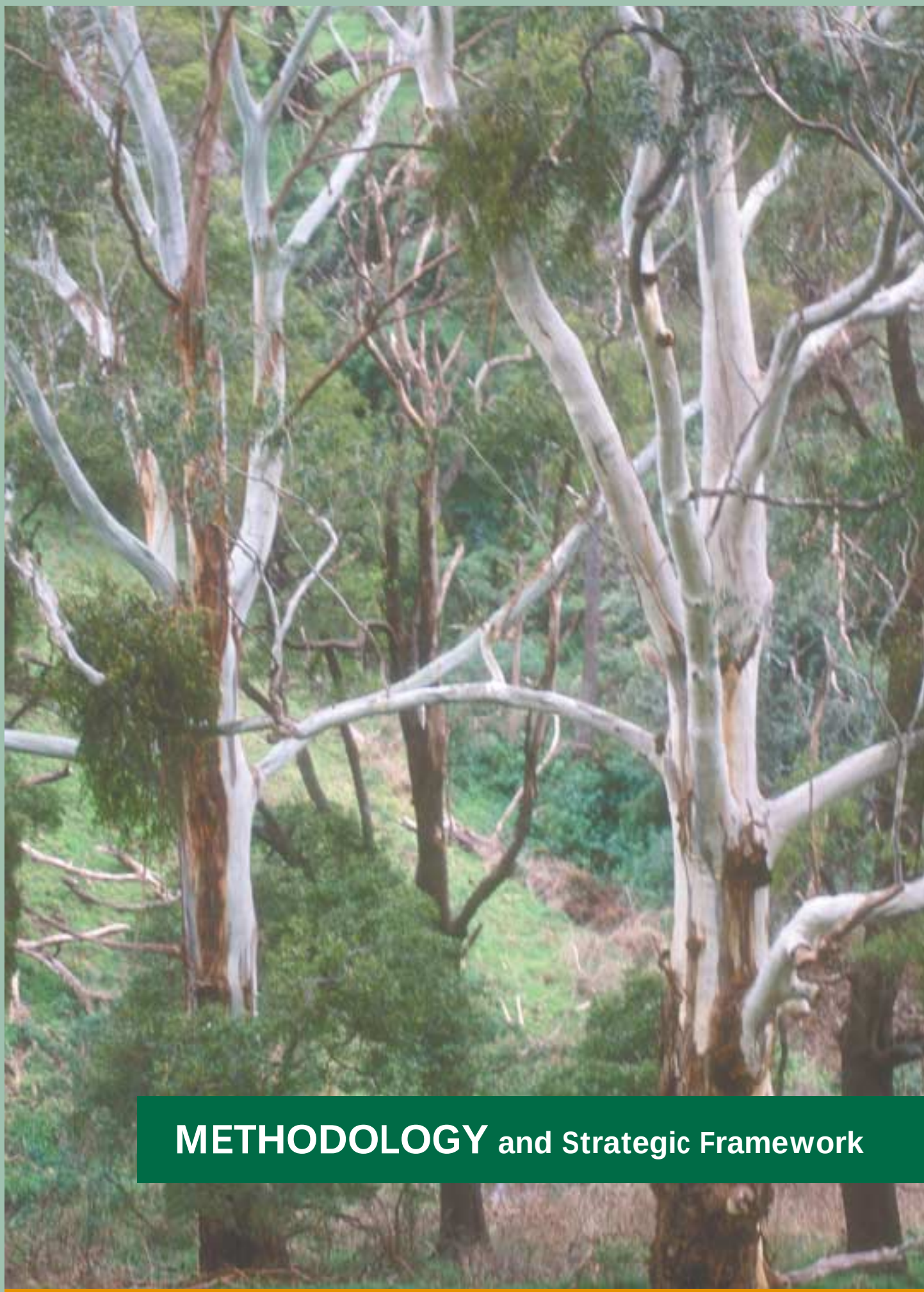

METHODOLOGY and Strategic Framework

4. METHODOLOGY and Strategic Framework

4.1 Goals and sustainability principles

The RCS will guide investment by the Australian and Victorian governments in catchment management in the Port Phillip and Western Port region. These governments have established a process of accreditation to ensure that the RCS is scientifically sound, and that it has been developed under a nationally agreed framework with an appropriate level of community consultation. The framework requires consideration of the values provided by the catchment assets of a region.

