


Department for Environment and Heritage

# No Species Loss – Overview

A Nature Conservation Strategy  
for South Australia 2007–2017



Government  
of South Australia



'No Species Loss' is a statement of aspiration. Species decline and become extinct naturally. This aspiration reflects the foresight, mindset and commitment needed by all South Australians if we are to prevent further loss of our known native species from human impacts, and if we are to conserve biodiversity for future generations. The 100-year vision for No Species Loss is:

## Vision

The people of South Australia actively supporting their native plants, animals and ecosystems to survive, evolve and adapt to environmental change.



# Foreword

Healthy natural environments provide for South Australia's cultural, social, economic and environmental wellbeing.

Many of our vascular plant and vertebrate animal species are threatened with extinction. This situation exists even with the significant efforts of government, industry and community to stop the degradation of South Australia's species, ecosystems and landscapes, and the ecological services and economic and social benefits they provide.

No Species Loss – A Nature Conservation Strategy for South Australia 2007–2017 is the first statewide nature conservation strategy in South Australia.

The vision of No Species Loss is a bold and aspirational one: the people of South Australia actively supporting their native plants, animals and ecosystems to survive, evolve and adapt to environmental change.

With this view, the aim of No Species Loss is to halt and where possible reverse the decline in the State's terrestrial, aquatic and marine biodiversity over the next 10 years. The Strategy forms a framework with realistic timeframes to achieve this aim.

Climate change will significantly alter the way that we manage our biodiversity to ensure that it persists into the future.

No Species Loss maps the strategic direction required of industry, Indigenous, rural and urban communities, government and NRM boards for the conservation and sustainable management of South Australia's biodiversity.

The Strategy is a direct, whole of government partnership response to South Australia's Strategic Plan target of 'lose no species'. No Species Loss also provides an overarching framework for developing the 5 NatureLinks corridor areas and the 19 marine protected areas identified in the Strategic Plan.

The State Government is pleased to present No Species Loss – A Nature Conservation Strategy For South Australia 2007–2017.

Hon Gail Gago MLC  
Minister for Environment and Conservation





Nature conservation is defined as: societies' actions focused on sustaining life on earth.

### No Species Loss sets the scene for nature conservation in South Australia.

This Strategy has lofty ambitions encouraged by faith in the people of South Australia. It intends to inspire creative thinking, wise decision making and effective action by a partnership of urban, rural and Indigenous communities, industry and government. Together we can conserve biodiversity and manage it sustainably.

No Species Loss enunciates the South Australian Government's policy for reversing decline in the State's terrestrial, aquatic and marine biodiversity with its partners. Its strategic approach ensures that State directions are meaningful at a regional level.

This Strategy opens the door to ownership, engagement, partnerships and innovative solutions, on both public and private lands, that can save our biodiversity.

### We will have to work smarter.

The loss of South Australia's native plant and animal species since the arrival of European settlers is alarming. At least 23 mammals, 2 birds and 26 plants have already gone forever. Our State's extinction rate is one of the highest in Australia.

Today about one-quarter (over 1000 species) of all terrestrial vascular plants and vertebrate animals in South Australia are considered to be threatened – 63% of our mammals and 22% of our vascular plants are formally listed as threatened at the State level. Our ecological communities are also threatened.

Despite sustained hard work by professionals, landholders and volunteers alike over many years, the decline continues. Clearly we need to work smarter and learn from our mistakes and successes, and we need to do this with a sense of urgency if we are to clear our extinction debt.

This Strategy emphasises the use of appropriately large spatial scales and timeframes for our planning and management, particularly in the face of climate change. Conservation objectives should be set at the scale of landscapes, and with ecologically realistic timelines, whether they be a few years or hundreds of years.



## The need for biodiversity management is clear.

South Australia's species, ecosystems and landscapes have changed dramatically since European settlement. Many native species are now actively managed: some for production purposes, some because they are threatened, and some species, native and introduced, because they have become over-abundant or impact causing.

Native biodiversity within South Australia is in decline, yet relatively few threatened species and ecological communities are being managed for recovery.

The threat is real and present for terrestrial, aquatic and marine ecosystems. We can no longer modify habitat, fragment ecological communities and populations, introduce invasive species, and alter environmental water flows and fire regimes. Climate change is now adding further challenges and often unknown complexity to how we might manage current threats, and restore ecosystems in the future.

Instead we must intervene with serious planning, innovation and endeavour.

