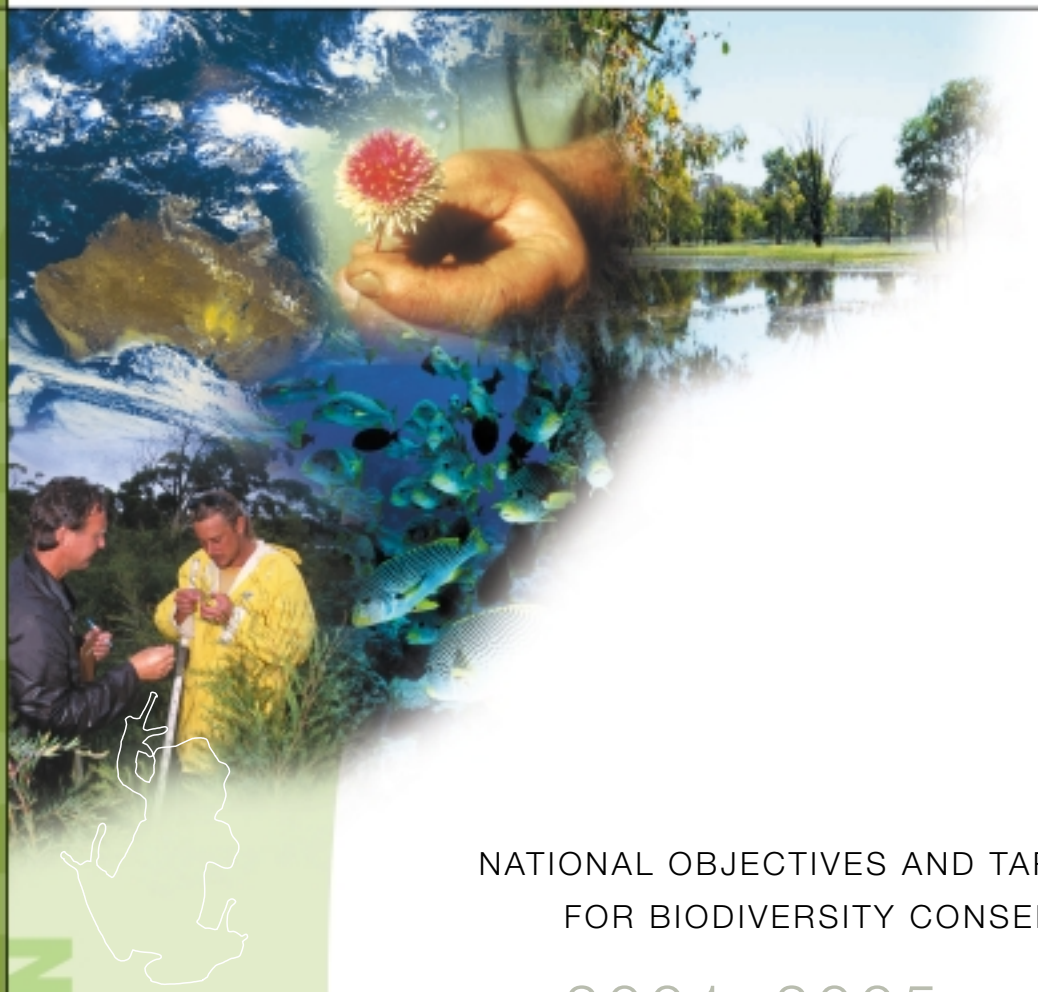
BIODIVERSITY CONSERVATION

AUSTRALIA



NATIONAL OBJECTIVES AND TARGETS FOR BIODIVERSITY CONSERVATION

2001–2005

Environment Australia
Department of the Environment and Heritage

NSW NATIONAL PARKS AND WILDLIFE SERVICE

ENVIRONMENT ACT

Department of Conservation and Land Management

Natural Resources and Environment
AGRICULTURE • RESOURCES • CONSERVATION • LAND MANAGEMENT

environment and heritage

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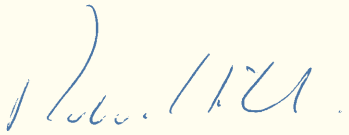
'At the dawn of a new century, we have the ability to change the vital ecosystems of this planet, for better or worse. To change them for the better, we must recognise that the well-being of people and ecosystems is interwoven and that the fabric is fraying.' [1]

