



AVON INVESTMENT PLAN 2006/2008

Avon Catchment Council

March 2006

Avon Catchment Council

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SUMMARY

The Avon Investment Plan 2006/08 identifies investment opportunities totaling \$22.73m sourced from State and Australian Governments through NAPSWQ and NHT and supported by community funding for the 2006 to 2008 financial years. The basis for allocation of this investment has been drawn from the target prioritisation, asset and threat priority identification and budgeting processes developed in association with AIP 05/06.

This work alone was, however, not sufficient to enable a comprehensive two year investment plan to be developed and additional planning and development, including stakeholder and partner consultation was carried out over 4 months from December 2005 to March 2006. To improve the planning process an analysis of existing investment planning was also completed. This analysis highlighted the need to identify additional opportunities for investment in regional priorities (not funded by NAPSWQ/NHT), including research and development. These priorities have been identified by the ACC's Blue Sky Working Group and will be acted upon in the coming two years. Indigenous issues were also inadequately addressed in 2005/06 investment planning and support has been provided to a representative regional Aboriginal NRM working group to identify the Aboriginal community's NRM aspirations and priorities. This group has identified investment opportunities that have formed a new project proposal. The committee structure established to assist investment planning has also included an Investment Plan Working Group, comprising community, agency and Council representation to oversee investment planning and report to Council.

On ground investment will continue to be delivered through a series of projects and will be coordinated through four delivery programs that have been created to integrate activities across resource themes (Water, Land and Biodiversity). The programs are:

1. Integrated Water Management.
2. Sustainable Industries.
3. Natural Diversity.
4. Stakeholder Engagement and Partnership Development

The Stakeholder Engagement and Partnership Development Program has been developed for the current round of investment planning to coordinate and deliver monitoring and evaluation, stakeholder relations, indigenous NRM and building strategic partnerships, previously funded through a percentage allocation from all projects. The reporting of outputs from the previous functional management structure (funded from a percentage allocation from all projects) was considered to be limited and as such these positions have been incorporated into a single Program support project for 2006/08.

Figure S1 and Table S1 show the consistency in the percentage allocation of investment to programs and sub-programs over the life of investment planning.

Figure S1. Budget allocation summary 05/08

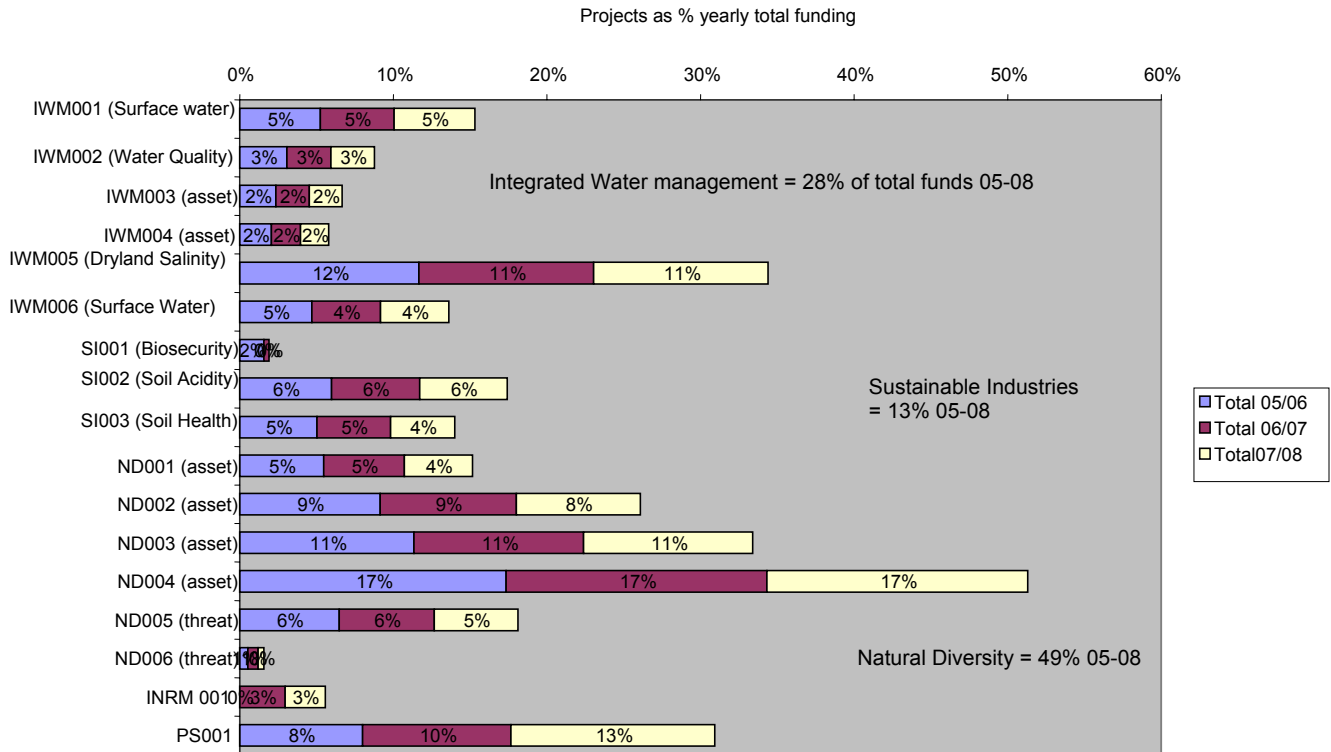


Table S1 Program budgets 05/08

Program/Sub-program & Project Name	05/06 Budget	06/07 Budget	07/08 Budget
Integrated Water Management			
Managing surface Water	\$1,489,650.00	\$1,126,472.00	\$1,028,350.00
Water Quality	\$460,000.00	\$347,900.00	\$300,520.00
Asset Management	\$664,000.00	\$491,000.00	\$421,840.00
Dryland Salinity	\$1,750,000.00	\$1,379,900.00	\$1,203,520.00
Sustainable Industries			
Biosecurity	\$235,000.00	\$40,000.00	\$0.00
Soil Acidity	\$895,050.00	\$695,940.00	\$605,055.00
Soil Health	\$753,050.00	\$582,200.00	\$443,020.00
Natural Diversity			
Threat Management	\$80,000.00	\$80,000.00	\$40,000.00
Asset Management	\$7,462,376.00	\$5,863,400.00	\$4,873,429.00
Stakeholder Engagement and Partnership Development			
Indigenous NRM	N/A	\$359,000.00	\$278,111.00
Program and Project Support	N/A	\$1,172,000.00	\$1,406,000.00
Total	\$13,789,126.00	\$12,137,812.00	\$10,599,845.00

Progress from 2005/06 investment planning has been significant and the ACC has a team of functional management and support staff that have enabled the development of ongoing programs and the effective engagement of the broader community in the Avon Region. During this period the ACC has also developed rigorous and accountable project tendering and delivery mechanisms that enable the effective provision of projects via contracted delivery organisations. As identified in AIP05/06 projects are scheduled to deliver large scale asset and threat based management via a series of phased actions. Year 1 investment (05/06) in such projects has seen significant investment in planning and resource assessment to identify assets and threats and during the 06/08 period such projects will be focusing on ground management of priority assets and threats. Figures S2 and S3 show the continuity in program scale investment since 05/06.

Figure S1 Allocation of investment per output category 06/08

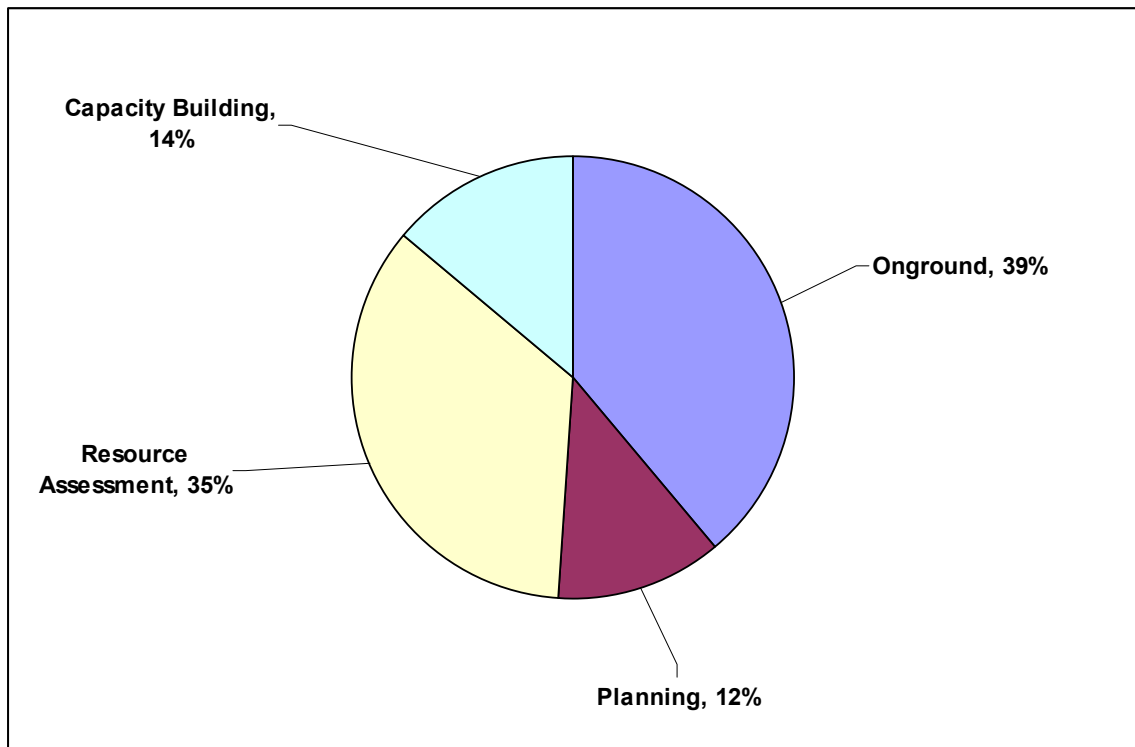


Figure S2 Allocation of investment per program area 05/06

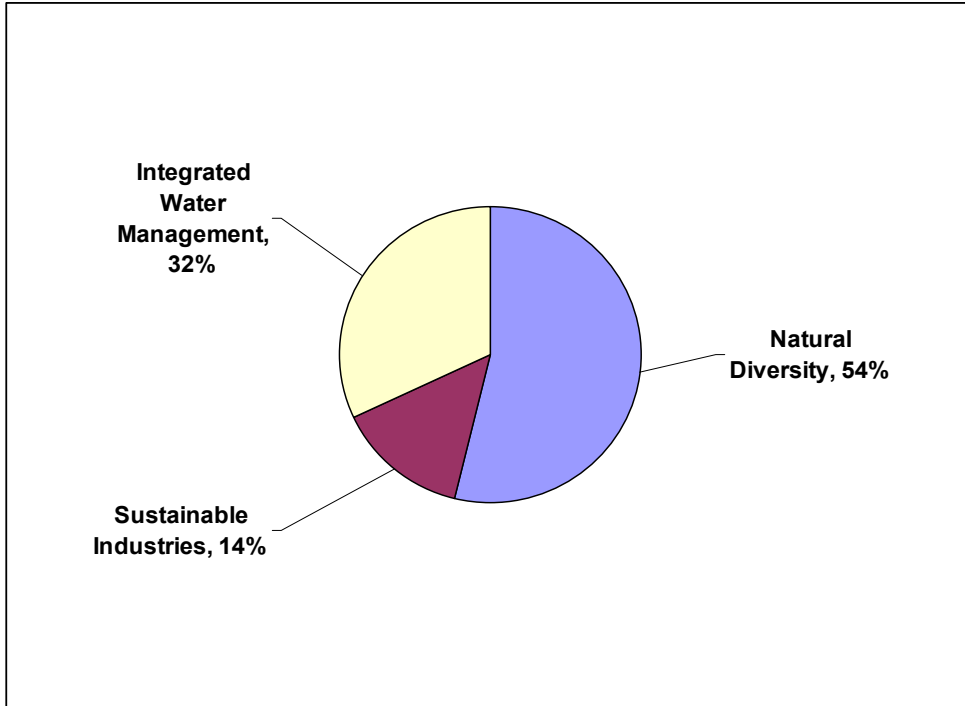
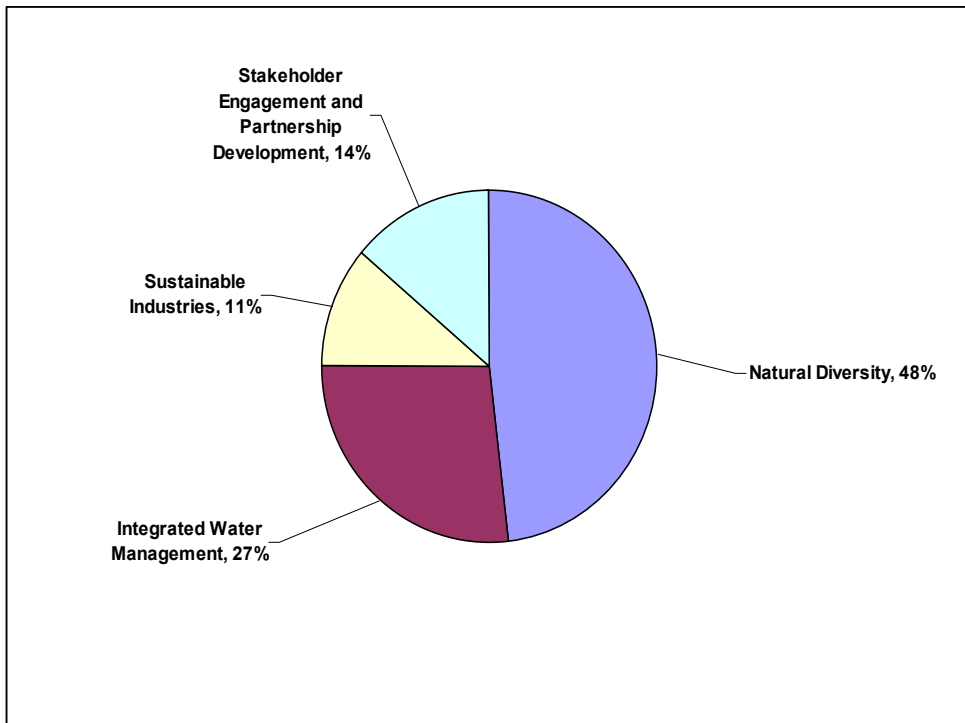


Figure S3 Allocation of investment per program area 06/08



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SECTION 1

1. INTRODUCTION

This document is the second stage of the Avon Investment Plan (AIP) and identifies investment opportunities for the 2006/08 financial years. The investment planning process has involved reviewing and building upon AIP 05/06 planning, including the utilisation of the prioritisation process for 20 year Targets and Management Action Targets (MATs) drawn from the Regional NRM Strategy and identification of priority asset classes and threats. Additionally, investment opportunities for research and development (not funded by NAPSWQ and NHT) and Indigenous NRM have been identified. To guide this process the ACC has carried out a review of AIP05/06 and established a committee structure with membership drawn from community, agencies, industry and non-government organisations.

The budget allocation process associated with investment planning has applied principles that ensure adequate funding for both asset and threat management, although the primary focus for this phase of investment planning is asset management. Delivery programs reflect this priority and detailed project schedules have been developed to identify specific points of investment. A total of \$22.73m sourced from NHT and NAPSWQ has been allocated across four delivery programs that now include support for Indigenous NRM and functional management activities. No strategic reserve funds have been identified, however, the Stakeholder Engagement and Partnership Development Program does have an identified cross program contingency budget.

The Avon Catchment Council (ACC) has in place, as a result of AIP 05/06, a well developed program and project management support and delivery structure, including contracts with a series of government (local and state), non government and private organisations to deliver projects on the ground and significant progress has been achieved towards completion of the priorities identified in AIP 05/06. Due to the scale, timing and complexity of existing projects many have been identified for extension over the coming two financial years and this will ensure that priority assets and threats are managed effectively for long term resource condition change.

The ACC has also recognised ongoing project activities and commitments to Australian, State and Local Governments and agreements already in place with the Swan Catchment Council (SCC) and has further developed program activities to reflect value for money in investment by not replicating regional NRM activities.

The plan is presented in two sections. Section 1 provides an overview of the planning process and Section 2 details program and project investment.

2. REVIEW OF AIP 05/06

A consultative review process was carried out to identify the strengths and weaknesses of AIP 05-06 and opportunities for improvement of the planning process. A total of 12 regional stakeholder groups and partners were interviewed and the issues below were highlighted by interviewees:

1. Develop agreed aims for AIP2.
2. Maintain agreed (internal) group process within the NRM Program Committee (NRMPC) or its equivalent.
3. Confirm agreed (external) process with Commonwealth and State partners.
4. Build capacity of NRMPC and members.
5. Develop stronger focus on social issues.
6. Develop a structured promotion plan.
7. Look for alternative funding opportunities.

Table 2.1 summarises issues raised and responses

Table 2.1 ACC responses to review issues

Issue	ACC Response	Outcomes
1. Develop agreed aims for AIP2	Focus on investment planning from a program delivery context rather than a prioritisation of actions context.	<ul style="list-style-type: none"> ✓ Continued activities from AIP 05-06 identified. ✓ MATs not addressed identified and responded to. ✓ Process enabled program aims to be identified easily and project development to meet such aims.
2. Maintain agreed (internal) group process within NRMPC or its equivalent	Creation of an Investment Planning Working Group (IPWG). Functions included: <ol style="list-style-type: none"> 1. To assist in prioritising and implementing actions resulting from review of AIP 2005-06. 2. To review and provide feedback and recommendations regarding key actions proposed for the development of AIP 2006-08. 3. To provide a link between regional partner organisations and their activities and proposed AIP 2006-08 actions. 4. To provide a technical feasibility review of proposed AIP 2006-08 actions. 	<ul style="list-style-type: none"> ✓ Continuation of NRMPC concept. ✓ Better defined and smaller group created to ensure a streamlined and effective planning process.
3. Confirm agreed (external) process with Commonwealth and State partners	Australian Government representatives invited to participate in planning process. Investment Plan guidelines delivered by State NRM Office in December	<ul style="list-style-type: none"> ✓ Attendance and participation by Neil Riches, Mike Grazby and Tony Cory from the Australian Government at

	2005 and followed by ACC.	<p>IPWG meetings and guidance in plan development.</p> <ul style="list-style-type: none"> ✓ Plan development followed guidelines.
4. Build capacity of NRMPCC and members.	AIP 05-06 was developed primarily with support and guidance from the NRMPCC. The operational structure within the ACC in 2006 is such that Council staff have the capacity to lead much of the investment planning process. As such the revised working group composition was developed with a technical and program planning focus.	<p>Membership of the IPWG has a technical and program plan focus and comprises:</p> <ul style="list-style-type: none"> ✓ ACC Chair or nominee (to also chair the Working Group) ✓ 1x Department of Agriculture WA representative ✓ 1x Department of CALM representative ✓ 1x Department of Environment Representative ✓ 1x NGO Representative — ✓ 1 x Council community representative (preferably indigenous representation). ✓ 1x Council local government representative. ✓ ACC Program Manager ✓ ACC CEO
5. Develop stronger focus on social issues.	Direct input in project development by the Ballardong (Noongar) Working Group. There has also been targeted engagement of stakeholders in AIP 06-08 development process e.g. local government and NRM Officers.	<ul style="list-style-type: none"> ✓ Aboriginal projects submitted and incorporated into Plan. ✓ Utilisation of feedback from key stakeholders regarding regionally significant projects.
6. Develop a structured promotion plan.	Appointment of Marketing and Communications Officer.	<ul style="list-style-type: none"> ✓ Regular stakeholder updates on progress, including email updates, press releases and ACC newsletters. ✓ AIP promotion incorporated into marketing and communications plan.
7. Look for alternative funding opportunities.	Development of Blue Sky and INRM working groups.	<ul style="list-style-type: none"> ✓ Completion of an R&D appendix and INRM projects

3. LINKAGES

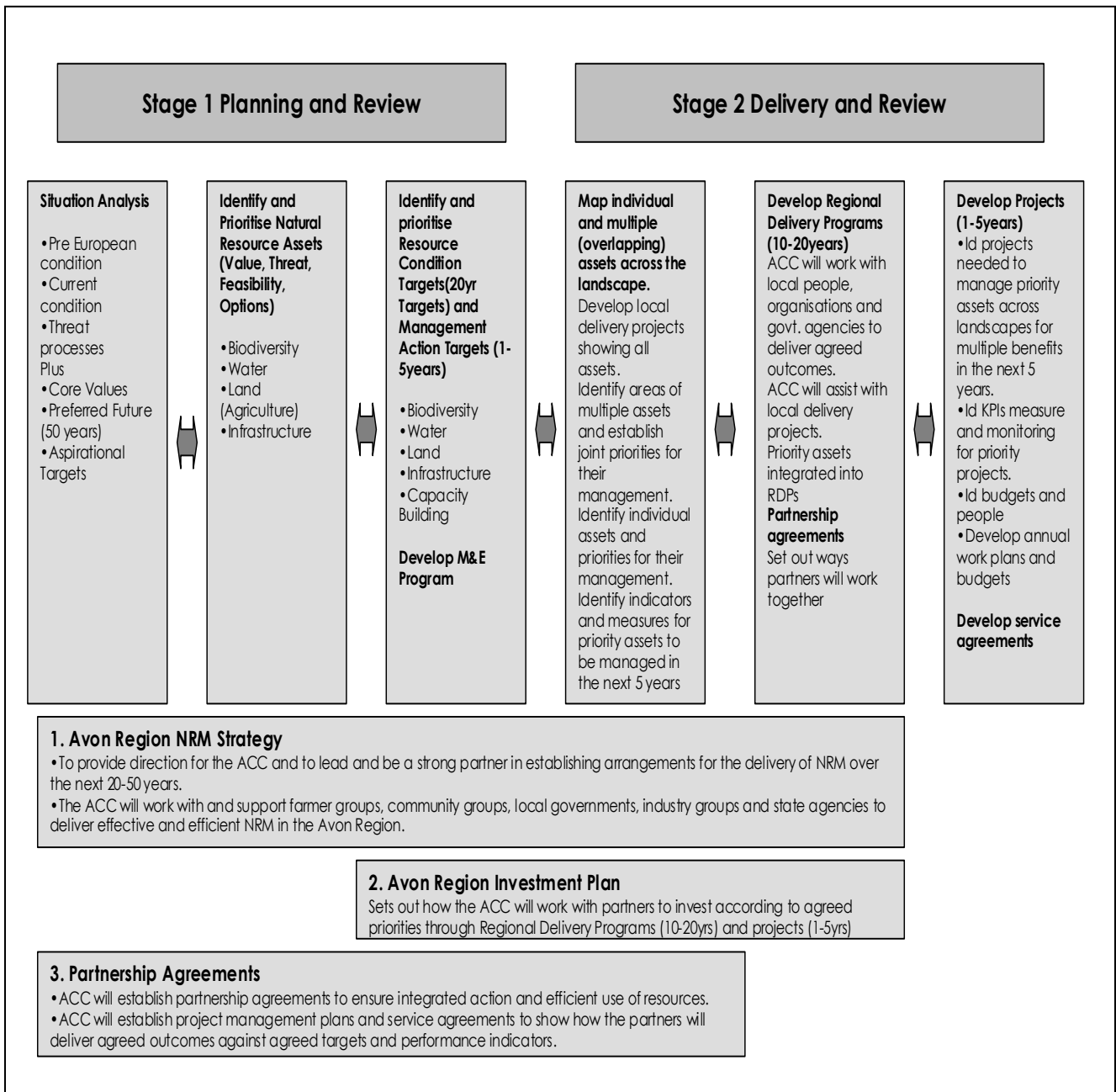
3.1 *Linkages to Regional NRM Strategy*

The intention of the ACC is to link resource condition targets (20 year Targets), MATs and MAs, described in the Regional NRM Strategy directly to investment planning. The investment priority is the 3-5 year MAT level. For AIP 05/06 a detailed prioritisation process of both 20 year Targets and MATs was carried out, to enable a realistic and achievable investment plan to be developed. The process also utilised the prioritisation methodology outlined in the NRM Strategy. These principles and the outcomes of the prioritisation process have been carried forward into the current round of investment planning.

Figure 3.1 describes the strategy and investment plan development process, as outlined in the Regional Strategy document. Since the commencement of AIP05/06 significant progress has been achieved in regards to all planning and development stages outlined in figure 3.1 in particular:

- The partnership development component has been further enhanced with the roll out of AIP 05/06 projects and the development of AIP 06/08 projects. Leverage opportunities have identified several new potential partners and the project delivery process has facilitated the formation of regional delivery alliances.
- Assets have been better identified as a result of project level investment and on going project delivery in the next two financial years will see investment targeted to managing such assets.
- Regional delivery programs have been developed and refined and the ACC is seeking continued support to manage and improve such structures.
- Projects are well scoped and developed, as a result of the involvement of a greater range of stakeholders in the strategic planning and project delivery activities, including regional Aboriginal groups and Local Government.

Figure 3.1 Strategic and investment planning



3.2 Linkages to AIP 05/06

The planning and prioritisation principles developed in support of AIP 05/06 have been applied in the decision making process for the development of AIP 06/08. The key areas of continuity are:

- Utilisation of the RCT and MAT prioritisation process.
- Application of the two stream focus of investment and the 60:40 budget allocation split i.e. asset and threat management.
- Program groupings of projects into three (revised to four) delivery programs.
- Support for functional and management roles.
- Formation of a working group to oversee the review and prioritisation process for AIP 06/08 development.

These processes are described in detail in section 4.

The program/sub-program/project structure used in AIP 05/06 has been maintained for the current round of investment planning. This structure follows a logical sequence of identifying and prioritising actions at the program level, grouping of like activities into a series of sub programs and then describing specific actions and points of investment at the project level. Additionally a new delivery program (Stakeholder Engagement and Partnership Development), incorporating 2 new projects, has been developed to enable better engagement of Aboriginal people in NRM and to provide functional support to projects and programs. This program builds on the work carried out for the Capacity Building Program proposed in early planning for AIP 05/06 and the strategic Indigenous NRM document developed by the Ballardong NRM Working Group (see appendix).

AIP 05/06 projects had a significant planning and resource assessment process described, to enable asset and threat identification. The logical sequence of project implementation has enabled these projects to be moved to an on ground (including significant resource assessment) delivery focus for the 06/08 period.

3.3 NAP regional linkages

The allocation of NAP boundaries has necessitated that the Swan Catchment Council (SCC) and the ACC maintain a Memorandum of Understanding for the management of salinity and water quality issues for the Avon-Upper Swan region. Table 3.1 outlines the areas of agreement between both Councils for the allocation of NAP investment in this location.

Table 3.1 NAP agreements ACC/SCC

IWM001 - Avon River Waterway Management Project - Relevant MATs	Agreed Commitment – SCC and ACC
W1 MAT 11.1 Areas of high risk nutrient loss in the Avon Arc and Mortlock River System are identified and mapped by 2007	SCC have nutrient snapshot for Ellenbrook already – can be linked to ACC project
W2MAT7.3 Fencing 200km of priority sections of major tributaries is complete by 2009	Coordination for this activity for the Wooroloo Brook area.

W1 MAT 11.7 10 sites demonstrating best practice response options to manage water quality for salinity for high priority risk areas in the riparian zone and floodplain are implemented by 2008	The Upper Swan should be considered for one of the demonstration sites in the Brockman, refer to current sites in Wooroloo – priority for yrs 2-3.
IWM002 - Groundwater source identification, assessment and monitoring- Relevant MATs	Agreed Commitment – SCC and ACC
W4 MAT V111.1 A regional groundwater monitoring strategy for the Avon River Basin is developed and being implemented by 2007	Project IWM 002 to deliver to the upper Swan Region-area covered to be negotiated.
L2 MAT V111.1 Benchmark groundwater levels and quality consistent with national Land and water Resource Audit standards by 2008	The Upper Swan should be included in this project. —
W4 MAT 111.3 A report that reviews engineering options for groundwater management and provides 'best practice' guidelines relevant to the region by 2008	Include the Upper Swan in this project
L2 MAT V1.2 Basin wide extension program ensures 80% of land managers have an understanding of the benefits and impacts of the application of alternative water management techniques and a systems based approach by 2009	To be coordinated with Steven Lloyd and Rosannah Hindmarsh for roll out in Upper Swan.
IWM005 - Salinity Management- Relevant MATs	Agreed Commitment – SCC and ACC
L2 MAT 11.1 High risk groundwater recharge landscape zones identified for all shires, linked to priority assets by 2009	Include the Upper Swan in this project – part of risk assessment.
W4 MAT 11.2 A report on the extent of acid groundwater within the Avon River Basin and the potential risk it poses due to groundwater rise and as a result of engineering options based on existing groundwater monitoring information is prepared by 2006	SCC to be involved in ongoing discussions
L2 MAT V11.4 more than 10,000Ha of commercial tree crops are established in areas where groundwater control benefits will occur by 2009	Include Upper Swan in this project – extension component in the Chittering area.
W4 MAT V11.4 Commercial tree crops are established on more than 10,000 Ha of additional suitable land where there will be	As above.

groundwater control benefits by 2009	
ND003 - Healthy Ecosystems- Relevant MATs	Agreed Commitment – SCC and ACC
W2MAT1.1 Foreshore and channel assessment surveys are complete for 13 major tributaries within the "Avon Arc" and Mortlock River System by 2009.	Foreshore assessment currently being carried out in Swan by DoE – Ellenbrook and Brockman complete – to extend foreshore surveys in yrs 2-3 to other tributaries in Upper Swan.
W2MAT5.1 Management Action Plans to be prepared for 13 priority sections within tributaries in consultation with local communities in the "Avon Arc" and Mortlock River System by 2009.	Technical support only provided by ACC via IWM001

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4. INVESTMENT PLAN DEVELOPMENT

4.1 Planning process overview

A large investment in time and resources was made for the development of AIP 05/06, particularly in the creation and support of a series of working groups and committees to guide plan development. The ACC has utilised this work to assist in designing AIP 06/08 and an overview of the process for development of AIP 06/08 is shown in table 4.1.

Table 4.1 AIP 06/08 development timetable

Action	Timing	Outcomes
MAT Review: 1. Review of MATs addressed in current IP. 2. Ongoing priority MATs- carrying over to AIPv2.	Dec 05	<ul style="list-style-type: none"> List of prioritised MATs for AIP 2. Identification of MATs to be revised Identification of process for ongoing review of MATs
AIP 05/06 Review •Strengths/weakness/gaps/opportunities id.	Jan 06	Identified priority actions list
AIP2 contents description: 1. Document outline. 2. Project Structure	Jan 06	<ul style="list-style-type: none"> Contents page Project structure developed.
AIP 2 Project development: 1. Review of existing projects and ongoing actions. 2. Mapping and gap fill exercise – existing regional projects (other organisations) 3. Discussion with stakeholders and partners regarding ongoing actions – including addressing MATs. 4. Discussion with ACC staff regarding project development – based on opportunities identified in review and prioritisation of MATs. 5. Discussion with Ballardong WG re: project concepts 6. Discussion with IPWG regarding project descriptions, MAT priorities and indicative budget allocations. 7. Discussion with LGA and CLC reps (+ other stakeholders) regarding project development. 8. Application of program logic framework to project pro forma development. 9. Presentation to Council of Project summaries and allocations.	Jan –Feb 06 22 Dec 05 26 Jan 06 27 Jan 06 23 Jan 06 Feb 06 17 Feb 06 17Feb 06 24 Feb 06	<ul style="list-style-type: none"> Ongoing project actions identified. New projects identified. Council sign off on projects.
M&E component developed Identification of draft M&E framework for all AIP2 projects and program logic framework for project M&E.	26 Jan 06	<ul style="list-style-type: none"> Description of program scale M&E framework. Description of project scale M&E framework.
R&D appendix development • Project and funding source identification and actions.	19 Jan 06	R&D component of AIP 2 developed and project concepts developed.
Document production	Feb/Mar 06	Draft document presented to Council for review – 24 Feb 06 and final 4 Mar 06.

Development of AIP 06/08 included the following actions, developed as a result of the review of AIP05/06 planning processes:

- Implementing a process of review for AIP05/06 (described in section 2).
- Completion of regional and cross regional project gap analysis and mapping.
- Utilisation of ACC functional management positions in the development of project concepts and monitoring and evaluation activities associated with projects.
- A program development focus to investment planning.
- Creation of a single, representative, Avon Investment Plan Working Group.
- Creation of a Blue Sky research and development working group to assist in identifying projects for other than NAPSWQ or NHT investment.
- Linking project development to the Ballardong NRM Working Group to ensure Aboriginal community representation in investment planning.

4.2 Gap analysis - value for money investment

In order to determine the value of regional investment in NRM the ACC “mapped” regional and cross regional NRM projects, delivered by a number of NRM focused organisations. This analysis revealed that there are limited opportunities for the ACC to fill NRM project gaps within the region. Of the twenty aligned projects identified, only six are considered to not contribute to priority regional NRM actions. The remaining projects are generally considered complimentary to the ACC’s strategic objectives. There were no projects identified that duplicate actions being carried out by the ACC in current and proposed investment planning. A summary of the results of this analysis is outlined in table 4.2.

Table 4.2 Non-ACC projects aligning with AIP05/06

Integrated Water Management - sub-programs & projects	Aligned projects	Organisation	Overlap AIP Actions	Linkages
Dryland salinity				
Engineering options review	Engineering evaluation initiative	DoE	√	Linked to IWM 005 and ACC representation on steering committees.
Deep rooted perennial establishment	Farming Systems Project Native plants rainfall use Sustainable Grazing on Saltland Salinity Mgmt/NRM – Hydrological impacts of integrated oil mallee farming systems	DAWA UWA-CRC SGSL DAWA	√ x √ x	Extension information derived from farming systems utilised in IWM 005
Managing surface water				
Avon River waterway management – nutrient management & monitoring;	Avon waterways on-ground work Hydrographic team - Avon region hydrographic network CDI & EEI	DoE DoE	√ x	DoE extension team linked top IWM001

	contributions			
Water management and self sufficiency – development of water plans, training for farm water planning	Farm water planner’s accreditation course.	DoE and DAWA	√	IWM 006 reviewing training and linking to existing courses.
Water quality	Aligned projects	Organisation	Overlap AIP Actions	Linkages
Protection of community assets – water management plans for Wheatbelt towns	Land Use Planning Rural Towns – Liquid Assets	DoE DAWA	× √	IWM003 support for the Rural Towns program.
Sustainable Industries - sub-programs	Aligned projects	Organisation	Overlap AIP Actions	Linkages
Biosecurity (problem animal and plant pests) – development of management strategies.	Coordination of protection and eradication programs and emergency response.	DAWA and CALM	√	SI001 utilisation of existing information and process and technical support from agencies.
Soil health – Increased awareness of soil fertility; Landscape-scale demonstrations	Precision Agriculture Systems – impact on zone management, soil health and surface water management Biodiversity in Grain & Graze Soil-landscape mapping of the Eastern Wheatbelt using enhanced soil resource assessment methods	Corrigin FIG-Grower Group Alliance DAWA	× √ √	SI002 and SI003 utilising soil mapping. ND004, ND005, SI002, SI003, IWM005 and IWM006 linked to biodiversity component of Grain and Graze
Natural diversity - sub-programs & projects:	Aligned projects	Organisation	Overlap AIP Actions	Linkages
Saving native species and communities at risk - Action based training; Conservation plans & actions; Monitoring sites.	Translocation sites for Rare Plants National Threatened Species Network	Corrigin LCDC, CALM, Kings Park WWF	√ √	Contribution of data to ND001 and ND002
Healthy ecosystems – Identification of priority aquatic ecosystems; Landholder training; Protection and	Landscape Scale – Lake Bryde Tarin Rock Representative Landscape Landscape Scale – Lake	CALM CALM CALM	√ √ √	Survey process information and site characterisation

improvement of ecosystems; Improving condition of river pools; Identification of threatening processes for tributaries; Revegetation	Drummond NatureMap – Lake Drummond	CALM	√	n contribute to ND001 and ND004
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Table 4.3 Non ACC projects – generic contribution to sub-programs of AIP

Water based projects	
Proponent	Project
Department of Environment	Support for Salinity Projects
Department of Environment	WRC Avon Waterways Assessment & Planning
Department of Environment	Avon Salinity & Drainage Assessment Program
Department of Environment	NRM for the Avon River Basin
Department of Environment	Avon Waterways Committee
Department of Environment	Avon Pollution Licensing
NEWROC/WDC	Productive utilisation of saline water resources
Department of Agriculture	Benchmarking water management techniques
Department of Agriculture	Assessing the adoption of water management techniques
Soil-based projects	
Proponent	Project
Saltland Pastures Association	SPA Communications
Saltland Pastures Association	SPA Monitoring and Evaluation (State-wide)
Saltland Pastures Association	SPA Community Support Network (State-wide)
CRC for Salinity; Landmark	CRC Salinity Landmark project - Promoting salinity solutions through Agribusiness.
Natural diversity projects	
Proponent	Project
CALM	Managing threats to populations
CALM	Managing threats to remnant habitats (Reserves)
Capacity building and other projects	
Proponent	Project
Department of Environment	Avon Waterways Community Group Support
Department of Environment	Tidy Towns Program
Department of Agriculture	NRM Extension and Communication
Department of Agriculture	Coordination of skills development and training for NHT2 state and regional personnel (State-wide)
Grower Group Alliance	GGA NLP project. Threats to sustainable production at the farm business level with known and emerging management options to deal with these threats documented from current research
Department of Agriculture	Central Agricultural Region (CAR) Natural Resource Management Program
Wheatbelt Development Commission	Bio-fuels Reference Group
Wheatbelt Development Commission	Bio-diesel development in the Wheatbelt region
Wheatbelt Development Commission	Regional Indigenous Tour Operator
Wheatbelt Development Commission	The 'K' Place – Kellerberrin Indigenous Regional Arts and Cultural Centre

Program gaps identified have been addressed in two ways:

1. Adaptation of continuing projects to incorporate gaps in NRM project activities that meet regional NRM priorities.
2. Development of new projects.

Additionally the ACC has recognised, through extensive community consultation, the need to address the following priority regional issues:

- Better engagement of the Aboriginal community in NRM decision making and project delivery.
- Increased recognition of the role of engineering options for salinity management.
- Better involvement of Local Government in project delivery and decision making processes.

The response to these gaps and opportunities is described in table 4.4 and further detail can be found in the program and project schedules in section 7.

Table 4.4 Planning responses – regional priority issues

Gap/opportunity	ACC Program Planning Response
Native plant establishment for water use and industry development	Establishment of a technical support activity for native plant industry development in project IWM 005.
Land use planning for asset protection	Identification of high risk zones for salinity in project IWM 005.
Precision Agriculture	N/A but ACC is the proponent for the CFGP NLP precision agriculture project.
Aboriginal involvement in NRM	Support for the development of a regional Indigenous NRM group (Ballardong Working Group) and the completion of an Aboriginal NRM Strategy document. Project INRM 001 developed based on priorities identified by the Ballardong Group.
Engineering options for salinity management (see deep drainage statement below)	Significant engineering component in project IWM 005 , addressing issues identified in regional strategic planning and linked to asset management i.e. effective treatment of deep drainage discharge water, on ground demonstration of drainage techniques linked to salt lake systems, drainage governance and the role of state and local government. Ongoing engagement of regional drainage groups via ACC sub-committees and with executive support provided (funded by IWM 005). Funding also provided for pre feasibility assessments of large scale arterial drainage projects. See the project schedule for project IWM 005 for more detail.
Increased Local Government Involvement in NRM	Priority focus for LGA engagement in project PS001 in 2006-2008.

Deep Drainage

The ACC’s involvement in the regional drainage debate has guided the Council’s approach to this issue. These discussions have highlighted that several steps need to be taken in the coming two years to ensure that any investment in drainage is targeted, effective and not detrimental to the environment. In particular the outcomes of both the EEI and CDI process will help identify practical drainage methodologies, landscape

specific application of drainage and the feasibility of many of the options currently being debated. This will provide a clear picture of the role and function of drainage and its effectiveness in managing salinity and waterlogging. The discussion has also highlighted the need for a common understanding of the governance issues relating to drainage and for regional stakeholder views to be represented in this dialogue. These issues are primarily addressed through Project IWM 005, however, drainage is utilised as an option for managing salinity in a number of Integrated Water Management and Natural Diversity projects. Project IWM 005 is addressing deep drainage by:

- Landscape scale demonstration of deep drainage at Naremben, in conjunction with development of a governance processes with three local governments, this includes cost sharing arrangements for the long term maintenance of such structures and an examination of the true costs of the delivery of such options. This activity has a budget of \$250,000 for 2 years.
- Reviewing the capacity of regional wetland assets to accept drainage discharge (classification carried out via ND001).
- Working with EEL delivery organisations in 2006 and 2007 to review and develop methods for the effective treatment of acid drainage water. This activity has a budget of \$669000.
- Identifying priority landscapes, through salinity risk assessment that may be suitable for drains. This activity has a budget of \$20,000 annually.
- Supporting pre feasibility assessments for regional drainage management groups to assist in determining the suitability of drainage options for specific sites. This activity has a budget of \$20,000 annually.
- Supporting the input of regional drainage management groups to ongoing priority identification in regards to deep drainage with the Region. This activity has a budget of \$20,000 annually.

Additionally the following Natural Diversity projects address engineering options from an asset management and systems approach:

- Project ND001 will examine the capacity of regional lake systems to accept drainage discharge.
- Project ND004 will demonstrate the role and function of drainage at a landscape scale as part of integrated management systems (incorporating commercial tree crops and native vegetation establishment).

4.3 Program development

The ACC's internal management structure comprises technical and program delivery staff capable of developing program activities. This team structure greatly assisted the review of priorities for AIP 06/08, enabling the Investment Plan Working Group to review and make investment recommendations to Council based on a considerable amount of preliminary program development information. The work carried out by the ACC's functional management staff obviated the need for a supporting working group structure based on program themes, as was implemented for AIP 05/06. The actions completed by the functional management team included:

- Holding discussions with relevant stakeholders and partners regarding ongoing project delivery.
- Contributing project concepts developed from discussions with community groups and Local Government within the Region.

- Development of continuing project outlines, including identification of priority MATs addressed, project activities and outcomes, budgets and linkages to state, national and regional priorities.

These activities were completed over a three month period from December 2005 to February 2006 and provided detailed program level planning information to assist the Investment Plan Working Group prioritise project actions.

The ACC also took the opportunity over this development period to expand the program structure described in AIP05/06 and programs and sub-programs are shown in table 4.5.

Table 4.5 ACC programs/sub-programs

1. Integrated Water Management Program
<p><i>Sub-programs:</i></p> <ol style="list-style-type: none"> 1. Managing surface water (farm water planning and maintaining environmental flows). 2. Water quality (nutrient, sediment and wastewater management (mining, urban and agricultural)). 3. Dryland salinity (managing watertables in upper and middle catchments, valley floors). 4. Asset management (groundwater aquifers, roads at risk, rural towns)
2. Sustainable Industries Program
<p><i>Sub-programs:</i></p> <ol style="list-style-type: none"> 1. Biosecurity (problem animal and plant pests). 2. Soil acidity (management of soil pH in agricultural systems). 3. Soil health.
3. Natural Diversity Program
<p><i>Sub-programs:</i></p> <ol style="list-style-type: none"> 1. Biodiversity threat management (fire and fragmentation). 2. Asset management (river pools, tributaries, native species, cultural and heritage values natural ecological communities, ecosystems, landscapes/ecoscapes).
4. Stakeholder Engagement and Partnership Development
<p><i>Sub-programs:</i></p> <ol style="list-style-type: none"> 1. Indigenous NRM. 2. Program and project support.