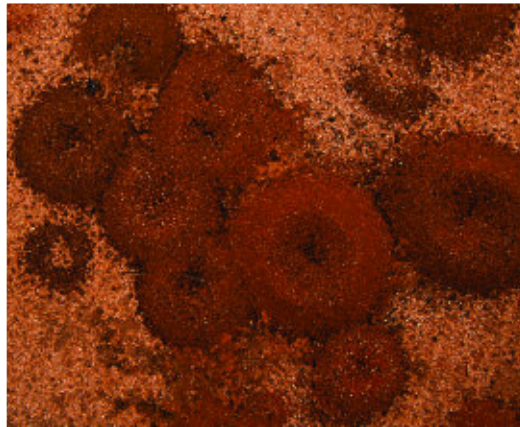
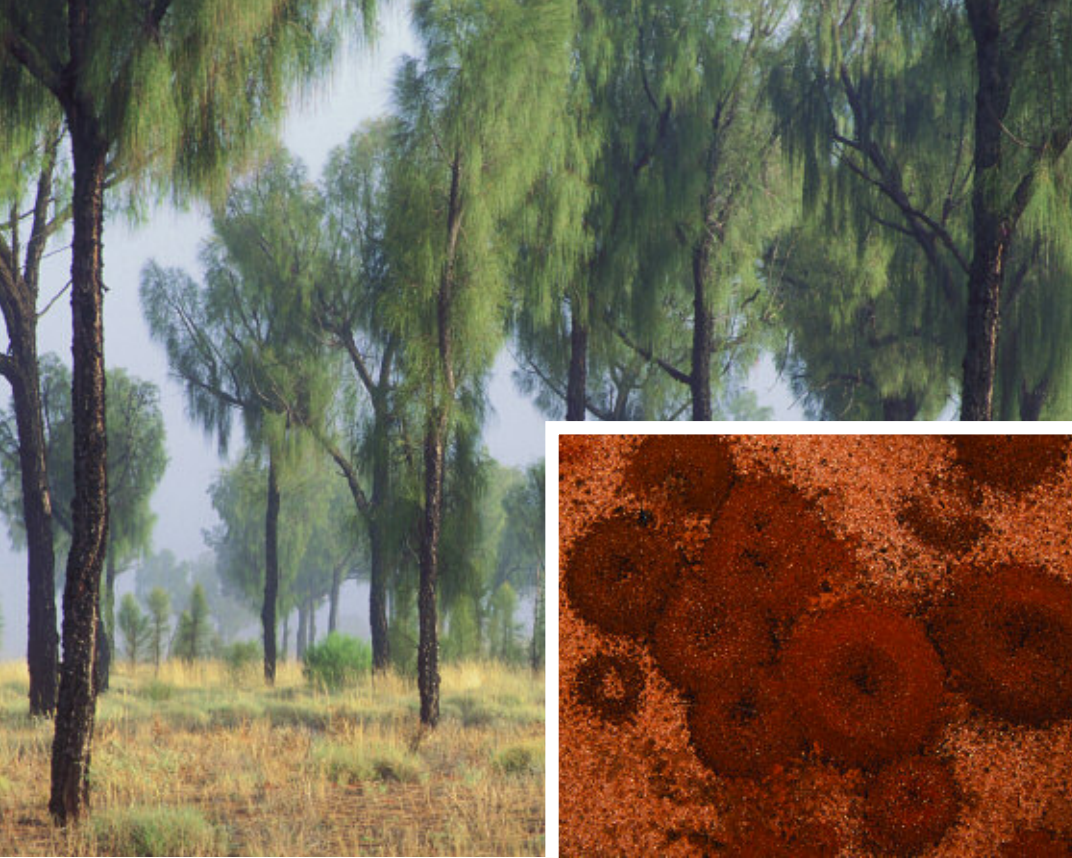
## Wider frameworks guide our direction.

No Species Loss lays the foundation for Objective 3: 'Attaining Sustainability' of South Australia's Strategic Plan and is a direct response to its 'lose no species' target (T3.1).

The strategy also embodies the NatureLinks Strategic Plan target of establishing 5 strategic biodiversity corridors areas across the State (T3.2), and creating 19 marine protected areas (T3.4).

The Natural Resources Management Act 2004 establishes the legislative framework for sustainable management and development of South Australia's natural resources. The State Natural Resources Management Plan (State NRM Plan) provides overarching direction to that management. No Species Loss objectives and targets complement and inform the goals, milestones, strategic directions and resource condition targets for biodiversity conservation within the State NRM Plan.

No Species Loss delivers our direct State obligations to the National Strategy for the Conservation of Australia's Biological Diversity and our indirect international obligations to the United Nations Convention on Biological Diversity. No Species Loss is also aligned with the national approach to biodiversity decline.



Life on earth is extraordinarily diverse and complex.

Biological diversity, or 'biodiversity', is the variety of life in all its forms, which are found at 3 levels:

- genetic diversity – the variety of genetic information contained in all individual living things
- species diversity – the variety of species on the earth
- ecosystem diversity – the variety of habitats, biotic communities and ecological processes.

Each level of diversity has:

- components – the identity and variety of the genes, species and ecosystems
- patterns – the spatial organisation of the 3 levels
- processes – ecological and evolutionary processes through which the levels interact.

Landscapes – the variety and arrangement of landforms, communities and land uses – take these levels, and their patterns and processes, into account. No Species Loss emphasises a landscape approach to biodiversity management.

Biodiversity is South Australia's biological wealth.

Much of South Australia's economy is based upon the use of biodiversity. The goods and services that drive our economy and support our social systems stem largely from healthy and functioning natural environments and the ecosystem services they provide. Our quality of life, our sense of place and our cultural identity are intimately linked to the biodiversity that surrounds us.

