

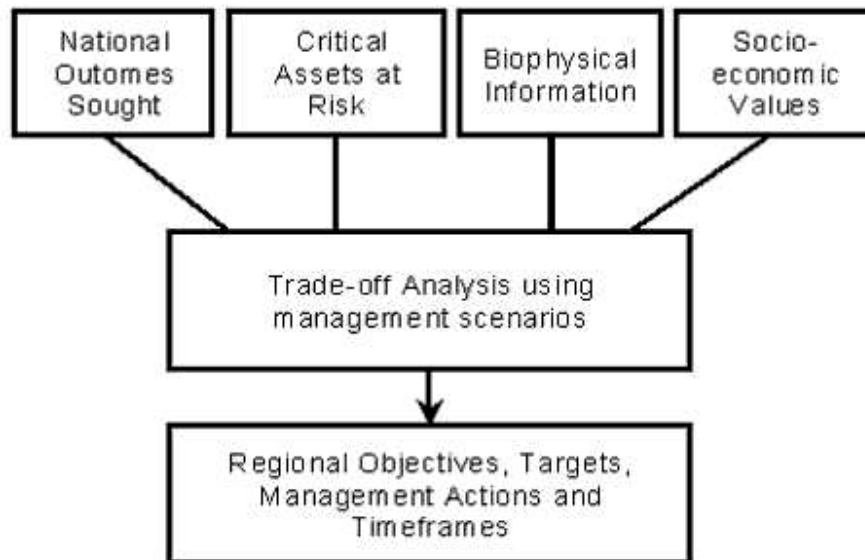
Section 4 Targets

4.1 Introduction

The *National Framework for Natural Resource Management Standards and Targets* establishes the principles and requirements for the development of targets to guide investments in NRM. Under this framework targets are characterised as Aspirational Targets, Resource Condition Targets, and management actions targets.

- **Aspirational Targets (AT's)** - these include reference to long-term targets with associated statements about the desired condition of natural resources in the longer term (eg 50+ years). These targets are guides for the Region's planning and set a context for the measurable and achievable targets required under the National Framework.
- **Resource Condition Targets (RCT's)** - these include reference to specific, time-bound and measurable Resource Condition Targets. The timeframe to achieve these targets is likely to be in the order of 10–20 years. Nonetheless, the targets are pragmatic and achievable. The targets will be developed iteratively and will be examined using benefit / cost analysis.
- **Management Action Targets (MAT's)** - these include reference to short-term targets (1-5 years), relating to management actions or capacity building. These targets relate to management actions that will ensure progress towards the longer-term Resource Condition Targets.

The National Framework specifies National outcomes and a minimum set of matters for which all regions must set regional targets (see Table 17). Central to the setting of Resource Condition Targets at the regional scale, will be an understanding of the social and economic consequences that may arise in the delivery of actions towards the targets. It is important that an analysis is undertaken, based on an appropriate level of social, economic as well as environmental data (see Figure 31).



Source: *Bilateral Agreement Between the Commonwealth of Australia and the State of Western Australia* (2002)

Figure 31: *Process for setting objectives and targets within regional plans and selecting a set of management actions to achieve them.*

Table 17: National outcomes and minimum set of regional targets

National outcomes	Matters for which regional targets must be set
The National outcomes are aspirational statements about desired National natural resource outcomes	Resource condition matters for targets
<ol style="list-style-type: none"> 1. The impact of salinity on land and water resources is minimised, avoided or reduced. 2. Biodiversity and the extent, diversity and condition of native ecosystems are maintained or rehabilitated 3. Populations of significant species and ecological communities are maintained or rehabilitated. 4. Ecosystem services and functions are maintained or rehabilitated. 5. Surface and groundwater quality is maintained or enhanced. 6. The impact of threatening processes on locations and systems which are critical for conservation of biodiversity, agricultural production, towns, infrastructure and cultural and social values, is avoided or minimised. 7. Surface water and groundwater is securely allocated for sustainable production purposes and to support human uses and the environment, within the sustainable capacity of the water resource. 	<ol style="list-style-type: none"> 1. Land salinity. 2. Soil condition. 3. Native vegetation communities' integrity. 4. Inland aquatic ecosystems integrity (rivers and wetlands). 5. Estuarine, coastal and marine habitats integrity. 6. Nutrients in aquatic environments. 7. Turbidity / suspended particulate matter in aquatic environments. 8. Surface water salinity in freshwater aquatic environments. 9. Significant native species and ecological communities. 10. Ecologically significant invasive species.
<ol style="list-style-type: none"> 8. Sustainable production systems are developed and management practices are in place, which maintain or rehabilitate biodiversity and ecosystem services, maintain or enhance resource quality, maintain productive capacity and prevent and manage degradation. 	Management action matters for targets
	<ol style="list-style-type: none"> 1. Critical assets identified and protected. 2. Water allocation plans developed and implemented. 3. Improved land and water management practices adopted.

Source: *Bilateral Agreement Between the Commonwealth of Australia and the State of Western Australia (2002)*

4.2 Target Setting

As described in Section 3 the Council has adopted an asset-based approach to guide the development of regional targets and associated management actions. By using an asset-based approach to NRM this Strategy will ensure that targets and associated management actions are focused on the protection of high value natural resources. The intended outcome of this approach is that investments will be prioritised towards assets of greatest importance.

The Council has undertaken a comprehensive community and stakeholder engagement consultation process. This process was used to identify the assets, values and threats to the natural resources of the Region. As a result of this process an inventory of natural resource assets and their associated values have been identified by the wider regional community and key stakeholders. (Appendix 7). This inventory led directly to the development of seven Aspirational Targets (Table 18), which reflect local, regional and institutional priorities for achieving improved natural resource management outcomes. These targets also clearly link to the goals of the original strategy, which were also developed with wide consultation.

Table 18: Swan Region Aspirational Targets

Ref	Aspirational Targets
AT 1	Improve land condition in the Region and ensure land use planning and development is sustainable and appropriate to the land capability and suitability.
AT 2	Improve the quality, ensure appropriate and environmentally sustainable use and minimise impacts to maintain water resources in all aquatic systems in the Region.
AT 3	Conserve, maintain and enhance the biodiversity and natural habitat of all species of the Region's indigenous plants and animals, natural fungi and micro-organisms including their genetic variation, and the functionality of the ecosystems which contain these species.
AT 4	Conserve, maintain and enhance coastal and marine biodiversity, improve water quality and ensure appropriate and sustainable use to ensure the ecological integrity and productivity of coastal and marine systems.
AT 5	Improve air quality in the Region to ensure healthy ecosystems.
AT 6	Protect, enhance and incorporate cultural heritage values within the Region to achieve sustainable natural resource management outcomes.
AT 7	Build regional capacity to promote attitudinal, behavioural and institutional change to achieve sustainable natural resource management outcomes.

To assist the assessment of natural resource assets in the Region, the Council established expert panels for each of the following asset categories:

- Land
- Water
- Biodiversity - terrestrial and aquatic
- Coastal and Marine - biodiversity, water quality
- Air
- Cultural Heritage
- Regional Capacity

Panel participants were selected from Government, academic, and industry sectors as well as respected members of the wider regional community. Participants across the Region were selected according to their expertise, knowledge and experience in the above fields. The purpose of each expert panel was to:

- Verify community identified assets and values
- Identify threats and analysis of risks
- Confirm community established Aspirational Targets
- Identify and evaluate management options for adoption

Each panel undertook to determine the scale, urgency and feasibility of mitigating the threats to an asset and the capacity of Government, the wider regional community and industry to achieve the responses or interventions required.

