planning.

- Strategic planning: setting research direction in accord with the R&D Plan and the Portfolio Investment Framework, creating a future based on core values and purpose, and ensuring compatibility between the internal and external environments.
- Science leadership: creating awareness of new and emerging scientific ideas and technologies and their implications, and enhancing the quality of R&D processes.
- Integration: designing and managing processes to enhance research-policy-management linkages and to synthesise outputs.
- Knowledge Management: developing the capacity for effective knowledge capture, sharing, transfer and use.

- Evaluation: evaluating progress towards desired outcomes and feeding back into R&D processes to achieve them.

A key priority in 2004-05 will be enhanced data and information management across the portfolio. The Corporation will be implementing Australia and New Zealand Land Information Council (ANZLIC) data and metadata standards for our research investments, and new systems to record and access research data-sets and information.

Each of these interrelated activities requires appropriate human and financial resources to yield substantial benefits to the organisation and its clients. A key challenge in the year is to review and enhance the procedures for R&D program design and program management. The Corporation has approved \$0.5 million for portfolio management in 2004-05 (see Chapter 8 for further details).

4.3 Knowledge and Adoption

Land & Water Australia will be increasing its emphasis upon achieving adoption of its research work. Having established a sound platform for communication and product distribution, the Corporation will build upon this foundation in working towards increasing adoption. A knowledge and adoption strategy developed in the first few months of the year will guide the more specific changes and investments in this aspect of the Corporation's work. This strategy will sit within, and complement Land & Water's new strategic plan.

4.4 Business Management

The Corporation in its own administrative processes will further develop the systems approach to R&D investment. We achieved international standard accreditation (ISO 9002) in May 1996 and will maintain our commitment to continuous improvement and the highest level of client service and accountability. These principles will be applied to assist the Corporation to meet the highest standards of administrative efficiency and effectiveness, so matching the requirements that we seek from research organisations and others involved in our programs. In addition, the Corporation will be implementing a range of improvements to its information technology and knowledge management systems to improve IT security and to enable productivity gains.

In 2003-04 the costs of the organisation relocating to new premises, the outcomes of the business functions review and the implementation of new IT security arrangements resulted in an 'application for approval to budget for a deficit' being lodged with the Department of Finance and Administration. The expected deficit is within Land & Water Australia's capacity to manage without external financial support and the Corporation is budgeting for a slight surplus in 2004-05.

During 2004-05, administrative expenditure will be held at around 7% of total expenditure.

In May 2004, LWA will relocate to larger, more appropriate accommodation, which has also provided the opportunity to upgrade IT security hardware and software. This will ensure that LWA is appropriately equipped with enhanced systems to manage communication, operations and its R&D business in a more secure IT environment.

In 2003-04 an independent review of LWA business functions identified a number of opportunities to improve its finance and administration operations. An upgrade of the Financial Management Information System will be completed, and a review of the Knowledge Management System will be undertaken in 2004-05. These steps will result in more efficient financial information capture and reporting as well as enhanced management information availability. Additionally, LWA financial, human resource, information technology, and property management policies will be reviewed and updated to ensure LWA continues to meet legislative and compliance requirements and best practice standards for Australian Government Agencies.

5. Assessing Performance

The Corporation has a portfolio evaluation strategy that covers planning, tracking, reporting and analysis of corporate effectiveness and impact. The evaluation strategy affords feedback at various levels, including the overall performance of the management model, our corporate objectives, annual reporting requirements, and program and project performance. The development of evaluation methods such as the non-market valuation of less tangible R&D benefits will give a fuller perspective on the portfolio return on investment. The annual application of the Goal Attainment Scoring process will encourage continual improvement against corporate objectives.

An integrated system of financial, project and portfolio management data capture will enable management to view the entire portfolio and balance project mix with regard to strategic objectives and other performance criteria. Improved ability to analyse on-going research and future needs by comparative analysis will assist us to plan investments strategically and to evaluate them efficiently.

The Input-Output-Outcome model will report on impact, providing detailed adoption case study outcome stories. Triple Bottom Line evaluation will feed into the joint RDCs' performance assessment. The higher level of evaluation feedback to management and use of intelligent portfolio analysis tools will assist implementation of the new R&D plan.

6. Management Structure

Land & Water Australia is structured on business lines, with its Board responsible for developing corporate policies and for monitoring and evaluating the operation and performance of the Corporation. The role of management is to implement and administer Board policies. A copy of the Management Structure is at Appendix A and includes the following:

- A Board of Directors responsible for the overall direction of Land & Water Australia provides the strategic direction, policies and investment allocations for commissioned R&D programs and other initiatives.
- The Corporation has established a number of Board committees to assist the Board to undertake its functions. These include the Finance, Audit, and Communication committees.
- Formal committees have been established for each joint R&D program comprising representatives of Land & Water Australia and each program-funding partner. These committees are responsible to each funding party and the Board for program development and the approval, oversight, and evaluation of program activities.
- Management is responsible for the day to day operation of the Corporation.

To ensure that management can discharge its duties effectively over the life of this plan, the Corporation will maintain the following human resource policies:

- The Corporation will continue to implement the principles of continuous improvement and quality assurance in accord with ISO 9001 to ensure the highest standards of administrative efficiency and effectiveness.
- Activities will be outsourced where it is evident that it will be cost effective, and where required skills and resources do not reside in management. In 2004-05, these areas will principally include specialist research program coordination, communication production activities, and specialist evaluation studies.
- The Corporation is committed to its staff through systematic performance planning and appraisal and to flexible, responsive and proactive human resource development and training for all employees.

7. Income & Expenditure in 2004-05

Land & Water Australia expects to receive \$12.574m from Commonwealth appropriations in the 2004-05 financial year. It is estimated that third party contributions and other income will be around \$12m in 2004-05, although further revenue from third parties is likely to be sourced during the year.

The Corporation's emphasis on R&D activities is demonstrated by around 86% of expenditure being directed in this area during 2004-05. Funding of \$1.5m will be provided for innovative R&D, postgraduate scholarships and fellowships under the General Call. The Corporation will continue to maintain administration expenditure at around 7% of total expenditure. Forecast expenditure is detailed in the following income and expenditure budget and graph (see Figures 6 and 7). Further details of investments in R&D is at Chapter 8. The Corporation has included all the expenditure items as required under Section 33 of the *PIERD Act*.

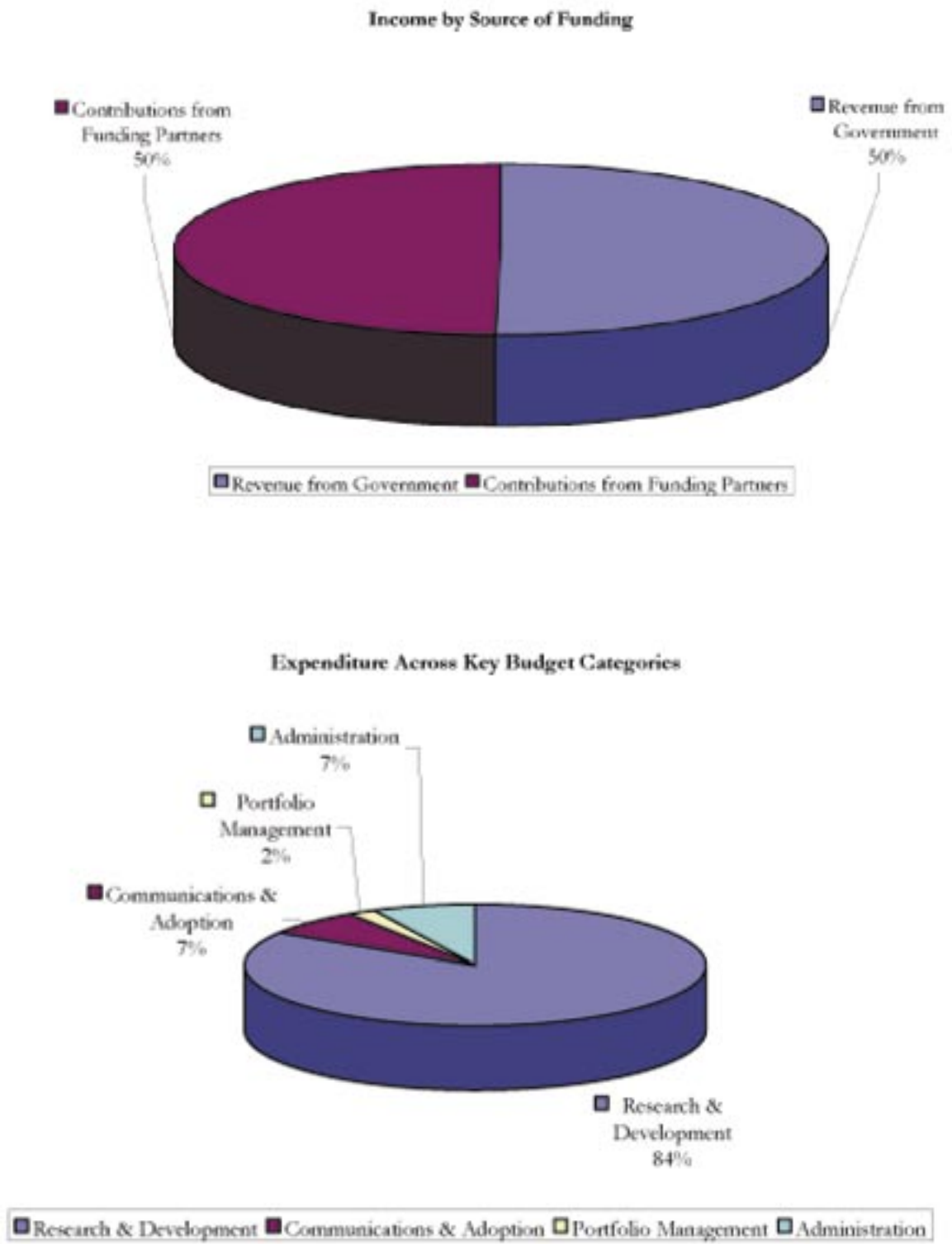
Figure 6. Land & Water Australia 2004-05 Budget

