

Appendix **Seven**



**Southern
Prospects**
2004 - 2009

*The South Coast Regional
Strategy For Natural
Resource Management*

SCIENCE FORUM SUMMARY

Southern Prospects 2004 - 2009

The South Coast Regional Strategy for Natural Resource Management

Appendix 7

Science Forum Summary

Appendix 7 – Science Forum Summary will be completed during the Consultation Process.



SCRIPT South Coast Regional NRM Strategy

Science forum

Monday 21 July and Tuesday 22 July at Monet's Function room, 20 Adelaide Tce, Middleton Beach, Albany

Forum Summary

The only way to get beyond ferreting out info is to become the source of information

Vegetation

Avoid the mass responses applied to other regions to ensure the document has integrity and reflects the Region's individualisms, diversity, flexibility and synergy.

Connectivity fragments

The South Coast Region includes smaller fragmented areas and large relatively intact ones.

Partnerships and relationships are essential to the success of the Strategy.

Need to originate from SCRIPT and forge cooperative links with agencies, LCDCs, non-government organisations, community groups and individuals etc.

Landscape goes beyond IBRA and beyond CAR. The extraordinary depth of biodiversity and sheer number of threatened species and habitats mean neither is appropriate for the South Coast Region.

Diversity is so extensive that the Strategy will need to recognise this variety and try things in different places.

Fauna

There are opportunities for activities which can make an immediate difference – eg fox baiting, woylie numbers etc.

1080 was highlighted as an emerging issue: there is an opportunity for SCRIPT to have an immediate impact through large scale private land fox baiting again.

Issues for SCRIPT include “what research to support?”

Opportunity for “icon species” to be used in awareness-raising activities for different areas and the whole system.

What we missed

Issues requiring further attention include:

- Fungi
- cross-regional issues
- structural needs for fauna (hollows, litter etc)

Fire & Phytophthora

South Coast was flagged as even more vulnerable than South West.

Further data is required to come up with a framework for use of fire in the Region and decide what fire regimes are required in a changed landscape.

Support for any drastic action that will reduce further infections is required to preserve uninfected, high value areas.

Synergies between ecological understandings and on ground observations are required to combat tree declines.

What we missed

Issues requiring further attention include:

- Fire impact on fragmented landscapes followed by rising groundwater, which doesn't fall again (eg in Esperance area).
- Fire a 'cyclical' threat whereas phytophthora etc a directional threat.
- Implications for biodiversity, new industries on private land, revegetation sites.
- Distilling the message and the strategies into simple, clear languages.

Social and political

There is an important role in building dialogues with all parties including general public, landholders, NRM groups, agencies, scientists and other experts etc.

The Strategy needs to broaden its focus beyond simply the dialogue process. It needs to formulate and implement the support mechanisms to make it happen.

Science doesn't appeal to all so the issues need to be shared in a way that reaches those outside the science community.

Strategies are required to enhance accessibility and appeal, eg Fitzgerald Biosphere Group's Science in the Pubs series.

Agenda

Monday 21 July

- 12.00noon** Registration (*light refreshments available*)
- 12.30pm** Welcome, introduction to SCRIPT and the Regional NRM Strategy process, and the desired outcomes from these two days (*John Simpson, (Chairman), Paula Deegan (Manager), SCRIPT*)
- 12.40pm** Biodiversity on the South Coast and the Site Conservation Planning process (*Keith Bradby, Gondwana Link*)
- 1.00pm** **Vegetation and floristics: identifying priorities for biodiversity planning and management in the South Coast Region**
Invited presentation: Floristic diversity and endemism on the South Coast – implications for conservation planning (*Dr Stephen Hopper, CEO Botanic Gardens and Parks Authority*)
- 1.40pm** Discussion: Use of vegetation associations and floristics to identify priorities for biodiversity conservation in the South Coast Region.
- 2.45pm** *Afternoon tea*
- 3.00pm** **Connectivity and fragmentation: What do we mean by “adequate”? Are patterns within the landscape as important as size?**
Invited presentation: Conservation of fragmented landscapes: adequacy and complementarity (*Terry Walshe – Centre of Excellence in NRM*)
- 3.30pm** Discussion: How can we address fragmentation and connectivity at landscape and regional scales to minimise risks to natural biodiversity? What are the opportunities for more sustainable management and synergies between private and public lands?
- 4.30pm** **Summary from the day**
- 5.00pm** **Finish**
- 7.00pm** *Dinner – Al Fornetto, 132 York Street Albany*

Tuesday 22 July

- 8.00am** *Coffee, tea available*
- 8.30am** **Fauna: Threatened, priority fauna; role of fauna in ecological functioning; keystone and icon; invertebrates and other “forgotten” communities**
Invited presentation: Woylies – their impacts on functional ecology in South Coast systems (*Dr Mark Garkaklas, Murdoch University*)
- 9.00am** Discussion: Priorities for fauna management on the South Coast – systems and functions.
- 10.00am** *Morning tea*
- 10.20am** **Disturbance regimes: Managing fire for ecological sustainability of South Coast ecosystems**
Invited presentation: (*Dr Colin Yates, WA Herbarium*)
- 10.45am** Discussion: Appropriate fire regimes for biodiversity conservation. Is our knowledge adequate? What do we know but not apply? What are the Regional priorities for developing and implementing appropriate fire regimes?

