



**RANGELANDS**  
NRM Co-ordinating Group

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**RANGELANDS NRM  
INVESTMENT PLAN  
2005 - 2008 PHASE 1**

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Australian Government



Government of  
**Western  
Australia**

Produced by the Rangelands NRM Co-ordinating Group July 2005

## From the Chair...

In support of the Rangelands NRM Strategy, it gives me great pleasure to present this Investment Plan for natural resource management (NRM) in Western Australia's Rangelands.

The Plan sets the direction for large scale, strategic investment in NRM in the Rangelands and importantly establishes a framework for long term investment through programs including the extension of the Natural Heritage Trust (NHT) and the National Action Plan for Salinity and Water Quality (NAP). It also provides opportunities for other investors to work collaboratively with the Rangelands NRM Coordinating Group on improving the condition of the Region's high value natural resource assets.

The Investment Plan is driven by the priorities within the Strategy and as such is representative of community, industry and government priorities for NRM in the Region. The Rangelands NRM Coordinating Group is committed to continuing to work with the Region's stakeholders to deliver against the actions identified in the Investment Plan and to seek their advice on how best to achieve its outcomes.

As with the Strategy, the Investment Plan is part of an iterative process and will require regular review to reflect changing priorities over time. The Group acknowledges that there is still substantially more work to do in future years on refining NRM investment, and the Plan therefore will be the subject of annual review.

Whilst the Group is confident that the best has been done within allocated timeframes and resources, it believes a sound framework has been established that will allow future analysis and investment for improving NRM in the Region.

I trust that the Region's stakeholders will continue to support the Coordinating Group in this work, which ultimately will see long term investment from a wide range of sources for on-ground NRM actions.

Bill Mitchell  
Chairman  
Rangelands NRM Coordinating Group

## Summary

The primary reason for developing a regional NRM strategy for the Rangelands is to support strategic investment in NRM actions that make demonstrable contributions to improving the condition of the Region's priority natural resource assets. To make investment a reality, the Rangelands NRM Coordinating Group has prepared this Investment Plan.

It details actions that the Group believes will contribute to improving resource condition and makes the case for investment. It outlines key Programs the Group believes are most appropriate for the Region and major Activities within each Program to deliver on the management action and resource condition targets developed through the regional planning process. This framework then provides the basis for funding allocations to on-ground actions.

The Programs are driven by the Strategy, which adopted a "scapes" approach to describing the Region's natural resources, their uses and values, and the major threats to them. Under this approach the Strategy discussed the Region's assets in the context of the Landscapes, Waterscapes and Seascapes within which they occur. The scapes approach also defined the integrating nature of biodiversity within the scapes, identifying that it underpins all use and value of the assets within each scape.

This approach is carried through into the Investment Plan, which has as its major Programs:

- 1. Sustainable Land Management;**
- 2. Sustainable Management of Water; and**
- 3. Sustainable Management of Coasts and Marine Waters.**

As with the Strategy, Activities related to biodiversity conservation are integrated with other Activities related to the sustainable use and value of the Region's assets.

In recognition of this investment structure, the Investment Plan is pitched at a broad, strategic level and seeks investment in large scale, regional Programs. It seeks this investment primarily from two national initiatives agreed by the Australian and State Government, which are the:

1. Extension of the Natural Heritage Trust (NHT); and
2. National Action Plan for Salinity and Water Quality (NAP).

However, whilst the focus of the Plan is on these two initiatives there are significant opportunities for other investors to purchase outcomes that contribute to improving resource condition in the Rangelands.

The Investment Plan is intrinsically related to the Rangelands NRM Strategy and consequently the Strategy's priority targets drive investment in the Region. In this way community, industry and government priorities for action are carried through from the regional planning process as opportunities for investment. The Rangelands NRM Coordinating Group has used the priority targets in the Strategy to allocate resources to the Programs.

As mentioned above each Program defines a series of Activities to deliver on the Strategy's targets. To achieve this, the Rangelands NRM Coordinating Group will work with the community and industry, and its Australian and State Government partners to determine appropriate delivery agents. These agents will be responsible for the delivery of outputs that meet the objectives of NHT and the NAP.

The Rangelands NRM Coordinating Group understands that its role in being a decision maker and manager for significant public resources brings with it an increased level of responsibility. To this end the Group has developed a management structure to assist it in:

- delivering on the Programs and Activities in the Investment Plan;
- ensuring good governance and being accountable for outputs;
- ensuring transparent decisions regarding on-going investment in NRM in the Region; and
- Strategy and Investment Plan review.

This management structure is also detailed in the Investment Plan with an outline of how the Group intends to resource and maintain it into the future.

The culmination of this Investment Plan is the result of planning and consultation utilising the sub-regional structure introduced to ensure Rangelands-wide input. During this process, awareness levels of regional NRM delivery were raised, stakeholder input into the process enhanced, and partnerships established that lay the foundation for on-going NRM investment in the Rangelands.

The Rangelands NRM Coordinating Group will continue to work in partnership with a range of organisations to deliver on the priorities in the Strategy and Investment Plan. There are a number of ways the Group can achieve this and the Investment Plan commits to cooperative arrangements with community, industry and government organisations to implement actions that contribute to the targets in the Strategy.

This will be an on-going process, as will refinement of both the Strategy and Investment Plan. The Investment Plan will be reviewed annually to check progress against targets, re-assess investments and work with delivery agents on developing new actions to meet changing priorities over time.

Whilst the Rangelands NRM Coordinating Group has prepared this Plan to allocate available NHT and NAP resources, it is important to note that this investment only begins to “scratch the surface” of the breadth and complexity of NRM issues throughout the Rangelands. It is currently not possible to address the range of issues and satisfy the number of stakeholder interests in a region that encompasses one third of the entire country at this current level of investment. To this end the Group will continue to seek partnerships and additional investment from community, non-government, government and corporate investors to address NRM in the Rangelands.

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## SECTION I - INTRODUCTION

This Investment Plan has been prepared to secure funding for three years for strategic investments in natural resource management (NRM) through the extension of the Natural Heritage Trust (NHT) throughout the Rangelands and the National Action Plan for Salinity and Water Quality (NAP) in the Ord River Catchment. It builds on previous and current investment in priority actions in the Region as well as identifying new priorities, which have emerged through the regional planning process to prepare the Rangelands NRM Strategy.

It represents high level resource allocation and does not deal with specific operational matters related to on-ground projects. To translate the Plan into on-ground investment, the Rangelands NRM Coordinating Group will establish partnerships with community, industry and government stakeholders to manage and implement particular projects. It will also develop an operational plan addressing how resources will be deployed and administered to address how projects will be structured, formalised and implemented. This is discussed in more detail in Section III.

### *Regional Planning and Delivery of NRM*

In 2002 the Australian and Western Australian Governments entered Bilateral Agreements to improve the management of the State's natural resources through an extension of NHT and the NAP. These Agreements set the framework for developing regional NRM strategies that look critically at three key questions:

- what natural resources are important but are under threat or provide opportunities, and therefore should be maintained, protected or enhanced;
- what condition should these natural resources be in, in the long term; and
- what areas of activity should be invested in the immediate future so that they are in this condition in the longer term?

Or in other words:

- what are the **priority natural resource assets** of a region;
- what are the **resource condition targets** (RCTs) for a region; and
- what are the **management action targets** (MATs) for a region?

This regional approach to NRM planning and delivery has been adopted as it is an effective way to engage stakeholders, is appropriate for negotiating trade-offs, developing partnerships, resolving conflicts and determining priorities and shared investment arrangements.

### *NRM in the Rangelands*

The Rangelands NRM Region encompasses nearly 90 percent of the State's land mass and almost 75 percent of its coastline. It contains almost 70 percent of all Western Australian vegetation associations, with its dominant land forms including arid shrublands, coastal mangrove and dune systems and dry monsoonal scrubland. The coast is generally in good condition however, it is under pressure in some areas from increased access and use.

Some of the Region's major assets include:

- a large conservation estate of National Parks, Nature Reserves, Conservation Parks, Marine Parks and Reserves and World Heritage listed areas at Shark Bay and Purnululu National Park. Four of the 15 National Biodiversity Hotspots occur in Western Australia's Rangelands and the Prince Regent Nature Reserve is one of the State's two Biospheres;
- some of the State's, (and indeed the country's) natural icons, such as the Ningaloo Marine Park, Mount Augustus, Mitchell Plateau, Nullarbor Plain, and Karijini National Park;
- wetlands of International Importance (Ramsar sites) and nationally important wetlands. The Rangelands contains four Ramsar sites and 57 nationally important wetlands;
- the State's pastoral areas covering approximately 30 percent (98 million hectares) of the Region. Historically pastoralism has been the economic engine of the Rangelands and has introduced many changes to the landscape. It also provides one of the cultural identities of the region;
- the world's largest semi-arid karst system, with significant karst areas on the Nullarbor Plain, in Cape Range National Park and the West Kimberley limestone and sandstone ranges;
- large tracts of Unallocated Crown Land (UCL) and Unmanaged Reserves (UMR);
- many areas of cultural and spiritual importance for Aboriginal people;
- areas of high natural values, known to many as wilderness; and
- significant water resources including valuable groundwater aquifers that support unique ecosystems and expansive industries, estuaries and major river systems including some of the State's last "Wild Rivers".

The Rangelands is also an economic powerhouse providing:

- most of the State's (and a significant amount of the entire country's) mineral and petroleum products;
- valuable beef, wool, sheep, fishing and aquaculture industries;
- major tourist destinations with many new emerging tourism opportunities; and
- established horticultural industries as well as emerging opportunities for enterprises such as inland horticulture and arid land plantation forestry.

This Region has been identified as one of 56 throughout the country where the regional NRM planning and delivery model is being implemented. The body overseeing implementation of this model for the Rangelands is the Rangelands NRM Coordinating Group, which has representatives from community and industry groups involved in managing the Region's natural resources, as well as the State and Australian Governments.

In undertaking this task, the Coordinating Group sought input from communities, industry organisations, non-government and government bodies in the Kimberley, Pilbara, Gascoyne-Murchison and Goldfields-Nullarbor sub-regions. It invited them to establish their own arrangements and consultation mechanisms to identify priority assets, the threats to these assets and set targets for their protection for input into the Rangelands Strategy.

Engagement processes used in each sub-region evolved somewhat differently, but were consistent with the Protocol for Community Engagement of the Bilateral Agreements to deliver the extension of NHT and NAP. Every effort has been made to meet the Protocol's requirement to include:

- local government; State and Commonwealth agencies; Indigenous communities; key industry, environmental and community development groups; relevant NRM community



groups; the relevant academic/ scientific community, as well as the general public and individuals with an interest in NRM in the Region.

In bringing sub-regional information together to prepare the Rangelands NRM Strategy, the Rangelands NRM Coordinating Group developed an approach which categorised natural resource assets into “scapes”, being Landscapes, Waterscapes and Seascapes. This provided a mechanism for the Group to deal with multiple uses, differing management regimes and values in an integrated way. The assets identified in the scapes include a wide range of landforms, river systems, coastal and marine environments and their associated economic, social and environmental values.

## ***Investors in Rangelands NRM***

### **The Extension of NHT**

Whilst the Investment Plan can support investment in NRM actions through a range of sources, it primarily targets investment through the extension of NHT in accordance with the Trust’s three overarching objectives:

1. **Biodiversity conservation** - the conservation of Australia’s biodiversity through the protection and restoration of terrestrial, freshwater, estuarine and marine ecosystems and habitat for native plants and animals;
2. **Sustainable use of natural resources** - the sustainable use and management of Australia’s land, water and marine resources to maintain and improve the productivity and profitability of resource based industries; and
3. **Community capacity building and institutional change** - support for individuals, landholders, industry and communities with skills, knowledge, information and institutional frameworks to promote biodiversity conservation and sustainable resource use and management.

### **The National Action Plan**

The other major, national program to be delivered in the Rangelands is the NAP, which is also focused on regional planning and delivery, but addresses issues of salinity and water quality. There are 21 priority NAP Regions throughout Australia, one of which is the Ord River Catchment in the Kimberley. The Ord NAP Region also includes areas in the Northern Territory and the Rangelands NRM Coordinating Group will continue to work cooperatively with the Northern Territory Government on salinity and water quality issues of mutual interest.

The goal of the NAP is to motivate and enable regional communities to use coordinated and targeted action to:

1. prevent, stabilise and reverse trends in salinity, particularly dryland salinity, affecting the sustainability of production, the conservation of biological diversity and the viability of our infrastructure; and
2. improve water quality and secure reliable allocations for human uses, industry and the environment.

### **Other Investment**

The Rangelands NRM Coordinating Group recognises that whilst the Investment Plan primarily targets funding through NHT and NAP, the Programs and Activities in the Plan can also be supported by a number of other funding sources. In response to this the Group has:

- identified Activities specifically designed to improve the relationship between government agencies, industry and community sectors;
- collated considerable information from the sub-regional NRM groups identifying on-ground actions, which could be funded through a combination of NHT, NAP and other funding sources;
- proposed an appropriate management structure to ensure a holistic funding approach to NRM investment in the Region. This will also provide an opportunity to refine investment possibilities over time; and
- determined that it will review targets in the Strategy by September 2006 to meet commitments under Bilateral Agreements. In addition, it will undertake broader review of the Strategy in relation to targets and prioritisation within the next two years and will review the Investment Plan annually. It is anticipated that this process will enhance further investment opportunities in the Region.

### ***Challenges and Opportunities for Regional NRM Planning and Delivery***

The Rangelands is a major economic powerhouse, with tourism, mining and petroleum, fishing and pastoral industries all making significant contributions to the State and national economies. The Investment Plan and the wider NRM process provides opportunities for all the major industries, in partnership with all levels of government, to contribute to strategic NRM outcomes.

Nevertheless, there are a number of challenges, some of which are unique to the Rangelands that have influenced the methodology for developing the Strategy and Investment Plan, and some of these challenges influence the way in which NRM is conducted in the Region. The Strategy describes some of these including:

- the tyranny of distance and isolation in a Region covering almost 90 percent of the State;
- a small and sparsely distributed population;
- a low level of awareness of NRM and some stake-holders lacking the capacity to get involved in NRM;
- managing and accommodating multiple uses, differing management regimes and values;
- a lack of baseline information; and
- uncertainty about tools, techniques and methodologies that can be used to produce change.

However, inherent in the dynamics of the Rangelands are significant opportunities in the development of sound, on-ground delivery of NRM. The regional planning process has resulted in the establishment of regional and sub-regional partnerships that have enabled the development of a Rangelands-wide strategy and Investment Plan. It has also provided a basis for community, industry and government decision making about priorities and resource allocation throughout the Region.

Whilst development of the Strategy was a new initiative, NRM is not new to the Rangelands, and there have been many NRM activities within and outside government that have been underway for some time. However, these activities have often been in isolation of each other, resulting in a reduction in overall effectiveness and synergies.

The Strategy presents an opportunity for a coordinated approach and provides additional impetus for groups to work collaboratively. The Investment Plan has taken the approach of developing Programs that coordinate existing efforts where they align with the priorities of the

Strategy, and identifies where strategic investment can be added to multiply the effectiveness and efficiency of current activities.

## ***Issues for Implementation***

### **Change for the Community**

Previous community participation in NRM has often been at the local, project level, with little emphasis on benefits at a regional scale. Effective delivery of the regional model to drive high priority, strategic NRM activities and outcomes requires an increase of several orders of magnitude of the number of people who understand, are actively engaged in and promote NRM. It also requires a significant increase in the level of investment in NRM above that which has currently been allocated through the extension of NHT and the NAP.

Increasingly the direction of NRM has been to facilitate local people taking responsibility for current and future management of natural resources within a regional framework, employing accurate economic data and institutional arrangements. Although there are some good examples throughout the Rangelands where groups have taken up this challenge, this work is yet to be extended through regional groups, agencies and industries.

The frameworks and processes introduced by the Rangelands NRM Coordinating Group are the first recognised attempt at establishing an arrangement to deliver these wider Regional outcomes.

### **A New Profession**

The Strategy creates a framework to work at the strategic level. To meet higher level, strategic expectations, the focus of NRM practitioners (whether within government, industry or the community) will demand a more sophisticated and strategic view of NRM activities. In an endeavour to move toward this, the Rangelands NRM Coordinating Group is undertaking workforce planning to ensure on-going strategic NRM and investment planning, Program analysis and professional project delivery.