<u>Revenues</u>		<u>\$1,000's</u>	<u>%</u>
<i>Revenue from Government</i>		12,574	50%
<i>Third party contributions (1)</i>		12,425	50%
<i>Interest & Other income</i>		88	<1%
Total Revenue		25,087	100%
<u>Expenses</u>			
<i>R&D Funding</i>	R&D Activities	21,011	84%
	Portfolio Management	500	2%
	sub-total	21,511	86%
<i>Communication & Adoption (2)</i>		1,700	7%
<i>Administration (3)</i>		1,800	7%
Total Expenses		25,011	100%
Net Surplus		76	
Accumulated surplus at beginning of reporting period		974	
Total Accumulated Results		1050	
<u>CAPITAL BUDGET (4)</u>		75	

NOTES:

- 1 Does not include other funds that may be derived from new partnerships established during the year.
- 2 Includes corporate communication activities. Additional communication activities are within R&D Funding budget item.
- 3 Includes payment of remuneration and other allowances for Directors. Funds have not been allocated to the Selection Committee.
- 4 In 2004-05, the Corporation has a capital expenditure budget of \$75,000 and will be funded from internal reserves. The related depreciation expense has been included in Administration expenditure.
- 5 The Corporation in 2004-05 will not be providing any funding to its Representative Organisations.

Figure 7. Revenue and Expenditure across key budget categories



8. Activities in detail for 2004-05

ACTIVITY <i>(duration in brackets)</i>	PIERD ACT OBJECTS/LINES OF INVESTMENT [C] [D]	KEY OUTCOMES [A]	KEY OUTPUTS	BUDGET EXPENDITURE 2004-2005 (\$1,000s)	THIRD PARTY BUDGET REVENUE (\$1,000s) [B]
8.1 Research & Development Activities					
8.11 Portfolio Management (contributing to all outputs)					
Strategic Planning	All/ Corporate Activity	<ul style="list-style-type: none"> Continual improvement in our capacity to identify, choose and implement activities that will enhance the long-term performance of the Corporation 	<ul style="list-style-type: none"> New 5-year strategic R&D plan Contextual analysis of LWA's business environment 3 new program plans fully developed 		
Integration	All/ Corporate Activity	<ul style="list-style-type: none"> Continual improvement in our capacity and that of our clients and funding partners to design manage and deliver integrated R&D for the enhancement of natural resource management in Australia 	<ul style="list-style-type: none"> Provision of advice and support for integrated R&D design and products to programs and/or external clients Up to three R&D management workshops held and appropriate outcomes implemented 		
Science Leadership	All/ Corporate Activity	<ul style="list-style-type: none"> The Corporation is fully aware of new and emerging scientific ideas and technologies related to natural resource management and their implications in the Corporation's investments The Corporation is seen as a leader in innovation and R&D management 	<ul style="list-style-type: none"> Emerging issues and opportunities synthesised Australia's NRM science capacity documented and made available on a database New Innovation program launched 		

ACTIVITY <i>(duration in brackets)</i>	PIERD ACT OBJECTS/LINES OF INVESTMENT [C] [D]	KEY OUTCOMES [A]	KEY OUTPUTS	BUDGET EXPENDITURE 2004-2005 (\$1,000s)	THIRD PARTY BUDGET REVENUE (\$1,000s) [B]
Knowledge Management	All/ Corporate Activity	<ul style="list-style-type: none"> Continual improvement in our capacity to effectively capture, create, transfer and use data, information and knowledge for the enhancement of natural resource management in Australia 	<ul style="list-style-type: none"> Implementation and communication of the KM framework and at least one agreed initiative throughout the Corporation Update of the Innovations database to a total of about 150 innovations 		
Portfolio Evaluation	All/ Corporate Activity	<ul style="list-style-type: none"> To evaluate and optimise our R&D processes and systems to ensure efficient and effective R&D investment and delivery of outcomes in natural resource management and policy Our performance evaluation is conducted effectively and on an annual basis 	<ul style="list-style-type: none"> 2003-04 LWA performance report on achievement of objectives of current strategic plan Evaluation strategy updated best practice non-market valuation methods published 		
Sub-total				500	0

ACTIVITY <i>(duration in brackets)</i>	PIERD ACT OBJECTS/LINES OF INVESTMENT [C] [D]	KEY OUTCOMES [A]	KEY OUTPUTS	BUDGET EXPENDITURE 2004-2005 (\$1,000s)	THIRD PARTY BUDGET REVENUE (\$1,000s) [B]
8.1.2 Industries Arena (Output 1)					
New Industry Partnerships <i>(Jan 2001 - June 2004)</i>	A, B/ Special Purpose Projects	<ul style="list-style-type: none"> Enhanced capacity for Australia's primary industries to manage natural resources sustainably 	<ul style="list-style-type: none"> Interpretation of implications of the National Land and Water Resources Audit results for at least two rural industries Synthesis of research results targeted towards specific primary industries 		
Land Water & Wool Initiative <i>(July 2001 - June 2006)</i>	A, B/ Outreach	<ul style="list-style-type: none"> Enhanced awareness of NRM as a key industry issue by woolgrowers and advisers Engagement of woolgrowers in developing practical and profitable solutions to NRM farm management practices New/improved knowledge base of how growers can productively address NRM issues based on initial outcomes of LWW research Government and industry recognition that the wool industry (and AWI with LWA) is seriously addressing its natural resource management responsibilities. Increase recognition by woolgrowers of the activities of LWA 	<ul style="list-style-type: none"> Technical guidelines on key NRM issues to support the PRM Toolkit. For example, Saltland Pastures Book, Guidelines for Native Vegetation Management and Riparian Management A small team of part-time Productive Resource Management personnel to support delivery of PRM Toolkit and enhance uptake among grower groups SGSL networks in WA, SA, Vic and NSW in place with grower groups undertaking activities Research project and demonstrations sites in place, with local field days and activities planned to engage grower community An advocates program creating opportunities for grower leaders in NRM to share their experience with other growers and to promote the value of LWW 		