The allocation of targets to the Stakeholder Engagement and Partnership Development Program was carried out during the current planning period and Indigenous NRM priorities were taken from the Ballardong Healthy Country-Healthy People strategy (see appendix). The identification of targets associated with this sub-program needs further development and this will be carried out over the next 2-3 months.

The program and project support sub-program delivers against all program targets, as it has a focus on assisting all programs achieve their objectives via coordinated support and partnership development.

The underlying principles associated with development of the agreed delivery program structure are:

- programs are closely aligned to Regional Delivery Program groupings, as outlined in the Strategy;
- water threat issues are grouped, as this is the context they can be effectively managed in;
- problem plant and animal pests, including those impacting on biodiversity are grouped together and are managed by Sustainable Industries; and
- in regards to water assets, there is a focus on managing not just water resources but the biodiversity values associated with such assets and consequently they have been grouped under Natural Diversity.

Ongoing capacity to manage and link programs will be the responsibility of project managers with support from functional delivery managers. To accommodate this, the ACC has identified a specific project activity that coordinates these actions. Project PS001 describes the activities associated with program support and details of this project are shown in section 7.

4.4 Program planning

As result of the prioritisation of threats, assets, RCTs and MATs carried out for AIP 05/06 the ACC's Investment Plan Working Group prioritised investment based on program and project level review. Project proposals (new and continuing), developed through consultation with partners and stakeholders, coordinated by ACC functional management staff, were presented to the Investment Plan Working Group and each proposal identified the following:

1. MATs that require ongoing investment to enable completion.
2. MATs that were identified through the prioritisation process for AIP 05/06 for years 2-3 of investment per project.
3. Budget estimations for project concepts based on review of the actions completed for investment to date.
4. MATs that are not being addressed and MATs that require significant review based on the achievements of 05/06 investment.

The basic principles that underlie this assessment by the ACC are described in AIP 05/06 and have been carried forward to current investment planning. These principles are described following.

4.4.1 Threat and public asset management

Two points of investment have been identified from 20 year Targets and MATs:

1. Threat management.
2. Public asset management.

Following SIF principles, public assets have the greatest value in terms of investment of public dollars. Therefore, public assets that are threatened have been allocated the majority of funding for the current investment planning phase.

The ACC considered the imminent nature of the threat, its current and potential severity and the extent of its impact, when applying the criteria outlined. The results of this prioritisation process are shown in table 4.6.

Table 4.6 Threat prioritisation

Resource themes Threats	Land	Water	Biodiversity	Total
Salinity	2	3	3	8
Waterlogging	1	1	2	4
Water erosion	2	1	1	4
Soil acidity	3	0	0	3
Altered water regimes	1	3	1	5
Sub-surface compaction	2	1	— 0	3
Soil fertility	3	0	0	3
Land use pressure	1	1	1	3
Biosecurity	3	2	2	7
Disease	3	1	2	6
Inappropriate fire	1	2	3	6
Fragmentation	0	1	3	4

The shaded areas in table 4.6 identify the five priority threats, which are:

- Salinity, incorporating all dryland salinity processes, seepage, valley floor salinity and groundwater rise.
- Water quality (altered water regimes), including nutrient loss, water quality issues, eutrophication and acid water.
- Surface water (altered water regimes), incorporating increased surface water run off.
- Biosecurity, incorporating feral animals, weeds, exotic and endemic diseases e.g. phytophthora.
- Inappropriate fire regimes, which are a significant threat to natural diversity, water quality and land assets if not managed appropriately and this is considered a major issue for local government.
- Soil acidity.
- Fragmentation, which has resulted from broad scale clearing and creates “a lack of biological resources” to sustain a species.

The following asset classes were given priority in planning for AIP05/06 and carried over to AIP 06/08, noting that the land resource theme is not represented due to its threat management focus:

- Landscapes/ecoscapes, are the mosaic of ecosystems that cross the landscape from “ridge to ridge”. They include both terrestrial and aquatic ecoscapes and incorporate

wetland complexes, large scale reserves, rivers, river tributaries and pools. Managing resources at such a landscape scale encompasses a range of integrated threat management responses with the potential for multiple benefit outcomes.

- Regional groundwater aquifers are potential water supply sources for domestic and industry use and have potential impacts on increased flooding. They need to be better understood and managed in a sustainable manner.
- Infrastructure, including roads and towns at risk from salinity, form the basis for the bulk of community assets within the region. Cultural, recreational and community facilities are all vital in helping to sustain the social resource base within the region.
- Native species (all naturally occurring flora and fauna species). The region has 4000 identified plant species, over 400 animal species and unknown number of invertebrate species. Species condition is closely linked to location and many plants and animals that inhabit valley floor areas are severely threatened by processes such as salinity.
- Natural ecological communities. The region has a large variety of distinctive ecological communities, including 10 Threatened Ecological Communities. Of these one is critically endangered, five are endangered and four are vulnerable.
- Ecosystems (discrete sets of natural ecological communities) including aquatic and terrestrial ecosystems, as well as granite outcrops and lateritic breakaways. The region contains six fresh and saline ecosystems of national or sub-regional importance, as well as a large number of wetlands and lake chains. There is a representative amount of pre European vegetation associations, including Salmon gum, wandoo and York gum woodlands and such associations have both a biodiversity and iconic value.

4.4.2 MAT prioritisation

The following criteria, adapted from section 3 of the Regional Strategy (and adapted from SIF), were applied by sub-program committees to prioritise MATs for AIP 05/06 and the prioritised MATs identified for years 2 and 3 of investment were utilised in investment planning for AIP 06/08:

1. Has there been minimal or no prior investment in the target?
2. Is there a level of urgency required to implement the target based on the level of threat (to an asset or cross regionally)?
3. Does the target need to be completed first to enable other actions to be carried out?
4. Is the target technically feasible?
5. Will the target achieve multiple outcomes (across programs and within the program)?

The results of this process form the basis for project development and prioritised MATs linked to projects are shown in section 7.

Note that MATs for the Stakeholder Engagement and Partnership Development Program have been prioritised by the Investment Plan Working Group based on priority project development. Due to the small number of MATs associated with INRM, project concepts were identified that were considered essential to the delivery of program MATs for this sub-program. Essentially these MATs related to identifying baseline data, regarding significant INRM assets, to deliver to other program areas. The program support component is slightly different in that it delivers to all priority MATs identified in all program areas.

4.5 Investment Plan Working Group

The Investment Plan Working Group (IPWG) was established to support the development of AIP 06/08 and was identified as a necessary improvement to the previously established committee structure. The membership of the IPWG comprised nine members and the group reported to the ACC:

- ACC Chair or nominee (to also chair the Working Group) – Mr. Wayne Clarke
- 1x Department of Agriculture WA representative – Ms. Cec McConnell
- 1x Department of Conservation and Land Management representative – Mr. Bruce Bone.
- 1x Department of Environment Representative – Mr. Martin Revell
- 1x Non Government Organisation Representative – Mr. Murray Penter (Greening Australia WA)
- 1 x Council community representative (preferably Indigenous representation) – Mr. Arthur Slater (Ballardong NRM Working Group).
- 1x Council local government representative – Mr. Julian Murphy (Shire of Westonia).
- ACC Program Manager- Mr. Don Cummins.
- ACC CEO – Mr. Peter Sullivan.

The group had the following Terms of Reference:

1. To assist in prioritising and implementing actions resulting from review of AIP 05-06.
2. To review and provide feedback and recommendations regarding key actions proposed for the development of AIP 06-08.
3. To provide a link between regional partner organisations and their activities and proposed AIP 06-08 actions.
4. To provide a technical feasibility review of proposed AIP 06-08 actions.

The group met in February 2006 to prioritise project concepts and allocate program budgets, all other IPWG actions were completed “out of session”.

4.6 Blue Sky planning

The “Blue Sky” Working Group (BSWG) was established by the ACC to coordinate a research and development opportunities appendix to AIP 06/08. The group membership is made up of:

- Merylyn Temby – Avon Catchment Council Member
- Russell Crook – Avon Catchment Council Member
- Andrew Prior – Wheatbelt Development Commission
- Graham Ellis-Smith – Wheatbelt Development Commission

- Michelle Winmar – Avon Catchment Council
- Lisa Grosskopf – Avon Catchment Council
- Julia Murphy – Greening Australia WA
- Romy Collier – State NRM Office
- Steve Penny – Department of Agriculture
- Cathy Lyons – Avon Catchment Council
- Don Cummins – Avon Catchment Council

The group's Terms of Reference are:

1. To guide the research and development component of the Avon Catchment Council Investment Plan 06/08 process
2. To provide input to the investment planning process and Council on prioritised project concepts from the above.
3. To identify emerging issues relating to future NRM directions in the Avon River Basin and inform Council
4. To determine potential partnerships and opportunities for the Council to pursue.

The group identified forty four priority project concepts. These projects, associated partnerships and funding sources are detailed in appendix A1.1. The Group also identified opportunities for delivery of regional priorities via project PS001 and these include:

- Badging and branding ACC program outputs.
- Industry partnership development.
- Noongar reference group maintenance.
- Benchmarking/M&E support.
- Social capacity and capital to deliver.
- Extension program and knowledge brokering.
- Strategy review.
- R&D technical assessment.
- Establishment of sub-regional NRM generalists.
- Ongoing support for the Blue Sky Group.

4.7 Ballardong NRM Working Group

The Ballardong NRM Working Group (BNRMWG) was formed by the ACC in May 2005 to provide Noongar people with representation in the regional strategic planning process. A significant gap identified from AIP 05/06 was that Aboriginal people, while represented by two INRM Officers were not directly engaged in regional strategy development and subsequent investment planning.

The Group represents the majority of Noongar people within the Avon Region and membership comprises (nominated by the South West Aboriginal Land and Sea Council):

- Arthur Slater (Noongar Community)
- Diane Taylor (Noongar Community)
- Oral McGuire (Noongar Community)
- Glenys Yarran (Noongar Community)
- Reg Yarran (Noongar Community)
- Garry Woods (Noongar Community)

Ex officio Members

- Michelle Winmar (ACC INRM Officer)
- Rod Garlett (ACC INRM Officer)
- Peter Sullivan (ACC CEO)
- Wayne Clarke (ACC Chair)

The actions of the Group to date have involved identification of Aboriginal aspirations for NRM, the development of an Aboriginal NRM Strategy document (Healthy Country-Healthy People) and identification of actions to address the strategic priorities identified by the Group. The vision of the Group is *“For all people to respect and understand Noongar culture and from there have greater attachment to the land (Budjar) and to work in partnership to create a positive and sustainable future for all”*. Five year management targets have also been developed by the Group and include:

- Cultural mapping.
- Increased understanding and use of Noongar language.
- Maintaining and improving access to significant sites.
- Development of regional walk trails.
- Committing to economic opportunities in NRM for Noongar people.

A copy of the Aboriginal NRM Strategy can be found in the appendix to this document.

With the assistance of regional INRM Officers the Ballardong Noongar Cultural Mapping and Language project was identified as essential baseline activity for the ACC to consider investment in 2006-2008. A full description of the project is shown in section 7.3.4.4.

4.8 Communication of the planning processes

The following activities were carried out to inform and involve the Avon community in development of AIP 06/08:

- Direct consultation with stakeholders, previously involved in investment planning. Project concepts were discussed with these stakeholders and they had direct input to the development of projects for AIP06/08. This group was targeted due to their knowledge of the development process for existing projects.
- NRMO and Local Government workshop was held on 17 February 2006 and all Local government CEOs and regional NRMOs were invited to attend. This meeting highlighted several issues that require review, in particular an audit needs to be carried out of the Register of Interest process and this is occurring in March 2006 and there needs to be better communication of the on ground actions of projects.
- Local Government were informed of the planning process by the ACC Local Government Liaison Officer, through Regional Organisation of Council meetings over the November 2005 to January 2006 period.
- The ACC newsletter and email update were used to provide information on the progress of delivery of AIP 05/06 and the development of AIP06/08.

5. BUDGET ALLOCATION

5.1 *Asset and threat investment allocation*

The principles and processes developed for AIP 05/06 have been consistently applied to the allocation of funds to asset and threat management for AIP 06/08. This approach equated to a 60:40 investment split between asset management and threat management. This ratio accounts for the need to focus spending of public funding on public asset management, while taking into account that the majority of threatening processes are occurring at a landscape scale and require ongoing management actions.

The priority actions associated with asset management have been identified at the delivery program level, where MATs have been prioritised in the development work carried out for AIP 05/06.

Effective allocation of funding to the threat management component of the AIP required that the 40% threat funding allocation was further prioritised between threats based on identified regional priorities. This was carried out for AIP 05/06 and has been consistently applied in regards to AIP 06/08.

5.2 *Indicative program budget allocation*

The following principles were applied by the IPWG when assessing continued funding for programs and projects:

- A review of continuing projects was made to determine if they are asset or threat management focused, see table 5.1.
- Projects were reviewed to determine the percentage of the total NAP/NHT budget that they were requesting in the 06/08 period and how this aligned to the 60:40 asset/threat funding split, see table 5.1.
- Project MATs were reviewed to determine if the activities proposed would deliver to the MAT described in the time frame described.
- Projects were scrutinized as to the amount of resources allocated to achieving priority MATs and if projects were working towards achieving year 2 and 3 priority MATs.
- Continuing project progress was discussed and the potential for achievement of MATs described was considered.
- Projects were then assessed in the overall context of funding available and as such a maximum project budget request of 80% of the year 05/06 investment allocation was considered suitable for 06/07. For the 07/08 financial year the maximum project allocation was 70% of the year 05/06 investment allocation, see table 5.2.

Table 5.1 Budget requests 06/08

Project Name	06/07 Request Total	07/08 Request Total
IWM001 (asset)	\$603,755.00	\$578,755.00
IWM002 (asset)	\$387,460.00	\$338,460.00
IWM003 (asset)	\$430,000.00	\$346,000.00
ND001 (asset)	\$800,000.00	\$800,000.00
ND002 (asset)	\$1,520,000.00	\$1,460,000.00
ND003 (asset)	\$1,400,000.00	\$1,400,000.00
ND004 (asset)	\$2,961,930.00	\$3,351,930.00
Total	\$8,103,145.00	\$8,275,145.00
	54.6% of Total Request	57.9% of Total Request
IWM004 (threat)	\$250,000.00	\$250,000.00
IWM005 (threat)	\$3,385,500.00	\$2,964,000.00
IWM006 (threat)	\$625,000.00	\$595,000.00
SI001 (threat)	\$50,000.00	\$50,000.00
SI002 (threat)	\$850,000.00	\$750,000.00
SI003 (threat)	\$602,300.00	\$464,500.00
ND005 (threat)	\$907,897.00	\$907,897.00
ND006 (threat)	\$80,000.00	\$40,000.00
Total	\$6,750,697.00	\$6,021,397.00

45.4 % of Total Request

42.1 % of Total Request

Table 5.2 Actual budget 06/08

06/08 Budget
80:70

Project Name	06/07 Budget Total	06/07 NAP Total	06/07 NHT Total	07/08 Budget Total	07/08 NAP Total	07/08 NHT Total
IWM001 (asset)	\$583,652.00	\$583,652.00	\$0.00	\$557,275.00	\$557,275.00	\$0.00
IWM002 (asset)	\$347,900.00	\$347,900.00	\$0.00	\$300,520.00	\$300,520.00	\$0.00
IWM003 (asset)	\$263,100.00	\$263,100.00	\$0.00	\$226,320.00	\$226,320.00	\$0.00
IWM004 (threat)	\$227,900.00	\$227,900.00	\$0.00	\$195,520.00	\$195,520.00	\$0.00
IWM005 (threat)	\$1,379,900.00	\$1,379,900.00	\$0.00	\$1,203,520.00	\$1,203,520.00	\$0.00
IWM006 (threat)	\$542,820.00	\$542,820.00	\$0.00	\$471,075.00	\$471,075.00	\$0.00
SI001 (threat)	\$40,000.00	\$0.00	\$40,000.00	\$0.00	\$0.00	\$0.00
SI002 (threat)	\$695,940.00	\$695,940.00	\$0.00	\$605,055.00	\$605,055.00	\$0.00
SI003 (threat)	\$582,200.00	\$582,200.00	\$0.00	\$443,020.00	\$443,020.00	\$0.00
ND001 (asset)	\$635,900.00	\$307,900.00	\$328,000.00	\$471,629.00	\$265,520.00	\$206,109.00
ND002 (asset)	\$1,075,900.00	\$396,380.00	\$679,520.00	\$856,629.00	\$342,940.00	\$513,689.00
ND003 (asset)	\$1,339,900.00	\$1,035,180.00	\$304,720.00	\$1,168,520.00	\$943,560.00	\$224,960.00
ND004 (asset)	\$2,060,700.00	\$1,390,097.00	\$670,603.00	\$1,799,220.00	\$1,574,260.00	\$224,960.00
ND005 (threat)	\$751,000.00	\$556,725.00	\$194,275.00	\$577,431.00	\$318,340.00	\$259,091.00
ND006 (threat)	\$80,000.00	\$0.00	\$80,000.00	\$40,000.00	\$0.00	\$40,000.00
INRM 001	\$359,000.00	\$0.00	\$359,000.00	\$278,111.00	\$0.00	\$278,111.00
PS001	\$1,172,000.00	\$890,720.00	\$281,280.00	\$1,406,000.00	\$1,152,920.00	\$253,080.00
Total	\$12,137,812.00	\$9,200,414.00	\$2,937,398.00	\$10,599,845.00	\$8,599,845.00	\$2,000,000.00

Table 5.3 Budget summary by program/sub-program and project 05/06

Program/Sub-program & Project Name	Budget NAP	Budget NHT	Total
Integrated Water Management			
Managing surface Water - IWM001	\$786,000.00	\$0.00	\$786,000.00
Managing surface Water - WM006	\$703,650.00	\$0.00	\$703,650.00
Water Quality - IWM002	\$460,000.00	\$0.00	\$460,000.00
Asset Management- IWM003	\$354,000.00	\$0.00	\$354,000.00
Asset Management- IWM004	\$310,000.00	\$0.00	\$310,000.00
Dryland Salinity - IWM005	\$1,750,000.00	\$0.00	\$1,750,000.00
Sustainable Industries			
Biosecurity - SI001		\$235,000.00	\$235,000.00
Soil Acidity -SI002	\$895,050.00		\$895,050.00
Soil Health - SI003	\$753,050.00		\$753,050.00
Natural Diversity			
Threat Management- ND006		\$80,000.00	\$80,000.00
Asset Management- ND001	\$420,000.00	\$400,000.00	\$820,000.00
Asset Management- ND002	\$510,000.00	\$860,000.00	\$1,370,000.00
Asset Management- ND003	\$1,700,000.00		\$1,700,000.00
Asset Management- ND004	\$2,601,000.00		\$2,601,000.00
Asset Management- ND005	\$486,376.00	\$485,000.00	\$971,376.00
Total	\$11,729,126.00	\$2,060,000.00	\$13,789,126.00

Table 5.4 Budget summary by program/sub-program and project 06/07

Program/Sub-program & Project Name	Budget NAP	Budget NHT	Total
Integrated Water Management			
Managing surface Water - IWM001	\$583,652.00	\$0.00	\$583,652.00
Managing surface Water - IWM006	\$542,820.00	\$0.00	\$542,820.00
Water Quality -IWM002	\$347,900.00	\$0.00	\$347,900.00
Asset Management- IWM003	\$263,100.00	\$0.00	\$263,100.00
Asset Management- IWM004	\$227,900.00	\$0.00	\$227,900.00
Dryland Salinity - IWM005	\$1,379,900.00	\$0.00	\$1,379,900.00
Sustainable Industries			
Biosecurity - SI001	\$0.00	\$40,000.00	\$40,000.00
Soil Acidity -SI002	\$695,940.00	\$0.00	\$695,940.00
Soil Health - SI003	\$582,200.00	\$0.00	\$582,200.00
Natural Diversity			
Threat Management - ND006	\$0.00	\$80,000.00	\$80,000.00
Asset Management- ND001	\$307,900.00	\$328,000.00	\$635,900.00
Asset Management- ND002	\$396,380.00	\$679,520.00	\$1,075,900.00
Asset Management- ND003	\$1,035,180.00	\$304,720.00	\$1,339,900.00
Asset Management- ND004	\$1,390,097.00	\$670,603.00	\$2,060,700.00
Asset Management- ND005	\$556,725.00	\$194,275.00	\$751,000.00
Stakeholder Engagement and Partnership Development			
Indigenous NRM - INRM 001	\$0.00	\$359,000.00	\$359,000.00

Program and Project Support-PS001	\$890,720.00	\$281,280.00	\$1,172,000.00
Total	\$9,200,414.00	\$2,937,398.00	\$12,137,812.00

Table 5.5 Budget summary by program/sub-program and project 07/08

Program/Sub-program & Project Name	Budget NAP	Budget NHT	Total
Integrated Water Management			
Managing surface Water - IWM001	\$557,275.00	\$0.00	\$557,275.00
Managing surface Water - IWM006	\$471,075.00	\$0.00	\$471,075.00
Water Quality -IWM002	\$300,520.00	\$0.00	\$300,520.00
Asset Management- IWM003	\$226,320.00	\$0.00	\$226,320.00
Asset Management- IWM004	\$195,520.00	\$0.00	\$195,520.00
Dryland Salinity - IWM005	\$1,203,520.00	\$0.00	\$1,203,520.00
Sustainable Industries			
Biosecurity - SI001	\$0.00	— \$40,000.00	\$40,000.00
Soil Acidity -SI002	\$605,055.00	\$0.00	\$605,055.00
Soil Health - SI003	\$443,020.00	\$0.00	\$443,020.00
Natural Diversity			
Threat Management - ND006	\$0.00	\$40,000.00	\$40,000.00
Asset Management- ND001	\$265,520.00	\$206,109.00	\$471,629.00
Asset Management- ND002	\$342,940.00	\$513,689.00	\$856,629.00
Asset Management- ND003	\$943,560.00	\$224,960.00	\$1,168,520.00
Asset Management- ND004	\$1,574,260.00	\$224,960.00	\$1,799,220.00
Asset Management- ND005	\$318,340.00	\$259,091.00	\$577,431.00
Stakeholder Engagement and Partnership Development			
Indigenous NRM - INRM 001	\$0.00	\$278,111.00	\$278,111.00
Program and Project Support-PS001	\$1,152,920.00	\$253,080.00	\$1,406,000.00
Total	\$8,599,845.00	\$2,000,000.00	\$10,599,845.00

Tables 5.3 to 5.5 show the consistency in budget allocation to asset focused projects over the life of NAP/NHT regional investment. In 05/06 the ACC allocated 54% of investment in Natural Diversity, 32% to Integrated Water Management and 13% to Sustainable Industries. The minimal decline in overall program allocation is attributable to the allocation of funding to two new projects, which sit within the new Stakeholder Engagement and Partnership Development program.

6. ACC DELIVERY CAPACITY

6.1 Management structures

The ACC employs 10 staff in support of program and project delivery. These positions have been funded from a 7.1% allocation from projects in 05/06, however, due to the need to adequately support these roles and the necessity to align project support with outputs, funding for these positions and associated activities is now proposed as a project in its own right (project PS001). This investment provides support for the following positions shown in table 6.1.

Table 6.1 Program support positions/outputs

Program Support Position	Outputs
Local Government Support Officer	Develop relationships between ACC and LGAs of the region, facilitate the development of Local Area Plans, assess the extent of current LGA NRM activities, identify how Avon NRM Strategy would facilitate an expansion to LGA NRM activities, support delivery of regional NRM projects and determine how existing/new legislation can be used by LGAs to contribute to NRM objectives.
2xIndigenous NRM Officers	Completion of the Aboriginal engagement document (supporting the Regional Strategy), Avon Investment Plan program delivery support, support for the BNRMWG and representation of the ACC – regional INRM activities.
Marketing and Communications Officer	Corporate marketing and communication, Marketing and Communications Plan development and implementation, AIP project promotion, coordination of project reporting and policy and procedure development.
Monitoring and Evaluation Coordinator	Regional M&E framework development, implementation of M&E network, regional M&E contact and policy and procedure development.
Program Manager	Program level financial management, coordination of program evaluation processes and reporting, stakeholder engagement and partnership development.
3xProject Managers	Review regional strategy and AIP, development and implementation of project management structures, contract management/supervision, AIP development 2006-2008, stakeholder engagement and coordination of program management steering committees.
Project Administrative Support	Clerical support to programs.

Full details regarding the funding associated with these positions can be found in the

project schedule for PS001 in section 7.3.4.4. Additionally these positions have a high level of un-costed support and technical input to working groups and steering committees functioning within the region for complimentary project activities e.g. the project manager with responsibility for project IWM005 is required to represent the ACC on four regional stakeholder groups with reference to salinity management. This is a significant (cost and time) but largely unrecognised contribution of functional management staff to partnership development within the region.

Additionally the ACC receives “core funding” totaling \$400 000 to support the executive and operational costs of the Council. Core investment is in addition to the ACC’s indicative NHT/NAPSWQ funding. Activities supported by this funding are external to direct project management and include administrative support to the Council (executive and finance), member’s operating (travel and sitting fees) and overhead costs (facility rental etc). The \$400 000 available assumes marginal costing of corporate support services through service level agreements with stakeholder government agencies.

The positions associated with operational support are: —

1. Chief Executive Officer.
2. Two administration officers to support the operations of the ACC (including financial management) and its associated committees.

The ACC currently receives corporate support services (finance, audit and human resources) from the Department of Agriculture WA under a services agreement common to all regional groups.

6.2 Program delivery

6.2.1 Tendering processes

For AIP05/06 the ACC applied a commercial tendering process to identify suitable delivery organisations for AIP projects. The ACC’s tendering process is derived from the procedures used by the Western Australian Department of Treasury and Finance and is specific to delivery of the investment priorities identified in the AIP. It is a two stage process which has been utilised to ensure transparency and accountability in contracting processes. The process involves:

1. A call for an Expression of Interest (EOI) to research the capabilities of suppliers to meet the ACC’s requirements. This was advertised statewide in newspapers.
2. A Request For Tender (RFT) from review of the EOIs, based on the ACC having developed a good understanding of the capabilities and methodology proposed by the respondent, as detailed in the EOI response.

Conflict of interest guidelines based on a Conservation Council template were developed and utilised in the EOI and Tender process and a probity auditor was present at all EOI and Tender evaluation meetings and a summary of her findings is shown following:
“Based upon the scope of procedures performed to date, Sutherland Rose (Probity Auditor) is of the opinion that:

- *All processes used in evaluating responses to the EOI and Tender documents, were carried out on the basis of fair and open competition (i.e. all submissions were*

treated equitably, fairly, ethically and were evaluated on a free from bias basis and within relevant regulations, policies and guidelines).

All staff and other persons responsible for, or involved in, the evaluation process discharged their duties in an ethical, impartial and responsible manner.”

The full Avon Catchment Council was responsible for making the final recommendation regarding EOIs and preferred tenderers.

6.2.2 Register of Interest

To help identify groups and individuals and local NRM issues that can help contribute to the successful implementation of Investment Plan projects the ACC in 2005 invited such parties to register an interest in participating in ACC projects.

The register was open to:

- catchment groups;
- local environmental groups;
- local government;
- Land Conservation District Committees;
- farm production/improvement groups;
- “friends” or interest groups;
- indigenous groups or individuals;
- Non Government Organisations;
- individuals with an interest in NRM or with specific technical skills in NRM etc; and
- contractors or consultants who believe that they could contribute to the ACC’s project delivery process but do not wish to tender.

The ACC drew on the register when projects were being negotiated during the formal tendering process and the information was used to:

- identify locations where ACC project activities can be carried out;
- identify individuals or groups willing to participate in ACC projects; and
- identify individuals or groups with specific technical skills that could significantly contribute to successful project implementation.

In 2005 the Register received 100 submissions, which are currently being utilised and will continue to be utilised as year one investment rolls out. Due to the success of this process the ACC is intending to re-open the Register of Interest for AIP 06/08.

6.2.4 Progress to date - delivery organisations

The following organisations have been selected through the tender process to deliver AIP05/06 projects. Where there are continuing project activities for AIP 06/08 service agreements will be developed with existing delivery organisations, to ensure consistency in delivery. All new project activities will be tendered, via the Department of Agriculture WA’s tendering process. Table 6.2 provides a summary of progress to date for AIP05/06.

Table 6.2 AIP05/06 project progress

Project Name	Delivery organisation	Commenced	Progress	Funding 05/06
04A1-01 Avon River Waterway Mgmt- IWM001	Department of Environment	October 05	<ul style="list-style-type: none"> ✓ Completed team recruitment process to fill fencing position. Stakeholder engagement occurring through current staff. ✓ Contract let for floodplain survey and flying completed awaiting data from contractors ✓ Fencing ordered delivered to depot and negotiation, assessments and distribution taking place 	\$734,555.00
04A1-03 Groundwater source ID, assessment, monitoring - IWM002	GHD and Dept of Agriculture WA	October 05	<ul style="list-style-type: none"> ✓ Desktop assessment commenced – review of current bore network and gap identification. 	GHD \$195,000, DAWA \$236700
04A1-04 Protection of Community Assets - IWM003	GHD and Dept of Agriculture WA	November 05	<ul style="list-style-type: none"> ✓ Merredin Shire was signed up as a partner to the project and have committed to providing a substantial amount of funding (\$210,000 over 3 yrs). Due to its size and importance, plus level of local commitment, Merredin has been designated the 'Pilot Town' for the ACC region. As such it will receive a comprehensive Water management Plan (WMP) and a sizable water management scheme in the town. ✓ Specialist services from 6 partner organisations were obtained and defined by way of formal Agreement. ✓ A detailed Social Contexting Survey was conducted in the town in 2005. A report of survey findings is available. 	GHD \$85,000.00, DAWA \$248,228.00

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04A1-05 Protection of Transport Assets - IWM004	GHD	October 05	✓ Commencement of the infrastructure inventory report.	\$292,351.00
04A1-06 Salinity Management - IWM005	ACC, subcontracting components to: Upper Great Southern Oil Mallee Growers Association, Saltland Pastures Association, Department of Environment, WWF, CALM.	December 05	<ul style="list-style-type: none"> ✓ Development of salinity auction process. ✓ Commencement of saltland pasture and oil mallee subsidy schemes. ✓ Commencement of drainage demonstration and governance project – Kurrenkutten. 	\$1,630,111.00
04A1-02 Water Mgmt and Self Sufficiency- IWM006	GHD	October 05	<ul style="list-style-type: none"> ✓ Discussions with the Water Corporation have been undertaken to facilitate the transfer of data and information associated with components of the project relating to assessment of regional demand and usage of reticulated supply. ✓ Discussions with DoE and DAWA have been undertaken to facilitate the implementation of project components where these organisations are perceived to be a project partners. ✓ Priority demonstration landscape chosen and work commenced – Morbinning catchment. 	\$658,055.00
04A1-07 Identification of the spatial distribution of priority environmental pests and development of regional management responses - SI001.	GHD	October 05	<ul style="list-style-type: none"> ✓ Formation of technical assessment panel. ✓ Regional priority pest survey completion ✓ Commencement of regional workshops. 	\$235,000.00
04A1-08 Identification of land management practices that contribute to soil acidity and development of	Department of Agriculture	October 05	<ul style="list-style-type: none"> ✓ Team appointment. ✓ Commencement of regional soil sampling and analysis – linked to SI003. 	\$831,000.00

<p>sustainable land management options - SI002.</p>				
<p>04A1-09 Increased awareness of soil health limiting factors and demonstration of land management practices that contribute to long term soil health - SI003.</p>	<p>Agriculture Research WA (Dept of Agriculture WA, Planfarm and UWA as lead)</p>	<p>October 05</p>	<p>✓ Selected landholder groups have been consulted in regards to their participation in the initial stages of this project. Work commenced with the Ninghan group (registered interest group), the Gabby Quoi Quoi group (underway) and the Greenhills/Mortlock catchment groups (underway). Initial workshops held in March with these groups.</p> <p>✓ Gabby Quoi Quoi to be sampled in January 2006, Greenhills/Mortlock in February 2006 and Ninghan in March 2006.</p> <p>✓ Transect work has been initiated with the sample location identified in the Gabby Quoi Quoi catchment area – this transect focused on changes in soil attributes from remnant vegetation through transitional areas into crop production and includes a riparian zone.</p>	<p>\$689,000.00</p>
<p>04A1-10 Baselineing - ND001</p>	<p>ANDA* (CALM as lead)</p>	<p>January 06</p>	<p>✓ Completed renegotiation for delivery and project commenced.</p>	<p>\$767,270.00</p>
<p>04A1-11 Back from the edge - ND002</p>	<p>ANDA (CALM as lead)</p>	<p>October 05</p>	<p>✓ Team appointed and Review of existing assessment criteria carried out.</p>	<p>\$1,278,220.00</p>
<p>04A1-12 Healthy ecosystems - ND003</p>	<p>ANDA (Dept of Environment as lead)</p>	<p>October 05</p>	<p>✓ Team appointment completed.</p> <p>✓ Prioritisation and selection of aquatic ecosystems completed.</p> <p>✓ Rivercare workshop carried out.</p>	<p>\$1,584,790.00</p>

04A1-13 Ecoscapes - ND004	ANDA (Greening Australia WA, as lead)	October 05	<ul style="list-style-type: none"> ✓ Team appointed. ✓ Stakeholder review/selection panel appointed. ✓ Planning for on ground works complete. 	\$2,421,823.00
04A1-14 Our Patch - ND005	Greening Australia WA & NEWROC	October 05	<ul style="list-style-type: none"> ✓ Development of regional tendering process and completion of assessment of bids. ✓ Year 1 demonstration sites selected. 	\$907,897.00
04A1-15 Fire Mgmt - ND006	CALM	October 05	<ul style="list-style-type: none"> ✓ As part of CALM's in-kind contribution to the project, a contractor has been secured through CALM's Fire Management Services to provide GIS, planning and data analysis support to the Fire and Biodiversity Project. ✓ A Regional Fire Coordinator appointed, located in the Narrogin Regional Office. This position will provide assistance with managing and implementing the Fire and Biodiversity Project, as part of CALM's in-kind contribution. 	\$80,000.00

* Avon Natural Diversity Alliance (ANDA) is a grouping of WWF, Greening Australia (WA), CALM and the Department of Environment.

Due to the process of tendering, which consumed four months from the time funding was acknowledged, projects have been delayed in their implementation. All projects have, however, commenced and have completed two rounds of quarterly reporting. A single contracting issue was met with project ND001 and this has been overcome and a period of two months was invested in project IWM005, as the tendering process highlighted shortfalls in project design.

6.2.5 Program evaluation

To ensure value for money and to enable the evaluation of project achievements for all current and new AIP projects the following processes have been applied:

- Establishment of contract management plans, which utilise program logic. These plans identify key performance indicators, means of verification, project risks, key management points and links to regional targets. Contract management plans have been developed for all AIP 05/06 projects by ACC Project Managers and are used as a project planning tool to track project progress and identify evaluation of project deliverables. These documents are reviewed monthly and

- updated annually. The results of this level of evaluation are reported to the full ACC on a monthly basis and form a component of annual progress reporting.
- Implementation of return on investment analysis of project activities. To be carried out by project managers in April 2006, prior to awarding contracts to delivery organisations and then annually.
 - Quarterly progress and financial reporting, as required by the State and Australian Governments.
 - Six monthly output reporting as required by the State and Australian Governments.
 - Annual reporting, achievement of project milestones and audited financial statements.

6.2.6 Monitoring and Evaluation

The ACC is targeting monitoring and evaluation on 2 levels; program scale and project scale. The aim is to monitor the effectiveness of investment and completion of outputs in relation to both individual projects and across the region as a whole. A Monitoring and Evaluation Coordinator has been employed to coordinate both the program and project scale requirements of M&E for the ACC and its delivery organisations.

An effective monitoring framework provides the ACC with a basis for understanding changes in environmental condition or key indicators in relation to changes in land use or natural cycles which lead to variations. This allows for evaluation of data and an adaptive approach to the management of our region's natural resources.

6.2.6.1 Program Scale M&E

The ACC's M&E Manager is working with other regional M&E coordinators to develop a template to design a regional M&E plan. This plan will encompass all projects and will define process, frameworks and terminology.

The regional monitoring and evaluation plan will:

- monitor changes in the state of the natural environment within the Avon River Basin;
- coordinate data collection from all projects prioritised under the Avon Investment Plan;
- demonstrate the contribution towards improvement in resource condition made by projects;
- provide performance information to adapt the regional NRM Investment Planning process to best suit regional conditions and requirements;
- provide a proforma for monitoring of all projects and identify links and opportunities for data-sharing; and
- manage output reporting process.

The monitoring and evaluation plan will also include the assessment of social indicators to allow for evaluation of behaviour change and increased capacity amongst stakeholders to contribute to completion of RCTs over the long-term. Monitoring of social indicators will be based on capacity to make decisions on NRM issues, engagement of stakeholders in planning and completion of project outputs, partnerships and recognition of importance of the social dimensions of NRM.

6.2.6.2 Project Scale M&E

An average of 10% of the budget of each project has been allocated to monitoring and evaluation. Using a program logic framework the ACC is working with delivery organisations to design project specific monitoring and evaluation plans which will monitor completion of outputs, targets and milestones as a progression toward MATs and RCTs.

Individual project plans will monitor the effectiveness of delivery organisations in completing nominated outputs. Key questions about each project will be developed to determine overall effectiveness of projects through identification of indicators, key performance indicators and means of verification. Each plan will fit into the regional framework and deliverables will be reported on as a region to determine how effective the AIP has been in meeting MATs and RCTs.

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SECTION 2

7. INVESTMENT PRIORITIES

7.1 Program and project planning

7.1.1 Budget development principles

The underlying budgeting principles utilised in the project planning process are:

- The ACC's tendering process and subsequent contracting and scheduling with delivery organisations has identified accurate salary and operating costs for activities identified in project schedules. Positions were estimated at both professional and technical pay scales with associated on costs and operating and carrying forward from AIP 05/06 employment costs are based on the Western Australian Public Service Award. It is important to note that the tendering process required that bids from Tertiary Institutions and Government Bodies (Local, State or Australian) would not be accepted unless they have been calculated on a full commercial basis and without any form of subsidy.
- Estimates for operating costs were developed using existing budgeting information developed by the ACC. Vehicle costs were estimated from current Council vehicle leasing arrangements and by comparison with Western Australian Department of Agriculture vehicle leasing costs. Travel and computer acquisition costs were averaged from internal budget information.
- On costs for all positions has been set at 22%. This figure is made up of 13.8% overheads, 6.2% on-costs (long service leave 3.5%, extended annual/sick leave 1.2%, annual leave loading 1.5%) plus a 2% contingency. The additional 2% allows for the funding of essential project management activities, not covered by functional or delivery management funding. On costs enable cost sharing across projects for ACC overheads, including office rental, telecommunications expenses, corporate support etc.
- High priority investments have been identified per project comprising 100% of available NHT/NAP investment. Appendix A1.1 outlines potential opportunities for additional partnership development and identification of other funding sources for priority regional activities.
- Project PS001 contains a program contingency budget of approximately 9% of the project total in 06/07 and 14% in 07/08. The 07/08 amount is reflective of the emphasis of on ground delivery in the final year and the potential for value added project outcomes from minimal contingency investment.

7.2 Budget summary

Table 7.1 details the budget allocation to programs and project areas and table 7.2 identifies NAPSWQ/NHT investment. Program and project specific budgets are shown in section 7.3.

Table 7.1 Summary of NAP/NHT investments 05/08

Program and activity	Description of activity	Actions	Principal resource condition targets	Principal management action targets	Funding				Anticipated to continue beyond 2007/08 Yes/No
					Source	2005/06	2006/07	2007/08	
Integrated Water Management - Managing Surface Water	Avon River Waterway Management	<ul style="list-style-type: none"> Review of bore monitoring. Nutrient monitoring. Flood event prediction. Gap analysis - flood mapping. Management planning for pt source nutrient pollutants. Fencing the Avon. Extension. 	W1T201 Monthly concentration of total nitrogen and total phosphates. W2T201 Priority sections of major and minor tributaries identified for sediment and nutrient management purposes, or for salinity control have improved by one 'foreshore condition' class (Pen and Scott, 1995) by 2025.	W1 MAT II.6, W1 MAT II.8 , W1MAT IV.1 , W1MAT2.5 , W1MAT III.4, W1MAT5.2 , W2MAT7.3, W1 MAT II.2, W1 MAT II.7, L2MAT6.2, W1.TBA	Source				No
					NAP	\$734,555.00	\$583,652.00	\$557,275.00	
					NHT				
					Private	\$2,000.00			
					State Gov.				
					Local Gov.				
Integrated Water Management - Water Quality	Groundwater Source Identification, Assessment and Monitoring	<ul style="list-style-type: none"> Review of bore locations. Id low salinity groundwater sources. Investigative drilling. Sustainable resource use guidelines. Extension. 	W4T201 Groundwater aquifers identified. W4T202 Regional groundwater aquifers managed.	W4MAT 1.1 , W4MAT 7.1, L2MAT 6.2 , L2MAT 6.2 , W4MAT 4.1	NAP	\$460,000.00	\$347,900.00	\$330,520.00	No
					NHT				
					Private				
					State Gov.				