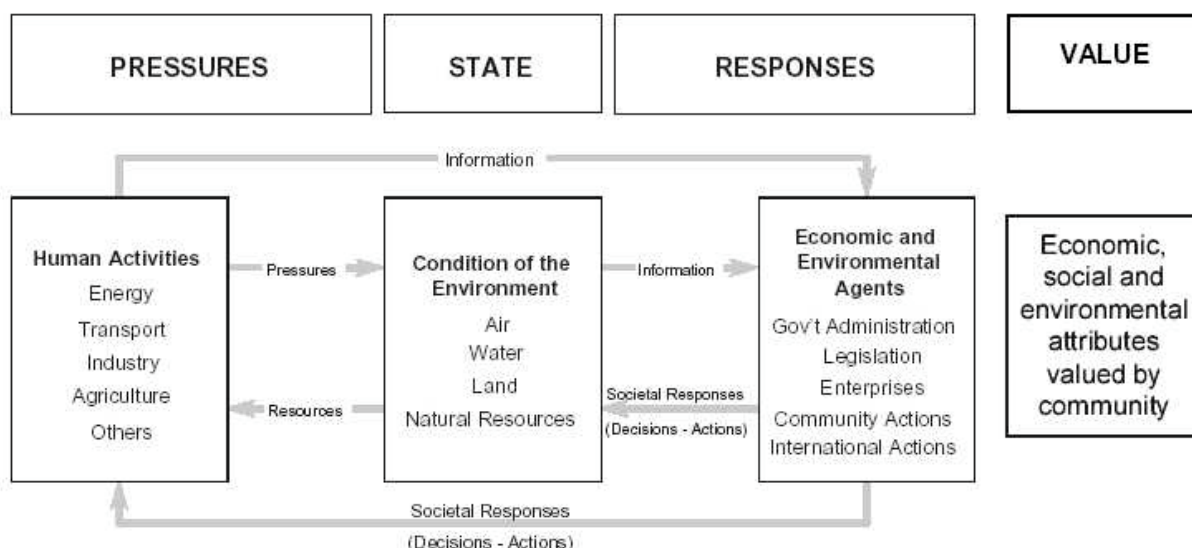
To assist the expert panels in their deliberations the Council developed a framework to provide a foundation for the assessment of the Region's natural resource assets as the basis for a target setting process (Appendix 19). Each asset was assessed according to the following:

- **State** (Condition) - the quality and integrity of the resource asset
- **Pressure** (Threat) - the activities or processes that threaten or degrade the state of the asset
- **Response** (Management Action) - the programs and practices to address pressures on the asset

This approach has been based upon the Pressure-State-Response model (OECD 1993) developed by the Organisation for Economic Development (Figure 32), and adapted from the methodology developed by the Western Australian State Government for the prioritisation of the State's waterway requirements (Water and Rivers Commission, 2002).

This approach has enabled the Council to focus on addressing the causes rather than symptoms of natural resource management problems.

The purpose of this approach was to provide a transparent and transferable consultative framework to enable the development of targets and the prioritisation of the Region's NRM requirements by incorporating environmental, economic and social considerations.



Source: OECD 1993

Figure 32: Pressure-State-Response model

The Pressure-State-Response approach to target setting and prioritisation enables demonstration of how the Council is integrating NRM requirements across natural resource asset categories in the Region to address key threatening processes. It provides a foundation for consistency with an environmental management systems approach, the Western Australian State Government (Environmental Protection Authority, 2003), and the Australian Government approach to State of Environment reporting (Australian State of the Environment Committee, 2001).

Using the Pressure-State-Response approach enables alignment of monitoring and evaluation mechanisms at Local, regional, State and National levels. This will provide:

- Clarification of the roles and responsibilities for effective and efficient integrated NRM
- Identification of priorities for management
- A basis for integrated monitoring and evaluation

As part of the target setting process, details of all the available baseline data including useful and applicable measures of resource condition were required to assist regional NRM planning. However, in some instances baseline data sets do not yet exist. Therefore, identification of data gaps or deficiencies in current monitoring arrangements had to be identified to enable adequate resource condition assessment from which, appropriate and effective Resource Condition Target setting can proceed.

Under this approach each expert panel produced a set of RCT's and MAT's as priorities for investment. After review of the Strategy and targets through the Australian and State Government assessment process prior to the public consultation period, the targets were refined and presented in the public comment document.

The level of feedback through the public submissions process relating to targets have resulted in further refinement of the targets, in consultation with key technical support in the State and Australian Governments, to meet accreditation requirements. The targets now clearly address the required matters for targets (outlined in the National Framework for Matters for Targets). They clearly identify relationships between RCT's and MAT's, and continue to reflect the intent of the targets identified throughout the Strategy development phase.

The targets set out in the tables below have been grouped under the following theme headings to facilitate demonstration of how the Council is integrating NRM requirements across natural resource asset categories in the Region to address key threatening processes:

- Resource assessment
- Planning
- On-ground action
- Regional capacity

4.2.1 Partnerships

The target setting process used to develop this Strategy identifies a number of issues that cannot be directly influenced through the functions of the Swan Catchment Council (for example the process of land use planning). It will be through the establishment of appropriate Partnership Agreements with the relevant key stakeholders identified in Management Action Targets below that will enable their implementation.

4.2.2 Roles and Responsibilities

Partnership agreements will outline the roles and responsibilities according to the NHT Bilateral Agreement, and arrangements between the Region and the Australian and State Governments for investment within the Region. Partners will be engaged and committed to make effective and efficient contributions to NRM outcomes within the Region according to each specific partnership agreement. Outlined below is a summary of the roles, responsibilities and capacities of stakeholders to implement actions that will assist with decision-making on capacity building actions in the Region.

Indigenous communities

- Provide current and historical knowledge and understanding of environment

Local community

- Provide the will and commitment to implement on-ground activities
- Application of local knowledge and skills
- Encourage awareness, understanding and appreciation of the environment due to personal interest and close proximity to issues

Local Government

- Funding for research
- Provide management of environmental areas, policy development, regulation and planning
- Source of technical advice and on-ground support

State Government

- Funding for research
- Provide management of environmental areas
- Set State direction, environmental policies and regulations, laws and their implementation and enforcement
- Source of technical advice and on-ground support
- On-ground management of (specified) lands and waters, direct management of biodiversity, and research

Australian Government

- Provide research, eg global warming issue
- Coordinate National and international policy and protocols, eg COAG and Kyoto
- Provide resources for on-ground environmental works

Industry

- Initiate changes that would have impacts on environmental quality
- Provide sponsorship for environmental projects

Education

- Provide avenues for awareness raising and education on natural resource management issues, helps to develop an appreciation for the environment and increasing skills and knowledge on how to protect it
- Research, promotes and encourages new innovations

4.3 Targets

4.3.1 Land

Table 19: Land resource targets

REF	TYPE	TARGET	MANAGEMENT ACTION	INDICATOR
		MATTER FOR TARGET - LAND SALINITY		
LR1	RCT	Reduction in the area of land affected by salinity, within the Avon Upper Swan National Action Plan Region, by 2020 (with a quantified target set by December 2005)		<ul style="list-style-type: none"> • Location and size of salt affected areas • Depth to groundwater • Groundwater salinity
Resource Assessment				
LM1.1	MAT	Priority areas for salinity risk management established in the Avon Upper Swan Region by 2005	<ul style="list-style-type: none"> • Facilitate salinity risk mapping, integrated surface and groundwater water quality monitoring and establishing salinity trends • Assist interpretation of results and ground-truthing with land managers • Identify priority areas for protection and remedial actions based on risk assessment, including areas of high biodiversity value, high value water resources, and land of high value for primary production • 1-5 year priority Salinity Actions from the WA State Salinity Strategy (2000) implemented by 2009 • Develop and implement an integrated regional information system to enhance planning, implementation, monitoring and evaluation 	<ul style="list-style-type: none"> • Number of sites monitored • Number of salinity risk studies • Information management system developed
Planning				
LM1.2	MAT	All Local and State Government planning agencies using local area land capability and suitability information by 2009	<ul style="list-style-type: none"> • Facilitate the inclusion of land salinity risk assessments as a component of the planning approval process • Support the review of the policy and legislation, including Environmental Protection Policies and, Statements of Planning Policy • Assist in the development and implementation of decision support tools for planners, identifying land use change scenarios and predicting impacts 	<ul style="list-style-type: none"> • Decision support tools • Land salinity protocols and procedures developed.
On-ground Actions				
LM1.3	MAT	Implementation of actions to address land salinity in priority areas of the Avon Upper Swan NAP Region by 2009	<ul style="list-style-type: none"> • Implementation of large scale land salinity remedial actions in priority areas identified in LM1 • Implement land use and management support programs (e.g. planning decision support tools, best practice guidelines, workshops, education and training, demonstrations) addressing land salinity and restoration. • Assist development and implementation of management strategies for saline sites or those at risk, including property and catchment planning 	<ul style="list-style-type: none"> • Number of sites • Area (hectares) • Number of sub-catchment plans