### **Caring for Country**

Inherent in the regional NRM planning process is consideration of different sets of values. For example, does the land have value because it has its own identity and an inherent spirituality, or is it valued because of the merit assigned to it for economic activity or biodiversity conservation?

The indigenous community has called for recognition that the land and sea have their own spirituality and should be cared for, no matter who the current custodians are. This is known as “caring for country” and “caring for sea”.

There is a need to consider how to translate these values of “country” into regional NRM planning processes. The Rangelands NRM Coordinating Group acknowledges the need to consider this issue in investment planning.

### **Capacity Building, and Culture and Heritage**

The Bilateral Agreement recognises the importance of building community capacity to implement NRM and that there are many different and innovative approaches to improving resource condition. This is also recognised in the Strategy, along with the important role that culture and heritage play in NRM and are reflected in its first two RCTs:

**RCT 1** *Community capacity for natural resource management is significantly enhanced by 2025, as measured by participation in NRM projects.*

**RCT 2** *Culture and heritage for the rangelands are conserved and increasingly valued by the community by 2025.*

The Rangelands NRM Coordinating Group is also aware that there is a strong preference for “on-ground” actions that lead to positive change in resource condition. Consequently the Investment Plan does not contain specific Activities for capacity building, rather this will be integrated where appropriate to achieve resource condition change.

## Available Resources

Initial NHT and NAP allocations to the Rangelands do not reflect the known extent and value of natural resource assets in the Region, the low level of human capital resident in the Region and the extent of the threats to the natural resource assets in the Region. Whilst funding from NHT and the NAP, and other particular NRM programs will flow to the Region, a considerably higher level of investment than is currently available will be required to address the range of issues and maintain adequate community engagement.

The Rangelands NRM Coordinating Group recognises this and a number of Activities in the Investment Plan readily lend themselves to up-scaling as additional resources become available. In addition, the Coordinating Group has identified the need to invest in partnerships with industry and government, and in attracting sponsorships and other funding arrangements.

Whilst investment in this Plan is driven by the Strategy’s high priority targets, there is still a number of high priority targets (and associated actions) that the Group is not able to address with the resource currently available under NHT and NAP. Additionally, the Coordinating Group has identified a number of Regional scale issues, assets and threats which it has not been able to adequately address through investments in this Plan. However, the Investment Plan does seek to make some initial investments to effect change in some areas where there is an immediate need.

Whilst not an exhaustive list, Regional scale issues include:

### Cane Toads

Cane toads represent an imminent threat to biodiversity and other values in northern Western Australia. Governments have recognised this priority through significant investment however, there is still much to be done.

### Invasive Species

The Rangelands covers an enormous land area and there are a large number of invasive species throughout. These include Weeds of National Significance, very real threats to biodiversity through extinctions, and threats to the economic viability of the Region through the presence of particular weeds and feral animals.

### Resource Information Gaps

Limited baseline information about some of the Region’s natural resources has significant implications for effective management. Some major biodiversity inventory work has been started, for example the Pilbara Biological Survey however, the cost of this type of undertaking is very large and much remains to be done.

## Coasts and Islands

The Rangelands coastline covers more than 12,000 kilometres. Managing coastal issues at this scale is an immense challenge.

## Biodiversity

Biodiversity issues occurring at Regional scale such as the management of threatened species and communities, managing threatening processes, establishing the CAR reserve system and off-reserve conservation present major challenges for NRM in the Rangelands. It is recognised that a substantially greater level of investment to that currently available is required to address these issues, particularly in the longer term.

## Fire Management

Fire is an issue with significant implications for pastoral productivity and biodiversity conservation throughout the Region. There is existing work being undertaken by government however, the impacts of inappropriate fire regimes is occurring at a whole-of-Rangelands scale and requires a high level of strategic planning and investment throughout the Region.

## Wild Rivers

The northern Rangelands in particular contain some of the country's most well known Wild Rivers. It is understood that for the most part these systems are intact. However, there are also known pressures on these systems and limited investment at this stage.

## Indigenous Involvement in NRM

Aboriginal peoples are a major stakeholder group throughout the Region, with control over almost 20 percent of lands through the Aboriginal Lands Trust (ALT), Indigenous pastoral properties, Aboriginal reserves and homelands, and through Native Title determinations. Effective engagement with Indigenous people in the Region will require concentrated and specialised effort for the long term and this is recognised as a priority for on-going community engagement in the Rangelands.

## NRM Capacity

The nature of the Rangelands in relation to its size and highly dispersed population presents particular challenges unique to this NRM Region. Achieving resource condition change throughout this area requires substantial human capacity, which historically has received low levels of investment.

These issues present a real opportunity for significant future investment. The Rangelands NRM Coordinating Group will seek to forge strategic partnerships with industry, governments and other key stakeholders to leverage further investment into these areas.

Additionally, opportunities exist at the local scale for involvement and investment by industry and others to achieve local NRM outcomes.

## SECTION II – STRUCTURING THE INVESTMENT

### *Relationship to Bilateral Agreements*

Under the NHT and NAP Bilateral Agreements between the Australian and State Governments, the Rangelands NRM Coordinating Group is responsible for developing a regional NRM strategy in accordance with specific accreditation criteria. In support of the regional strategy it is also required to prepare an investment plan that determines the allocation of NHT and NAP funds for strategic actions.

To guide development of its Investment Plan and meet its obligations under the Bilateral Agreements, the Coordinating Group has given consideration to the *Regional Investment Plans Guidelines and Processes*, developed by the State NRM Office (September 2004). By following the principles outlined in this document, the Coordinating Group has ensured that:

- Local government authorities and State and Australian Government agency representatives were important partners in the planning process. Representatives have assisted in the development of key aspects of the Plan, including identification of its core Programs and Activities, and the strategic allocation of NHT and NAP funds to these.
- Stakeholders from the community, industry and non-government organisations at the sub-regional level have been involved in the investment planning process. The sub-regional NRM groups have been consulted in developing the Plan and had input into determining Activities and associated actions. Additionally the sub-regional groups were involved in the prioritisation process during development of the Strategy, which has had a direct influence on the allocation of NHT and NAP resources to Programs.
- The Plan has been developed to seek strategic investment in the Region for three years fully committing the Region's allocation for its first year, with 70 percent committed for the second year and 50 percent committed for the third year in accordance with guidance provided by the Joint Steering Committee and to provide flexibility to address future threats and opportunities.
- The Investment Plan will be reviewed annually in accordance with the adaptive management principles on which the regional NRM planning and delivery model is based.
- In setting targets the Coordinating Group has drawn on the best available scientific and technical knowledge and has given consideration to the *National Framework for NRM Targets and Standards*. Consequently investment is directed at the 10 Matters for Targets specified in the Framework. In addition, the Group is committed to on-going review of the targets to improve strategic investment in the Region.
- An appropriate framework for monitoring and evaluation will be developed to ensure that investment is directed toward meeting the targets in the Strategy and that the Group is able to improve its decision making in relation to prioritisation and investment.
- The Plan recognises capacity building as an important part of NRM however, it is not identified explicitly in the Activities as a stand-alone action. Rather it will be integrated into actions where appropriate.

- A management structure will be in put in place to assist the Rangelands NRM Coordinating Group implement the Strategy and Investment Plan in accordance with best practice principles of good governance, transparent decision making and accountability.

### ***Relationship to the Rangelands NRM Strategy***

The Investment Plan completes the logic of the strategic planning process that begins in the Rangelands NRM Strategy of:

- strategic investments;
- to meet management action targets (MATs);
- to in turn achieve longer term resource condition targets (RCTs).

The Investment Plan therefore is driven by the structure and intent of the Strategy and the allocation of resources in the Plan is driven by the priority targets in the Strategy.

To this end the Rangelands NRM Coordinating Group has adopted a high level Program approach to NRM delivery, and identified a number of key Activities within Programs to meet the priority targets within the Rangelands NRM Strategy.

### **Programs**

The Rangelands NRM Coordinating Group considered a number of possible Program structures during preparation of the Investment Plan. Ultimately the Group adopted a model that it believes is consistent with the intent of the Regional Strategy, settling on the following Programs:

- 1. Sustainable Land Management;**
- 2. Sustainable Management of Water; and**
- 3. Sustainable Management of Coasts and Marine Waters.**

These Programs reflect the Strategy's approach of identifying natural resource assets within the Landscapes, Waterscapes and Seascapes within which they occur. As with the Strategy, the Investment Plan recognises the integrating nature that biodiversity plays in NRM, with Activities related to biodiversity conservation integrated within Programs along with other Activities related to sustainable use and management of natural resources.

The Ord River Catchment will attract specific investment under the NAP. For the purpose of the Investment Plan, Activities for the Ord NAP Region are included under the Sustainable Land Management and Sustainable Management of Water Programs.

### **Activities**

Two approaches were used to develop Activities and associated actions.

1. Firstly where there was sufficient detail in a MAT indicating explicit action, this was used directly to determine an Activity.
2. Secondly the sub-regional groups identified important areas of activity currently underway and/ or that had emerged as priorities during development of the Strategy. For example, management of invasive species and managing tourism access sustainably. This process was utilised particularly when there was a high level of commonality between the sub-regions about areas of activity.

This two-pronged approach was considered to be the most appropriate to ensure that on-ground investment reflected the targets and addressed the threats identified in the Strategy. With further refinement of the Strategy in the coming years it is envisaged that more specific MATs will be able to better guide and be aligned with investment activities.

## ***How Priority Drives Investment***

### **Prioritisation**

The NRM prioritisation process in the Rangelands was divided into two phases. **Phase I** saw fourteen “key NRM issues” (Table 1) The fourteen key NRM issues that were ranked in each sub-region are an aggregation of issues generated through the range of engagement processes with community, industry and government organisations to identify natural resource assets and the major threats to them. The Rangelands NRM Coordinating Group used the knowledge it gained from these engagement processes to determine “what” broad issues needed to be addressed throughout the Region, and then in linking the key issues to MATs “how” these issues might be addressed. In this way the prioritisation process provided a mechanism to bring together the information generated during consultation with community, industry and government organisations in a meaningful way.



Table 1 ranked, by the sub-regional NRM groups, against a number of social, economic and environmental factors. To do this they scored the issues according to:

1. impact over time;
2. extent;
3. severity; and
4. likelihood of the impact occurring.

Implementation of Phase I was coordinated by the sub-regional NRM groups, as they had responsibility for designing and overseeing community engagement processes in each of the sub-regions, and have broad representation of community interests. There are also agency representatives on these groups enabling a level of technical input into the process. The Rangelands NRM Coordinating Group considered the sub-regional groups to be in the best position to advise it on what people in each of the Kimberley, Pilbara, Gascoyne-Murchison and Goldfields-Nullarbor thought about NRM.

After the issues were ranked the Rangelands NRM Coordinating Group undertook three steps:

1. combined the scores to provide a ranked, whole-of-Rangelands list of issues;
2. grouped the ranked issues into three tiers based on a common range threat values attributed to the issues in the ranking process; and
3. carried an assessment of all MATs to identify the key NRM issue that a MAT addressed. MATs were then allocated a “1”, “2” or “3” tier depending on which tier the issue to which the MAT related occurred in.

The fourteen key NRM issues that were ranked in each sub-region are an aggregation of issues generated through the range of engagement processes with community, industry and government organisations to identify natural resource assets and the major threats to them. The Rangelands NRM Coordinating Group used the knowledge it gained from these engagement processes to determine “what” broad issues needed to be addressed throughout the Region, and then in linking the key issues to MATs “how” these issues might be addressed. In this way the prioritisation process provided a mechanism to bring together the information generated during consultation with community, industry and government organisations in a meaningful way.

**Table 1: Ranked Key NRM Issues for the Rangelands**

KEY NRM ISSUE	Tier
Declining Native Vegetation Integrity	1
Deficient Planning for NRM	1
Low Community Capacity for NRM	1
Decreasing Primary Productivity	1
Declining Soil Condition	1
Altered Water Regimes	2
Declining Water Quality Supply	2
Declining Terrestrial Native Species and Communities Integrity	2
Poor Maintenance of Cultural and Heritage Values	2
Declining Inland Aquatic Water Quality	2
Declining Aquatic Native Species and Communities Integrity	3
Declining Marine Native Species and Communities Integrity	3
Declining Air Quality	3
Declining Marine Water Quality	3

This ranking of “1”, “2” or “3” does not necessarily indicate a higher or lower priority for assets; rather it is an indication of the relative importance of threatening processes in the Region. This explains why issues such as *Declining Marine Native Species and Communities Integrity* and *Declining Marine Water Quality* are lower on the list. Whilst marine species and marine water quality have high asset values in the Rangelands they are considered to be in relatively good condition and are comparatively less affected by threatening process.

Following Phase I, the Rangelands NRM Coordinating Group undertook **Phase II** of the prioritisation process. This involved further assessment of MATs, with consideration given to a number of additional issues such as cost and time of implementation, capacity of people to undertake actions, technical and logistical feasibility, and contributions to improving resource condition. This enable the Coordinating Group to put a Regional overlay over the process developed through aggregation of sub-regional processes to ensure that trade-offs reflect Regional, State and national considerations.

This enabled MATs which were ranked low because of an overall low threat level to be elevated where there was a high threat in a geographically small location to a specific Regional, State or nationally important asset.

Phase II was undertaken by Rangelands NRM Coordinating Group staff with expertise in a number of NRM areas and members of the Rangelands NRM Technical Working Group.

## Program Resource Allocation

The indicative allocations of NHT and NAP funding for the next three years are shown below in Table 2.

**Table 2: Indicative NHT and NAP Allocations**

	2005/ 06	2006/ 07	2007/ 08
<b>NHT</b>	\$3.6 million	\$3.2 million	\$2.8 million
<b>ORD NAP</b>	\$2 million	\$2.2 million	\$2.2 million

Note: the 2005/ 06 year includes unallocated NHT carryover from 2004/ 05.

As mentioned at the beginning of this Section, the priority of the MATs drives the broad allocation of these NHT and NAP funds to Programs. Specifically, the Rangelands NRM Coordinating Group decided that the priority of the MATs derived through Phase I of the prioritisation process would determine the allocation of funds to Programs, and consequently the Activities and associated actions within the Programs. This is consistent with the Group’s approach that funding should be directed toward on-ground action that is focused on addressing major threatening processes.

Using this approach the Group identified all the Tier “1” MATs identified through Phase I of the prioritisation process and allocated them against the appropriate Programs. The number of Tier “1” MATs then that related to a Program, as a proportion of the total number of Tier “1” MATs, determined the allocation of funds to that Program. Based on this approach Table 3 identifies the proportional allocation of NHT and NAP funding to each Program.

**Table 3: Allocation of NHT and NAP Funds to Rangelands NRM Programs 2005/ 06**

PROGRAM	% NHT Allocation	\$M NHT Allocation	% NAP Allocation	\$M NAP Allocation
Sustainable Land Management	49%	\$1.77	45%	\$0.90
Sustainable Management of Water	28%	\$1.00	55%	\$1.10
Sustainable Management of the Coast and Marine Waters	23%	\$0.83	NA	NA
<b>TOTAL ALLOCATION</b>	<b>100%</b>	<b>\$3.60</b>	<b>100%</b>	<b>\$2.00</b>

## *How Investment Becomes On-ground Action*

In addition to a Regional scale Investment Plan, the Rangelands NRM Coordinating Group has developed operational criteria and investment principles to ensure the transfer of Program and Activity funding to strategic on-ground actions.

## Tenders and Assessment

The Activities in the Investment Plan provide indications of the operational component of the Programs. The Rangelands NRM Coordinating Group has a number of strategies that it will use to implement these, including:

- calling for tenders and/ or for expressions of interest to conduct specific projects;
- approaching community and/ or industry groups, agencies or individuals with specific capabilities to undertake projects. For example to implement a project in a particular geographic area or to address a particular threat; or
- commissioning specific projects based on an investment priority.

To ensure transparency of process, good governance, and best value and results from limited investment funds, the Coordinating Group will assess all potential projects according to the quality of a proposed investment. Preferred investments are those that fulfil a mix of criteria that measure the likelihood of a project being able to bring about a significant change in resource condition for the lowest cost taking into account any negative impacts. These criteria are listed below.