As a starting point in this region, a long-term goal has been set for each of the major catchment assets in the region – that is, for the region's land, water, biodiversity and people. Each goal has been developed in line with principles of sustainability, and they are inter-related and inter-dependent in many ways.

As outlined earlier, the sustainability principles have grown out of international and national summits, conferences and strategies. Sustainability principles were initially focused on the limits of growth and irreversible impacts on life support systems. But in recent years they have incorporated the notion of social and economic wellbeing, and the ability of people and communities to influence the quality of life.

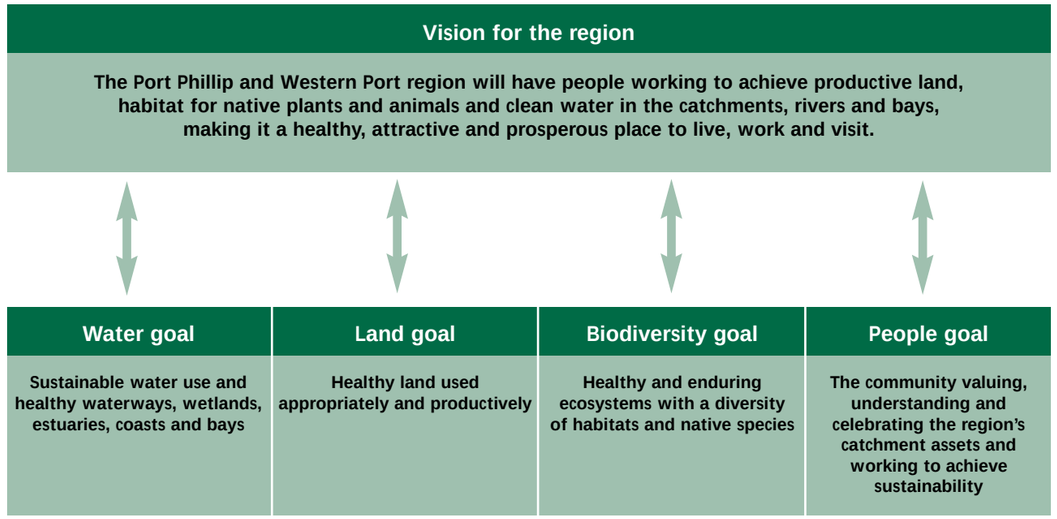

Figure 3: Vision and Goals for the Regional Catchment Strategy

The RCS employs seven principles (P1 – P7) that reflect current global ideas about sustainability.

P1 Adopt the precautionary principle

The RCS seeks to make decisions based on good science. Where the risk to the environment is significant, a lack of scientific certainty is not used as an excuse for postponing measures to protect the environment. Similarly, the RCS does not recommend actions that are of high risk to the values of this region, particularly if there is an incomplete understanding of the implications.

P2 Ensure intra- and inter-generational equity

The RCS seeks opportunities for all sectors of the community to benefit equitably from the region's natural resources. It also seeks to achieve responsible stewardship of natural resources so that natural capital is passed on to future generations in as good or better condition than now.

P3 Conserve natural resources

The RCS seeks conservative use of the region's non-renewable resources, encouraging efficient use and the search for alternatives. It also seeks to ensure that consumption of renewable resources does not exceed their rate of regeneration or replacement.

P4 Maintain ecological diversity

The natural environment provides goods and services that are fundamental to life and economic activity, as well as intrinsic values that do not directly support human activity. The RCS seeks to maintain and enhance the diversity and resilience of the region's native plants, animals, micro-organisms and ecosystems.

P5 Enhance regional prosperity

The RCS seeks to enhance the regional economy, particularly through actions and new technologies that will benefit catchment assets and/or deliver benefits through the sustainable use of catchment assets.

P6 Protect societal and cultural values

The region contains a large population with a diversity of cultures and values. The RCS seeks to protect and enhance catchment assets that are important to the society and cultures of the region.

P7 Strengthen understanding, participation and partnerships.

The RCS recognises the important role of the region's community in achieving the regional vision and goals. It reflects the need to develop a common understanding and effective working relationships between governments, industry and community sectors. As we improve the quality of the region's catchment assets we seek to emphasise better coordination, cooperation, integration and involvement of individuals and the community.