- 12.00pm** *Lunch*
- 1.30pm** **Disturbance regimes: Disease and its consequences for conservation on the South Coast**
Introduction by Dr Greg Keighery, Dept of Conservation and Land Management
- 2.00pm** Discussion: How comprehensive is our knowledge of risks within the South Coast? Are our available management options likely to ensure that South Coast flora survives dieback and other disturbances (including climatic change)?
- 2.45pm** *Afternoon tea*
- 3.00pm** **Measuring success: Regional targets and indicators for functional landscapes**
Discussion: Developing meaningful and achievable targets and indicators.
- 4.10pm** **Summary and recommendations for the regional strategy** (*Keith Bradby*)
- 4.30pm** **Close**

Attendees

Hopkins, Angus	Dept of the Premier and Cabinet	ahopkins@dpc.wa.gov.au	9222 9309
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Robinson, Chris	Greening Australia WA		
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Woodall, Geoff	Centre of Excellence in NRM	gwoodall@agric.wa.gov.au	
Yates, Colin	Department of Conservation and Land Management	coliny@calm.wa.gov.au	9334 0489
Young, Joanna	Conservation Commission	young@denmarkwa.net.au	

Background Paper: South Coast Regional Strategy for Natural Resources Management – Planning for Biodiversity

The South Coast Region – an overview

The South Coast Region (see map 1) covers an area of more than 5.4million hectares and includes the catchments of all the southerly-flowing rivers from Walpole in the west to beyond Cape Arid in the east, as well as some internally drained areas north east of Albany and north of Esperance.

The Region is renowned for its spectacular landscapes, including tall forest areas in the west, the southern coastline and many offshore islands, all of South Western Australia's mountain peaks, and many inlets, estuaries, waterways and wetlands. It is also renowned for its extremely high levels of biodiversity, with more than 20% of the State's floristic diversity within the Region.

There are 14 National Parks within or adjacent to the Region, including two (the Fitzgerald River and Stirling Range National Parks) which each contain nearly 10% of Australia's flora species as well as significant numbers of fauna species. In addition, there are a number of nature reserves and large areas of unalienated land in the Ravensthorpe Range and the mallee areas north of Esperance.

The Fitzgerald River National Park also forms the core of the Fitzgerald Biosphere Reserve, and a proposal for another Biosphere Reserve in the west of the Region (including the Irwin, Parrys, Wilson and Torbay inlet catchments) is currently under discussion.

The Region also contains large areas of agricultural landscapes, and there is a strong economic reliance within the Regional community on agricultural production and related service industries. Increasingly, areas of plantation and farm forestry are changing parts of the landscape and there are some strong trends in parts of the Region to increase the diversity and resilience of land management systems.

Physical and biological threats to the terrestrial biodiversity of the region include rising groundwater and salinisation, plant diseases, especially *Phytophthora cinnamomi*, weeds and feral animals, altered fire regimes, continued habitat disturbance and fragmentation of populations, and climate change. Some of the perceived social and economic threats include an increasing reliance on a decreasing number of volunteers for on ground actions, withdrawal of government resources (skills and funds) and institutional, legislative and market arrangements that either undervalue or actively degrade biodiversity.

At the same time, there are opportunities on the South Coast that give good grounds for optimism. These include support for native plant based industries that can provide both ecological and economic outcomes, an increasing recognition of the role of Noongar people in sustainable land management, the development or trial of various market based instruments to encourage conservation or restoration of biodiversity, and the Gondwana Link project that is using many of these approaches and accessing private investment for an ambitious collaborative effort to restore functional landscapes.

Most of all, the Region is home to many people who are passionate about this area and who have a wealth of knowledge, skills, experience and ideas to contribute to the development of an ecologically, socially and economically sustainable Region.

South Coast Regional NRM Strategy

A Regional Strategy for NRM (natural resources management) was first developed within the South Coast Region in 1996/7 and was used extensively to guide project

priorities under the first Natural Heritage Trust (NHT) program. A revised Draft Strategy was prepared in 2000, but subsequent changes to the NHT program and the development of the National Action Plan for Salinity and Water Quality (NAPSWQ) have led to yet a further iteration of the Strategy - the work now in progress.