## Investment Criteria

The NHT and NAP Bilateral Agreements between the State and Australian Government, the *Regional Investment Plans Guidelines and Processes*, and the Rangelands NRM Strategy all outline principles for investment. Using these as a basis, a list of investment criteria have been prepared to assist in making appropriate trade-offs and selecting actions for on-ground investment. The criteria are:

Does the project:

- Reflect the priorities of the Rangelands NRM Strategy?
- Contribute to significant improvement in resource condition consistent with the RCTs in the Strategy?
- Emphasise long term, strategic change and meet multiple objectives?
- Make a significant return on investment?
- Demonstrate support of industry, agency, and community partnerships?
- Promote public (community and industry) benefit over individual benefit?
- Make a contribution to achieving the MATs in the Rangelands Strategy?

How time critical is the project?

If the project was delayed, would this allow resource condition to change dramatically?

Alternatively would a significant benefit be lost if the intervention did not occur at this time?

What are the risks?

Is there the human capacity to deliver the project on time and on budget?

Is the proposed technology or approach workable or is it untried?

## SECTION III - MANAGING THE BUSINESS

The Investment Plan presents a framework in which the NHT, NAP and additional investments will be managed and allocated in the Rangelands. It also heralds new and additional responsibilities for the Rangelands NRM Coordinating Group that in turn require the introduction of a professional and robust management structure. Business and investment planning, Program and project management, reporting, resource allocation, monitoring and evaluation, and governance issues will all be responsibilities of the Group.

### ***Regional Management and Administration of Investment***

To develop the Rangelands NRM Strategy and Investment Plan, the Rangelands NRM Coordinating Group chose to adopt a fairly minimal management structure to ensure resources were available for strategy development rather than administration. It also adopted interim governance arrangements to oversee development of the Strategy with the intention being that more formal arrangements would be established following accreditation. However, with accreditation of the Strategy and approval of the Investment Plan the Group needs to ensure governance and administration structures are in place to effectively and efficiently manage its business.

The Rangelands NRM Coordinating Group is committed to establishing an appropriate corporate structure to deal with implementation of the Rangelands NRM Strategy and accountability issues associated with the Investment Plan. In effect the Group understands its future lies in being able to demonstrate its capacity to administer and account for significant levels of investment, and make transparent decisions about the best use of the human and financial resources at its disposal.

It is also aware that the State Government will be conducting a review of all regional groups in Western Australia to assist them in dealing with these issues. To this end the Group is developing a corporate structure that it believes will allow it to meet requirements for governance, accountability and transparency of decision making.

The Rangelands NRM Coordinating Group is currently established as an incorporated association and intends to maintain this structure until otherwise advised. As such it will continue to comply with its obligations under the *Association Incorporation Act 1987*. The Group will also maintain its current level of representativeness, covering broad community and industry interests, and those of the State and Australian Governments. It continues to consider its structure and membership to ensure consistency with the Bilateral Agreement and community expectations.

The Group is committed to meeting its obligations to operate in an accountable and transparent manner in the future. Consequently the Group has agreed and commenced establishment of an interim core management structure to plan for good business and stability of leadership in the delivery of NRM in the rangelands.

### **Corporate Structure**

The Group's core management structure will be resourced through a combination of State and Australian Government funds including an allocation from the \$400,000 for executive level management approved by the Joint Steering Committee, and overheads to projects. Estimated costs for these positions are based on equivalent positions with the Department of Agriculture, including salaries, corporate overheads and operating costs.

Key positions are:

1. General Manager (Level 8 @ \$156,000 funded from \$400,000 allocation);
2. Administrative Assistant (Level 2 @ \$48,000 from \$400,000 allocation);
3. Business Manager (Level 7 @ \$131,000 funded from projects); and
4. Two Program Managers (Level 6 @ \$240,000 funded from projects).

The balance of the \$400,000 approved by the Joint Steering Committee will be utilised to support administration and management of the Rangelands NRM Coordinating Group and sub-regional NRM groups as per Table 4 below.

**Table 4: Proposed Budget for \$400,000 Approved by Joint Steering Committee**

<b>Activity</b>	<b>Allocation</b>
General Manager	\$156,000
Administrative Assistant	\$48,000
Coordinating Group Members Sitting Fees	\$40,000
Coordinating Group Members Travel Costs	\$50,000
Consumables, Reimbursements, Advertisements, Insurance	\$26,000
Sub-regional Group Support	\$80,000
<b>TOTAL</b>	<b>\$400,000</b>

Note: Rangelands NRM Coordinating Group Coasts are based on 2004/ 05 figures.  
 Sub-regional Group Support based on \$20,000 per sub-region as per 2004/ 05.

The Business and Program Managers will be funded by applying a seven percent levy against the Programs. In total \$5.6 million is available through the NAP and NHT. A seven percent levy on these funds will yield the necessary \$371,000 to resource the Business and Program Manager positions.

The key roles for the core management team will be to:

- provide professional strategic support to Rangelands NRM Coordinating Group:
  - manage the strategic business of the Coordinating Group at the Regional, State and Australian Government levels;
  - provide executive support and leadership;
  - meet all governance and financial requirements; and
  - determine resource requirements for effective NRM delivery.
- review the Strategy's:
  - priority assets, threats and potential investments;
  - MATs and prioritisation process; and
  - RCTs.
- review the Investment Plan including:
  - identifying priority investment areas;
  - developing an appropriate structure and resourcing requirements for Program and project management;
  - developing an investment framework to include all funding sources; and
  - establishing and implementing an appropriate Monitoring and Evaluation framework.

It will also be a key role of the core management team to develop a governance and operational framework, and associated procedures for the Rangelands NRM Coordinating Group in accordance with the outcomes of the State review of regional NRM groups.

Specific roles of the Business Manager will be to:

- support the Rangelands NRM Coordinating Group and General Manager;
- ensure all governance and financial requirements and standards are met;
- managing project finances in accordance with project outputs;
- coordinate the financial management of the Coordinating Group and its day-to-day business;
- provide reports on financial management and Program delivery to the Group, NRM Office and Australian Government; and
- develop and implement a monitoring and evaluation framework with Program Managers.

Specific roles of the Program Managers will be to:

- oversee delivery of outputs against Programs;
- instigate and participate in on-going Strategy and Investment Plan review;
- develop a monitoring and evaluation framework and report accordingly;
- oversee project reporting against Program deliverables;
- oversee the day-to-day activities of projects;
- provide line management to project staff; and
- support the operation of sub-regional NRM groups.

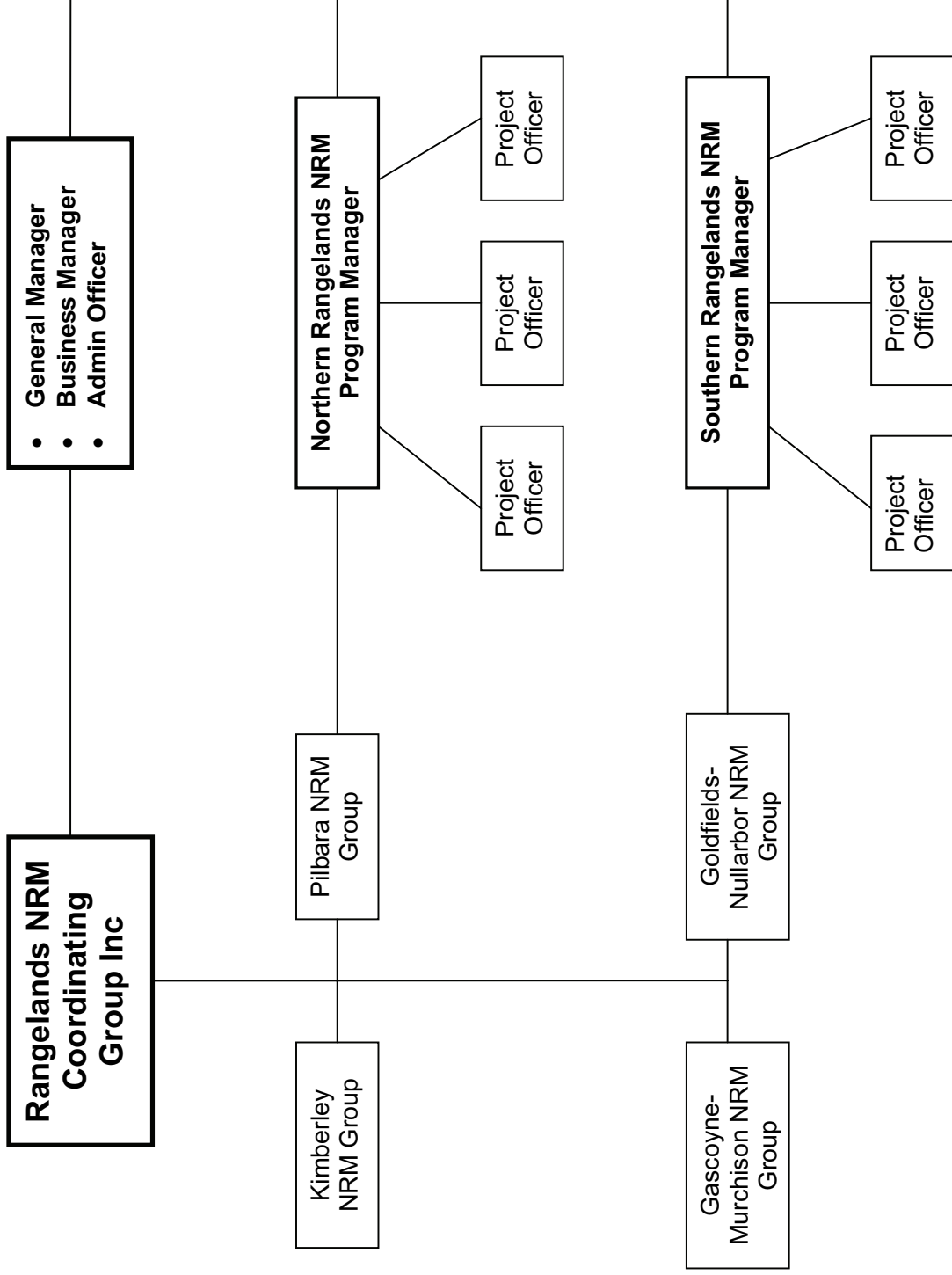
The management team, in consultation with the Coordinating Group, and having specific regard to the investment and project allocations and requirements, will then determine the number of project officers and associated staff to ensure project and on-ground delivery. Project officers will be funded as part of Program implementation. Their role will be to:

- oversee and report on implementation of specific on-ground actions;
- monitor and report on on-ground outputs;
- encouraging community and industry participation in NRM and undertake communication strategies to raise awareness about NRM opportunities and directions;
- work with the community and industry groups on developing new projects for investment;
- investigate alternative funding sources to support strategic on-ground projects; and
- assist the Program Managers in providing support to the sub-regional NRM groups.

All staff of the Rangelands NRM Coordinating Group will operate in accordance with State and Australian Government policies and legislation. In particular, they will ensure consistency of their actions with the Bilateral Agreements to delivery the NAP and NHT, and the National Frameworks for Targets and Standards and Monitoring and Evaluation. They will also seek opportunities to work with community and industry groups to deliver on State and Australian Government programs and strategies such as the Biodiversity Hotspots program, State and national weeds strategies, coastal planning strategies, Australian Government Envirofund and Community Water Grants.

The Group's proposed corporate and governance arrangements are highlighted below.

# Rangelands NRM Coordinating Group – Proposed Governance and Corporate Structure





## ***Investment and Program Administration***

To ensure investment integrity, the Rangelands NRM Coordinating Group will enter into formal partnership agreements with approved delivery agents. This process will be managed jointly by the Business and Program Managers. Partnership agreements will details the parties' commitments in relation to:

- project specifications;
- financial commitments;
- milestones, outcomes and specific outputs;
- timelines;
- reporting requirements; and
- monitoring and evaluation requirements.

To assist with assessing delivery of investment, the Rangelands Coordinating Group has developed a Rangelands NRM database that has the capacity to:

- store information about NRM related actions in the Rangelands, including but not limited to NHT and NAP funding;
- link these with the assessment criteria described above;
- monitor the level and source of investment for each action; and
- record the outputs.

This will allow the Coordinating Group to:

- monitor and account for delivery of funds;
- record and track progress of actions; and
- report to investors in accordance with agreements.

Ultimately these capacities will assist the Group in making more informed decisions and ensure good governance. On-going collection and analysis of Regional NRM information supported by aggregated project results will provide the Coordinating Group with the corporate knowledge to ensure:

- future investment trends are aligned to Regional needs;
- project outputs are ultimately result in long term improvements in resource condition.

## ***Regional M&E and Reporting and Reviewing***

Monitoring and evaluation activities will allow better understanding of resource condition outcomes, verification (and/ or validation) of rate of change estimates, and support adaptive management. The Bilateral Agreements require all the regional NRM groups to put a monitoring and evaluation program in place as part of the implementation of the Investment Plan. Initial involvement with State level monitoring and evaluation programs has commenced and reporting schedules and processes will be developed as part of the project planning process.

The Rangelands monitoring and evaluation framework will:

- facilitate coordination of monitoring and evaluation initiatives in the Region to reduce duplication of effort;
- build on existing investment in data collection;



- be consistent with the *National NRM Monitoring and Evaluation Framework* and the *Monitoring and Evaluation Implementation Plan for the NAP and NHT in Western Australia*; and
- seek partnerships with Government agencies responsible for collecting resource condition data.

All existing and new monitoring initiatives in the Region will use standard national indicators chosen from the core set of resource condition indicators set out in the *National NRM Standards and Targets Framework*.

Monitoring and evaluation activities will be an integral part of project budgets where specific monitoring needs to be carried out. Requirements for monitoring and evaluation will be detailed in partnership agreements between the Group and delivery agents.

Oversight of monitoring and evaluation will primarily be a key responsibility of the Group's Business Manager with support from the Program Managers.

## SECTION IV - INVESTMENT PRIORITIES

### *Program Descriptions*

The three Programs identified for the Rangelands are discussed in this Section. The Program title with a short description, is followed by the RCTs that the Program delivers on and an overview of the issues it will address.

### **Sustainable Land Management**

This Program acknowledges that the maintenance of biodiversity and soil condition underpins the resource base of the Rangelands. It aims to enhance biodiversity whilst maintaining and improving the productive capacity of the land. This will be achieved through the provision of assistance to land managers to manage their lands in a manner that is ecologically sustainable and by addressing threatening processes, particularly management of invasive species and the impact of fire.

In addition, the Program provides for land managers and local communities to protect areas of high biodiversity value and to implement specific activities relating to threatened species management. This Program also supports the involvement of the whole community in the regional NRM delivery process, particularly Aboriginal people, the mining, pastoral and tourism industries and Local Government.

**RCT1** *Community capacity for natural resource management is significantly enhanced by 2025, as measured by participation in NRM projects.*

**RCT2** *Culture and heritage for the rangelands are conserved and increasingly valued by the community by 2025.*

**RCT3** *Maintain or improve soil surface condition throughout the rangelands by 2025 with less than 10 percent of sites in poor condition, as measured by an integrated index of existing soil attribute measures to be developed by 2008*

*Pastoral lands show a stable or improving soil condition by 2020, with less than 10 percent of sites in poor condition as measured WARMS, and other activities such as rangeland survey and pastoral lease inspection*

**RCT4** *Eradicate, or reduce the abundance and distribution of significant invasive and pest species by 2025 and limit new occurrences or introductions*

**RCT5** *Maintain or improve frequency, density and cover of perennial vegetation for the purpose of protecting soil resources with less than 10% of sites in declining condition by 2025 as measured by an integrated index of existing measures to be developed by 2008*

*Pastoral lands show a stable or improving protection of soil as assessed by perennial vegetation by 2020, with less than 10 percent of sites in declining condition as measured WARMS, and other activities such as rangeland survey and pastoral lease inspection*

**RCT6** *By 2025, maintain or improve vegetation community composition, structure and function in priority areas/ landscapes against standards to be developed by 2008*

**RCT7** *Maintain or improve the current (2005) conservation status of terrestrial native species and assemblages by 2025*

**RCT8** *The comprehensiveness, adequacy and representativeness (CAR) of all ecosystems in formal protected areas is improved on a priority basis by 2015, compared to the CAR reserve Analysis 2003*

**RCT9** *Eradicate, or reduce the abundance and distribution of, ecologically significant invasive or pest species by 2025 and limit new occurrences or introductions*



**In the Ord the RCTs relate to salinity and soil condition in the Ord Catchment.*****ORCT1** No new occurrences of salinity in the ORIA by 2014****ORCT2** A reduction in the area of salinity affected land in the ORIA by 2014****ORCT3** Maintain and improve the condition of soil in the Ord Catchment, as measured by an integrated index of existing soil attributes measures developed by 2008****ORCT4** Groundwater levels in the ORIA are to be maintained at/or below two metres by 2015*

This Program attracts approximately 50 percent of NHT and NAP funding in this Investment Plan. However, the limited NHT funding means the resource needs to manage even the highest priority targets far outstrip the available funds. The Rangelands NRM Coordinating Group considers the best use of the available resources is to focus on actions that are most likely to produce change on the ground in priority areas in the short to medium term, and that will provide benefits to both biodiversity and sustainable production.