REF	TYPE	TARGET	MANAGEMENT ACTION	INDICATOR
Capacity Building				
LM1.4	MAT	30% increase in community participation in land salinity education, mitigation and remediation actions by 2009	<ul style="list-style-type: none"> Facilitate, support and motivate community and stakeholder involvement in land salinity actions Facilitate best practice training in land salinity management, through community-training programs such as Property Planning and Heavenly Hectares through the integrated regional education and training program Develop a landholder information service on sustainable land management Develop and implement two new sector specific primary and secondary industry best management practice 	<ul style="list-style-type: none"> Facilitators and Coordinators FTE positions Number of skills and training events held and number of participants Number of key materials developed and quantity distributed
MATTER FOR TARGET – SOIL CONDITION				
LR2	RCT	Maintain and improve soil condition, as measured at representative sites, including extent of water erosion, waterlogging and acid sulfate soils, by 2020 (with a quantified targets set by December 2005)		<ul style="list-style-type: none"> Targets set Soil erosion Waterlogging
Resource Assessment				
LM2.1	MAT	Establish benchmarks and monitoring at representative sites for water erosion, waterlogging and acid sulfate soils by 2005	<ul style="list-style-type: none"> Identify areas of agricultural land affected by water erosion and waterlogging and the level of application of best management practice Identify priority areas for remedial actions based on risk assessment, including areas of high biodiversity value, high value water resources and land of high value for primary production Assessment of areas of acid sulfate soils risk, and implementation of Framework for Acid Sulfate Soils Support and integrate development of monitoring systems to analyse and set baseline and trend information for land condition parameters Develop an integrated regional information system to enhance planning, implementation, monitoring and evaluation 	<ul style="list-style-type: none"> Number of sites monitored Number of soil risk studies Information management system developed
Planning				
LM2.2	MAT	100% of all relevant current NRM policy and legislation reviewed and recommended amendments to minimise risk of water erosion, waterlogging and acid sulfate soils made by 2006	<ul style="list-style-type: none"> Support the review of the policy and legislation, and recommend changes to Environmental Protection Policies, Statements of Planning Policy local planning policies to address water erosion, waterlogging and acid sulfate soils risk Facilitate the inclusion of ASS risk assessments as a component of the Local and State Government agencies planning approval process Assist in the development and implementation of decision support tools for planners, identifying land use change scenarios and predicting impacts 	<ul style="list-style-type: none"> Number of best management practice codes / guidelines developed. Number of decision support tools

REF	TYPE	TARGET	MANAGEMENT ACTION	INDICATOR
On-ground actions				
LM2.3	MAT	Regional soil health program developed, with implementation of identified remedial and preventative actions in identified priority areas by 2009	<ul style="list-style-type: none"> Develop and implement programs for priority areas for water erosion control, waterlogging remediation and management of acid sulfate soils risk, including implementing industry best practice guidelines Implementation of State Weed Strategy (2001) 	<ul style="list-style-type: none"> Area (hectares) of land treated for soil erosion through exclusion fencing Number of sites Area (hectares) of pest plant control
LM2.4	MAT	Industry Best Management Practices (BMP's) defined with benchmarks for implementation established by 2009 for eight land use / industry sectors	<ul style="list-style-type: none"> Define current industry BMP's and support implementation of sustainable BMP programs for primary industry and small-medium enterprise sectors Define current industry BMP's and support implementation of sustainable BMP programs for secondary industry sectors 	<ul style="list-style-type: none"> Number of best practice guidelines relating to improving soil and land condition
Capacity Building				
LM2.5	MAT	30% increase in land managers, planners and community participation in soil condition education, mitigation and remediation activities by 2009	<ul style="list-style-type: none"> Facilitate, coordinate, support and motivate community groups Develop and implement a training and support program for best management practices relating to soil condition and remediation, including through tertiary institutions and TAFEs Facilitate implementation of soil health management protocols, guidelines and training Continue and expand existing community training programs such as Property Planning and Heavenly Hectares through the integrated community education and training program Rural, semi-rural and special rural zone landholders have access to market based instruments/incentives for sustainable land management by 2007 Form strategic partnerships with the Urban Development Institution of Australia (UDIA) for protection of land assets Assist identification of information needs / gaps in quality of land resource information 	<ul style="list-style-type: none"> Facilitators and Coordinators FTE positions Number of skills and training events held and number of participants Number of key materials developed and quantity distributed

4.3.2 Water

Table 20: Water resource targets

REF	TYPE	TARGET	MANAGEMENT ACTION	INDICATOR
MATTER FOR TARGET – AQUATIC ECOSYSTEM INTEGRITY				
WR1	RCT	Maintain and improve condition of inland aquatic ecosystem integrity, as measured at representative sites, by 2020 (with quantified targets for major rivers and waterways in the Region set by 2005)		<ul style="list-style-type: none"> Riparian vegetation community assemblages Riverine physical structure and in-stream habitat Water quality hydrology
Resource Assessment				
WM1.1	MAT	100% of priority rivers and waterways in the Region identified for protection by 2005	<ul style="list-style-type: none"> Consolidate baseline data and analyse priority rivers and waterways condition Continue Foreshore Condition assessment project Investigate extent and impact of marine pests in the Swan-Canning estuary and develop appropriate management response mechanisms Determine water and flow dependency for surface and groundwater ecosystems Establish baseline and consolidate ecosystem integrity condition Consolidate and analyse water quality monitoring baseline and trend data for priority rivers and waterways Develop and implement catchment report card program to monitor changes in resource condition over time 	<ul style="list-style-type: none"> Number of studies Number of sites monitored Number of inland aquatic studies
Planning				
WM1.2	MAT	100% of all relevant NRM legislation and policy reviewed and amendments recommended for the protection and management of the Region's major rivers and waterways by 2006	<ul style="list-style-type: none"> Support the review of the policy and legislation, including Environmental Protection Policies and, Statements of Planning Policy Assist in the development and implementation of decision support tools for planners, identifying land use change scenarios and predicting impacts Continue to develop and implement subregional and local action plans Assess and establish need for additional EWPs Continue the implementation of Riverplan 	<ul style="list-style-type: none"> Number of sub-catchment plans developed Decision support tool developed Number of best practice guidelines developed
On-Ground Action				
WM1.3	MAT	Implementation of Environmental Water Provision (EWP) projects in the Canning, Helena and Brockman River catchments by 2007	<ul style="list-style-type: none"> Continue to develop and implement sub-regional and local action plans. Continue Canning River EWP project. Establish and implement project for Helena River EWP Establish and implement project for Brockman River EWP 	<ul style="list-style-type: none"> Area (hectares) planted to riparian indigenous species and streambank length (kilometres) of riparian vegetation protected Length of stream bank stabilised and number of structures Length of instream habitat established and number of large woody debris