1 Brown, Topfer, Wolfensohn and Lash, 2000, *World Resources 2000–2001 – People and Ecosystems*, World Resources Institute, Washington, USA



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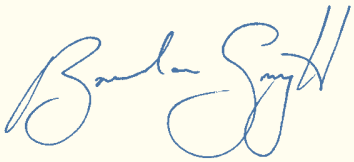

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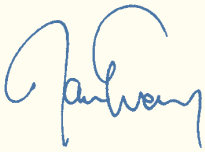

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NATIONAL OBJECTIVES AND TARGETS FOR BIODIVERSITY CONSERVATION 2001–2005

'At the dawn of a new century, we have the ability to change the vital ecosystems of this planet, for better or worse. To change them for the better, we must recognise that the well-being of people and ecosystems is interwoven and that the fabric is fraying.' [1]

Biodiversity describes the organisms in the natural environment, which provide the ecosystem services that form our natural capital: fresh water, clean air, soil fertility and biological pest control. Biodiversity is fundamental to the future sustainability of the world's natural resources. A recent report by the World Resources Institute values the 'free' ecosystem services at over $30 trillion to the global economy each year. Conservation of biodiversity, on economic grounds alone, needs to become core business in the management of our natural resources.

These ecosystem services are under threat, globally and nationally, because the world is facing a wave of extinctions at a scale not seen before in human history. Australia has a unique responsibility to conserve our biodiversity: we are a wealthy nation and are custodians of one of 17 megadiverse nations. Over 80 per cent of our plants and animals are endemic to Australia – that is, they are found nowhere else in the world[2].

In 1996 Australia recognised the importance of biodiversity conservation when the Council of Australian Governments (COAG) adopted the National Strategy for the Conservation of Australia's Biological Diversity. In 2000, ANZECC[3] commissioned a progress report. The report found that whilst significant advances had been made since 1996, a number of objectives had not been achieved.

This document sets objectives and targets for ten priority outcomes which the Commonwealth, States and Territories should pursue between now and 2005. The challenges and opportunities for biodiversity conservation are not uniform across Australia, so there will be some regional variation in the timing of the application of these targets.

The priority actions are to:

1. protect and restore native vegetation and terrestrial ecosystems;
2. protect and restore freshwater ecosystems;
3. protect and restore marine and estuarine ecosystems;
4. control invasive species;
5. mitigate dryland salinity;
6. promote ecologically sustainable grazing;
7. minimise impacts of climate change on biodiversity;
8. maintain and record indigenous peoples' ethnobiological knowledge;
9. improve scientific knowledge and access to information; and
10. introduce institutional reform.

These priority outcomes, objectives and targets complement the Prime Minister's National Action Plan for Salinity and Water Quality initiative adopted by COAG in November 2000; the National Framework for Management and Monitoring of Australia's Native Vegetation; the National Greenhouse Strategy; the Ramsar Convention Strategic Plan 1997–2002; the Asia–Pacific Migratory Waterbird Conservation Strategy and Shorebird Action Plan 2000–2005; and COAG water reforms.

1 Brown, Topfer, Wolfensohn and Lash, 2000, *World Resources 2000–2001 – People and Ecosystems*, World Resources Institute, Washington, USA

2 State of the Environment Council (eds), *Australia: State of the Environment 1996,* Department of the Environment, Sport and Territories, CSIRO Publishing, Melbourne, Vic

3 ANZECC: The Australian and New Zealand Environment and Conservation Council which comprises the environment ministers from New Zealand, Papua New Guinea, and all States and Territories of Australia and the Commonwealth.

1 NATIVE

KEY ACTIONS TO MITIGATE THREATS

OBJECTIVES
(Outcomes needed to achieve the key actions)

1 Protect and restore native vegetation and terrestrial ecosystems.

1.1 Reverse the long-term decline in the quality and extent of Australia's native vegetation and ecological communities and the ecosystem services they provide.