This Investment Plan emphasises:

- building landscape management methodologies that combine biodiversity protection and economic development into a unified approach;
- on-ground works, particularly those that address threatening process such as unsustainable land management, invasive species and fire; and
- building the capacity and engagement of the whole community in NRM.

A coordinated approach to NRM, as advocated in the Strategy, is in its infancy in the Rangelands and the Coordinating Group has placed a strong emphasis on Programs and Activities that build partnerships between agencies, the community and industry and encourage engagement in NRM. The Coordinating Group seeks to build on and update activities from previous NHT funding that received community support; for example the EMU and the Kimberley Fire Management projects. It also wishes to support and expand projects outside the current NHT funding that are being undertaken through agency and community partnerships, such as controlling invasive species and widening the current vegetation monitoring (WARMS and others) into a more broadly applicable integrated soil and vegetation index. Recovery projects for threatened species and communities in the Rangelands will also be supported.

Other Activities respond to the need to recognise the relevance of traditional knowledge and to integrate this into NRM in the Rangelands. Indigenous input and participation is imperative in a broad range of NRM activities, especially those on lands under Indigenous control. As well as its commitment to increase Indigenous engagement in the NRM process, the Coordinating Group also hopes to foster greater involvement from the Local Government, tourism and mining sectors. The Group anticipates the contribution of a wide range of industry and community sectors to NRM in the Rangelands.

The activities defined for the Ord Catchment provide a strategic approach to the improvement of water quality and a reduction in the threat of salinity through the holistic management of the landscape. This involves the implementation of best management practices by pastoralists, to maintain vegetation cover, by utilising appropriate fire management, erosion control and grazing management, to reduce sedimentation in the upper catchment. In the irrigation area the development of water use efficiency tools and cover crops will maintain groundwater levels and the management of saline areas.

Whilst the overall objective is to reduce salinity and improving water quality in the Ord Catchment; many of the actions such as best management practices and demonstration

sites for the horticultural and agricultural industries, and catchment restoration are similar and transferable to other parts of the Rangelands. Consequently there will be benefit to the wider rangelands from the NAP investment in the Ord Catchment.

Several of the Sustainable Land Management Program's Activities therefore relate to adding resources to existing programs, supporting coordination of the efforts so that the available resources can be used efficiently, and building capacity of the community for NRM.

It is also recognised that other priority activities, such as a review of kangaroo management and additions to the CAR system are integral parts of sustainable land management. It is intended that the Rangelands NRM Coordinating Group will seek funds from sources other than the current NHT and NAP round, (e.g. Strategic Reserve, Biodiversity Hotspots Program, State Agency resources), to fund these actions, and the potential for investment through NHT allocations will be reviewed in subsequent investment planning.

## Sustainable Management of Water

This Program aims to maintain and improve the quality and conservation status of the Region's waterscapes, which incorporates its rivers, wetlands, groundwater and karst systems. The Program prioritises targets that document the condition, and ecological and cultural significance of the waterscapes, and identify threatening processes so as to inform management decisions.

It also advocates an integrated approach to management of catchments, including the control of invasive species and reducing the impact of visitors, and the sustainable use of ground and artesian waters. There are also specific Activities that address water use efficiency, aimed particularly at the Region's major water users.

***RCT1** Community capacity for natural resource management is significantly enhanced by 2025, as measured by participation in NRM projects.*

***RCT2** Culture and heritage for the rangelands are conserved and increasingly valued by the community by 2025.*

***RCT11** By 2025, water quality in priority areas to meet targets or standards to be established in 2006*

***RCT12** By 2025, water regimes sufficient for ecological function, as measured by indicators to be set by 2007, are maintained or improved in priority and/or high value conservation areas*

***RCT13** No reduction in the "Wild River" status of all wild rivers in the rangelands from 2005*

***RCT14** Maintain or improve the conservation status of aquatic and riparian native species and assemblages in priority waterways, wetlands and groundwater by 2025*

***RCT15** Eradicate or reduce the abundance and distribution and limit new occurrences of ecologically significant invasive aquatic and riparian species by 2025*

**In the Ord the RCTs relate to water quality, flows and groundwater management.**

***ORCT5** By 2025, Water Quality levels meet guidelines set by 2006 for Ord Catchment*

***ORCT6** Maintain storage volumes at current levels through reducing siltation levels contributed by the catchment, by 20 percent into Lake Argyle by 2024*

***ORCT7** River flows are sufficient to meet Environmental Water Requirements by 2010*



This Program attracts approximately 30 percent of NHT and NAP funding. The Strategy notes that there is a considerable need to build the understanding of the Region's rivers, wetlands, and groundwater and karst systems. The Rangeland NRM Coordinating Group considers that documenting the ecological values and condition of waterways is an important step necessary for future planning and development, and to identify areas where remediation efforts should be targeted for maximum effectiveness.

In keeping with the Group's commitment to building relationships between agencies, industry and community, the Coordinating Group considers that the community should be engaged in the process to map the condition of the rivers and wetlands using assessment methods developed for the Rangelands waterways. The Coordinating Group has also identified Activities to support research into river and wetland locations that are considered to have high biodiversity significance, or are likely to be affected by future economic activity.

The Rangelands NRM Coordinating Group considers that remediation measures should be undertaken in a catchment context with the community engaged and working cooperatively on common objectives. It proposes catchment restoration projects that are designed and implemented to protect water quality in places such as the Wooramel River and Shark Bay and the Ord River. Specific funding has been allocated for on-ground projects addressing threatening processes including fire, weeds, erosion, vertebrate pests and visitor use of waterways. It is anticipated that sound research and the development of appropriate monitoring protocols will assist and direct these remediation activities.

Water resources are used by a variety of industries including horticulture, agriculture and mining, and to support towns and communities. The Rangelands NRM Coordinating Group has identified a number of investments for improving industry performance and management of its use of resources - including best management practice guidelines, certification of the horticultural industry, and supporting the implementation of water management plans or policies.

The activities specific to the Ord catchment relate to the management of groundwater and to improving water quality and water use efficiency through the development of tools that can be utilised by land manager and the community in the irrigation area. Groundwater management and monitoring is a high priority in the Ord Catchment, to ensure that land and water resources are managed to reduce salinity occurrences and maintain soil condition in the valley. Best management practices will be adopted to improve water quality through appropriate use of pesticides and fertilisers, improved stormwater, and improved groundcover management. Water use efficiency tools will also reduce new occurrences of salinity and improve water quality and the biodiversity status of waterways and wetlands in the Ord Catchment.

A major emphasis in this Program is on-ground, research and monitoring activities that have direct application to on-ground remediation. The Coordinating Group recognises that whilst extensions of the reserve system, the writing of water management plans and policies and the development of water quality standards, are essential to the conservation and management of waterways, there is not sufficient resources available through the allocation NHT to fund all targets related to these issues. However, the Group understand the need to make trade-offs and ensure maximum benefits for the limited investment that is available. Alternative funding sources will also be sought and their potential for investment in subsequent investment plans will be reviewed.

The Coordinating Group considers that remediation work on the waterways of the Rangelands can begin on the current knowledge, which will be further enhanced by the monitoring and research work that is to be supported (outlined above).

## Sustainable Management of the Coast and Coastal Waters

This Program focuses primarily on Activities to improve the knowledge base about significant coastal and marine communities in the region and to support on-going management of coastal areas of high conservation value such as Shark Bay, Ningaloo the Montebello and Barrow Islands, Dampier Archipelago, off-shore islands, and the Derby–Wyndham coastline.

With a focus on near coastal waters and coastal land, coastal and marine resources will be protected by supporting Activities including, managing visitor pressures, managing fish resources, encouraging sustainable tourism and planning for future development of coastal areas, as well as minimising the threat of introduced marine pests. This program also supports education and community monitoring activities.

**RCT1** *Community capacity for natural resource management is significantly enhanced by 2025, as measured by participation in NRM projects.*

**RCT2** *Culture and heritage for the rangelands are conserved and increasingly valued by the community by 2025.*

**RCT16** *Maintain and improve condition of priority terrestrial coastal, and all island habitats in the Rangelands, as measured at representative sites by 2020, with a quantified target set by 2006*

**RCT17** *By 2025, environmental water quality in estuarine and marine areas of the Rangelands to be maintained or improved to meet ANZECC guidelines and standards or specific geographical guidelines for water quality by 2008*

**RCT18** *Maintain or improve the conservation status of marine and coastal native species and assemblages in priority areas by 2025*

**RCT19** *By 2025, eradicate or reduce the abundance of significant invasive species in marine and coastal areas*

**RCT20** *The comprehensiveness, adequacy and representativeness (CAR) of all marine and coastal ecosystems in formal protected areas is improved on a priority basis by 2015, compared to 2005 baseline*

This Program attracts approximately 20 percent of available NHT funding. Following discussion about whether Activities on the landward part of the coast should be included in the Program, the Coordinating Group decided that coastal land would be included as the threats to these areas were considered to be greater than to the off-shore marine environment. This conclusion was reached on the basis that in general terms the condition of the Region's marine resources is relatively high, and processes that may threaten the off-shore marine environment, such as oil spills, commercial fishing, and shipping; are relatively small and well regulated.

The Coordinating Group also recognises that although some coastal waters, such as near Karratha, Port Hedland and Onslow are impacted by industry, there is considerable industry based environmental risk management underway in the petroleum industry, major ports and shipping areas through the development of EMS's and other measures.

Protecting the assets and addressing threats to coastal land will also have a positive effect on adjoining marine systems. Consequently the Rangelands NRM Coordinating Group considers that the Sustainable Management of Coast and Coastal Waters Program in this Investment Plan should focus on the immediate landward part of the coast and near shore coastal waters. However, with the future potential effects of climate change, especially in relation to coral bleaching, it remains necessary to monitor threats to the marine system to avoid complete collapse of ecosystems as a result of climate change. The priority of off-shore marine issues will therefore be reassessed in future investment plans.

The use of the coastal land-sea interface presents significant management challenges. Some of the coastal lands are already under well-established management regimes, such as Shark Bay. Other areas such as the Ningaloo Coast have a management framework in place, although implementation of the framework is still being developed. Some coastal areas such as the Derby–Wyndham Coast are beginning to attract wider interest where the local community want to facilitate planning and improvement of coastal management.

There is considerable community discussion about the most appropriate management models for coastal lands and marine areas. There is also general recognition that the coast is a common asset and the community should have an active role in decisions about its future and involvement in its management. This Program seeks to match specific Activities to improve the level of planning and/ or management for different sections of the coast with the current management regimes that are in place and the level of threat. It also aims to support the implementation of current management plans and marine threatened species recovery plans.

The Program also supports improving the role of industry in the sustainable development of the coast and coastal waters through best management practices and certification programs. As with its other Programs, the Coordinating Group has a strong focus on engaging the community in biodiversity monitoring and protection. Specific Activities include monitoring human use of high conservation areas, determining the impact of recreational fishing on the marine resource and the monitoring of significant marine species along the coast.

Activities are also designed to address threatening processes including the potential for recreational and fishing boats to introduce marine invasive species into high value conservation areas, and managing the impact of marine waste on high conservation marine and coastal areas.

The Program also recognises that many important projects cannot be funded from the current round of limited NHT funding and that difficult trade-offs need to be made. Additionally the Rangelands NRM Coordinating Group will seek other sources of funding for this Program that support longer term research projects and improvement of the reserve system. Their priority for NHT investment will also be reconsidered in future investment plans.

### ***Investment Proposal Summaries***

This Section outlines the breakdown of resource allocations to Programs, the allocation of investments by the Primary Category of Activity and the Investment by Principle Matters for Target. The summary of key NHT and NAP Investments by Program and Summary of NHT and NAP Investments by Targets are provided as tables.

### **Allocation of Resources by Program**

The allocation of resources by Program for NHT and NAP are shown in Figures 1 and 2 below.