REF	TYPE	TARGET	MANAGEMENT ACTION	INDICATOR
WM1.4	MAT	Develop and implement management and restoration programs for the Region's major rivers and waterways by 2007	<ul style="list-style-type: none"> • Implement strategic programs in areas identified in WM1.1 to manage and restore priority rivers and waterways • Continue the implementation of the Swan-Canning Cleanup Program Action Plan • Implement prioritised actions from Swan River Trust Foreshore Condition project • Continue large scale implementation of Riverbank and Swan Alcoa Landcare Program foreshore projects 	<ul style="list-style-type: none"> • Area (hectares) planted to riparian indigenous species and streambank length (kilometres) of riparian vegetation protected • Length of stream bank stabilised and number of structures • Areas (hectares) riparian indigenous vegetation protected by fencing and streambank length (kilometres) of riparian vegetation protected
Capacity Building				
WM1.5	MAT	30% increase in community participation in education, restoration, protection and management activities of the major rivers and waterways in the Region by 2009	<ul style="list-style-type: none"> • Coordinate, facilitate, support and motivate community groups • Support development, resourcing and implementation of restoration plans to protect major rivers • Facilitate the inclusion of stormwater education, water use efficiency and water conservation into the regional training and education program • Continue existing strategic community training programs such as SCCP Education program, Ribbons of Blue, Waterwise, Skills for Nature Conservation, Urban Nature and Land for Wildlife through the integrated regional education and training program • Develop and implement industry awareness BMP's for priority sectors of small-medium sized industries (SME's) • Support water resources restoration and management training through tertiary institutions and TAFE's • Form strategic partnerships with the Urban Development Institution of Australia (UDIA) and the Stormwater Industry Association (SIA) for protection of the waterways • Develop a Memorandum of Understanding between the Council and Swan River Trust to implement Riverplan 	<ul style="list-style-type: none"> • Number of FTE community support positions (facilitators and coordinators) • Number of community groups assisted • Number of other skills and training events held and number of participants (person days)

REF	TYPE	TARGET	MANAGEMENT ACTION	INDICATOR
WR2	RCT	Maintain and improve condition of inland aquatic ecosystems integrity, as measured at representative sites, by 2020 (with quantified targets for priority wetlands in the Region set by 2005)		<ul style="list-style-type: none"> Extent of regionally significant wetlands Nutrients Vegetation Macroinvertebrate indicator species Macroinvertebrate diversity and community composition
Resource Assessment				
WM2.1	MAT	100% of priority wetlands in the Region identified for protection by 2005	<ul style="list-style-type: none"> Consolidate baseline data and analyse priority wetland condition Develop an integrated regional information system to enhance planning, implementation, monitoring and evaluation Continue to update the Dept of Environment's Geomorphic Wetland Mapping data set for classification and evaluation of wetland resource condition Survey priority groundwater dependent ecosystems of the Region Conduct research into acid sulfate soil risk potential and existing groundwater contamination plumes Support the further development of groundwater-modelling programs for priority areas 	<ul style="list-style-type: none"> Integrated regional information system developed Number of studies Number of sites monitored Number of inland aquatic studies (wetlands)
Planning				
WM2.2	MAT	100% of all relevant NRM legislation and policy reviewed and amendments recommended for the protection and management of the Region's priority wetlands by 2006	<ul style="list-style-type: none"> Undertake a strategic review of Planning Policies and include requirements for hydrological assessments of development proposals near priority wetlands Finalise and implement Environmental Protection Policy (Swan Coastal Plain Wetlands) 	<ul style="list-style-type: none"> Number best practice guidelines developed Number of best practice codes developed
WM2.3	MAT	Develop, adapt and/or review allocation limits and management plans for groundwater areas by 2008	<ul style="list-style-type: none"> Incorporate sustainable limits and allocations for resource use through new Water Source Protection Plans and Land Use and Water Management Strategies Monitor commercial bores to ensure the development of sustainable allocations Review and document allocation limits, and include the principles of sustainable natural resource management. 	<ul style="list-style-type: none"> Number of groundwater studies
On-Ground Actions				
WM2.4	MAT	Develop and implement management restoration plans for priority wetlands by 2008	<ul style="list-style-type: none"> Implement strategic programs in areas identified in WM2.1 to protect, manage and restore priority wetlands Further development and implementation of Wetland Watch program Compliance surveys of licenses in priority groundwater areas Metering implementation in priority groundwater areas 	<ul style="list-style-type: none"> Area (hectares) of wetlands protected Area (hectares) of wetlands enhanced / rehabilitated

REF	TYPE	TARGET	MANAGEMENT ACTION	INDICATOR
Capacity Building				
WM2.5	MAT	20% increase in community participation in wetlands education, restoration, protection and management activities by 2009	<ul style="list-style-type: none"> Facilitate, support and motivate community groups Support development, resourcing and implementation of restoration plans to conserve and protect wetlands Facilitate the inclusion of stormwater education, water use efficiency and water conservation into the regional training and education program Continue and expand existing community-training programs such as Wetland Watch, Skills for Nature Conservation, Urban Nature and Land for Wildlife through the integrated regional education and training program Support wetland restoration and management training through tertiary institutions and TAFE's Form strategic partnerships with the Urban Development Institution of Australia (UDIA) and the Stormwater Industry Association (SIA) for protection of wetlands Implement a framework for incentive schemes and revolving funds for protection and conservation of priority wetlands by 2005 	<ul style="list-style-type: none"> Number of FTE community support positions (facilitators and coordinators) Number of community groups assisted Number of other skills and training events held and number of participants (person days)
MATTER FOR TARGET – NUTRIENTS IN AQUATIC ENVIRONMENTS				
WR3	RCT	Maximum concentrations, for priority waterways, do not exceed 0.1mg/L for total phosphorus and 1.0mg/L for total nitrogen, by 2020		TN, TP + flow leaving sub-catchments
Resource Assessment				
WM3.1	MAT	100% of the 1-5 year actions of the reviewed Swan-Canning Cleanup Program (SCCP) implemented by 2010	<ul style="list-style-type: none"> Continue implementation of SCCP including priority actions related to resource assessment, research and monitoring and evaluation Support identification of point-source nutrient export in priority areas to identify existing and potential sources of nutrients 	<ul style="list-style-type: none"> Integrated regional information system developed Number of studies Number of sites monitored
Planning				
WM3.2	MAT	100% of all relevant NRM legislation and policy reviewed and amendments recommended to address nutrient enrichment by 2006	<ul style="list-style-type: none"> Support the review of the policy and legislation, including Environmental Protection Policies and, Statements of Planning Policy Assist in the development and implementation of decision support tools for planners, identifying land use change scenarios and predicting impacts Continue to develop and implement sub-regional and local action plans Adoption by Local Government Authorities of the Local Government NRM Policy Manual Swan River Trust legislation review and implementation Implementation of Riverplan – Swan and Canning River EPP 	<ul style="list-style-type: none"> Number best practice guidelines developed Number of best practice codes developed Number of sub-catchment plans
On-Ground Action				
WM3.3	MAT	Implement identified remedial actions to address nutrient enrichment by 2007	<ul style="list-style-type: none"> Implement strategic programs, including nutrient intervention structures, in priority areas identified in WM3.1 to remediate nutrient enrichment Incorporate Water Sensitive Design and Total Water Cycle management principles in all new developments and/or retrofits Incorporate Water Sensitive Design into priority areas of the drainage network Design, develop and implement nutrient intervention structures Completion of the Sewerage In-fill Program 	<ul style="list-style-type: none"> Number of stormwater quality control devices Number of constructed wetlands