Environment Australia

1.2 Protect a representative sample of Australia's terrestrial ecosystems.

Isopogon anethifolius, ANBG, Murray Fagg

VEGETATION & TERRESTRIAL ECOSYSTEMS

TARGETS 2001–2005 (What can be achieved in 2001–2005)[4]	PERFORMANCE INFORMATION (A measure that indicates the degree to which a target has been met)
1.1.1 By 2001, all jurisdictions have mechanisms in place, including regulations, at the State and regional levels that: • prevent decline in the conservation status of native vegetation communities as a result of land clearance; and • prevent clearance of ecological communities with an extent below 10 per cent of that present pre-1750.	• Number of jurisdictions with native vegetation clearing regulations. • Number and percentage of native vegetation communities with declining conservation status due to land clearing or the effects of land clearing (eg salinity) as a significant cause. • Number of jurisdictions and area of clearing of ecological communities with an extent below 10 per cent of that present pre-1750.
1.1.2 By 2003, all jurisdictions: • have clearing controls in place that prevent clearance of ecological communities with an extent below 30 per cent of that present pre-1750; and • have programs in place to assess vegetation condition.	• Number of jurisdictions and area of clearing of ecological communities with an extent below 30 per cent of that present pre-1750. • Percentage of area of native vegetation communities covered by programs to assess vegetation condition, by jurisdiction.
1.1.3 By 2005, all jurisdictions have programs in place to protect areas of high quality native vegetation.	• Percentage of area of native vegetation communities covered by programs to protect areas of high quality native vegetation, by jurisdiction.
1.1.4 By 2001, all jurisdictions have clearing controls in place that will have the effect of reducing the national net rate of land clearance to zero.	• Net rate of land clearance by jurisdiction per year, comprising: – area of native vegetation communities cleared, by jurisdiction per year; and – area being revegetated to native vegetation communities[5], per year.
1.2.1 By 2001, management plans are developed and implemented for: • protected areas in the National Reserve System; • informal protected area networks; • indigenous estates; and • private land covered by formalised conservation agreements.	• Number of management plans and area covered by plans being implemented for: – all protected areas; – indigenous estates; – informal protected area networks; and – private land covered by formalised conservation agreements.
1.2.2 By 2001, ANZECC has developed an action plan for the National Reserve System which includes targets for the protection and restoration of terrestrial ecosystems on indigenous-owned estates and private land.	• Progress towards an action plan being developed. • Improvement in the comprehensiveness of the formal and informal reserve systems

4 Dates are indicative and application of the targets will vary in time across the jurisdictions

5 'Native vegetation communities' means all vegetation communities that are indigenous to Australia.

1 NATIVE

KEY ACTIONS TO MITIGATE THREATS

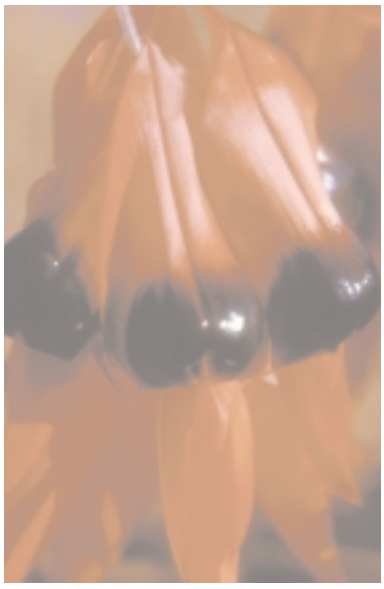
OBJECTIVES
(Outcomes needed to achieve the key actions)