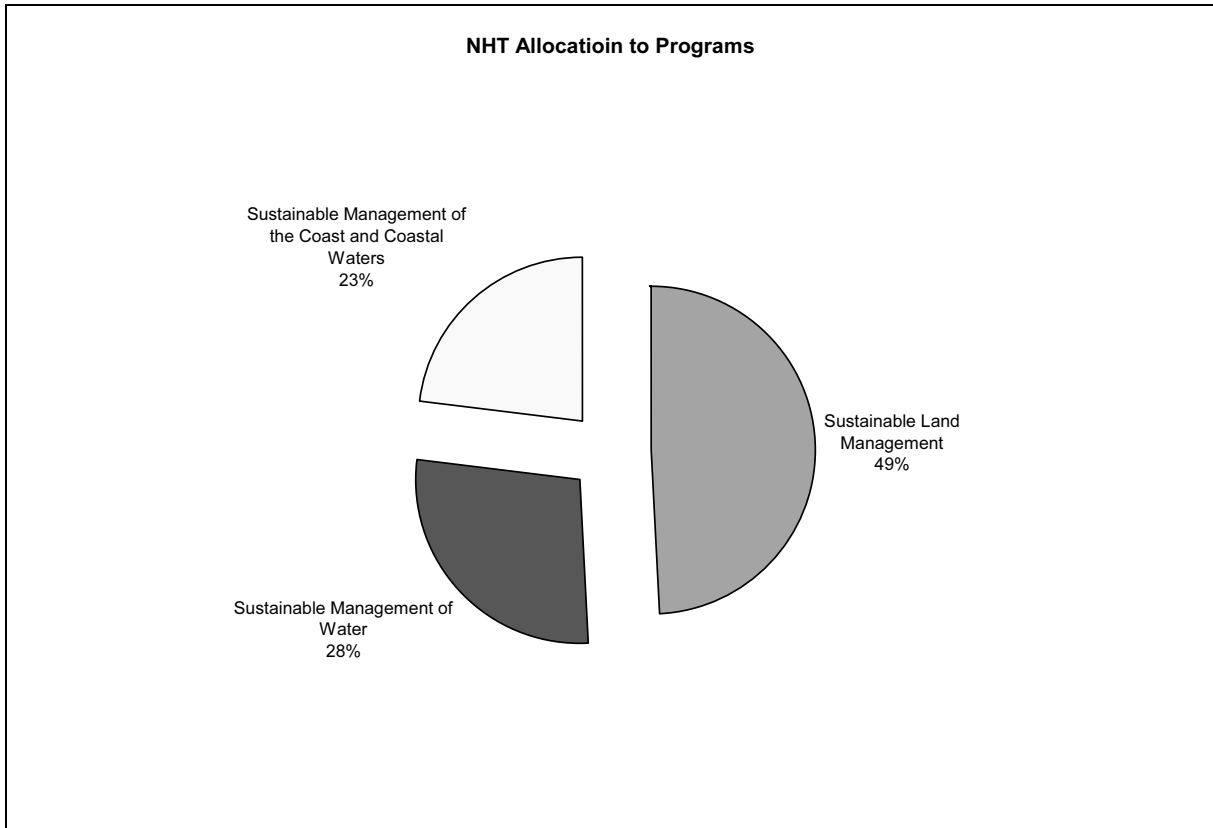


Figure 1: NHT Allocation of Resources to Programs

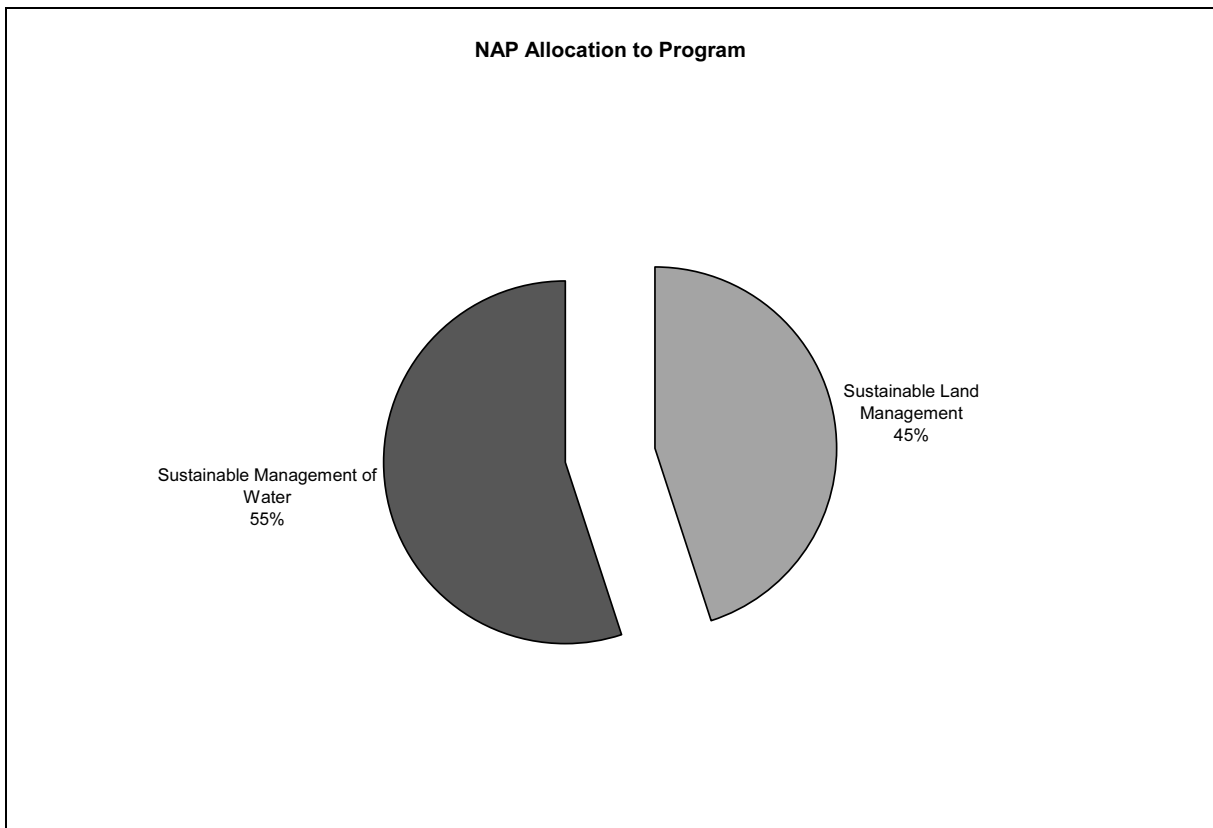


Figure 2: NAP Allocation of Resources to Programs

### Resource Investment by Primary Category

The resource allocation according to the NHT Primary Output Category is shown in Figure 3 below. This figure was derived by prepared using the funding allocation to Activities and assigning the Activities to a Primary Output Category.

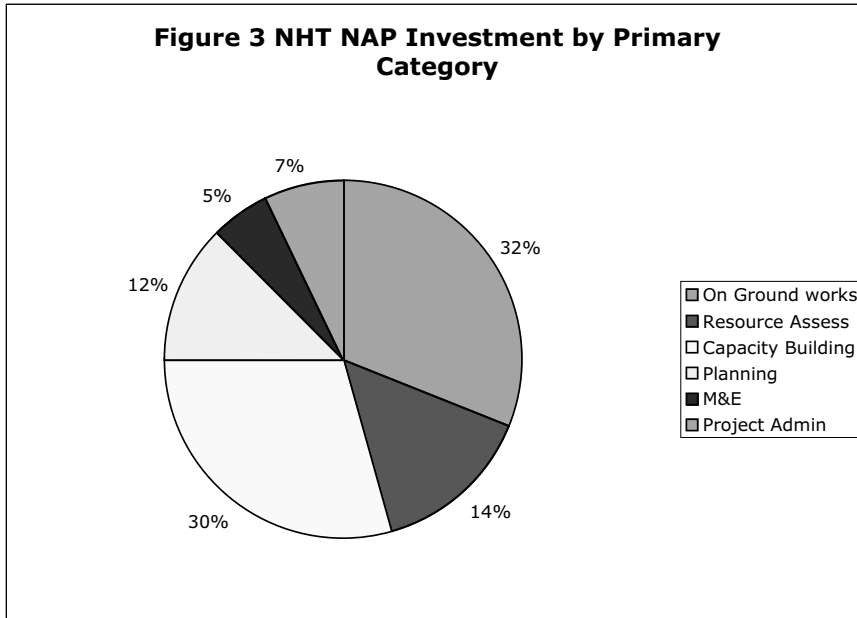


Figure 3: NHT and NAP Investment by Primary Output Category

### Resource Investment by Principal Matter for Target

The resource allocations according to the NHT Principal Matter for Target are shown in Figure 4 below. Figure 4 was derived by preparing a tentative funding allocation to Activities and aggregating the amounts assigned to the Activities to a Target.

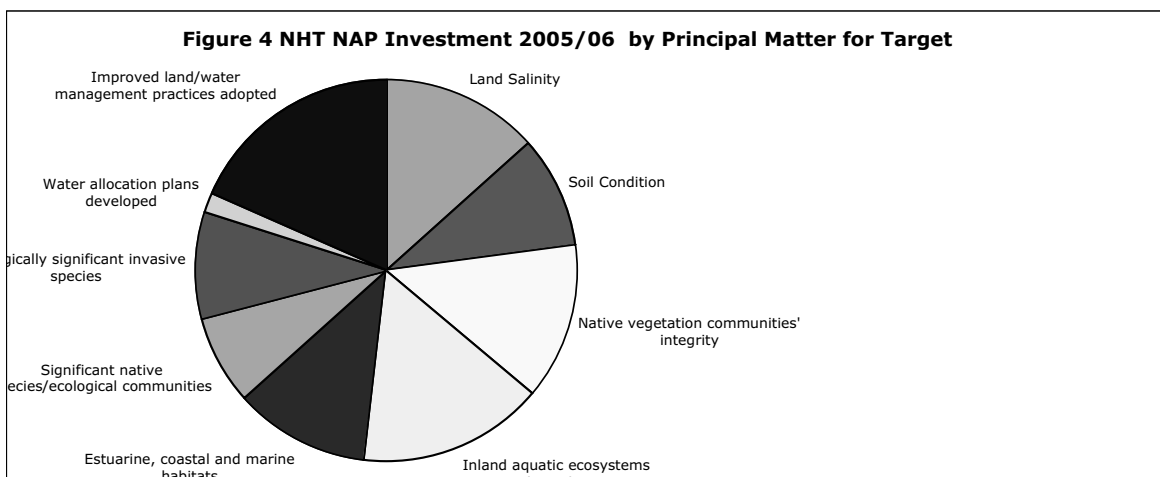


Figure 4: NHT and NAP Investments 2005/ 06 by Principle Matter for Target

## Summary of Investment by Program, Actions and Activities

Table 5 below provides a breakdown of the investment in each Program and identifies the Actions and Activities within each Program. This table describes what will happen as a result of NHT and NAP investment. Table 6 provides a breakdown of the contribution that the investment will make towards meeting the RCTs for the Rangelands and describes the outputs and outcomes from the NHT and NAP investment.



**Table 5 Summary of NHT and NAP Investments - Sustainable Land Management**

Program	Activity	Actions	Strategic Links		Funding Sought			Continue beyond 2007-08
			Primary RCT	Primary MAT	Source	2005-06	2006-07	
<b>Sustainable Land Management</b>	Assisting land managers to manage their lands sustainably  Diversifying the use of the landscape  Incorporating biodiversity protection into land management and threatened species management	Ecological Sustainable Rangelands Management	RCT1	L3	NHT	1770	1440	1160
		Supporting Indigenous Engagement in NRM	RCT2	L4	NAP	900	740	700
		Management of Invasive Species	RCT3	L6				
		Fire Management	RCT4	L7	Private	560	420	280
		BMP for landscape management in the Ord Catchment	RCT5	L10	State			
		Supporting the development of alternative business to reduce pressure on existing resources	RCT6	L13	Other	540	520	400
		Engaging the mining and tourism industries and Local Government in NRM	RCT7	L17	TOTAL	3770	3120	2540
		Identifying and protecting areas of significant biodiversity	RCT8	L18				
		Supporting projects that are protecting threatened species and their communities	RCT9	L19				
			ORCT1	L22				
			ORCT2	L23				
			ORCT3	L24				
			ORCT4	L27				
				L34				
				OL1				
		OL3						
		OL5						
		OL7						
		OL9						

**Table 5 Summary of NHT and NAP Investments - Sustainable Management of Water**

Program	Activity	Actions	Strategic Links		Funding Sought	Continue beyond 2007-08			
			Primary RCT	Primary MAT					
<b>Sustainable Management of Water</b>	Improving the knowledge base of the regions waterscapes  On-ground management to protect and /or enhance catchments, waterways and wetlands  Assisting water users to use their water sustainably	Identifying, documenting and reporting the condition and ecological and cultural significance of the regions waterscapes to identify priorities for each sub-region  Detailed research projects on the priority waterscapes  Implementing priority actions on major catchments in the region  Management of Invasive Species  Supporting projects that enhance biodiversity protection of significant waterways and wetlands  Management of artesian and ground water  BMP for use of water, fertilizer and pesticides in horticulture and agriculture areas  Water use efficiency research and trial in the Ord Irrigation Area  Developing and implementing BMP guidelines for all water users	Primary RCT	Primary MAT	Source 2005-06	Source 2006-07	Source 2007-08	-	
			RCT 1	L5	NHT 900	725	495		
			RCT2	L29	NAP 1100	940	790		
			RCT11	W1	Private 140	105	70		
			RCT12	W4	State				
			RCT13	W5	Other 280	200	160		
			RCT14	W7	TOTAL 2420	1970	1515		
			RCT15	W8					
			ORCT4	W10					
			ORCT5	W11					
			ORCT6	W15					
			ORCT7	W19					
				W21					
				OL6					
				OW1					
	OW2								
	OW3								
	OW4								
	OW5								

**Table 5 Summary of NHT Investments - Sustainable Management of the Coast and Coastal Waters**

Program	Activity	Actions	Strategic Links		Source	Funding Sought			Continue beyond 2007-08	
			Primary RCT	Primary MAT		2005-06	2006-07	2007-08		
Sustainable Management of the Coast and Coastal Waters	Protecting the Marine and Coastal Resources	Invasive Marine Species Management Stopping Marine Waste Assessing the Impact of Recreational Fishing on Significant Communities Community Based Monitoring of Significant Communities BMP for Tourism Development and Activities Planning the use of Coastal Lands and Waters Restoration and Enhancement of commonly Used Coastal Areas Monitoring and Understanding the Human Use of High Conservation Value Areas Supporting the Management of High Conservation Areas	RCT1	S4	NHT	830	680	540		
			RCT2	S5	NAP	NA	NA	NA	NA	
			RCT16	S8	Private					
			RCT17	S9	State					
			RCT18	L18	Other	200	150	100		
			RCT19	S10	TOTAL	1030	830	640		
			RCT20	S12						
				S13						
				S14						
				S15						
				S16						
				S17						
				S19						
	S20									
	S21									
	S22									

**Table 6. Summary of Investments by Targets and Expected Outcomes**

Principal RCT	Principal MAT	Identified NHT/NAP Investments	Expected Outcomes from Investments
RCT1	L17 L18	<ul style="list-style-type: none"> <li>Capacity building for natural resource management</li> <li>Indigenous training programs</li> </ul>	<p>L17 – Continue engagement of stakeholders in NRM planning and implementation</p> <p>L18 – 100% achieved - Indigenous training programs developed in consultation with traditional owners</p>
RCT2	L19	<ul style="list-style-type: none"> <li>Conservation of cultural and heritage values</li> </ul>	<p>L19 – 4 programs to identify and document significant heritage and cultural values</p> <p>S10 – 40% achieved - Culturally significant sites identified for protection and restoration</p>
RCT3 RCT4	L3 L4 L6 L7 L10 L13 L17 L18 L19 L24 L27	<ul style="list-style-type: none"> <li>Ecologically Sustainable Rangelands Management</li> <li>Supporting Indigenous Engagement in NRM</li> <li>Management of Invasive Species</li> <li>Fire Management Project</li> <li>Supporting the Development of Alternative Business to Reduce Pressure on Existing Resources</li> <li>Engaging Mining and Tourism Industries and Local Government in NRM</li> </ul>	<p>This program implements the first of many works to achieve sustainable land management in the Rangelands.</p> <p>This will be achieved through continued engagement of stakeholders, the management of invasive species with land manager involvement. The actions will also achieve greater management and co-ordination of high priority tourism areas.</p> <p><b>Outcomes:</b></p> <p>L3 – 100% achieved - An integrated index developed</p> <p>L4 – 80% achieved - 50% of Land Managers implementing ecologically sustainable management practises to maintain profitability</p> <p>L6 – 40% achieved – Projects initiated to identify erosion control methods</p> <p>L7 – Significant invasive or pest species control programs implemented in priority areas</p> <p>L10 – 20% achieved – Identified first development type and principles</p> <p>L13 – 50% achieved - Develop a tourism plan for a high priority area</p> <p>L17 – Continue engagement of stakeholders in NRM planning and implementation</p> <p>L18 – 100% achieved - Indigenous training programs developed in consultation with traditional owners</p> <p>L24 – 40% achieved – Vegetation condition framework developed field testing required</p> <p>L27 – 20% achieved - 1% of vegetation types under represented in the formal reserve system managed for biodiversity outcomes off reserve as part of a property</p>

Principal RCT	Principal MAT	Identified NHT/NAP Investments	Expected Outcomes from Investments
RCT5			<p>management plan</p> <p><b>Outputs:</b>  19 Field days held in relation to Sustainable Rangelands Management  1 Legal conservation covenant  4 voluntary conservation agreements  30 Property Plans Developed  4 million ha of native vegetation enhanced  Pest plant control over 0.6 million ha  5 Indigenous training sessions held  2 Codes of Practices developed for management of significant cultural areas  4 training sessions  3 displays developed  6 BMP guidelines developed</p>
RCT6 RCT7 RCT8 RCT9	L7 L22 L23 L24 L34	<ul style="list-style-type: none"> <li>• Identifying and Protecting Areas of Significant Biodiversity</li> <li>• Supporting Projects that are protecting threatened species and their communities</li> <li>• BMP for use of water, fertiliser and pesticides in horticulture and agricultural areas</li> <li>• Developing and implementing BMP guidelines for all water users</li> </ul>	<p>This program works towards the protection of areas of high biodiversity value, and to provide protection of the threatened species throughout the Rangelands</p> <p><b>Outcomes:</b>  L22 – 100% achieved - High priority areas identified and characterisation begun  L23 – 100% achieved – Status, condition and trend indicators developed &amp; reference sites identified  L24 – 40% achieved – Vegetation condition framework developed, field testing required  L7 – 20% achieved - Invasive species management plan implemented by 10% of land managers  L34- 10% achieved - Threatened Species Recovery Plans continued  L34 – 10% achieved - Threatened Species Recovery Plans developed for utilising off shore islands  L34 – 50% achieved - Actions prioritised within new and existing plans for implementation</p> <p><b>Outputs:</b>  1 Decision support tool developed  25, 000 ha of habitat managed for significant species and ecological communities  10, 000, 000 ha of pest plant control  10, 000, 000 ha of fox and cat control</p>
RCT10			



Principal RCT	Principal MAT	Identified NHT/NAP Investments	Expected Outcomes from Investments
RCT11 RCT12 RCT13 RCT14 RCT15	L5 L29 W1 W4 W5 W7 W8 W10 W11 W15 W19 W21	<ul style="list-style-type: none"> <li>• Identifying, reporting and documenting the condition and ecological and cultural significance of the regions waterscapes</li> <li>• Detailed research projects on specific waterscapes</li> <li>• Implementing priority actions on major catchments in the region</li> <li>• Management of Invasive Species</li> <li>• Supporting projects that enhance biodiversity</li> <li>• protection of significant waterways and wetlands</li> <li>• Management of artesian and ground water</li> </ul>	<p><b>Outcomes:</b></p> <p>L5 – Priority areas identified for landscape recovery            L5 – Implement landscape recovery in 2 priority areas            L29 - Implement processes to prevent degradation to priority karst systems            W1 – 40% achieved – Values identified &amp; characterised            W4– 40% achieved - Ps guidelines developed            W5 - Education programs developed and implemented.            W7 – 40% achieved – Water monitoring programs implemented in priority areas            W8 – 40% achieved – Benchmark water use efficiency targets set            W10 – 20% achieved BMPs implemented in priority areas to minimise changes to water regimes and catchment hydrology            W11 – 40% achieved – Surface and ground water prioritised for protection            W15 – Wetlands, waterways and groundwater prioritised for action            W19 – 2 catchment management plans developed for high value rivers            W21 – Species for control identified and control methods implemented            W21 – Pest species control in priority area</p> <p><b>Outputs:</b></p> <p>1 Decision support tools developed            20, 000 ha of wetlands protected            200 ha of pest plant control            6 BMPs developed            89, 000 ha of land treated for soil erosion through engineering works            30 training events held            2 sub-catchment plans developed            1 workbook developed</p>