ACTIVITY <i>(duration in brackets)</i>	PIERD ACT OBJECTS/LINES OF INVESTMENT [C] [D]	KEY OUTCOMES [A]	KEY OUTPUTS	BUDGET EXPENDITURE 2004-2005 (\$1,000s)	THIRD PARTY BUDGET REVENUE (\$1,000s) [B]
Sustainable Grain & Grazing System <i>(July 2002-June 2007)</i>	A,B/ Partnership Programs	<ul style="list-style-type: none"> Landscape scale change through the widespread adoption of regenerative whole farm management practices 	<ul style="list-style-type: none"> Ongoing activities that connect mixed farming systems research to catchment management plans Management of database and modelling frameworks that integrate G&G research activities Continuation of the national extension framework building on existing partner efforts, targeted towards the mixed farming sector 		AWI GRDC MLA
Climate Variability in Agriculture Program <i>(July 2003-June 2006)</i>	A,B/ Partnership Programs	<ul style="list-style-type: none"> Australian primary producers and resource managers are better equipped and motivated to respond more effectively to climate variability 	<ul style="list-style-type: none"> Continued development of climate variability tools for catchment management groups, primary producers and water managers Development of a national climate monitoring and evaluation framework 		Rural RDCs, DAFF
Sub-total				6,960	6138

ACTIVITY <i>(duration in brackets)</i>	<i>PIERD ACT</i> OBJECTS/LINES OF INVESTMENT [C] [D]	KEY OUTCOMES [A]	KEY OUTPUTS	BUDGET EXPENDITURE 2004-2005 (\$1,000s)	THIRD PARTY BUDGET REVENUE (\$1,000s) [B]
8.1.3 Rivers Arena (Output 2)					
National Program for Sustainable Irrigation <i>(Jan. 2003-June 2006)</i>	A,B/ Partnership Programs	<ul style="list-style-type: none"> Improved water use efficiency and productivity. Sustainable irrigation implemented through close alliance with commodity groups. 	<ul style="list-style-type: none"> Knowledge on change processes and water use efficiency opportunities widely promoted Catchment wide improvements through commodity groups continuously improving practice 		DAFF, State agencies, irrigators
National Rivers Consortium <i>(July 1999 - June 2005)</i>	B/ Partnership Programs	<ul style="list-style-type: none"> Continuous improvement in the health of Australia's rivers through application of cost effective remedial measures. 	<ul style="list-style-type: none"> Provide regional NRM bodies with the latest knowledge to support regional river protection and restoration Agree on appropriate processes for protecting rivers and river reaches of high conservation value Provide NRM managers in northern Australia with access to the latest spatial data on land and water condition Demonstrate the value of large scale river restoration projects 		CSIRO, MDBC, WRC

ACTIVITY <i>(duration in brackets)</i>	PIERD ACT OBJECTS/LINES OF INVESTMENT [C] [D]	KEY OUTCOMES [A]	KEY OUTPUTS	BUDGET EXPENDITURE 2004-2005 (\$1,000s)	THIRD PARTY BUDGET REVENUE (\$1,000s) [B]
Riparian Lands R&D Program <i>(July 2000 - June 2005)</i>	B/ Partnership Programs	<ul style="list-style-type: none"> Recognition of the role of riparian vegetation in river health and improved management adopting the findings of research Groups to demonstrate best riparian practice at key sites 	<ul style="list-style-type: none"> Complete knowledge generation on management of erosion, habitat and water quality in riparian lands Produce guidelines for stock management, large woody debris restoration, and appropriate width of riparian lands 		
River Contaminants R&D Program <i>(January 2000 - June 2005)</i>	B/ Partnership Programs	<ul style="list-style-type: none"> River managers using tools to effectively manage river contaminants across Australia 	<ul style="list-style-type: none"> Develop and apply tools for assessing the sources and management of sediment, salt and nutrients across regional catchments Demonstrate appropriate fertiliser application rates in a range of farming systems to maximise production and minimise downstream losses of nutrients Provide knowledge on the salinity tolerance of aquatic organisms 		MDBC
Environmental Water Allocation <i>(July 2003 - June 2008)</i>	B/ Partnership Programs	<ul style="list-style-type: none"> Improved decisions made on environmental flow regimes 	<ul style="list-style-type: none"> Demonstrate the environmental outcomes achieved from specific environmental flow allocations 		
Sub-total				5,725	2,539

ACTIVITY <i>(duration in brackets)</i>	PIERD ACT OBJECTS/LINES OF INVESTMENT [C] [D]	KEY OUTCOMES [A]	KEY OUTPUTS	BUDGET EXPENDITURE 2004-2005 (\$1,000s)	THIRD PARTY BUDGET REVENUE (\$1,000s) [B]
8.1.4 Vegetation Arena (Output 3)					
Native Vegetation R&D Program <i>(July 2000-June 2005)</i>	B/ Partnership Programs	<ul style="list-style-type: none"> The use of practical methods by governments, catchment authorities, community groups and landholders to assess the status and condition of native vegetation, to make predictions about its long-term viability, and to consider thresholds in natural or human-induced landscape change that are likely to significantly affect condition and viability Greater integration of sound native vegetation management into agricultural systems Increased use of methodologies to retain and revegetate areas at a landscape scale, to identify the most appropriate size and spatial configuration of native vegetation and/or areas to be revegetated 	<ul style="list-style-type: none"> Mid-term review of the Native Vegetation Program completed Strategic analysis of the future directions of the program completed Research from program effectively promoted 		CSIRO, MDBBC State agencies

ACTIVITY <i>(duration in brackets)</i>	PIERD ACT OBJECTS/LINES OF INVESTMENT [C] [D]	KEY OUTCOMES [A]	KEY OUTPUTS	KEY OUTPUTS	THIRD PARTY BUDGET REVENUE (\$1,000s) [B]
Joint-venture Agroforestry Program (Administered by RIRDC) <i>(July 1993 – June 2009)</i>	A,B/ Partnership Programs	<ul style="list-style-type: none"> An increased number of well designed agroforestry and farm forestry systems which optimise the positive impacts of trees integrated into farming systems A greater proportion of medium to low rainfall agroforestry systems established using improved genetic materia The first batches of seed will become available from the work of the Australian Low Rainfall Tree Improvement Group Continued improvement in the management of existing vegetation on farms for environmental and economic benefit A greater number of Australian farms contributing to natural resource management objectives through the integration of trees on farmland Continue to increase awareness of the potential of agroforestry systems to provide biomass resources for energy production Better information concerning tree products from low rainfall areas 	<ul style="list-style-type: none"> Quarterly Farm Forestry Market Reports An assessment of Agroforestry projects in northern Australia using the Australian Farm Forestry Financial Model A framework and case studies of the sustainability of bioenergy development in Australia A report which provides information about the trade offs between recharge control and agricultural productivity as a guide to the optimal design of agroforestry systems for recharge management A tool for tree breeders for identification of natural resistance to herbivory in some Eucalyptus species A database for biomass feedstock selection for bioenergy by industry and government Data on wood product quality information from dryland conifers for a range of products 		RIRDC, FWPRDC, DAFF
Sub-total				1,113	0

ACTIVITY <i>(duration in brackets)</i>	PIERD ACT OBJECTS/LINES OF INVESTMENT [C] [D]	KEY OUTCOMES [A]	KEY OUTPUTS	KEY OUTPUTS	THIRD PARTY BUDGET REVENUE (\$1,000s) [B]
8.1.5 Future Landscapes Arena (Output 4)					
Future Landscapes <i>(July 2002 - June 2007)</i>	A,B/ Programs funded without partners	<ul style="list-style-type: none"> Australian investment in NRM informed by the future as well as the past Awareness in the NRM community of future potential landscape uses that will improve sustainability 	<ul style="list-style-type: none"> Publication of Occasional Paper 'Future challenges for NRM in Australia' Research results from projects on endocrine disrupting chemicals, landscape biotechnology, biofuels as an alternative energy source, implications of stream acidity in high rainfall catchments, and the links between indigenous health and sustainable landscapes Promotion of recommendations for new research arising from the RAAL program Environmental scanning process to assemble information on drivers of future change Publication of scenarios for future Australian landscapes Speakers program Mid-term review of program completed 		
Sub-total				987	0

