

## Section 5 Regional Priorities

### 5.1 Introduction

A primary purpose of this Strategy is to identify and develop appropriate and sustainable management responses to the threatening processes that have been identified as important strategic priorities for the Region. For the purpose of this Strategy, regional priorities are defined as the priority assessment made for each threatening process against each of the resource assets identified.

As discussed in Section 2, threatening processes are defined as processes that threaten or may threaten the quality or quantity of a natural resource, or may threaten the survival, abundance or the evolutionary development of a native species or ecological community. Specifically the regional priorities can be directly related to the threatening processes, or those factors that are likely to reduce the effectiveness of NRM in the Region.

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 listing all assets within an asset class allows for a comprehensive risk assessment and prioritising process to be undertaken.

### 5.2 Prioritisation

The reason for prioritising is to make an assessment of where the relative emphasis of NRM investments should be, and to consider scheduling issues, rather than to include or exclude any management action proposed in the Strategy. The approach taken by the Swan Catchment Council was to develop a framework for prioritisation of NRM investments in the Region according to the following levels of assessment:

1. Asset values, threats and capacity to deal with the issue
2. Appropriate management actions
3. The balance of investment across NRM asset categories

The Swan Catchment Council determined that priorities for investment should be established through a stakeholder consultation process. An investment framework and plan for the Region (see Appendix 7), was developed through a series stakeholder workshops to determine (i) the returns to investment in addressing threats to assets; (ii) the Region's capacity to deal with threats to assets; and (iii) to elicit investment priorities across management actions and asset categories, using alternative scenarios for targets, management practices and associated costs.

The intended outcomes of the stakeholder workshops were to:

- Select assets for investment
- Prioritise management actions within asset categories
- Select an appropriate mix of investments across asset categories

At each workshop it was emphasised that investment was to be directed to achieving change in resource condition, and that this was not necessarily the same thing as the total value of the resource or total value of damages being borne by users as a result of degradation. Workshop participants were asked to rate the degree to which asset values could be changed by NRM investment (either to avert a future decline in value or to enhance a currently degraded value).

Participants were asked to consider factors affecting the Region's capacity to address NRM issues, including (i) current technical know-how, knowledge and capacity to innovate, (ii) human resources (iii) degree of stakeholder involvement, (iv) funding levels, (v) the time factor, (vi) organisation and coordination, and (vii) the adequacy of governance, legal and institutional arrangements, and capacity to change policies. This helped to build an overall estimate of capacity to address problems within each NRM asset category.

### ***Selecting assets for investment***

Assets were selected for investment based on the following criteria:

- Assessed returns to investment from changed asset condition, taking account of the likely impacts of threats if nothing is done
- The capacity of the wider regional community to take effective action

This approach is broadly consistent with that used in economic benefit/cost analyses. The first criterion corresponds to an estimate of the benefits of action (high change in asset value and high threat indicating high benefits from successful ameliorative actions). The second criterion, "capacity", is a proxy for "costs" in economic analysis. Regional capacity in NRM is influenced by (i) the level of current knowledge, technical know-how and its spread within the community, (ii) adequacy of governance, legal and institutional arrangements including planning and (iii) the effectiveness of community groups. If current capacity to deal with an issue is currently low then the costs of action are likely to be high (or ineffective), tending to reduce the benefit/cost ratio of on-ground action. Under these circumstances, building community capacity is the only way to progress. Benefit/costs of on-ground action are then likely to ultimately improve. Where capacity is currently high, but there is still a major threat to asset values, then strategic investment is more likely to be aimed at improved resourcing of on-ground ameliorative efforts.

### ***Prioritising management actions within asset categories***

Participants were presented with a list of all the management actions identified in Section 4 and asked to decide how they would budget for a reduced total funding of management actions for the particular asset category. A 75% cut in overall funding was used in each asset category, compared with the indicative total cost estimate. The figure of 75% was considered to be a plausible funding reduction, while forcing participants to make significant changes. Participants were allowed to increase funding for an action, but only within the overall 75% budget constraint.

Participants were asked whether they would adjust to the reduced funding by doing one of the following with each listed management action:

- Keep
- Spread
- Trim
- Defer
- Cut completely

They were then asked to show a new indicative expenditure and new number of years over which the management action would be undertaken.

### ***Priorities across asset categories***

Workshop participants were guided through a 'choice modelling' process to derive an allocation for the management of natural resources across asset categories. This was to achieve an approximately proportional allocation relative to current social preferences for maximum environmental, social and economic returns obtainable from alternative mixes of costed management actions.