<p>RCT16 RCT17</p>	<p>S4 S5 S8 S9 S10 L18 S13 S17 S22</p>	<ul style="list-style-type: none"> <li>• Planning the use of Coastal Lands and Waters</li> <li>• Restoration and Enhancement of Commonly Used Coastal Areas</li> <li>• Monitoring and Understanding the Human Use of High Conservation Value Areas</li> <li>• Monitoring marine environmental water quality</li> <li>• Supporting the Management of High Conservation Value Areas</li> <li>• Education programs on sustainable use of coastal environments</li> </ul>	<p><u>Outcomes:</u>  S4 – 100% achieved – Coastal recreation and tourism plans developed for high priority areas  S5– 50% achieved – development of integrated coastal management plans  S8 – 4 educational programs on coast and marine biodiversity and sustainable use of coastal environments  S9 – 40% of nature-based tourism operators accredited for eco-tourism  S10 – 40% achieved - Culturally significant sites identified for protection and restoration  L18 – Continue engagement of stakeholders in NRM planning and implementation  S13 – 40% achieved – Rangelands marine water quality standards set  S17 – Implementation of management programs targeting protection of water quality  S22 – 40% achieved – Management requirements identified for priority coast and coastal waters</p> <p><u>Outputs:</u>  6 BMP guidelines developed  12 Monitoring sites developed  1,000 ha of coastal indigenous vegetation protected by fencing  2 marine studies undertaken  2 other key materials developed</p>
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RCT18 RCT19 RCT 20	S8 S9 S10 S12 S14 S15 S16 S17 S19 S20 S21 S22	<ul style="list-style-type: none"> <li>• Invasive Marine Species Management</li> <li>• Stopping Marine Waste</li> <li>• Assessing the impact of recreational fishing on significant communities</li> <li>• Community based monitoring of significant communities</li> <li>• BMP for Tourism Development and Activities</li> <li>• Implementation of Recovery Plans</li> <li>• Control of invasive species</li> </ul>	<p><u>Outcomes:</u> S8 – Identify educational needs and begin delivery S9 – 40% achieved – 30% of nature based tourism operators using accepted principles of accredited ecotourism S10 – 40% achieved - Culturally significant sites identified for protection and restoration S12 – 50% achieved – Marine ecosystems characterised S14 – Indicators for monitoring developed S15 – Begin biological inventory S16 – Begin surveys to identify impacts in priority areas S17 – Implementation of management programs targeting protection of water quality S19 – 60% achieved – Recreational fishing management refined in high priority areas S20 – 60% achieved - implementation of Recovery Plans for threatened species and ecological communities S21 – 100% achieved – Priority areas of significant ecologically invasive species identified for control S22 – 40% achieved – Management requirements identified for priority coast and coastal waters</p> <p><u>Outputs:</u> 500 ha of coastal wetlands protected 500 ha of coastal area pest plant control 1 species study undertaken 2 Management programs targeting water quality implemented</p>
ORCT1	OL1	<ul style="list-style-type: none"> <li>• Ecological Sustainable Rangelands Management</li> </ul>	<p><u>Outcomes</u> OL1 – Salinity assessment of the Ord Catchment completed</p>
ORCT2	OL3	<ul style="list-style-type: none"> <li>• Management of Invasive Species</li> </ul>	
ORCT3	OL5		

ORCT4	OL7 OL9	<ul style="list-style-type: none"> <li>• Fire Management</li> <li>• BMP for Landscape Management in the Ord Catchment</li> </ul>	<p>OL3 – Actions addressing the cause of salinity implemented</p> <p>OL5 – 40% of land managers adopting and implementing Property Management Plans by 2010</p> <p>OL7 – 50% achieved – PMP tools developed requiring adoption</p> <p>40% of land managers adopting and implementing Environmental Assurance Plans in the ORIA by 2007</p> <p>OL9 – 50% achieved – Training programs and tool kits developed for land managers in the ORIA</p> <p><u>Outputs</u></p> <ul style="list-style-type: none"> <li>1 salinity study undertaken in the ORIA</li> <li>3 x best management guidelines developed</li> <li>8 x demonstration sites developed</li> <li>Studies conducted on 5 x sites</li> <li>8 x sites monitored</li> <li>1 x model developed</li> <li>14 x soil studies conducted and 1,000,000 hectares surveyed</li> <li>2 x research and development study undertaken</li> <li>5000Ha terrestrial rehabilitated</li> <li>1000Ha riparian rehabilitated</li> <li>2 x information gathering workshops held</li> <li>10 x weed management plan developed</li> <li>500,000 Ha soil condition surveyed</li> <li>500,000 Ha of vegetation surveyed</li> <li>4 x newsletters</li> <li>1000Ha land treated for soil erosion</li> <li>240Ha of wetland protected</li> <li>800Ha land using improved irrigation practices</li> <li>2 x training sessions held</li> <li>1 x course notes developed</li> <li>30 x sites monitored</li> <li>1 x other decision support tool developed</li> <li>6 x media opportunities</li> <li>1 x display developed</li> <li>2 x field days</li> </ul>	<p>ORCT5</p> <p>ORCT6</p> <p>ORCT7</p>
	OL6	<ul style="list-style-type: none"> <li>• Identifying, reporting and documenting the condition and ecological and cultural significance of the regions waterscapes</li> </ul>	<p><u>Outcomes</u></p> <p>OL6 – 2 ground water management plans developed and implemented</p>	
	OW1			
	OW2			

ORCT8	OW3 OW4 OW5	<ul style="list-style-type: none"> <li>• Detailed research projects on specific waterscapes in the region</li> <li>• Implementing priority actions on major catchments</li> <li>• Management of Invasive Species</li> <li>• Management of artesian and ground water</li> <li>• BMP for use of water, fertiliser and pesticides in horticulture and agricultural areas</li> <li>• Developing and implementing BMP guidelines for all water users</li> <li>• Water use efficiency trials developed and implemented in the Ord Irrigation Area</li> </ul>	<p>OW1 – 40% achieved – Ord River specific water quality standards developed</p> <p>OW2 – 80% achieved – base line data developed</p> <p>OW3 - 60% achieved – 2 demonstration farms underway</p> <p>OW4 – Water Use Improvement Plan implemented</p> <p>OW5 – Priority projects in the Ord Land and Water Plan implemented</p> <p><u>Outputs</u></p> <p>3 studies</p> <p>3 best management guidelines developed</p> <p>45 sites monitored</p> <p>2 workshops</p> <p>100 ha of pest plant control</p> <p>1,000 ha of soil erosion control</p> <p>100 ha of wetlands protected</p> <p>100 ha of riparian vegetation protected</p> <p>3 newsletters developed</p> <p>3 non-training forums held</p> <p>10 interpretive signs developed</p> <p>2 field days</p> <p>2 decision support tools</p>
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## SECTION V – PROGRAM AND ACTIVITY SCHEDULES

The following Program schedules detail the allocation of investment funds to Programs and Activities. The Schedules describe the structure of the Activities and why they were chosen, the risks, linkages to the Strategy and indicative budgets, outputs and timetables.

### ***Sustainable Land Management***

#### **Program Summary**

This Program acknowledges that the maintenance of biodiversity and soil condition underpins the resource base of the Rangelands. It aims to enhance biodiversity whilst maintaining and improving the productive capacity of the land. This will be achieved through the provision of assistance to land managers to manage their lands in a manner that is ecologically sustainable and by addressing threatening processes, particularly management of invasive species and the impact of fire.

In addition, the Program provides for land managers and local communities to protect areas of high biodiversity value and to implement specific activities relating to threatened species management. This Program also supports the involvement of the whole community in the regional NRM delivery process, particularly Aboriginal people, the mining, pastoral and tourism industries and Local Government.

#### **Program Description**

The Program outlines three key activities that were thought by the RCG to address the main threats to the sustainability of land management practices in the Rangelands:

##### **Assisting land managers to manage their lands sustainably**

The aim of this Activity is to support land managers and communities across the Rangelands to implement ecologically sustainable land management practices. The Program looks at actions where improved management can lead to improved productivity and improved soil health and condition, maintain vegetation integrity and protect areas of significant biodiversity. It addresses significant issues threatening sustainable production and the protection of biodiversity including invasive species, inappropriate fire regimes and salinity. It will increase stakeholder involvement in the management of natural resources, especially involvement of Indigenous people, and provide valuable information for the review of the RCTs and MATs during the first year of investment.

##### **Diversifying the use of the landscape**

This Activity aims to provide a forum for engagement with local government authorities and the tourism and mining industries. These groups are important NRM stakeholders. Through accessing their knowledge and coordinating their efforts and resources with those of other stakeholders, NRM outcomes in the Rangelands would be greatly enhanced. This Activity also aims to provide advice and guidance to pastoral land managers looking to make changes to increase the overall sustainability of their operations, such as through branching into eco-tourism ventures. By ensuring these enterprises are based on best practice NRM and encouraging their uptake, it is envisaged that land managers will have alternative options to grazing, and consequently grazing pressure on the Rangelands can be lessened. This will lead to an improvement in vegetation integrity, soil condition, productive capacity and biodiversity.

## **Incorporating biodiversity protection into land management and threatened species management**

Biodiversity protection is a high priority across the Rangelands. Many threatened and unique species and communities are found throughout the Rangelands, and the maintenance of biodiversity also underpins the resource base of the Rangelands. This Activity provides actions and frameworks to assist land managers and communities to protect high priority biodiversity areas. Mechanisms to achieve this include formal and informal recognition of off-reserve conservation areas and on-ground works to control threatening processes such as fencing and invasive species removal. The Activity provides for local communities to make significant conservation improvements in local and Regional priority areas. Specific conservation activities will be focused on the management of threatened species and communities, through the implementation of recovery plans and the protection of habitat.

### **Asset Description**

Soil and vegetation condition and integrity are considered assets for the sustainability of pastoral stations and communities. Good landscape condition is paramount to the social, economic and environmental condition of the Rangelands. Maintaining and improving soil condition and vegetation integrity is a high priority.

Traditional knowledge and increasing the capacity of the community is a high priority asset for adopting and implementing best management practice in communities, on land and in urban areas.

The biodiversity of the region is a high priority as it underpins resource use in the region and because many threatened and endemic species and ecological communities are found throughout the Rangelands. The management of grazing pressure, invasive species and fire will provide tools for the protection of biodiversity.

### **Threat Description**

The threats to both sustainable land management and biodiversity that are being addressed are primarily those associated with inappropriate human activity, such as poor management practices (over grazing, unsustainable developments), invasive species and fire.

#### **Poor planning and management**

Overgrazing, inappropriate water use and a lack of planning during development can all have a negative impact on biodiversity and productivity. This can result from a lack in knowledge of the Region and little cooperation with other NRM stakeholders.

#### **Invasive species**

Invasive species include weeds and feral animals that threaten the biodiversity and productive capacity of the Region by reducing native species. There is an increasing number of Weeds of National Significance in the Rangelands, such as mesquite and prickly acacia, and they are a real threat to the viability of many businesses in the region. This is well documented as they are Weeds of National Significance, not just a threat to the Region. There is also the constant threat of new invasive species being brought in to the region.

#### **Fire**

Inappropriate fire regimes are a major threat to the unique biodiversity of the region, and fire also impact on primary productivity through the loss of ground cover.

Many species and ecological communities are threatened across the Rangelands by a variety of factors including habitat degradation due to inappropriate fire regimes, weeds, over grazing, feral animals (through competition and predation), insufficient habitat, and lack of a reliable food source and habitat fragmentation. Appropriate land management practices can mitigate these threats.

## **Contribution to Target or Resource Condition**

This Program will provide benchmarks for soil condition and vegetation integrity. Declining vegetation integrity leads to increased run-off, erosion and a loss of soil structure as a result of a loss of ground cover, especially during periods of high rainfall. On-ground actions addressing these and other issues associated with declining soil and vegetation health, such as weeds and total grazing pressure, including feral herbivores, will directly impact the condition of these resources.

This will be achieved through the development of a soil index, a vegetation index and increased management decisions made by land managers through the development of best management practice guidelines for different areas in the Rangelands. The Program is designed to increase awareness and assist land managers in NRM, by providing best management practice tools for whole landscape management for the protection of biodiversity and maintaining sustainable production.

In the Ord Catchment, an adoption of water use efficiency practices and best management practices for chemical and fertiliser use will continue to maintain the water quality in the catchment. Best management guidelines will reduce the occurrence of water logging and thus the increasing risk of salinity in the catchment.

This program also contributes to maintaining and increasing the conservation status of threatened ecological communities and threatened flora and fauna. This will be achieved through the protection of priority areas and management of invasive species.

Inappropriate fire regimes threaten the natural resource management assets of the region, so maintaining and increasing the awareness of appropriate fire regimes will result in improvements to the biodiversity of the Region and the protection of assets.

This Program provides for greater coordination and participation in the management of natural resources in the Rangelands, which will contribute to a wide range of RCTs. The Activities in the Program provide operational and supportive information to a range of land managers.

## **Priority and Justification for Investment**

### **Priority – High**

#### **Justification**

This Program addresses 18 high priority targets out of a total of 42 high priority targets relevant to this Program area and these were selected on the basis of community views and a need to continue momentum of sustainable land management and biodiversity conservation in the Rangelands. Actions that address a number of key high priority targets including a review of kangaroo management has not been able to be supported as funds are limited.