1 Protect and restore native vegetation and terrestrial ecosystems. *(continued)*

1.2 Protect a representative sample of Australia's terrestrial ecosystems. *(continued)*

Tony Karacsonyi

1.3 Protect threatened species and ecological communities.



Sturt Desert Pea, Arthur Mostead

VEGETATION & TERRESTRIAL ECOSYSTEMS

TARGETS 2001–2005 (What can be achieved in 2001–2005)[4]	PERFORMANCE INFORMATION (A measure that indicates the degree to which a target has been met)
1.2.3 By 2005, a representative sample of each bioregion (as specified by the ANZECC action plan) is protected within the National Reserve System or network of Indigenous Protected Areas or as private land managed for conservation under a conservation agreement.	• Percentage of bioregions represented in the National Reserve System or in secure covenants on private land.
1.2.4 By 2003, all jurisdictions have in place: • native vegetation restoration programs to recover ecological communities that are below 10 per cent of that present pre-1750 or are nationally listed as critically endangered; and • effective incentive mechanisms, targeted to bioregions, provinces and/or catchments, to support the protection of unreserved biodiversity and all threatened ecosystems.	• Area where the condition of native vegetation is known and mapped. • Area covered by catchments/regions which have set targets for revegetation and restoration that take into account 'priority areas' and have designated a percentage of the region to be revegetated. • Number and percentage of critically endangered ecological communities where the area covered is: (a) rising and (b) falling. • Area of private land covered by conservation covenants, management agreements or other formalised conservation agreements, by jurisdiction.
1.3.1 By 2002, all jurisdictions have effective legislation to protect threatened species and ecological communities and to provide for recovery planning.	• Number of jurisdictions that have legislation to protect threatened species and communities and provide for recovery planning.
1.3.2 By 2004, recovery plans are in place for all nationally listed critically endangered and endangered species and ecological communities.	• Number and percentage of nationally listed endangered species and ecological communities with recovery plans being implemented, by jurisdiction.
1.3.3 By 2005, all jurisdictions have incorporated the recovery of threatened species and ecological communities into integrated catchment/regional management plans.	• Number and area covered by catchment/ regional management plans providing for the recovery of threatened species and ecological communities.

Relevant 2000 ANZECC State of the Environment Indicators for:
- Biodiversity* see (BD): 1, 6, 7, 10, 12, 13
- Land indicators** see (L): 4, 5.

* Biodiversity Indicators see: Saunders D., C. Margules and B. Hill (1998)
** Land Indicators see: Hamblin A. (1998)

2 FRESHWATER

KEY ACTIONS TO MITIGATE THREATS	OBJECTIVES (Outcomes needed to achieve the key actions)
2 Protect and restore freshwater ecosystems.	2.1 Achieve ecologically sustainable management of Australia's water resources and water-dependent ecosystems.
	2.2 Manage threats, prevent degradation and maintain the ecological character of Australia's nationally and internationally significant wetland-dependent and water-dependent ecosystems.
	2.3 Protect significant habitats for migratory waterbirds.

Environment Australia, Sarah Young

ECOSYSTEMS

TARGETS 2001–2005 (What can be achieved in 2001–2005)[4]	PERFORMANCE INFORMATION (A measure that indicates the degree to which a target has been met)
2.1.1 By 2001: • all jurisdictions have, in accordance with the COAG Water Reform Framework, completed implementation of environmental allocations for all river systems which have been over-allocated or are deemed to be stressed; • the majority of waterways substantially conform to the relevant standards in the guidelines of the National Water Quality Management Strategy, including those for chemical composition, turbidity and temperature; and • water resource management plans which include flow allocations for the environment and address in-stream barriers to movement of fauna are in place in the majority of catchments.	• Percentage of area of river and groundwater systems for which environmental allocations have been substantially implemented for all systems identified in implementation programs agreed and endorsed under the COAG Water Reform Framework. • Percentage of waterways which conform to guidelines of the National Water Quality Management Strategy using length of waterway and number of waterways as measures. • Percentage of area of catchments/regions covered by water resource management plans detailing environmental flows.
2.1.2 By 2005, water resource management plans which include and emphasise ecologically sustainable use of groundwater resources are in place in relevant catchments.	• Percentage of area of catchments/regions with groundwater resources which have water/resource management plans detailing groundwater usage and replenishment rates. • Percentage of catchments with groundwater resources which are over-allocated or are approaching over-allocation.
2.2.1 By 2001, all jurisdictions have identified wetlands of national and international significance.	• Percentage increase in number of, and area covered by, wetlands of national and international significance by jurisdiction.
2.2.2 By 2003, management plans for 85 per cent of internationally significant wetlands listed under the Convention on Wetlands are prepared and implemented consistent with the Australian Ramsar Management Principles (Regulation 10.02 – Environment Protection and Biodiversity Conservation (2000)).	• Number and percentage of Ramsar and other internationally significant wetlands with management plans.
2.2.3 By 2005, all jurisdictions have effective legislation and management plans in place to protect wetlands of national significance.	• Number of jurisdictions that have effective legislation and management plans to protect wetlands.