4.2 Objectives, targets and actions

To determine the objectives, targets and actions that are necessary to achieve the goals for each catchment asset, a detailed assessment of values and risks is required. Figure 4 illustrates this thinking, showing that the broad vision and goals lead into specific objectives, targets and actions, based on a risk assessment.

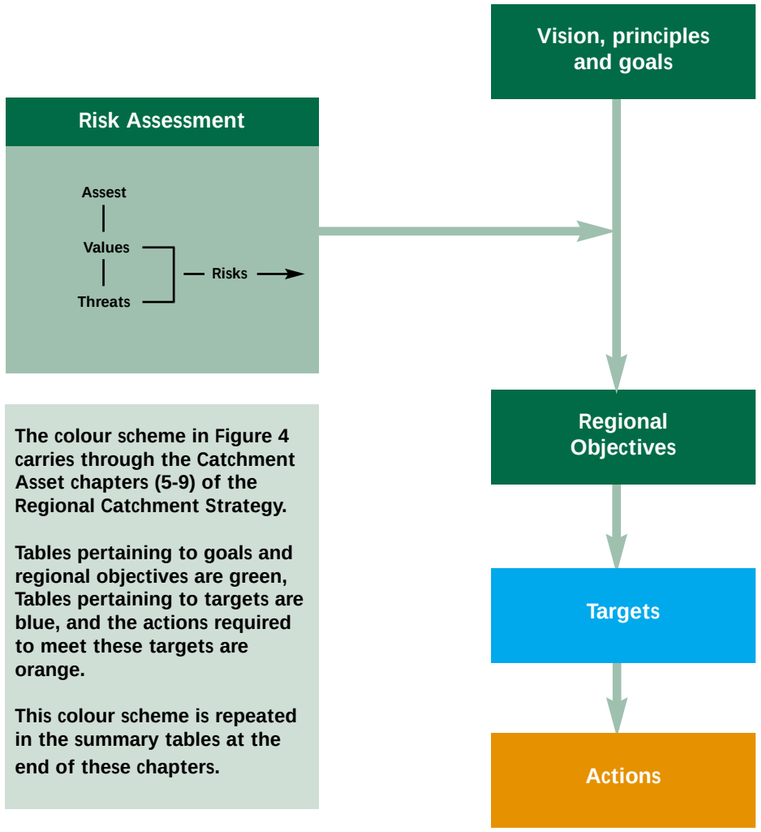

Figure 4: The flow of logic for the Regional Catchment Strategy

Regional objectives, which can be regarded as long-term 'aspirational targets', have been designed to respond to the key risks and at the same time, to reflect the sustainability principles.

For example, one of several regional objectives to achieve the goal of 'healthy land used appropriately and productively' relates to the use of land for urban development. The objective is to 'ensure sensitively located and functional urban areas with minimal impacts on the region's biodiversity and water resources'. This objective covers the location, design and functioning of urban systems. Urban development must have regard for the region's significant biodiversity values and for risks to infrastructure from salinity, unstable land, flood and fire. By choosing wisely now, potential future costs are avoided (inter-generational equity, precautionary and ecological diversity principles). The design and operation of urban areas should minimise off- site environmental impacts, conserve natural resources and maximise opportunities for partnerships.

While the regional objectives represent desirable outcomes in the longer term, progress towards their achievement can be more readily assessed if specific targets are defined that describe how we wish to change the state or condition of our natural assets in a measurable way and over defined periods of time.

Each objective is therefore underpinned by one or more targets that can be regarded as 'resource condition targets'. When achieved, these targets will significantly improve the quality of the region's land, water and biodiversity and increase the capacity of those who live and work in the region to drive these changes.

In turn, specific actions are required to meet the targets. They can be regarded as 'management action targets' as they cover aspects of the management of catchment assets. They include the need for knowledge-building through research and data assembly, strategic planning, on-ground programs of work, monitoring and reporting processes. The rationale for the various actions is briefly described and timelines are set to measure the progress in achieving actions. Some of the actions are already under way and should continue. Others build on existing programs or are new initiatives that respond to the analyses undertaken for the RCS.