Participants expressed their preference by choosing from a number of pre-set mixes of actions across asset categories. Sets of management actions corresponding to the "High", "Medium" and "Low" funding for a particular asset category were developed as follows:

- "High" implied full implementation of all proposed management actions for the particular asset class
- "Medium" implied an intermediate set between "High" and "Low"
- "Low" implied a set of management actions corresponding to approximately 60 per cent funding

Participants were asked to select one option out of three shown on a single sheet, termed a "Scenario". Each option represented a complete investment plan for the Region, specifying a unique bundle of management actions for each of the asset categories. For the purpose of the exercise the management actions were summarised as statements of the outcomes that could be expected following successful completion of the particular set of management options specified: e.g. an asset category with a "Low" set of actions produces an inferior outcome.

This exercise was completed four times, i.e. using four scenarios, with each option containing a different combination of high, medium or low numbers of management actions across asset categories. In two of the scenarios the management actions for water were held constant across options. In the other two scenarios management actions for terrestrial biodiversity and land were held constant. This was done in order to force advocates of investment in one area (eg water) to consider alternatives across other areas (eg terrestrial biodiversity, coastal and marine, or regional capacity building) independently from their "pet" area.

Finally, participants were asked to nominate which of the twelve options they had considered across all four scenarios came closest to their ideal investment plan for the Region. The outcome of the workshop was therefore a direct statement of the way in which individual participants would allocate investment resources across asset categories. Aggregating over all participants gave an "informed judgement" of a preferred investment pattern for the Region.

Results from all participants were analysed using a regression model to predict the percentage of participants who would choose a particular option, as a function of the amount of dollars given to each asset class within the option. This gave an indication of participants' degree of satisfaction with the options presented.

The NRM priorities for the Region are shown in the Table 26.

**Table 26 Regional NRM priorities for action in the Region**

REF	RANK	TARGET
<b>LR1</b>		<b>Reduction in the area of salinity affected land within the Avon Upper Swan NAP Region by 2020 (with a quantified target set by December 2005)</b>
LM1.1	7	Priority areas for salinity risk management established in the Avon Upper Swan Region by 2005
LM1.2	6	All Local and State Government planning agencies using local area land capability and suitability information by 2009
LM1.3	5	Implementation of actions to address land salinity in priority areas of the Avon Upper Swan NAP Region by 2009
LM1.4	4	30% increase in community participation in land salinity education, mitigation and remediation actions by 2009
<b>LR2</b>		<b>Maintain and improve soil condition, as measured at representative sites, including extent of water erosion, waterlogging and acid sulfate soils by 2020, with quantified targets set by December 2005.</b>
LM2.1	8	Establish benchmarks and monitoring at representative sites for water erosion, waterlogging and acid sulfate soils by 2005
LM2.2	10	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
LM2.3	9	Regional soil health program developed, with implementation of identified remedial and preventative actions in identified priority areas by 2009
LM2.4	2	Industry BMP's sets defined with benchmarks for implementation established by 2009 for eight land use / industry sectors
LM2.5	1	30% increase in land managers, planners and community participation in soil condition education, mitigation and remediation activities by 2009
<b>WR1</b>		<b>Maintain and improve condition of inland aquatic ecosystems integrity, as measured at representative sites by 2020, with quantified targets for major rivers and waterways in the Region set by 2005</b>
WM1.1	2	100% of priority rivers and waterways in the Region identified for protection by 2005
WM1.2	3	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
WM1.3	4	Implementation of Environmental Water Provision Projects in the Canning, Helena and Brockman River catchments by 2007
WM1.4	5	Develop and implement management and restoration programs for the Region's major rivers and waterways by 2007
WM1.5	1	30% increase in community participation in education, restoration, protection and management activities of the major rivers and waterways in the Region by 2009