We rely on these services to provide the basics of life – food, water, shelter, clothing and clean air – and to regulate our climate, decompose organic wastes, stabilise our soils, control pests and diseases, pollinate plants, and inspire our societies and cultures.

We may take these services for granted because they are 'free' but if we overdraw on them, their complex relationships may break down and leave us without our basic needs.



## Lead agencies will be strategic leaders.

No Species Loss sets recommendations and targets with biologically realistic timelines. Lead Government Agencies and Support Partners are responsible for implementing the strategy. These are listed on the back cover. The Department for Environment and

Heritage will lead implementation of No Species Loss with the Natural Resources Management Council having a central overseeing role; and working groups will oversee implementation of areas beyond the council's jurisdiction or expertise.



Biomes are areas of unique biological and physical elements. They provide a broad, user-friendly context for discussing biodiversity conservation and management issues.

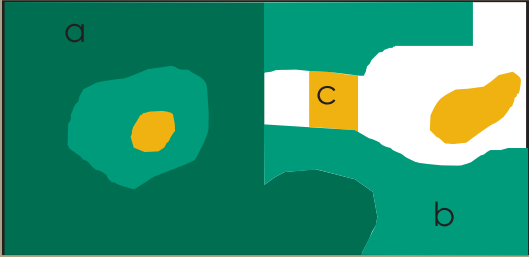
The landscape approach to nature conservation that No Species Loss advocates, starts with a broad division of the State into 3 biomes – Arid, Mediterranean and Marine. Each represents a greatly simplified but biogeographically unique collation of ecological communities with comparable patterns of climate, land use, vegetation, habitat and threats to biodiversity.

Although little habitat has been cleared in the Arid Biome, vegetation composition and structure is considered to be highly modified by grazing from rabbits, cattle, sheep, camels, goats, horses and kangaroos.

Landscape patterns, characteristics, threats and trends of the Arid, Mediterranean and Marine biomes

\*Protected areas consist of public and private lands.

\*\*Adapted from McIntyre and Hobbs 2000

Protected areas*	87% of South Australia of which 28% is protected
Landscape patterns**	
Habitat destruction patterns	Intact (<10% destroyed) to variegated (10–40% destroyed)  98% of natural cover remains
Habitat modification patterns	Low to high levels of modification
Predominant landscape vegetation components	Predominantly intact habitat (a), and adjacent buffer areas (b), with some connecting areas (c) (see below)
Visual representation of landscape destruction and modification patterns	 <p>Connectivity decreasing, habitat edge effects and</p> <p>Unmodified habitat Modified habitat</p>
Environmental influences	<ul style="list-style-type: none"> <li>a warm to hot and dry climate with low and erratic rainfall; mostly winter rains in the south and summer rains in the north</li> </ul>
Biome characteristics	<ul style="list-style-type: none"> <li>rocky hills, volcanic and quartzite ranges, stony, gibber and sand plains, dune fields, spinifex hummock and tussock grasslands, chenopod shrublands, open and low mallee, eucalypt woodlands</li> <li>river systems with enormous variability in flow</li> <li>wetlands of international and national importance, sites of national importance for migratory shorebirds</li> <li>salt lakes, floodplains and wetlands, with major ephemeral watercourses drain towards Lake Eyre</li> <li>Great Artesian Basin underlies about 50% of this biome to the east</li> </ul>
Land use	<ul style="list-style-type: none"> <li>Aboriginal homelands and rangeland</li> <li>nature conservation</li> <li>Indigenous cultural site conservation</li> <li>pastoralism – sheep and cattle</li> <li>mining and exploration</li> <li>tourism and recreation</li> <li>some irrigated horticulture</li> <li>some inland aquaculture</li> </ul>
Biodiversity and threat trends	<ul style="list-style-type: none"> <li>threatened species and ecosystems increasing</li> <li>disease spreading</li> <li>weeds increasing</li> <li>pests stable (where managed intensively) to increasing</li> <li>health of rivers, streams and wetlands declining</li> <li>water use increasing</li> <li>water quality decreasing</li> </ul>
Threats to biodiversity	<ul style="list-style-type: none"> <li>climate change</li> <li>combined grazing impact (total grazing pressure) primarily from sheep, cattle, rabbits, goats, horses, camels and kangaroos</li> <li>wildfire, inappropriate fire regimes</li> <li>invasive weeds, pests and diseases</li> <li>over-abundant native species</li> <li>urban native species in conflict</li> <li>groundwater extraction</li> <li>decline in maintaining and passing on of traditional knowledge (e.g. traditional patch burning) and responsibility for biodiversity conservation</li> </ul>

## Mediterranean

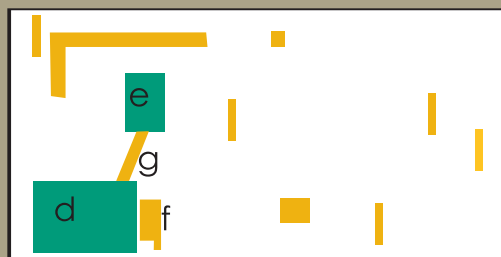
13% of South Australia of which 14% is protected