ACTIVITY <i>(duration in brackets)</i>	<i>PIERD ACT</i> OBJECTS/LINES OF INVESTMENT [C] [D]	KEY OUTCOMES [A]	KEY OUTPUTS	KEY OUTPUTS	THIRD PARTY BUDGET REVENUE (\$1,000s) [B]
8.1.6 Cross-cutting Activities (Output 5)					
General Call for Innovative R&D Projects <i>(Ongoing Projects and Projects to commence 2004 – 2005)</i>	B/ General Call	<ul style="list-style-type: none"> • Emerging issues and critical gaps addressed • Increased innovation in NRM policy initiatives • Improved scientific capacity to address emerging issues 	<ul style="list-style-type: none"> • Priority issues and innovative approaches annually identified and funded 		
Human Capacity Building <i>(Ongoing Projects and Projects to commence 2004)</i>	C/ Human Capacity Building	<ul style="list-style-type: none"> • To equip present and future land managers, policy makers, educators and others with the knowledge and tools to expand their capabilities in achieving sustainable natural resource management 	<ul style="list-style-type: none"> • Provision of post-graduate scholarships, travelling and visiting fellowships and community fellowships • National R&D capacity enhanced through new young scientists in NRM 		

ACTIVITY <i>(duration in brackets)</i>	<i>PIERD ACT</i> OBJECTS/LINES OF INVESTMENT [C] [D]	KEY OUTCOMES [A]	KEY OUTPUTS	KEY OUTPUTS	THIRD PARTY BUDGET REVENUE (\$1,000s) [B]
Social and Institutional Research Program <i>Transition year July 2004 to June 2005 to new program 2005-2010</i>	B/ Programs funded without partners	<ul style="list-style-type: none"> The development of better governance, policies and programs, and the creation of an environment within which change can occur through enhanced economic, social and institutional knowledge 	<ul style="list-style-type: none"> Local governments Australia-wide assisted to use NLWRA products Guidelines for linking research to policy Publication of Integration Symposium proceedings and a supplement in refereed journal Ongoing research from program effectively promoted through a variety of formats Initiation of two strategic partnership-based projects and extension of research on cultural and NRM resource options for pastoral lands in the East Kimberley Development of a specialist social science advisory service for internal and external research programs Provision of expert social and economic advice to national policy and program initiatives Development of Program Plan 2005-2010 		

ACTIVITY <i>(duration in brackets)</i>	PIERD ACT OBJECTS/LINES OF INVESTMENT [C] [D]	KEY OUTCOMES [A]	KEY OUTPUTS	KEY OUTPUTS	THIRD PARTY BUDGET REVENUE (\$1,000s) [B]
National Land and Water Resources Audit Phase II <i>(July 2002-June 2007)</i>	A,B/ Partnership Programs	<ul style="list-style-type: none"> • Facilitate improved decision-making on natural resource management by: <ul style="list-style-type: none"> - Assisting in the identification of natural resource management priorities; and - Allowing the progress of natural resource management investments to be assessed through the development and maintenance of accurate, cost-effective and timely data and information on the nation's natural resources. 	<ul style="list-style-type: none"> • Reports on trials of the monitoring and evaluation framework developed by the Commonwealth State Territory working group • Integrated program of collection and collation of resource information • Ongoing management agreements to manage national and select regional data sets in the Australian data library and atlas • Reports on the trend and condition of natural resource • Expansion of the coverage of thematic reports on the status of natural resources 		DAFF/ DEH
R&D Partnerships across new & existing R&D activities	A,B/ Partnership Programs	<ul style="list-style-type: none"> • R&D outcomes meet partner needs 	<ul style="list-style-type: none"> • Agreed R&D activities implemented 		
Sub-total				6,226	3,736

ACTIVITY <i>(duration in brackets)</i>	PIERD ACT OBJECTS/LINES OF INVESTMENT [C] [D]	KEY OUTCOMES [A]	KEY OUTPUTS	KEY OUTPUTS	THIRD PARTY BUDGET REVENUE (\$1,000s) [B]
8.2 Communication & Adoption (contributing to all outputs)					
Resources and Systems Support	D/ Corporate Activity	<ul style="list-style-type: none"> The knowledge and adoption strategy will be owned and implemented across the Corporation as a whole, including at the Program level The ongoing provision of advice and servicing of Programs 	<ul style="list-style-type: none"> The knowledge and adoption strategy successfully developed as a whole of organisation strategy Implementation of the knowledge and adoption strategy initiated across the Corporation Increase in recognition of the role of communication and adoption in delivering on our mission Streamlined communications to free up resources for adoption Continued strategic role in Program communication, with an evaluation of the existing service agreements 		

ACTIVITY <i>(duration in brackets)</i>	PIERD ACT OBJECTS/LINES OF INVESTMENT [C] [D]	KEY OUTCOMES [A]	KEY OUTPUTS	KEY OUTPUTS	THIRD PARTY BUDGET REVENUE (\$1,000s) [B]
Adoption	A,B/ Corporate Activity	<ul style="list-style-type: none"> • Expanded adoption of LWA's research • Enhanced and new pathways for adoption through networking and alliances • Improved understanding by LWA and other RDCs of adoption in NRM and the role that our organisations can play • The Corporation's knowledge and adoption work providing leadership outside the organisation 	<ul style="list-style-type: none"> • Increased and improved implementation of LWA adoption and communication methods, in line with the new strategy • Value-added existing programs such as the community fellowships to contribute to adoption • Relationships developed with key networks and several 'champion' organisations • Increased involvement of non-researchers in partnerships for generating knowledge • See also Monitoring and Evaluation, and Resources and systems support 		Community Fellowships

ACTIVITY <i>(duration in brackets)</i>	PIERD ACT OBJECTS/LINES OF INVESTMENT [C] [D]	KEY OUTCOMES [A]	KEY OUTPUTS	THIRD PARTY BUDGET REVENUE (\$1,000s) [B]
Delivery	A,B/ Corporate Activity	<ul style="list-style-type: none"> • Increased demands for Land & Water Australia's products, particularly among NRM regional bodies and managers, and key networks such as NRM facilitators • Successfully responding to and meeting stakeholder needs with communication materials 	<p>KEY OUTPUTS</p> <ul style="list-style-type: none"> • Easy-to-use, integrated written and visual communication materials developed that meet the needs of intermediaries • Rejuvenation of website to increase visits and download rates • Improved availability of information online • Influence over the standard and content of Program websites including content, maintenance and web strategy • Ongoing provision of advice/servicing of Program products including co-published titles; integrated products; media articles • Successful integrated science product relevant to agreed target audience • Corporate information and product supply maintained 	

ACTIVITY <i>(duration in brackets)</i>	PIERD ACT OBJECTS/LINES OF INVESTMENT [C] [D]	KEY OUTCOMES [A]	KEY OUTPUTS	KEY OUTPUTS	THIRD PARTY BUDGET REVENUE (\$1,000s) [B]
Promotion	A,B Corporate Activity	<ul style="list-style-type: none"> • The Corporation is seen to broker and provide invaluable knowledge for those involved in natural resource management • The Corporation is seen to work with NRM managers and organisations to tackle NRM questions • The Corporation is seen as the Commonwealth's pre-eminent purchaser/broker and manager of NRM R&D 	<ul style="list-style-type: none"> • Increased profile in rural and regional Australia, particularly with regional bodies and network • Increased numbers attending event • Increased stakeholder satisfaction with Land & Water Australia events and presentation • Maintenance of promotional profile through media and corporate product • Value-adding to work through multiple use of material • More efficient promotion across multiple mediums 		
Monitoring & Evaluation	D/ Corporate Activity	<ul style="list-style-type: none"> • Implementation of more efficient and effective adoption and communication strategies through adaptive management (tracking, analysing and responding to feedback) 	<ul style="list-style-type: none"> • Seeking, trialing, evaluating and comparing methods for adoption • Increased information sharing by LWA and other RDCs regarding monitoring and evaluation of adoption 		
Sub-total				1,700	100

ACTIVITY <i>(duration in brackets)</i>	<i>PIERD ACT</i> OBJECTS/LINES OF INVESTMENT [C] [D]	KEY OUTCOMES [A]	KEY OUTPUTS	KEY OUTPUTS	THIRD PARTY BUDGET REVENUE (\$1,000s) [B]
8.3 Business Management (contributing to all outputs)					
Administration	D/ Corporate Activity	<ul style="list-style-type: none"> To meet all statutory obligations and accountability requirements in a comprehensive, timely and transparent manner To manage the business operations of the Corporation in an efficient & effective manner so that funds for R&D are invested well 	<ul style="list-style-type: none"> Provision of the highest level of accountability of Corporation activities Effective financial, human, office and contract management support to R&D programs Greatly improved IT security, general security and staff amenity in new premises Enhanced information and quality systems to meet our changing needs and to improve efficiency & effectiveness of our processes 		
Business Development of R&D Activities	D/ Corporate Activity	<ul style="list-style-type: none"> The development of R&D activities that incorporate business and commercial outcomes 	<ul style="list-style-type: none"> Business and commercial strategies have facilitated an increase in the revenue base and the level of investment on R&D Increase in the level of private investment in the development and commercialisation of R&D projects and innovations 		
Sub-total				1,800	0
OVERALL TOTAL				25,011	12,513

Notes:

- (A) Most outcomes will likely be realised after the completion of the R&D Activities.
- (B) Based on firm cash and in-kind commitments at April 2004. These amounts may increase as further partnership contributions are negotiated at program and project levels.
Major partnership organisations are included.
- (C) Includes the *PIERD Act* objects as detailed at Page 3 of the AOP.
- (D) As per the investment framework, the lines of investment are as follows:

Partnership programs

Provides focus to an R&D area whereby a set of partners can together fund a larger program of R&D where there are similar or overlapping interests.