					Local Gov.				
Integrated Water Management- Water Quality	Protection of Community Assets	<ul style="list-style-type: none"> Water management plans. Heritage and cultural protocols. Extension. 	I3T201 10 Rural towns have salinity risk managed. W5T201 Heritage and cultural values.	I3 MAT 2.2 , I3 MAT5.1 , I3 MAT 3.1 , I3 MAT 7.1 , I3 MAT 6.1 , W5 MAT 7.1 , I3 MAT 6.2 , L2MAT 6.2	NAP	\$354,000.00	\$263,100.00	\$226,320.00	No
					NHT				
					Private				
					State Gov.	\$130,000.00	\$130,000.00	\$130,000.00	
					Local Gov.	\$130,000.00	\$130,000.00	\$130,000.00	
Integrated Water Management - Dryland Salinity	Protection of Transport Assets (roads, rail and aviation)	<ul style="list-style-type: none"> Inventory of assets. Heritage and cultural protocols Education package and demonstration of management options. 	IT201 Roads at risk.	I1 MAT 7.1 , I1 MAT 6.1 ,I1 MAT 4.1 , I1 MAT 8.1 , I2 MAT 1.1 , I1 MAT 3.1 , I1 MAT 3.2 , I1 MAT 3.3, I1 MAT 6.1 , W5MAT 7.1 , L2MAT 6.2	NAP	\$310,000.00	\$227,900.00	\$195,520.00	No
					NHT				
					Private				
					State Gov.				
					Local Gov.		\$100,000.00	\$100,000.00	
Integrated Water Management - Dryland Salinity	Salinity Management	<ul style="list-style-type: none"> Valley Floor management Demonstrate acid groundwater disposal methods. Planning for groundwater extraction and disposal. Analysis of 	L2T201 Reduction of groundwater rise. L2T202 Valley floor salinity reduction. W4T203 Disposal of groundwater from mining. W4T204 Disposal of groundwater from agricultural.	L2 MAT 7.4 , L2 MAT 7.2 , W4 MAT 3.1, L2 MAT 5.1 , W4 MAT 6.2 , W4 MAT 2.1	NAP	\$1,750,000.00	\$1,379,900.00	\$1,203,520.00	Yes
					NHT				
					Private	\$1,500,000.00	\$700,000.00	\$700,000.00	

		<p>engineering options from a disposal (impact on regional assets) and governance perspective.</p> <ul style="list-style-type: none"> • Id high risk groundwater recharge zones. • Asset protection • Deep rooted perennial establishment – native tree crops • Extension and policy development. 			<p>State Gov.</p>				
					<p>Local Gov.</p>				
Integrated Water Management - Managing Surface Water	Water management and self sufficiency	<ul style="list-style-type: none"> • Data collection. • Farm water planning training. • Integrated plan development. • Extension. 	W3T201 Zero water deficits. W3T202 Environmental surface water requirements.	W3MAT4.1, 3MAT6.1, W3MAT5.1, 3MAT7.1, L2MAT6.2, W3MAT VIII.1, W3MAT V.2, W3MATV.3	NAP	\$703,650.00	\$542,820.00	\$471,075.00	No
					NHT				
					Private	\$200,000.00	\$250,000.00	\$250,000.00	
					State Gov.	\$130,000.00	\$20,000.00	\$20,000.00	
					Local Gov.				
Sustainable Industries - Biosecurity	Spatial distribution of priority environmental pests	<ul style="list-style-type: none"> • Consultation and regional issue ID. • Scoping issues (including spatial distribution). Issue promotion. • Development of management strategies. • Regional representation 	L3T201 Reduction in impact of pest species.	L3MAT5.1, L3MAT6.1,	NAP				No
					NHT	\$235,000.00	\$40,000.00	\$0.00	
					Private	\$15,000.00	\$30,000.00		
					State Gov.				
					Local Gov.		\$5,000.00		
Sustainable Industries - Soil Acidity	Identification of contributing land management practices and	<ul style="list-style-type: none"> • Current status determination. • Establish benchmarks • Review land management and 	L1.1T201 Soil Acidity management.	L1.1 MAT2.1, L1.1 MAT6.2, L1.1 MAT 4.1	NAP	\$895,050.00	\$695,940.00	\$605,055.00	No
					NHT				
					Private	\$60,000.00	\$100,000.00	\$100,000.00	

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	options.	<ul style="list-style-type: none"> amelioration methods • Id sustainable management practice. • Demonstration of sustainable practice. 								
Sustainable Industries - Soil Health	Awareness of soil health limiting factors and contributing management practice.	<ul style="list-style-type: none"> • Review testing methodology. • Extension campaign, to increase awareness of soil fertility • Landscape demonstration • Review of land management practices. 	L1.5T201 Soil fertility.	L1.5 MAT2.1, L1.5 MAT3.1, L1.5 MAT 4.1 ,L1.5 MAT 6.1 , L1.1 MAT 6.1	State Gov.				Yes	
					Local Gov.					
					NAP	\$753,050.00	\$582,200.00	\$443,020.00		
					NHT					
					Private	\$63,000.00	\$40,000.00	\$40,000.00		
Natural Diversity - Asset Management	Inventory and information management.	<ul style="list-style-type: none"> • Asset inventory. • Assessment of fresh and saltwater wetlands • Survey methodology development. • Output contribution to ND projects. 	All	—	B1MAT1.1abc, B1MAT1.2bc, B1MAT2.1abc, B2MAT1.1abc, B2MAT2.1abc, B2MAT3.1abc, B3MAT1.1ab, B3MAT2.1ab, B3MAT2.2ab, B5MAT 1.1, B5MAT1.2, B5MAT2.1, B5MAT8.1, W2MAT2.1,	State Gov.				No
						Local Gov.				
						NAP	\$420,000.00	\$400,000.00	\$265,520.00	
						NHT	\$400,000.00	\$328,000.00	\$206,109.00	
						Private				
Natural	Saving native	<ul style="list-style-type: none"> • Strategic 	• All native species that	B2.8.2abc	NAP	\$510,000.00	\$396,380.00	\$342,940.00	Yes	

Diversity - Asset Management	species and communities at risk.	<ul style="list-style-type: none"> • framework Action based training. • Conservation plans. • On ground conservation actions. • Monitoring sites. 	naturally occur in the Avon region persist in viable populations. <ul style="list-style-type: none"> • Maintain the extent and integrity (structure and composition) of all natural ecological communities that occur in the Avon Region. 	B1.8.2abc B2.8.1abc B1.8.1abc B2.7.2c B2.7.2ab B2.7.1abc B1.7.1c B1.7.1b B1.7.1a B2.6.1ac B1.6.1c B1.6.1b B2.5.1abc B1.5.1c B1.5.1b B2.4.1abc B1.4.1abc B2.2.1abc B1.2.1abc B2.3.2abc B1.3.1abc B2.3.1abc B1.1.2bc	NHT	\$860,000.00	\$679,520.00	\$513,689.00	
					Private				
					State Gov.				
					Local Gov.				
Natural Diversity - Asset Management	Healthy ecosystems	<ul style="list-style-type: none"> • Id priority aquatic ecosystems. • Conservation plans. • Landholder training • Protection and improvement of ecosystems. • Monitoring. • Improving condition of river pools. • Tributary surveys. • Id threatening processes for tributaries • Increasing local capacity. 	<ul style="list-style-type: none"> • "Vulnerable" Ecosystems • "Threatened" Ecosystems W2T201 Priority sections of major and minor tributaries, identified for sediment and nutrient management purposes. Or for salinity control have improved by at least one 'foreshore condition' class ((Pen & Scott, 1995) by 2025. W1T202 The current hydrological capacity1of the Avon River Pools is not	WTBA W1.TBA W2.8.1 W2.7.4 W2.5.2 W1.TBA W2.5.1 W2.2.1 W2.1.1 W1.TBA W1.5.4 W1.2.3 B4.5.2. B3.8.2abc B3.8.1ab W1.TBA B3.7.3ab B2.7.2b B2.7.1c W1.TBA B3.7.1ab B2.6.2b W1.TBA B4.7.3B3.5.2ab	NAP	\$1,700,000.00	\$1,035,180.00	\$943,560.00	Yes
NHT		\$304,720.00	\$224,960.00						
Private									
State Gov.									

		<ul style="list-style-type: none"> Revegetation Monitoring. 	reduced by more than 20% by 2025	B2.7.2b B4.6.1. B3.6.1ab B3.5.1ab B2.7.1c B2.5.1abc B4.5.1. B3.4.1ab B2.6.2b B4.4.1. B3.3.2ab B2.5.1abc B4.3.1. B3.3.1ab B2.4.1c B3.5.2ab B3.2.2ab B3.2.1ab B2.4.1b	Local Gov.				
Natural Diversity - Asset Management	Conserving regional ecoscapes.	<ul style="list-style-type: none"> Selection and options for ecoscapes. Conservation plans. Support teams Implementation. Monitoring sites 	Conserving the extent and integrity of the natural diversity (species, NECs and ecosystems) within 12 landscapes/ecoscapes, which best represent the natural diversity of the Avon River Basin.	B4 MAT 2.1 B4 MAT 5.1 B4 MAT 7.1 B4 MAT 8.2	NAP	\$2,601,000.00	\$1,390,097.00	\$1,574,260.00	No
					NHT		\$670,603.00	\$224,960.00	
					Private				
					State Gov.				
					Local Gov.				
Natural Diversity - Asset Management	Local bushland management	<ul style="list-style-type: none"> Biodiversity management training. On ground works and incentive schemes. Monitoring sites. 	The Avon River Basin contains a connected and functional network of vegetation that represents the natural diversity of the regions and supports regional scale ecological functions.	B1.7.2a, W2.1.3	NAP	\$486,376.00	\$556,725.00	\$318,340.00	No
					NHT	\$485,000.00	\$194,275.00	\$259,091.00	
					Private				
					State Gov.				
					Local Gov.				
Natural Diversity - Biodiversity Threat Management	Fire management for biodiversity outcomes.	<ul style="list-style-type: none"> Fire management guidelines. Fire management training 	All	B5MAT5.7	NAP				No
					NHT	\$80,000.00	\$80,000.00	\$40,000.00	
					Private				
					State Gov.				

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Stakeholder Engagement and Partnership Development	Noongar cultural mapping and language	<ul style="list-style-type: none"> Identify Noongar NRM sites and development of management plans. Development and use of Noongar names in NRM - guidelines developed 	All Water and Natural Diversity	All Water and Natural Diversity. Cultural mapping, Use of Noongar language, Access to significant sites, Walk trails, Committing to economic opportunities for Noongar People.	Local Gov.				No
					NAP				
					NHT	\$0.00	\$359,000.00	\$278,111.00	
					Private				
				State Gov.		\$300,000.00	\$250,000.00		
Stakeholder Engagement and Partnership Development	Regional community engagement and program delivery	<ul style="list-style-type: none"> Engage and build partnerships with Local Government. Coordinate and facilitate regional Indigenous community input to activities. Marketing and communication of the Regional NRM priorities Regional monitoring and evaluation activities Implementation and evaluation of AIP projects 	All	All	Local Gov.				No
					NAP	\$0.00	\$890,720.00	\$1,152,920.00	
					NHT	\$0.00	\$281,280.00	\$253,080.00	
					Private				
				State Gov.					
					Local Gov.				
					Sub-total NHT	\$2,060,000.00	\$2,937,398.00	\$2,000,000.00	
					Sub-total NAP	\$11,729,126.00	\$9,200,414.00	\$8,599,845.00	
					Total (NHT/NAP)	\$13,789,126.00	\$12,137,812.00	\$10,599,845.00	

Table 7.2 Summary of NAP/NHT investments sought by targets*

Principal Resource Condition Targets	Principal Management Action Targets*	Identified NAP/NHT investments (activities)	Expected outcomes and outputs from NAP/NHT Investments#
<p>W1T201 The average monthly concentration of total nitrogen and total phosphates and total suspended solids will not exceed targets of 1 mg/l (N), 0.1mg/l (P), (TSS to be determined) at Walyunga gauging station. (Cf. Environmental Protection Policy Swan-Canning).</p> <p>W2T201 Priority sections and major and minor tributaries identified for sediment and nutrient management purposes, or for salinity control have improved by at least one 'foreshore condition' class (Pen & Scott, 1995) by 2025.</p>	<p>W1 MAT II.6,W1 MAT II.8 , W1MAT IV.1 , W1MAT2.5 , W1MAT III.4, W1MAT5.2 , W2MAT7.3, W1 MAT II.2, W1 MAT II.7, L2MAT6.2, W1.TBA</p>	<ol style="list-style-type: none"> 1. Review of bore monitoring. Nutrient monitoring 2. Flood event prediction. 3. Gap analysis - flood mapping. Management planning for point source nutrient pollutants 4. Fencing the Avon. 5. Extension <p style="text-align: center;">—</p>	<p>Outcomes</p> <p>Resource Condition:</p> <ul style="list-style-type: none"> • Water quality (nutrient levels and sediment) in the Avon River and its tributaries and riparian zone condition will be improved by 5% over 2005 status. Identify and manage high-risk nutrient loss locations in the Upper Swan, Avon and Mortlock River Systems, including the Northam Waste Water Treatment Plant. • Predict, model and map short and long term flood events of the Avon River to allow floods access to the floodplain for improved nutrient stripping. • Fencing of both the Avon River and major tributaries, to reduce threatening processes such as nutrients and erosion. <p>MATs: W1.TBA By 2008 the impact of artificial release of water from Yenyenning Lakes does not exceed tolerance levels for Gwambygine Pool*. L2MAT6.2 Basin wide extension program ensures that 80% of land managers have an understanding of the benefits and impacts of the application of alternative water management techniques and a systems-based approach by 2009 (Cross Regional) W1 MAT II.7 Ten sites demonstrating 'best practice' response options to manage water quality for salinity for high priority risk areas in the riparian zone and floodplain are implemented by 2008 W1MAT5.2 By 2009, 95% of agricultural land adjacent to the Avon River is fenced both sides (Cross Regional). W1MAT III.4 By 2008, all towns and rural communities adjacent to the river in the "Avon Arc" have Flood Response Plans W1MAT2.5 Flood risk modelling and mapping for non-urban floodplains areas is complete by 2006 and is being adoption through statutory processes for assessment of development proposals to ensure that long-term impedance is not more than 5% of present conditions. W1MAT IV.1 An information kit is prepared and five workshops are held for landholders or facility managers in high risk nutrients loss locations about the risk potential and management options by 2007. W1 MAT II.8 By 2009, 25% of identified high nutrient loss locations adopt 'zero nutrient loss' targets and strategies (Cross Regional). W1 MAT II.6 A report with assessment of options and description of 'best management' practice for nutrient use reduction in farming systems, increased nutrient stripping capacity of wetlands and riverine ecosystems is prepared by end 2005 W2MAT7.3 Fencing of 200km of priority sections of major tributaries is complete by 2009</p>

		<p>—</p>	<p>(Cross Regional) W1 MAT II.2 A report on salinity risk to Avon River Floodplain is prepared by end 2006</p> <p>Outputs:</p> <p>80km of flood mapping, including contour map set (flood id).</p> <p>Gap analysis and data collation – flood risk.</p> <p>1 x waste water treatment plan.</p> <p>141km of Avon River and tributaries fenced.</p> <p>1 x educational package.</p> <p>2 x regional workshops.</p> <p>1 x exploratory drilling program (combined program across projects).</p> <p>1x Nutrient stripping demonstration site</p> <p>5x Water Protection Note/s</p> <p>1x Water monitoring program</p> <p>1x Nutrient management strategy</p> <p>25ha Riparian vegetation enhanced</p> <p>1x Nutrient management information kit.</p> <p>1x Workshop series delivered.</p> <p>1x Flood way/plain development protocols</p> <p>1x Flood response plans</p> <p>1x Fencing database enhanced / maintained.</p> <p>1x Resource assessment report.</p> <p>5x Case studies produced and distributed.</p>
<p>W4T201 Groundwater aquifers suitable for domestic or productive use are identified by 2010 and are maintained at a defined suitable level and quality.</p> <p>W4T202 Regional groundwater aquifers managed to minimise the impacts of salinity and flooding according to sub-regional groundwater management plans (Note: 20 year target to be set in 2005 following regional groundwater and surface water assessment currently undertaken as a part of the EEI program)</p>	<p>W4MAT 1.1 , W4MAT 7.1, L2MAT 6.2 , L2MAT 6.2 , W4MAT 4.1</p>	<ol style="list-style-type: none"> 1. Review of bore locations. 2. Id low salinity groundwater sources. 3. Investigative drilling. 4. Sustainable resource use guidelines. 5. Extension. 	<p>Outcomes</p> <p>Resource condition:</p> <ul style="list-style-type: none"> • Groundwater aquifer extent understood and commencement of management to ensure sustainable use by community and industry. Threats to aquifers identified and a 10% improvement in current status achieved (protection focus). Development and implementation of a regional groundwater monitoring strategy. • Identify groundwater benchmark levels and quality. • Develop guidelines for sustainable use of groundwater. This will also include identification of potential environmental impacts due to increase use of the resource. <p>MATs: W4MAT 4.1 The 20-year resource condition targets for regional groundwater aquifer management are set by end 2006. L2MAT 6.2 Benchmark groundwater levels and quality consistent with</p>

		<p>—</p>	<p>National Land and Water Resource Audit standards by 2008 (Cross Regional). L2MAT 6.2 Basin wide extension program ensures that 80% of land managers have an understanding of the benefits and impacts of the application of alternative water management techniques and a systems-based approach by 2009. W4MAT 7.1 Significant groundwater resources are managed for maximum community benefit by adoption of water allocation “best management” criteria by 2009. W4MAT 1.1 A report on surveys of groundwater resource with potential productive yield within the region is prepared by 2009. Outputs: Improved monitoring program. 3 x assessments – identification groundwater resources. 1 x exploratory drilling program (combined program across projects). 4 x newsletters. 1 x study tour. 1 x capacity building workshop. 1x Bore monitoring network enhanced Existing groundwater resources database enhanced 1x CLC network trained to undertake groundwater monitoring activities 1x best management criteria for management of key low salinity groundwater resources 1x Report on specific best management criteria for priority groundwater resources 1x existing groundwater monitoring program enhanced</p>
<p>I3T20 1 By 2025, 10 rural towns in the Avon Region have the risk of damage to infrastructure and heritage values due to salinity and flooding reduced by 50% compared with 2004 risk assessments. W5T201 Known heritage and cultural values are maintained and enhanced by 2025.</p>	<p>I3 MAT 2.2 , I3 MAT5.1 , I3 MAT 3.1 , I3 MAT 7.1, I3 MAT 6.1 , W5 MAT 7.1 , I3 MAT 6.2 , L2MAT 6.2</p>	<p>1. Water management plans. 2. Heritage and cultural protocols. 3. Extension.</p>	<p>Outcomes Resource Condition:</p> <ul style="list-style-type: none"> • Salinity and flooding reduced by 10% and a 20% improvement in cultural and heritage values in 6 towns. Development of a rural town water management model, water management plans and practices and the implementation of an integrated water management pilot schemes. • Research and collate information regarding management of threats (saline groundwater rise) to town infrastructure and cultural/historical sites within the region. • Distribute and utilise information of threat management to assist communities to protect assets.

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<p>I1T20 1 By 2025, the percentage of roads at risk due to high water tables and flooding is reduced to 10% (2, 520 km) or less of the total road network in the Avon River Basin.</p>	<p>I1 MAT 7.1 , I1 MAT 6.1 ,I1 MAT 4.1 , I1 MAT 8.1 , I2 MAT 1.1 , I1 MAT 3.1 , I1 MAT 3.2 , I1 MAT 3.3, I1 MAT 6.1 , W5MAT 7.1 , L2MAT 6.2</p>	<ol style="list-style-type: none"> 1. Inventory of assets. 2. Heritage and cultural protocols. 3. Education package and demonstration of management options. 	<p>Outcomes</p> <p>Resource Condition:</p> <ul style="list-style-type: none"> • Achievement of 5% reduction in the number of roads affected by flooding due to the implementation of best practice. Research and collate information regarding salinity threat analysis methods and management of those threats to infrastructure within the region. • Development of an education and extension program for transport asset managers including the utilisation of existing salinity threat management information. • Demonstration of management options.

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<p>L2T201 Reduction in the average rate of groundwater rise on land in middle and upper catchment areas from 15-30mm to 10-20mm by 2025. (The target for middle and upper catchment area refers to very significant reductions in groundwater rise. This action is considered essential to allow recovery and containment and ongoing utilisation of the land resources).</p> <p>L2T202 The extent of valley floor salinity is less than 12% of land used for agriculture by 2025. (Note the area affected in currently over 5.4%. This is expected to eventually increase to over 27%)(The target for the valley floor recognises that saline land has a value in its own right and the intent is to contain salinity in these areas and utilise saline land as a resource)</p> <p>W4T203 Disposal of groundwater from mining operations is managed according to statutory licence conditions by 2009.</p> <p>W4T204 Disposal of groundwater from agricultural operations is managed according to acceptable 'best practice' guidelines by 2009.</p>	<p>L2 MAT 7.4 , L2 MAT 7.2 , W4 MAT 3.1, L2 MAT 5.1 , W4 MAT 6.2 , W4 MAT 2.1</p>	<ol style="list-style-type: none"> 1. Review of bore locations. 2. Demonstrate acid groundwater disposal methods. 3. Planning for groundwater extraction and disposal 4. Demonstration and governance issue review for engineering options review. 5. Id high risk groundwater recharge zones. 6. Asset protection. 7. Deep rooted perennial establishment. 8. Extension and policy development. <p>—</p>	<p>Outcomes</p> <p>Resource Condition:</p> <p>Understanding of groundwater disposal impacts on river systems and wetlands is increased by 20%, extent of recovery actions on saline land increased by 20%.</p> <p>MATs: W4 MAT 2.1 A report on the extent of acid groundwater within the Avon River Basin and the potential risk if proposes due to groundwater rise and as a result of engineering options based on existing groundwater monitoring information is prepared by 2006. W4 MAT 6.2 An adaptive management framework for planning, assessing and negotiating regional-scale engineering options for groundwater management is developed and being adopted by 2007. L2 MAT 5.1 Integrated catchment plans are prepared for 50 catchments as part of Local Area Plans in high dryland salinity risk areas by 2009. L2 MAT 5.1 Integrated catchment plans are prepared for 50 catchments as part of Local Area Plans in high dryland salinity risk areas by 2009. W4 MAT 3.1 Assessment of treatment methods for safe disposal of acid groundwater by 2008. L2 MAT 7.2 More than 100 000 ha of saltland re-vegetated for production of conservation benefit by 2009. L2 MAT 7.4 More than 20 000 ha of commercial tree crops are established in areas where groundwater control benefits will occur by 2009. L2 MAT 7.4 More than 20 000 ha of commercial tree crops are established in areas where groundwater control benefits will occur by 2009.</p> <p>Outputs:</p> <p>1x Decision-making framework/process for assessing potential engineering project proposals auction process for on ground actions. 1x drainage governance tool developed Approx 10,000 ha of land treated through improvements to existing drainage systems 2 x best management practice codes or guidelines completed Up to 100,000ha of native saltland pastures plantations established Native plant based enterprise development - extension support, MTG training and scenario development. Up to 20,000ha of native Oil Mallee plantations established 1 x exploratory drilling program (combined program across projects). 3 x extension field days. 5 x educational packages.</p>
<p>W3T201 By end 2025, 50% of agricultural properties in the 'Wheatbelt' zone and 50% of agricultural properties in the 'Avon</p>	<p>W3MAT4.1, 3MAT6.1, W3MAT5.1, 3MAT7.1, L2MAT6.2 , W3MAT VIII.1 ,</p>	<ol style="list-style-type: none"> 1. Data collection. 2. Farm water planning training. 3. Integrated plan development. 	<p>Outcomes</p> <p>Resource Condition:</p> <ul style="list-style-type: none"> • A 5% increase in environmental water flows are achieved in the

<p>Arc' have zero annual water deficits. W3T202 Environmental surface water requirements are maintained within the 'Avon Arc' zone until 2025 and beyond.</p>	<p>W3MAT V.2 , W3MATV.3</p>	<p>4. Extension.</p>	<p>Avon Arc through improved management of existing water harvesting processes. Demonstrate, by the development of integrated catchment plans, the potential for the more efficient and appropriate use of identified water supplies on farms.</p> <ul style="list-style-type: none"> • Encourage a catchment approach to water supply management and demonstrate how water supply planning may assist in addressing problems associated with groundwater salinity, flooding and erosion. • Demonstrate how farm water planning may contribute to achieving improved land and water management practices. <p>MATs: W3MAT V.2 Proposals for new dam constructions within the "Avon Arc" are referred through provisions of the Town Planning and Development Act (1928) for environmental assessment by 2009. W3MAT VIII.1 Monitored (target 10%) reduction in scheme water use established by 2007.</p> <p>L2MAT6.2 Basin wide extension program ensures 80% of land managers have an understanding of the benefits and impacts of the application of alternative water management techniques and a systems-based approach by 2009</p> <p>I3 MAT VI.3 A report and extension material is produced by 2006 for use by local government that identifies commercial 'drivers' of alternative water sources and water use patterns. W3MAT7.1 50% of landholders within demonstration projects have a self-sufficient water supply by 2009. W3MAT5.1 By 2007, 5 integrated plans are prepared to demonstrate on-farm self sufficiency for water supply. W3MAT6.1 More than 10 accredited people with farm water planning skills are providing services within the region by 2009. W3MAT4.1 The volume of water used annually for farm and town supply from reticulated schemes is identified within 30 Local Area Plans and targets for reduced use are set by 2007.</p> <p>Outputs:</p> <p>2x Information package targeting LGA's.</p> <p>1x Resource Assessment Report.</p> <p>1x Monitoring program developed.</p> <p>5x Workshop series held.</p> <p>1x Market Analysis and industry development report. Increased water harvesting through drain diversion</p> <p>1x Technical support provided to CLC's / NRMO's for improved skills to implement surface water management actions.</p> <p>1x Final report and targets set for reduced reticulated water use.</p> <p>1x Current reticulated water usage report, including draft reduction</p>
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			<p>targets set.</p> <p>1 x survey on water consumption per LGA.</p> <p>1 x training course in farm water planning techniques (including training material)</p> <p>5 x integrated demonstration catchment surface water plans (200, 000ha).</p> <p>1 x extension package – display and written material.</p>
L3T201 A 50% reduction in the economic and environmental impacts of all priority animal and plant pests across the region by 2014.	L3MAT5.1, L3MAT6.1	<ol style="list-style-type: none"> 1. Consultation and regional issue ID. 2. Scoping issues (including spatial distribution). 3. Issue promotion. 4. Development of management strategies. 5. Regional representation. <p>—</p>	<p>Outcomes</p> <p>Resource Condition:</p> <p>A 10% reduction in the impact of targeted pest species in assets managed for Natural Diversity.</p> <p>MATs: L3MAT 6.1 By 2009, the extent of rabbits, cats, dogs and foxes, their economic and environmental impacts and management options will be understood by 80% of land managers. L3MAT 5.1 By 2008, 80% of land managers have knowledge of the impacts and a management of priority plant pest species.</p> <p>Outputs:</p> <p>9 x farmer forums (issues scoping).</p> <p>4 x LGA forums (issues scoping).</p> <p>1 x NGO forum (issues scoping).</p> <p>9 x sub-regional map set – pest distribution.</p> <p>1 x biosecurity database.</p> <p>30 x LAPs with biosecurity component.</p> <p>3 x extension and training workshops.</p> <p>9 x sub-regional pest management strategies.</p> <p>1 x regional pest management strategy.</p>
L1.1T201 Soil acidity levels (top and sub-surface) at or above pH 5.5 (CaCl ₂), in all soils with low capacity to buffer pH change by 2020.	L1.1 MAT2.1, L1.1 MAT6.2, L1.1 MAT 4.1	<ol style="list-style-type: none"> 1. Current status determination. 2. Establish benchmarks. 3. Review land management and amelioration methods. 4. Id sustainable management practice. 5. Demonstration of sustainable practice. 	<p>Outcomes</p> <p>Resource condition:</p> <ul style="list-style-type: none"> • Cross regional soil acidity extent and levels understood, significant impact on acidity levels in targeted demonstration sites. <p>Demonstrating effective monitoring and alternative management of soil acidity that will assist in alleviating the following issues:</p> <ul style="list-style-type: none"> • Reduced plant cover due to intolerance to low pH and aluminium toxicity, leading to increased dryland salinity, waterlogging and flooding. • Increased nitrate pollution of groundwater and reduced water quality due to excessive use of fertilisers and reduced plant growth due to intolerance to low pH and aluminium toxicity.

		<p>—</p>	<ul style="list-style-type: none"> • Reduced vegetation cover and accelerated runoff and erosion due to plant intolerance to low pH and aluminium toxicity. • Declining pH of waterways and aquatic environments. • Increased infrastructure costs, as a result of increased salinity, waterlogging, flooding and sediment, resulting from increased run off and erosion attributed to reduced plant cover, due to intolerance to low pH and aluminium toxicity. <p>MATs:</p> <p>L1.1 MAT 4.1 Study completed documenting the spatial extent of amelioration actions, linking to a sub-regional scale acidity status map product and contributing to ongoing state level status mapping, monitoring and evaluation by 2008. L1.1 MAT 6.2 80% of land managers have knowledge of BMP for soil acidity (including economic benefits) by 2008. L1.1 MAT 2.1 Regional database established to record the status of top and sub-soil pH documented for all Land Resource Sub-Regions by 2008.</p> <p>Outputs:</p> <p>1x status assessment. 1 x acidity monitoring database. 1 x triple bottom line assessment of amelioration techniques. 4 x case studies covering 10,000ha. 6 x field assessments of management techniques, covering 60,000ha. 1 x management practice summary. 10 x point source field impact assessments (10, 000ha). 5 x management demonstration sites covering 5000ha. 2 x fact sheets 1x BMP process extension package. 1x GIS data set liming/acidity maps.</p>
<p>L1.5T201 100% of soils with recognised fertility issues (elements, organic matter and microbial activity) are identified within 5 years and a 30% improvement over benchmarked fertility levels is achieved by 2020.</p>	<p>L1.5 MAT2.1, L1.5 MAT3.1, L1.5 MAT 4.1 ,L1.5 MAT 6.1 , L1.1 MAT 6.1</p>	<ol style="list-style-type: none"> 1. Review testing methodology. Extension campaign, to increase awareness of soil fertility 2. Landscape demonstration. 3. Review of land management practices. 	<p>Outcomes</p> <p>Resource condition:</p> <ul style="list-style-type: none"> • Parameters for soil health understood (biological, chemical and physical) and resource condition target better defined. Reduced and better targeted fertiliser use resulting in fewer nutrients leaching to groundwater and run off to river systems, leading to improvements in water quality. • Sustainable agricultural production systems resulting in increased water use and reduced run off. Increased and sustained plant growth may lead to a reduction in issues such as secondary salinity, waterlogging and erosion, with resultant gains

		<p>—</p>	<p>in water quality.</p> <p>Mats: L1.1 MAT 6.1 Workshops for education and training in soils management are held at 20 locations within the region by 2006*. L1.5 MAT 6.1 By 2008, 80% of land managers have knowledge of BMP for maintaining soil fertility. Note: Surrogate measures including fertiliser usage, stubble retention rates and soil test application rates will be used L1.5 MAT 4.1 By 2008 a representative RCT will be developed based on data gathered and analysed in representative land resource areas and up take of soil management methodology. L1.5 MAT 3.1 By 2008, 10 training courses will have been held with the intended outcome being that 70% of land managers will have an understanding of the benefits of the sustainable management of soil fertility in a resource management context. L1.5 MAT 2.1 Six representative land resource areas (catchment scale) with complete soil fertility mapping and linked criteria by 2009.</p> <p>Outputs:</p> <p>1 x field study of spatial distribution and testing methodology. 1 x benchmarking summary. 20 x regional workshops on soil health and extension package. 3 x demonstration sites (85,000ha). 3 x sustainable practice demonstration sites (70,000ha). 1x website developed and maintained. 1x monitoring program. 1x Soil health RCT. 6 x case studies and extension packages.</p>
<p>All Natural Diversity 20 year Targets</p>	<p>B1MAT1.1abc, B1MAT1.2bc, B1MAT2.1abc, B2MAT1.1abc, B2MAT2.1abc, B2MAT3.1abc, B3MAT1.1ab, B3MAT2.1ab, B3MAT2.2ab, B5MAT 1.1, B5MAT1.2, B5MAT2.1, B5MAT8.1, W2MAT2.1,</p>	<p>1. Asset inventory. 2. Assessment of fresh and saltwater wetlands.</p>	<p>Outcomes</p> <p>Resource Condition: 50% increase in regional asset identification and composition and 20% increase in identification of the extent of threats potentially impacting regional assets.</p> <p>MATs: B1MAT1.1abc An inventory (including estimates of current distribution and abundance of species in the region known to be viable, declining and threatened established by Dec. 2009 for viable species, by Dec. 2007 for declining species, and by Dec. 2006 for threatened species. B1MAT1.2bc Priority declining and threatened species and priority locations (areas containing high numbers or unique occurrences of declining or threatened species) identified by Dec. 2006 for threatened species and by Dec. 2007 for declining species. B1MAT 2.1abc A threat assessment for viable, declining and threatened species in the region completed and results included</p>

		<p style="text-align: center;">—</p>	<p>into 30 LAPs by June 2006 for threatened species, by June 2007 for declining species and by June 2008 for currently viable species. B2 MAT 1.1abc An inventory of the current extent and integrity of all natural ecological communities (terrestrial and aquatic) completed by Dec. 2007. B2 MAT 2.1abc A threat assessment for currently viable, declining and threatened NECs designed and applied and results incorporated into 30 LAPs by December 2006. B2 MAT 3.1abc Priority viable, declining, threatened NECs (terrestrial and aquatic) and priority locations (areas containing multiple NECs or unique occurrences of uncommon NECs) identified by Dec. 2006. B3 MAT 1.1ab An agreed classification of Avon ecosystems, and an inventory and map of the distribution, extent / condition integrity of vulnerable and threatened ecosystems completed by Dec. 2007. B3 MAT 2.1ab A threat assessment for ecosystems completed and results incorporated into 30 LAPs by December 2006. B3 MAT 2.2ab The threat to major low lying ecosystems due to rising groundwater and potential discharge from drainage schemes is predicted by Dec 2006. B5 MAT 1.1 Classification of distinct regions within the Avon River Basin that have similar biophysical and human land-use patterns completed by Dec. 2005. B5 MAT 1.2 Biodiversity survey program for all asset classes implemented by Dec. 2005. B5 MAT 2.1 Threats that need to be addressed at bioregional scales, such as high water tables, altered hydro periods, habitat loss & fragmentation, declining water quality, sedimentation, weeds, pests & diseases are quantified by Dec. 2005. B5 MAT 8.1 Regional biodiversity monitoring program for high water tables, altered hydro periods, habitat loss and fragmentation, declining water quality (nutrient, acidity, salinity and sediments), sedimentation, weeds, pests & diseases developed and initiated by 2005. W2 MAT 2.1 The extent of salinity risk, flooding and sedimentation, threatening processes is mapped for 13 major tributaries within the "Avon Arc" and Mortlock River System by 2009.</p> <p>Outputs:</p> <p>1x asset database and management system.</p> <p>1 x study.</p> <p>1x survey processes.</p> <p>10 x lake assessments.</p>
<p>1. All native species that naturally occur in the Avon region persist in viable populations.</p> <p>2. Maintain the extent and integrity (structure and composition) of all natural ecological communities that occur in the Avon Region</p>	<p>B2.8.2abc B1.8.2abc B2.8.1abc B1.8.1abc B2.7.2c B2.7.2ab B2.7.1abc B1.7.1c B1.7.1b B1.7.1a B2.6.1ac B1.6.1c B1.6.1b B2.5.1abc B1.5.1c B1.5.1b B2.4.1abc B1.4.1abc B2.2.1abc B1.2.1abc B2.3.2abc B1.3.1abc B2.3.1abc B1.1.2bc</p>	<ol style="list-style-type: none"> 1. Strategic framework. 2. Action based training. 3. Conservation plans 4. Conservation actions 5. Monitoring sites. 	<p>Outcomes</p> <p>Resource Condition:</p> <ul style="list-style-type: none"> • Move to increase a change in the status of 37 species of plants and animals and a 100% increase in the protection of the 10 species. • Management of assets (native species and communities) for a range of threatening processes including salinity and water

		<p>—</p>	<p>quality. The largest grouping of such assets are located in the most threatened part of the landscape (valley floors or mid slope) and as such salinity is having the greatest impact on their long term viability. Managing salinity, including its causes, in agricultural context, is an essential component of this project.</p> <p>MATs: B1.1.2bc Priority declining and threatened species and priority locations (areas containing high numbers or unique occurrences of declining or threatened species) identified by June 2007 for threatened species and by June 2008 for declining species. B2.3.1abc Priority viable, declining, threatened NECs (terrestrial and aquatic) and priority locations (areas containing multiple NECs or unique occurrences of uncommon NECs) identified by Dec 2006. B1.3.1abc Conservation options for viable, declining and threatened species are assessed for feasibility and cost benefit by June 2006 for declining and threatened species and by June 2007 for viable species B2.3.2abc Conservation options for viable, declining and threatened NECs are assessed for feasibility and cost benefit by June 2007 B1.2.1abc A threat assessment for viable, declining and threatened species in the region completed and results included into 30 LAPs by June 2006 for threatened species, by June 2007 for declining species and by June 2008 for currently viable species. Note: also in ND001 B2.2.1abc A threat assessment for currently viable, declining and threatened B1.4.1abc MATs reviewed for threatened species by Dec 2006, for declining species by Dec 2007 and for viable species by Dec 2009, following completion of threat assessments and assessment of management options. B2.4.1abc MATs for currently viable NECs reviewed by Dec 2007, for declining by Dec 2006 and for threatened NEC's by Dec 2006 B1.5.1b Conservation plans for priority locations which contain high numbers, or unique occurrences, of known priority species and NEC's completed by Dec 2008 B1.5.1c Conservation plans for priority threatened species commenced by March 2006 and completed by Dec 2008 B2.5.1abc Biodiversity conservation guidelines for viable NECs incorporated into 30 Local Area Plans by Dec 2006 and conservation plans for threatened and declining NECs incorporated into LAPs by Dec 2006 and Dec 2007 respectively B1.6.1b Action based training provided to individuals undertaking restoration programmes for priority declining species and NEC's by June 2008 B1.6.1c Biodiversity implementation teams established and trained to undertake species restoration work in all priority locations containing the 27 "critically endangered" and "endangered" species by June 2008 B2.6.1ac Training in conservation of viable NECs provided for all private landholders engaged in covenanting and other incentive schemes by June 2008 B1.7.1a Priority biodiversity conservation actions based on guidelines in the 30 Local Area Management Plans implemented by 2010. B1.7.1b Conservation</p>
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			215 invertebrate pest programs. 31 x monitoring programs established. 68 x monitoring programs enhanced.
<p>Vulnerable” Ecosystems (ecosystems whose current extent in good condition exceeds 15% of their pre-European extent and their current extent exceeds 2000 ha) retain their current extent and integrity and have at least 15% of their pre-European extent formally protected for conservation (reserve system or legally binding management agreement).</p> <p>“Threatened” Ecosystems (ecosystems whose current extent in good condition is less than 15% of their pre-European extent, or have <2000 ha total extent remaining, retain their current extent and retain/improve their integrity, and have at least 60% of their remaining extent formally protected for conservation (reserve system or legally binding management agreement).</p> <p>W2T201 Priority sections of major and minor tributaries, identified for sediment and nutrient management purposes. Or for salinity control have improved by at least one ‘foreshore condition’ class ((Pen & Scott, 1995) by 2025. (Note: priority sections to be identified and a specific 20-year target to be set by 2007 based on MAT’s W1.3.1. W1.3.2 and W1.3.3)</p> <p>W1T202 The current hydrological capacity of the Avon River Pools is not reduced by more than 20% by 2025.</p> <p>Linked 20 year Targets</p> <p>W1T201 The average monthly</p>	<p>WTBA W1.TBA W2.8.1 W2.7.4 W2.5.2 W1.TBA W2.5.1 W2.2.1 W2.1.1 W1.TBA W1.5.4 W1.2.3 B4.5.2. B3.8.2abc B3.8.1ab W1.TBA B3.7.3ab B2.7.2b B2.7.1c W1.TBA B3.7.1ab B2.6.2b W1. TBA B4.7.3B3.5.2ab B2.7.2b B4.6.1. B3.6.1ab B3.5.1ab B2.7.1c B2.5.1abc B4.5.1. B3.4.1ab B2.6.2b B4.4.1. B3.3.2ab B2.5.1abc B4.3.1. B3.3.1ab B2.4.1c B3.5.2ab B3.2.2ab B3.2.1ab B2.4.1b</p>	<ol style="list-style-type: none"> 1. Id priority aquatic ecosystems. 2. Conservation plans. 3. Landholder training. 4. Protection and improvement of ecosystems. 5. Monitoring. 6. Improving condition of river pools. 7. Tributary surveys. 8. Id threatening processes for tributaries. 9. Increasing local capacity 10. Revegetation 11. Monitoring. <p>—</p>	<p>Outcomes</p> <p>Resource Condition:</p> <ul style="list-style-type: none"> • 80% of regional ecosystems identified and a 20% increase in the status (protection focus) of 10% of identified priority ecosystems. Addresses water quality (including salinity) issues in order to manage aquatic ecosystem assets. Salinity and water quality are the greatest threat to such assets and the project aims to address the catchment scale causes of such problems. • As with ND002 many ecosystems are located in low lying positions in the landscape and if the causes of salinity and waterlogging are not managed in a catchment context asset management will not be successful. <p>MATs: B2.4.1b MATs for currently declining NECs reviewed and updated by Dec 2006. B3.2.1ab A threat assessment for ecosystems completed and results incorporated into 30 LAPs by Dec 2006.</p> <p>B3.5.2ab Priority ecosystems and priority locations that should be added to the conservation reserve system or secured through legally binding means identified by Dec 2006 B2.4.1c MATs for currently threatened NECs reviewed and updated by Dec 2006. B3.3.1ab Review and adapt / adopt existing criteria to identify priority terrestrial and aquatic ecosystems by 2007 B4.3.1. Strategies for managing salt lakes and wetlands within the Avon River Basin consistent with the Australia Ramsar Management Principles developed by end-2005.</p> <p>B2.5.1abc Biodiversity conservation guidelines for viable NECs incorporated into 30 Local Area Plans by Dec 2006 and conservation plans for threatened and declining NECs incorporated into LAPs by Dec 2006 and Dec 2007 respectively. B3.3.2ab Options for retaining and improving the integrity of vulnerable and threatened ecosystems are assessed for feasibility and cost benefit by Dec 2005 B4.4.1. Priorities established for protection of hydrological and ecological function of major salt lakes. B2.6.2b Action based training in retention and restoration of declining NECs for all private landholders engaged in covenanting and other incentive schemes by June 2006 B3.4.1ab MATs for vulnerable ecosystems reviewed and updated by Dec 2007; MATs for threatened ecosystems reviewed and updated by Dec 2006 B4.5.1. Recovery Plans prepared for 5 listed wetlands of National Significance by 2007. B2.5.1abc Biodiversity conservation guidelines for viable NECs incorporated into 30 Local Area Plans by Dec 2006 and conservation plans for threatened and declining NECs</p>

<p>concentration of total nitrogen and total phosphates and total suspended solids will not exceed targets of 1 mg/l (N), 0.1mg/l (P), (TSS to be determined) at Walyunga gauging station</p>	<p>—</p>	<p>incorporated into LAPs by Dec 2006 and Dec 2007 respectively. B2.7.1c All threatened NECs have conservation agreements. B3.5.1ab Biodiversity conservation plans for vulnerable and threatened terrestrial and aquatic ecosystems developed and incorporated into 30 Local Areas Plans by 2009 B3.6.1ab LGA-based biodiversity implementation teams established and trained to undertake and mentor retention/improvement of priority vulnerable and threatened ecosystems within each LGA by June 2008 B4.6.1. Five community groups for salt lakes and wetlands management in the Avon River Basin established and supported by end-2005. B2.7.2b The area of priority declining NECs with conservation agreements is increased by 500 ha annually for 5 years. B3.5.2ab Priority ecosystems and priority locations that should be added to the conservation reserve system or secured through legally binding means identified by Dec 2006. B4.7.3. More than 200 hectares of tree crops are being established per year for the protection from salt risk of threatened regionally significant freshwater wetlands. W1. TBA Areas of riparian ecosystems with high habitat value are identified by 2005. W1.TBA By 2008 the tolerance of Glen Avon, Gwambygine and Wilberforce river pool ecosystems to fluctuations in salinity, pH, phosphates and nitrogen is determined. B2.7.1c All threatened NECs have conservation agreements. B2.7.2b The area of priority declining NECs with conservation agreements is increased by 500 ha annually for 5 years. B3.7.3ab The area of priority threatened ecosystems formally protected (reserve system or management agreement) has increased by 20% PA for 5 years. W1.TBA The rate of sediment inflow and nutrient load increase to Avon River pool is reviewed by 2006 B3.8.1ab Long term monitoring sites and protocols for assessing status (extent and integrity) of vulnerable and threatened ecosystems designed and established by June 2006. B3.8.2abc Status of selected ecosystems reviewed at 3-year intervals B4.5.2. Ten threatened regionally significant wetlands have management plans for preventative actions developed and actions initiated by 2007. W1.2.3 The mapped extent of Bridal Creeper in the river environment is reduced by 75% and Tamarisk and Boxthorn are eradicated from the Avon River Basin by 2009. W1.5.4 Commercial operations are removing more than 20,000m³ of sediments annually from priority river pools by 2009. W1.TBA Recovery Plans for five priority river pools are complete and being implemented by 2006. W2.1.1 Foreshore and channel assessment surveys are complete for 13 major tributaries within the "Avon Arc" and Mortlock River System by 2009. W2.2.1 The extent of salinity risk, flooding and sedimentation, threatening processes is mapped for 13 major tributaries within the "Avon Arc" and Mortlock River System by 2009. W2.5.1 Management Action Plans to be prepared for 13 priority sections within tributaries in consultation with local communities in the "Avon Arc" and Mortlock</p>
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Conserve the extent and integrity of	B4 MAT 2.1 B4 MAT 5.1 B4 MAT	1. Selection and options for	Outcomes

<p>the natural diversity (species, NECs and ecosystems) within 12 landscapes/ecoscapas, which best represent, the natural diversity of the Avon River Basin.</p>	<p>7.1 B4 MAT 8.2</p>	<p>ecoscapas.</p> <ol style="list-style-type: none"> 2. Conservation plans 3. Support teams 4. Implementation. 5. Monitoring sites. <p>—</p>	<p>Resource Condition:</p> <ul style="list-style-type: none"> • Conservation status of 12 recognised ecoscapas increased by 20%. Working towards condition improvement Addressing the threats to significant landscape assets in the region in a ridge top to ridge top approach. This project is addressing 4 ecoscapas that incorporate valley floor and mid-slope locations that are threatened by salinity. Without management of salinity on a catchment scale all ecoscapas being addressed will not be viable in the near future. <p>MATs: B4 MAT 8.2(N) Status of selected natural diversity within representative ecoscapas reviewed at 3 year intervals W2 MAT 8.1 12. Strategic regional monitoring program for water quality B4 MAT 7.1 Actions identified in conservation plans for representative ecoscapas (including fencing, regeneration, revegetation, weed and animal pest management, surface water management, drainage, groundwater pumping and other actions) implemented by 2009. B4 MAT 6.1 Bioregional biodiversity teams established and trained to undertake mentoring and project management skills to conserve representative landscapes by June 2008.</p> <p>B4 MAT 5.1 Biodiversity conservation plans developed for representative ecoscapas (1 per IBRA region) by June 2006 with an additional 1 per IBRA region developed by June 2008.</p> <p>B4 MAT 2.1(C) A threat assessment for threatened ecoscapas completed and results incorporated into 30 Local Area Plans by December 2009</p> <p>Outputs:</p> <p>1 x ecoscapas strategic plan – including asset id.</p> <p>4 x ecoscape plans.</p> <p>50 x workshops (estimated 500 participants) and associated extension material.</p> <p>12 x ecoscapas containing terrestrial native vegetation enhanced and rehabilitated</p> <p>10 x covenants at ecoscape scale and 10 voluntary agreements.</p> <p>60ha of riparian vegetation protected/enhanced.</p> <p>4000ha of terrestrial vegetation enhanced.</p> <p>600ha of native species planted.</p> <p>200ha of weed control.</p> <p>5000ha of animal pest control.</p> <p>5000ha protected from wind erosion.</p>
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			<p>6000ha of surface drainage. 15 x monitoring programs. 8 x recovery management plans for threatened species and ecological communities completed 8 x threat assessment studies completed 12 x community groups assisted</p>
<p>The Avon River Basin contains a connected and functional network of vegetation that represents the natural diversity of the regions and supports regional scale ecological functions</p>	B1.7.2a, W2.1.3	<ol style="list-style-type: none"> 1. Biodiversity management training. 2. On ground works and incentive schemes. 3. Monitoring sites. <p>—</p>	<p>Outcomes Resource Condition: 100% increase in the recognition of regional scale iconic assets and management commenced for targeted locations. MATs: W2.1.3(C) Priority minor tributary assets are identified within 30 Local Government Plans by end 2007. B1.7.2a(C) Conservation actions for the five highest-value remnants in each LGA commenced by Sep 2005. Outputs: 30 x guideline documents. 27 x training courses (450 participants) and associated extension material. 1500ha of agreements to protect. 3000ha of remnant vegetation fenced. 1000ha of native species planted. 5 x seed banks. 10,000ha of animal pest control. 90 x Property or reserve management plans.</p>
All Natural Diversity 20 year Targets	B5MAT5.7	<ol style="list-style-type: none"> 1. Fire management guidelines. 2. Fire management training 	<p>Outcomes Resource Condition: 25% improvement in the long term condition of riparian vegetation through adoption of fire management plans. MATs: B5MAT5.7. Protection and enhancement of species through effective shire based fire management planning in 10 LGAs. Protection of riparian vegetation and associated water quality issues through appropriate fire management plans. Outputs: 4 x best practice guidelines. 4 x training workshops (120 participants)</p>

			3 x monitoring sites established. 1 x fire and biodiversity education program.
All Water and Natural Diversity. Cultural mapping, Use of Noongar language, Access to significant sites, Walk trails, Committing to economic opportunities for Noongar People.	All Water and Natural Diversity	<ol style="list-style-type: none"> 1. Identify Noongar NRM sites and development of management plans. 2. Development and use of Noongar names in NRM - guidelines developed <p>—</p>	<p>Outcomes</p> <p>Resource Condition: Project addresses all priority Water and Natural Diversity RCTs.</p> <p>MATs: Indigenous NRM MATs are to be developed in 2006/2007 via project PS001. This project is addressing the following preliminary MATs:</p> <ul style="list-style-type: none"> • Cultural mapping • Use of Noongar language • Access to significant sites • Walk trails • Committing to economic opportunities for Noongar People <p>Outputs:</p> <p>Cultural networks identified, maintained and their use promoted.</p> <p>20x Site management plans developed.</p> <p>120x Sites identified and indigenous community engaged.</p> <p>1x Interactive tool developed for use by all NRM organisations and the community.</p> <p>1x Language guidelines produced</p> <p>1x Database developed and updated, interactive computer based tool developed.</p>
All	All	<ol style="list-style-type: none"> 1. Engage and build partnerships with Local Government. 2. Coordinate and facilitate regional Indigenous community input to activities. 3. Marketing and communication of the Regional NRM priorities 4. Regional monitoring and evaluation activities 5. Implementation and evaluation of AIP projects 	<p>Outcomes</p> <p>Resource Condition: Project addresses all priority RCTs</p> <p>MATs: Project addresses all priority MATs.</p> <p>Outputs:</p> <p>1x Regional M&E framework developed</p> <p>1x AIP review</p> <p>Aboriginal priorities recognised in shire planning, farm and catchment planning</p> <p>1x Regional INRM strategy</p>

			15x field days, 150x press releases, media statements etc. 1x Regional Marketing and Communications plan LAP development and delivery for 31 shires within the Region. 1x Revised regional LGA planning processes 1x Voluntary ROC development incorporating NRM practices
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*Details investment for the 05-08 period

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7.3 Program and project schedules

Project schedules detail the allocation of investment to program, sub-program and project activities. The schedules are described in two parts:

1. Program overview, detailing program and sub-program goals and contribution to resource management outcomes and project summaries.
2. Project overviews, providing linkages between project activities and regional targets and detailing proposed funding for the 2006/08 financial years.