#### **Risk Factors**



Risks identified	Management of Risk
Participation in NRM is constrained by the size of the Rangelands, the remoteness of many regions, the sparse population and the diversity of cultures and landscape	Local NRM facilitators and managers to adopt approaches to suit local situations
Landholders may not support land management actions to eradicate weeds and pests	The Plan targets NRM awareness and community participation programs to develop understanding and participation
External factors, such as drought and poor commodity prices draw landholders' focus and time from community participation activities	Funding provided through incentives to support land managers
Actions under the program may prove to be more complex technically and/or more time consuming than originally expected	The Investment Plan and activities to be revised annually to reflect increased understanding from progressive implementation of activities
Wet season climate prevents on ground works and / or access to certain areas	Wet season delays considered in timing of works and activities
Recommended land management practices are uneconomic or otherwise unattractive to land managers, and not adopted at the scale required to effect change	Incentive programs, technical support and advice and capacity activities initiated early to attract land managers and the desire to adopt changed practices
Land managers may not engage with the community participation program in the numbers required to effect regional scale change in natural resource condition	Evaluation of the effectiveness of capacity, awareness and education activities to date should inform planned activities under the Investment Plan to increase effectiveness

## Resource Condition Targets

**RCT 1** Community capacity for natural resource management is significantly enhanced by 2020 as measured by participation in NRM projects

**RCT 2** Culture and heritage for the rangelands are conserved and increasingly valued by the community by 2025

**RCT 3** Maintain or improve soil surface condition throughout the Rangelands by 2025 with less than 10 percent of sites in poor condition, as measured by an integrated index of existing soil attribute measures, to be developed by 2008

Pastoral lands show a stable or improving soil condition by 2020, with less than 10 percent of sites in poor condition as measured by WARMS, and other activities such as rangeland survey and pastoral lease inspection

**RCT 4** Eradicate or reduce the abundance and distribution of significant invasive and pest species by 2025 and limit new occurrences or introductions

**RCT 5** Maintain or improve frequency, density and cover of perennial vegetation for the purpose of protecting soil resources with less than 10% of sites in declining condition by 2025 as measured by an integrated index of existing measures, to be developed by 2008

Pastoral lands show stable or improving protection of soil as assessed by perennial vegetation by 2020, with less than 10 percent of sites in declining condition as measured by WARMS, and other activities such as rangeland survey and pastoral lease inspection

**RCT 6** By 2025, maintain or improve vegetation community composition, structure and function in priority areas/landscapes against standards to be developed by 2008

**RCT 7** Maintain or improve the current (2005) conservation status of terrestrial native species and assemblages by 2025

**RCT 8** The comprehensiveness, adequacy and representativeness (CAR) of all ecosystems in formal protected areas is improved on a priority basis by 2015, compared to the CAR reserve Analysis 2003

**RCT 9** Eradicate, or reduce the abundance and distribution of, ecologically significant invasive or pest species by 2025 and limit new occurrences or introductions

**ORCT 1** No new occurrences of salinity in the ORIA by 2014

**ORCT 2** A reduction in the area of salinity affected land in the ORIA by 2014

**ORCT 3** Maintain and improve the condition of soil in the Ord Catchment as measured by an integrated index of existing soil attribute measures developed by 2008

**ORCT 4** Groundwater levels in the ORIA are to be maintained at/or below two metres by 2015

### Management Action Targets

**L3** By 2008 develop an integrated index of existing soil and vegetation attribute measures for sustainable land use

**L4** By 2010 70% of land managers are implementing ecologically sustainable management practises to balance economic, socio-cultural and environmental values of the land as measured through existing measures such as pastoral inspections

**L6** Implement best practise management soil conservation on 20% of properties by 2010

**L7** Control of at least 25% of priority significant invasive or pest species by 2010

**L10** Identify five alternative sustainable land use activities to support economic diversification by 2010

**L13** Develop tourism management plans for 8 high priority areas, by 2010

**L17** By 2006 an agreed engagement plan developed and implemented in order to conduct a more complete engagement of stakeholders and continued involvement of stakeholders in the NRM planning and implementation process

**L18** Develop Indigenous traineeships and ranger programs in consultation with Traditional Owners by 2006

**L19** Identify areas of significant heritage and cultural value and maintain the integrity through ensuring resource use does not compromise these values

**L22** By 2012 the region's conservation landscape and biodiversity values and associated threatening processes have been identified, characterised and prioritised

**L23** By 2010, trend indicators and reference sites identified to monitor priority ecosystems, species and communities' status

**L24** By 2008, develop a framework for measuring vegetation condition (based on structure, composition and function)

**L27** By 2010, all vegetation types under-represented in the formal reserve system will have at least 5% managed for biodiversity outcomes off reserve as part of a property management plan

**L34** Improve the conservation status of 30% of threatened species and ecological communities by 2010

**OL1** Assess whole catchment for salinity risk areas by 2010

**OL3** Priority actions implemented as outlined in the Ord Land and Water Management Plan 2000 with a primary emphasis on actions that address the causes of salinity by 2007

**OL5** 70% of landholders are utilising Property Management Plans to address sediment loading in run-off and salinity by 2010

**OL7** By 2007 Environmental Assurance packages (EMS) are adopted by 80% of land managers in the Ord River Irrigation Area

**OL9** information and decision making tool kits are adopted by 50% of land managers by 2008

## Management Actions

- Develop a soil and vegetation index to assist in developing best practice guidelines
- Survey work will be undertaken to assist in the development of indices to measure resource condition.
- Soil erosion will be treated to reduce run-off through increased ground cover and the adoption of appropriate fire regimes
- Develop best practise management soil conservation in horticultural precincts and monitor and evaluate the changes in soil condition/conservation
- Develop training programs for landholders to increase their ability to improve or maintain soil condition (chemical, physical and biological processes) supported by an extension officer
- Develop weed control mechanisms based on sound scientific knowledge
- Develop and implement weed management plans
- Develop a staged works program for control and eradication of mesquite and other weeds of national significance (WONS)
- Fire management included in property management plans, with aerial control burn work and integrated with on-ground follow up burns
- Adoption of Property Management Plans guided by best management practices.
- Best Practice guidelines for alternative land uses researched and developed
- Management Plans developed for priority tourism areas, including cultural tourism sites. Management plans will include education programs for visitors to raise awareness of their potential impacts
- Facilitate the adoption of best management practice guidelines through field days and shed meetings
- Education and awareness programs extended to other land managers such as mining, tourism and conservation sector
- Continue engagement with all stakeholders including; Aboriginal People, Mining Industry, Tourism Industry, Fishing and Aquaculture, Pastoral, Local Government, Conservation Groups, Recreational and special interest groups (Caving Groups, 4WD)
- Biodiversity priority areas identified through incorporating community knowledge of assets and key threatening processes
- Develop and promote off-reserve conservation opportunities through the provision of incentive programs to manage native vegetation eg extension of covenanting programs for leasehold lands, tax rebates, stewardship-co-management programs, development of management agreements
- Feral animal management plans developed for high priority areas
- Review the implementation status of existing threatened species recovery plans and continue implementation if appropriate

- Review and prioritise species requiring interim recovery plans
- Local historical and cultural knowledge documented to ensure that the integrity of cultural values and knowledge is maintained and incorporated into rangeland management
- Implement threat abatement plans
- Establish breeding and propagation programs for threatened and endangered species as appropriate

**Matters for Targets Addressed**

- Soil condition
- Native Vegetation communities integrity
- Improved Land/Water Management practices adopted
- Ecologically significant invasive species
- Native vegetation communities integrity
- Significant native species and ecological communities

**Milestones Achieved**

The following table provides information on initial milestones, with more detailed milestones being developed as the program is implemented. Future milestones will be included in contracts with proponents and used to monitor and manage activities.

<b>Milestones</b>	<b>Date achieved</b>
Best management guidelines developed for fire management	<b>June 2006</b>
Salinity risk mapped in the Ord catchment	<b>July 2006</b>
1 workshop held in the Gascoyne-Murchison region in relation to sustainable land management	<b>July 2006</b>
Priority biodiversity areas identified	<b>July 2006</b>
1 workshop held in the Goldfields-Nullarbor region in relation to sustainable land management	<b>August 2006</b>
10 Property Plans developed that include fire management, soil management weed and feral management, vegetation management	<b>September 2006</b>
1 workshop held in the Pilbara region in relation to sustainable land management	<b>September 2006</b>
One tourism management plan developed for an identified high priority area	<b>September 2006</b>
One weed management plan developed in the Pilbara region	<b>September 2006</b>
Training session held for Indigenous Rangers	<b>October 2006</b>
Research conducted on appropriate diversification options in each of the sub-regions	<b>October 2006</b>
One feral animal plan developed in the Gascoyne/Murchison	<b>October 2006</b>
One threatened species plan develop in the	<b>October 2006</b>

Kimberley	
One feral animal plan developed in the Goldfield/Nullarbor	<b>November 2006</b>
Local planning strategies adopting appropriate resource management	<b>December 2006</b>

### Primary Output Categories

- Resource Assessment
- On-Ground Works
- Capacity Building

**Activity / Outputs Schedule**

2005/2006 Activity	2006/2007				2007/2008							
	NHT \$	NAP \$	Other	Outputs	NHT \$	NAP \$	Other	Outputs				
Assisting Land Managers to Manage their Lands Sustainably	1,110,000	900,000	400,000	3 Field days held in relation to sustainable land management 2 x training sessions held for BMPs 1 x displays developed for Agricultural show 10 Property Plans Developed 1 x salinity study undertaken in the ORIA 4 Indigenous training sessions held Pest plant control over .3 million ha 2 million ha of native vegetation enhanced 2 x best management practices guidelines developed <b>ORD</b> 3 x best management guidelines developed 8 x demonstration sites developed Studies conducted on 5 x sites 8 x sites monitored 1 x model developed	920,000	740,000	400,000	5 Field days held in relation to sustainable land management 1 x training sessions held for BMPs 50,000 Ha of land treated for soil erosion 1 x displays developed for Agricultural show 10 Property Plans Developed 1 x demonstration day held for salinity management 1 Indigenous training sessions held 1 codes of practice developed for management of significant cultural areas Pest plant control over .3 million ha 2 voluntary conservation agreements 2 million ha of native vegetation enhanced 2 x best management practices guidelines developed	720,000	700,000	400,000	5 Field days held for Sustainable Grazing Project 1 x training sessions held for BMPs 1 x displays developed for Agricultural show 10 Property Plans Developed  1 Codes of Practices developed for management of significant cultural areas 2 voluntary conservation agreements 1 x training sessions held for BMPs



<i>Diversifying the Use of the Landscape</i>	160,000	140,000	1 Best Management Practice Guidelines 2 Field Days	120,000			1 Best Management Practice Guidelines <b>2 Field Days</b>	80,000			<b>2 Field Days</b>
<i>Incorporating biodiversity protection into land management and threatened species management</i>	500,000		5,000 ha of habitat managed for significant species and ecological communities 1 Decision support tool developed	400,000			15,000 ha of habitat managed for significant species and ecological communities 10,000,000 ha of pest plant control	360,000			5,000 ha of habitat managed for significant species and ecological communities 10,000,000 ha of fox and cat control



## ***Sustainable Management of Water***

### **Program Summary**

This Program aims to maintain and improve the quality and conservation status of the Region's waterscapes, which incorporates its rivers, wetlands, groundwater and karst systems. The Program prioritises targets that document the condition, and ecological and cultural significance of the waterscapes, and identify threatening processes so as to inform management decisions.

It also advocates an integrated approach to management of catchments, including the control of invasive species and reducing the impact of visitors, and the sustainable use of ground and artesian waters. There are also specific Activities that address water use efficiency, aimed particularly at the Region's major water users.

### **Program Description**

This Program is comprised of three key activities:

#### **Improving the knowledge base of the region's waterscapes**

The aim of this Activity is to develop appropriate monitoring protocols, provide reports on the condition of the Rangelands waterscapes using monitoring programs and identifying possible threatening processes and prioritising for management. Also during this process, areas of significant ecological and cultural value will be identified and the need for protection assessed.

#### **On-ground management to protect and/ or enhance catchments, waterways and wetlands**

The aim of this Activity is to improve catchment health in the Rangelands. The protection and management of significant wetlands and waterways in the Region will be achieved by; reducing the impacts of visitors through education programs, protecting waterways and wetlands from the impact of weeds and feral animals through control and eradication, and the development of education programs for all water users. This Activity will also focus action on sustainable use of ground and artesian water.

#### **Assisting water users to use their water sustainably**

The primary aim of this Activity is to work with industry to improve sustainable water management by increasing water use efficiency, through the development of tools and awareness activities and best management practice of nutrients and pesticides. This Activity is aimed at a range of industry water users in the Region but focuses primarily on horticultural and agricultural areas.

### **Asset Description**

The waterscapes, which include rivers, wetlands, groundwater and caves are important resources in the Rangelands. They are valued as water supplies, conservation areas, habitat for species and recreational use, which includes boating and fishing. Many permanent water sources also have significant cultural values. Understanding the current condition of waterscapes in the Region provides a basis for protection of these assets once major threatening processes have been identified.

Good water quality and riparian management is paramount to maintaining aquatic species integrity and riparian conservation. Groundwater resources provide habitat for ecologically important species and are locally important for town water supply, irrigated agriculture and mining industries.

Community assets also include the cultural and heritage values associated with the regions waterscapes.

## **Threat Description**

The threats to sustainable management of water and aquatic biodiversity are:

### **Changes to water quality**

Chemical water quality is affected by inflows of nutrients, pesticides and other pollutants (in stormwater and industrial discharge). Physical water quality is affected by the processes of erosion and sedimentation.

### **Changes to hydrological regimes**

Extraction of ground and surface water can affect wetlands and groundwater dependant ecosystems by reducing levels. Groundwater levels can be increased through irrigation practices and catchment clearing. Discharges of water from mining and industrial processes also alter hydrological regimes.

### **Poor resource management**

Allocation of surface and groundwater resources to licensed users must incorporate planning for future uses, as well as mechanisms to adjust allocation in response to changing environmental conditions and requirements. Accurate assessment of EWR and EFR are required before water allocations can be managed effectively. Water use efficiency is important to reduce the potential impact on waterscapes.

### **Riparian impacts**

Human activities such as grazing, tourism, recreation, clearing and construction of infrastructure all impact on the functioning of riparian zones of waterscapes. Introduced species also affect the biodiversity of waterscapes.

## **Contribution to Target or Resource Condition**

The collation and research of information regarding the current condition, values and real and potential threats to water assets will assist in the protection of high priority waterscapes in the Rangelands. This will result in future proactive management of high priority aquatic and riparian native species and assemblages.

On ground works, for example, the management of invasive species and to minimise tourism impacts, would ensure aquatic riparian species integrity and protection.

Water quality monitoring programs not only provide information on changes in water quality, but are important awareness tools that can be utilised by community groups and other key stakeholders.

The development and implementation of best management practice guidelines will ensure the on-going protection of riparian vegetation and cultural and heritage assets.

The management of groundwater will protect groundwater dependant ecosystems, ensure future good water quality for town supplies and reduce the potential of rising groundwater and increasing salinity problems.

Awareness and education of water resources in the Rangelands will improve the protection and increase the value of the water resources.

### Priority and Justification for Investment

#### Priority – High

#### Justification

This Program addresses four high priority targets and six medium priority targets out of a total of 11 high relevant to this Program area and these were selected on the basis of community views and a need to prioritise areas for management actions.

The assessment of all waterscapes in the Region has not been able to be supported as funds are limited however existing State assessments and local knowledge can guide the setting of priority areas where improved knowledge base is required.

#### Risk Factors

Risks identified	Management of Risk
Participation in NRM is constrained by the size of the Rangelands, the remoteness of many regions, the sparse population and the diversity of cultures and landscape	Local NRM facilitators and managers to adopt approaches to suit local situations. Existing state assessments and local knowledge will guide the setting of priority areas.
Actions under the program may prove to be more complex technically and/or more time consuming than originally expected	The Investment Plan and activities to be revised annually to reflect increased understanding from progressive implementation of activities
Inadequate investment in regional monitoring and evaluation may mean accountability decreases to investors and that investment is consequently lost to the region	The activities will provide the Rangelands and its stakeholders with the capacity to meet its accountability requirements under the NAP and NHT bilateral agreements.
Landholders may not support land management actions to eradicate weeds and pests	The Plan targets NRM awareness and community participation programs to develop understanding and participation
External factors, such as drought and poor commodity prices draw landholders' focus and time from community participation activities	Funding provided through incentives to support land managers
Improvement 'on the ground' may not be evident within the expected timescales: return on investment not evident	Education of stakeholders in anticipated timescales of resource condition change.  Develop indicators and milestones that will reflect meaningful shorter-term progress and achievements

### Resource Condition Targets

**RCT 1** Community capacity for natural resource management is significantly enhanced by 2025 as measured by participation in NRM projects

**RCT 2** Culture and heritage for the rangelands are conserved and increasingly valued by the community by 2025

**RCT 11** By 2025, water quality in priority areas to meet targets or standards to be established in 2006

**RCT 12** By 2025, water regimes sufficient for ecological function are maintained or improved in priority and/or high value conservation areas

**RCT 13** No reduction in the "Wild River" status of all wild rivers in the rangelands from 2005

**RCT 14** Maintain or improve the conservation status of aquatic and riparian native species and assemblages in priority waterways, wetlands and groundwater by 2025

**RCT 15** Eradicate or reduce the abundance and distribution of ecologically significant invasive aquatic and riparian species by 2025 and limit new occurrences or introductions

**ORCT 4** Groundwater levels in the ORIA are to be maintained at/or below two metres by 2015

**ORCT 5:** Water Quality levels meet guidelines set for Ord Catchment by 2010

**ORCT 6** Maintain storage volumes and reduce siltation levels contributed by the catchment by 20 percent into Lake Argyle by 2024

**ORCT 7** Natural River flows are maintained or kept as close to natural flow regimes as possible, and water allocation does not diminish environmental flows by 2010

## Management Action Targets

**L5** Develop and commence implementation of two additional landscape scale recovery plans in priority areas by 2010

**L29** Implement processes to prevent further degradation to priority karst systems by 2010

**W1** By 2008, the region's water values and associated threatening processes have been identified, characterised and prioritised for the Rangelands

**W4** By 2008, 50% of private water users are implementing Best Practice Management Guidelines for protection of water quality for the Rangelands

**W5** By 2006, 4 waterways management education programs have been developed and implemented, which include water quality monitoring, riverine and wetland fauna and flora and groundwater management

**W7** By 2007 develop benchmark baseline water monitoring programs and determine ecological water requirements for water resource assets where development pressures are greatest

**W8** By 2007 all major water users in the Rangelands to implement actions to achieve benchmark water use efficiency targets