Fragmented (40–90% destroyed) to relictual (>90% destroyed)

30% of natural cover remains

Low to mostly high levels of modification

Predominantly large (d) to small (e) fragments with adjacent buffer (f) areas, and extensive connecting areas (g) (see below)



▶ threats to biodiversity increasing . . . . . ▶

Highly modified habitat Destroyed habitat

- a cool to warm climate; tending to winter rains

- undulating plains and foothills, low ranges, steep rocky gorges and creeklines, chenopod shrublands, native grassland, sedgeland, samphire shrublands, native grassland, open mallee, eucalypt woodlands, sand dune fields
- watercourses and rivers, ephemeral to permanent
- Kangaroo Island uniquely fox and rabbit free
- significant seabird nesting habitat on offshore islands
- wetlands of international and national importance, sites of national importance for migratory shorebirds
- only 30% of wetlands remain

- agriculture
- horticulture
- forestry
- mining and exploration
- inland aquaculture
- urban development
- tourism and recreation
- nature conservation

- threatened species and ecosystems increasing
- disease spreading
- weeds increasing
- pests stable (where managed intensively) to increasing
- water use increasing
- water quality declining
- health of rivers, streams and wetlands declining
- residential land use increasing
- intensity of production land use increasing

- climate change
- selective broad scale clearance of vegetation and the direct loss of habitat
- inappropriate fire regimes
- invasive weeds, pests and diseases
- grazing and trampling
- overabundant native species
- urban settlement and development
- wetland drainage, water interception, altered flow regimes, rising saline groundwater
- pollution

## Marine

Equivalent to 6% of South Australian land area of which 5% is protected

Uncertain, but probably intact (<10% destroyed) to variegated (10–40% destroyed)

Uncertain of the natural cover remaining

Uncertain but probably low to high levels of modification

Uncertain but probably predominantly intact habitat with adjacent buffer and connecting areas

Uncertain but probably similar to pattern in Arid Biome

- variable and diverse currents with low nutrient sheltered salty gulf waters; warmer waters of the bight; and cooler nutrient rich waters of the south east

- internationally unique, biologically diverse with very high levels of endemism
- rough-water rocky shores and subtidal reef systems, sandy beaches, marine wetlands, extensive calm water mud flats, kelp forests, intertidal sandy flats, estuarine wetlands and sand dunes, seagrass, salt marsh and mangrove forest habitats

- urban development
- shipping
- recreational fisheries
- research
- commercial fisheries and aquaculture
- tourism and recreation
- mining and exploration
- nature conservation

- seagrass and mangrove habitats declining
- coastal development increasing
- fisheries are fully exploited and likely to remain so

- climate change
- intensive commercial and recreational use
- coastal development and overuse
- pollution
- sedimentation
- invasive weeds, pests and disease
- tourism and recreation
- over-abundant native species
- urban native species in conflict



conservation of South Australia's terrestrial, aquatic and marine genes, species, and ecosystems and their ecological processes, within healthy and sustainable natural, production, urban and public landscapes

## GOAL 1 – Conservation of South Australia's biodiversity

The approaches to biodiversity conservation in South Australia focus on managing protected areas, threatened species, threatened ecological communities, key threatening processes, landscapes (e.g. NatureLinks), and cultural landscapes (managing biodiversity for Indigenous social, cultural and economic outcomes). Coordination and integration of these approaches is needed at a State level, with a flow on of more efficient and effective management at regional levels.

Managing biodiversity within a landscape context provides the most efficient and effective means of conserving ecosystems and the species they contain. This logic underpins NatureLinks, which is in essence the on-ground delivery of No Species Loss in 5 strategic biodiversity corridor areas.

NatureLinks tackles habitat fragmentation and species decline by establishing ecological connectivity and new viable habitat networks that link existing habitats across public and private lands in partnership with community, industry and government.

Some ecosystems and species will be inadequately provided for under the landscape planning and management approach and will need individual management to ensure their conservation.

The differing patterns in habitat destruction and modification of the Arid, Mediterranean and Marine biomes will dictate the type of management actions for those biomes. A series of broad conservation actions consistent with the NatureLinks approach and delivered at a local scale will support landscape scale planning to prevent further loss of species in South Australia by:

- maintaining habitats currently in good condition
- improving habitats by removing, controlling and reducing threats
- reconstructing habitats where it helps improve the condition of adjacent relic habitats.

GOAL 1 – Conservation of South Australia's biodiversity is delivered through 15 Targets.