Sections 5, 6, 7 and 8 of this document explore this sequence of operations for the four goals – water, land, biodiversity and people. Chapter 9 on monitoring, evaluation and reporting also uses the framework of objectives, targets and actions. Each section concludes with a table that summarises the proposed objectives, targets and actions and the groups that will be involved, and indicates which of the targets and actions are pre-existing (ie. are already in place through existing policies, strategies or plans) and which are new.

Nomenclature for objectives, targets and actions

Each of the objectives, targets and actions through the RCS is coded to assist referencing, as described in the following table:

Chapters of the RCS		Objectives (O)	Targets (T)	Actions (A)
Chapter 5 -	Water (W)	WO1-5	WT1-24	WA1-53
Chapter 6 -	Land (L)	LO1-5	LT1-10	LA1-13
Chapter 7 -	Biodiversity (B)	BO1-5	BT1-10	BA1-15
Chapter 8 -	People and organisations (P)	PO1-3	PT1-7	PA1-10
Chapter 9 -	Monitoring, evaluation and reporting (M)	MO1-3	MT1-4	MA1-6
	Total	21 objectives	55 targets	97 actions

The lead role for actions

For each action, an organisation is listed as having the lead role in seeing that the action is implemented. This may involve directly planning and undertaking the action, or it might involve facilitating and coordinating others to undertake the action in a partnership.

Level of investment for actions

An estimate is also provided for each action regarding the order of magnitude of resourcing that will be required to implement it, either low (tens of thousands of dollars), medium (hundreds of thousands of dollars) or high (millions of dollars).

The capacity of organisations to meet targets and take the lead role in implementing actions will be dependent on the availability of resources. However, it is also envisaged that this RCS will be used by agencies and organisations as a sound basis for seeking and securing funding to undertake the actions.

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4.3 Assessing values and risks

The assessment of values and risks involves identifying what threats are causing our regional assets and their values to be at risk, and assesses the level of risk.

The methodology used in this RCS for risk assessment is in its early stages of development. The rules for assigning market and non-market values to assets and for calculating risk are under discussion. However, the RCS has included a preliminary analysis for the catchment assets of water, land and biodiversity.

For each of these assets, certain values have been selected and the risk to these values described and quantified. In Chapters 5-7, we demonstrate the capacity of the methodology to quantify both values and risks and present a regional picture showing that particular assets, and the values attached to them, have a spatial distribution across the region as do the risks to those values.

Assets can have many environmental, social and economic values, which are frequently at risk from various threats. The values may vary across the region, as may the extent and severity of the threats.

The risk posed can be evaluated by assessing

- the values,
- the extent and severity of the threat
- the sensitivity, or degree to which the threat may impact on the value.

Thus: **Risk = Value x Severity x Sensitivity**

In many instances a semi-quantitative rating system has been devised with values rated in the range of 1 to 5 and severity / sensitivity each rated in the range 0 to 1.

The methodology will eventually take a triple bottom line approach when determining the values of land, water and biodiversity. However, it is more difficult to price environmental and social values, although this has been done in some instances using 'contingent' or 'willingness to pay' approaches.

Over time, the data sets needed to prepare a more complete analysis will be developed. It is well understood that the current methodologies can be a useful guide for resource allocation but that more discussion with investors and asset managers is needed to establish the place of asset-risk analysis in determining regional investment priorities.

Despite the preliminary nature of the methodology, for some values and threats the magnitude of risks to natural assets is evident in the maps depicting the magnitude of risk. The spatial images provide a regional view of where the greatest risks to assets are located. This information provides a basis for focussing on defined areas when implementing particular programs.

It should be noted however, that not all identified threats have been dealt with using this methodology, and hence many of the actions are aimed at threats for which a risk assessment has yet to be undertaken.

In the case of waterways, a slightly different risk assessment approach has been used. The RCS has adopted the extensive work undertaken by Melbourne Water using the STREAMs model. Based on six years of consultation and refinement of data, STREAMs identifies social, economic and environmental values of all the major waterways in the region, using as a spatial base some 175 sub-catchments. Ongoing development of STREAMs will proceed with a view to merging it with the state RiVERS model. It should also be noted that, because STREAMS is at a relatively advanced stage of development, it is different in some ways from the preliminary assessment used in other parts of this RCS.