Programs funded without partners

Provides an integrated set of investments, which can be highly focused on LWA-specific outcomes and priorities.

Special purpose projects

Projects that are funded outside of programs by LWA, with or without partners, that receive high priority and which are necessarily highly focused on a particular issue or innovation.

General Call for Innovative R&D Projects

With a program structure for R&D, it is likely that some very good ideas may not attract attention. The General Call does not prescribe objectives or outcomes so that good ideas are 'freely' encouraged. Calling against specific priorities may be considered.

Regional Initiatives

Effectively addresses regional issues that are common throughout Australia and provides opportunity to extend outputs from LWA to other regions.

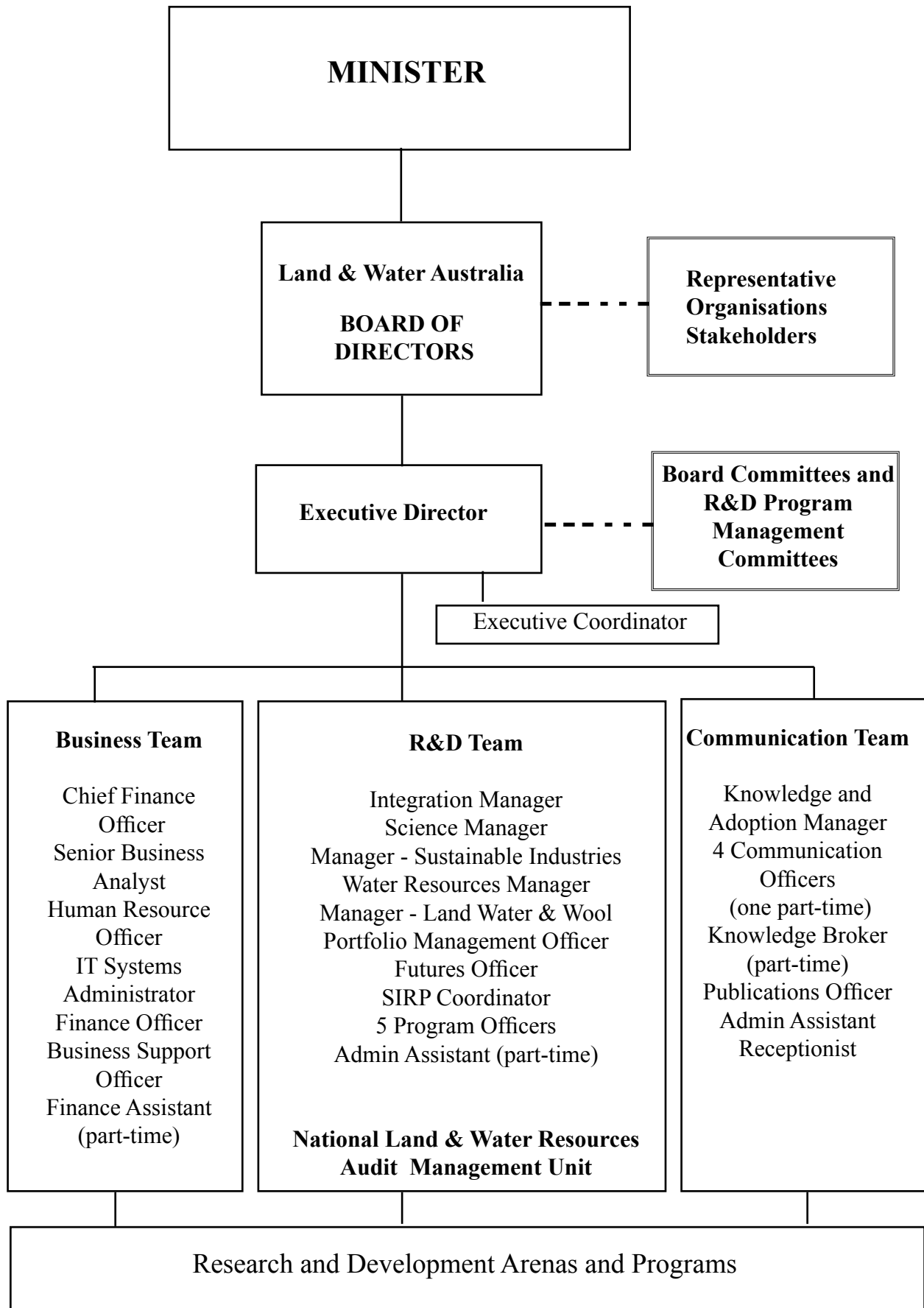
Human Capacity Building

Fellowship and Scholarship support helps to ensure a continuing supply of able researchers in NRM. This line of investment could be extended in the future to encompass funding for post-doctorates and other research capacity.

Outreach

Where LWA does not make a direct financial contribution and recovers its costs due to its expertise in managing R&D. Allows extension of LWA influence without high level of budget commitment. The Land, Water and Wool program is an example of outreach.

Appendix A: Management Structure 2004-5



Appendix B: Glossary of Terms

AgWest	Agriculture Western Australia
ANZLIC	Australia New Zealand Land Information Council
AOP	Annual Operational Plan
ARRIP	Australian Rural Research in Progress
<i>CAC Act</i>	<i>Commonwealth Authorities and Companies Act 1997</i>
COAG	Council of Australian Governments
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DAFF	Department of Agriculture, Fisheries and Forestry
DEH	Department of Environment and Heritage
FWPRDC	Forest and Wood Products R&D Corporation
GRDC	Grains R&D Corporation
LWA	Land & Water Australia
MDBC	Murray-Darling Basin Commission
MLA	Meat & Livestock Australia
NAP	National Action Plan for Salinity and Water Quality
NDSP	National Dryland Salinity R&D Program
NHT	Natural Heritage Trust
NRM	natural resource management
NWI	National Water Initiative
<i>PIERD Act</i>	<i>Primary Industries & Energy Research & Development Act 1989</i>
RAAL	Redesigning Agriculture for Australian Landscapes
R&D	Research and Development
SIRP	Social & Institutional R&D Program
SRDC	Sugar Research and Development Corporation
SWEK	Shire of Wyndham-East Kimberley
WRC	WA Waters and Rivers Commission

Appendix C:

LAND & WATER AUSTRALIA Portfolio Budget Statement

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Section 1: Overview, appropriations and budget measures summary

Overview

Land & Water Australia (LWA)⁶ is a statutory corporation established under the provisions of the Primary Industries and Energy Research and Development (*PIERD*) Act of 1989, within the Australian Government Agriculture, Fisheries and Forestry portfolio. Land & Water Australia is specifically responsible for research and development (R&D) aimed at the productive and sustainable management of the land, water and vegetation resources underpinning Australia's primary industries and regional communities.

As an Australian Government Authority, the Corporation has a particular charter to foster national collaboration in order to improve the efficiency and effectiveness of this R&D effort. The Corporation emphasises the establishment of national research programs, most of which are supported jointly by several partner organisations, which bring together resource managers and researchers to identify priorities and to ensure that research findings are adopted and implemented. The Strategic R&D Plan takes an integrated approach to program design and implementation and to the development of packages of information relevant to decision-makers.