SCRIPT are leading the development of the Strategy, but are working with a number of other organisations or groups as either formal or informal partners. This includes a number of government agencies (eg CALM, Department of Environment, Dept of Agriculture, Forest Products Commission) and non-government groups (eg Greening Australia WA, Gondwana Link, and a number of subregional community-based groups).

While the NHT and NAP programs are funding the development of the strategy and have some specific accreditation criteria that need to be met for future funding under those programs, SCRIPT wants the Strategy to be more robust than a 5 year government funding program. The strategy must be relevant as a guide to future directions and investments, regardless of the source of those investments. To do this, it needs to be strongly community-owned, and be clear, rational, justifiable and transparent.

The accreditation criteria are for the most part strongly aligned with the community needs as defined in feedback on the earlier strategies:

- Scientific justification for priorities and objectives.
- Measurable and achievable targets and indicators built into a clear monitoring and evaluation process.
- Management actions and strategies assessed for their feasibility, effectiveness and socio-economic impacts.
- Assessment of and strategies for developing our ability to manage natural resources more sustainably into the future.
- Strong community participation in the development, implementation and evaluation of strategies.

Our aim

Previous extensive consultation and engagement of stakeholders identified a number of overarching objectives related to conservation and sustainable use of natural resources, coordination and integration of planning and management, participative approaches to planning and management, and the maintenance of strong and capable communities.

A proposed “vision” for the Strategy (based on the previous work) is:

The South Coast Region is recognised locally, nationally and internationally for its outstanding biodiversity and landscapes, its sustainable production practices, and its strong communities.

- *The South Coast’s distinctive landscapes and their terrestrial, aquatic and marine biodiversity will be valued and protected into the future.*
- *The South Coast’s land- and water-based industries will be ecologically sustainable, diverse and profitable.*
- *The South Coast’s communities – including urban and rural residents, Indigenous and non-Indigenous - will have the experience, skills, information and economic resources to be active participants in the management of the Region’s natural resources.*
- *There will be cooperation, coordination and opportunities for participation at all levels of decision-making, planning and management of the South Coast’s*

natural resources resulting in genuine integration of environmental, social and economic outcomes.

What the Strategy covers

The Strategy includes consideration of the land, biota and water, including coastal and marine areas (to 3 nautical miles). It also covers socio-economic issues, including community capacity, as they relate to natural resources and their management.

In developing the Regional Strategy, SCRIPT has had input from the Dept of Agriculture (analysis at Regional scale of land degradation risks including groundwater rise and salinity, as well as analysis on an industry basis of impacts on natural resources) and from the Water and Rivers Commission (collation and analysis of a range of State and Regional data sets for waterways, estuaries, wetlands and aquifers). CALM has been developing a GIS-analysis of its data sets at State level and are also assisting through their Marine Branch with the development of priorities for management of marine areas and threats.

It will be SCRIPT's responsibility to bring the various themes and approaches together and integrate with input from other government agencies, Development Commissions, local governments, Indigenous people, industry groups and other community members.

There are also a number of State-scale assessments in progress using, for example, the Salinity Investment Framework. SCRIPT will draw from these approaches where they are appropriate but we see that the Regional Strategy must be a more dynamic and adventurous document than any Statewide approach is likely to encourage, simply because we see that the South Coast has more opportunities for positive and innovative approaches.

Site Conservation Planning Approach – a framework for regional biodiversity planning

The Site Conservation Planning (SCP) is simply a planning framework developed by The Nature Conservancy and used at hundreds of its conservation areas at either *site* or at *landscape* scales. It is based on a "Five-S" framework:

- *Systems* – the conservation targets at a landscape and the natural processes that maintain them
- *Stresses* – the types of destruction, degradation or impairment afflicting each of the conservation targets in the landscape
- *Sources* – the agents generating the stresses
- *Strategies* – the types of activities deployed to abate the sources of stress (threat abatement) or enhance or restore the system (restoration)
- *Success* – measures of biodiversity health and threat abatement in the landscape.

The SCP is supported by a decision support system developed as an Excel spreadsheet that is underpinned by clear relationships to ecological principles. SCRIPT decided to apply the framework at a Regional scale for a number of reasons:

- It encourages the users to look at the whole landscape – regardless of tenure – and therefore to examine the functional viability of that landscape and the conservation targets within it.
- It requires the users to identify their assumptions and/or document the basis for their decisions.
- It requires the identification of targets and indicators and, for us, has generated considerable debate on how we choose indicators.

- It is strongly based in the development of community-based strategies for threat abatement and target restoration, and so very applicable to the NHT/NAP program requirements.
- We worked through it with the Gondwana-Link people and we liked what we saw!