7.3.1 Integrated Water Management Program

7.3.1.1 Program goal

The protection, management and sustainable use of water are the basis for all natural resource management outcomes. We live in a vast inland area of droughts and floods. The management of water assets must cover these extremes to reduce the impact they have on the environment, production and social assets of the region.

The Integrated Water Program, through a series of sub-programs, proposes a range of on ground works, extension activities, monitoring and evaluation, and community participation to achieve the long term sustainability of the region's natural resources.

Table 7.3 Program/sub-program structure

Integrated Water Management Program	Priority 20 year targets	Priority MATs
<i>Sub-programs</i>		
1. Managing surface water (farm water planning and maintaining environmental flows).	W3T201 W3T202	W3MAT4.1, 3MAT6.1, W3MAT5.1, 3MAT7.1, L2MAT6.2, W3MAT VIII.1, W3MAT V.2, W3MATV.3
2. Water Quality (nutrient, sediment and wastewater management (mining, urban and agricultural))	W ₁ T ₂₀₁ W ₂ T ₂₀₁	W1 MAT II.6, W1 MAT II.8, W1MAT IV.1, W1MAT2.5, W1MAT III.4, W1MAT5.2, W2MAT7.3, W1 MAT II.2, W1 MAT II.7, L2MAT6.2, W1.TBA
3. Dryland Salinity (managing watertables in upper and middle catchments, valley floors)	L2T201 L2T202 W4T203 W4T204	L2 MAT 7.4, L2 MAT 7.2, W4 MAT 3.1, L2 MAT 5.1, W4 MAT 6.2, W4 MAT 2.1
4. Asset Management (groundwater aquifers, roads at risk, rural towns, community assets)	W4T201 W4T202 IT201 I3T201 W5T201	I1 MAT 7.1, I1 MAT 6.1, I1 MAT 4.1, I1 MAT 8.1, I2 MAT 1.1, I1 MAT 3.1, I1 MAT 3.2, I1 MAT 3.3, I1 MAT 6.1, W5MAT 7.1, L2MAT 6.2 I3 MAT 2.2, I3 MAT5.1, I3 MAT 3.1, I3 MAT 7.1, I3 MAT 6.1, W5 MAT 7.1, I3 MAT 6.2, L2MAT 6.2 W4MAT 1.1, W4MAT 7.1, L2MAT 6.2, L2MAT 6.2, W4MAT 4.1

7.3.1.2 Sub-program description

Managing Surface Water

An expansion in the availability of reticulated water, the clearing of catchments and changes in land management has led to an increase in surface water runoff across the Avon River Basin. At the same time we live in a changing environment of lower rainfall with periods of drought. The management of surface water via harvesting for domestic and productive uses, and to reduce the impact of flooding and erosion is a significant issue for the Avon River Basin. In the Avon Arc however, increased use of surface water by dam construction and other means of harvesting has highlighted the need to manage surface water to ensure the over use of this resource does not occur. This will ensure environmental flows to sustain aquatic ecosystems are maintained.

The Managing Surface Water Sub-program will address the following issues:

- Surface water resources from the landscape, granite outcrop and from public and private infrastructure are harvested for social, ecological and social values.
- Stream flow requirements for functional aquatic ecosystems are maintained.
- Local flooding and erosion is minimised.

Water Quality

Declining water quality across the Avon River Basin can be attributed to four main factors; salinity, excess nutrients, acidity and sediments. Altered land management has been the primary cause of water quality decline through the removal of vegetation, inappropriate nutrient management, discharge of acidic groundwater, the removal of riparian vegetation and the River Training Scheme.

Rising watertables and disposal of groundwater has brought acidic and salty water to the surface. Point source and diffuse nutrients is causing eutrophication of waterways, and the alteration of catchments and water bodies has increased delivery of sediment to waterways. The management and improvement of water quality is paramount for all NRM activities in the Avon River Basin. Water quality affects waterway health, agricultural and urban land, biodiversity assets, both terrestrial and aquatic, and community assets such as infrastructure.

The Water Quality Sub-Program will address the following issues:

- Nutrient, salinity and sediment loads discharged to the Swan River and estuary are maintained or reduced to levels that maintain river health.
- Floods to have access to the floodplain, for improved nutrient stripping, sediment deposition and native seed dispersal. Flood damage to infrastructure and property is minimised.
- The natural function of the Avon River is restored and managed for long-term benefit of the community.

Dryland Salinity

The clearing of native vegetation has been a key element of rural development in the Avon River Basin since the early 1900s. However in the last few decades it has become

clear that this has produced major changes in the water cycle, causing groundwater levels to rise rapidly bringing with it natural salt stored in the soil.

In agricultural situations annual pastures with low water-use have replaced high water-using native vegetation. This has affected natural hydrologic processes, as the amount of rainfall now exceeds the usage capacity of the vegetation. The result is increased recharge and a rise in the groundwater, often causing it to intersect valley slopes or floors as discharge (seepage). Groundwater discharge is saline when salts previously stored in the soil and rock dissolve in the rising groundwater and enter streams or come to the soil surface, where evaporation may result in surface accumulations of salt crystals. Groundwater within two metres of the soil surface can be drawn further up the profile into the plant root zone through capillary action.

The management of groundwater for salinity through a series of monitoring, research, community participation, tree cropping and catchment planning initiatives forms the basis of this sub-program.

Issues addressed

- High-risk groundwater recharge areas are identified and managed.
- Review and development of best practice guidelines for salinity management.
- The impacts of groundwater abstraction and disposal is known and managed in a sustainable way to minimise on and off site impacts.
- Implementation of best practice management actions, including revegetation, tree crops and engineering options.

Asset Management

The Asset Management Sub-program aims to manage and protect towns and associated infrastructure, roads, rail, aviation, groundwater assets and other assets of significant cultural or historical value.

Management of infrastructure assets has a two-fold effect as not only are some of these assets under threat from salinity and waterlogging but there is also an increased risk of salinity and waterlogging due to inappropriate design and inadequate capacity to perform their function (road culverts for example). Appropriate management will not only protect important assets from degradation but will also lead to reduced maintenance costs.

Groundwater assets include those that can be utilised for production or domestic use. These assets are of high importance due to the low rainfall experienced by most of the Wheatbelt.

Rivers, foreshores, wetlands and other specific sites are often places of spiritual and cultural significance. Traditional landowners may have strong spiritual attachments to these assets. These areas are also places of spiritual significance for non-indigenous communities.

Issues addressed within the Asset Management Sub-program:

- Community assets, including towns and associated infrastructure, and cultural and historical assets are managed to minimise the impacts of threatening processes.
- Transport infrastructure is managed to reduce the impact of high water tables, salinity and flooding.
- Groundwater resources with potential productive yield are identified and managed for maximum community benefit.

7.3.1.3 Project summaries

Six projects have been developed to address the program priorities identified. The projects are:

IWM001 Avon River Waterway Management

- Identify and manage high-risk nutrient loss locations in the Upper Swan, Avon and Mortlock River Systems and fencing of both the Avon River and major tributaries.

IWM002 Groundwater Source Identification, Assessment and Monitoring

- Develop guidelines for sustainable use of groundwater. This will also include identification of potential environmental impacts due to increase use of the resource.

IWM003 Protection of Community Assets

- Development of a rural town water management model, water management plans and practices and the implementation of integrated water management pilot schemes.

IWM004 Protection of Transport Assets

- Research and collate information regarding salinity threat analysis methods and management of those threats to infrastructure within the region.

IWM005 Salinity Management

- Tree cropping
- Valley floor management – salt land pastures
- Safe disposal of drainage water
- Managed drainage demonstration
- Salinity auction
- Identifying saline landscapes - risk assessment

IWM 006 Water Management and Self Sufficiency

- Demonstrate, by the development of integrated catchment plans, the potential for the more efficient and appropriate use of identified water supplies on farms.

7.3.1.4 Project schedules

Project Title: IWM 001 - Avon River Waterway Management Project
Objectives and Accountabilities
ACC Outcome (Strategic Objective from Regional Strategy): The community takes ownership of the restoration of the natural function of the Avon River and it's floodplain for the long-term benefit of all.
Program Outcome - 20 year Targets: W1T201 The average monthly concentration of total nitrogen and total phosphorus and total suspended solids will not

<p>exceed targets of 1 mg/l (N), 0.1mg/l (P) and (TSS to be determined) at Walyunga gauging station. (Cf: Environmental Protection Policy Swan-Canning).</p> <p>W₂T₂₀1 Priority sections of major and minor tributaries identified for sediment and nutrient management purposes, or for salinity control have improved by one 'foreshore condition' class (Pen and Scott, 1995) by 2025.</p> <p>Project Outcome - Project Aims:</p> <p>The aim of this project is to maintain and/or improve the current average monthly concentration of total nitrogen, total phosphorus and total suspended solids being discharged into the Swan Canning Estuary.</p> <p>Currently the Avon River's average monthly concentration of total nitrogen, total phosphates and total suspended solids discharged into the estuary does not exceed the targets set in the Environmental Protection Policy Swan-Canning, of 1 mg/l (N), 0.1mg/l (P), (TSS to be determined) at Walyunga gauging station. However, this target can be exceeded during major flood events, such as in January 2000, which resulted in a 1 in 20-year summer flood. This delivered 270 giga litres of discharge to the Swan-Canning Estuary- five times the volume of the estuary. The Swan River was closed to public because of this flood event. This demonstrates the need for improved nutrient and flood management as outlined below:</p> <ol style="list-style-type: none"> 1. Identify and manage high-risk nutrient loss locations in the Upper Swan, Avon and Mortlock River Systems, including the Northam Waste Water Treatment Plant. 2. Predict, model and map short and long term flood events of the Avon River to allow floods access to the floodplain for improved nutrient stripping. 3. Fencing of both the Avon River and major tributaries, to reduce threatening processes such as nutrients and erosion. 4. Contribution to land managers understanding of alternative water management techniques on a basin wide scale. 						
Project MATs						
W1 MAT II.6 A report with assessment of options and description of 'best management' practice for nutrient use reduction in farming systems, increased nutrient stripping capacity of wetlands and riverine ecosystems is prepared by end 2005						
W1 MAT II.8 By 2009, 25% of identified high nutrient loss locations adopt 'zero nutrient loss' targets and strategies (Cross Regional).						
W1MAT IV.1 An information kit is prepared and five workshops are held for landholders or facility managers in high risk nutrients loss locations about the risk potential and management options by 2007.						
W1MAT2.5 Flood risk modeling and mapping for non-urban floodplains areas is complete by 2006 and is being adoption through statutory processes for assessment of development proposals to ensure that long-term impedance is not more than 5% of present conditions.						
W1MAT III.4 By 2008, all towns and rural communities adjacent to the river in the "Avon Arc" have Flood Response Plans						
W1MAT5.2 By 2009, 95% of agricultural land adjacent to the Avon River is fenced both sides (Cross Regional).						
W2MAT7.3 Fencing of 200km of priority sections of major tributaries is complete by 2009 (Cross Regional)						
W1 MAT II.2 A report on salinity risk to Avon River Floodplain is prepared by end 2006						
W1 MAT II.7 Ten sites demonstrating 'best practice' response options to manage water quality for salinity for high priority risk areas in the riparian zone and floodplain are implemented by 2008						
L2MAT6.2 Basin wide extension program ensures that 80% of land managers have an understanding of the benefits and impacts of the application of alternative water management techniques and a systems-based approach by 2009 (Cross Regional)						
W1.TBA By 2008 the impact of artificial release of water from Yenyening Lakes does not exceed tolerance levels for Gwambygine Pool*.						
Activities	Start Date	Finish date	Output and code	NAP Outcomes	NHT Outcomes	Regional Outcomes

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1a Investigation into options and BMP's for nutrient reduction in farming systems (Links with SI003), increase nutrient stripping capacity of wetlands and riverine systems	July 06	June 07	P1.1 – BMP developed OG12.7 – On-ground work at nutrient stripping demonstration site	Surface and groundwater quality is maintained or enhanced.	N/A	Management of nutrients as a threat to water quality and therefore managing the asset.
1b Production of extension material.	July 06	June 07	CB1.2 - Water Protection Note/s	Surface and groundwater quality is maintained or enhanced.	N/A	Management of nutrients as a threat to water quality and therefore managing.
2a Continuation of water monitoring program established in year 1. (*Also addressing MAT 11 above. See note below)	July 06	June 08	RA1.3 – Water monitoring program maintained and enhanced.	Surface and groundwater quality is maintained or enhanced.	N/A	Asset Management through continued monitoring of water quality parameters.
2b “Zero nutrient loss” targets and strategies developed.	July 06	Dec 07	RA3.3 – Nutrient management strategy.	Surface and groundwater quality is maintained or enhanced.	N/A	Management of nutrients as a threat to water quality and therefore managing the asset.
2c Implementation of strategies/actions for 25% of hotspots identified during year one of the project.	Dec 07 (1/3 of sites in 2 nd year and 2/3 of sites in 3 rd year)	June 08	OG3.3 – Riparian vegetation enhanced. OG4.4 – Riparian revegetation OG12.7 – Constructed wetlands.	Surface and groundwater quality is maintained or enhanced.	N/A	Management of nutrients as a threat to water quality and therefore managing the asset.
3a Information kit developed for landholders/facility managers of hotspot locations identified in year 1. (Cross Regional)	July 06	June 07	CB1.2 – Nutrient management information kit.	Surface and groundwater quality is maintained or enhanced.	N/A	Management of nutrients as a threat to water quality and therefore managing the asset.
3b Workshops series developed for landholders/facility managers of hotspot locations identified in year 1. (Cross Regional)	July 06	June 07	CB2.1 Development of workshop series.	Surface and groundwater quality is maintained or enhanced.	N/A	Management of nutrients as a threat to water quality and therefore managing the asset.
3c Workshops and information kits delivered to landholders/facility managers and LGA's.	July 06 (3 w/shops yr 1 and 2 w/shops yr 2)	June 08	CB2.1 – Workshop series delivered.	Surface and groundwater quality is maintained or enhanced.	N/A	Management of nutrients as a threat to water quality and therefore managing the asset.
4a Liaise with LGA's within the Avon Arc to develop protocols to	July 06	June 07	RA3.3 - Flood way/plain	Surface and groundwater quality is	N/A	Asset Management through improved flood management

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ensure flood mapping and risk information is taken into consideration for development assessments.			development protocols	maintained or enhanced.		for improved nutrient stripping.
5a Liaise with LGA's within the Avon Arc to discuss flood response requirement/issues.	July 06	Dec 06	RA3.3 - Flood response plans	Surface and groundwater quality is maintained or enhanced.	N/A	Asset Management through improved flood management for improved nutrient stripping.
5b Development and delivery of flood response plans for shires of Toodyay, Northam, York and Beverley and Town of Northam	Dec 06	June 08	RA3.3 - Flood response plans	Surface and groundwater quality is maintained or enhanced.	N/A	Asset Management through improved flood management for improved nutrient stripping.
6/7a Continue fencing of the Avon River and Major tributaries (Cross Regional) (1/3 completed per year of investment)	Jan 07	Dec 08	OG2.3 – Avon River and major tributaries fenced.	Surface and groundwater quality is maintained or enhanced.	N/A	Protection of the Avon River from the threatening processes of sedimentation, nutrients and erosion.
6/7b Follow up on previous fencing agreements with inspections and presentation of signage and certificates.	July 06	June 08	OG2.3 – Avon River and major tributaries fenced.	Surface and groundwater quality is maintained or enhanced.	N/A	Protection of the Avon River from the threatening processes of sedimentation, nutrients and erosion.
6/7c Fencing maps updated.	July 06	June 08	RA3.2 – Fencing database enhanced / maintained.	Surface and groundwater quality is maintained or enhanced.	N/A	Protection of the Avon River from the threatening processes of sedimentation, nutrients and erosion.
8a Investigation drilling of Avon River floodplain to determine salinity risk.	July 06	Dec 06	RA2.1 – Investigative drilling.	The impact of salinity on land and water resources is avoided or reduced.	N/A	Protection of the Avon River from the threatening process of secondary salinisation leading to improved management of the asset.
8b Report produced for findings of year 2 investigation.	Jan 07	June 07	RA3.1 – Resource assessment report.	The impact of salinity on land and water resources is avoided or reduced.	N/A	Protection of the Avon River from the threatening process of secondary salinisation leading to improved management of the asset.
9a Prioritisation of sites identified through above drilling program for demo of	July 07	Oct 07	RA2.3 – Prioritisation report produced.	The impact of salinity on land and water resources is	N/A	Protection of the Avon River from the threatening process of

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salinity management actions				avoided or reduced.		secondary salinisation leading to improved management of the asset.
9b10 sites implemented and/or documented to demonstrate salinity management actions for high priority riparian and floodplain zones.	Oct 07	June 08	OG2.3 – Fencing where appropriate (may be covered under 6a). OG3.3 – Riparian / floodplain enhanced. OG4.4 - Native Revegetation.	The impact of salinity on land and water resources is avoided or reduced.	N/A	Protection of the Avon River from the threatening process of secondary salinisation leading to improved management of the asset.
10a Extension of key findings from project components	July 06	June 08	CB1.1 – Awareness raising events. CB1.4 – Media opportunities	The impact of salinity on land and water resources is avoided or reduced. Surface and groundwater quality is maintained or enhanced.	N/A	Threat management through capacity building of local community for improved management of threatening processes including nutrients, sedimentation, floods and salinity.
10b Case studies produced and distributed.	July 06	June 08	CB1.2 – Written products	The impact of salinity on land and water resources is avoided or reduced. Surface and groundwater quality is maintained or enhanced.	N/A	Threat management through capacity building of local community for improved management of threatening processes including nutrients, sedimentation, floods and salinity.

Additional Information *new or continuing project, indicate changes from original project etc*
 Continuing project, delivering nutrient management activities, flood map distribution and fencing. Project however will also be picking up floodplain salinity mapping and will see more on ground actions particularly in year 3.
 *MAT W1.2.5 Will see the development of a process to see the adoption through statutory processes of flood risk and mapping.
 *Northam Waste water treatment plant being addressed through W1 MAT II.8 and W1MAT IV.1
 *MAT WTBA will be addressed through water quality monitoring activities being undertaken in activity 2a.

Project Budget

Year	NAP	NHT	Other	Total
05/06	\$734,555		\$2000	\$736,555
06/07	\$583,652			\$583,652
07/08	\$557,275			\$557,275

Project Commencement Date	July 2006
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Project Completion Date	June 2008
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Risks to achievement of project

Project relies heavily on community and LGA involvement, without their support and active involvement potential for some outcomes to not be achieved. Fencing needs to be installed on freehold land and adoption of flood information through statutory processes for assessment of development proposals needs LGA cooperation and support.

Monitoring and evaluation

Activity	Indicator used	Data source	Reporting scale (local, regional, state, national)
Investigation into options and BMP's for nutrient reduction in farming systems (Links with SI003), increase nutrient stripping capacity of wetlands and riverine systems	<ul style="list-style-type: none"> ▪ Nutrients (P & N) ▪ Total N+ flow leaving sub-catchment or catchment ▪ Total P+ flow leaving sub-catchment or catchment 	DOE —	Regional State National
Production of extension material.	<ul style="list-style-type: none"> ▪ Extension material – type and numbers produced 	DOE ACC	Regional State
Continuation of water monitoring program established in year 1.	<ul style="list-style-type: none"> ▪ Occurrence of monitoring ▪ Update of records database 	DOE ACC	Regional State
“Zero nutrient loss” targets and strategies developed.	<ul style="list-style-type: none"> ▪ Strategy 	DOE	Regional State National
Implementation of strategies/actions for 25% of hotspots identified during year one of the project.	<ul style="list-style-type: none"> ▪ Strategy 	DOE	Regional State
Information kit developed for landholders/facility managers of hotspot locations identified in year 1. (Cross Regional)	<ul style="list-style-type: none"> ▪ Information kit 	DOE	Regional
Workshops series developed for landholders/facility managers of hotspot locations identified in year 1. (Cross Regional)	<ul style="list-style-type: none"> ▪ Workshop content developed 	DOE ACC SCC	Regional State
Workshops and information kits delivered to landholders/facility managers and LGA's.	<ul style="list-style-type: none"> ▪ Workshops held – number held and number of participants 	DOE ACC	Regional
Liaise with LGA's within the Avon Arc to develop protocols to ensure flood mapping and risk information is taken into consideration for development assessments.	<ul style="list-style-type: none"> ▪ Protocols developed for development assessment 	DOE ACC	Regional State

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Liaise with LGA's within the Avon Arc to discuss flood response requirement/issues.	<ul style="list-style-type: none"> ▪ Meetings held with LGAs ▪ Flood response issues and requirements documented 	DOE ACC	Regional
Development and delivery of flood response plans for shires of Toodyay, Northam, York and Beverley and Town of Northam	<ul style="list-style-type: none"> ▪ Flood response plans produced for chosen Shires ▪ Implementation of flood response plans by Shires 	DOE ACC Selected Shires	Regional
Continue fencing of the Avon River and Major tributaries (Cross Regional) (1/3 completed per year of investment)	<ul style="list-style-type: none"> ▪ Km of fencing completed 	DOE —	Local
Follow up on previous fencing agreements with inspections and presentation of signage and certificates.	<ul style="list-style-type: none"> ▪ Number of inspections completed and agreements finalised 	DOE	Local
Fencing maps updated.	<ul style="list-style-type: none"> ▪ Map production 	DOE	Regional
Investigation drilling of Avon River floodplain to determine salinity risk.	<ul style="list-style-type: none"> ▪ Number of holes drilled ▪ Monitoring of drill sites 	DOE Ag	Regional
Report produced for findings of year 2 investigation.	<ul style="list-style-type: none"> ▪ Report 	DOE ACC	Regional State
Prioritisation of sites identified through above drilling program for demo of salinity management actions	<ul style="list-style-type: none"> ▪ Demonstration sites selected 	DOE ACC	Regional
10 sites implemented and/or documented to demonstrate salinity management actions for high priority riparian and floodplain zones.	<ul style="list-style-type: none"> ▪ Number of sites established to demonstrate salinity management actions for high priority riparian and floodplain zones 	DOE	Regional State
Extension of key findings from project components	<ul style="list-style-type: none"> ▪ Workshops held – number held & number of participants ▪ Other extension material produced 	DOE ACC	Regional
Case studies produced and distributed.	<ul style="list-style-type: none"> ▪ Case study notes 	DOE ACC	Regional

Project Title: IWM 002 - Groundwater Source Identification, Assessment and Monitoring						
Objectives and Accountabilities						
ACC Outcome (Strategic Objective from Regional Strategy): Groundwater sources with potential for water supply or production are identified and managed in a sustainable way.						
Program Outcome - 20 year Targets: W4T201 Groundwater aquifers suitable for domestic or productive use are identified by 2010 and are maintained at a defined suitable level and quality. W4T202 Regional groundwater aquifers managed to minimise the impacts of salinity and flooding according to sub-regional groundwater management plans (Note: 20 year target to be set in 2005 following regional groundwater and surface water assessment currently undertaken as a part of the EEI program).						
Project Outcome - Project Aims: The project outcomes will identify and manage fresh to brackish groundwater assets as follows: <ul style="list-style-type: none"> • Development and implementation of a regional groundwater monitoring strategy. • Identify groundwater benchmark levels and quality. • Significant groundwater resources with potential productive yield are assessed, reported on and managed for maximum community benefit. • Develop guidelines for sustainable use of groundwater. This will also include identification of potential environmental impacts due to increase use of the resource. • Look at opportunities for industry development which optimises sustainable water use. • Contribution to land managers understanding of alternative water management techniques on a basin wide scale. 						
Project MATs						
W4MAT 1.1 A report on surveys of groundwater resource with potential productive yield within the region is prepared by 2009.						
W4MAT 7.1 Significant groundwater resources are managed for maximum community benefit by adoption of water allocation "best management" criteria by 2009.						
L2MAT 6.2 Basin wide extension program ensures that 80% of land managers have an understanding of the benefits and impacts of the application of alternative water management techniques and a systems-based approach by 2009.						
L2MAT 6.2 Benchmark groundwater levels and quality consistent with National Land and Water Resource Audit standards by 2008 (Cross Regional).						
W4MAT 4.1 The 20-year resource condition targets for regional groundwater aquifer management are set by end 2006.						
Activities	Start Date	Finish date	Output and code	NAP Outcomes	NHT Outcomes	Regional Outcomes
1a. Additional investigations of low salinity groundwater resources - (groundwater drilling / geophysics) required prior to setting targets for extraction. Output ~ On-ground investigation report.	July 2006	June 2008	RA1.3 1 existing groundwater monitoring program enhanced	Surface water and groundwater is securely allocated for sustainable production purposes and to support human uses		Groundwater assets managed

				and the environment, within the sustainable capacity of the water resource		
2. Report on specific best management criteria for priority groundwater resources - based new information from additional investigation of low salinity groundwater resources.	July 2006	June 2008	P1.1 Number (to be determined) of best management practice codes and guidelines completed	Surface water and groundwater is securely allocated for sustainable production purposes and to support human uses and the environment, within the sustainable capacity of the water resource		Groundwater assets managed
3a. Collation and publication of extension material to support a best management criteria for management of key low salinity groundwater resources	July 2006	June 2008	CB2.1 Number (to be determined) of field day displays, booklets, workshops and training sessions to engage stakeholders	Land management practices in place which enhance or maintain water quality and prevent and manage salinity		Groundwater assets managed
3b. Development of a CLC network to undertake groundwater monitoring activities within the region. GHD to provide limited technical support to CLC positions in the field. Recommended that ACC to employ CLCs directly. DAWA to collate manage data.	July 2006	June 2008	CB3.3 Number (to be determined) of effective collaboration with CLCs through a CLC network to undertake groundwater monitoring	Land management practices in place which enhance or maintain water quality and prevent and manage salinity		Groundwater assets managed
1b. Continued development of the database of groundwater resources	July 2006	June 2008	RA1.3 Existing groundwater resources database enhanced	Land management practices in place which enhance or maintain water quality and prevent and manage salinity		Groundwater assets managed

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4a. Ground truthing bore network	July 2006	June 2008	RA1.3 Bore monitoring network enhanced	Land management practices in place which enhance or maintain water quality and prevent and manage salinity		Groundwater assets managed
4b. Infill drilling.	July 2006	June 2008	RA1.3 Bore monitoring network enhanced	Land management practices in place which enhance or maintain water quality and prevent and manage salinity		Groundwater assets managed
3c. Extension program.	July 2006	June 2008	CB1.1 Number (to be determined) or awareness raising events such as field days and demonstrations	Land management practices in place which enhance or maintain water quality and prevent and manage salinity		Groundwater assets managed

Additional Information *new or continuing project, indicate changes from original project etc*

Continuing project with continued investigations into low salinity groundwater resources and the completion of best practice criteria and the publication of extension material. A CLC network is proposed to undertake groundwater monitoring activities, which will be provided with technical support. Continuation of the infill drilling program.

Project Budget

Year	NAP	NHT	Other	Total
05/06	\$460,000			\$460,000
06/07	\$347,900			\$347,900
07/08	\$300,520			\$300,520

Project Commencement Date	July 2006
Project Completion Date	June 2008

Risks to achievement of project

Reliant on ACC (or other – to be specified and obtained) financial support for a CLC groundwater monitoring network.

Monitoring and evaluation

Activity	Indicator used	Data source	Reporting scale (local, regional, state, national)
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Additional investigations of low salinity groundwater resources - (groundwater drilling / geophysics) required prior to setting targets for extraction. Output ~ On-ground investigation report.	<ul style="list-style-type: none"> ▪ Groundwater monitoring ▪ On-ground investigation report 	GHD DAWA	Regional
Report on specific best management criteria for priority groundwater resources - based new information from additional investigation of low salinity groundwater resources.	<ul style="list-style-type: none"> ▪ Report 	GHD	Regional State
Collation and publication of extension material to support a best management criteria for management of key low salinity groundwater resources	<ul style="list-style-type: none"> ▪ Production and distribution of extension material – i.e. newsletters, case studies, media releases, reports 	GHD ACC —	Regional
Development of a CLC network to undertake groundwater monitoring activities within the region. GHD to provide limited technical support to CLC positions in the field. Recommended that ACC to employ CLCs directly. DAWA to collate manage data .	<ul style="list-style-type: none"> ▪ Groundwater monitoring ▪ Maintenance of database 	DAWA LGAs ACC	Regional State
Continued development of the database of groundwater resources	<ul style="list-style-type: none"> ▪ Update of database 	DAWA	Regional
Ground truthing bore network	<ul style="list-style-type: none"> ▪ Establishment of network 	GHD DAWA	Regional State
Infill drilling.	<ul style="list-style-type: none"> ▪ Number of bores drilled 	DAWA GHD	Regional
Extension program.	<ul style="list-style-type: none"> ▪ Number of workshops held ▪ Number of field days attended ▪ Extension material produced 	GHD ACC	Regional

Project Title: IWM 003 - Protection of Community Assets
Objectives and Accountabilities
ACC Outcome (Strategic Objective from Regional Strategy): To develop and implement methods to protect community infrastructure and heritage and cultural sites from the threats of rising water tables, salinity and flooding.
Program Outcome - 20 year Targets: I3T20 1 By 2025, 10 rural towns in the Avon Region have the risk of damage to infrastructure and heritage values due to salinity and flooding reduced by 50% compared with 2004 risk assessments. W5T20 1 Known heritage and cultural values are maintained and enhanced by 2025.
Project Outcome - Project Aims:

Most rural infrastructure is associated with towns and transport corridors, both of which are located in the landscape where the risk of salinity and flooding is increasing due to rising regional groundwater tables. There is also further risk due to actions that may be taken to combat the effects of salinity and flooding on land, water or biodiversity assets. Cultural and historical assets are those that are significant to both the Aboriginal and non-Aboriginal community and include buildings, other infrastructure and areas of significance to local Aboriginals. These assets are also at risk from salinity and flooding depending on their location in the landscape.

The protection of these valued community assets is important to the local community and will be achieved in the following ways:

- Develop protocols to ensure heritage and cultural values are included in NRM planning.
- Development of a rural town water management model, water management plans and practices and the implementation of an integrated water management pilot schemes.
- Research and collate information regarding management of threats to town infrastructure and cultural/historical sites within the region.
- Distribute and utilise information of threat management to assist communities to protect assets.
- Contribution to land managers understanding of alternative water management techniques on a basin wide scale.

Project MATs

I3 MAT 2.2 Geophysical surveys are completed for 5 priority rural towns (RTLA Program) by 2006.

I3 MAT5.1 Prepare "implementation Plans" for 5 priority rural towns (RTLA program) by 2009.

I3 MAT 3.1 Complete a feasibility study for each of a waste/ storm water recycling process and for desalinisation of pumped groundwater in the region by 2006.

I3 MAT 7.1 Implement "Integrated Water Management Systems" demonstration projects in two towns by 2006.

I3 MAT 6.1 Complete 5 "Waterwise" education and training programs as a part of implementation planning for the 5 priority rural towns by 2009.

W5 MAT 7.1 A report is prepared that outlines protocols to ensure heritage and cultural values identified in local and regional plans are considered in NRM programs and projects by 2006.

I3 MAT 6.2 Prepare a "Water Sensitive Urban Design" Manual suitable for rural towns in the region by 2006.

L2MAT 6.2 Basin wide extension program ensures that 80% of land managers have an understanding of the benefits and impacts of the application of alternative water management techniques and a systems-based approach by 2009.

Activities	Start Date	Finish date	Output and code	NAP Outcomes	NHT Outcomes	Regional Outcomes
1. Complete geophysical surveys for Brookton and York towns	July 2006	June 2007	RA2.1 2 geophysical surveys completed	The impact of salinity on land and water resources is avoided or reduce		Salinity threat managed
2a. Complete Water Management Plans for Dowerin, Pingelly and Wongan Hills	July 2006	June 2008	RA3.3 3 Water Management Plans completed	The impact of salinity and degrading water quality on locations and systems which are critical for conservation of		Town assets managed from salinity threat

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				biodiversity, agricultural production, towns, infrastructure and cultural and social values, is avoided or minimised.		
2b. Engineering input into development of WMPs for York and Brookton	July 2006	June 2007	RA2.1 Engineering Input into development of WMPs	The impact of salinity on land and water resources is avoided or reduce		Town assets managed from salinity threat
2c. Preliminary engineering design and implementation plan for 2 towns (subject to the completion of WMP).	July 2006	June 2008	OG 10.3 engineering design and implementation of plans completed	The impact of salinity and degrading water quality on locations and systems which are critical for conservation of biodiversity, agricultural production, towns, infrastructure and cultural and social values, is avoided or minimised.		Town assets managed from salinity threat
2d. On-going support and capacity building for Implementation plans for 2 towns	July 2006	June 2008	CB5.1 and OG 10.3 2 shire communities assisted	The impact of salinity and degrading water quality on locations and systems which are critical for conservation of biodiversity, agricultural production, towns, infrastructure and cultural and social values, is avoided or		Town assets managed from salinity threat

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				minimised.		
3. Feasibility study for a waste/storm water recycling process and for desalinisation of pumped groundwater in the region	July 2006	June 2008	RA3.3 1 feasibility study for storm water recycling and/or desalinization or pumped groundwater	Production systems developed which enhance or maintain water quality and prevent and manage salinity.		Town assets managed from salinity threat
4. Complete pilot project (\$300,000) in Merredin and IWMS (\$30,000) demonstration project for Lake Grace and Dowerin	July 2006	June 2008	OG 10.4 1 pilot water management plan and 2 demonstration water management plans completed	Production systems developed which enhance or maintain water quality and prevent and manage salinity.		Town assets managed from salinity threat

Additional Information *new or continuing project, indicate changes from original project etc*

Continuing project picking up new rural town (assets), continuing engineering input into development of WMPs and capacity building support for the implementation of WMPs. Also pilot project in Merredin completed.

Project Budget

Year	NAP	NHT	Other	Total
05/06	\$354,000.00			\$354,000.00
06/07	\$263,100.00			\$263,100.00
07/08	\$226,320.00			\$226,320.00

Project Commencement Date	July 2006
Project Completion Date	June 2008

Risks to achievement of project

LGA involvement and sign-off for development of Water Management Plans and Implementation plans

Monitoring and evaluation

Activity	Indicator used	Data source	Reporting scale (local, regional, state, national)
Complete geophysical surveys for Brookton and York towns	<ul style="list-style-type: none"> ▪ Survey for Brookton and York completed & report produced 	GHD	Local Regional
Complete Water	<ul style="list-style-type: none"> ▪ Water 	DAWA	Local

Management Plans for Dowerin, Pingelly and Wongan Hills	Management Plan completed for Dowering, Pingelly and Wongan Hills ▪ Report produced	GHD	Regional
Engineering input into development of WMPs for York and Brookton	▪ Water Management Plan completed for York and Brookton ▪ Report produced	GHD	Local
Preliminary engineering design and implementation plan for 2 town (subject to the completion of WMP).	▪ Engineering report completed for 2 towns	GHD DAWA LGAs ACC	Local

Project Title: IWM 004 - Protection of Transport Assets
Objectives and Accountabilities
ACC Outcome (Strategic Objective from Regional Strategy): A reduction in the percentage of transport infrastructure at risk from rising water tables, salinity, waterlogging and flooding, through appropriate management actions.
Program Outcome - 20 year Targets: I1T201 By 2025, the percentage of roads at risk due to high water tables and flooding is reduced to 10% (2,520km) or less of the total road network in the Avon River Basin.
Project Outcome - Project Aims: This project will compile an inventory of transport assets within the Avon Region. After an investigation into risk analysis, threat mapping, management options and demonstration, the inventory will be used to better manage threats to transport infrastructure across the region to reduce the impact of threatening processes. The project outcomes will be achieved through the completion of the following: <ul style="list-style-type: none"> • Identify and record transport assets within the region. • Research and collate information regarding threat analysis methods and management of those threats to infrastructure within the region. • Development of an education and extension program for transport asset managers including the utilisation of existing threat management information. • Demonstration of management options. • Link at local government level for improved methods of construction and maintenance of transport assets.
Project MATs
I1 MAT 7.1 Ten sites are implemented demonstrating preventative management options for transport assets by 2007.
I1 MAT 6.1 By end of 2005 an education package is developed for LGA's, Main Roads, catchment or conservation groups and land managers, to encourage an understanding of the links between catchment management and the protection of key infrastructure.
I1 MAT 4.1 Priority roads for preventative action identified through regional transport policy development processes by 2007.
I1 MAT 8.1 Monitoring of road assets at risk is initiated and arranged by 2006.

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I2 MAT 1.1 Audit the amount of energy supplied to the Avon River Basin via the South West Integrated Supply Scheme and water through regional reticulated schemes by 2005.
I1 MAT 3.1 Assessment of engineering and re-vegetation options for groundwater reduction beneath roads by 2025.
I1 MAT 3.2 Assess alternative culvert materials and designs to suit changed catchment hydrology by 2007.
I1 MAT 3.3 Methods of road risk assessment are evaluated by 2005.
I1 MAT 6.1 More than one full-time employee (or equivalent) with technical skills for transport infrastructure management integrated with landscape management is working with LGA's within the region by 2005.
W5MAT 7.1 A report is prepared that outlines protocols to ensure heritage and cultural values identified in local and regional plans are considered NRM programs and projects by 2006
L2MAT 6.2 Basin wide extension program ensures that 80% of land managers have an understanding of the benefits and impacts of the application of alternative water management techniques and a systems-based approach by 2009.