A Board of nine Directors governs the Corporation. The Board develops policy, evaluates the Corporation's performance and creates committees/working groups to work on specific activities. The Parliamentary Secretary to the Minister for Agriculture, Fisheries and Forestry appointed incoming Directors for a three year period from 1 July 2002. The Corporation staff carry out the day-to-day work involved in establishing R&D programs and in developing, implementing, supporting, communicating and reviewing R&D work.

Appropriations and Resourcing

Total revenue for the Corporation in the 2004-05 Budget is \$25.1 million. Of this, \$12.6 million is from government appropriation and \$12.5 million from collaborative partners and other income.

Table 1.1 over shows the total revenue applicable to Land & Water Australia for 2004-05.

⁶ Formerly and legally the Land and Water Resources Research and Development Corporation

Table 1.1: Appropriations and other revenue (\$'000)*

Outcome	Monies from industry levies	Commonwealth contribution	Monies from other sources	Total revenue
Knowledge, understanding and informed debate to inspire innovation and action in sustainable natural resource management.	0	12,574	12,513	25,087

*Land & Water Australia receives a direct administered appropriation from the Australian Government.

Revenue from independent sources

As detailed at Table 1.1, the Corporation has budgeted to receive \$12.5m from other sources. These principally include receipts from independent sources. Land & Water Australia will receive collaborative funding from a range of Australian Government, state and industry groups and agencies towards collaborative R&D programs. LWA has have an activity costing policy in operation to recover costs for the management of these programs (refer Section 4).

Administered Capital and Departmental Equity Injections and Loans

Land & Water Australia will not receive any administered capital, equity injection or departmental loan during 2004-05.

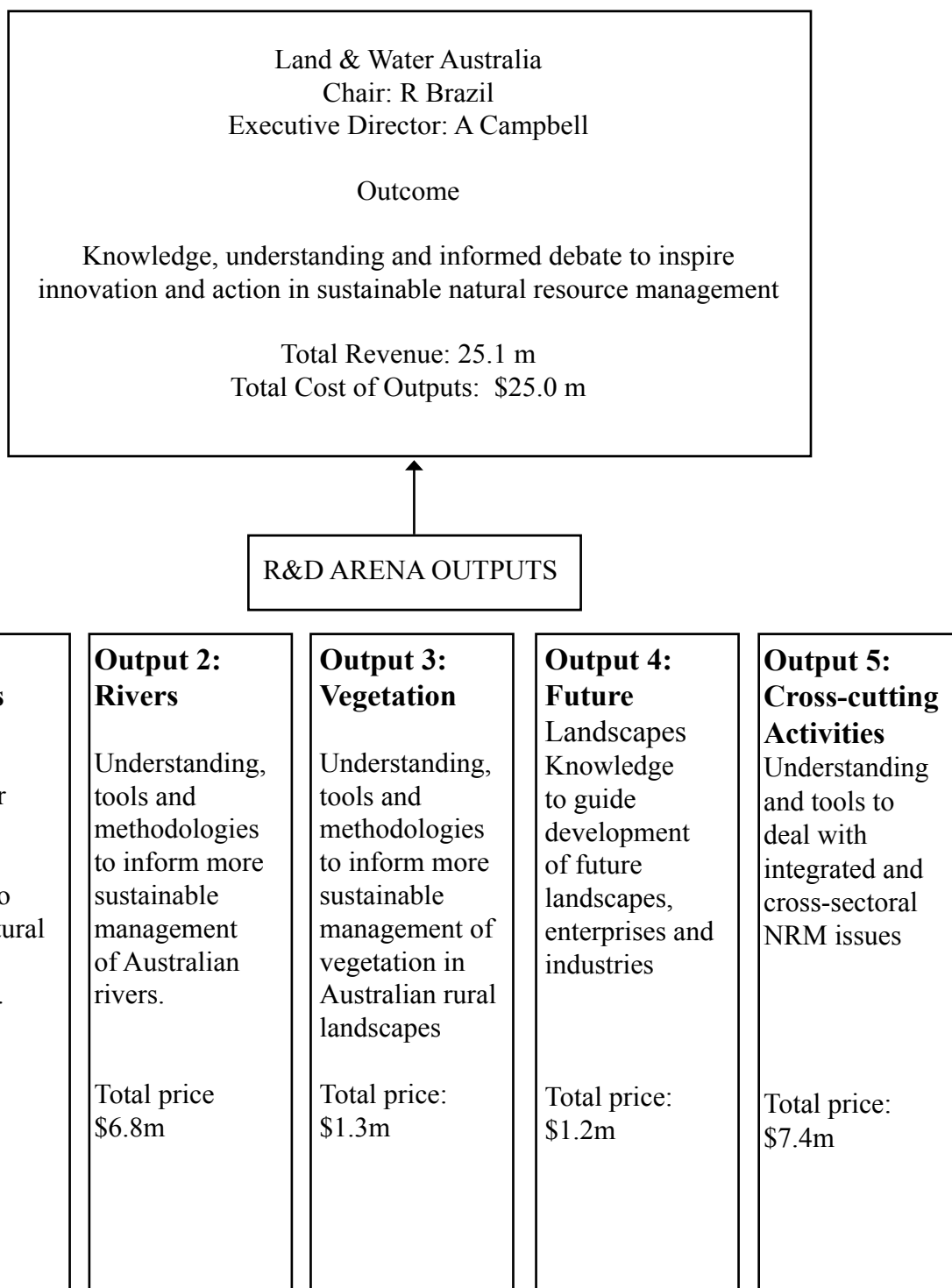
Section 2: Outcomes and outputs information

Outcome and Outputs

Land & Water Australia works towards one outcome, reflected in the Corporation’s mission statement. The total R&D investments of the Corporation across its research portfolio are directed towards this outcome.

The map below shows the relationship between the Outcome and the contributing Outputs for Land & Water Australia. Financial details for the Outcome by Outputs appears in Table 2.1 (Total Resources for Outcome) while non-financial information for the Outcome appears in Table 2.2 (Performance Information for Outcome).

Map 2.1 Outcome and Outputs



Output cost attribution

Overheads and other expenses between outputs are costed in accord with the Corporation's activity costing policy.

Changes to outcome and outputs

There were no changes to LWA's Outcomes and Outputs during 2003-04.

Outcome – Description

The outcome is as follows:

“Knowledge, understanding and informed debate to inspire innovation and action in sustainable natural resource management”

Outcome – Resourcing

Table 2.1: Total resources for LWA's Outcome (\$'000)

	Estimated Actual 2003-04 \$'000	Budget Estimate 2004-05 \$'000
Agency Resources		
Output 1 Sustainable Industries	9,048	8,286
Output 2 River Landscapes	6,567	6,814
Output 3 Vegetation	2,240	1,325
Output 4 Future Landscapes and Compatible Industries	470	1,175
Output 5 Cross-cutting activities	9,648	7,411
Total estimate resourcing for Outcome	27,973	25,011
	2003-04	2004-05
Average staffing level (number)	36	37

Outcome – Contribution of Outputs

The five outputs relate to the R&D areas of investment activities; industries, rivers, vegetation, future landscapes and cross-cutting . The performance information for outputs is at Table 2.3.

Land & Water Australia has a planning and management framework that describes the different contributions that the Corporation Board and various management units play in this process. The Strategic R&D Plan describes the various portfolio management, business and communication functions to facilitate the translation of outputs to outcomes.

The core business of the Corporation is the establishment, brokering and management of national research programs. These programs are supported by partner organisations, and aim to bring together resource managers and researchers to jointly identify priorities and ensure that research findings are adopted and implemented. Further development of these programs and their efficient management will remain core business for Land & Water Australia in 2004-05.