### What will be happening?

- 1.1 Creating public and private land protected areas that represent priority and threatened species and ecosystems
- 1.2 Maintaining and improving landscapes in marine, aquatic and terrestrial areas with management programs that protect and restore
- 1.3 Maintaining, improving and reconstructing species and ecological communities with sufficient knowledge, and appropriate planning and management
- 1.4 Facilitating the sustainable use and management of native species (marine, aquatic and terrestrial) by preventing their decline
- 1.5 Managing the impacts of abundant or impact-causing species by humane means

### What will we gain?

- Conservation, planning and biodiversity management based on sound ecological principles by government, industry and community in partnership
- Species, ecosystems, and landscapes and seascapes maintained, improved and reconstructing over long timeframes
- Comprehensive, adequate and representative habitats, protected on public and private land
- Species accessed and harvested in an ecologically appropriate way
- No new threats introduced and existing threats and over-abundant species mitigated effectively



informed, motivated, empowered and engaged urban, rural and Indigenous communities, governments and industries that better value and share the responsibility for, and enjoy the benefits of, South Australia's terrestrial, aquatic and marine biodiversity

## GOAL 2 – Community ownership and stewardship for biodiversity

People are the agents of change. Individual and collective decisions and the actions of South Australians are required for the conservation and sustainable use of the State's natural resources.

Levels of appreciation and experience with biodiversity will always differ and so there will always be a need to inform, consult, involve and empower community. All communities work best, and continue to work, when they can see that they are making a difference at a local level.

Government and NRM board processes for community engagement must be articulate, well directed and outcome focused if they are to sustain community desire to be part of conservation action. And connection and participation starts with relevant education.

People and communities desperately need access to relevant, high quality, understandable and locally based information. They need to understand broad biodiversity and nature conservation concepts, how human activities impact on biodiversity, what their roles and responsibilities are for duty of care, and what they can do to halt the decline.

Government leadership, backed by private and public landholders and industry leaders are also crucial at a State-wide scale. A current challenge is to integrate biodiversity conservation outcomes with farm production systems, while remaining profitable and productive.

'Backyard biodiversity' initiatives can introduce the State's plants and animals. Urban revegetation projects can showcase techniques, demonstrate the possible, reconnect people with bush landscapes, and give them the chance to 'get back to nature'.

Better mechanisms for including information in education curricula and community education programs, and for communicating the breadth and complexity of biodiversity and natural resources management issues, will see life-long biodiversity awareness develop at a community level.

Volunteer programs are also crucial for local conservation initiatives. Volunteers collect information, promote education and awareness of local biodiversity issues, and do the on-ground works. They would be encouraged by better recognition of their efforts, participation in decision-making processes, and innovative and challenging programs.

There is untapped potential in incentive and investment mechanisms for better engagement of industry and the private sector. Recognition of biodiversity conservation as good business practice would see it embraced as an opportunity rather than a barrier to economic development.

GOAL 2 – Community ownership and stewardship for biodiversity is delivered through 7 Targets and 1 Recommendation.



## What will be happening?

- 2.1 Raising community awareness of the need for biodiversity conservation with programs that start at school and continue throughout life to engender a 'living with wildlife' philosophy for native species
- 2.2 Raising community capacity, stewardship and decision making for biodiversity conservation through existing and new programs, networks, urban environments, reward schemes and Indigenous partnerships

## What will we gain?

- South Australians:
  - better understanding species, habitats and ecosystems
  - recognising the intrinsic and instrumental values of biodiversity
  - embracing the vision for conserving, sustainably using and living with biodiversity
  - taking responsibility for the conservation and sustainable use of biodiversity
- Government, industry and community having a clear understanding of each other's roles and responsibilities for biodiversity conservation and management



knowledge of terrestrial, aquatic and marine biodiversity that can inform and influence the decision making of South Australian urban, rural and Indigenous communities, governments and industries

## GOAL 3 – Ecological knowledge that can influence decision making

Improved knowledge and understanding of biodiversity, based on science where appropriate, is essential for good planning, decision making and management across government, industry and community. We will understand South Australia's biodiversity issues better if we draw on national and international information sources and research experiences, and collaborate at these levels.

Knowledge of the extent and condition of South Australia's terrestrial, aquatic and marine biodiversity is incomplete. Only with continued development and application of knowledge about the biodiversity hierarchy and its attributes, can patterns and trends be detected and sustainably managed. Building capacity across government, community and industry will be fundamental to the collection, dissemination and sharing of knowledge and information.

Creative research partnerships with a foundation in both new and existing biodiversity management programs will need to be established to progress the development of conservation benchmarks (or baselines) and targets.

South Australia's understanding of biodiversity is largely focused on component and pattern attributes. Scientific research is needed into: how ecosystems function; the role of threatening processes, and