Activities	Start Date	Finish date	Output and code	NAP Outcomes	NHT Outcomes	Regional Outcomes
1. Final negotiations of implementation of ten (5 in 2006/7 + 5 in 2007/8) demonstration sites - with an emphasis on demonstrating best management practice, and monitoring impact	July 2006	June 2008	OG10.3 10 arrangement for collaboration in funded demonstration sites	The impact of salinity and degrading water quality on locations and systems which are critical for conservation of biodiversity, agricultural production, towns, infrastructure and cultural and social values, is avoided or minimised.	Contribution to NHT outcomes	Transport assets at risk of salinity and water logging managed
2. Completion of Education package incorporating outcomes of demonstration, monitoring and assessment components of the project.	July 2006	June 2007	CB11.2 1 education package	The impact of salinity and degrading water quality on locations and systems which are critical for conservation of biodiversity, agricultural production, towns, infrastructure and cultural and	Contribution to NHT outcomes	Transport assets at risk of salinity and water logging managed

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				social values, is avoided or minimised.		
3a. Review of priorities and preliminary development of policy advice - prioritisation of roads for preventive action.	July 2006	June 2007	RA3.3 1 review of priorities and policy recommendations	The impact of salinity and degrading water quality on locations and systems which are critical for conservation of biodiversity, agricultural production, towns, infrastructure and cultural and social values, is avoided or minimised.	Contribution to NHT outcomes	Transport assets at risk of salinity and water logging managed
3b. Incorporation of the outcomes of demonstration sites, monitoring and assessment activities into policy advice - prioritisation of roads or preventative action.	July 2007	June 2008	RA3.3 Update of review of priorities and policy recommendations P4.2 A regional transport asset management plan	The impact of salinity and degrading water quality on locations and systems which are critical for conservation of biodiversity, agricultural production, towns, infrastructure and cultural and social values, is avoided or minimised.	Contribution to NHT outcomes	Transport assets at risk of salinity and water logging managed
4. Complete stakeholder consultation process. Development and costings of monitoring program.	July 2006	June 2007	RA1.3 1 monitoring program review	The impact of salinity on land and water resources is avoided or reduced.		Transport assets at risk of salinity and water logging managed
4a. Implementation of the monitoring program	July 2007	June 2008	RA1.2 1 monitoring program established	The impact of salinity on land and water		Transport assets at risk of salinity and water logging managed

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				resources is avoided or reduced.		
5. Undertake audit of energy supplies to the Avon River basin, focusing risks and opportunities for infrastructure within the region.	July 2006	June 2007	RA1.1 1 energy audit study completed			Transport assets at risk of salinity and water logging managed
6. Assessment of engineering and revegetation options as a means of groundwater reduction beneath roads and other transport assets, integration with implementation of demonstration and monitoring programs.	July 2006	June 2007	P4.2 1 assessment of options for transport asset at risk management plan	The impact of salinity on land and water resources is avoided or reduced.		Transport assets at risk of salinity and water logging managed
7. Assessment of alternative culvert material and design, integration with implementation of the demonstration and monitoring programs.	July 2006	June 2007	OG.10.3 1 demonstration of culvert alternatives	The impact of salinity on land and water resources is avoided or reduced.		Transport assets at risk of salinity and water logging managed

Additional Information new or continuing project, indicate changes from original project etc

Continuing project with 5 demonstration projects occurring each year. Two new activities are the assessment of management options for groundwater reduction beneath roads and the assessment and demonstration of alternative culvert designs.

Project Budget

Year	NAP	NHT	Other	Total
05/06	\$310,000			\$310,000
06/07	\$227,900		\$100,000	\$327,900
07/08	\$195,520		\$100,000	\$295,520

Project Commencement Date	July 2006
Project Completion Date	June 2008

Risks to achievement of project

LGA consultation and contribution may be necessary for selection and investment in demonstration projects.

Monitoring and evaluation

Activity	Indicator used	Data source	Reporting scale (local, regional, state, national)
Final negotiations of	Implementation	GHD	Regional

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implementation of ten (5 in 2006/7 + 5 in 2007/8) demonstration sites - with an emphasis on demonstrating best management practice, and monitoring impact	of BMP at ten demonstration sites		
Completion of Education package incorporating outcomes of demonstration, monitoring and assessment components of the project.	Education package produced	GHD ACC MRWA	Regional State
Review of priorities and preliminary development of policy advice - prioritisation of roads for preventative action.	Draft policy document produced	GHD MRWA	Regional State
Incorporation of the outcomes of demonstration sites, monitoring and assessment activities into policy advice - prioritisation of roads or preventative action.	Review of draft policy document incorporating findings from demonstration sites	GHD —	Regional
Complete stakeholder consultation process. Development and costings of monitoring program.	Establishment of monitoring program	GHD ACC	Regional
Implementation of the monitoring program	Monitoring program kept up-to-date ie: depth to groundwater, groundwater salinity, quality of infrastructure, management options established.	GHD ACC	Regional State
Undertake audit of energy supplies to the Avon River basin, focusing risks and opportunities for infrastructure within the region.	Completion of Audit	GHD MRWA	Local Regional
Assessment of engineering and revegetation options as a means of groundwater reduction beneath roads and other transport assets, integration with implementation of demonstration and monitoring programs.	Types of engineering works established at demonstration sites. Area of vegetation (and type) planted as part of demonstration	GHD	Regional
Assessment of alternative culvert material and design, integration with implementation of the demonstration and monitoring programs.	Assessment undertaken and findings reported	GHD	Regional State

Project Title: IWM005 - Salinity Management
Objectives and Accountabilities
<p>ACC Outcome (Strategic Objective from Regional Strategy): To manage landscape water in order to slow down or reduce the rate of groundwater rising and the spread of salinity in the region.</p>
<p>Program Outcome - 20 year Targets:</p> <p>L2T201 Reduction in the average rate of groundwater rise on land in middle and upper catchment areas from 15-30mm to 10-20mm by 2025. (The target for middle and upper catchment areas refers to very significant reductions in groundwater rise. This action is considered essential to allow recovery and containment and ongoing utilization of the land resources).</p> <p>L2T202 The extent of valley floor salinity is less than 12% of land used for agriculture by 2025. (Note the area affected is currently over 5.4%. This is expected to eventually increase to over 27%) (The target for the valley floor recognizes that saline land has a value in its own right and the intent is to contain salinity in these areas and utilise saline land as a resource).</p> <p>W4T203 Disposal of groundwater from mining operation is managed according to statutory license conditions by 2009.</p> <p>W4T204 Disposal of groundwater from agricultural operations is managed according to acceptable 'best practice' guidelines by 2009.</p>
<p>Project Outcome - Project Aims: This project will focus on 3 strategic areas: 1) engineering 2) biological options and 3) governance of water management. All areas will be underpinned by resource monitoring and on ground activities will be linked to priority assets or key regional demonstration sites which require catchment water management to be addressed. Activities as outlined below:</p> <p>1) Engineering options (surface and groundwater)</p> <ul style="list-style-type: none"> • Assessment of the extent and safe disposal of acid groundwater. • Identification of impacts of abstraction and disposal of saline groundwater. • The development and implementation of Best Management Practices (BMP) guidelines for the safe disposal of saline groundwater. • Undertake a temporal analysis of the extent and physical impacts of drainage and survey farmers regarding the social impacts of drainage. • Assessment of potential benefits and impacts of modified drainage to tributaries. • High-risk groundwater recharge landscape zones identified that target priority assets or demonstration sites to guide catchment management within the Avon River Basin and adjacent NAP Region (Cross regional). <p>2) Biological options</p> <ul style="list-style-type: none"> • Increasing land managers understanding of alternative water management techniques on a basin wide scale. • Tree crops established for groundwater control benefits within the Avon River Basin and adjacent NAP Region (Cross regional). <p>3) Governance</p> <ul style="list-style-type: none"> • Input to policy development for drainage.
Project MATs
<p>L2 MAT 7.4 More than 20 000 ha of commercial tree crops are established in areas where groundwater control benefits will occur by 2009.</p>
<p>L2 MAT 7.2 More than 100 000 ha of saltland re-vegetated for production of conservation benefit by 2009.</p>
<p>W4 MAT 3.1 Assessment of treatment methods for safe disposal of acid groundwater by 2008.</p>
<p>L2 MAT 5.1 Integrated catchment plans are prepared for 50 catchments as part of Local Area Plans in high dryland salinity risk areas by 2009.</p>
<p>W4 MAT 6.2 An adaptive management framework for planning, assessing and negotiating regional-scale engineering options for groundwater management is developed and being adopted by 2007.</p>

W4 MAT 2.1 A report on the extent of acid groundwater within the Avon River Basin and the potential risk if proposes due to groundwater rise and as a result of engineering options based on existing groundwater monitoring information is prepared by 2006.

Activities	Start Date	Finish date	Output and code	NAP Outcomes	NHT Outcomes	Regional Outcomes
1. Strategic tree crops-oil Mallee cells	July 2006	June 2008	OG4.1 Up to 20,000ha of native Oil Mallee plantations established	The impact of salinity on land and water resources is avoided or reduced		Salinity threat managed
1b. Native plant based enterprise development - extension support, MTG training and scenario development.	July 2006	June 2008	CB5.1 Number (to be defined) of community groups or native-plant based projects/enterprises assisted	The impact of salinity and degrading water quality on locations and systems which are critical for conservation of biodiversity, agricultural production, towns, infrastructure and cultural and social values, is avoided or minimised		Salinity threat managed
2. Valley floor management- salt land pasture establishment	July 2006	June 2008	OG4.1 Up to 100,000ha of native saltland pastures plantations established	The impact of salinity on land and water resources is avoided or reduced		Salinity threat managed
3. Engineering options developed through investment in activities to examine safe disposal options for acid groundwater, governance issues and broad scale demonstration.	July 2006	June 2007	P1.1 2 best management practice codes or guidelines completed OG10.3 Number (to be defined) ha of land treated through improvements to existing drainage systems CB4.1	The impact of salinity and degrading water quality on locations and systems which are critical for conservation of biodiversity, agricultural production, towns, infrastructure and cultural and social values, is		Salinity threat managed

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			1 drainage governance tool developed	avoided or minimised		
4. Implementation of integrated salinity management plans - auction process for on ground actions.	July 2006	June 2008	P3.1 Number (to be defined) of catchment or sub-catchment plans or strategies completed	The impact of salinity on land and water resources is avoided or reduced		Salinity threat managed
6. Development of a regionally-based catchment design and site planning skills team and a decision-making framework/process for assessing potential engineering project proposals on a whole of catchment and community scale.	July 2006	June 2008	CB5.1 Number (to be defined) of drainage project proposal community groups or drainage projects assisted	The impact of salinity and degrading water quality on locations and systems which are critical for conservation of biodiversity, agricultural production, towns, infrastructure and cultural and social values, is avoided or minimised		Salinity threat managed

Additional Information new or continuing project, indicate changes from original project etc

Activities 1,2,3,4 and 5 are continuing - with investigations into safe disposal options for acid groundwater and drainage governance due to complete in year two. Activities 1b and 6 are new. The development of a regionally-based engineering options planning team has been proposed to accommodate the current short-fall of the NOI regulation process for drainage and regional demand for feasibility assessments for deep drainage proposal. The native plant-based enterprise investment will support existing farm forestry capacity in the region and the development of regional strategic tree-crops.

Project Budget

Year	NAP	NHT	Other	Total
05/06	\$1,750,000		\$1,500,000	\$1,750,000
06/07	\$1,379,900		\$700,000	\$2,079,900
07/08	\$1,203,520		\$700,000	\$1,903,520

Project Commencement Date	July 2006
Project Completion Date	June 2008

Risks to achievement of project

Requirement for the regional agricultural community to engage with projects, successful marketing of the competitive auction process; the success of the oil mallee plantation industry; Community involvement with the drainage governance project.

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Monitoring and evaluation

Activity	Indicator used	Data source	Reporting scale (local, regional, state, national)
Strategic tree crops-oil Mallee cells	<ul style="list-style-type: none"> ▪ Hectares of oil Mallee planted 	Oil Mallee Group GAWA ACC	Regional
Native plant based enterprise development - extension support, MTG training and scenario development.	<ul style="list-style-type: none"> ▪ Number of workshops held ▪ Number of training opportunities ▪ Extension support such as technical information, case studies, and training provided 	ACC —	Regional
Valley floor management-salt land pasture establishment	<ul style="list-style-type: none"> ▪ Hectares of salt land pasture established 	SGSL ACC	Regional State
Engineering options developed through investment in activities to examine safe disposal options for acid groundwater, governance issues and broad scale demonstration.	<ul style="list-style-type: none"> ▪ Development of demonstration sites 	ACC LGAs	Regional State
Implementation of integrated salinity management plans - auction process for on ground actions.	<ul style="list-style-type: none"> ▪ Number of sites implementing salinity management ▪ Number of tenders in auction process 	ACC LGAs	Regional
Development of a regionally-based catchment design and site planning skills team and a decision-making framework/process for assessing potential engineering project proposals on a whole of catchment and community scale.	<ul style="list-style-type: none"> ▪ Identification of skills team ▪ Development of assessment criteria and template for potential engineering proposals ▪ Community consultation 	ACC	Regional State National

Project Title: IWM006 - Water Management and Self - Sufficiency
Objectives and Accountabilities
ACC Outcome (Strategic Objective from Regional Strategy): Local communities have minimal water deficits, dependence on reticulated water is decreasing and, in the Avon Arc, provision of water for environmental requirements is adequate. Local area flooding and inundation is minimized.
Program Outcome - 20 year Targets (From AIP): W3 T20 1 By end of 2025, 50% of agricultural properties in the 'Wheatbelt' zone and 50% of agricultural properties in the 'Avon Arc' zone have zero annual water deficits. W3 T20 2 Environmental surface water requirements are maintained within the 'Avon Arc' zone until 2025 and beyond.
Project Outcome - Project Aims (from AIP): The Avon Region is a major importer of water from the Goldfields Water Supply Scheme. This factor combined with an increase in surface water runoff from catchments cleared for agriculture, is having a negative impact on the water balance of the region as well as increasing flooding and erosion in some areas. Where reticulated water is not available, many farms and small communities have inadequate water supply, especially during droughts. There are opportunities to reduce annual water deficits (when demand is greater than supply) and improve the water balance of the region by increased water harvesting and reducing flooding and <u>erosion</u> . At the same time retaining adequate stream flow for environmental requirements. This project focuses on improving self sufficiency for water within the region, within the context of integrated surface water management. This will be achieved through: <ul style="list-style-type: none"> • Development of integrated catchment surface water management plans, focusing on more efficient and appropriate use of farm water supplies. • Demonstration of integrated surface water management techniques. • Development of skills based within the catchment with respect to surface water management; initially an assessment of the current skill base and development of strategic plan. • Review of best management criteria for surface water management within the region. • Assessment of current course structures focusing on surface water management, with respect to identified best management criteria. • Improve landholder appreciation of surface water management through the development of extension material and regional workshop series.
Project MATs
W3MAT4.1 The volume of water used annually for farm and town supply from reticulated schemes is identified within 30 Local Area Plans and targets for reduced use are set by 2007.
W3MAT6.1 More than 10 accredited people with farm water planning skills are providing services within the region by 2009.
W3MAT5.1 By 2007, 5 integrated plans are prepared to demonstrate on-farm self sufficiency for water supply.
W3MAT7.1 50% of landholders within demonstration projects have a self-sufficient water supply by 2009.
I3 MAT VI.3 A report and extension material is produced by 2006 for use by local government that identifies commercial 'drivers' of alternative water sources and water use patterns.
L2MAT6.2 Basin wide extension program ensures 80% of land managers have an understanding of the benefits and impacts of the application of alternative water management techniques and a systems-based approach by 2009
W3MAT VIII.1 Monitored (target 10%) reduction in scheme water use established by 2007.
W3MAT V.2 Proposals for new dam constructions within the "Avon Arc" are referred through provisions of the Town Planning and Development Act (1928) for environmental assessment by 2009.

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W3MATV.3 The "Avon Arc" planning strategy and Local Government Town Planning Schemes within the Avon River Basin include planning for provision of environmental water requirements by 2009						
Activities	Start Date	Finish date	Output and code	NAP Outcomes	NHT Outcomes	Regional Outcomes
1a Assessment of water supply usage and setting of draft targets for reduction in water at a local area planning scale.	July 2006	June 2007	RA3.3 - Current reticulated water usage report, including draft reduction targets set.	Surface water and groundwater is securely allocated for sustainable production purposes and to support human uses and the environment, within the sustainable capacity of the water resource.	N/A	Asset Management – Management of surface water with two outcomes – reducing reliance on scheme water and better management of available fresh surface water to see a reduction in erosion, sedimentation and other issues associated with increased surface water runoff.
1b Continued assessment of water supply usage and setting of final targets for reduced use.	July 07	June 08	RA3.3 Final report and targets set for reduced reticulated water use.	Surface water and groundwater is securely allocated for sustainable production purposes and to support human uses and the environment, within the sustainable capacity of the water resource.	N/A	Asset management through the setting of final targets for the reduction in scheme water usage within the region.
2a On ground technical support for CLC/NRMO positions, including catchment scale modeling, impact assessment and engineering options.	July 2006	June 2008	CB2.1 – Technical support provided to CLCs / NRMOs for improved skills to implement surface water management actions.	The impact of salinity and degrading water quality on locations and systems which are critical for conservation of biodiversity, agricultural production, towns, infrastructure and cultural and social values, is	N/A	Threat/Asset management through providing support to CLC/NRMOs within their own areas to plan and implement actions to address surface water management issues.

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				avoided or minimised.		
3a Review and select priority catchments for the development of integrated catchment management plans.	July 06	June 07	RA3.3 Recommendation report produced	The impact of salinity and degrading water quality on locations and systems which are critical for conservation of biodiversity, agricultural production, towns, infrastructure and cultural and social values, is avoided or minimised.	N/A	Threat/Asset Management through the identification of priority catchments within the region for the development of Integrated catchment plans.
3b Planning and design for demonstration catchment sites.	July 06	June 07	P3.2 - Integrated catchment management plans produced	The impact of salinity and degrading water quality on locations and systems which are critical for conservation of biodiversity, agricultural production, towns, infrastructure and cultural and social values, is avoided or minimised.	N/A	Asset management of 2 priority catchments through the development of Integrated catchment management plans.
4a Demonstrate implementation of best management practice in 3 priority catchments (on ground works)	July 06	June 08	OG13.3 – Increased water harvesting through drain diversion (also leads to reduction in erosion, flooding and sedimentation).	The impact of salinity and degrading water quality on locations and systems which are critical for conservation of biodiversity, agricultural production, towns, infrastructure	N/A	Asset Management of 3 priority catchment areas within the region through on ground actions.

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				e and cultural and social values, is avoided or minimised.		
5a Development of extension material identifying commercial drivers from alternative sources of water - aimed at landholders and local government.	July 06	June 07	RA2.3 – Market Analysis and industry development report.	Surface water and groundwater is securely allocated for sustainable production purposes and to support human uses and the environment, within the sustainable capacity of the water resource.	N/A	Asset management of potential alternative sources of water.
6a Extension workshops	July 2006	June 2008	CB2.1 – Workshop series held.	Surface water and groundwater is securely allocated for sustainable production purposes and to support human uses and the environment, within the sustainable capacity of the water resource. The impact of salinity and degrading water quality on locations and systems which are critical for conservation of biodiversity, agricultural production, towns, infrastructure and cultural and social values, is	N/A	Threat management through the delivery of extension material and workshops to educate the community in surface water matters.

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				avoided or minimised.		
6b Other extension tools including dissemination of information, media releases.	July 2006	June 2008	CB1.2 – Media releases and written products produced.	Surface water and groundwater is securely allocated for sustainable production purposes and to support human uses and the environment, within the sustainable capacity of the water resource. The impact of salinity and degrading water quality on locations and systems which are critical for conservation of biodiversity, agricultural production, towns, infrastructure and cultural and social values, is avoided or minimised.	N/A	Threat management through the dissemination of extension material to educate the community in surface water matters.
7a Development of monitoring programs to substantiate reductions in reliance on reticulated scheme.	July 06	June 07	RA1.2 – Monitoring program developed.	Surface water and groundwater is securely allocated for sustainable production purposes and to support human uses and the environment, within the sustainable capacity of the water resource.	N/A	Asset management to develop monitoring system to monitor reticulated water use.
7b Implementation of monitoring programs	July 07	June 08	RA1.2 – Monitoring	Surface water and	N/A	Asset Management through

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to substantiate reductions in reliance on reticulated scheme.			program initiated.	groundwater is securely allocated for sustainable production purposes and to support human uses and the environment, within the sustainable capacity of the water resource.		implementation of monitoring system to monitor reticulated water use.
8a Report on the potential impact of increase landscape storage on catchment yields.	July 06	June 07	RA3.3 – Resource Assessment Report.	Surface water and groundwater is securely allocated for sustainable production purposes and to support human uses and the environment, within the sustainable capacity of the water resource.	N/A	Threat Management through the establishment of the impact of surface water storage/usage on catchment yields.
8b Information provided to LGA's on water needs (/person/annum) and harvesting capabilities of infrastructure (i.e. roofs and dams) and local farm water planners (who, where). (Guidelines provided through W3MATV.3)	July 06	June 07	CB1.2 – Information package targeting LGA's.	Surface water and groundwater is securely allocated for sustainable production purposes and to support human uses and the environment, within the sustainable capacity of the water resource.	N/A	Asset Management by providing LGA's (and their subsequent communities) on better surface water management.
9a Develop scope and parameters for assessing environmental flow requirements. Report on methodology for assessing environmental flow requirements.	July 06	June 07	RA2.3 Methodology report	Surface water and groundwater is securely allocated for sustainable production purposes and to support	N/A	Threat Management to develop methodologies to protect / maintain environmental water requirements.

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				human uses and the environment, within the sustainable capacity of the water resource.		
9b Preliminary assessment of environmental flow requirements of the Avon River and major tributaries.	July 07	June 08	RA3.3 Resource assessment report	Surface water and groundwater is securely allocated for sustainable production purposes and to support human uses and the environment, within the sustainable capacity of the water resource.	N/A	Threat management through the preliminary assessment of minimum environmental flows.
8/9c Environmental flow and assessment guidelines provided for inclusion in the Avon Arc Strategy with tools provided for LGA's within the Avon Arc to include these provisions in their town planning schemes.	July 07	June 08	CB1.2 – Information packaged delivered to LGA's.	Surface water and groundwater is securely allocated for sustainable production purposes and to support human uses and the environment, within the sustainable capacity of the water resource.	N/A	Asset Management through provision of information for local government and community on including environmental flow and dam assessment in town planning schemes.

Additional Information *new or continuing project, indicate changes from original project etc*
 Continuing project picking up environmental flow issues in years 2 and 3 and providing this and other water harvesting information to LGA's. Reticulated water usage targets will also be monitored through the development and implementation of a monitoring program.

Project Budget

Year	NAP	NHT	Other	Total
05/06	\$703,650.00		\$330,000	\$1,033,650
06/07	\$542,820.00		\$270,000	\$812,820
07/08	\$471,075.00		\$270,000	\$741,075

Project Commencement Date	July 2006
Project Completion Date	June 2008

Risks to achievement of project

- Low community/landholder interest
- Lack of landholder investment in on ground works (May stem from 'bad season' and therefore lack of landholder funds)
- Lack of base lining data

Monitoring and evaluation

Activity	Indicator used	Data source	Reporting scale (local, regional, state, national)
Assessment of water supply usage and setting of draft targets for reduction in water at a local area planning scale.	<ul style="list-style-type: none"> ▪ Assessment of water supply usage in selected towns ▪ Draft targets for reduction in water use set ▪ Community consultation 	GHD Water Corporation —	Local Regional
Continued assessment of water supply usage and setting of final targets for reduced use.	<ul style="list-style-type: none"> ▪ Maintenance of water supply usage database ▪ Set final targets for reduced use 	GHD Water Corporation LGAs	Regional
On ground technical support for CLC/NRMO positions, including catchment scale modeling, impact assessment and engineering options.	<ul style="list-style-type: none"> ▪ Identification of technical support required. ▪ Provision of information, technology etc needed 	GHD ACC	Regional
Review and select priority catchments for the development of integrated catchment management plans.	<ul style="list-style-type: none"> ▪ Identification of priority catchments ▪ Development of Integrated catchment Management plans 	GHD DOE ACC LGAs	Regional
Planning and design for demonstration catchment sites.	<ul style="list-style-type: none"> ▪ Identification of demonstration catchment sites ▪ Development of plans ▪ Community consultation 	GHD DOE ACC LGAs	Regional
Demonstrate implementation of best management practice in 3 priority catchments (on ground works)	<ul style="list-style-type: none"> ▪ Implementation of BMP in 3 catchments ▪ Community consultation 	GHD ACC	Regional
Development of extension material identifying commercial drivers from	<ul style="list-style-type: none"> ▪ Production of extension material 	GHD	Regional State

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alternative sources of water - aimed at landholders and local government.			
Extension workshops	<ul style="list-style-type: none"> ▪ Number of workshops held ▪ Number of participants 	GHD ACC	Regional Local
Other extension tools including dissemination of information, media releases.	<ul style="list-style-type: none"> ▪ Production and distribution of extension material (case studies, newsletters, media releases) 	GHD ACC	Regional
Development of monitoring programs to substantiate reductions in reliance on reticulated scheme.	<ul style="list-style-type: none"> ▪ Monitoring program developed and database established 	GHD ACC	Regional
Implementation of monitoring programs to substantiate reductions in reliance on reticulated scheme.	<ul style="list-style-type: none"> ▪ Adoption of monitoring program 	GHD LGAs	Regional
Report on the potential impact of increase landscape storage on catchment yields.	<ul style="list-style-type: none"> ▪ Report 	GHD DOE	Regional State
Information provided to LGA's on water needs (/person/annum) and harvesting capabilities of infrastructure (ie roofs and dams) and local farm water planners (who, where). (Guidelines provided through W3MATV.3)	<ul style="list-style-type: none"> ▪ Production and distribution of water needs and harvesting capabilities 	GHD	Local Regional
Develop scope and parameters for assessing environmental flow requirements. Report on methodology for assessing environmental flow requirements.	<ul style="list-style-type: none"> ▪ Develop assessment criteria for environmental flow requirements. ▪ Report produced 	GHD DOE	Regional State National
Preliminary assessment of environmental flow requirements of the Avon River and major tributaries.	<ul style="list-style-type: none"> ▪ Assessments completed for various tributaries 	GHD DOE	Regional State
Environmental flow and assessment guidelines provided for inclusion in the Avon Arc Strategy with tools provided for LGA's within the Avon Arc to include these provisions in their town planning schemes.	<ul style="list-style-type: none"> ▪ Guidelines produced ▪ Consultation with LGAs 	GHD DOE ACC	Regional

7.3.2 Sustainable Industries Program

7.3.2.1 Program goal

Agriculture industries are responsible for generating considerable wealth and supporting a large proportion of the population, as such a significant component of the region’s natural resource management will need to occur through agriculture. Therefore maintaining a profitable and sustainable agricultural industry is paramount to achieving environmental and social outcomes. Improving agricultural management for environmental benefit has underpinned the development of this program.

This program is targeted at both NHT and NAP funding sources. The biosecurity sub-program primarily addresses environmental biosecurity threats and as such is seeking NHT support. The two soil health sub-programs are dealing with fundamental soil health threatening processes that directly contribute to water quality e.g. increased fertiliser use to manage soil fertility levels contributes to nutrient loads in rivers. These sub-programs are seeking NAP support.

Table 7.4 Program/sub-program structure

Sustainable Industries Program	Priority 20 year targets	Priority MATs
<i>Sub-programs</i>		
1. Biosecurity (problem animal and plant pests).	L3T201	L3MAT5.1, L3MAT6.1
2. Soil acidity (management of soil pH in agricultural systems).	L1.1T201	L1.1 MAT2.1, L1.1 MAT6.2, L1.1 MAT 4.1 L1.1 MAT2.1, L1.1 MAT6.2, L1.1 MAT 4.1
3. Soil health (soil fertility).	L1.5T201	L1.5 MAT2.1, L1.5 MAT3.1, L1.5 MAT 4.1 ,L1.5 MAT 6.1 , L1.1 MAT 6.1

7.3.2.2 Sub-program description

Biosecurity

Awareness of biosecurity risk issues and threats to agriculture and environmental systems within the region needs to be enhanced and all landholders (private and public) need to take responsibility for managing biosecurity issues. Planning for biosecurity needs to be carried out at all industry levels, including State and Local Government. Such management should consider the value of biosecurity in an industry and NRM context.

Priorities addressed:

- improved linkages between biosecurity management organisations;
- representation of regional NRM issues in decision-making forums; and
- spatial identification of priority environmental biosecurity threats and management response development.

Soil Acidity

The off site impacts of soil condition decline are often difficult to identify, however, if the case of acidification, the impacts of reduced plant growth and water usage may be seen in increased water run-off, waterlogging down slope, increased turbidity of streams, and nitrate leaching. As the majority of threats to soils are derived from agricultural management practices, the response to managing soil acidity should primarily be taken in an agricultural industry context.

Priorities addressed:

- understanding the current extent of soil acidity;
- finding alternative options to lime; and
- investigating options for land management practices that contribute to soil acidification.

Soil Health

Soil is the largest natural resource and is often considered only in the context of its utilisation by agricultural industries. Healthy soils are, however, important for a range of reasons, not only for sustaining plant and animal productivity, but also for maintaining or enhancing water and air health, and supporting human health and habitation.

Priorities addressed:

- encouraging a broader understanding of all aspects of soil health; and
- methods for monitor soil health with a focus on both productivity and ecosystem maintenance.

7.3.2.3 Project summaries

Three projects have been developed to address the program priorities identified. The projects are:

SI001 Identification of the spatial distribution of priority environmental pests and development of regional management responses.

- Identification of regional priority biosecurity issues and development of biosecurity management strategies.

SI002 Identification of land management practices that contribute to soil acidity and development of sustainable land management options.

- Demonstrating effective monitoring and alternative management of soil acidity.

SI003 Increased awareness of soil health limiting factors and demonstration of land management practices that contribute to long term soil health.

- Identifying and demonstrating links between management practices and soil management issues, such as compaction and demonstration of amelioration techniques.
- Demonstration of sustainable soil management practices.

7.3.2.4 Project schedules

Project Title: SI001 - Identification of the spatial distribution of priority environmental pests and development of regional management responses.						
Objectives and Accountabilities						
ACC Outcome (Strategic Objective from Regional Strategy): Cooperative action undertaken by local communities across landscapes is effectively controlling or has eradicated plant and animal pests as well as diseases across the region. Additional biosecurity threats are contained or avoided.						
Program Outcome - 20 year Targets:						
L3T201 A 50% reduction in the economic and environmental impacts of all priority animal and plant pests across the region by 2014.						
Project Outcome - Project Aims: This project has two primary aims. Firstly it will spatially identify threats (by actual or surrogate measures) and assist in development of suitable management responses. The specific species identified have been nominated as having the greatest environmental impact within the region and have localised impacts, which have not been adequately addressed at community or government levels. Secondly, it will address the need to develop improved linkages between organisations with a stake in regional biosecurity. Representation of regional NRM groups and regional NRM issues in decision-making forums is essential for the recognition of biosecurity issues, especially those with environmental impacts.						
Project MATs						
L3MAT 5.1 By 2008, 80% of land managers have knowledge of the impacts and a management of priority plant pest species.						
L3MAT 6.1 By 2009, the extent of rabbits, cats, dogs and foxes, their economic and environmental impacts and management options will be understood by 80% of land managers.						
Activities	Start Date	Finish date	Activity Type and code	NAP Outcomes	NHT Outcomes	Regional Outcomes
1a (i) writing any further proposed strategy & local site action plans, (ii) writing a contract with specifications for delivery of control actions, (iii) assisting in running the tender process and evaluating proponent submissions, (iv) checking standards of work performed and recommending payment or withholding payment, subject to rectification (as the case might be), (v) writing a periodic summary of	July 2006	July 2006	OG8.1 Area of pest plant control measures implemented OG8.3 Area of pest animal control (vertebrates) measures implemented RA3.3 Number of other decision support tools developed		Preventing or controlling the spread of feral animals, aquatic pests, weeds and other biological threats to biodiversity	Threats managed – Environmental and agricultural pests and diseases managed

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actual performance against specs (contract) and targets (site plans), and (vi) making recommendations for changes/improvement S....						
2a Support for the redcard for the red fox community based program for fox control	July 2006	July 2006	OG8.3 Area of pest animal control (vertebrates) measures implemented		Preventing or controlling the spread of feral animals, aquatic pests, weeds and other biological threats to biodiversity	Threats managed – Environmental and agricultural pests and diseases managed

Additional Information *new or continuing project, indicate changes from original project etc*

- MATs as listed above have the same numbering allocated as in the Avon Natural Resource Management Strategy, 2005, pp 72.

Project Budget

Year	NAP	NHT	Other	Total
05/06		\$235,000	\$15,000	\$250,000
06/07		\$40,000	\$30,000	\$70,000
07/08				

Project Commencement Date	July 2006
Project Completion Date	June 2007

Risks to achievement of project

- Lack of community & LGA involvement and support for the project

Monitoring and evaluation

Activity	Indicator used	Data source	Reporting scale (local, regional, state, national)
(i) writing any further proposed strategy & local site action plans, (ii) writing a contract with specifications for delivery of control actions, (iii) assisting in running the tender process and evaluating proponent submissions, (iv) checking standards of work performed and recommending payment or with-holding payment, subject to rectification (as the case might be), (v) writing a periodic summary of actual performance	<ul style="list-style-type: none"> Completion of local site action plans Community consultation 	GHD ACC	Local Regional

against specs (contract) and targets (site plans), and (vi) making recommendations for changes/improvements....			
Support for the redcard for the red fox community based program for fox control	<ul style="list-style-type: none"> ▪ Formation of partnership with Redcard program ▪ Extension activities such as workshops, case studies etc 		Regional State

Project Title: SI 002 - Identification of land management practices that contribute to soil acidity and development of sustainable land management options.
Objectives and Accountabilities
ACC Outcome (Strategic Objective from Regional Strategy): — Soil health and productivity is significantly improved through the management of top and sub-soil acidity, soil compaction, soil structure decline, waterlogging, water erosion and wind erosion.
Program Outcome - 20 year Targets (From AIP): L1.1 T20 1 Soil acidity levels (top and sub-surface) at or above pH 5.5 (CaCl ₂), in all soils with low capacity to buffer pH change by 2020.
Project Outcome - Project Aims (from AIP): Identification and remediation of soil acidity, particularly in sub-soils is difficult. In the past 10 years lime products have been actively promoted as a solution to managing soil acidity, however, issues have developed recently, particularly in eastern areas regarding the efficacy and sustainability (off farm) of continued use of lime as an ameliorate. This project will: <ul style="list-style-type: none"> • assist in benchmarking the current extent of soil acidity (via surrogate measures) to assist in resource condition assessment; • help identify and manage land use practices contributing to soil acidification. The project will specifically: <ul style="list-style-type: none"> • Test the reliability of current and proposed methodologies for monitoring soil pH. • Review the links between land use practice and the incidence of soil acidity – leading to the development of sustainable farming practices to manage acidity. • Review the sustainability (including economics) of existing practices e.g. liming and lime extraction • Identify and benchmark the status of soil pH – would utilise existing data and aim to be carried out as part of a monitoring program for 5-10years. • Extend the positive outcomes of pH management and monitoring under current management systems. • Lobby agencies etc to look at long term sustainability issues when developing soil acidity BMP guidelines. • Define sustainable management for soil pH, including fertiliser usage, organic matter and alternatives to lime. Help define a sustainable BMP for soil acidity management.
Project MATs
L1.1 MAT 2.1 Regional database established to record the status of top and sub-soil pH documented for all Land Resource Sub-Regions by 2008.
L1.1 MAT 6.2 80% of land managers have knowledge of BMP for soil acidity (including economic benefits) by 2008.
L1.1 MAT 4.1 Study completed documenting the spatial extent of amelioration actions, linking to a sub-regional scale acidity status map product and contributing to ongoing state level status mapping, monitoring and evaluation by 2008.

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Activities	Start Date	Finish date	Output and code	NAP Outcomes	NHT Outcomes	Regional Outcomes
1a Strategic soil sampling to cover gaps in knowledge identified during first year of the project and.	July 2006	June 2008	RA2.1 – Gap analysis and soil sampling complete.	Surface and groundwater quality is maintained or enhanced.	N/A	Management of soil acidity as a threat to production and water quality.
1b Maintenance of the databases established year 1 of the project.	July 2006	June 2008	RA1.3 – Database updated and maintained.	Surface and groundwater quality is maintained or enhanced.	N/A	Management of soil acidity as a threat to production and water quality.
2a Use data and information collected through year one of project for extension to stakeholders / landholders including workshops, field days, newsletter and the rural press	July 2006	June 2008	CB1.1 – Field days. CB1.2 – newsletter and fact sheets, CB1.4 – media opportunities CB2.1 – workshops.	Surface and groundwater quality is maintained or enhanced.	N/A	Management of soil acidity as a threat to production and water quality through capacity building of local community.
2b Manage the demonstration sites, including existing sites, to gather appropriate soil and productivity data to enable the long term economic benefits of managing acidity to be assessed	July 2006	June 2008	OG9.4 – Area (ha) treated for soil acidity. RA3.3 – Economic benefits report produced.	Surface and groundwater quality is maintained or enhanced. Land management practices in place which enhance or maintain water quality and prevent and manage salinity	N/A	Management of soil acidity as a threat to production and water quality through on ground demonstration.
2c BMP based on farming systems (liming and practices that don't lead to or reduce impact of soil acidity)	July 2006	June 2007	P1.1 – BMP developed	Surface and groundwater quality is maintained or enhanced. Land management practices in place which enhance or	N/A	Management of soil acidity as a threat to production and water quality.

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				maintain water quality and prevent and manage salinity		
3a Comprehensive survey of landholders / landholders of liming activities over past 10 years (including application rates, how often, how much etc).	July 2006	June 2007	RA2.2 – Survey complete	Surface and groundwater quality is maintained or enhanced.	N/A	Management of soil acidity as a threat to production and water quality.
3b Extent of liming and soil acidity mapped for region	July 2006	June 2008	RA2.1 – Maps produced.	Surface and groundwater quality is maintained or enhanced.	N/A	Management of soil acidity as a threat to production and water quality.

Additional Information *new or continuing project, indicate changes from original project etc*

Continuing project activities include gap analysis and sampling, updating and maintenance of database and maintaining demonstration sites. New activities picked up through years 2 and 3 include development of BMP's, comprehensive landholder surveying and regional maps produced.

Project Budget

Year	NAP	NHT	Other	Total
05/06	\$895,050		\$60,000	\$955,050
06/07	\$695,940		\$100,000	\$795,940
07/08	\$605,055		\$100,000	\$705,055

Project Commencement Date	July 2006
Project Completion Date	June 2008

Risks to achievement of project

- Environmental/weather conditions (as need to sample dry)
- Impractical or costly recommendations that farmers can't afford to pick up (value for money issues)
- Information not seen as priority by farmers as acidity is something they deal with everyday other events such as fire, weeds, insect etc may be more pressing and therefore take precedents.

Monitoring and evaluation

Activity	Indicator used	Data source	Reporting scale (local, regional, state, national)
Strategic soil sampling to cover gaps in knowledge identified during first year of the project and maintenance of the databases.	Soil acidity Soil erosion (wind & water)	Delivery organisation	Regional, State, National
Use data and information collected through year one of project for extension to stakeholders / landholders including workshops, field days, newsletter and the rural press	No. of workshops held and field days attended. Stakeholder attendance at workshops and field days. No. and type of media.	Delivery organisation, ACC	Regional
Manage the demonstration	N/A		

sites, including existing sites, to gather appropriate soil and productivity data to enable the long term economic benefits of managing acidity to be assessed			
BMP based on farming systems (liming and practices that don't lead to or reduce impact of soil acidity)	N/A		
Comprehensive survey of landholders / landholders of liming activities over past 10 years (including application rates, how often, how much etc).	N/A		
Extent of liming and soil acidity mapped for region	N/A		

Project Title: SI003 - Increased awareness of soil health limiting factors and demonstration of land management practices that contribute to long term soil health.						
Objectives and Accountabilities						
ACC Outcome (Strategic Objective from Regional Strategy): Soil health and productivity is significantly improved through the management of top and sub-soil acidity, soil compaction, soil structure decline, waterlogging, water erosion and wind erosion						
Program Outcome - 20 year Targets (From AIP): L1.5 T20 1 100% of soils with recognised fertility issues (elements, organic matter and microbial activity) are identified within 5 years and a 30% improvement over benchmarked fertility levels is achieved by 2020.						
Project Outcome - Project Aims (from AIP): The land assets of the Avon Catchment are predominantly managed by agricultural land uses, therefore improving soil condition by appropriate agricultural management is a fundamental component of the long term management of the land asset. This project addresses the win:win scenario, where improved management (through monitoring of the resource and increased understanding of the impacts of different management options) can lead to improve productivity and improved soil health. The project will benchmark aspects of soil health in a sub-catchment of the Avon region, with the long-term aim of developing methods to monitor aspects of soil health related to productivity and ecosystem maintenance, at various scales. The potential outcome of this project is that in investment years 2-3, industry organisations will increase involvement with the outlook being for such groups to adopt and extend the processes developed.						
Project MATs						
L1.5 MAT 2.1 Six representative land resource areas (catchment scale) with complete soil fertility mapping and linked criteria by 2009.						
L1.5 MAT 3.1 By 2008, 10 training courses will have been held with the intended outcome being that 70% of land managers will have an understanding of the benefits of the sustainable management of soil fertility in a resource management context.						
L1.5 MAT 4.1 By 2008 a representative RCT will be developed based on data gathered and analysed in representative land resource areas and up take of soil management methodology.						
L1.5 MAT 6.1 By 2008, 80% of land managers have knowledge of BMP for maintaining soil fertility. Note: Surrogate measures including fertiliser usage, stubble retention rates and soil test application rates will be used						
L1.1 MAT 6.1 Workshops for education and training in soils management are held at 20 locations within the region by 2006*.						
Activities	Start Date	Finish date	Output and code	NAP Outcomes	NHT Outcomes	Regional Outcomes

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<p>1a 3 catchment areas (2 yr 2 and 1 yr3) assessed for soil health issues</p>	<p>July 2006</p>	<p>June 2008</p>	<p>RA1.2 – monitoring programs established</p> <p>RA1.1 – Report on soil health analysis</p>	<p>Surface and groundwater quality is maintained or enhanced.</p> <p>Land management practices in place which enhance or maintain water quality and prevent and manage salinity</p>	<p>N/A</p>	<p>The threat of poorly managed agricultural land will be addressed in this project through the identification of soil health issues within the region. An improvement in management will subsequently see an improvement in water quality through a reduction in nutrients, chemicals and other substances reaching waterways. This will also potentially lead to an improvement in production capabilities within the region.</p>
<p>1b Continue mapping of soil indicators to determine regional benchmarks.</p>	<p>July 2006</p>	<p>June 2008</p>	<p>RA2.1 – Soil indicator study complete</p>	<p>Surface and groundwater quality is maintained or enhanced.</p> <p>Land management practices in place which enhance or maintain water quality and prevent and manage salinity</p>	<p>N/A</p>	<p>The threat of poorly managed agricultural land will be addressed in this project through the identification of soil health issues within the region. An improvement in management will subsequently see an improvement in water quality through a reduction in nutrients, chemicals and other substances reaching waterways. This will also potentially lead to an improvement in production capabilities within the region.</p>
<p>1c Continue monitoring of established monitoring sites/transects.</p>	<p>July 2006</p>	<p>June 2008</p>	<p>RA1.3 – Monitoring program enhanced through continued monitoring.</p>	<p>Surface and groundwater quality is maintained or enhanced.</p> <p>Land management practices in place which</p>	<p>N/A</p>	<p>The threat of poorly managed agricultural land will be addressed in this project through the identification of soil health issues within the region. An improvement in management will subsequently see an improvement in</p>

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				enhance or maintain water quality and prevent and manage salinity		water quality through a reduction in nutrients, chemicals and other substances reaching waterways. This will also potentially lead to an improvement in production capabilities within the region.
1d Update web-based soil indicator information service.	July 2006	June 2008	CB1.5 – Website maintained and enhanced.	Surface and groundwater quality is maintained or enhanced. Land management practices in place which enhance or maintain water quality and prevent and manage salinity	N/A	Threat management through the building of capacity to better understand and manage soil health issues.
2a A minimum of 3 workshops in 2007 and 3 in 2008, related to soil health and management delivered to land managers.	July 2007	June 2008	CB2.1 – Workshop series held	Surface and groundwater quality is maintained or enhanced. Land management practices in place which enhance or maintain water quality and prevent and manage salinity	N/A	Threat management through the building of capacity to better understand and manage soil health issues.
2b Demonstration area/s established targeting regional soil health issues and continued monitoring of these sites.	July 2006	June 2008	OG9.4	Surface and groundwater quality is maintained or enhanced. Land management practices in place	N/A	Threat management through the building of capacity to better understand and manage soil health issues.