REF	TYPE	TARGET	MANAGEMENT ACTION	INDICATOR
Capacity Building				
WM3.4	MAT	20% increase in community participation in nutrient intervention education, restoration, protection and management activities by 2009	<ul style="list-style-type: none"> Facilitate, coordinate, support and motivate community groups Develop and implement industry awareness BMP's for priority sectors of small-medium sized industries (SME's) Continue implementation of rural landholder education and support programs such as Heavenly Hectares, property planning to address nutrient export in high risk areas Include stormwater education, water use efficiency and water conservation into the regional training and education program Continue and expand existing community training programs such as Swan-Canning Cleanup Program education initiatives, Great Gardens workshops, Ribbons of Blue, Wetland Watch and Skills for Nature Conservation, through the integrated regional education and training program Continue to provide incentives for landholders and land managers such as the Swan Alcoa Landcare Program Support wetland restoration and management training through tertiary institutions and TAFE's 	<ul style="list-style-type: none"> Number of FTE community support positions (facilitators and coordinators) Number of community groups assisted Number of other skills and training events held and number of participants (person days)
MATTER FOR TARGET - TURBIDITY/SUSPENDED PARTICULATE MATTER IN AQUATIC ENVIRONMENTS				
W4	RCT	Maintain and improve condition of aquatic environments in the Region, as measured at representative sites, by 2020 (with quantified targets for turbidity / suspended particulate matter set by 2005)		Total Suspended Solids (TSS) + Flow
Resource Assessment				
WM4.1	MAT	Establish monitoring systems to develop Resource Condition Targets for turbidity/suspended particulate matter by 2005	<ul style="list-style-type: none"> Establish baseline and trends and set targets Facilitate the integration of water quality monitoring programs Support the inclusion of biological indicators and an index of river condition in the development of monitoring systems Support undertaking of a sediment sourcing study to identify and assess active erosion areas and their impact on the Swan-Canning River system 	<ul style="list-style-type: none"> Integrated regional information system developed Number of studies Number of sites monitored
Planning				
WM4.2	MAT	100% of all relevant NRM legislation and policy reviewed and amendments recommended to address turbidity / suspended particulate matter by 2006	<ul style="list-style-type: none"> Adoption by Local Government Authorities of the Local Government NRM Policy Manual and Darling Range Erosion Manual Assessment of existing regulations for minimising erosion from urban and rural land uses Develop decision-making tools for land use planners to identify and address turbidity/particulate matter impacts 	<ul style="list-style-type: none"> Number best practice guidelines developed Number of best practice codes developed
On-Ground Actions				
WM4.3	MAT	Implement identified remedial actions to address turbidity / particulate matter by 2007	<ul style="list-style-type: none"> Implement strategic programs in priority areas identified in WM4.1 to remediate turbidity / particulate matter Develop and implement program foreshore and riparian restoration on waterways Develop and implement best management practice for minimising waterways and land erosion 	<ul style="list-style-type: none"> Length of stream bank stabilised Area (hectares) planted to riparian indigenous species and streambank length (kilometres) riparian vegetation protected

REF	TYPE	TARGET	MANAGEMENT ACTION	INDICATOR
Capacity Building				
WM4.4	MAT	20% increase in community participation in education, restoration, protection and management activities for managing turbidity / particulate matter by 2009	<ul style="list-style-type: none"> Coordinate, facilitate and support community groups Develop and implement restoration plans to conserve and protect waterways and wetlands Develop an integrated regional information system to enhance planning, implementation, monitoring and evaluation. Continue and expand existing community training programs such as River Restoration training, Wetland Watch, Skills for Nature Conservation, Urban Nature and Land for Wildlife through the integrated regional education and training program Support waterways and wetland restoration and management training through tertiary institutions and TAFE's Form strategic partnerships with the Urban Development Institution of Australia (UDIA) and the Stormwater Industry Association (SIA) for best practice management 	<ul style="list-style-type: none"> Number of FTE community support positions (facilitators and coordinators) Number of community groups assisted Number of other skills and training events held and number of participants (person days)
MATTER FOR TARGET- SURFACE WATER SALINITY IN FRESH WATER AQUATIC ENVIRONMENTS				
W5	RCT	Maintain and improve condition of surface waters in priority catchments in the Avon Upper Swan Region, as measured at representative sites, by 2020 (with quantified targets to reduce salinity set by 2005)		<ul style="list-style-type: none"> Electrical conductivity (EC) + flow
Resource Assessment				
WM5.1	MAT	Establish monitoring systems to develop Resource Condition Targets for surface water salinity in the Avon Upper Swan Region by 2005	<ul style="list-style-type: none"> Evaluate and coordinate available data and establish adequate monitoring systems Evaluate extent of rising water tables, salinisation of currently freshwater bodies, area affected by secondary salinity, and the risk of further salinity in the Ellen Brook, Brockman River, Wooroloo Brook and Helena River catchments Identify, map and develop management plans for all salinity risk areas 	<ul style="list-style-type: none"> Integrated regional information system developed Number of studies Number of sites monitored
Planning				
WM5.2	MAT	100% of all relevant NRM legislation and policy reviewed and amendments recommended to address surface water salinity in the Avon Upper Swan Region by 2006	<ul style="list-style-type: none"> Assessment of existing regulations for addressing surface water salinity in the Avon Upper Swan Region Decision-making tools for land use planners to identify and address surface water salinity impacts 	<ul style="list-style-type: none"> Decision support tool developed Number of best management practice guidelines developed Number of best management practice guidelines developed

REF	TYPE	TARGET	MANAGEMENT ACTION	INDICATOR
On-Ground Actions				
WM5.3	MAT	Implement identified remedial actions to address surface water salinity in the Avon Upper Swan Region by 2009	<ul style="list-style-type: none"> Implement strategic large-scale surface water salinity remedial actions in priority areas identified in WM5.1 Implement strategic large-scale surface water management programs in priority areas identified in WM5.1 	<ul style="list-style-type: none"> Area planted to terrestrial indigenous species Area (hectares) of terrestrial exotic perennial pastures Area (hectares) of terrestrial exotic plantation species Area of land treated for surface water management
Capacity Building				
WM5.4	MAT	20% increase in community participation in salinity education, mitigation and remediation activities by 2009	<ul style="list-style-type: none"> Coordinate, facilitate and support community groups Develop and implement restoration plans to address surface water salinity Develop an integrated regional information system to enhance planning, implementation, monitoring and evaluation. Continue and expand existing community training programs such as River Restoration training, Ribbons of Blue, Wetland Watch, Skills for Nature Conservation, Urban Nature and Land for Wildlife through the integrated regional education and training program Support land management, waterways and wetland restoration and management training through tertiary institutions and TAFE's 	<ul style="list-style-type: none"> Number of FTE community support positions (Facilitators and Coordinators) Number of community groups assisted Number of other skills and training events held and number of participants (person days)

4.3.3 Biodiversity

Table 21: Biodiversity targets

REF	TYPE	TARGET	MANAGEMENT ACTIONS	INDICATOR
MATTER FOR TARGET - NATIVE VEGETATION COMMUNITIES INTEGRITY				
BR1a	RCT	The comprehensiveness, adequateness and representativeness (CAR) of the protected area system (including formal reserves and off-reserves) is improved by 50% by 2015, based on 2005 baseline data		<ul style="list-style-type: none"> Extent of priority vegetation complex in each IBRA sub-region identified Reserve areas for inclusion identified No of areas acquired
BR1b	RCT	Maintain and improve the condition of high priority native vegetation (including formal reserves and off-reserves) by 2020, based on 2005 baseline data		
Resource Assessment				
BM1.1	MAT	100% of priority areas in each IBRA sub-region identified for inclusion into CAR reserve system by 2005	<ul style="list-style-type: none"> Review CAR reserve system by major landform element in each IBRA sub-region Develop natural diversity condition assessment framework and methodology Determine extent and condition of native vegetation complexes in each major landform element Identify priority native vegetation complexes in each major landform element Determine priority natural diversity areas for inclusion to CAR reserve system Determine priority natural diversity areas for protection to be retained outside the CAR reserve system 	<ul style="list-style-type: none"> Areas identified for inclusion in CAR system Areas identified for retention off-reserve
Planning				
BM1.2	MAT	25% of priority areas in each IBRA sub-region have natural diversity conservation plans developed by 2006	<ul style="list-style-type: none"> Review and prioritise existing conservation management actions for natural diversity areas, significant species populations, and threatened ecological communities Identify new reserves for locally and regionally significant natural diversity areas based on biodiversity values and principles of ecological viability Review area management plans and threat abatement plans and practices for the reserve system (including formal reserves and off-reserves) Develop guidelines and plans for sustainable natural diversity management Commence Bush Forever Phase II 	<ul style="list-style-type: none"> Number of management plans developed Guidelines developed
BM1.3	MAT	100% of all relevant NRM legislation and policy reviewed and amendments recommended for the protection and management of the Region's natural diversity by 2006	<ul style="list-style-type: none"> Establish and gain agreement on an urban growth boundary Review land planning process and identify cleared land suitable for development Review design codes for new urban areas Develop recommendations for local and regional structure planning processes Develop mechanisms to preferentially locate new developments on previously cleared land Develop area management plans Prepare local natural diversity strategies and action plans in accordance with <i>Local Government Biodiversity Planning Guidelines for the Perth Metropolitan Region</i> 	<ul style="list-style-type: none"> Review completed Mechanisms developed