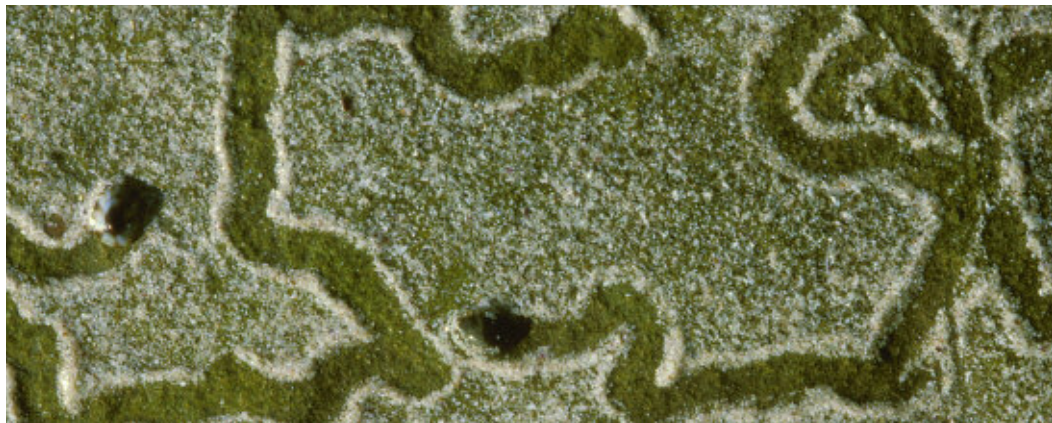
human and natural disturbance in maintaining ecosystem function; how ecosystems react to disturbance and recover over a range of spatial and temporal scales; what determines, and how to improve, the resilience of ecosystems; and how ecosystems make transitions between various states of degradation and condition.

This knowledge is essential for determining management regimes and their likely impacts, for predicting the impacts of human activity, and for maintaining, improving and reconstructing landscapes, ecological communities and species.

Research into how to integrate biodiversity outcomes into production landscape systems is also essential for progressing the sustainable management of biodiversity at a landscape scale.

Better systems, based on a consistent platform of biodiversity measures and indicators, will ensure that monitoring methods are consistently applied across issues and jurisdictions and that information sharing is coordinated.

GOAL 3 – Ecological knowledge that can influence decision making is delivered through 11 Targets and 2 Recommendations.



## What will be happening?

- 3.1 Identifying and filling key gaps in knowledge of the distribution of plants, animals and habitats in terrestrial, aquatic and marine environments, and developing innovative techniques for managing overabundant and nuisance causing native species
- 3.2 Building capacity to collect and share information on biodiversity across comprehensive networks

## What will we gain?

- Biodiversity conservation targets in place that guide natural resources management
- A landscape and seascape approach to biodiversity management supported by inventory and survey, significant progress in understanding ecological processes and the impact of human activities upon them
- Biodiversity conservation and management activities underpinned by sound ecological knowledge, based on science where appropriate
- Monitoring against biodiversity conservation targets to reveal trends in biodiversity condition and measure management effectiveness
- Timely decisions that affect South Australia's biodiversity based on adequate information
- A precautionary approach to decision making when knowledge is insufficient
- Partnerships in applied research producing technological breakthroughs in practical biodiversity management
- Information widely accessible in appropriate forms to community, government and industry
- Biodiversity managers with the capacity to effectively share their skills and experiences with others



terrestrial, aquatic and marine ecological systems with an enhanced capacity to adjust to climate change impacts



## GOAL 4 – Adjustment to the impacts of climate change

South Australia's biodiversity is now challenged by human induced climate change. Predictions suggest that South Australia will experience a 1–6°C increase in mean temperature by 2070, warming more inland than near the coast. The expected higher annual rainfall in the north will be accompanied by a 25–30% decline in rainfall in the Mediterranean Biome by 2070, mainly in winter and spring falls. Weather patterns will be more extreme: environmental water flows will decrease, and on the increase will be drought and storm frequency, risk of flood and bushfire, sea levels and storm surges in some coastal areas.

The projected increase in water temperature in marine and coastal environments, and rise in sea level, will drown some coastal habitats, and change water current patterns and possibly nutrient upwellings – all of which threatens existing patterns in distribution and extent of many marine communities and habitats.

How South Australia's species and ecosystems respond to these climatic changes is uncertain. Species might change in distribution and abundance, population dynamics, life history patterns and reproductive cycles; vulnerable species might be at increased risk of extinction; invasive and over-abundant native species might gain more opportunities for establishing in wider areas. Ecological processes could well change.

The uncertainty associated with these changes demands that research initiatives and practical solutions to the impacts of climate change be flexible, adaptable, innovative and developed with a sense of urgency if they are to deal with the vagaries of South Australia's uncertain climate future.

No Species Loss is aligned with the directions set by the National Biodiversity and Climate Change Action Plan 2004–2007. It also complements and builds on the biodiversity strategies contained in Tackling Climate Change: South Australia's Greenhouse Strategy. The challenge is to set a path that ultimately helps the natural adaptation of species to climate change, and protects species that are particularly vulnerable to climate change while not diverting resources to species that are unlikely to survive the transition.

GOAL 4 – Adjustment to the impacts of climate change is delivered through 8 Targets and 1 Recommendation.