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				which enhance or maintain water quality and prevent and manage salinity		
2c Regional trade press and/or field day articles provided.	July 2006	June 2008	CB1.2 – newsletter and/or fact sheet produced. CB1.4 – Media opportunities	Surface and groundwater quality is maintained or enhanced. Land management practices in place which enhance or maintain water quality and prevent and manage salinity	N/A	Threat management through the building of capacity to better understand and manage soil health issues.
3a Statistical analysis and resource mapping of data collected through 3 years of project used to develop RCT	March 2008	Dec 2008	RA1.1 – Setting of RCT	Surface and groundwater quality is maintained or enhanced	N/A	Threat management through the development of regionally appropriate targets and therefore a way forward for improved management.
4a Survey of workshop participants to establish baseline data on knowledge of soil fertility issues	July 2006 (Currently not funded in year 1 however DO feel this is something that can begin immediately)	June 2007	RA2.2 – Social survey complete and report produced	Surface and groundwater quality is maintained or enhanced.	N/A	Threat management through the building of capacity to better understand and manage soil health issues.
4b Resurvey 2007 participants to evaluate knowledge gained throughout project.	June 2007	July 2008	RA2.2 – Final social survey complete and report produced	Land management practices in place which enhance or maintain water quality and	N/A	Threat management through the building of capacity to better understand and manage soil health issues.

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				prevent and manage salinity		
4c Work with landholders, commercial companies and the like to establish fertiliser application rates etc.	June 2006	July 2008	RA2.2 – Survey complete and report produced	Surface and groundwater quality is maintained or enhanced.	N/A	Threat management through the building of capacity to better understand and manage soil health issues.
5a Workshops in soil management held in 20 locations across the region (a minimum of 10 in yrs 2 and 3)*.	June 2006	July 2008	CB2.1 – Workshop series held.	Surface and groundwater quality is maintained or enhanced. Land management practices in place which enhance or maintain water quality and prevent and manage salinity	N/A	Threat management through the building of capacity to better understand and manage soil health issues.

Additional Information *new or continuing project, indicate changes from original project etc*
 Continuing project picking up a further 3 catchment areas to be assessed for soil health issues in years 2 and 3. Other activities will include base lining the regions knowledge of soil health issues, development of an appropriate RCT and increasing landholders knowledge of soil fertility BMP's.

Project Budget

Year	NAP	NHT	Other	Total
05/06	\$753,050		\$63,000	\$816,050
06/07	\$582,200		\$40,000	\$622,200
07/08	\$443,020		\$40,000	\$483,020

Project Commencement Date	July 2006
Project Completion Date	June 2008

Risks to achievement of project

- Environmental/weather conditions (as need to sample dry)
- Loss of interest by growers
- *Due to a reduction in funding L1.1 MAT 6.1 may not be fully achieved, this will need to be addressed through the schedule/contracting stage with the Delivery Organisation as to whether this activity can be incorporated into other extension activities occurring under other MAT's.

Monitoring and evaluation

Activity	Indicator used	Data source	Reporting scale (local, regional, state, national)
3 catchment areas (2 yr 2 and 1 yr3) assessed for soil health issues	Soil fertility (including pH, compaction, soil structure decline, waterlogging, erosion)	ARWA DAWA	Regional

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Continue mapping of soil indicators to determine regional benchmarks.	Maintenance of soil health database Collation of baseline data (Links to ND001)	ARWA ACC	Regional State National
Continue monitoring of established monitoring sites/transects.	Regular data collection	ARWA	Regional
Update web-based soil indicator information service.	Maintenance of database	ARWA	Regional State
A minimum of 3 workshops in 2007 and 3 in 2008, related to soil health and management delivered to land managers.	Number of workshops held Number of workshop participants	ARWA ACC	Regional
Demonstration area/s established targeting regional soil health issues and continued monitoring of these sites.	Number of demonstration sites established Community consultation & Involvement	ARWA LGAs	Regional Local
Regional trade press and/or field day articles provided.	Number of articles, interviews, press releases produced and distributed	ARWA ACC	Regional Local
Statistical analysis and resource mapping of data collected through 3 years of project used to develop RCT	Evaluation of data and report on findings	ARWA	Regional
Survey of workshop participants to establish baseline data on knowledge of soil fertility issues	Number of surveys completed Maintenance of knowledge database	ARWA ACC	Regional
Resurvey 2007 participants to evaluate knowledge gained throughout project.	Number of surveys completed Comparison of survey results	ARWA ACC	Regional
Work with landholders, commercial companies and the like to establish fertiliser application rates etc.	Establishment of fertiliser rates Community consultation – surveys, workshops, extension material	ARWA ACC	Regional
Workshops in soil management held in 10 locations across the region.	Number of workshops held Number of participants	ARWA ACC	Regional

7.3.3 Natural Diversity Program

7.3.3.1 Program goal

The goal for natural diversity conservation in the Avon River Basin is to retain, restore and enhance the Avon Region’s natural biodiversity in ways that are consistent with the core values and sustainability goals of the region.

This goal will be achieved through a combination of assessment, planning, increasing capability, on-ground actions and ongoing learning/monitoring. The focus is on achieving outcomes through partnering between NRM specialists, industry and community to retain viable systems and processes across the landscape and where species, communities and ecosystems are vulnerable and threatened focusing efforts on reducing the rate of loss as well as restoration and enhancement of natural diversity.

Table 7.5 Program/sub-program structure

Natural Diversity Program	Priority 20yr Targets	Priority MATs
<p><i>Sub-programs:</i></p> <p>1. Biodiversity threat management (fire and fragmentation).</p> <p>2. Asset management (river pools, tributaries, native species, cultural and heritage values natural ecological communities, ecosystems, landscapes/ecoscapes).</p>	<p>B₅T₂₀5a</p> <p>The Avon River Basin contains a connected and functional network of vegetation.</p> <p>Conserve the extent and integrity of the natural diversity (species, NECs and ecosystems).</p> <p>Vulnerable” Ecosystems (ecosystems whose current extent in good condition.</p> <p>“Threatened” Ecosystems (ecosystems whose current extent in good condition.</p> <p>W2T201 W1T202</p> <p>All native species that naturally occur in the Avon region persist in viable populations.</p> <p>Maintain the extent and integrity (structure and composition) of all natural ecological communities that occur in the Avon Region</p>	<p>B5 MAT 5.7</p> <p>B1.7.2a, W2.1.3 B4 MAT 2.1 B4 MAT 5.1 B4 MAT 7.1 B4 MAT 8.2 B4 MAT 2.1 B4 MAT 5.1 B4 MAT 7.1 B4 MAT 8.2 WTBA W1.TBA W2.8.1</p> <p>W2.7.4 W2.5.2 W1.TBA W2.5.1 W2.2.1 W2.1.1 W1.TBA W1.5.4 W1.2.3 B4.5.2. B3.8.2abc B3.8.1ab W1.TBA B3.7.3ab B2.7.2b B2.7.1c W1.TBA B3.7.1ab B2.6.2b W1. TBA B4.7.3B3.5.2ab B2.7.2b B4.6.1. B3.6.1ab B3.5.1ab B2.7.1c B2.5.1abc B4.5.1. B3.4.1ab B2.6.2b B4.4.1. B3.3.2ab B2.5.1abc B4.3.1. B3.3.1ab B2.4.1c B3.5.2ab B3.2.2ab B3.2.1ab B2.4.1b B2.8.2abc B1.8.2abc B2.8.1abc B1.8.1abc B2.7.2c B2.7.2ab B2.7.1abc B1.7.1c B1.7.1b B1.7.1a B2.6.1ac B1.6.1c B1.6.1b B2.5.1abc B1.5.1c B1.5.1b B2.4.1abc B1.4.1abc B2.2.1abc B1.2.1abc B2.3.2abc B1.3.1abc B2.3.1abc B1.1.2bc B1MAT1.1abc, B1MAT1.2bc, B1MAT2.1abc, B2MAT1.1abc, B2MAT2.1abc, B2MAT3.1abc, B3MAT1.1ab, B3MAT2.1ab, B3MAT2.2ab, B5MAT 1.1, B5MAT1.2, B5MAT2.1, B5MAT8.1, W2MAT2.1,</p>

7.3.3.2 Sub-program description

Biodiversity threat management

This sub-program aims for biodiversity conservation principles to be considered in fire management planning at an IBRA sub regional scale. These guidelines will guide local government and private landholders in development of effective fire plans and secondly be the basis of an education program including demonstration.

Asset management

This sub-program will:

- Develop an inventory and information management system, primarily from existing but disparate sources, of information on current status, condition and major processes threatening the regions natural diversity. The information will be used by decision makers for analysis, priority setting, and monitoring and evaluation for the Back from the Edge, Healthy Ecosystems, Sense of Place, Our Patch and Fire Management projects.
- Develop a strategic approach to threatened species and community management and to carry out urgent recovery actions.
- Help to maintain or increase the extent and integrity of all terrestrial and aquatic ecosystems. Key ecosystems in the region are priority vegetation associations within the highly fragmented wheatbelt such as granite dome ecosystems, dolerite dykes, greenstone ranges, and saline and freshwater wetlands.
- Conserve the extent and integrity of the natural diversity (species, NECs and ecosystems) within 12 landscapes which best represent the natural diversity of the Avon River Basin (undertaking 12 projects within the first three years). Two landscapes within each IBRA region that provide the best representation of the natural diversity will be selected for intensive conservation action. In total, when complete, this project will maintain and enhance nature conservation assets over some 720,000ha.
- Support local governments and communities across the whole Avon River Basin in their conservation aspirations for their local patch. Including helping local communities to make significant conservation improvements in areas not covered by other projects with selection of conservation sites based local and regional priorities.

7.3.3.3 Project summaries

Six projects have been developed to address the program priorities identified. The projects are:

ND001 Getting started: "baselining" the Region's natural diversity

- Identification and mapping of regional assets and the threats to such assets, including salinity and water quality issues and contributing process, such as soil acidification.

ND002 Back from the edge: saving native species and communities at risk

- Development of strategic and conservation plans to manage threatened species, training for community groups in species management and on ground actions to manage target endangered species.

ND003 Healthy ecosystems

- Identification of priority ecosystems, biodiversity planning for ecosystems, training in biodiversity management for landholders and on ground work to protect/enhance ecosystems.

ND004 Sense of place: conserving the Region's characteristic ecoscapes

- Addressing the threats to significant landscape assets in the region in a ridge top to ridge top approach. This project is addressing 4 ecoscapes that incorporate valley floor and mid-slope locations that are threatened by salinity.

ND005 Our patch: local people caring for local bushland

- Development of biodiversity guidelines, involvement of Local Government and local communities in local bushland protection.

ND006 Fire management and biodiversity

- Assess risk and options for effective fire regimes, fire management plans developed for each bioregion and training for local communities in fire management for biodiversity outcomes.

7.3.3.4 Project schedules

Project Title: ND001
Objectives and Accountabilities
ACC Outcome (Strategic Objective from Regional Strategy):
Program Outcome - 20 year Targets: This project delivers to all Natural Diversity 20 year Targets. It will provide adequate quality asset and threat information at a suitable scale to enable the Back from the Edge, Healthy Ecosystems, Sense of Place, Our Patch and Fire Management projects.
Project Outcome - Project Aims: The aim of this project is to develop an inventory and information management system, primarily from existing but disparate sources, of information on current status, condition and major processes threatening the regions natural diversity. The information will be used by decision makers for analysis, priority setting, and monitoring and evaluation for the Back from the Edge, Healthy Ecosystems, Sense of Place, Our Patch and Fire Management projects. The project will provide valuable baseline data for monitoring and evaluating the effectiveness of on-ground outcomes in achieving resource condition change for the action based projects. The project will be closely aligned with asset and threat components of projects in Integrated Water and Sustainable Industries. This project will gather existing information, undertake a gap analysis, undertake activities to fill the gaps where information is insufficient for decision making and provide the information in one location in readily accessible formats. Assessment includes: <ul style="list-style-type: none"> • inventory of current distribution, abundance and condition of species, of all natural ecological communities and Avon ecosystems; • gap analysis; • baseline information for monitoring and evaluation and Management Action Targets; • an information management system; • designing an ongoing biodiversity survey program based on the gap analysis; and • threat assessment at a broad level.

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Project MATs						
B1MAT1.1abc An inventory (including estimates of current distribution and abundance of species in the region known to be viable, declining and threatened established by Dec. 2009 for viable species, by Dec. 2007 for declining species, and by Dec. 2006 for threatened species.						
B1MAT1.2bc Priority declining and threatened species and priority locations (areas containing high numbers or unique occurrences of declining or threatened species) identified by Dec. 2006 for threatened species and by Dec. 2007 for declining species.						
B1MAT 2.1abc A threat assessment for viable, declining and threatened species in the region completed and results included into 30 LAPs by June 2006 for threatened species, by June 2007 for declining species and by June 2008 for currently viable species.						
B2 MAT 1.1abc An inventory of the current extent and integrity of all natural ecological communities (terrestrial and aquatic) completed by Dec. 2007.						
B2 MAT 2.1abc A threat assessment for currently viable, declining and threatened NECs designed and applied and results incorporated into 30 LAPs by December 2006.						
B2 MAT 3.1abc Priority viable, declining, threatened NECs (terrestrial and aquatic) and priority locations (areas containing multiple NECs or unique occurrences of uncommon NECs) identified by Dec. 2006.						
B3 MAT 1.1ab An agreed classification of Avon ecosystems, and an inventory and map of the distribution, extent / condition integrity of vulnerable and threatened ecosystems completed by Dec. 2007.						
B3 MAT 2.1ab A threat assessment for ecosystems completed and results incorporated into 30 LAPs by December 2006.						
B3 MAT 2.2ab The threat to major low lying ecosystems due to rising groundwater and potential discharge from drainage schemes is predicted by Dec 2006.						
B5 MAT 1.1 Classification of distinct regions within the Avon River Basin that have similar biophysical and human land-use patterns completed by Dec. 2005.						
B5 MAT 1.2 Biodiversity survey program for all asset classes implemented by Dec. 2005.						
B5 MAT 2.1 Threats that need to be addressed at bioregional scales, such as high water tables, altered hydro periods, habitat loss & fragmentation, declining water quality, sedimentation, weeds, pests & diseases are quantified by Dec. 2005.						
B5 MAT 8.1 Regional biodiversity monitoring program for high water tables, altered hydro periods, habitat loss and fragmentation, declining water quality (nutrient, acidity, salinity and sediments), sedimentation, weeds, pests & diseases developed and initiated by 2005.						
W2 MAT 2.1 The extent of salinity risk, flooding and sedimentation, threatening processes is mapped for 13 major tributaries within the "Avon Arc" and Mortlock River System by 2009.						
Activities	Start Date	Finish date	Output and code	NAP Outcomes	NHT Outcomes	Regional Outcomes
1a Identify knowledge gaps and identify method for filling knowledge gaps (information on declining and threatened species is available through the ACC).	June 06	Feb 08	CB 2.1 Workshop to develop methodology for determining gaps RA 3.2 Database	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are	Biodiversity and the extent, diversity and condition of native ecosystems are maintained and	Assessment of threats that need to be addressed at bioregional scales. Threatened Species management.

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			system	maintained or enhanced.	rehabilitated. Populations of significant species and ecological communities are maintained and rehabilitated. Ecosystem services and functions are maintained or rehabilitated.	Threatened Ecological Communities management. Ecosystems, including wetland classification and condition assessment of wetlands/salt lakes to complement existing monitoring systems. Ecoscapes -review of existing criteria to best select Ecoscapes.
1b Establish an information management system to provide ready access to existing biophysical data sets relevant to the region.	June 06	Dec 06	RA 4.1 Develop program specification based on functional requirements RA 3.2 Design and develop web-based data enquiry and mapping system to meet functional requirements		Biodiversity and the extent, diversity and condition of native ecosystems are maintained and rehabilitated. Populations of significant species and ecological communities are maintained and rehabilitated. Ecosystem services and functions are maintained or rehabilitated.	Assessment of threats that need to be addressed at bioregional scales. Threatened Species management. Threatened Ecological Communities management. Ecosystems, including wetland classification and condition assessment of wetlands/salt lakes to complement existing monitoring systems.
1c Design and initiate an ongoing biodiversity survey program for viable, declining and threatened species	June 06	July 08	OG 3.1 Identify sites and undertake survey P5.1 Agree on single transparent, objective and repeatable set of criteria for classifying	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced.	Biodiversity and the extent, diversity and condition of native ecosystems are maintained and rehabilitated. Populations of significant species and ecological	Threatened Species management.

			NECs		communities are maintained and rehabilitated. Ecosystem services and functions are maintained or rehabilitated.	
2a Review and adapt / adopt existing classifications of NECs (eg EPBC Act 1999) to develop an agreed nomenclature, mapping system and measures of integrity for terrestrial and aquatic NECs in the Avon Basin (develop in consultation with other regions to ensure cross-regional consistency).	June 06	May 07	P5.1 Agreed nomenclature guidelines	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced.	Biodiversity and the extent, diversity and condition of native ecosystems are maintained and rehabilitated. Populations of significant species and ecological communities are maintained and rehabilitated. Ecosystem services and functions are maintained or rehabilitated.	Threatened Species management.
2b Review current information and assess conservation status for each NEC, identify knowledge gaps and recommend method for filling knowledge gaps.	June 06	Aug 07	P5.1 Report on conservation status	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced.	Biodiversity and the extent, diversity and condition of native ecosystems are maintained and rehabilitated. Populations of significant species and ecological communities are maintained and rehabilitated. Ecosystem services and functions are maintained or	Threatened Species management.

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					rehabilitated.	
2c Design and implement an ongoing biodiversity survey program for NECs	June 06	Dec 06	OG 3.1 Survey program developed and delivered	<p>The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced.</p> <p>The impact of salinity and degrading water quality on locations and systems which are critical for conservation of biodiversity, agricultural production, towns, infrastructure and cultural and social values, is avoided or minimised.</p>	<p>Biodiversity and the extent, diversity and condition of native ecosystems are maintained and rehabilitated.</p> <p>Populations of significant species and ecological communities are maintained and rehabilitated.</p> <p>Ecosystem services and functions are maintained or rehabilitated.</p>	Threatened Species management.
3a An agreed classification, mapping system (incorporating the NVIS framework) and measures of integrity for vulnerable and threatened ecosystems of the Avon.	June 06	July 07	CB 2.1 Workshop to aggregate NECs into ecosystems using agreed nomenclature and classification criteria	<p>The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced.</p>	<p>Biodiversity and the extent, diversity and condition of native ecosystems are maintained and rehabilitated.</p> <p>Populations of significant species and ecological communities are maintained and rehabilitated.</p> <p>Ecosystem services and</p>	Ecosystems, including wetland classification and condition assessment of wetlands/salt lakes to complement existing monitoring systems.

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					functions are maintained or rehabilitated.	
3b An inventory of the distribution, extent, condition, integrity of vulnerable and threatened ecosystems that can be incorporated into the information management system developed in the Baseline project. Design and implement an ongoing biodiversity survey program for ecosystems.	June 06	Sept 07	RA 3.3 Produce ecosystem maps	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced.	Biodiversity and the extent, diversity and condition of native ecosystems are maintained and rehabilitated. Populations of significant species and ecological communities are maintained and rehabilitated. Ecosystem services and functions are maintained or rehabilitated.	Ecosystems, including wetland classification and condition assessment of wetlands/salt lakes to complement existing monitoring systems.
3c Design and implement an ongoing biodiversity survey program for ecosystems.	July 07	June 08	OG 3.1 Undertake survey as required	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced.	Biodiversity and the extent, diversity and condition of native ecosystems are maintained and rehabilitated. Populations of significant species and ecological communities are maintained and rehabilitated. Ecosystem services and functions are maintained or rehabilitated.	Ecosystems, including wetland classification and condition assessment of wetlands/salt lakes to complement existing monitoring systems.
4a Classification of distinct land units that have similar biophysical and human land-use	June 06	August 07	RA3.3 Complete analysis and maps CB 2.1	The integrity and diversity of aquatic and terrestrial	Biodiversity and the extent, diversity and condition of	Threatened Species management.

patterns.			Workshop, GIS analysis	biodiversity and ecosystems are maintained or enhanced.	native ecosystems are maintained and rehabilitated. Populations of significant species and ecological communities are maintained and rehabilitated. Ecosystem services and functions are maintained or rehabilitated.	
4b Develop conservation guidelines for each distinct land unit.	June 06	Jan 07	RA2.3 Develop general management prescriptions P5.1 Stakeholder analysis	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced.	Biodiversity and the extent, diversity and condition of native ecosystems are maintained and rehabilitated. Populations of significant species and ecological communities are maintained and rehabilitated. Ecosystem services and functions are maintained or rehabilitated.	Threatened Species management.
5a To map the extent and severity of impact of known threats.	June 06	Sept 07	RA3.3 Map threats at bioregional level	The impact of salinity on land and water resources is avoided or reduced. The impact of salinity and degrading water quality on locations	Biodiversity and the extent, diversity and condition of native ecosystems are maintained and rehabilitated. Populations of significant species and	Assessment of threats that need to be addressed at bioregional scales.

				and systems which are critical for conservation of biodiversity, agricultural production, towns, infrastructure and cultural and social values, is avoided or minimised.	ecological communities are maintained and rehabilitated. Ecosystem services and functions are maintained or rehabilitated.	
5b Impact and severity of various threats for each bioregion are prioritised.	June 06	Dec 06	RA 2.3 Identify and prioritise major threats	The impact of salinity on land and water resources is avoided or reduced. The impact of salinity and degrading water quality on locations and systems which are critical for conservation of biodiversity, agricultural production, towns, infrastructure and cultural and social values, is avoided or minimised.	Biodiversity and the extent, diversity and condition of native ecosystems are maintained and rehabilitated. Populations of significant species and ecological communities are maintained and rehabilitated. Ecosystem services and functions are maintained or rehabilitated.	Assessment of threats that need to be addressed at bioregional scales.
6a Review state wide Monitoring and Evaluation guidelines and adopt / adapt to meet regional needs.	August 06	Dec 06	RA 1.2 Develop coordinated monitoring programs across all other Natural Diversity projects.		Biodiversity and the extent, diversity and condition of native ecosystems are maintained and rehabilitated.	Threatened Species management.

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					<p>Populations of significant species and ecological communities are maintained and rehabilitated.</p> <p>Ecosystem services and functions are maintained or rehabilitated.</p>	
7a Identify major salt lakes and other wetlands of regional significance in the Avon River based on hydrological and ecological criteria.	June 06	June 08	<p>RA 3.3 Assemble the available digital map layers of wetlands, integrate with existing biological and hydrological datasets</p> <p>P4.1 Compile guidelines for conservation of each wetland category in classification</p>	<p>The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced.</p> <p>The impact of salinity and degrading water quality on locations and systems which are critical for conservation of biodiversity, agricultural production, towns, infrastructure and cultural and social values, is avoided or minimised.</p>	<p>Biodiversity and the extent, diversity and condition of native ecosystems are maintained and rehabilitated.</p> <p>Populations of significant species and ecological communities are maintained and rehabilitated.</p> <p>Ecosystem services and functions are maintained or rehabilitated.</p>	<p>Assessment of threats that need to be addressed at bioregional scales. Ecosystems, including wetland classification and condition assessment of wetlands/salt lakes to complement existing monitoring systems.</p>
<p>Additional Information <i>new or continuing project, indicate changes from original project etc</i> Continuing project – focus of wetland classification to be on ability to accept drainage water.</p>						

Project Budget

Year	NAP	NHT	Other	Total
05/06	\$420,000	\$400,000		\$820,000
06/07	\$307,900	\$328,000		\$635,900
07/08	\$265,520	\$206,109		\$471,629

Project Commencement Date	July 2006
Project Completion Date	June 2008

Risks to achievement of project

<ul style="list-style-type: none"> • Availability of essential datasets. • Sharing of scientific study results by agencies etc. • Linkages across projects not made. • Data/process delivery across projects not made.
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Monitoring and evaluation

Activity	Indicator used	Data source	Reporting scale (local, regional, state, national)
<i>Project is primarily monitoring and evaluation focused</i>			

Project Title: ND002 - Back from the edge: saving native species and communities most at risk.
Objectives and Accountabilities
ACC Outcome (Strategic Objective from Regional Strategy): All native species that occur naturally in the Avon region persist in viable populations.
Program Outcome - 20 year Targets: <ul style="list-style-type: none"> • All native species that naturally occur in the Avon region persist in viable populations. • Maintain the extent and integrity (structure and composition) of all natural ecological communities that occur in the Avon Region.
Project Outcome - Project Aims: The aims of the project are to develop a strategic approach to threatened species and community management and to carry out urgent recovery actions. Due to the strong relationship between the threatening processes to species and communities of salinity and weeds, actions for this project will be integrated with salinity projects in Integrated Water and with the Biosecurity Project in regard to environmental weed management. The project has two key components: <ol style="list-style-type: none"> 1. The development of a strategic plan for conservation of threatened species and communities that provides clear strategic context and feasibility, which is currently lacking for conserving existing populations in situ. This work is critical for the 450 (approx.) species at risk from rising saline water tables for which current conservation approaches will be insufficient. 2. To carry out urgent recovery actions for critically endangered, endangered and vulnerable species and communities. Conservation options will be based on feasibility and cost benefit and lead to on ground actions,

<p>such as landholder participation and community involvement in specific targeted restoration projects. Conservation options and plans will be incorporated into Local Area Plans.</p>
<p>Project MATs</p>
<p>B1.1.2bc Priority declining and threatened species and priority locations (areas containing high numbers or unique occurrences of declining or threatened species) identified by June 2007 for threatened species and by June 2008 for declining species.</p>
<p>B2.3.1abc Priority viable, declining, threatened NECs (terrestrial and aquatic) and priority locations (areas containing multiple NECs or unique occurrences of uncommon NECs) identified by Dec 2006.</p>
<p>B1.3.1abc Conservation options for viable, declining and threatened species are assessed for feasibility and cost benefit by June 2006 for declining and threatened species and by June 2007 for viable species</p>
<p>B2.3.2abc Conservation options for viable, declining and threatened NECs are assessed for feasibility and cost benefit by June 2007</p>
<p>B1.2.1abc A threat assessment for viable, declining and threatened species in the region completed and results included into 30 LAPs by June 2006 for threatened species, by June 2007 for declining species and by June 2008 for currently viable species. Note: also in ND001</p>
<p>B2.2.1abc A threat assessment for currently viable, declining and threatened NECs designed and applied and results incorporated into 30 LAPs by December 2006 —</p>
<p>B1.4.1abc MATs reviewed for threatened species by Dec 2006, for declining species by Dec 2007 and for viable species by Dec 2009, following completion of threat assessments and assessment of management options</p>
<p>B2.4.1abc MATs for currently viable NECs reviewed by Dec 2007, for declining by Dec 2006 and for threatened NEC's by Dec 2006</p>
<p>B1.5.1b Conservation plans for priority locations which contain high numbers, or unique occurrences, of known priority species and NEC's completed by Dec 2008</p>
<p>B1.5.1c Conservation plans for priority threatened species commenced by March 2006 and completed by Dec 2008</p>
<p>B2.5.1abc Biodiversity conservation guidelines for viable NECs incorporated into 30 Local Area Plans by Dec 2006 and conservation plans for threatened and declining NECs incorporated into LAPs by Dec 2006 and Dec 2007 respectively</p>
<p>B1.6.1b Action based training provided to individuals undertaking restoration programmes for priority declining species and NEC's by June 2008</p>
<p>B1.6.1c Biodiversity implementation teams established and trained to undertake species restoration work in all priority locations containing the 27 "critically endangered" and "endangered" species by June 2008</p>
<p>B2.6.1ac Training in conservation of viable NECs provided for all private landholders engaged in covenanting and other incentive schemes by June 2008</p>
<p>B1.7.1a Priority biodiversity conservation actions based on guidelines in the 30 Local Area Management Plans implemented by 2010.</p>
<p>B1.7.1b Conservation actions for locations containing 10 highest priority declining species, commenced by Dec 2006.</p>
<p>B1.7.1c Conservation actions for 27 'critically endangered' and 'endangered' species that have existing conservation plans commenced by Dec 2005.</p>
<p>B2.7.1abc Priority conservation actions for viable NECs (based on guidelines in the 30 Local Area Plans) implemented by 2009</p>
<p>B2.7.2ab The area of priority viable and declining NECs under conservation agreements increased by 500 ha annually for 5 years respectively</p>
<p>B2.7.2c All threatened NECs have conservation agreements</p>

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B1.8.1abc Long term monitoring sites and protocols for assessing status of currently viable and declining species designed and commenced by July 2006; a monitoring program established for high priority 'threatened species' by end 2007						
B2.8.1abc Long-term monitoring sites and protocols for assessing status (extent and integrity) of currently viable, declining and threatened NECs designed and commenced by July 2006						
B1.8.2abc Status of selected viable and declining species and all threatened species reviewed at 3 year intervals.						
B2.8.2abc Status of selected viable, declining, threatened NECs reviewed at 3-year intervals.						
Activities	Start Date	Finish date	Output and code	NAP Outcomes	NHT Outcomes	Regional Outcomes
1a Review and adapt/adopt existing criteria (e.g. extinction risk, urgency, feasibility, prior investment, additional environmental benefit, community recognition of icon species) for selecting priority species and NEC's and locations. Developing and commencing yr2, completion in yr3.	July 2006	June 2008	1 Information Management System developed: RA3.2	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced	Protecting and restoring the habitat of threatened species, threatened ecological communities and migratory birds	Assets managed - Priority species, NEC's and locations are classified and identified
2a Review and adapt/adopt existing criteria (e.g. extinction risk, urgency, feasibility, prior investment, additional environmental benefit, community recognition of icon species) for selecting priority species and NEC's and locations. Developing and commencing yr2, completion in yr3.	July 2006	June 2008	1 IMS developed: RA3.2	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced	Protecting and restoring the habitat of threatened species, threatened ecological communities and migratory birds	Assets managed - Priority species, NEC's and locations are classified and identified
3a Develop and apply a process and criteria for determining and evaluating options for retaining viable priority, declining and threatened species and NEC's.	July 2006	June 2008	Conservation covenants or other agreements attached to title negotiated: OG1.1	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced	Protecting and restoring the habitat of threatened species, threatened ecological communities and migratory birds	Assets managed – Options for retention and evaluation identified for species and NECs
4a Develop and apply a process and criteria for determining and evaluating options for retaining viable priority, declining and threatened species and NEC's.	July 2006	June 2008	Conservation covenants or other agreements attached to title negotiated: OG1	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems	Establishing and effectively managing a comprehensive, adequate and representative system of protected	Assets managed – Options for retention and evaluation identified for species and NECs

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				are maintained or enhanced	areas	
5a Develop and apply threat assessment process for viable declining and threatened species. Declining species applications.	July 2006	June 2007	Other decision support tools developed: RA3.3	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced	Protecting and restoring the habitat of threatened species, threatened ecological communities and migratory birds	Assets managed, Threats managed – through outcomes of threat assessment process for declining species
5b Develop and apply threat assessment process for viable declining and threatened species. Viable species application.	July 2007	June 2008	Other decision support tools developed: RA3.3	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced	Establishing and effectively managing a comprehensive, adequate and representative system of protected areas	Assets managed, Threats managed – through outcomes of threat assessment process for viable species
6a Develop and apply threat assessment process for viable, declining and threatened NEC's. Declining species prioritised.	July 2006	June 2007	Other decision support tools developed: RA3.3	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced	Protecting and restoring the habitat of threatened species, threatened ecological communities and migratory birds	Assets managed, Threats managed – through outcomes of threat assessment process for declining NECs
6b Develop and apply threat assessment process for viable, declining and threatened NEC's. Viable species prioritised.	July 2007	June 2008	Other decision support tools developed: RA3.3	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced	Establishing and effectively managing a comprehensive, adequate and representative system of protected areas	Assets managed, Threats managed – through outcomes of threat assessment process for viable NECs
7a Review MAT B1.4.1abc for Threatened Species.	July 2006	June 2007	Other decision support tools developed: RA3.3	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced	Protecting and restoring the habitat of threatened species, threatened ecological communities and migratory birds	Asset Management
7b Review MAT B1.4.1abc for Declining Species.	July 2006	June 2007	Other decision support tools developed:	The integrity and diversity of aquatic and	Protecting and restoring the habitat of threatened	Asset Management

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			RA3.3	terrestrial biodiversity and ecosystems are maintained or enhanced	species, threatened ecological communities and migratory birds	
7c Review MAT B1.4.1abc for Viable Species.	July 2007	June 2008	Other decision support tools developed: RA3.3	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced	Protecting and restoring the habitat of threatened species, threatened ecological communities and migratory birds	Asset Management
8a Review MAT B2.4.1abc for Threatened NECs	July 2006	June 2007	Other decision support tools developed: RA3.3	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced	Protecting and restoring the habitat of threatened species, threatened ecological communities and migratory birds	Asset Management
8a Review MAT B2.4.1abc for Declining NECs	July 2006	June 2007	Other decision support tools developed: RA3.3	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced	Protecting and restoring the habitat of threatened species, threatened ecological communities and migratory birds	Asset Management
8c Review MAT B2.4.1abc for currently Viable NECs	July 2006	June 2007	Other decision support tools developed: RA3.3	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced	Protecting and restoring the habitat of threatened species, threatened ecological communities and migratory birds	Asset Management
9a Continue preparation of plans as new priorities are identified.	July 2006	June 2008	Other resource management plans completed:	The integrity and diversity of aquatic and terrestrial	Protecting and restoring the habitat of threatened species,	Asset Management of priority locations with priority NECs and species

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			P4.2	biodiversity and ecosystems are maintained or enhanced	threatened ecological communities and migratory birds	
10a Prepare conservation plans for priority species identified in this project	July 2006	June 2008	Other resource management plans completed: P4.2	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced	Protecting and restoring the habitat of threatened species, threatened ecological communities and migratory birds	Asset Management for priority threatened species
11a Develop general conservation guidelines for NEC's.	July 2006	June 2007	Other resource management plans completed: P4.2	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced	Protecting and restoring the habitat of threatened species, threatened ecological communities and migratory birds	Asset Management for declining and viable NECs
12a Undertake training.	July 2006	June 2008	Training sessions, workshops, seminars, or other skills and training events conducted: CB2.1	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced	Protecting and restoring the habitat of threatened species, threatened ecological communities and migratory birds	Asset Management through capacity building for protection of priority declining species and NECs
13 Undertake training.	July 2006	June 2008	Training sessions, workshops, seminars, or other skills and training events conducted: CB2.1	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced	Protecting and restoring the habitat of threatened species, threatened ecological communities and migratory birds	Asset Management through capacity building for critically endangered and endangered species
14a Undertake training.	July 2006	June 2008	Training sessions, workshops, seminars, or other skills and training events conducted: CB2.1	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced	Protecting and restoring the habitat of threatened species, threatened ecological communities and migratory birds	Asset Management through capacity building for protection of viable NECs

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15a Working with priorities identified in conservation plans.	July 2006	June 2008	Area planted to native species: OG4.6; Area protected by fencing specifically for significant species/ecological community protection: OG7.1; Breeding programs developed: OG7.2; Translocation programs developed: OG7.3; Seedbanks developed: OG7.4; Pest plant control measures implemented : OG8.1; Pest animal control measures implemented : OG8.3; Pest control (invertebrates) measures implemented : OG8.4	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced	Protecting and restoring the habitat of threatened species, threatened ecological communities and migratory birds	Asset Management Priority Threatened Species
16a Working with priorities identified in conservation plans.	July 2006	June 2008	Area planted to native species: OG4.6; Area protected by fencing specifically for significant species/ecological community protection: OG7.1; Breeding programs developed: OG7.2; Translocation programs developed:	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced	Protecting and restoring the habitat of threatened species, threatened ecological communities and migratory birds	Asset Management Priority Declining Species

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			OG7.3; Seedbanks developed: OG7.4; Pest plant control measures implemented : OG8.1; Pest animal control measures implemented : OG8.3; Pest control (invertebrates) measures implemented : OG8.4			
17a Working with priorities identified in conservation plans.	July 2006	June 2008	Area planted to native species: OG4.6; Area protected by fencing specifically for significant species/ecological community protection: OG7.1; Breeding programs developed: OG7.2; Translocation programs developed: OG7.3; Seedbanks developed: OG7.4; Pest plant control measures implemented : OG8.1; Pest animal control measures implemented : OG8.3; Pest control (invertebrates) measures implemented : OG8.4	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced	Protecting and restoring the habitat of threatened species, threatened ecological communities and migratory birds	Asset Management for Critically Endangered and Endangered Species
18a Working with	July	June	Area planted	The integrity	Protecting and	Asset Management

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priorities identified in conservation plans.	2006	2008	to native species: OG4.6; Area protected by fencing specifically for significant species/ecological community protection: OG7.1; Breeding programs developed: OG7.2; Translocation programs developed: OG7.3; Seed banks developed: OG7.4; Pest plant control measures implemented : OG8.1; Pest animal control measures implemented : OG8.3; Pest control (invertebrates) measures implemented : OG8.4	and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced	restoring the habitat of threatened species, threatened ecological communities and migratory birds	for Viable NECs
19a Implement most appropriate conservation agreements	July 2006	June 2008	Conservation covenants or other agreements attached to title negotiated: OG1.1; Voluntary conservation agreements negotiated: OG1.2	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced	Protecting and restoring the habitat of threatened species, threatened ecological communities and migratory birds	Asset Management for priority Viable and Declining NECs
20a Implement most appropriate conservation agreements	July 2006	June 2008	Conservation covenants or other agreements attached to title negotiated: OG1.1; Voluntary conservation	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained	Protecting and restoring the habitat of threatened species, threatened ecological communities and migratory birds	Asset Management for Threatened NECs

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			agreements negotiated: OG1.2	or enhanced		
21a Design and establish long term monitoring sites. Review and recommend to ACC conservation status of the species and NEC's targeted through this project.	July 2006	June 2008	New monitoring programs established: RA1.2	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced	Protecting and restoring the habitat of threatened species, threatened ecological communities and migratory birds	Asset Management for ALL Species
22a Design and establish long term monitoring sites. Review and recommend to ACC conservation status of the species and NEC's targeted through this project. IMPLEMENT	July 2006	June 2008	New monitoring programs established: RA1.2	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced	Protecting and restoring the habitat of threatened species, threatened ecological communities and migratory birds	Asset Management for ALL Species
23a Design and establish long term monitoring sites. Review and recommend to ACC conservation status of the species and NEC's targeted through this project.	July 2007	June 2008	Other decision support tools developed: RA3.3	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced	Protecting and restoring the habitat of threatened species, threatened ecological communities and migratory birds	Asset Management for ALL Species
24a Design and establish long term monitoring sites. Review and recommend to ACC conservation status of the species and NEC's targeted through this project.	July 2007	June 2008	Other decision support tools developed: RA3.3	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced	Protecting and restoring the habitat of threatened species, threatened ecological communities and migratory birds	Asset Management for NECs

Additional Information *new or continuing project, indicate changes from original project etc*

Project Budget

Year	NAP	NHT	Other	Total
05/06	\$510,000	\$860,000		\$1,370,000
06/07	\$396,380	\$679,520		\$1,075,900
07/08	\$342,940	\$513,689		\$856,629

Project Commencement Date	July 2006
Project Completion Date	June 2008

Risks to achievement of project

<ul style="list-style-type: none"> • Lack of on-ground investment funding recovery actions • Numbers of Threatened species and communities continue to rise out-stripping available funding • Lack of Avon Community participation and/or engagement in setting priorities • Lack of investment into longer-term priorities (Declining species and NECs) will potentially create larger future investment – amounting to reactive priority setting • Species become extinct
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Monitoring and evaluation

Activity	Indicator used	Data source	Reporting scale (local, regional, state, national)
Review and adapt/adopt existing criteria (eg extinction risk, urgency, feasibility, prior investment, additional environmental benefit, community recognition of icon species) for selecting priority species and NEC's and locations.	<ul style="list-style-type: none"> ▪ Number of threatened species in region ▪ Assessment criteria 	CALM DAWA —	Regional State National
Develop and apply a process and criteria for determining and evaluating options for retaining viable priority, declining and threatened species and NEC's.	<ul style="list-style-type: none"> ▪ Development of assessment criteria 	Delivery organisation	Regional State
Develop and apply threat assessment process for viable declining and threatened species.	<ul style="list-style-type: none"> ▪ Development of threat assessment criteria 	Delivery organisation	Regional State
Review MAT B1.4.1abc for Threatened Species.	<ul style="list-style-type: none"> ▪ Completion threat assessments and assessment of management options for threatened species ▪ Review MAT for threatened species 	Delivery organisation ACC	Regional State
Review MAT B1.4.1abc for Declining Species.	<ul style="list-style-type: none"> ▪ Completion threat assessments and assessment of management options for declining species ▪ Review MAT for declining species 	Delivery organisation ACC	Regional State
Review MAT B1.4.1abc for Viable Species.	<ul style="list-style-type: none"> ▪ Completion threat 	Delivery organisation	Regional State

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	<p>assessments and assessment of management options for viable species</p> <ul style="list-style-type: none"> ▪ Review MAT for viable species 	ACC	
Review MAT B2.4.1abc for Threatened NECs	<ul style="list-style-type: none"> ▪ Review MAT for threatened NECs 	Delivery organisation ACC	Regional State
Review MAT B2.4.1abc for Declining NECs	<ul style="list-style-type: none"> ▪ Review MAT for declining NECs 	Delivery organisation ACC	Regional State
Review MAT B2.4.1abc for currently Viable NECs	<ul style="list-style-type: none"> ▪ Review MAT for currently viable NECs 	Delivery organisation ACC	Regional State
Continue preparation of plans as new priorities are identified	<ul style="list-style-type: none"> ▪ Identification of new priorities ▪ Production of management plans 	Delivery organisation —	Regional State
Prepare conservation plans for priority species identified in this project	<ul style="list-style-type: none"> ▪ Production of conservation plans for priority species 	Delivery organisation CALM	Regional State National
Develop general conservation guidelines for NEC's.	<ul style="list-style-type: none"> ▪ Conservation guidelines for NECs 	Delivery organisation CALM	Regional State National
Undertake training	<ul style="list-style-type: none"> ▪ Workshops held ▪ Seminars/conferences held ▪ Extension material produced 	Delivery organisation ACC	Regional
Working with priorities identified in conservation plans	<ul style="list-style-type: none"> ▪ Implementation of priorities identified in conservation plans 	Delivery organisation CALM ACC	Local Regional
Implement most appropriate conservation agreements	<ul style="list-style-type: none"> ▪ Identify appropriate conservation agreements ▪ Implement management/conservation actions 	Delivery organisation CALM LGAs	Regional State
Design and establish long term monitoring sites. Review and recommend to ACC conservation status of the species and NEC's targeted through this project. IMPLEMENT	<ul style="list-style-type: none"> ▪ Establishment of monitoring sites ▪ Report on conservation status of priority 	Delivery organisation	Regional State National

	species and NECs		
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Project Title: ND003 -Healthy Ecosystems.
Objectives and Accountabilities
ACC Outcome (Strategic Objective from Regional Strategy):
Maintain the extent and integrity (structure and composition) of all natural ecological communities that occur in the Avon region.
Program Outcome - 20 year Targets:
<ul style="list-style-type: none"> • “Vulnerable” Ecosystems (ecosystems whose current extent in good condition exceeds 15% of their pre-European extent and their current extent exceeds 2000 ha) retain their current extent and integrity and have at least 15% of their pre-European extent formally protected for conservation (reserve system or legally binding management agreement). • “Threatened” Ecosystems (ecosystems whose current extent in good condition is less than 15% of their pre-European extent, or have <2000 ha total extent remaining, retain their current extent and retain/improve their integrity, and have at least 60% of their remaining extent formally protected for conservation (reserve system or legally binding management agreement). • W2T201 Priority sections of major and minor tributaries identified for sediment and nutrient management purposes. Or for salinity control have improved by at least one ‘foreshore condition’ class ((Pen & Scott, 1995) by 2025. (Note: priority sections to be identified and a specific 20-year target to be set by 2007 based on MAT’s W1.3.1. W1.3.2 and W1.3.3). • W1T202 The current hydrological capacity¹ of the Avon River Pools is not reduced by more than 20% by 2025.
Linked 20 year Targets
<ul style="list-style-type: none"> • W1T201 The average monthly concentration of total nitrogen and total phosphates and total suspended solids will not exceed targets of 1 mg/l (N), 0.1mg/l (P), (TSS to be determined) at Walyunga gauging station.
Project Outcome - Project Aims:
Given that current information indicates that all ecosystems in the Avon Region are either vulnerable or threatened, the major purpose of this project is to maintain or increase the extent and integrity of all terrestrial and aquatic ecosystems. Key ecosystems in the region are priority vegetation associations within the highly fragmented wheatbelt such as granite dome ecosystems, dolerite dykes, greenstone ranges, and saline and freshwater wetlands.
This project will focus on land managers/holders undertaking specific maintenance and restoration works and contributing to the ongoing monitoring and evaluation program established in the “baselining” project. Permanent protection will be achieved through land management agreements and conservation covenants.
Project MATs
B2.4.1b MATs for currently declining NECs reviewed and updated by Dec 2006.
B3.2.1ab A threat assessment for ecosystems completed and results incorporated into 30 LAPs by Dec 2006.
B3.2.2ab The threat to major low-lying ecosystems due to rising groundwater and potential discharge from drainage schemes is predicted by Dec 2006
B3.5.2ab Priority ecosystems and priority locations that should be added to the conservation reserve system or secured through legally binding means identified by Dec 2006

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B2.4.1c MATs for currently threatened NECs reviewed and updated by Dec 2006.
B3.3.1ab Review and adapt / adopt existing criteria to identify priority terrestrial and aquatic ecosystems by 2007
B4.3.1. Strategies for managing salt lakes and wetlands within the Avon River Basin consistent with the Australia Ramsar Management Principles developed by end-2005.
B2.5.1abc Biodiversity conservation guidelines for viable NECs incorporated into 30 Local Area Plans by Dec 2006 and conservation plans for threatened and declining NECs incorporated into LAPs by Dec 2006 and Dec 2007 respectively.
B3.3.2ab Options for retaining and improving the integrity of vulnerable and threatened ecosystems are assessed for feasibility and cost benefit by Dec 2005
B4.4.1. Priorities established for protection of hydrological and ecological function of major salt lakes.
B2.6.2b Action based training in retention and restoration of declining NECs for all private landholders engaged in covenanting and other incentive schemes by June 2006
B3.4.1ab MATs for vulnerable ecosystems reviewed and updated by Dec 2007; MATs for threatened ecosystems reviewed and updated by Dec 2006
B4.5.1. Recovery Plans prepared for 5 listed wetlands of National Significance by 2007.
B2.5.1abc Biodiversity conservation guidelines for viable NECs incorporated into 30 Local Area Plans by Dec 2006 and conservation plans for threatened and declining NECs incorporated into LAPs by Dec 2006 and Dec 2007 respectively.
B2.7.1c All threatened NECs have conservation agreements.
B3.5.1ab Biodiversity conservation plans for vulnerable and threatened terrestrial and aquatic ecosystems developed and incorporated into 30 Local Areas Plans by 2009
B3.6.1ab LGA-based biodiversity implementation teams established and trained to undertake and mentor retention/improvement of priority vulnerable and threatened ecosystems within each LGA by June 2008
B4.6.1. Five community groups for salt lakes and wetlands management in the Avon River Basin established and supported by end-2005.
B2.7.2b The area of priority declining NECs with conservation agreements is increased by 500 ha annually for 5 years.
B3.5.2ab Priority ecosystems and priority locations that should be added to the conservation reserve system or secured through legally binding means identified by Dec 2006.
B4.7.3. More than 200 hectares of tree crops are being established per year for the protection from salt risk of threatened regionally significant freshwater wetlands.
W1. TBA Areas of riparian ecosystems with high habitat value are identified by 2005.
B2.6.2b Action based training in retention and restoration of declining NECs for all private landholders engaged in covenanting and other incentive schemes by June 2006
B3.7.1ab Conservation programs implemented in priority vulnerable and threatened ecosystems in each Local Area by Dec 2009
W1.TBA By 2008 the tolerance of Glen Avon, Gwambygine and Wilberforce river pool ecosystems to fluctuations in salinity, pH, phosphates and nitrogen is determined.