Table 2.2: Performance Information for Outcome

EFFECTIVENESS – OVERALL ACHIEVEMENT OF THE OUTCOME	
LEADERSHIP: To be, and be seen to be, at the forefront of Australian thinking on sustainable natural resource management.	Stakeholder feedback through surveys. The extent to which our R&D investment puts issues on the national agenda.
INFLUENCE: To maximise the impact of the Corporation's investments, at onground policy and institutional levels in improving the sustainability of natural resource management.	Application of R&D results, as measured through analyses and surveys of adoption rates. The ratio of total R&D effort in programs to the core Land & Water Australia investment.
RELEVANCE: To ensure that the Corporation targets investment to where it can make a real difference, by meeting critical natural resource policy and management needs.	The degree of alignment of Land & Water Australia-funded R&D effort with issues identified by key stakeholders and natural resource management experts as critical national priorities.. Stakeholder feedback through surveys
RETURN ON INVESTMENT: To maximise the return on public funding invested through the Corporation.	A target average of at least 10:1.average benefit:cost ratio, across the R&D and communication effort funded by the Corporation.
ACCOUNTABILITY To meet all statutory obligations and accountability requirements in a comprehensive, timely and transparent manner	Independent and internal audit reports; feedback from DAFF and ANAO; and the timeliness of compliance.

Table 2.3: Performance Information for Outputs

Program	Performance Target
Output 1 – Sustainable Industries	
Industry Partnerships	<ul style="list-style-type: none"> • Interpretation of implications of the National Land and Water Resources Audit results for at least two rural industries. • Synthesis of research results targeted towards specific primary industries. • Promotion, coordination and integration of natural resource management R&D across rural R&D corporations. • Active reporting of natural resource management R&D outputs across rural R&D corporations.
Land Water & Wool (LWW)	<ul style="list-style-type: none"> • Sustainable Grazing on Saline Land networks in WA, SA, Vic and NSW in place with grower groups undertaking activities. Research project and demonstrations sites on productive native vegetation and riparian management in place, with local field days and activities held which engage wool grower community. An advocates program creating opportunities for grower leaders in NRM to share their experience with other growers and to promote the value of LWW. • “Riparian Management Principles and Practices on Wool Growing Properties” complete and widely available. • Native Vegetation Management “Insights” publications widely available. • Tools which support on-farm strategic decision making in response to climate forecasts being tested and trialed by wool growers in the pastoral zone. • Tools for pastoral country management which match productivity gains with environmental benefits being trialed by producers. • A series of events, field days and activities which create opportunities for the wool growing community to gain knowledge on productive natural resource management held across the country. • Future scenarios for the wool industry and their implications for sustainable wool production developed and disseminated within the wool industry. • Development of the wool industries long term strategy for natural resource management underway.
Grain & Graze	<ul style="list-style-type: none"> • Research and demonstration projects underway in at least 6 National Action Plan regions that connect mixed farming systems research to catchment management targets; • Development of database and modelling frameworks that integrate Grain & Graze research activities. • Establishment of a national extension framework building on existing partner efforts, targeted towards the mixed farming sector.
Managing Climate Variability	<ul style="list-style-type: none"> • Development of improved seasonal forecasting tools for primary producers, catchment management groups and water managers. • Specific investment into applications based on improved global climate models that deliver more accurate seasonal forecasts with greater regional specificity.

Program	Performance Target
Output 2 – River Landscapes	
National Program for Sustainable Irrigation	<ul style="list-style-type: none"> • Demonstrate the economic value of irrigation to Australia. • Show the potential for reuse of urban water in the horticulture industry. • Develop the capacity for regional irrigation communities to explore and adapt to future changes to the irrigation industry. • Develop processes to better assess the potential for sustainable irrigation development in northern Australia.
National Rivers Consortium	<ul style="list-style-type: none"> • Provide regional NRM bodies with the latest knowledge to support regional river protection and restoration. • Agree on appropriate processes for protecting rivers and river reaches of high conservation value. • Provide NRM managers in northern Australia with access to the latest spatial data on land and water condition. • Develop appropriate processes to include indigenous values and water uses in water resource plans. • Train professionals in river restoration through two tertiary level courses. • Demonstrate the value of large scale river restoration projects.
Riparian Lands R&D Program	<ul style="list-style-type: none"> • Finalise research outputs on management of erosion, habitat and water quality in riparian lands. • Produce guidelines for stock management, large woody debris restoration, and appropriate width of riparian buffers. • Continue to develop industry specific best management practices for riparian lands in partnership with rural industries. • Produce an updated tool for local and regional groups to assess the strengths and weaknesses of their capacity to support river protection and restoration.
River Contaminants R&D Program	<ul style="list-style-type: none"> • Develop and apply tools for assessing the sources and management of sediment, salt and nutrients across regional catchments. • Demonstrate appropriate fertiliser application rates in a range of farming systems to maximise production and minimise downstream losses of nutrients. • Provide knowledge on the salinity tolerance of aquatic organisms.
Environmental Water Allocation	<ul style="list-style-type: none"> • Demonstrate the environmental outcomes achieved from specific environmental flow allocations • Improve the adaptive management of environmental flow allocations • Improve the knowledge of flow needs in poorly understood aquatic ecosystems.
Output 3 - Vegetation	
Native Vegetation R&D Program	<ul style="list-style-type: none"> • Synthesis products pulling together knowledge from ten years of Native Vegetation R&D • Distillation of a detailed R&D Plan for a new Native Vegetation and Biodiversity R&D Program • Partnerships with regional bodies and extension agencies to deliver knowledge from the program to its intended end users in the form they need.

Program	Performance Target
Output 4 – Future Landscapes & Compatible Industries	
Future Landscapes	<ul style="list-style-type: none"> • Scenarios for future Australian landscapes. • Research results from investigating new and emerging issues. • An occasional paper summarising the implications for natural resource management and NRM R&D from an analysis of a wide range of foresighting and scenario development work.
Output 5 – Cross-cutting Activities	
General Call	<ul style="list-style-type: none"> • Innovative R&D Projects relevant to national issues in NRM that introduce new concepts that are not well reflected in R&D through commissioned programs.
Human Capacity Building	<ul style="list-style-type: none"> • Post-graduate scholarships (mostly PhDs) that develop future research capacity in NRM. • Travelling and Visiting Fellowships that assist Australian scientists to stay at the forefront of international developments in their fields. • Community Fellowships that assist non-scientists, particularly landholders, to share their experience and insights into sustainable management of natural resources with a wider audience. • Sponsorship of the DAFF awards for young scientists. • Sponsorship of the DAFF Industry Partnerships Program to support one woman to undertake the Company Directors' Course.
Social and Institutional Research Program	<ul style="list-style-type: none"> • A high quality and accessible social and institutional knowledge base for improved NRM. • Social & Institutional Research Program outputs communicated in a variety of formats to a diverse audience. • Models for achieving best practice in NRM policy, legislation and institutions. • Targeted communication packages and new models and knowledge for extension/ adoption. • Enhanced stakeholder and partner networks for social and institutional research and collaborative activities.
National Land and Water Resources Audit Phase II	<ul style="list-style-type: none"> • Reports on trials of the monitoring and evaluation framework developed by the Australian Government /State Territory working group. • Integrated program of collection and collation of resource information including information on social and economic indicators. • Ongoing management agreements to manage national and select regional data sets in the Australian Natural Resources Data Library and Atlas. • An agreement to collaborate and provide information where required as input to the National State of Environment Report (2006). • Expansion of the coverage of thematic reports on the status of natural resources.

Evaluations

In evaluating its performance at a corporate level, the Corporation is interested not just in R&D outputs and their impacts, but the sum total of its activities in management and communication as well as R&D investment, and also how these outputs were achieved.

The Corporation's evaluation strategy assesses performance at the corporate, program and project levels. A range of projects during the 2004-05 year will provide a consistent, accurate and cost-effective reporting framework that feeds into continuous improvement in the organisation.

Section 3: Budgeted financial statements

ANALYSIS OF BUDGETED FINANCIAL STATEMENTS

Statement of Financial Performance

LWA is budgeting for a small surplus for its operating result for 2004-05. The estimated actual operating result for 2003-04 is an approved loss of \$0.726m, attributable to a business restructure undertaken during 2003-04. The restructure addressed the need for a broadening of the expertise and skills within corporate areas and followed a comprehensive review of the business functions by Ernst and Young under direction from the Board.

Total revenue in 2004-05 is estimated to be \$25.1m, a decrease of \$2.1m from the 2003-04 estimated actual. Total expenses are estimated to be \$25.0m, a decrease of \$3.0m from the 2003-04 estimated actual. The decrease in both revenue and expenses is a reflection of the timing of partnership funding from a range of Australian Government, State and industry groups and agencies towards collaborative R&D programs, and is due to the time taken to negotiate and establish these large, multi-partner initiatives.