REF	TYPE	TARGET	MANAGEMENT ACTIONS	INDICATOR
On-Ground Action				
BM1.4	MAT	100% of priority protected areas have an active conservation management response by 2006	<ul style="list-style-type: none"> Preparation and implementation of management plans and/or threat abatement plans where required 	<ul style="list-style-type: none">
BM1.5	MAT	10 local natural diversity strategies for priority areas outside the CAR reserve system implemented by 2006	<ul style="list-style-type: none"> Develop and implement local natural diversity strategies for priority areas Complete implementation of Bush Forever Phase I 	<ul style="list-style-type: none"> Number of sites protected Area (hectares) of sites protected
Capacity Building				
BM1.6	MAT	30% increase in community participation in education, restoration, protection and management activities high priority native vegetation in the Region by 2009	<ul style="list-style-type: none"> Develop and implement incentive mechanisms for private landholders to protect natural diversity (including formal mechanisms, such as conservation covenants, and informal agreements, such as Land for Wildlife) Develop regional information system to enhance natural diversity planning, management, monitoring and evaluation Continue and expand community natural diversity training programs (e.g. <i>Skills for Nature Conservation, Urban Nature, Land for Wildlife, Greater Gardens, Grow Us A Home</i>) Promote inclusion of natural diversity restoration and management training through tertiary institutions and TAFE's Develop natural diversity management operational policy and training programs for Local Government Authorities and State agencies with bushland management responsibilities 	<ul style="list-style-type: none"> Incentive mechanisms developed Number of training courses provided
MATTER FOR TARGET – SIGNIFICANT SPECIES AND ECOLOGICAL COMMUNITIES				
BR2	RCT	50% of critical habitat for identified significant species and ecological communities protected by 2014		<ul style="list-style-type: none"> Area of habitat protected
Resource Assessment				
BM2.1	MAT	100% of critical habitat at regional and local scale for significant species and ecological communities identified by 2005	<ul style="list-style-type: none"> Develop methodology to identify significant species populations for monitoring, protection and habitat management Initiate program for prioritisation of significant species and their conservation and management, including <ul style="list-style-type: none"> - all vegetation complexes with less than 10% of original extent; - Threatened Ecological Communities (TECs); - habitats of threatened species; - list of wetlands of international importance, ie Ramsar Convention; and - migratory bird habitat. 	<ul style="list-style-type: none"> Methodology developed Number of studies

REF	TYPE	TARGET	MANAGEMENT ACTIONS	INDICATOR
Planning				
BM2.2	MAT	100% of all relevant NRM legislation and policy in State and local planning systems reviewed and amendments recommended to provide increased consideration and protection for significant species and ecological communities by 2006	<ul style="list-style-type: none"> • Prepare local natural diversity strategies and action plans in accordance with <i>Local Government Biodiversity Planning Guidelines for the Perth Metropolitan Region</i> • Review and prioritise existing conservation management actions for significant species and threatened ecological communities, and threat abatement plans • Develop and implement recovery plans/interim recovery plans and threat abatement plans for priority significant species and ecological communities 	<ul style="list-style-type: none"> • Urban growth boundary agreed • Plans developed
On-Ground Action				
BM2.3	MAT	25% of all significant indigenous species have viable linkages established between populations over their original geographical extent by 2009	<ul style="list-style-type: none"> • Establish a regional ecological linkage program • Establish mechanisms to protect areas required for ecological linkages • Revegetate cleared areas designated as ecological linkages • Develop and implement recovery plans/interim recovery plans and threat abatement plans for priority species and ecological communities • Implement local natural diversity strategies and action plans prepared in accordance with <i>Local Government Biodiversity Planning Guidelines for the Perth Metropolitan Region</i> 	<ul style="list-style-type: none"> • Area (hectares) protected for ecological linkages • Area (hectares) revegetated within ecological linkage
BM2.4	MAT	100% of priority areas to be reconstructed as buffers to threatened ecological communities / vegetation complexes determined by 2006	<ul style="list-style-type: none"> • Develop and implement revegetation plans for reconstruction of buffers to threatened ecological communities / vegetation complexes 	<ul style="list-style-type: none"> • Area (hectares) of habitat protected for threatened species and ecological communities
Capacity Building				
BM2.5	MAT	30% increase in the participation of the community and stakeholders in education, mitigation and remediation activities to conserve and protect significant species and ecological communities by 2008	<ul style="list-style-type: none"> • Coordinate, facilitate and support community involvement • Establish collaborative partnerships to ensure the conservation management and recovery planning of significant species and significant ecological communities • Develop partnerships to determine research project to develop a landscape plan for ecological linkages 	<ul style="list-style-type: none"> • Number of FTE active community support positions • Partnerships established

REF	TYPE	TARGET	MANAGEMENT ACTIONS	INDICATOR
MATTER FOR TARGET – ECOLOGICALLY SIGNIFICANT INVASIVE SPECIES				
BR3	RCT	Reduction in impact of regionally significant invasive species by 2020 (with a quantified target set by December 2005)		• Impact of invasive species
Resource Assessment				
BM3.1	MAT	Identify, prioritise and set targets for the management of significant threatening species to natural diversity by 2005	<ul style="list-style-type: none"> Identify priority weed species and determine percentage elimination, reduction and containment targets for priority weed populations Determine percentage elimination, reduction and containment targets for <i>Phytophthora cinnamomi</i> (dieback) Identify priority pest/feral species Determine of percentage elimination, reduction, containment targets for priority ferals and pests 	<ul style="list-style-type: none"> Priorities determined Targets set
Planning				
BM3.2	MAT	100% of all priority feral pests and diseases have threat abatement plans established by 2006	<ul style="list-style-type: none"> Develop and implement threat abatement plans for feral animals and pests linked to National Threat Abatement Strategies Develop management response improvements to ensure no new introduction of potential feral/pest animals/plants/disease 	<ul style="list-style-type: none"> Schedule established Mapping complete
On-Ground Action				
BM3.3	MAT	15% reduction in the use of exotic species in urban landscaping by 2008	<ul style="list-style-type: none"> Develop and implement guidelines for rural landscapers Support implementation of <i>Local Plants Landscaping Policy and Landscaping with local plants guidelines for Local Government</i> Implement priority programs for feral animal control by State and Local Government and other stakeholders (eg western shield, and identified priority local and site feral animal control) Regional implementation of State Weed Plan and Environmental Weed Strategy for Western Australia Continued implementation of Dieback management programs in the Region at Local regional, and State Government levels 	<ul style="list-style-type: none"> Guidelines developed
Capacity Building				
BM3.4	MAT	30% increase in the effectiveness of control programs for feral animals, pests and diseases by 2009	<ul style="list-style-type: none"> Facilitate, coordinate and support community and stakeholder involvement in mitigation and remediation actions Promote wider regional community, land manager and Local Government education and awareness and training programs on feral animal, pest and disease management Provision of training in feral, pest animal and disease identification, mapping and management 	<ul style="list-style-type: none"> Number of FTE community support positions (facilitators and coordinators) Number of community groups assisted Training programs held