**W10** By 2010, Best management practice implemented to minimise changes to water regimes and catchment hydrology from abstraction, discharge, clearing, and reduced infiltration by all mining, pastoral and irrigation sectors

**W11** Water Allocation and Management Plans developed for 10 priority surface and groundwater areas by 2010

**W15** By 2010 identify and prioritise areas of high conservation, aesthetic and intrinsic values and identify potentially threatening processes

**W19** Implement management plans for 8 priority wetlands and waterways and high use areas to reduce impacts on aquatic system health by 2010

**W21** Implement four control programs to reduce the abundance and distribution of significant invasive species in priority wetlands and waterways by 2008

**OL6** Develop and implement three groundwater management options/plans by 2007

**OW1** Water Quality Standards are developed specifically for the Ord Catchment by 2006

**OW2** Establish baseline data to determine sediment loads and water volumes in Lake Argyle by 2010

**OW3** Establish two demonstration farms to trial, develop and implement methods designed to reduce nutrients, pesticides and sediment in irrigation run-off by 2009

**OW4** Implement priority actions in the Water Use Improvement Program by 2010

**OW5** Implement priority actions the Ord Land and Water Management Plan by 2010

## Management Actions

- Review and collate relevant information to assist in the prioritisation of wetlands, waterways and groundwater to guide current and future management plans, actions and processes to recognise and protect these assets
- Monitoring programs developed and implemented on priority waterways
- Involve relevant stakeholders in the development and implementation of Management Plans for high priority waterways
- Improvement of perennial, deep rooted vegetation on river and creek banks and around springs to reduce erosion and sedimentation of waters
- Trial methods to reduce nutrients and toxins from run-off eg. Nutrient traps
- Establish partnerships with landholders and Government agencies to improve coordination and management of the impact of large animals on wetland degradation
- Investigate and promote the use of local, native species for landscape rehabilitation and pasture improvement
- Educate land managers and the public about causes of cave damage and appropriate behaviours
- Identify education needs for groups (community, schools, industry and agency) and develop and implement programs to meet the needs of the groups
- Mining and irrigation activities to reduce discharge through improvements to water use efficiency
- Pastoralist to improve infiltration through vegetation cover and soil condition management on catchment scale
- Improve capacity of landholders to eradicate or control invasive species
- Investigate and encourage off reserve conservation of high value waterways eg. Wetlands, caves
- Priority list for Management Plans developed including off-reserve wetlands and waterways
- Improve the understanding of water quality in the Ord Catchment
- Investigate and start to implement water use efficiency and water reuse programs in major towns
- Incorporate Aboriginal values and priorities for water resources
- Increase grey water use in towns and communities
- Reduce poorly planned development of water resources
- Implement Water Use Improvement Plans

- Develop BMP Guidelines and support implementation for Community/Townsites and private users

**Matters for Targets Addressed**

- Inland aquatic ecosystem integrity
- Improved land/water management practices adopted
- Land Salinity
- Water Quality
- Land
- Native Vegetation communities integrity
- Ecologically significant invasive species

**Milestones Achieved**

The following table provides information on initial milestones, with more detailed milestones being developed as the program is implemented. Future milestones will be included in contracts with proponents and used to monitor and manage activities.

<b>Milestone</b>	<b>Date achieved</b>
One BMP code developed for community water quality monitoring programs	<b>July 2006</b>
Studies undertaken on waterscapes in the region to assist with prioritisation process	<b>July 2006</b>
Monitoring of groundwater implemented in the Kimberley	<b>August 2006</b>
One education document produced on cultural or ecological values of waterways	<b>August 2006</b>
Pest animal control along 600km of river for grazing animals	<b>September 2006</b>
2 training sessions for EMS undertaken in the Ord Catchment	<b>October 2006</b>
8 training days held for community monitoring programs – two in each sub-region	<b>October 2006</b>
A surface water study undertaken in the Kimberley	<b>October 2006</b>
5 EMS plan developed	<b>December 2006</b>
One wetlands research program developed and implemented to reduce nutrients and toxins in run-off	<b>December 2006</b>
2 best management practice guidelines developed for water use	<b>January 2007</b>
Develop and implement One Sub catchment plans developed in the Gascoyne/Murchison	<b>February 2007</b>
4 training sessions held for water use	<b>March 2007</b>
60,000ha of land treated for erosion	<b>March 2007</b>
A surface water study undertaken in the Pilbara	<b>June 2007</b>
A surface water study undertaken in the	<b>June 2007</b>

Gascoyne/Murchison	
8 training days held for community monitoring programs – two in each sub-region	<b>October 2007</b>
Develop and implement One Sub catchment plans in the Pilbara	<b>October 2007</b>
Develop and implement One Sub catchment plans developed in the Kimberley	<b>February 2008</b>

### Primary Output Categories

- Resource Assessment
- On Ground Works

### Activity / Outputs Schedule

2005/2006 Activity	2006/2007			2007/2008								
	NHT \$	NAP \$	Other	Outputs	NHT \$	NAP \$	Other	Outputs				
Improving the knowledge base of the regions waterscapes	200,000	40,000		<p>3 studies undertaken for the prioritisation of waterscapes in the region</p> <p>4 training programs implemented</p> <p>1 education document produced on cultural or ecological value of a waterway</p> <p>1 wetland study undertaken</p> <p><b>ORD</b></p> <p>3 newsletters developed</p> <p>3 non-training forums held</p> <p>10 interpretive signs developed</p> <p>2 field days</p> <p>2 decision support tools</p> <p>2 BMP guidelines developed</p>	165,000	30,000		<p>2 BMPs developed</p> <p>4 training programs implemented</p> <p>1 Decision support tool developed</p> <p>10, 000 ha of wetlands protected</p> <p>1 wetlands BMP developed</p>	65,000	20,000		<p>2 BMPs developed</p> <p>4 training programs implemented</p> <p>10, 000 ha of wetlands protected</p>
Assisting water users to use their water sustainably	110,000	560,000			80,000	490,000		<p>1 decision support tool developed</p> <p>2 training sessions</p>	55,000	410,000		<p>1 decision support tool developed</p> <p>1 training sessions held</p>



On-ground management to protect and / or enhance catchments, waterways and wetlands	590,000	510,000	280,000	3 training sessions held for water use <b>ORD</b> 100 ha of wetlands protected 100 ha of riparian vegetation protected	480,000	420,000	200,000	held for water use	380,000	360,000	160,000		30, 000 ha of land treated for soil erosion through engineering works 1 catchment plan developed 1 BMP code developed
				30, 000 ha of land treated for soil erosion through engineering works 7 training events held 1 BMP developed 10 sites monitored 1 community engagement activity 200 ha of pest plant control				5 Training events held 30, 000 ha of land treated eg erosion control, fencing and bollards 1 catchment plan developed 35 sites monitored 2 community engagement activities 100 ha of pest plant control					

## ***Sustainable Management of the Coast and Coastal Waters***

### **Program Summary**

This Program focuses primarily on Activities to improve the knowledge base about significant coastal and marine communities in the Region and to support on-going management of coastal areas of high conservation value such as Shark Bay, Ningaloo, the Montebello and Barrow Islands, Dampier Archipelago, off-shore islands, and the Derby–Wyndham coastline.

With a focus on near coastal waters and coastal land, coastal and marine resources will be protected by supporting Activities including, managing visitor pressures, managing fish resources, encouraging sustainable tourism and planning for future development of coastal areas, as well as minimising the threat of introduced marine pests. This Program also supports education and community monitoring activities.

### **Program Description**

The Program is comprised of two key activities:

#### **Monitoring and Evaluating Marine and Coastal Resources**

This Activity will involve the community in monitoring significant coastal and marine species and of marine water quality. Such monitoring will target turtles, manta rays, dugongs, shorebirds and other significant species, as well as the impacts of marine waste, recreational activities including fishing and invasive marine species. Evaluation of proposed and past monitoring will guide on-ground action to protect coastal and marine resources some of which will be funded through this Activity such as the installation of infrastructure.

#### **Planning and Management of the use of Coastal Lands and Waters**

This Activity will support the preparation of local management plans and their implementation for coastal and marine areas that are subject to high levels of human use and/ or conservation value. This includes supporting action planning for management plans or strategies already in place such as the Carnarvon-Ningaloo Coast Regional Strategy and threatened species recovery planning. The Activity will also fund the implementation of management plans that are complete but awaiting resources to conduct on-ground action, with an emphasis on community involvement in implementation. Lastly it will review current practices utilised in the marine and coastal-based tourism industry and determine best management practice to be included into sustainability management system certification.

### **Asset Description**

The seascapes of the Rangelands, which includes wide bays, estuaries, coral reefs, mudflats, islands and atolls, and mangroves to name a few, are important resources.

The diversity of geomorphological features along the coast are valued as high conservation areas, habitats for iconic and threatened species, cultural knowledge, recreation, which includes boating and fishing, and for industrial access by deepwater ports.

The Activities in this Program aim to protect marine species diversity through the protection of coastal waters and coastal land. High conservation habitats and species are protected through the implementation of management guidelines.

## Threat Description

The major threats to marine and coastal resources are the:

- over extraction of resources
- the introduction of pest species
- increased and/ or inappropriate use of marine and coastal areas. Human activity causes erosion, pollution and habitat destruction, and may have many other indirect impacts on biodiversity. This can be managed through coastal management plans and tourism access plans, as well as education, and where appropriate, the accreditation of tourism operators, to ensure best management practice.

## Contribution to Target or Resource Condition

This Program provides tools for the protection of marine species through education and awareness, to reduce the occurrence of pest species being introduced.

Tools will be developed for the management of ports, over extraction of fish resources and the protection of iconic and threatened species.

The management and protection of high priority conservation areas provides a tool that assists in the protection of high use areas along the Rangelands coast.

## Priority and Justification for Investment

### Priority – High

#### Justification

This Program addresses nine high priority targets and six medium out of a total of 20 high priority targets relevant to the Program. These were selected on the basis of community views and a need to continue momentum. Activities that address a number of key high priority targets including some priority research studies have not been able to be supported as funds are limited.

#### Risk Factors

Risks identified	Management of Risk
Participation in NRM is constrained by the size of the Rangelands, the remoteness of many regions, the sparse population and the diversity of cultures and landscape	Local NRM facilitators and managers to adopt approaches to suit local situations
Actions under the program may prove to be more complex technically and/or more time consuming than originally expected	The Investment Plan and activities to be revised annually to reflect increased understanding from progressive implementation of activities

## Resource Condition Targets

**RCT 1** Community capacity for natural resource management is significantly enhanced by 2025 as measured by participation in NRM projects

**RCT 2** Culture and heritage for the rangelands are conserved and increasingly valued by the community by 2025

**RCT16** Maintain and improve condition of priority terrestrial coastal, and all island habitats in the Rangelands, as measured at representative sites by 2020, with a quantified target set by 2006

**RCT17** By 2025, environmental water quality in estuarine and marine areas of the Rangelands to be maintained or improved to meet ANZECC guidelines and standards or specific geographical guidelines for water quality by 2008

**RCT18** Maintain or improve the conservation status of marine and coastal native species and assemblages in priority areas by 2025

**RCT19** By 2025, eradicate or reduce the abundance of significant invasive species in marine and coastal areas

**RCT20** The comprehensiveness, adequacy and representativeness (CAR) of all marine and coastal ecosystems in formal protected areas is improved on a priority basis by 2015, compared to 2005 baseline

### Management Action Targets

**S4** By 2006 support the implementation of 3 recreation and tourism management frameworks

**S5** By 2010 develop and commence the implementation of integrated coastal management plans that foster the principles of ecologically sustainable development and aim to protect 6 areas of ecological importance

**S8.** Implement an educational program focused on the sustainable use of coastal environments and coastal and marine biodiversity targeting user groups and other key stakeholders by 2008

**S9** By 2010 80% of nature-based tourism operators are operating within the accepted principles of accredited eco-tourism

**S10** By 2010 20 culturally significant site to be protected and/or restored where degradation has occurred

**L18** Develop indigenous traineeships and ranger programs in consultation with traditional owners by 2008

**S12.** By 2008, marine ecosystems, values and associated threatening processes have been identified, characterised and prioritised for the Rangelands

**S13** By 2005, marine environmental quality parameters are established for the region using ANZECC Guidelines and Standards and a monitoring program implemented by 2007

**S14.** By 2006, develop and implement a collaborative comprehensive marine and coastal monitoring program for priority biodiversity areas and areas under development pressures

**S15.** By 2007, develop a collaborative research plan for the marine and coastal areas of the Rangelands Region in partnership with key stakeholders

**S16.** Quantify the impact of commercial fishing, recreational fishing and aquaculture activities on target and non- target species by 2010

**S17.** By 2007, implement a marine water quality management program.

**S19.** By 2008, implement sustainable management practices for recreational fishing across 5 target species

**S20** Significantly improve the conservation status of 30% of significant species and ecological communities by 2010

**S21.** By 2010, coordinated programs are in place to detect, monitor and control invasive species in all priority marine, coastal and island environments

**S22.** Develop three management plans, which include frameworks and initiatives to improve biodiversity conservation in priority coastal and marine areas of the Rangelands by 2010

### Management Actions

- Identify priority gaps in knowledge and develop a list of priority research questions for the Rangelands Coast by 2005
- Identify and prioritise key marine ecosystems and values and their associated threatening processes
- Determine the impacts of human activities on seagrass, coral, mangrove and algal communities
- Quantify the impact of recreational fishing on biodiversity and fish resources through survey and monitoring
- Establish guidelines and a monitoring framework for marine and coastal waters environmental quality
- Develop a staged works program for control and eradication of invasive species
- Implement a community training and education program with a focus on marine and coastal community monitoring
- Continue to take an adaptive management approach to prevent the over-exploitation of fish stocks
- Implement educational programs for tourism operators (including ecosystem values) through including the involvement of local and state government and community
- Encourage tourism operators to educate tourists about NRM with a focus on valuing and protecting the values of the Rangelands coasts
- Develop partnerships between Traditional Owners and other natural resource managers, local government and coastal management groups;
- Support the development of and implementation of recommendations from Bycatch Action Plans
- Investigate human impacts on threatened species and threatened ecological communities
- Support the development and implementation of coastal strategies and management plans throughout priority areas
- Marine waste disposal and management facilities are constructed at all highly used areas in particular moorings, boat ramps, marine and jetties
- Implementation of Recovery Plans for threatened species and threatened ecological communities on a priority basis

### Matters for Targets Addressed

- Estuarine coastal and Marine Habitats

### Milestones Achieved

The following table provides information on initial milestones, with more detailed milestones being developed as the Program is implemented. Future milestones will be included in contracts with proponents and used to monitor and manage activities.

<b>Milestone</b>	<b>Date achieved</b>
1 Marine studies undertaken	<b>June 2006</b>
1 installation of marine waste facilities	<b>June 2006</b>
500km of coastal wetlands protected	<b>August 2006</b>
1 marine species study undertaken	<b>October 2006</b>
1 recreational fishing species study undertaken	<b>October 2006</b>
500km of pest species control	<b>October 2006</b>
3 priority coastal areas protected by fencing	<b>January 2007</b>
1 Marine studies undertaken	<b>January 2007</b>
6 monitoring sites developed	<b>February 2007</b>
2 best management practice guidelines developed for tourism management	<b>March 2007</b>
1 best management practice guideline developed for management of a high priority pest	<b>June 2007</b>

### **Primary Output Categories**

- Resource Assessment
- On-ground works

**Activity / Outputs Schedule**

2005/2006		2006/2007			2007/2008								
Activity	NHT \$	NAP \$	Other	Outputs	NHT \$	NAP \$	Other	Outputs					
Monitoring and Evaluating Coastal and Marine Resources	270,000			2 educational packages developed 6 sites monitored 1 species study undertaken 1 marine study undertaken 2 BMP guideline developed for management of a high priority pest	215,000			6 sites monitored 1 species study undertaken	160,000				6 sites monitored

<p>Planning and Management of the use of Coastal Lands and Waters</p>	<p>560,000</p>			<p>2 best management practice guidelines developed for tourism management 2 BMP guidelines developed 1 marine study undertaken 500 ha of coastal wetlands protected 6 sites monitored</p>	<p>465,000</p>		<p>500 ha of pest plant control 1,000 ha of coastal indigenous vegetation protected by fencing 500 km of pest species control 6 sites monitored</p>	<p>380,000</p>			<p>6 sites monitored</p>
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# RANGELANDS

NRM Co-ordinating Group

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