Statement of Financial Position

LWA's 2004-05 budgeted net asset position of \$1.1m represents an increase of \$0.1m from the 2003-04 estimated actual. LWA's primary asset is cash, representing funding in advance from collaborative partners and correspondingly its primary liability is unexpended partner contributions. The other major liability is accrued employee entitlements.

Land and Water Resources Research and Development Corporation

Table 3.1: Budgeted Statement of Financial Performance for the period ended 30 June

	Estimated actual 2003-04 \$'000	Budget estimate 2004-05 \$'000	Forward estimate 2005-06 \$'000	Forward estimate 2006-07 \$'000	Forward estimate 2007-08 \$'000
Revenues from ordinary activities					
Revenue from government	12,241	12,574	12,598	12,863	13,133
Sales of goods and services	14,829	12,425	10,778	7,578	4,749
Interest	167	88	79	69	78
Dividends					
Net gains from sales of assets	10				
Other					
Total revenue from ordinary activities	27,247	25,087	23,455	20,510	17,960
Expenses from ordinary activities (excluding borrowing costs expense)					
Employees	3,944	4,063	4,007	3,503	3,643
Suppliers	4,689	3,730	3,360	2,892	1,988
Grants	19,082	16,866	15,797	13,813	12,160
Depreciation and amortisation	258	352	273	310	150
Write-down of assets					
Net losses from sales of assets					
Other					
Total expenses from ordinary activities (excluding borrowing costs expense)	27,973	25,011	23,437	20,518	17,941
Borrowing cost expense					
Net surplus or deficit from ordinary activities	-726	76	18	-8	19
Gain or loss on extraordinary items					
Net surplus or deficit	-726	76	18	-8	19
Capital use charge					
Net surplus or deficit after capital use charge	-726	76	18	-8	19

Land and Water Resources Research and Development Corporation

Table 3.2: Budgeted Statement of Financial Position as at 30 June

	Estimated actual 2003-04 \$'000	Budget estimate 2004-05 \$'000	Forward estimate 2005-06 \$'000	Forward estimate 2006-07 \$'000	Forward estimate 2007-08 \$'000
ASSETS					
Financial assets					
Cash	3,287	3,254	3,276	3,262	3,281
Receivables	984	1,282	1,071	782	821
Investments					
Accrued revenues					
Other					
Total financial assets	4,271	4,536	4,347	4,044	4,102
Non-financial assets					
Land and buildings					
Infrastructure, plant and equipment	816	544	341	101	31
Inventories					
Intangibles	91	86	66	46	16
Other					
Total non-financial assets	907	630	407	147	47
Total assets	5,178	5,166	4,754	4,191	4,149
LIABILITIES					
Debt					
Loans					
Leases					
Deposits					
Overdrafts					
Other					
Total debt	-	-	-	-	-
Provisions and payables					
Employees	902	1,011	1,088	1,167	1,248
Suppliers	388	322	309	274	257
Grants	2,545	2,009	1,684	1,309	1,190
Other	369	774	605	381	375
Total provisions and payables	4,204	4,116	3,686	3,131	3,070
Total liabilities	4,204	4,116	3,686	3,131	3,070
EQUITY					
Capital					
Reserves	115	115	115	115	115
Accumulated surpluses or deficits	859	935	953	945	964
Total equity	974	1,050	1,068	1,060	1,079
Total liabilities and equity	5,178	5,166	4,754	4,191	4,149
Current liabilities	3,817	3,682	3,219	2,630	2,534
Non-current liabilities	387	434	467	501	536
Current assets	4,271	4,536	4,347	4,044	4,102
Non-current assets	907	630	407	147	47

Land and Water Resources Research and Development Corporation**Table 3.3: Budgeted Statement of Cash Flows for the period ended 30 June**

	Estimated actual 2003-04 \$'000	Budget Estimate 2004-05 \$'000	Forward estimate 2005-06 \$'000	Forward estimate 2006-07 \$'000	Forward estimate 2007-08 \$'000
OPERATING ACTIVITIES					
Cash received					
Revenue from government	12,241	12,574	12,598	12,863	13,133
Sales of goods and services	14,829	12,425	10,778	7,578	4,749
Interest	167	70	75	70	78
Other	10				
Total cash received	27,247	25,069	23,451	20,511	17,960
Cash used					
Employees	3,944	4,063	4,007	3,503	3,643
Suppliers	4,605	3,901	3,338	2,908	2,088
Grants	19,082	16,866	15,797	13,813	12,160
Interest		-	-	-	
Other		197	237	251	
Total cash used	27,631	25,027	23,379	20,475	17,891
Net cash from operating activities	-384	42	72	36	69
INVESTING ACTIVITIES					
Cash received					
Proceeds from sales of property, plant & equipment					
Repayments of loans made					
Other					
Total cash received	-	-	-	-	-
Cash used					
Purchase of property plant & equipment	675	75	50	50	50
Loans made					
Other					
Total cash used	675	75	50	50	50
Net cash from investing activities	-675	-75	-50	-50	-50
FINANCIAL ACTIVITIES					
Cash received					
Proceeds from issuing Equity instruments					
Proceeds from debt					
Other					
Total cash received	-	-	-	-	-
Cash used					
Repayments of debt					
Capital use and dividends paid					
Other					
Total cash used	-	-	-	-	-
Net cash from financing activities	-	-	-	-	-
Net increase in cash held	-1,059	-33	22	-14	19
Cash at the beginning of the reporting period	4,346	3,287	3,254	3,276	3,262
Cash at the end of the reporting period	3,287	3,254	3,276	3,262	3,281

Land and Water Resources Research and Development Corporation

Table 3.4: Capital Budget Statement for the period ended 30 June

	Estimated actual 2003-04 \$'000	Budget Estimate 2004-05 \$'000	Forward estimate 2005-06 \$'000	Forward estimate 2006-07 \$'000	Forward estimate 2007-08 \$'000
PURCHASE OF NON-FINANCIAL ASSETS					
Funded by capital appropriations	-	-	-	-	-
Funded internally by					
Departmental resources	675	75	50	50	50

Land and Water Resources Research and Development Corporation

Table 3.5: Non-financial Assets - Summary of Movement (2004-05)

	Land \$'000	Buildings \$'000	Total land and buildings \$'000	Other infrastructure plant and equipment \$'000	Intangibles \$'000	Total \$'000
Carrying amount at the start of year			-	816	91	907
Additions			-	50	25	75
Disposals			-			-
Revaluation increments			-			-
Recoverable amount write-downs			-			-
Net transfers free of charge			-			-
Depreciation/amortisation expense			-	322	30	352
Write-off of assets			-			-
Carrying amount at the end of year	-	-	-	544	86	630
Total additions						
Self funded			-	50	25	75
Appropriations			-			-
Total	-	-	-	50	25	75

Section 4: Purchaser/Provider and Cost Recovery arrangements

Purchaser/Provider arrangements

Cross Agency Overview

Land & Water Australia is a key purchaser of natural resources R&D across a number of Australian Government, state and industry agencies. It brokers and manages a range of collaborative programs and joint projects. The Corporation appoints reputable R&D providers to deliver the specified outputs through contestable processes consistent with Australian Government policy. Since each of these arrangements are not material and do not singularly impact on the corporation in meeting its outcome, the details of each arrangement are not specified below.

Responsibility

All compliance and reporting responsibilities are detailed in an agreement between the parties.

Control arrangements

An agreement is agreed between the parties detailing the purchaser/provider arrangements including the services and outputs to be delivered and the agreed price. The Corporation has probity and accountability requirements for selection of R&D providers.

Resourcing

All resourcing implications are detailed in the agreement including agreed service charges.

Performance against outcomes of purchased outputs

These arrangements contribute to the Corporation meeting the performance of its outputs and outcomes.

Cost Recovery Arrangements

Summary of Cost Recovery Impact Statement

The Corporation has a cost recovery policy where the cost of brokering and managing R&D is spread across collaborative partners. The costs are determined in accord with the Australian Government's cost recovery policy (refer Finance Circular 2002/02 Cost Recovery by Government Agencies) and the Corporation's activity based reporting policy, based on principles of transparency, consistency and accountability. Publications to the general public are generally provided at no cost.