4.3.4 Coastal and Marine

Table 22: Coastal and marine targets

REF	TYPE	TARGET	MANAGEMENT ACTION	INDICATOR
MATTER FOR TARGET: ESTUARINE, COASTAL AND MARINE HABITAT INTEGRITY				
CMR1	RCT	Maintain and improve the condition of terrestrial coastal habitats in the Region, as measured at representative sites, by 2020 (with a quantified target set by 2005)		<ul style="list-style-type: none"> Coastal habitat extent and distribution Coastal habitat condition
Resource Assessment				
CMM 1.1	MAT	100% of priority natural coastal areas identified and assessed by 2005	<ul style="list-style-type: none"> Establish monitoring systems to collect/analyse baseline and trend data Identify adequate buffer zones to protect coastal biodiversity from predicted sea level rise Identify areas requiring wide setbacks, where ecosystem processes may be impaired by sea level rise Compile, document and forecast current and predicted human usage of coastal resources Develop an integrated regional information system to enhance planning, implementation, monitoring and evaluation 	<ul style="list-style-type: none"> Number of sites monitored Number of studies
Planning				
CMM 1.2	MAT	100% of priority coastal areas have five year protection and restoration targets defined for wind erosion by 2005	<ul style="list-style-type: none"> Determine extent of wind eroded coastline Develop strategies to meet targets to reduce coastal dune areas affected by coastal wind erosion 	<ul style="list-style-type: none"> Number of best practice coast management plans
CMM 1.3	MAT	100% of Councils adopting or updating local coastal plans and policies by 2009	<ul style="list-style-type: none"> Support National and international effort into sea level rise modelling and research Promote the Coastal SPP 2.6 widely to Councils to ensure consideration is given to issues such as sea level rise when establishing appropriate setbacks for new developments Develop and implement Perth Coastal Planning Strategy 	<ul style="list-style-type: none"> Number of best management practice guidelines developed Number of best management practice codes developed
On-Ground Works				
CMM 1.4	MAT	20% increase in on-ground community environmental restoration programs addressing coastal dune wind erosion in priority areas by 2007	<ul style="list-style-type: none"> Develop and implement local natural diversity strategies and revegetation works for priority areas 	<ul style="list-style-type: none"> Area (hectares) planted to coastal indigenous species Area (hectares) of coastal indigenous vegetation enhanced / rehabilitated

REF	TYPE	TARGET	MANAGEMENT ACTION	INDICATOR
Capacity Building				
CMM 1.5	MAT	30% increase in community participation in biodiversity education, mitigation and remediation actions by 2009	<ul style="list-style-type: none"> Coordinate, facilitate and support community and stakeholder involvement Training and capacity building for Local Government Authorities and community on coastal biodiversity/ecology Include stormwater education, water use efficiency and water conservation into the regional training and education program Continue and expand existing community training programs such as Swan-Canning Cleanup Program education initiatives, Great Gardens workshops, Ribbons of Blue, Wetland Watch and Skills for Nature Conservation, through the integrated regional education and training program Continue to provide incentives for landholders and land managers such as the Swan Alcoa Landcare Program 	<ul style="list-style-type: none"> Number of FTE community support positions (facilitators and coordinators) Number of community groups assisted Number of other skills and training events held and number of participants (person days)
CMR2	RCT	Maintain and improve the condition of marine habitats in the Region, as measured at representative sites, by 2020 (with a quantified target set by 2005)		<ul style="list-style-type: none"> Marine habitat extent and distribution Marine habitat condition
Resource Assessment				
CMM 2.1	MAT	100% of priority marine habitats identified for protection by 2006	<ul style="list-style-type: none"> Identify regionally representative marine habitat types using the Comprehensive Adequate Representative (CAR) approach Develop habitat map and undertake threat analysis to those habitats, including critical habitats for significant species Determine priority areas for management/protection based on threat analysis. Develop an ecological monitoring program Review and expand ecological reference sites Compile, document and forecast current and predicted human usage of estuarine and marine resources, focusing on priority marine habitats 	<ul style="list-style-type: none"> Integrated regional information system developed Number of studies Number of sites monitored
CMM 2.2	MAT	100% of all marine habitat areas affected by introduced marine pests in 'at risk' areas identified by 2007	<ul style="list-style-type: none"> Identify 'at risk' areas and sources with potential for infestation and establish monitoring program (in collaboration with Action Plan for marine water quality) Support the preparation of the State framework for management response to marine pests Respond to suspected incursions in accordance with the National and State framework for management response to marine pests 	<ul style="list-style-type: none"> Number of studies Number of sites monitored Number of best management practice guidelines developed
Planning				

REF	TYPE	TARGET	MANAGEMENT ACTION	INDICATOR
CMM 2.3	MAT	Action Plan developed to manage the impacts on marine water quality and monitor and evaluate remediation programs by 2006	<ul style="list-style-type: none"> Develop a monitoring and evaluation action plan consistent with the Perth Coastal Waters (2000) Develop research and monitoring to define natural variability of marine quality measures in conjunction with existing monitoring programs (ongoing) using priority and reference sites Develop regional information system to enhance planning, management, monitoring and evaluation Update the Contaminated Inputs Inventory annually Define the impacts of stormwater on nearshore marine habitat Define the impacts of boat sewage discharge in heavily used areas 	<ul style="list-style-type: none"> Number of best management practice guidelines developed Number of coastal action plans developed
CMM 2.4	MAT	100% of Local Governments with ocean outfalls have stormwater action plans established by 2008	<ul style="list-style-type: none"> Facilitate the development of a Memorandum of Understanding (MoU) between Local Governments to ensure stormwater is managed collaboratively Implementation of existing stormwater management plans (including the WESROC's Strategy) Establish partnerships with Agencies and Local Government for implementation of the Beach Watch program 	<ul style="list-style-type: none"> Number of Local Government best management practice stormwater plans developed
On-Ground Actions				
CMM 2.5	MAT	20% increase in marine habitat restoration programs by 2007	<ul style="list-style-type: none"> Implement 1-5 year groundwater quality targets outlined in the Cockburn Sound Management Plan Implement the remaining recommendations for the State Marine Parks and Reserves Authority (MPRA) marine conservation reserve system Support the extension of Shoalwater Islands Marine Park Develop and implement management program for priority areas, including protection and restoration of habitat for significant species Provide management facilities to reduce the impacts of boat sewage discharge in heavily used areas 	<ul style="list-style-type: none">
Capacity Building				
CMM 2.6	MAT	30% increase in community and stakeholder participation in education, mitigation and remediation activities related to marine habitat protection by 2008	<ul style="list-style-type: none"> Coordinate, facilitate and support community and stakeholder involvement in protection of marine habitat Support community initiatives to protect marine habitat, through Marine Community Monitoring Program and Fish Habitat Protection Areas Establish partnerships with agencies and Local Government for implementation of the Beach Watch program Increase community and boat user understanding about introduced marine pests Promote inclusion of marine habitat restoration and management training through tertiary institutions and TAFE's Investigate and promote mechanisms for Local Government to support management of marine habitat 	<ul style="list-style-type: none"> Number of FTE community support positions (facilitators and coordinators) Number of community groups assisted Number of other skills and training events held and number of participants (person days)