REF	RANK	TARGET
<b>WR2</b>		<b>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</b>
WM2.1	2	100% of priority wetlands in the Region identified for protection by 2005
WM2.2	5	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
WM2.3	4	Develop, adapt and/or review allocation limits and management plans for groundwater areas by 2008
WM2.4	3	Develop and implement management restoration plans for priority wetlands by 2008
WM2.5	1	20% increase in community participation in wetlands education, restoration, protection and management activities by 2009
<b>WR3</b>		<b>Maximum concentrations for priority waterways do not exceed 0.1microgram/Litre for total phosphorus and 1.0microgram/Litre for total nitrogen by 2020</b>
WM3.1	3	100% of the 1-5 year actions of the reviewed Swan-Canning Cleanup Program (SCCP) implemented by 2010
WM3.2	1	100% of all relevant NRM legislation and policy reviewed and amendments recommended to address nutrient enrichment by 2006
WM3.3	4	Implement identified remedial actions to address nutrient enrichment by 2007
WM3.4	2	20% increase in community participation in nutrient intervention education, restoration, protection and management activities by 2009
<b>WR4</b>		<b>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</b>
WM4.1	3	Establish monitoring systems to develop Resource Condition Targets for turbidity/ suspended particulate matter by 2005
WM4.2	4	100% of all relevant NRM legislation and policy reviewed and amendments recommended to address turbidity / suspended particulate matter by 2006
WM4.3	2	Implement identified remedial actions to address turbidity / particulate matter by 2007
WM4.4	1	20% increase in community participation in education, restoration, protection and management activities for managing turbidity / particulate matter by 2009
<b>WR5</b>		<b>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</b>
WR5.1	2	Establish monitoring systems to develop Resource Condition Targets for surface water salinity in the Avon Upper Swan Region by 2005

REF	RANK	TARGET
WR5.2	3	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
WR5.3	1	Implement identified remedial actions to address surface water salinity in the Avon Upper Swan Region by 2009
WR5.4	4	20% increase in community participation in salinity education, mitigation and remediation activities by 2009
<b>BR1a</b>		<b>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.</b>
<b>BR1b</b>		<b>Maintain and improve the condition of high priority native vegetation (including formal reserves and off-reserves) by 2020 based on 2005 baseline data.</b>
BM1.1	12	100% of priority areas in each IBRA sub-region identified for inclusion into CAR system by 2005
BM1.2	11	25% of priority areas in each IBRA sub-region have natural diversity conservation plans developed by 2006
BM1.3	9	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
BM1.4	6	10 local natural diversity strategies for priority areas outside the CAR reserve system implemented by 2006
BM1.5	3	30% increase in community participation in education, restoration, protection and management activities high priority native vegetation in the Region by 2009
<b>BR2</b>		<b>50% of critical habitat for identified significant species and ecological communities protected by 2014</b>
BM2.1	10	100% of critical habitat at regional and local scale for significant species and ecological communities identified by 2005
BM2.2	5	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
BM2.3	13	25% of all significant indigenous species have viable linkages established between populations over their original geographical extent by 2009
BM2.4	14	100% of priority areas to be reconstructed as buffers to threatened ecological communities / vegetation complexes determined by 2006
BM2.5	4	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
<b>BR3</b>		<b>Reduction in impact of regionally significant invasive species by 2020 (with a quantified target set by December 2005)</b>
BM3.1	1	Identify, prioritise and set targets for the management of significant threatening species to natural diversity by 2005

REF	RANK	TARGET
BM3.2	2	100% of all priority feral pests and diseases have threat abatement plans established by 2006
BM3.3	8	15% reduction in the use of exotic species in urban landscaping by 2008
BM3.4	7	30% increase in the effectiveness of control programs for feral animals, pests and diseases by 2009
<b>CMR1</b>		<b>Maintain and improve condition of terrestrial coastal habitats in the Region, as measured at representative sites by 2020, with a quantified target set by 2005</b>
CMM1.1	4	100% of priority natural coastal areas identified and assessed by 2005
CMM1.2	3	100% of priority coastal areas have five year protection and restoration targets defined for wind erosion by 2005
CMM1.3	1	100% of Councils adopting or updating local coastal plans and policies by 2009
CMM1.4	5	20% increase in on-ground community environmental restoration programs addressing coastal dune wind erosion in priority areas by 2007
CMM1.5	2	30% increase in community participation in biodiversity education, mitigation and remediation actions by 2009
<b>CMR2</b>		<b>Maintain and improve condition of marine habitats in the Region, as measured at representative sites by 2020, with a quantified target set by 2005</b>
CMM2.1	3	100% of priority marine habitats identified for protection by 2006
CMM2.2	5	100% of all marine habitat areas affected by introduced marine pests in 'at risk' areas identified by 2007
CMM2.3	2	Action plan developed to manage the impacts on marine water quality and monitor and evaluate remediation programs by 2006
CMM2.4	4	100% of Local Governments with ocean outfalls have stormwater action plans established by 2008
CMM2.5	1	20% increase in marine habitat restoration programs by 2007
CMM2.6	1	30% increase in community and stakeholder participation in education, mitigation and remediation activities related to marine habitat protection by 2008
<b>CMM3</b>		<b>Maintain and improve 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</b>
CMM3.1	1	Determine key indicator species to protect and conserve viable populations of marine fauna by 2006
CMM3.1	2	Determine level and impact of recreational fishing catch by 2007
CMM3.1	3	Establish a framework for sustainable aquaculture by 2007
CMM3.1	4	100% of marine threatened species identified with recovery plans established by 2009