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B2.7.1c All threatened NECs have conservation agreements.						
B2.7.2b The area of priority declining NECs with conservation agreements is increased by 500 ha annually for 5 years.						
B3.7.3ab The area of priority threatened ecosystems formally protected (reserve system or management agreement) has increased by 20% PA for 5 years.						
W1.TBA The rate of sediment infill and nutrient load increase to Avon River pool is reviewed by 2006						
B3.8.1ab Long term monitoring sites and protocols for assessing status (extent and integrity) of vulnerable and threatened ecosystems designed and established by June 2006.						
B3.8.2abc Status of selected ecosystems reviewed at 3-year intervals						
B4.5.2. Ten threatened regionally significant wetlands have management plans for preventative actions developed and actions initiated by 2007.						
W1.2.3 The mapped extent of Bridal Creeper in the river environment is reduced by 75% and Tamarisk and Boxthorn are eradicated from the Avon River Basin by 2009.						
W1.5.4 Commercial operations are removing more than 20,000m3 of sediments annually from priority river pools by 2009.						
W1.TBA Recovery Plans for five priority river pools are complete and being implemented by 2006.						
W2.1.1 Foreshore and channel assessment surveys are complete for 13 major tributaries within the "Avon Arc" and Mortlock River System by 2009.						
W2.2.1 The extent of salinity risk, flooding and sedimentation, threatening processes is mapped for 13 major tributaries within the "Avon Arc" and Mortlock River System by 2009.						
W2.5.1 Management Action Plans to be prepared for 13 priority sections within tributaries in consultation with local communities in the "Avon Arc" and Mortlock River System by 2009.						
W1.TBA Rivercare groups initiated and supported for all 19 sections of the Avon River main channel by end 2005.						
W2.5.2 Management plans are prepared for 10 priority sections of major tributaries within the Lockhart and Yilgarn Catchments by 2007.						
W2.7.4 Revegetation, including commercial tree crop options, of 2000 Ha adjacent to priority major tributary sections by 2009.						
W2.8.1 (10) By 2009, the currently mapped area of Bridal Creeper is reduced by 75% and all tamarisk and boxthorn is removed.						
W2.8.1 Stream flow monitoring requirements for major and minor tributaries reviewed on the basis of threat assessment and new facilities installed by 2009.						
*W1.TBA By 2008 the impact of artificial release of water from Yenyening Lakes does not exceed tolerance levels for Gwambygine Pool.						
*WTBA Strategic regional monitoring program for water quality (nutrient, acidity, salinity and sediments) developed and initiated by 2005.						
Activities	Start Date	Finish date	Output and code	NAP Outcomes	NHT Outcomes	Regional Outcomes

<p>1a Review and update declining NEC MATs. Undertake threat assessment process for ecosystems and incorporate into LAPs. Investigate/predict threats to major low-lying ecosystems.</p>	<p>July 2006</p>	<p>June 2007</p>	<p>Decision support tools developed: RA3.3</p>	<p>The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced.</p> <p>The impact of salinity and degrading water quality on locations and systems which are critical for conservation of biodiversity, agricultural production, towns, infrastructure and cultural and social values, is avoided or minimized.</p>		<p>Assets managed, NECs managed Threats managed – threats to ecosystems identified and managed</p>
<p>2a Review and update declining NEC MATs. Undertake threat assessment process for ecosystems and incorporate into LAPs. Investigate/predict threats to major low-lying ecosystems.</p>	<p>July 2006</p>	<p>June 2008</p>	<p>Decision support tools developed: RA3.3</p>	<p>The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced.</p> <p>The impact of salinity and degrading water quality on locations and systems which are critical for conservation of biodiversity, agricultural production,</p>		<p>Assets managed, NECs managed Threats managed – threats to ecosystems identified and managed</p>

				towns, infrastructure and cultural and social values, is avoided or minimized.		
2b Review and update declining NEC MATs. Undertake threat assessment process for ecosystems and incorporate into LAPs. Investigate/predict threats to major low-lying ecosystems.	July 2006	June 2008	Decision support tools developed: RA3.3	<p>The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced.</p> <p>The impact of salinity and degrading water quality on locations and systems which are critical for conservation of biodiversity, agricultural production, towns, infrastructure and cultural and social values, is avoided or minimized.</p>		Assets managed, NECs managed Threats managed – threats to ecosystems identified and managed
3a Review and update declining NEC MATs. Undertake threat assessment process for ecosystems and incorporate into LAPs. Investigate/predict threats to major low-lying ecosystems.	July 2006	June 2008	Decision support tools developed: RA3.3	<p>The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced.</p> <p>The impact of salinity and degrading water quality on locations</p>		Assets managed, NECs managed Threats managed – threats to ecosystems identified and managed

				and systems which are critical for conservation of biodiversity, agricultural production, towns, infrastructure and cultural and social values, is avoided or minimized.		
3b Review and update declining NEC MATs. Undertake threat assessment process for ecosystems and incorporate into LAPs. Investigate/predict threats to major low-lying ecosystems.	July 2006	June 2008	Decision support tools developed: RA3.3	<p>The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced.</p> <p>The impact of salinity and degrading water quality on locations and systems which are critical for conservation of biodiversity, agricultural production, towns, infrastructure and cultural and social values, is avoided or minimized.</p>		Assets managed, NECs managed Threats managed – threats to ecosystems identified and managed
4a Review and update declining NEC MATs. Undertake threat assessment process for ecosystems and incorporate into LAPs. Investigate/predict threats to major low-lying ecosystems.	July 2007	June 2008	Decision support tools developed: RA3.3	<p>The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or</p>		Assets managed, NECs managed Threats managed – threats to ecosystems identified and managed

				enhanced. The impact of salinity and degrading water quality on locations and systems which are critical for conservation of biodiversity, agricultural production, towns, infrastructure and cultural and social values, is avoided or minimized.		
5a Review and update MATs for currently threatened NECs. Use agreed criteria to identify priority terrestrial and aquatic ecosystems	July 2006	June 2007	Decision support tools developed: RA3.3	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced		Assets managed, NECs managed, priority terrestrial and aquatic ecosystems managed
6a Review and update MATs for currently threatened NECs. Use agreed criteria to identify priority terrestrial and aquatic ecosystems	July 2006	June 2008	Decision support tools developed: RA3.3	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced		Assets managed, NECs managed, priority terrestrial and aquatic ecosystems managed
6b Review and develop management strategies for managing salt lakes and wetlands are consistent with RAMSAR. Use agreed criteria to identify priority terrestrial and aquatic ecosystems	July 2006	June 2008	Decision support tools developed: RA3.3	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced		Assets managed, Salt Lakes and Wetlands managed, priority terrestrial and aquatic ecosystems identified
7a Review and develop management strategies for managing salt lakes and wetlands are	July 2007	June 2008	Decision support tools developed: RA3.3	The integrity and diversity of aquatic and terrestrial		Assets managed, Salt Lakes and Wetlands managed, priority terrestrial and

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consistent with RAMSAR. Use agreed criteria to identify priority terrestrial and aquatic ecosystems				biodiversity and ecosystems are maintained or enhanced		aquatic ecosystems identified
8a Incorporate biodiversity conservation guidelines for threatened and declining NECs into 30 LAPs. Feasibility and cost benefit analysis for retention and improvement options for vulnerable and threatened ecosystems are assessed.	July 2006	June 2007	Decision support tools developed: RA3.3 Recovery or management plans for threatened species or ecological communities completed: P4.1	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced		Assets managed, Threatened and declining NECs
9a Incorporate biodiversity conservation guidelines for threatened and declining NECs into 30 LAPs. Feasibility and cost benefit analysis for retention and improvement options for vulnerable and threatened ecosystems are assessed.	July 2006	June 2008	Decision support tools developed: RA3.3 Recovery or management plans for threatened species or ecological communities completed: P4.1	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced		Assets managed, Threatened and declining NECs
9b Establish priorities for protection of hydrological and ecological function of major salt lakes. Feasibility and cost benefit analysis for retention and improvement options for vulnerable and threatened ecosystems are assessed.	July 2006	June 2008	Decision support tools developed: RA3.3	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced		Assets managed, Major salt lakes. Threatened and vulnerable ecosystems
10a Establish priorities for protection of hydrological and ecological function of major salt lakes. Feasibility and cost benefit analysis for retention and improvement options for vulnerable and threatened ecosystems are assessed.	July 2007	June 2008	Decision support tools developed: RA3.3	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced		Assets managed, Major salt lakes. Threatened and vulnerable ecosystems
11a Training of all	July	June	Training	The integrity		Assets managed,

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private landholders engaged in covenanting in retention and restoration of declining NECs. Review MATs for threatened ecosystems.	2006	2007	sessions, workshops, seminars or other skills and training events conducted: CB2.1 Decision support tools developed: RA3.3	and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced		Declining NECs. Threatened ecosystems
12a Training of all private landholders engaged in covenanting in retention and restoration of declining NECs. Review MATs for threatened ecosystems.	July 2006	June 2008	Training sessions, workshops, seminars or other skills and training events conducted: CB2.1 Decision support tools developed: RA3.3	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced		Assets managed, Declining NECs. Threatened ecosystems
12b Review MATs for vulnerable ecosystems. Prepare recovery plans for 5 wetlands of national significance	July 2006	June 2008	Decision support tools developed: RA3.3 Recovery or management plans for threatened species or ecological communities completed: P4.1	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced		Assets managed Vulnerable ecosystems. Wetlands of National significance
13a Review MATs for vulnerable ecosystems. Prepare recovery plans for 5 wetlands of national significance	July 2007	June 2008	Decision support tools developed: RA3.3 Recovery or management plans for threatened species or ecological communities completed: P4.1	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced		Assets managed Vulnerable ecosystems. Wetlands of National significance
14a Assessment of	July	June	Conservatio	The integrity		Assets managed,

ALL NEC's, conservation agreements established. Incorporate biodiversity conservation guidelines for threatened and declining NECs into 30 LAPs.	2006	2008	n covenants or other agreements attached to title negotiated: OG1.1 Decision support tools developed: RA3.3	and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced		All NECs
14b Incorporate biodiversity conservation guidelines for threatened, vulnerable and viable NECs into 30 LAPs.	July 2006	June 2008	Decision support tools developed: RA3.3	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced		Assets managed, All NECs
15a Assessment of ALL NEC's, conservation agreements established. Incorporate biodiversity conservation guidelines for threatened and declining NECs into 30 LAPs.	July 2006	June 2007	Conservation covenants or other agreements attached to title negotiated: OG1.1 Decision support tools developed: RA3.3	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced		Assets managed, All NECs
16a Assessment of ALL NEC's, conservation agreements established. Incorporate biodiversity conservation guidelines for threatened and declining NECs into 30 LAPs.	July 2006	June 2008	Conservation covenants or other agreements attached to title negotiated: OG1.1 Decision support tools developed: RA3.3	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced		Assets managed, All NECs
16b Incorporate biodiversity conservation guidelines for threatened, vulnerable and viable NECs into 30 LAPs.	July 2006	June 2008	Decision support tools developed: RA3.3	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained		Assets managed, All NECs

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				or enhanced		
17a Assessment of ALL NEC's, conservation agreements established. Incorporate biodiversity conservation guidelines for threatened and declining NECs into 30 LAPs.	July 2006	June 2008	Conservation covenants or other agreements attached to title negotiated: OG1.1 Decision support tools developed: RA3.3	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced		Assets managed, All NECs
17b Incorporate biodiversity conservation guidelines for threatened, vulnerable and viable NECs into 30 LAPs.	July 2006	June 2008	Decision support tools developed: RA3.3	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced		Assets managed, All NECs
18a Incorporate biodiversity conservation guidelines for threatened, vulnerable and viable NECs into 30 LAPs.	July 2007	June 2008	Decision support tools developed: RA3.3	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced		Assets managed, All NECs
19a Identify priority ecosystems and priority locations. Increase area of priority declining NECs with conservation agreements.	July 2006	June 2007	Decision support tools developed: RA3.3 Conservation covenants or other agreements attached to title negotiated: OG1.1	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced		Assets managed Priority ecosystems and locations. Priority declining NECs
20a Identify priority ecosystems and priority locations. Increase area of priority declining NECs with conservation agreements.	July 2006	June 2008	Decision support tools developed: RA3.3 Conservation covenants or other agreements attached to title	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced		Assets managed Priority ecosystems and locations. Priority declining NECs

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			negotiated: OG1.1			
20b Establish tree crops around threatened regionally significant freshwater wetlands. Identify priority ecosystems and priority locations to be added to the formal reserve system	July 2006	June 2008	Native plantation established: OG4.1 Decision support tools developed: RA3.3	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced		Assets managed Regionally significant freshwater wetlands. Priority ecosystems and locations.
21a Establish tree crops around threatened regionally significant freshwater wetlands. Identify priority ecosystems and priority locations to be added to the formal reserve system	July 2007	June 2008	Native plantation established: OG4.1 Decision support tools developed: RA3.3	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced		Assets managed Regionally significant freshwater wetlands. Priority ecosystems and locations.
22a Identify riparian areas with high habitat value. Training of all private landholders engaged in covenanting and other incentive schemes in retention and restoration of declining NECs.	July 2006	June 2008	Decision support tools developed: RA3.3 Training sessions, workshops, seminars or other skills and training events conducted: CB2.1	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced		Assets managed, High habitat value riparian areas. Declining NECs
22b Identify riparian areas with high habitat value. Training of all private landholders engaged in covenanting and other incentive schemes in retention and restoration of declining NECs.	July 2006	June 2008	Decision support tools developed: RA3.3 Training sessions, workshops, seminars or other skills and training events conducted: CB2.1	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced		Assets managed, High habitat value riparian areas. Declining NECs
23a Identify riparian areas with high habitat value. Training of all private landholders engaged	July 2006	June 2008	Decision support tools developed: RA3.3	The integrity and diversity of aquatic and terrestrial		Assets managed, High habitat value riparian areas. Declining NECs

in covenanting and other incentive schemes in retention and restoration of declining NECs.			Training sessions, workshops, seminars or other skills and training events conducted: CB2.1	biodiversity and ecosystems are maintained or enhanced		
23b Identify riparian areas with high habitat value. Training of all private landholders engaged in covenanting and other incentive schemes in retention and restoration of declining NECs.	July 2006	June 2008	Decision support tools developed: RA3.3 Training sessions, workshops, seminars or other skills and training events conducted: CB2.1	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced		Assets managed, High habitat value riparian areas. Declining NECs
24a Identify riparian areas with high habitat value. Training of all private landholders engaged in covenanting and other incentive schemes in retention and restoration of declining NECs.	July 2006	June 2008	Decision support tools developed: RA3.3 Training sessions, workshops, seminars or other skills and training events conducted: CB2.1	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced		Assets managed, High habitat value riparian areas. Declining NECs
24b Identify riparian areas with high habitat value. Training of all private landholders engaged in covenanting and other incentive schemes in retention and restoration of declining NECs.	July 2006	June 2008	Decision support tools developed: RA3.3 Training sessions, workshops, seminars or other skills and training events conducted: CB2.1	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced		Assets managed, High habitat value riparian areas. Declining NECs
25a Incorporate sites into WA monitoring program. Threatened	July 2006	June 2008	New monitoring programs	The integrity and diversity of aquatic		Assets managed, Threatened and Declining NECs

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NECs have conservation agreements in place. Increase area of priority declining NECs with conservation agreements.			established: RA1.2 Conservation covenants or other agreements attached to title negotiated: OG1.1	and terrestrial biodiversity and ecosystems are maintained or enhanced		
25b Incorporate sites into WA monitoring program. Threatened NECs have conservation agreements in place. Increase area of priority declining NECs with conservation agreements.	July 2006	June 2008	New monitoring programs established: RA1.2 Conservation covenants or other agreements attached to title negotiated: OG1.1	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced		Assets managed, Threatened and Declining NECs
26a Incorporate sites into WA monitoring program. Threatened NECs have conservation agreements in place. Increase area of priority declining NECs with conservation agreements.	July 2006	June 2008	New monitoring programs established: RA1.2 Conservation covenants or other agreements attached to title negotiated: OG1.1	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced		Assets managed, Threatened and Declining NECs
26b Incorporate sites into WA monitoring program. Threatened NECs have conservation agreements in place. Increase area of priority declining NECs with conservation agreements.	July 2006	June 2008	New monitoring programs established: RA1.2 Conservation covenants or other agreements attached to title negotiated: OG1.1	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced		Assets managed, Threatened and Declining NECs
27a Incorporate sites into WA monitoring program. Threatened NECs have conservation	July 2006	June 2008	New monitoring programs established: RA1.2	The integrity and diversity of aquatic and terrestrial		Assets managed, Threatened and Declining NECs

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agreements in place. Increase area of priority declining NECs with conservation agreements.			Conservation covenants or other agreements attached to title negotiated: OG1.1	biodiversity and ecosystems are maintained or enhanced		
27b Incorporate sites into WA monitoring program. Threatened NECs have conservation agreements in place. Increase area of priority declining NECs with conservation agreements.	July 2006	June 2008	New monitoring programs established: RA1.2 Conservation covenants or other agreements attached to title negotiated: OG1.1	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced		Assets managed, Threatened and Declining NECs
28a Incorporate sites into WA monitoring program. Threatened NECs have conservation agreements in place. Increase area of priority declining NECs with conservation agreements.	July 2006	June 2008	New monitoring programs established: RA1.2 Conservation covenants or other agreements attached to title negotiated: OG1.1	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced		Assets managed, Threatened and Declining NECs
28b Incorporate sites into WA monitoring program. Threatened NECs have conservation agreements in place. Increase area of priority declining NECs with conservation agreements.	July 2006	June 2008	New monitoring programs established: RA1.2 Conservation covenants or other agreements attached to title negotiated: OG1.1	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced		Assets managed, Threatened and Declining NECs
29a Long term monitoring sites established. Ongoing monitoring of sediment infill.	July 2006	June 2008	New monitoring programs established: RA1.2	The integrity and diversity of aquatic and terrestrial biodiversity and		Assets managed, Priority river pools

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				ecosystems are maintained or enhanced		
29b Long term monitoring sites established. Ongoing monitoring of sediment infill.	July 2006	June 2008	New monitoring programs established: RA1.2	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced		Assets managed, Priority river pools
30a Long term monitoring sites established. Ongoing monitoring of sediment infill.	July 2006	June 2008	New monitoring programs established: RA1.2	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced		Assets managed, Priority river pools
30b Long term monitoring sites established. Ongoing monitoring of sediment infill.	July 2006	June 2008	New monitoring programs established: RA1.2	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced		Assets managed, Priority river pools
31a Long term monitoring sites established. Ongoing monitoring of sediment infill.	July 2006	June 2008	New monitoring programs established: RA1.2	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced		Assets managed, Priority river pools
31b Long term monitoring sites established. Ongoing monitoring of sediment infill.	July 2006	June 2008	New monitoring programs established: RA1.2	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced		Assets managed, Priority river pools
32a Produce management plans. Continued increase in	July 2006	June 2008	Recovery or management plans for	The integrity and diversity of aquatic		Assets managed, Priority river pools. Regionally

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commercial sediment removal from priority river pools			threatened species or ecological communities completed: P4.1 OG 6.1 Sediment removal	and terrestrial biodiversity and ecosystems are maintained or enhanced		significant wetlands
32b Produce management plans. Continued increase in commercial sediment removal from priority river pools	July 2006	June 2008	Recovery or management plans for threatened species or ecological communities completed: P4.1 OG 6.1 Sediment removal	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced		Assets managed, Priority river pools. Regionally significant wetlands
33a Produce management plans. Continued increase in commercial sediment removal from priority river pools	July 2006	June 2008	Recovery or management plans for threatened species or ecological communities completed: P4.1 OG 6.1 Sediment removal	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced		Assets managed, Priority river pools
33b Produce management plans. Continued increase in commercial sediment removal from priority river pools	July 2006	June 2008	Recovery or management plans for threatened species or ecological communities completed: P4.1 OG 6.1 Sediment removal	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced		Assets managed, Priority river pools
34a Produce management plans. Continued increase in commercial sediment removal from priority river pools	July 2006	June 2008	Recovery or management plans for threatened species or ecological communities completed: P4.1 OG 6.1 Sediment removal	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced		Assets managed, Priority river pools

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34b Produce management plans. Continued increase in commercial sediment removal from priority river pools	July 2006	June 2008	Recovery or management plans for threatened species or ecological communities completed: P4.1 OG 6.1 Sediment removal	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced		Assets managed, Priority river pools
35a Initiate work on river pool plans. Rivercare groups initiated and supported. Threatening processes are mapped for major tributaries.	July 2006	June 2008	Decision support tools developed: RA3.3 OG2.3 ha of riparian vegetation protected.	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced		Assets managed, Priority river pools. Major tributaries
35b Initiate work on river pool plans. Threatening processes are mapped for major tributaries.	July 2006	June 2008	Decision support tools developed: RA3.3 OG2.3 ha of riparian vegetation protected.	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced		Assets managed, Priority river pools. Major tributaries
36a Initiate work on river pool plans. Rivercare groups initiated and supported. Threatening processes are mapped for major tributaries.	July 2006	June 2008	Decision support tools developed: RA3.3 OG2.3 ha of riparian vegetation protected.	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced		Assets managed, Priority river pools. Major tributaries
36b Initiate work on river pool plans. Threatening processes are mapped for major tributaries.	July 2006	June 2008	Decision support tools developed: RA3.3 OG2.3 ha of riparian vegetation protected.	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced		Assets managed, Priority river pools. Major tributaries
37a Initiate work on river pool plans. Rivercare groups initiated and supported.	July 2006	June 2008	Decision support tools developed: RA3.3 OG2.3 ha of	The integrity and diversity of aquatic and terrestrial		Assets managed, Priority river pools. Major tributaries

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Threatening processes are mapped for major tributaries.			riparian vegetation protected.	biodiversity and ecosystems are maintained or enhanced		
37b Initiate work on river pool plans. Threatening processes are mapped for major tributaries.	July 2006	June 2008	Decision support tools developed: RA3.3 OG2.3 ha of riparian vegetation protected.	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced		Assets managed, Priority river pools. Major tributaries
38a Monitor Bridal Creeper in designated areas. Prepare management action plans for priority sections within "Avon Arc" & Mortlock River system. Rivercare groups initiated and supported. Prepare management plans for priority sections within Lockhart & Yilgarn Catchments. Revegetation adjacent to priority major tributary sections. Assessment of streamflow monitoring requirements and install facilities.	July 2006	June 2008	Decision support tools developed: RA3.3 Recovery or management plans for threatened species or ecological communities completed: P4.1	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced		Assets managed, Major tributaries. Priority River sections within ARB
38b Monitor Bridal Creeper in designated areas. Prepare management action plans for priority sections within "Avon Arc" & Mortlock River system. Rivercare groups initiated and supported. Revegetation adjacent to priority major tributary sections. Assessment of streamflow monitoring requirements and install facilities.	July 2006	June 2008	Decision support tools developed: RA3.3 Recovery or management plans for threatened species or ecological communities completed: P4.1	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced		Assets managed, Major tributaries. Priority River sections within ARB
39a Monitor Bridal Creeper in designated areas. Prepare management action plans for priority	July 2006	June 2008	Decision support tools developed: RA3.3	The integrity and diversity of aquatic and terrestrial		Assets managed, Major tributaries. Priority River sections within ARB

sections within "Avon Arc" & Mortlock River system. Rivercare groups initiated and supported. Prepare management plans for priority sections within Lockhart & Yilgarn Catchments. Revegetation adjacent to priority major tributary sections. Assessment of streamflow monitoring requirements and install facilities.			Recovery or management plans for threatened species or ecological communities completed: P4.1	biodiversity and ecosystems are maintained or enhanced		
39b Monitor Bridal Creeper in designated areas. Prepare management action plans for priority sections within "Avon Arc" & Mortlock River system. Rivercare groups initiated and supported. Revegetation adjacent to priority major tributary sections. Assessment of streamflow monitoring requirements and install facilities.	July 2006	June 2008	Decision support tools developed: RA3.3 Recovery or management plans for threatened species or ecological communities completed: P4.1	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced		Assets managed, Major tributaries. Priority River sections within ARB
40a Monitor Bridal Creeper in designated areas. Prepare management action plans for priority sections within "Avon Arc" & Mortlock River system. Rivercare groups initiated and supported. Prepare management plans for priority sections within Lockhart & Yilgarn Catchments. Revegetation adjacent to priority major tributary sections. Assessment of streamflow monitoring requirements and install facilities.	July 2006	June 2007	Decision support tools developed: RA3.3 Recovery or management plans for threatened species or ecological communities completed: P4.1	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced		Assets managed, Major tributaries. Priority River sections within ARB
41a Monitor Bridal Creeper in designated areas. Prepare management action plans for priority	July 2006	June 2008	Decision support tools developed: RA3.3	The integrity and diversity of aquatic and terrestrial		Assets managed, Major tributaries. Priority River sections within ARB

sections within "Avon Arc" & Mortlock River system. Rivercare groups initiated and supported. Prepare management plans for priority sections within Lockhart & Yilgarn Catchments. Revegetation adjacent to priority major tributary sections. Assessment of streamflow monitoring requirements and install facilities.			Recovery or management plans for threatened species or ecological communities completed: P4.1	biodiversity and ecosystems are maintained or enhanced		
41b Monitor Bridal Creeper in designated areas. Prepare management action plans for priority sections within "Avon Arc" & Mortlock River system. Rivercare groups initiated and supported. Revegetation adjacent to priority major tributary sections. Assessment of streamflow monitoring requirements and install facilities.	July 2006	June 2008	Decision support tools developed: RA3.3 Recovery or management plans for threatened species or ecological communities completed: P4.1	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced		Assets managed, Major tributaries. Priority River sections within ARB
42a Monitor Bridal Creeper in designated areas. Prepare management action plans for priority sections within "Avon Arc" & Mortlock River system. Rivercare groups initiated and supported. Prepare management plans for priority sections within Lockhart & Yilgarn Catchments. Revegetation adjacent to priority major tributary sections. Assessment of streamflow monitoring requirements and install facilities.	July 2006	June 2008	Decision support tools developed: RA3.3 Recovery or management plans for threatened species or ecological communities completed: P4.1	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced		Assets managed, Major tributaries. Priority River sections within ARB
42b Monitor Bridal Creeper in designated areas. Prepare management action plans for priority	July 2006	June 2008	Decision support tools developed: RA3.3	The integrity and diversity of aquatic and terrestrial		Assets managed, Major tributaries. Priority River sections within ARB

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sections within "Avon Arc" & Mortlock River system. Rivercare groups initiated and supported. Revegetation adjacent to priority major tributary sections. Assessment of streamflow monitoring requirements and install facilities.			Recovery or management plans for threatened species or ecological communities completed: P4.1	biodiversity and ecosystems are maintained or enhanced		
43a Monitor Bridal Creeper in designated areas. Prepare management action plans for priority sections within "Avon Arc" & Mortlock River system. Rivercare groups initiated and supported. Prepare management plans for priority sections within Lockhart & Yilgarn Catchments. Revegetation adjacent to priority major tributary sections. Assessment of streamflow monitoring requirements and install facilities.	July 2006	June 2008	Decision support tools developed: RA3.3 Recovery or management plans for threatened species or ecological communities completed: P4.1	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced		Assets managed, Major tributaries. Priority River sections within ARB
43b Monitor Bridal Creeper in designated areas. Prepare management action plans for priority sections within "Avon Arc" & Mortlock River system. Rivercare groups initiated and supported. Revegetation adjacent to priority major tributary sections. Assessment of streamflow monitoring requirements and install facilities.	July 2006	June 2008	Decision support tools developed: RA3.3 Recovery or management plans for threatened species or ecological communities completed: P4.1	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced		Assets managed, Major tributaries. Priority River sections within ARB

Additional Information *new or continuing project, indicate changes from original project etc*

*W1.TBA By 2008 the impact of artificial release of water from Yenyening Lakes does not exceed tolerance levels for Gwambygine Pool.

NOTE: this MAT is being addressed through IWM001

WTBA Strategic regional monitoring program for water quality (nutrient, acidity, salinity and sediments) developed and initiated by 2005.

NOTE: it is anticipated that this MAT will be addressed through other water quality monitoring activities being

undertaken within IWM001 and water quality monitoring activities listed above

Project Budget

Year	NAP	NHT	Other	Total
05/06	\$1,700,000			\$1,700,000
06/07	\$1,035,180	\$304,720		\$1,339,900
07/08	\$943,560	\$224,960		\$1,168,520

Project Commencement Date	July 2006
Project Completion Date	June 2008

Risks to achievement of project

- Failure to appoint appropriate staff to carry out project
- Lack of involvement and support from community, LGA's, NGO's and stakeholders
- Resistance to VMA's and conservation covenants by landowners/stakeholders
- Inclement climatic and seasonal conditions preventing on-ground activities
- Lack of long-term support and liaison with covenanting stakeholders
- Lifetime of AIP does not reflect the timeframes necessary for Resource Condition Change

Monitoring and evaluation

Activity	Indicator used	Data source	Reporting scale (local, regional, state, national)
Review and update declining NEC MATs. Undertake threat assessment process for ecosystems and incorporate into LAPs. Investigate/predict threats to major low-lying ecosystems.	<ul style="list-style-type: none"> ▪ Number of threat assessments completed ▪ Identification of threats to major low-lying ecosystems ▪ Update MATs for declining NECs 	ANDA	Regional State National
Review and update MATs for currently threatened NECs. Use agreed criteria to identify priority terrestrial and aquatic ecosystems	<ul style="list-style-type: none"> ▪ Number of threat assessments completed ▪ Identification of threats to major low-lying ecosystems ▪ Update MATs for currently threatened NECs 	ANDA	Regional State National
Review and update MATs for currently threatened NECs. Use agreed criteria to identify priority terrestrial and aquatic ecosystems	<ul style="list-style-type: none"> ▪ Identification of priority terrestrial and aquatic ecosystems 	ANDA CALM DOE	Regional State National
6b Review and develop management strategies for managing salt lakes and wetlands are consistent with RAMSAR. Use agreed criteria to identify priority terrestrial and aquatic ecosystems	<ul style="list-style-type: none"> ▪ Production of management strategies 	ANDA	Regional State
Incorporate biodiversity conservation guidelines for	<ul style="list-style-type: none"> ▪ Number of LAPs incorporating 	ANDA LGAs	Local Regional

threatened and declining NECs into 30 LAPs. Feasibility and cost benefit analysis for retention and improvement options for vulnerable and threatened ecosystems are assessed.	<ul style="list-style-type: none"> ▪ biodiversity conservation guidelines ▪ Completion of feasibility and cost-benefit analysis 		State
Establish priorities for protection of hydrological and ecological function of major salt lakes. Feasibility and cost benefit analysis for retention and improvement options for vulnerable and threatened ecosystems are assessed.	<ul style="list-style-type: none"> ▪ Identification of priorities for protection 	ANDA	Regional
Training of all private landholders engaged in covenanting in retention and restoration of declining NECs. Review MATs for threatened ecosystems.	<ul style="list-style-type: none"> ▪ Number of workshops held ▪ Number of participants ▪ Number and type of extension material produces (ie case studies, newsletters, brochures) 	ANDA ACC —	Regional
Review MATs for vulnerable ecosystems. Prepare recovery plans for 5 wetlands of national significance	<ul style="list-style-type: none"> ▪ Number of recovery plans produced 	ANDA	Regional State National
Assessment of ALL NEC's, conservation agreements established. Incorporate biodiversity conservation guidelines for threatened and declining NECs into 30 LAPs.	<ul style="list-style-type: none"> ▪ Assessment of NEC conservation agreements 	ANDA	Regional State National
Incorporate biodiversity conservation guidelines for threatened, vulnerable and viable NECs into 30 LAPs.	<ul style="list-style-type: none"> ▪ Number of LAPs incorporation biodiversity conservation guidelines for threatened, vulnerable and viable NECs 	ANDA	Local Regional State National
Identify priority ecosystems and priority locations. Increase area of priority declining NECs with conservation agreements.	<ul style="list-style-type: none"> ▪ Number of priority declining NECs with conservation agreements 	ANDA CALM	Regional
Establish tree crops around threatened regionally significant freshwater wetlands. Identify priority ecosystems and priority locations to be added to the formal reserve system	<ul style="list-style-type: none"> ▪ Area of tree crops planted around threatened regionally significant freshwater wetlands ▪ Number of priority ecosystems and locations identified to be added to the 	ANDA GAWA	Regional State

	formal reserve system		
Identify riparian areas with high habitat value. Training of all private landholders engaged in covenanting and other incentive schemes in retention and restoration of declining NECs.	<ul style="list-style-type: none"> Location of riparian areas with high habitat value (mapping?) 	ANDA CALM DOE	Regional
Identify riparian areas with high habitat value. Training of all private landholders engaged in covenanting and other incentive schemes in retention and restoration of declining NECs.	<ul style="list-style-type: none"> Number of workshops and other training programs held. Number of participants Number of landholders engaged in covenanting and other incentive schemes 	ANDA ACC	Regional
Incorporate sites into WA monitoring program. Threatened NECs have conservation agreements in place. Increase area of priority declining NECs with conservation agreements.	<ul style="list-style-type: none"> Number of sites included in WA monitoring program Number of priority declining and threatened NECs with conservation agreements in place 	ANDA ACC	Regional State
Long term monitoring sites established. Ongoing monitoring of sediment infl.	<ul style="list-style-type: none"> Identification of long-term monitoring sites 	ANDA	Regional State
Produce management plans. Continued increase in commercial sediment removal from priority river pools	<ul style="list-style-type: none"> Management plans Tones of sediment removed from priority river pools 	ANDA DOE LGAs	Regional
Initiate work on river pool plans. Rivercare groups initiated and supported. Threatening processes are mapped for major tributaries.	<ul style="list-style-type: none"> Production of river pool management plans Mapping of threats to major tributaries 	DOE LGAs	Regional
Monitor Bridal Creeper in designated areas. Prepare management action plans for priority sections within "Avon Arc" & Mortlock River system. Rivercare groups initiated and supported. Prepare management plans for priority sections within Lockhart & Yilgarn Catchments. Revegetation adjacent to priority major tributary sections. Assessment of streamflow monitoring requirements and install facilities.	<ul style="list-style-type: none"> Number of management actions plans completed. Area of revegetation undertaken adjacent to priority major tributary sections Number and type of streamflow monitoring facilities installed 	ANDA	Regional State

Project Title: ND004 Sense of place: Conserving the Region's Characteristic Ecoscapes						
Objectives and Accountabilities						
ACC Outcome (Strategic Objective from Regional Strategy): Conservation of the extent and integrity of the natural diversity within the Avon region through on-ground landscape-scale investment in partnership with the community.						
Program Outcome - 20 year Targets: Target 4: Conserving the extent and integrity of the natural diversity (species, NECs and ecosystems) within 12 landscapes/ecoscapes, which best represent the natural diversity of the Avon River Basin.						
Project Outcome - Project Aims: This project aims to conserve the extent and integrity of the natural diversity (species, NECs and ecosystems) within 12 landscapes that best represent the natural diversity of the Avon River Basin (undertaking 12 projects within the first three years). Two landscapes within each IBRA region that provide the best representation of the natural diversity will be selected for intensive conservation action. In total, when complete, this project will maintain and enhance nature conservation assets over some 720,000ha. This project will address threats to biodiversity from salinity and water quality and will contribute to managing these threats across the Avon Basin. It will also contribute to achieving management targets that have been identified as part of the Integrated Water and Sustainable Industries projects. Weeds are a significant issue and the project will link with Sustainable Industries Program biosecurity projects. The project will operate in landscape areas of generally between 30,000ha and 100,000ha. Natural resource specialists working with land managers/holders and the community will undertake fencing, regeneration, revegetation, weed and animal pest management, surface water management, drainage, groundwater pumping and improved fire management.						
Project MATs						
B4 MAT 2.1(C) A threat assessment for threatened ecoscapes completed and results incorporated into 30 Local Area Plans by December 2009						
B4 MAT 5.1 Biodiversity conservation plans developed for representative ecoscapes (1 per IBRA region) by June 2006 with an additional 1 per IBRA region developed by June 2008.						
B4 MAT 6.1 Bioregional biodiversity teams established and trained to undertake mentoring and project management skills to conserve representative landscapes by June 2008.						
B4 MAT 7.1 Actions identified in conservation plans for representative ecoscapes (including fencing, regeneration, revegetation, weed and animal pest management, surface water management, drainage, groundwater pumping and other actions) implemented by 2009.						
W2 MAT 8.1 12. Strategic regional monitoring program for water quality (nutrient, acidity, salinity and sediments) developed and initiated by 2005.						
B4 MAT 8.2(N) Status of selected natural diversity within representative ecoscapes reviewed at 3 year intervals						
Activities	Start Date	Finish date	Output and code	NAP Outcomes	NHT Outcomes	Regional Outcomes
1. Threat assessment for 8 (4 in 2006/7 + 4 in 2007/8) ecoscapes.	July 2006	June 2008	RA1.1 8 threat assessment studies completed	The impact of salinity on land and water resources is avoided or reduced		threats to natural diversity managed
2. Conservation plans for 8 (4 in 2006/7 + 4 in 2007/8) selected ecoscapes.	July 2006	June 2008	P4.1 8 recovery management plans for threatened	The integrity and diversity of aquatic and terrestrial	Establishing and effectively managing a comprehensive, adequate and	Natural diversity assets managed