REF	TYPE	TARGET	MANAGEMENT ACTION	INDICATOR
CMR3	RCT	Maintain and improve the condition of marine fauna in the Region, as measured at representative sites, by 2020 (with a quantified target for key indicator species set by 2005).		<ul style="list-style-type: none"> • An interim approach to monitoring key indicator species and ecological communities • Marine fauna extent and distribution • Marine fauna population viability
Resource Assessment				
CMM 3.1	MAT	Determine key indicator species to protect and conserve viable populations of marine fauna by 2006	<ul style="list-style-type: none"> • Develop scientific methodology to identify key indicator species • Develop marine fauna mapping project, including significant species and fish, for use as a decision-making support tool • Develop and implement integrated marine wildlife management and monitoring program including threatened species • Develop regional information system to enhance planning, management, monitoring and evaluation 	<ul style="list-style-type: none"> • Number of decision support tools developed • Integrated regional information management system developed • Number of sites monitored
CMM 3.2	MAT	Determine level and impact of recreational fishing catch by 2007	<ul style="list-style-type: none"> • Consolidate existing information to better understand the combined effects of recreational and commercial fishing • Investigate recreational fishing catch on the Swan-Canning River • Investigate the boat and on-shore line catch of recreational fishers across Perth metropolitan waters • Investigate fish stocks and populations that are under threat (Perth Herring, Dhufish, Bream) from human impacts • Compile existing information about fish biology and ecology 	<ul style="list-style-type: none"> • Number of studies • Number of sites monitored
CMM 3.3	MAT	Establish a framework for sustainable aquaculture by 2007	<ul style="list-style-type: none"> • All future proposals of land based aquaculture to Local Government Authorities to undergo land capability assessment • Support ongoing research into sustainable aquaculture • Consider suitable area/s for land based aquaculture with land/sea areas zoned for special use for aquaculture activities 	<ul style="list-style-type: none"> • Number of best management practice guidelines developed • Number of best management practice codes developed
Planning				
CMM 3.4	MAT	100% of marine threatened species identified with recovery plans established by 2009	<ul style="list-style-type: none"> • Implement existing recovery plans for threatened species (State and Federal-listed species) • Support the development of recovery plans for threatened and significant species • Establish regional agreement about future suitable locations and practices/guidelines of marine based aquaculture activities 	<ul style="list-style-type: none"> • Number of threatened species recovery plans developed

4.3.5 Air

Table 23: Air quality targets

REF	TYPE	TARGET	MANAGEMENT ACTIONS	INDICATOR
AR1	RCT	Continue to progress towards improved air quality, with Resource Condition Target(s) to be set for air quality by 2005		• Target set
AM1.1	MAT	Establish set of monitoring systems to collect/analyse baseline and trend information, to enable setting of Resource Condition Targets for air quality by 2005	<ul style="list-style-type: none"> • Collect/analyse baseline and trend information • Work with DoE and associated partners to set Resource Condition Targets for air quality 	<ul style="list-style-type: none"> • Carbon monoxide, Fluoride, Nitrogen oxides, Ozone, Lead, Particulates, Sulfur Dioxide, Visibility
AM1.2	MAT	Establish a partnership framework to assist in the implementation of the Air Quality Management Plan 1–5 year actions by 2008	<ul style="list-style-type: none"> • Initiate inventory of small-medium sized enterprise emissions linked to the National Pollution Inventory by 2008 • Establish partnership linkages with Air Quality Coordinating Committee (AQCC) Working Group for information transfer and progress reporting • Support wider regional community and stakeholder participation in programs relating to air quality improvement 	<ul style="list-style-type: none"> • Number of sector specific inventories initiated • Partnership arrangements and reporting procedures developed • Existing programs and gaps identified
AR2	RCT	Set Resource Condition Targets to manage climate risk and reduce risk of major environmental, economic or social outcomes from drought or coastal land impacts		• Target set
AM2.1	MAT	Undertake risk assessment of impacts and develop priority actions for climate change impacts on NRM by 2009	<ul style="list-style-type: none"> • Support research risk of climate change to NRM • Support Research into climate variability • Support an education program on Climate Change and long-term climate variability 	• Risk assessment performed

4.3.6 Cultural Heritage

Table 24: Cultural heritage targets

REF	TYPE	TARGET	MANAGEMENT ACTION	INDICATOR
Resource Assessment				
CHM 1.1	MAT	Research, record, and publish Nyoongar history of the Swan Region by 2009	<ul style="list-style-type: none"> Collate existing information, and identify gaps Undertake trend analysis of site(s) condition Identify indigenous sites and document for their natural and cultural significance 	<ul style="list-style-type: none"> Number and distribution of identified heritage items assessed using best practice Asset register developed to identify key values for protection
Planning				
CH1.2	MAT	Review and identify opportunities in policy and legislation to include indigenous cultural heritage by 2009	<ul style="list-style-type: none"> Review management plans and arrangements Develop and promote inclusion of clauses relating to indigenous cultural heritage in NRM related policies and legislation at Local, State and National level Establish appropriate partnerships to undertake reviews Review land implement and management by DIA (Aboriginal Land Trust estate) to incorporate NRM principles 	<ul style="list-style-type: none"> Number of places where indigenous people are involved in heritage management decision-making by virtue of: <ul style="list-style-type: none"> Indigenous land ownership Joint management Recognised custodianship Direct consultation
On-Ground Action				
CH1.3	MAT	Increase indigenous employment and participation in NRM activities locally and regionally by 2009	<ul style="list-style-type: none"> Develop or identify existing MoU's with State and Local Government and Swan Catchment Council, South West Land and Sea Council, Indigenous Land Council. Design framework to identify most appropriate structures, roles, and actions. Establish and implement protocol/guidelines for indigenous consultation Assist indigenous community to link with friends groups or to establish their own friends group. Establish baseline information and identify opportunities or barriers for employment 	<ul style="list-style-type: none"> Partnerships established Best practice guidelines developed
Capacity Building				
CH1.4	MAT	Achieve 75% increase in the number of community, Local Governments and State Government agencies involved in NRM incorporating indigenous cultural heritage included as part of their processes by 2009	<ul style="list-style-type: none"> Develop and implement cultural heritage training programs for the range of stakeholders 	<ul style="list-style-type: none"> Number of indigenous people employed in NRM Number of NRM practitioners and training courses
CH1.5	MAT	Establish partnerships to further incorporate NRM principles into	<ul style="list-style-type: none"> Establish partnerships with The National Trust and the Heritage Council of WA for mutually beneficial outcomes for NRM and heritage protection Facilitate, support and motivate community groups 	<ul style="list-style-type: none"> Partnerships established. Number of management plans

REF	TYPE	TARGET	MANAGEMENT ACTION	INDICATOR
		heritage protection by 2008	<ul style="list-style-type: none"> Facilitate the preparation of management plans (including human impact) for recreational and tourism areas that have high ecological value Use Local Government heritage registers to identify areas of cultural and historical significance in each local area and support the development of management plans for significant sites Work with Local Government and heritage bodies to encourage more proactive management of sites 	<ul style="list-style-type: none"> Number of FTE community support positions (Facilitators and Coordinators) Number of community groups assisted

4.3.7 Regional Capacity

Table 25: Regional capacity targets

REF	TYPE	TARGET	MANAGEMENT ACTIONS	INDICATORS
Resource Assessment				
RCM1.1	MAT	Establish a framework for continuous improvement through adaptive management by 2005	<ul style="list-style-type: none"> Develop appropriate targets, indicators and a monitoring and evaluation framework for the community and stakeholder's capacity Develop an integrated regional management information system to enhance regional NRM planning, implementation, monitoring and evaluation of the Strategy 	<ul style="list-style-type: none"> Framework established Regional information management system established
Planning				
RCM1.2	MAT	Establish sub regional and local consistency and linkages to the Strategy by 2008	<ul style="list-style-type: none"> Review management plans for consistency 	<ul style="list-style-type: none"> Number of sub-catchment plans developed
On-Ground Actions				
RCM1.3	MAT	Review and apply a regional governance structure with security of tenure by 2005	<ul style="list-style-type: none"> Ensure robust structural arrangements and resources, with clear governance and decision-making processes in place for the Swan Catchment Council Review community support roles in partnership with investors (NHT and SCCP) for implementation phase Identify alternative partnerships for community support structure 	<ul style="list-style-type: none"> Number of best management practice corporate governance guidelines in place Number of community groups or community projects supported
Capacity Building				
RCM1.4	MAT	Develop a regional capacity framework supported by an integrated regional management information system by 2006	<ul style="list-style-type: none"> Coordinate, support and motivate community and stakeholders through the regional Coordinators and Facilitators Network Develop and implement communications and engagement strategies for key stakeholder groups for implementation and investment phases of NRM Strategy Coordinate an integrated regional education and training program addressing land, water and biodiversity and cultural heritage themes Develop sponsorship and partnership strategy for major corporate bodies to invest in Government and community based NRM initiatives 	<ul style="list-style-type: none"> Number of FTE community support positions Number of non-training products or materials developed Number of training sessions held Number of other skills and training events held Number of other key materials developed