REF	RANK	TARGET
AR1		<b>Continue to progress towards improved air quality, with Resource Condition Target(s) to be set for air quality by 2005.</b>
AM1.1	2	Establish set of monitoring systems to collect/analyse baseline and trend information, to enable setting of Resource Condition Targets for air quality by 2005
AM1.2	1	Establish a partnership framework to assist in the implementation of the Air Quality Management Plan 1–5 year actions by 2008
AR2		<b>Set Resource Condition Target to manage climate risk and reduce risk of major environmental, economic or social outcomes from drought or coastal land impacts</b>
AR2.1	3	Undertake risk assessment of impacts and develop priority actions for climate change impacts on NRM by 2009
		<b>CULTURAL HERITAGE</b>
CH1.1	3	Research, record, and publish Nyoongar history of the Swan Region by 2009
CH1.2	3	Review and identification of opportunities in policy and legislation to include indigenous cultural heritage by 2009
CH1.2	4	Increase indigenous employment and participation in NRM activities locally and regionally by 2009
CH1.2	1	Achieve 75% increase in the number of community, Local Government Authorities and State Government agencies involved in NRM incorporating indigenous cultural heritage included as part of their processes by 2009
CH1.2	5	Establish partnerships to further incorporate NRM principles into heritage protection by 2008
		<b>REGIONAL CAPACITY</b>
RC1.1	4	Establish a framework for continuous improvement through adaptive management by 2005
RC1.2	1	Establish sub-regional and local consistency and linkages to the Strategy by 2008
RC1.3	2	Review and apply a regional governance structure with security of tenure by 2005
RC1.4	3	Develop a regional capacity framework supported by an integrated regional management information system by 2006

## 5.3 Integration

A central theme of this Strategy is the use of an integrated approach to NRM. The reason is that integration has multiple beneficial outcomes while ensuring that effort and resource duplication is minimised.

The increasing pressure from development on natural resources in the Region will make integrated NRM increasingly important. It is therefore paramount to the achievement of integrated NRM outcomes that all key stakeholders are provided the opportunity and access to participate in an open and inclusive process.

Many of the processes that threaten NRM in the Region apply across a range of natural resource assets. For example, salinity affects soils, biodiversity, primary production and water quality. Management actions to address threatening processes can achieve benefits for a range of natural resource assets. It is therefore essential for efficient and effective NRM that the concept of integration is applied from the outset to ensure sustainable outcomes.

According to the Australian Landcare Council (2002) current NRM policies, plans and legislation at a National, State, regional and local level are not well integrated. As a result they produce unnecessary duplication and waste, hinder effective responses to issues at regional and local levels, and are a continuing source of frustration to the wider regional community.

Given the scale of the problems being encountered, unless all stakeholders are included in the policy and program development stage, and conflict resolution undertaken, there is a risk that delivery of NRM plans will continue to be poorly coordinated and inefficient.

Integration can apply at several levels in NRM, such as planning, actions, outcomes and monitoring. It is an aim of this Strategy to ensure effective integration at each of these levels. For example, there is scope to maximise integration of management actions, across a range of natural resource assets, by reviewing the links between threats and actions.

The prioritisation process applied by the Council was developed to be consistent and objective, enabling examination of the threatening processes and their priority for the Region. Individual threats may have multiple impacts across several natural resource asset categories. Assessment of the importance of each threatening process necessitated a view across all the assets affected. Addressing the principle causes of priority threatening processes will also have multiple benefits for the management of natural resource assets in the Region.

The coordinated delivery of Resource Condition Targets (RCTs) and Management Action Targets (MATs) will be met through the development of regional scale delivery programs. These programs will be the key mechanism for integrated management at a landscape scale to achieve targets for resource condition change.

Regional delivery programs will be key mechanisms for integrating action across the Region through negotiated arrangements under Partnership Agreements. These programs will enable the integration of actions at the landscape scale with local delivery action plans aligned with related Local Government and State Government programs.