### What will be happening?

- 4.1 Improving understanding of the impacts of climate change on biodiversity conservation by identifying gaps, supporting appropriate research and amplifying the capacity to forecast impacts
- 4.2 Increasing awareness of climate change impacts and our capacity for responses that conserve biodiversity
- 4.3 Minimising the impacts of climate change on biodiversity conservation with adaptive programs and protected area systems
- 4.4 Factoring the impacts of climate change on biodiversity into natural resources management and land-use planning

### What will we gain?

- Priority research and monitoring programs in place, including vulnerability assessments, that will anticipate how biodiversity will respond to the combined impacts of climate change and other threats
- South Australians who understand the impacts of climate change on biodiversity and can adjust their actions
- Adjustment strategies based on vulnerability assessments in place to manage the risks from climate change to our native biodiversity
- A precautionary approach to managing climate change impacts on biodiversity
- Actions required to adjust to climate change and mitigate greenhouse emissions effectively coordinated across government, industry and community, and integrated within the natural resources management sector



urban, rural and Indigenous communities, governments and industries that use active and integrated partnerships to manage terrestrial, aquatic and marine biodiversity within ecologically sustainable limits

## GOAL 5 – Active and integrated natural resources management partnerships

South Australia's environmental legislation and policy framework provides the foundation for the conservation and sustainable use of biodiversity. This framework could do with stronger provision for protecting and conserving biodiversity in resource and land use planning and decision making, as well as integrating biodiversity considerations into other policies and legislation.

Although they are making a vital contribution, the current suite of legislative instruments is not delivering our aspirations and stopping the biodiversity decline.

Numerous State and local government agencies, industry groups and the community share biodiversity management functions. Regional NRM boards and community have made impressive and significant gains in biodiversity management. They need more encouragement to continue to grow in effectiveness and accountability, and the roles and responsibilities of some State and local agencies and their relationships to each other need still further support.

Reversing the decline in South Australia's biodiversity requires ecologically sustainable development with biodiversity managed for economic, social and environmental sustainability. There is scope for better integration of biodiversity sustainability within natural resources management policy and ecologically sustainable development principles into industry policy – and alignment of the strategic directions for biodiversity management of government, industry and community.

South Australia's protected area system alone cannot ensure the long term sustainability of South Australia's biodiversity. Private land conservation initiatives are needed too. Recognising the good efforts of rural land managers and progressing their further engagement and active involvement, are critical for our biodiversity in the long term.

Land managers will actively conserve biodiversity only when real biodiversity improvements go hand in hand with positive farm productivity outcomes. Their progress must be shared, learned from and used to inform others.

The development of relevant and adaptable incentive-based policy mechanisms focused on biodiversity conservation would help conserve species, habitats and ecosystems on land outside of protected areas.

Development planning currently varies significantly in the way that it deals with biodiversity considerations in decision making. Better integration will require improved systems for identifying areas of ecological significance, and timely provision of appropriate and up to date knowledge into planning and development assessment processes.

GOAL 5 – Active and integrated natural resources management partnerships is delivered through 14 Targets and 7 Recommendations.

## What will be happening?

- 5.1 Recognising biodiversity conservation as a critical element of South Australia's natural resources and NRM programs by aligning No Species Loss targets with relevant State plans and reports
- 5.2 Providing an effective, contemporary legislative framework to protect and conserve South Australia's biodiversity
- 5.3 Ensuring the planning and development assessment system recognises and facilitates sustainable development that minimises its impacts on biodiversity
- 5.4 Using a range of incentives to foster engagement and commitment for biodiversity conservation and removing perverse incentives that discourage it
- 5.5 Incorporating No Species Loss targets into natural resources management policy and planning at all levels
- 5.6 Encouraging and building the capacity of natural resource managers with agreed standards of care, biodiversity considerations as part of environmental management policies and indicators for sustainable use of biodiversity
- 5.7 Implementing No Species Loss with monitoring, facilitating and reporting mechanisms

## What will we gain?

- Clearly defined and understood government, industry and community priorities, roles and responsibilities for conserving and sustainably using biodiversity
- Government leading the integration and coordination of biodiversity conservation policy and management initiatives, with State-wide, regional and local industries and communities
- Strong alignment of the State's biodiversity conservation goals across government, industry and community sectors
- Stronger provision for protecting and conserving biodiversity
- Biodiversity managed for economic, social and environmental sustainability
- Resource and land use planning and decision making that fully considers biodiversity conservation
- Policy based mechanisms with incentives for landholders to conserve important habitats and ecosystems on land outside of protected areas
- Conservation and biodiversity management as an integral part of natural resources management

# Photography credits

Photos are credited left to right, top to bottom

Cover

Mount Grainger (P Canty)

Ooldea mallee *Eucalyptus youngiana* (T Robinson DEH)

Trap line preparation (T Robinson DEH)

Ant nests, Yellabinna (T Robinson DEH)

Kowari *Dasygaster byrnei* (P Canty)

Small-leaf mulla mulla *Ptilopus parvifolius* var. *parvifolius* (P Canty DEH)

Inside front cover

Lizard tracks (P Canty)

Page 1

Glendambo swamp (P Canty)

Page 2

Eastern pygmy possum *Cercartetus nanus* (P Canty DEH)

South Casuarina Island (P Canty DEH)

Hiking trail interpretation sign maintenance (DEH)

Page 3

Desert oaks *Allocasuarina decalveana* (P Canty)

Small-leaf mulla mulla *Ptilopus parvifolius* var. *parvifolius* (P Canty DEH)

Ant nests, Yellabinna (T Robinson DEH)