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			species and ecological communities completed	biodiversity and ecosystems are maintained and enhanced	representative system of protected areas	
3. Biodiversity management team to assist 12 communities understanding of management options.	July 2006	June 2008	CB5.1 12 community groups assisted	Land management practices in place which enhance or maintain water quality and prevent and manage salinity	Providing landholders, community groups and other natural resource managers with understanding and skills to contribute to biodiversity conservation and ecologically sustainable use and management of natural resources	Community (assets) managed
4. On ground management of 12 (4 existing + 4 in 2006/7 + 4 in 2007/8) ecoscapes.	July 2006	June 2008	OG3.4 12 ecoscapes containing terrestrial native vegetation enhanced and rehabilitated	The impact of salinity and degrading water quality on locations and systems which are critical for conservation of biodiversity, agricultural production, towns, infrastructure and cultural and social values, is avoided or minimized	Establishing and effectively managing a comprehensive, adequate and representative system of protected areas Protecting and restoring the habitat of threatened species, threatened ecological communities and migratory birds	Natural diversity assets managed
5. Establishment of ecological monitoring sites.	July 2006	June 2008	RA1.2 Number (to be determined) of new monitoring sites established	Land management practices in place which enhance or maintain water quality and prevent and manage salinity		Natural diversity assets managed
6. review process for status of natural diversity within ecoscapes	July 2007	June 2008	RA1.2 A review process is established	The integrity and diversity of aquatic and		Natural diversity assets managed

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			for the project	terrestrial biodiversity and ecosystems are maintained and enhanced		
<p>Additional Information <i>new or continuing project, indicate changes from original project etc</i></p> <p>Continuing project except the review process in year 3. In each year of investment the project identifies up 4 additional ecoscapes – conducts threat assessments, develops and implements management plans. By the end of year three a total of 12 ecoscapes will be identified and conserved within the region.</p>						

Project Budget

Year	NAP	NHT	Other	Total
05/06	\$2,601,000			\$2,601,000
06/07	\$1,390,097	\$670,603		\$2,060,700
07/08	\$1,574,260	-\$224,960		\$1,799,220

Project Commencement Date	July 2006
Project Completion Date	June 2008

Risks to achievement of project

Private landholder engagement with the ecoscapes project where private land is identified within the ecoscape management plan

Monitoring and evaluation

Activity	Indicator used	Data source	Reporting scale (local, regional, state, national)
Threat assessment for 8 (4 in 2006/7 + 4 in 2007/8) ecoscapes.	Extent & impact of selected ecologically significant invasive vegetation and animal species within 8 ecoscapes. Number of completed assessments	GAWA CALM Ag	Regional State
Conservation plans for 8 (4 in 2006/7 + 4 in 2007/8) selected ecoscapes.	Number of conservation plans completed	GAWA	Regional
Biodiversity management team to assist 12 communities understanding of management options.	Number of workshops held and number of participants Production of extension material	GAWA ACC	Regional Local
On ground management of	Number of	GAWA	Regional

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12 (4 existing + 4 in 2006/7 + 4 in 2007/8) ecoscapes.	management plans/actions implemented. Endorsement by relevant LGA	ACC LGAs	Local
Establishment of ecological monitoring sites.	Number of monitoring sites established Establishment and maintenance of records database	GAWA ACC	Regional Local
Review process for status of natural diversity within ecoscapes	Update of threat assessment	GAWA	Regional State

Project Title: ND005 Our patch: local people caring for local bushland						
Objectives and Accountabilities						
ACC Outcome (Strategic Objective from Regional Strategy):						
Maintain the extent and integrity (structure and composition) of all natural ecological communities that occur in the Avon region						
Program Outcome - 20 year Targets:						
The Avon River Basin contains a connected and functional network of vegetation that represents the natural diversity of the regions and supports regional scale ecological functions.						
Project Outcome - Project Aims:						
The aim of this project is to support local governments and communities across the whole Avon River Basin in their conservation aspirations for their local patch. It provides for local communities to make significant conservation improvements in areas not covered by the other projects. Selection of conservation sites will be based on local and regional priorities.						
Selection of conservation sites will be based on local and regional priorities. The communities of each local government area will select five highest value bushland remnants for enhancement through rehabilitation, establishment of wildlife corridors, buffers, weed management, vermin control, and improved fire management.						
Project MATs						
B1.7.2a(C) Conservation actions for the five highest-value remnants in each LGA commenced by Sep 2005.						
W2.1.3(C) Priority minor tributary assets are identified within 30 Local Government Plans by end 2007.						
Activities	Start Date	Finish date	Activity Type and code	NAP Outcomes	NHT Outcomes	Regional Outcomes
1a Assist community in identifying important remnants and demonstrate how they can be managed. Develop Management Plans. Implement Management actions	July 2006	June 2008	Training sessions, workshops, seminars or other skills and training events conducted: CB2.1	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are	Protecting and restoring the habitat of threatened species, threatened ecological communities and migratory	Assets managed – Significant remnant native vegetation

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			Property or reserve management plans completed: P3.2	maintained or enhanced	birds. Establishing and effectively managing a comprehensive, adequate and representative system of protected areas	
1b Assist community in identifying important remnants and demonstrate how they can be managed. Develop Management Plans. Implement Management actions	July 2006	June 2008	Training sessions, workshops, seminars or other skills and training events conducted: CB2.1 Property or reserve management plans completed: P3.2	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced	Protecting and restoring the habitat of threatened species, threatened ecological communities and migratory birds. Establishing and effectively managing a comprehensive, adequate and representative system of protected areas	Assets managed – Significant remnant native vegetation
2a Assist community in identifying priority minor tributaries and complete management plans. Implement Management actions outlined in management plans	July 2006	June 2007	Training sessions, workshops, seminars or other skills and training events conducted: CB2.1 Property or reserve management plans completed: P3.2	The integrity and diversity of aquatic and terrestrial biodiversity and ecosystems are maintained or enhanced	Protecting and restoring the habitat of threatened species, threatened ecological communities and migratory birds. Establishing and effectively managing a comprehensive, adequate and representative system of protected areas	Assets managed – Priority minor tributaries
Additional Information <i>new or continuing project, indicate changes from original project etc</i>						

Project Budget

Year	NAP	NHT	Other	Total
05/06	\$486,376	\$485,000		\$971,376
06/07	\$556,725	\$194,275		\$751,000
07/08	\$318,340	\$259,091		\$577,431

Project Commencement Date	July 2006
Project Completion Date	June 2008

Risks to achievement of project

<ul style="list-style-type: none"> • Lack of community support for the project • Rapid changes foreseen for identified remnant areas as a result of secondary salinity • Lack of technical support and community technical knowledge

Monitoring and evaluation

Activity	Indicator used	Data source	Reporting scale (local, regional, state, national)
Assist community in identifying important remnants and demonstrate how they can be managed. Develop Management Plans. Implement Management actions	<ul style="list-style-type: none"> ▪ Community consultation ▪ ID important remnants ▪ Management plans for each remnant identified ▪ Adoption of management plan/actions by LGA and community 	GAWA CALM ACC LGAs	Local Regional
Assist community in identifying important remnants and demonstrate how they can be managed. Develop Management Plans. Implement Management actions	<ul style="list-style-type: none"> ▪ Community involvement in vegetation surveys ▪ Production of extension material ▪ Management plans for each remnant identified ▪ Adoption of management plan/actions by LGA and community 	GAWA CALM ACC LGAs	Local Regional
Assist community in identifying priority minor tributaries and complete management plans. Implement Management actions outlined in management plans	<ul style="list-style-type: none"> ▪ Community involvement & consultation in ID of priority tributaries ▪ Production of management plan ▪ Implementation of management actions 	GAWA DOE ACC LGAs	Local Regional

Project Title: ND006- Fire management and Biodiversity
Objectives and Accountabilities
<p>ACC Outcome (Strategic Objective from Regional Strategy): The Avon River Basin contains a connected and functional network of vegetation that represents the natural diversity of the region (landscapes, ecosystems, communities and species) and supports regional scale ecological functions (networks of connected populations, migratory and dispersal capacity, movements and re-colonization in response to extreme events, movement of pollinators and seed dispersers, options for change in distribution and abundance in response to climate change, maintenance of evolutionary potential etc.)</p>

Program Outcome - 20 year Targets (From AIP): This project will contribute to all natural diversity 20 year Targets						
Project Outcome - Project Aims (from AIP): This project will provide fire management guidelines for biodiversity and a fire and biodiversity education program. The project addresses fire as a significant threat to natural diversity, water, air quality and land assets if not managed appropriately. It is a major issue for local government, which has a primary responsibility through the Bush Fire Act for fire management and control. Biodiversity has generally not been considered as part of fire management. This project will address issues such as fire frequency, fire timing and intensity, requirements for perimeter and internal fire access tracks. In addition, the fire management guidelines need to incorporate management of potential fire hazards created by fencing remnant vegetation and riparian zones, and creation of corridors.						
Project MATs						
B5MAT5.7 Fire management plans developed for each bioregion by Dec 2007.						
Activities	Start Date	Finish date	Output and code	NAP Outcomes	NHT Outcomes	Regional Outcomes
1a Development of Bioregion Fire Management Plans using guidelines developed in year one.	July 06	June 07 (Potential to carry over to yr3)	P1.1 (Fire Management Plans) CB1.2 (Mail out to stakeholders to raise awareness of project)	N/A	Providing land-holders, community groups and other natural resource managers with understanding and skills to contribute to biodiversity conservation and sustainable natural resource management.	Threat management (fire) through the development of fire management plans
1b Continue on ground works (including monitoring of established monitoring sites) to test and refine biodiversity principles developed in year one of project.	July 06	June 08	RA3.1 (Findings used to improve methodologies in FMP's) OG3.3 (Area of native terrestrial vegetation protected) OG3.4 (Area of native riparian vegetation protected)	N/A	Reversing the long term decline in the extent and quality of Australia's native vegetation	Asset management of selected areas within the region through on ground activities. This activity will also test the information/methodologies required to manage the threat of fire across the region for biodiversity conservation.
1c Undertake a fire and biodiversity education program	July 06	June 08	CB1.1 (Meetings, presentations, forums, demonstrations) CB1.2 (Newsletters distributed to key	N/A	Providing land-holders, community groups and other natural resource managers with understanding and skills to contribute to	Threat management through the education and training of relevant stakeholders in fire management for biodiversity

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			stakeholders) CB2.1 (Fire management training course/s)		biodiversity conservation and sustainable natural resource management	
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Additional Information new or continuing project, indicate changes from original project etc
 First year of the project (2005) is focusing on the development of guidelines for inclusion in the fire management plans to be developed in year 2. With a smaller focus on on-ground activities in year one. Second year will see the development of Fire Management Plans at a management zone level (several per sub-IBRA region) and continuation of on-ground work with the demonstration of guideline principles developed in year one, also commence the education project. The final year will see a larger focus on on-ground activities with the potential that some FMP may be required to be complete in this year and the continuation of the education program targeting LGA's.

Project Budget

Year	NAP	NHT	Other	Total
05/06		\$80,000		\$80,000
06/07		\$80,000		\$80,000
07/08		\$40,000		\$40,000

Project Commencement Date	July 2006
Project Completion Date	June 2008

Risks to achievement of project

- Unwillingness of stakeholders (LGA's/communities) to become involved.
- Consultant with appropriate skills unavailable.

Monitoring and evaluation

Activity	Indicator used	Data source	Reporting scale (local, regional, state, national)
Development of Bioregion Fire Management Plans	Number of Fire Management Plans completed Community consultation i.e. workshops, meetings, surveys	CALM ACC	Local Regional State
Continue on ground works to demonstrate biodiversity principles developed in year one of project.	Number and type of on-ground outputs achieved	CALM	Local Regional
Undertake a fire and biodiversity education program	Production of educational/extension material i.e. brochures, case studies Number of workshops held & number of participants attending Adoption of fire and biodiversity BMP by LGAs	CALM LGAs ACC	Local Regional

7.3.4.3 Project Summaries

Two projects have been developed to address the program priorities identified. The projects are:

INRM001 Ballardong Noongar Cultural Mapping and Language Project

- To identify and develop management plans for culturally significant sites.
- To enable increased usage of the Noongar language within the Avon Region, via the identification and documentation of the correct names for assets.

PS001 Regional community engagement in NRM and program delivery coordination.

- Engage and build partnerships with Local Government and Aboriginal groups for the effective implementation of NRM within the region.
- Marketing and communication of the Regional NRM priorities and project outcomes.
- Project and program support.
- Coordination of the implementation and evaluation of AIP projects.

7.3.4.4 Project schedules

Project Title: INRM001- Ballardong Noongar Cultural Mapping and Language Project						
Objectives and Accountabilities						
ACC Outcome (Strategic Objective from Regional Strategy – Healthy Country-Healthy People): The main Noongar aspiration in the Avon is to have a healthy country, in regards to culture, revegetation, language, business ventures and sustainability.						
Program Outcome - 20 year Targets: Project addresses all priority Water and Natural Diversity RCTs.						
Project Outcome - Project Aims: <ul style="list-style-type: none"> • To identify all significant Noongar sites in the Avon Region and to develop management plans for these sites from a cultural and NRM perspective. • To enable increased usage of the Noongar language within the Avon Region, via the identification and documentation of the correct names of waterways, towns, outcrops etc. Increased usage of Noongar names in regards to NRM assets is estimated to lead to greater engagement of Aboriginal people in the protection and enhancement of such sites. 						
Project MATs						
Indigenous NRM MATs are to be developed in 2006/2007 via project PS001. This project is addressing the following preliminary MATs: <ul style="list-style-type: none"> • Cultural mapping • Use of Noongar language • Access to significant sites • Walk trails • Committing to economic opportunities for Noongar People 						
Activities	Start Date	Finish date	Output and code	NAP Outcomes	NHT Outcomes	Regional Outcomes
1a Cultural Mapping – Development of a cultural mapping data base.	July 2006	Dec 2006	RA 3.2 and RA 3.3 Database developed and updated, interactive computer			Assets and threats effectively managed through involvement and engagement of Aboriginal communities.

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			based tool developed.			
1b Cultural Mapping – Field and desktop recording of significant and/or sacred sites - site surveys and community consultation	July 2006	May 2008	RA1.1 and CB 2.1 Sites identified and indigenous community engaged			Assets and threats effectively managed through involvement and engagement of Aboriginal communities.
1c Cultural Mapping – Development of management plans for sites identified	July 2006	June 2008	P5.1 Management plans developed.			Assets and threats effectively managed through involvement and engagement of Aboriginal communities.
1d Cultural Mapping - Development and use of appropriate cultural networks - promotion of use with LGAs etc.	July 2006	June 2008	CB 5.1 Cultural networks identified, maintained and their use promoted.			Assets and threats effectively managed through involvement and engagement of Aboriginal communities.
2a Noongar Language - Examination of local names to determine origin	July 2006	Dec 2006	RA 3.2 Review of names and database developed/maintained/promoted.			Assets managed to standards identified by regional Aboriginal communities.
2b Noongar Language - Name interpretation and identification of meanings	July 2006	June 2007	RA 2.2 Study completed detailing results of review.			Assets managed to standards identified by regional Aboriginal communities.
2c Noongar Language - Guidelines for organisations to ensure commonality and correctness in Noongar names and spelling	July 2006	Dec 2006	P1.1 Guidelines produced and applied on ground via AIP and other projects.			Assets managed to standards identified by regional Aboriginal communities.
2c Noongar Language - Development of guidelines for the correct pronunciation and spelling of words	August 2007	June 2008	P1.1 and RA 3.3 Guidelines, interactive tool developed for use by all NRM organisations and the community.			Assets managed to standards identified by regional Aboriginal communities.

Additional Information *new or continuing project, indicate changes from original project etc*
This is a new project, the priorities for the project have been developed through consultation with the ACC's Ballardong Working Group through the development of a Regional Aboriginal NRM document. The Working Group is

described in detail in section 4.7.

Project Budget

Year	NAP	NHT	Other	Total
05/06	N/A	N/A	N/A	
06/07	N/A	\$359,000	\$300,000	\$359,000
07/08	N/A	\$278,111	\$250,000	\$278,111

Project Commencement Date	July 2006
Project Completion Date	June 2008

Risks to achievement of project

- Inability to identify cultural or language areas, or lack of cooperation from regional Indigenous community.
- Project Delivery Organisations and Local Government not adopted naming guidelines or cultural mapping.
- Sensitivity of regional Indigenous community to releasing culturally significant information.

Monitoring and evaluation

Activity	Indicator used	Data source	Reporting scale (local, regional, state, national)
Cultural Mapping – Development of a cultural mapping data base.	<ul style="list-style-type: none"> ▪ Regional database set up 	ACC Local community DIA	Local Regional State
Cultural Mapping – Field and desktop recording of significant and/or sacred sites - site surveys and community consultation	<ul style="list-style-type: none"> ▪ Number of significant/sacred sites recorded in database ▪ Number of completed surveys ▪ Community involvement 	ACC Local community DIA	Local Regional State
Cultural Mapping – Development of management plans for sites identified	<ul style="list-style-type: none"> ▪ Number of management plans completed ▪ Community involvement 	ACC Local community DIA	Local Regional
Cultural Mapping - Development and use of appropriate cultural networks - promotion of use with LGAs etc.	<ul style="list-style-type: none"> ▪ Database of regional cultural networks set up ▪ Promotional material produced and distributed to LGAs and other relevant organisations 	ACC	Local Regional
Noongar Language - Examination of local names to determine origin	<ul style="list-style-type: none"> ▪ Production of glossary of local names 	ACC Local Community	Local Regional
Noongar Language - Name interpretation and identification of meanings	<ul style="list-style-type: none"> ▪ Production of document with interpretation of names and their meanings 	ACC Local Community	Local Regional State
Noongar Language - Guidelines for organisations to ensure commonalty and correctness in Noongar names and spelling	<ul style="list-style-type: none"> ▪ Production of guidelines 	ACC Local Community DIA	Regional State

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Noongar Language - Development of guidelines for the correct pronunciation and spelling of words	▪ Production of guidelines	ACC Local Community DIA	Regional State
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Project Title: PS001 Regional community engagement in NRM and program delivery coordination.						
Objectives and Accountabilities						
ACC Outcome (Strategic Objective from Regional Strategy):						
Program Outcome - 20 year Targets: Project addresses all priority RCTs						
Project Outcome - Project Aims:						
<ul style="list-style-type: none"> • Engage and build partnerships with Local Government for the effective implementation of NRM within the region. • Coordinate and facilitate regional Indigenous community input to activities to support the implementation of the Avon Regional NRM Strategy and Avon Investment Plan. • Coordination of the marketing and communication of the Regional NRM priorities and project outcomes. • Project and program support for the development and implementation of regional monitoring and evaluation activities and communication of outcomes to stakeholders and partners. • Coordination of the implementation and evaluation of AIP projects, including effective engagement with regional stakeholders and partners. 						
Project MATs						
Project addresses all priority MATs.						
Activities	Start Date	Finish date	Output and code	NAP Outcomes	NHT Outcomes	Regional Outcomes
1a Local Government Liaison/Local Area Planning – Partnership development Shires and ROCs – identification of opportunities for LGA involvement.	July 2006	June 2008	CB3.1 Voluntary ROC development incorporating NRM practices – establishment of NRM committees. Coordination of ACC project activities with LGAs.	All	All	LGA recognition of the value and importance of planning for threat and asset management.
1 b Local Government Liaison/Local Area Planning – Incorporation of NRM into Shire planning principles.	July 2006	June 2008	P1.1 Revised regional LGA planning processes,	All	All	Threat management including salinity and surface water when planning completed at a

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			incorporating NRM principles			shire level. Priority assets identified, managed and incorporated in shire planning.
1c Local Government Liaison/Local Area Planning – Facilitate the ongoing development of LAPs and their implementation.	July 2006	June 2008	P3.1 LAP development and delivery for 31 shires within the Region.	All	All	Threat and iconic local asset management identified in LAPs. LAPs linked to project delivery activities.
2a Communication of Regional NRM Priorities – Identification of opportunities for promotion of the strategic and project objectives of the ACC and associated programs	July 2006	June 2008	P5.1 Regional Marketing and Communications plan – development maintenance and implementation. Coordinating delivery organisation involvement in regional M&C.	All	All	Regional recognition of the NRM planning and delivery process for threat and asset management.
2b Communication of Regional NRM Priorities – promotion of strategy and project outcomes and achievements.	July 2006	June 2008	CB 1.1 Regional promotional activities delivered – field days, press releases, media statements etc.	All	All	Regional recognition of the NRM planning and delivery process for threat and asset management.
3a Engagement of Regional indigenous Communities – Coordination and facilitation of regional indigenous NRM strategy.	July 2006	June 2008	P2.1 Completion of regional INRM strategy – development of MATs and engagement of Aboriginal communities in implementation.	All	All	Threat and asset management via the involvement of the regional indigenous community.
3b Engagement of Regional indigenous Communities – Support for representation of Aboriginal communities via Ballardong group.	July 2006	June 2008	CB5.1 Ballardong group equipped to identify and promote opportunities and	All	All	Threat and asset management via the involvement of the regional indigenous community.

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			partnerships with Aboriginal communities for NRM delivery.			
3c Engagement of Regional indigenous Communities – Partnership development that incorporates INRM principles in regional planning and development activities.	July 2006	June 2008	P4.2 Aboriginal priorities recognised in shire planning, farm and catchment planning and incorporated in regional grant applications. Brokering linkages with Aboriginal Groups and ACC project activities.	All	All	Threat and asset management via the involvement of the regional indigenous community.
4a Project delivery coordination and support – Coordination of the development and delivery of AIP projects (contract management and project evaluation)	July 2006	June 2008	P3.1 and RA 1.3 Project development , contract management activities, extension of project and program outcomes.	All	All	Successful delivery of project activities that address both threat and asset management.
4a Project delivery coordination and support – Partnership development for funding of priority activities.	July 2006	June 2008	CB 5.1 Increased regional capacity to implement project activities and brokering of community input to regional project activities.	All	All	Successful delivery of project activities that address both threat and asset management.
4a Project delivery coordination and support – review, evaluation and improvement of project activities.	July 2006	June 2008	P2.1 Input to AIP review and coordination of project and program scale evaluation.	All	All	Successful delivery of project activities that address both threat and asset management.
5a Monitoring and Evaluation – M&E regional framework developed.	July 2006	June 2008	RA1.2 Regional M&E framework developed with links to	All	All	Successful delivery of project activities that incorporate accurate and effective M&E and reporting

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			state and regional reporting structures.			processes.
5b Monitoring and Evaluation – Point of investment M&E framework developed and implemented.	July 2006	June 2008	RA 1.3 Utilisation of state M&E frameworks to support regional framework. Ensuring technical support for project delivery organisations in design and delivery of M&E activities.	All	All	Successful delivery of project activities that incorporate accurate and effective M&E and reporting processes.
5c Monitoring and Evaluation – Coordination of monitoring and evaluation activities and reporting	July 2006	June 2008	RA 1.2 Development of M&E indicators, data storage and reporting processes for projects. Reporting on outcomes at regional, state and national level.	All	All	Successful delivery of project activities that incorporate accurate and effective M&E and reporting processes.

Additional Information *new or continuing project, indicate changes from original project etc*
 This is a new project, activities were previously funded by a functional management allocation from projects. Project funding constitutes 9.6% of regional investment plan funding in 2006/07 and 13.2% in 2007/08. The project will directly employ:
 2 Indigenous NRM Officers
 1 Marketing and Communications Officer
 1 Local Government Coordinator
 3 Project Managers
 1 Program Manager
 1 Administrative support officer (project support)
 1 M&E Officer.

Project Budget

Year	NAP	NHT	Other	Total
05/06	N/A	N/A	N/A	
06/07	\$890,270	\$281,280		\$1,172,000*
07/08	\$1,152,920	\$253,080		\$1,406,000*

*Employment costs total \$1,026,000 in 06/07 and \$1,076,000 in 07/08

Project Commencement Date	July 2006
Project Completion Date	June 2008

Risks to achievement of project

<ul style="list-style-type: none"> • Turn over of staff in functional management positions and competition for NRM staff resources nationally. • Delivery of M&E support from State agencies – data delivery and monitoring network establishment. • Local Government inability to incorporate NRM principles. • Regional indigenous community NRM aspirations differing from the strategic aims of the ACC.
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Monitoring and evaluation

Activity	Indicator used	Data source	Reporting scale (local, regional, state, national)
Local Government Liaison/Local Area Planning – Partnership development Shires and ROCs – identification of opportunities for LGA involvement.	<ul style="list-style-type: none"> ▪ Document opportunities for LGA involvement in regional projects ▪ Number of partnerships formed ▪ Number of LGAs actively involved in IP projects 	ACC LGAs —	Regional
Local Government Liaison/Local Area Planning – Incorporation of NRM into Shire planning principles.	<ul style="list-style-type: none"> ▪ Increased awareness of NRM by LGAs (meetings, workshops) ▪ Case study of NRM being incorporated into Shire planning principles 	ACC LGAs	Regional State
Local Government Liaison/Local Area Planning – Facilitate the ongoing development of LAPs and their implementation.	<ul style="list-style-type: none"> ▪ Number of LAPs developed ▪ Number of LAPs being implemented 	ACC LGAs	Local Regional
Communication of Regional NRM Priorities – Identification of opportunities for promotion of the strategic and project objectives of the ACC and associated programs	<ul style="list-style-type: none"> ▪ Development of communications plan ▪ Identification of promotional opportunities ▪ Database of promotion achieved 	ACC DOs	Local Regional
Communication of Regional NRM Priorities – promotion of strategy and project outcomes and achievements.	<ul style="list-style-type: none"> ▪ Development of communications plan ▪ Identification of promotional opportunities ▪ Database of promotion achieved 	ACC DOs	Local Regional
Engagement of Regional indigenous Communities – Coordination and facilitation of regional indigenous NRM strategy.	<ul style="list-style-type: none"> ▪ Production of regional indigenous NRM strategy ▪ Community involvement 	ACC DIA Local communities	Local Regional State

Engagement of Regional indigenous Communities – Support for representation of Aboriginal communities via Ballardong group.	<ul style="list-style-type: none"> ▪ Number of Ballardong group representatives on committees, working groups etc 	ACC	Regional
Engagement of Regional indigenous Communities – Partnership development that incorporates INRM principles in regional planning and development activities.	<ul style="list-style-type: none"> ▪ Number of partnerships formed with local Indigenous communities ▪ Documentation of INRM principles ▪ Number of projects incorporating INRM 	ACC DIA Local Communities DOs	Regional State
Project delivery coordination and support – Coordination of the development and delivery of AIP projects (contract management and project evaluation)	<ul style="list-style-type: none"> ▪ Development of contract management plans 	ACC —	Regional
Project delivery coordination and support – Partnership development for funding of priority activities.	<ul style="list-style-type: none"> ▪ Number of partnerships formed ▪ Amount of funding received for priority activities 	ACC DOs	Regional State
Project delivery coordination and support – review, evaluation and improvement of project activities.	<ul style="list-style-type: none"> ▪ Evaluation of project activities completed and refined 	ACC DOs	Regional
Monitoring and Evaluation – M&E regional framework developed.	<ul style="list-style-type: none"> ▪ Production of regional M&E framework 	ACC	Regional State National
Monitoring and Evaluation – Point of investment M&E framework developed and implemented.	<ul style="list-style-type: none"> ▪ Production of project specific M&E frameworks 	ACC DOs	Regional
Monitoring and Evaluation – Coordination of monitoring and evaluation activities and reporting	<ul style="list-style-type: none"> ▪ Development of M&E database ▪ Development of M&E requirements and standards 	ACC DOs	Regional State National

7.3.6 Strategic Tree Farming Project

The Forest Products Commission managed Strategic Tree Farming Project (STP) has been operating within the Region since 2005. The project aims to complement salinity management activities carried out by the ACC and has a focus on low investment risk areas within the Region (areas with 450mm of rainfall and above). Total investment regionally is \$7.3m over three years and table 7.6 following identifies investment to date and predicted investment for the coming two years.

Table 7.6 Indicative allocations to ACC by planting year

Species	2005	2006	2007	2008	Total	% of total
Pinaster	59ha	150ha	200ha	300ha	709ha	36.50%
Sandalwood	84ha	250ha	450ha	450ha	1,234ha	63.50%
Total	143ha	400ha	650ha	750ha	1,943ha	100.00%
% of Total	7.40%	20.60%	33.50%	38.60%	100.00%	

The FPC has advised that:

- The cost per ha of establishment is \$3500 (½ Federal govt NAP and ½ State funding).
- The uptake to the program is on target for 2006. The only changes in the future may be to the species mix by increasing sandalwood and reducing pinaster. This will allow the target area to be increased further inland in the Avon Region with no change to the overall total commitment.

The ACC has sought greater involvement in decision making in regards to this project, to ensure on ground commitments are met and opportunities for investment in lower rainfall areas are identified. ACC CEO Peter Sullivan is a member of the project's steering committee and the ACC has input to the process via the regional Private Farm Forestry Development Committee.

7.3.7 Operational program linkages

The program structure described in the preceding project schedules is a logical sequence and allows like activities and priorities to be grouped together. While this sequencing has proved effective in AIP development the practicalities of its implementation at the project delivery level have necessitated changes in the project delivery structure.

The ACC operates three project portfolios, managed by ACC project managers. These portfolios are an attempt to group projects with identified linkages or dependencies to ensure efficiency in the operational delivery of projects. As such, all projects are not necessarily managed in the same program groupings, as described in investment planning. Project portfolios are shown in table 7.7 following.

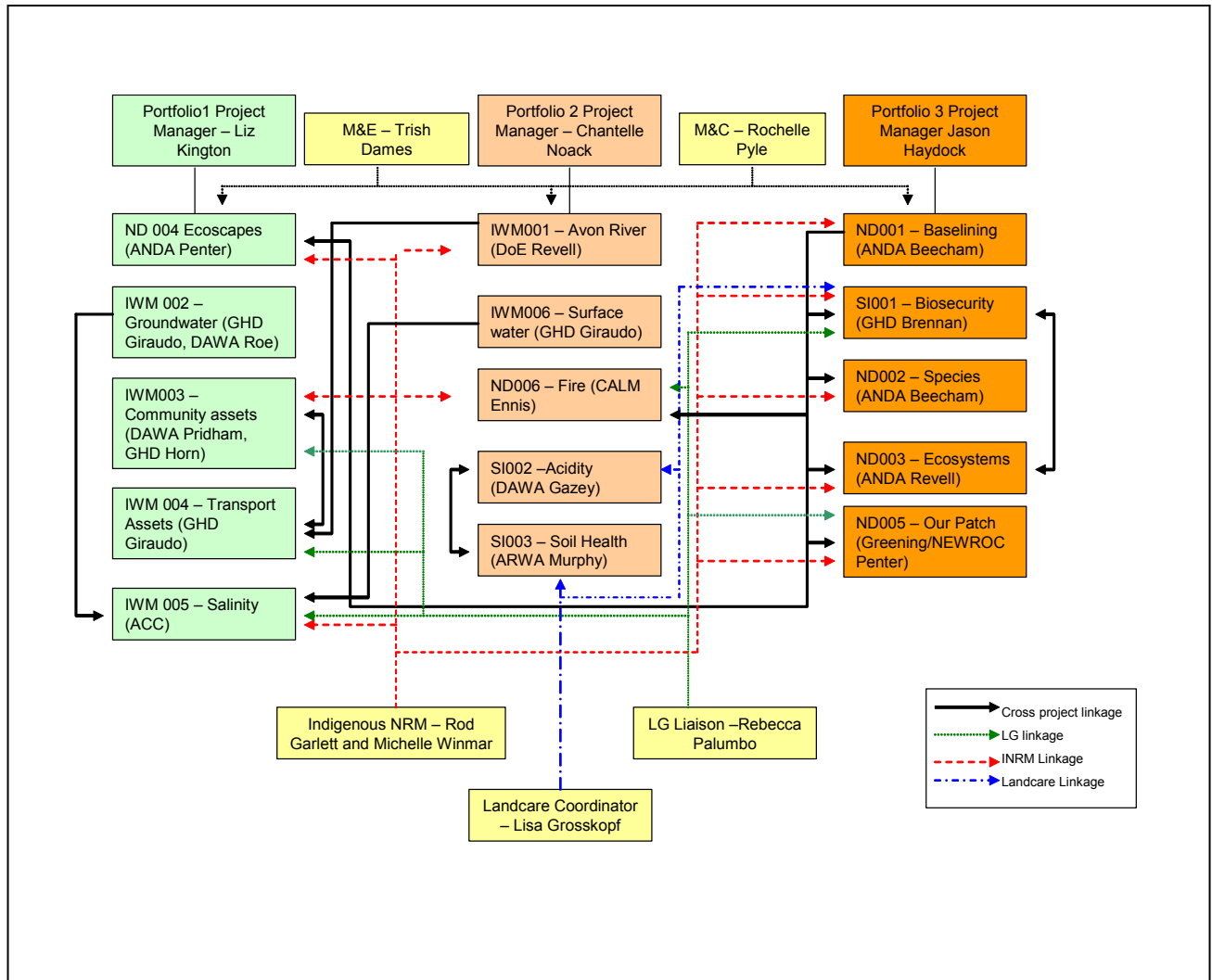
Table 7.7 Project portfolios

Portfolio 1	
Project Number	Project Name
04A1-13	Ecoscapes - ND004
04A1-03	Groundwater source ID, assessment, monitoring - IWM002
04A1-04	Protection of Community Assets - IWM003
04A1-05	Protection of Transport Assets - IWM004
04A1-06	Salinity Management - IWM005
Portfolio 2	
Project Number	Project Name
04A1-01	Avon River Waterway Mgmt-IWM001
04A1-02	Water Mgmt and Self Sufficiency- IWM006
04A1-15	Fire Mgmt - ND006
04A1-08	Identification of land management practices that contribute to soil acidity and development of sustainable land management options - SI002.
04A1-09	Increased awareness of soil health limiting factors and demonstration of land management practices that contribute to long term soil health - SI003.
Portfolio 3	
Project Number	Project Name
04A1-07	Identification of the spatial distribution of priority environmental pests and development of regional management responses - SI001.
04A1-10	Baselining - ND001
04A1-11	Back from the edge - ND002
04A1-12	Healthy ecosystems - ND003
04A1-14	Our Patch - ND005

The Stakeholder Engagement and Partnership Development Program is managed by the ACC Program Manager, due to the cross program nature of its projects and for continuity in line management responsibilities.

Such modifications to the program delivery structure have also encouraged better linkages across project portfolios and the current level of interaction between projects and functional management positions is shown in figure 7.1.

Figure 7.1 Project and management linkages



APPENDIX

Table A1.1 Blue Sky R&D priorities

Title	Description	Activities	MATS	MATS	Partners
Plant-Based Enterprise Development	A program with a long-term Plant-based enterprise development team. Quantifying how perennial plants add value to a farming system economically. Case studies, a communication strategy and forum for information exchange. Development of bush foods as a product from farming. Establishment of Commercial tree crops on Noongar managed land, with employment and training opportunities.	Development of a program and objectives specifically for this project and the appointment of an FTE to carry out all facets of the project.	W₄MAT VI.1	Development of farm forestry skills and extension of information appropriate to the region is undertaken through 4 training courses completed by 2008.	
		Development of a Communications Strategy and establishment of a forum for information exchange and industry collaboration.	W₄MAT VII.4	Commercial tree crops are established on more than 10,000Ha of additional suitable land where there will be groundwater control benefits by 2009	Other Plant-Based Ent Programs (CALM, CRC NRM, PFDC)
		Preparation of case studies from existing tree crop sites across all species in the Avon, Oil Mallee, Sandalwood and Brushwood with representatives of different soil types as well.	B₅MAT V.3 —	Guidelines for use of perennial plant based enterprises to contribute to protection of priority assets developed by Dec 2005	Oil Mallee Association
		Establishing partnerships to quantify how perennial plants add value to a farming system (economically and environmentally).	B₅MAT V.5	An industry development program based on native perennial plant species developed by 2008.	Business Development Specialists/ Economists
		Development of the bush food industry identifying products, markets, supply chains etc with partnerships formed with Noongar locals to add value to the industry.	L₂ MAT III.1	Review of dryland salinity 'best practice' options by 2006.	
			L₂ MAT VII.3	More than 50,000Ha of deep-rooted perennial pastures are established for groundwater management by 2009.	
			L₂ MAT VII.4	More than 10,000Ha of commercial tree crops are established in areas where groundwater control benefits will occur by 2009.	Indigenous bodies, AVONGRO, Dept of Education & Training
Renewable Energy	Biodiesel, solar farms, wind turbines, integrated wood processing plants - gap analysis on info, research and development and feasibility studies.	Collaborate existing information about renewable energy viability in the Avon Region and develop partnerships with key industry stakeholders, federal and state government departments as well as other NRM regions to collectively move Renewable Energy forward in the future.	I₂ MAT III.1	The feasibility of options for regional bio-energy generation and alternative water sources is assessed by 2006.	

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		Undertake a gap analysis of existing information and research and develop requirements (if any) of these technologies viable for the wheatbelt.	I₂ MAT VI.1	An extension program is developed and being delivered by 2007 that is intended to gain wide acceptance of alternative energy production and water supply development in the region as a necessary requirement for long-term sustainability and self-sufficiency of the region by communities and government.	Wheatbelt Development Commission, Wheatbelt ACC, Industry.
		Undertake feasibility studies for technologies currently without relevant info as identified through the gap analysis.	I₂ MAT VII.1	Establish one bio-energy plant within the Avon River Basin by 2008.	
Desalination technologies and Productive Uses of Saline Water	Collation of existing information and gap analysis on technologies associated with desalination of pumped ground water and productive uses of saline water as a resource, tied into integrated power generation. Links to water management planning and drought-proofing strategies.	Collate existing information regarding desalination of pumped groundwater	W₄ MAT V.2	Ten Local Area Plans have regional groundwater management strategies included by 2009.	
		Undertake a gap analysis of information, research & development, feasibility.	W₄ MAT V.4 —	Management plans for 10 areas identified as being of high risk due to groundwater abstraction and disposal prepared by 2009.	
		Investigate potential uses of saline water as a resource, markets, industry, opportunities (integrated power generation).	W₄ MAT VII.1	Significant groundwater resources are identified and managed for maximum community benefit by adoption of water allocation “best management” criteria by 2009.	
		Link information and form partnerships with stakeholders and projects related to water management planning and drought proofing strategies.	L₂ MAT II.1	High risk groundwater recharge landscape zones identified for all shires, linked to priority assets by 2009.	
			L₂ MAT VI.2	80% of land managers have an understanding of the benefits and impacts of the application of alternative groundwater management techniques and a systems-based approach by 2009.	
				Note: Surrogate measures will include the extent of saltland pasture establishment (from ABS), tree planting rates by species (from local nurseries), and the drainage extent and type (from ABS).	
			I₂ MAT III.1	The feasibility of options for regional bio-energy generation and alternative water sources is assessed by 2006.	
			I₂ MAT VI.1	An extension program is developed and being delivered by 2007 that is intended to gain wide acceptance of alternative energy production and water supply development in the region as a necessary requirement for long-term sustainability and self-sufficiency of the region by communities and government.	

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			I₃ MAT III.1	Complete a feasibility study for each of a waste/ stormwater recycling process and for desalinisation of pumped groundwater in the region by 2006	
			I₃ MAT VI.3	A report and extension material is produced by 2006 for use by local government that identifies commercial 'drivers' of alternative water sources and water use patterns.	
Landcare Enterprise and Industry development	Diversification and small-scale industry development, an extension of the previous Landcare Enterprise project, in partnership with WDC and DAWA. Possible links to a program to find develop and promote NRM Innovators or New Inventors.	Development of a program in line with the project objectives and subsequently appoint a Project Officer.	To Be Identified		WDC, DAWA, Industry, DoIR
		Develop partnerships with relevant government agencies and industry to support the project and maintain a resource database to support potential new industries, new inventors, innovators	—		
		Support small scale industry development (with an NRM focus) and assist projects to the next phase, with emphasis on NRM, environmental impact etc.			
		Encourage partnership and sponsorship for a program to encourage innovative thinking and new inventors to emerge in the region.			
Beyond the Farm Gate	Engagement of progressive farmers, links to research and development, exploring the concept of a regional product exchange market, and working more intensively with industry groups. Work in partnership to develop a patent for marketing produce from an environmental point of view and develop a marketing model on a regional basis.	In partnership engage with progressive and innovative farmers in the region (social survey).	To Be Identified		
		Work intensively with industry groups through development of projects and provision of input into regional branding activities.			
		Research the development a regional product exchange market in partnership, source additional funding, create marketing and communications plan.			
		Actively pursue development of patent for marketing produce with environmentally sustainable practices.			
		Develop criteria, raise awareness among farmers.			

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		Create a model whereby regional produce is marketed through as commodities of WA's Wheatbelt.			
Management of Project Data	A comprehensive system for managing data, both from a current investment basis, but incorporating previous ACC and historical investment.	Collate existing historical information of prior investment in the region, locations, category and outcomes.	To Be Identified		
		Design (or partner with a relevant organisation) a database/system to manage the data			
		Map this data geographically and financially.			
		Provide on-going management and the facility to update and use the system			

Table A1.2 Potential partnerships and funding sources – Blue Sky projects

Funding	Administered	Eligibility	Next Round	Priorities	Rationale	Key Notes
Native Foods Industry	Rural Industries Research & Development Corp	Private Enterprise	Open August	Understanding strengthening & developing markets	Must have Business Planning	On website under ea objectives there are strategies & targets for each
		Research Organisation	Close Feb	Improving existing products and development new ones	Market Development or Understanding	SWOT Analysis on website - address W&T
		Group of Private Enterprises	2006/07	Enhancing ability of industry to meet safety and food standards enhancing human resources in industry To improve production efficiency while maintaining ecological integrity	Sustainable Product' systems Link to Native Food research Align with regional strategies Market Understanding	
Agroforestry Program	Rural Industries Research & Development Corp	Private Enterprise		commercial FF as part of Sustainable Ag Development	M&E must be considered	6 objectives of R&D plan - see website
		Research Organisation		New Tree Crop Products	Multi-species projects	

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		Group of Private Enterprises		Native Species Emphasis		
				Sustainable use of forests		
				Timber product development		
Pre Seed Fund	Aus Industry	Companies	Continuing	Information & Communications Tech	Links with Uni's	No sales revenue
		Universities		SciVentures - range of Tech	Links with Industry	Operate in Australia
		Public sector research organisation	Approach Fund Managers	Life Sciences	Predominantly to do with Technology	
		Qualifying researcher		Starfish - range of technologies	Commercializing Research	
		CRC's				
Commercial Ready	AusIndustry	Non-tax exempt co.	Ongoing	Must have commercial potential following proof of concept phases	Can support graduate employment	Company has access to intellectual property.
	Aust Govt	Less than \$50m turnover pa			Business Planning must be complete	
		50:50 contribution			Commercializing Planning	
Regional Partnerships	Dept Transport & Regional Services	Private Enterprise	Continuous	Desalination & Water Pumping Industries	Business Planning complete	Triple bottom Line Outcomes
		Non-profit entity		Value Added Agricultural Products	Feasibility Studies	Key partners
		Association		Manufacturing & Engineering (Ag)	Align with Regional Priorities	Self-sustaining beyond project
		Local Government		Canola Crushing Plan		51% of funding from other sources
		Community Council		Bi-product waste industries		Cash/InKind Contributions
		Indigenous Group		Transport		
		State Government		Educational		
		Funded Agency		Power - Energy		

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				Attraction/Retention of Professionals/Population Business & Investment Leadership, CB & Community Planning Marketing the region/business opportunities Drought Proofing Infrastructure Development		
Renewable Energy Development Initiative	AusIndustry (REDI)	non-tax exempt company	Rd closes 9th March 2006	any other approved by Aust Greenhouse Office wind geothermal biomass (not derived from fossil fuels) hydro systems wave, tidal, ocean energy solar	must have management capability commercial potential technical strength national benefits need for funding greenhouse gas abatement	requires 50:50 contribution to grant