Landscape planning units:

A number of different planning units and scales were considered for application of the SCP approach, including SCRIPT subregions, catchments, IBRA subregions and soil-landform units. Units based on geology were adopted as these were considered to be most suited to the Regional scale of planning. The map (following) shows the units currently being used for planning purposes. (Note however that these are subject to further change and that the recommendations arising from the planning exercise may be presented within other boundaries – local authority, catchments, etc - as appropriate).

Summary of SCP process to date:

The SCP process has been used in five small group workshops to date and preliminary proposals have been made for targets, indicators and stresses for five of the planning units. (See summary tables attached). The western areas are still under development. Working groups have included a number of people from within the Region with direct knowledge and experience of the vegetation, flora or fauna of the planning areas.

At each of our planning sessions we have identified a number of issues that require further consideration, and this forum is intended to address some of them.

Questions to be addressed during the forum:

- **Vegetation, floristics and defining priority systems for regional planning.**
 - Are vegetation associations the most appropriate conservation targets at a Regional scale? Do they adequately cover other components and processes within the ecological systems or are there other more appropriate targets to use?
 - Do we have enough information about characteristic structures and diversity within communities to know what to aim for?
 - What are the most appropriate indicators of *condition* and how can/should these be used at a Regional scale? What is the best indicator of condition over time that accounts for successional stages?
 - What is the significance of floral diversity, local and regional endemism, convergence communities, species at their range extent, and how do we incorporate the significance into regional scale targets?
- **Connectivity and fragmentation, “adequate” areas, patches and mosaics.**
 - Are criteria based on % of original cover appropriate for Regional planning or are they only part of the story?
 - Do we have sufficient knowledge to be able to estimate minimum dynamic size to maintain systems, communities, species at a reasonable level of risk?
 - Are there “positive” aspects to fragmentation that can lead to greater genetic diversity and resilience in some circumstances (eg granite communities)? Is this significant at a Regional scale?

- What are the ideal patch and pattern size for the various vegetation and community mosaics that make up the South Coast's natural biodiversity?
- Is size of remnants a primary determinant of viability in all systems or are other factors more significant in some systems (eg fire regime in mallet/moort communities)?
- What is the relative significance of connectivity and fragmentation in woodland systems?
- **Fauna: special management needs, role of fauna in ecological functions, the "forgotten" fauna.**
 - Is management for maintenance of a full suite of vegetation substantially different from management for the maintenance of a full suite of fauna? What are the additional needs and how are they best addressed as Regional priorities?
 - How good is our knowledge of fauna as part of ecological processes, including nutrient and water processes? How can/should that be reflected in our Regional priorities?
 - What are the fauna species and communities that require specific attention at a Regional scale?
 - Is the concept of keystone species a useful one for Regional planning? If so, why and how should this be incorporated in biodiversity planning?
 - How do we best deal with migratory and large range species within Regional priorities?
- **Fire regimes that maintain or enhance natural biodiversity.**
 - Do we have adequate knowledge of the fire regime requirements for South Coast systems? Where is our knowledge best? poorest?
 - Do we have the knowledge but not the ability or willingness to apply the regimes?
 - Do we adequately understand the risks (to biodiversity) of current practices?
 - What are the indicators that we should be using to monitor long term impacts of fire regimes on different systems?
 - What are the Regional priorities for improving knowledge, policy or management?
- **Disease and other disturbances.**
 - What is the state of our knowledge on occurrence, risks and impacts of *Phytophthora* on species and communities within the South Coast Region?
 - What other risks are there (other diseases etc)?
 - Is our management adequate for what we currently know? Are there other approaches we need?
 - What are the immediate and longer term priorities for managing disturbance, including by disease?
- **Measuring success – targets and indicators**
 - What are the key targets and indicators that we should be using at a Regional scale? What is needed at other scales?

- What current data sets or other information might provide a sound basis for Regional targets and monitoring?
- How can we make sure we have useable information that doesn't require a project officer to spend another year finding it the next time a strategy is in preparation???

Next steps in developing the Regional Strategy

The SCP approach and the outcomes from this forum are being combined with other information and approaches as mentioned earlier. SCRIPT will then be taking the resulting *proposed* priority objectives, targets and indicators to wider community consultation within the Region. The community consultation will also involve further development of social and economic priorities.

At the same time, the development of strategies and actions to achieve the objectives will commence. The Regional Strategy will encompass a range of approaches, including:

- Improving knowledge and information
- On-ground works and activities
- Building community and Regional capacity (eg skills, employment, technical and other support, communications, etc)
- Promoting opportunities for diversification and integration (eg through specific actions to support native plant based production)
- Institutional, legislative and policy approaches

It is anticipated that the Strategy will be completed in early 2004.

The continued involvement of any of the participants at this forum is welcomed and encouraged.