Sacred kingfisher *Todiramphus sanctus* (T Robinson DEH)

Page 4

Disphyma herbland, South Casuarina Island (T Robinson DEH)

Sugar gum *Eucalyptus cladocalyx* woodland, Eyre Peninsula (T Robinson DEH)

Birchmore Lagoon, Kangaroo Island

Page 5

Pandie Pandie dune (P Canty)

Page 8

*Aristida* sp. (P Canty)

Coral fern *Gleichenia microphylla* (P Lang)

Fire lighting, Anangu Pitjantjatjara Lands (L Liddle DEH)

Page 9

Edge of Ngarkat Conservation Park (P Canty DEH)

Feral goats *Capra hircus* (G Moss)

Banded stilts *Cladorhynchus leucocephalus* (I May DEH)

Kowari *Dasygaster byrnei* (P Canty)

Page 10

Hindmarsh Island Coastcare project (R Sandercock DEH)

Page 11

Onkaparinga Gorge (T Robinson DEH)

Scotchman's beard fungi *Calocera guepinoides* (D Catchside)

Honey pot ant *Melophorus bagoti* (T Robinson DEH)

Trap checking, Gawler Ranges (T Robinson)

Page 12

Nest box maintenance (T Mooney)

Python *Morelia spilota*, St Francis Island (P Canty DEH)

Page 13

New Zealand fur seal *Arctocephalus forsteri* pup weighing (G Moss DEH)

Azolla and Nardoo (P Canty)

Wolf spider (P Canty)

Feeding limpets (P Canty)

Page 14

Mukia *maderaspata*, Coongie Lake (P Canty DEH)

*Posidonia* sp. along the Adelaide metropolitan coast (V Neverauskas PIRSA)

Page 15

Tree martin nests (P Canty)

Mulga fire (P Canty)

Pink aplysilla *Aplysilla rosea* (D Muirhead)

Dust storm (P Canty)

Page 16

Lobster fishing boat (PIRSA)

## Target owners

The following government agencies have responsibility for the targets or provide a support role in No Species Loss. See No Species Loss for a full account of targets and their respective owners.

- Department for Environment and Heritage
- Department of Water, Land and Biodiversity Conservation
- Environment Protection Authority
- Department of Primary Industries and Resources South Australia
- Planning SA
- Local Government
- Department of the Premier and Cabinet
- Aboriginal Affairs and Reconciliation Division of the DPC
- Department of Education and Children's Services
- SA Forestry Corporation
- SA Water
- Department of Further Education, Employment, Science and Technology
- Department of Trade and Economic Development
- Department for Transport, Energy and Infrastructure
- South Australian Tourism Commission

For further information please contact:

Department for Environment and Heritage

Telephone: (08) 8204 1910, or

see SA White Pages for your local

Department for Environment and Heritage office.

Online information available at:

[www.environment.sa.gov.au](http://www.environment.sa.gov.au)

## Permissive Licence

© State of South Australia through the Department for Environment and Heritage. You may copy, distribute, display, download and otherwise freely deal with this publication for any purpose subject to the conditions that you (1) attribute the Department as the copyright owner of this publication and that (2) you obtain the prior written consent of the Department for Environment and Heritage if you wish to modify the work or offer the publication for sale or otherwise use it or any part of it for a commercial purpose. Written requests for permission should be addressed to:

Design and Production Manager

Department for Environment and Heritage

GPO Box 1047

Adelaide SA 5001

## Disclaimer

While reasonable efforts have been made to ensure the contents of this publication are factually correct, the Department of Environment and Heritage makes no representations and accepts no responsibility for the accuracy, completeness or fitness for any particular purpose of the contents, and shall not be liable for any loss or damage that may be occasioned directly or indirectly through the use of or reliance on the contents of this publication.

Reference to any company, product or service in this publication should not be taken as a departmental endorsement of the company, product or service.

Printed on recycled paper

© Department for Environment and Heritage

May 2007 FIS 2593.06

ISBN: 1 921238 038

## Acknowledgments

The Department for Environment and Heritage coordinated the preparation of this document.

The Department would like to acknowledge the many people and organisations who contributed to the development of No Species Loss.

Thanks to industry bodies, interested individuals and urban, rural and Indigenous landholders and community groups who took the time to make comment, provide written submissions and attend the public information and feedback sessions.

Valuable input has been provided by NRM Council, regional NRM boards, Conservation Council of SA, South Australian Farmers' Federation, South Australian Premier's Round Table on Sustainability and numerous government agencies, in particular, Department of Water, Land and Biodiversity Conservation, Environment Protection Authority, Department of Primary Industries and Resources South Australia, Planning SA, Local Government Association, Department of the Premier and Cabinet, Aboriginal Affairs and Reconciliation Division of the DPC, Department of Education and Children's Services, SA Forestry Corporation, SA Water, Department of Further Education, Employment, Science and Technology, Department of Trade and Economic Development, Department for Transport, Energy and Infrastructure, and the South Australian Tourism Commission.



**Government  
of South Australia**

Department for  
Environment and Heritage