2 FRESHWATER

KEY ACTIONS TO MITIGATE THREATS	OBJECTIVES (Outcomes needed to achieve the key actions)
2. Protect and restore freshwater ecosystems. *(continued)*	2.3 Protect significant habitats for migratory waterbirds. *(continued)*

Tony Karacsonyi

ECOSYSTEMS

TARGETS 2001–2005 (What can be achieved in 2001–2005)[4]	PERFORMANCE INFORMATION (A measure that indicates the degree to which a target has been met)
2.3.1 By 2001, all jurisdictions have identified important areas of habitat for migratory waterbirds.	• Extent to which migratory waterbird habitats have been identified, by jurisdiction.
2.3.2 By 2003, all jurisdictions have programs in place, both on and off reserve, to protect significant habitats for migratory waterbirds.	• Percentage area of significant waterbird habitats covered by site management plans, species conservation plans, conservation agreements and other conservation programs.

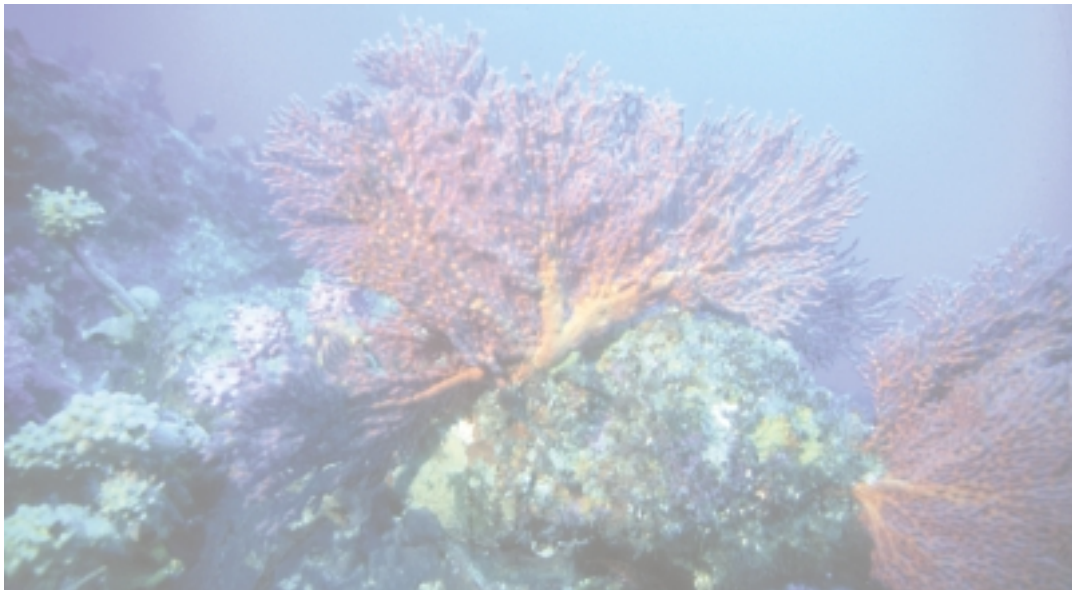
Relevant 2000 ANZECC State of the Environment Indicators for:
- Biodiversity (BD) see: 2, 8
- Inland Water* (IW) see: 1–15.

Tony Karacsonyi

* Inland Water Indicators see: Fairweather P. and G. Napier (1998)

3 MARINE AND

KEY ACTIONS TO MITIGATE THREATS	OBJECTIVES (Outcomes needed to achieve the key actions)
3 Protect and restore marine and estuarine ecosystems. Objectives 2.2 and 2.3 contribute to achieving Action 3.	3.1 Contribute to: • the long-term ecological viability of marine and estuarine systems including seagrasses, saltmarshes and mangroves; • the maintenance of marine ecological processes and systems; • the protection of Australia's marine biological diversity at all levels; • the protection of migratory and resident waterbirds; • the prevention of marine and estuarine pest introductions and control of existing introduced marine and estuarine pests; and • the reduction of marine and estuarine pollution.



Tony Karacsonyi

* Estuaries and the Sea see: Ward T., E. Butler and B. Hill (1998).

ESTUARINE ECOSYSTEMS

TARGETS 2001–2005 (What can be achieved in 2001–2005)[4]	PERFORMANCE INFORMATION (A measure that indicates the degree to which a target has been met)
3.1.1 By 2003, all jurisdictions have developed statutory instruments for marine and estuarine water quality standards.	• Extent to which statutory instruments for marine and estuarine water quality standards have been developed and implemented.
3.1.2 By 2003, substantial progress has been made towards the establishment of the National Representative System of Marine Protected Areas.	• Progress towards the establishment of a comprehensive, adequate and representative system of marine protected areas by jurisdiction.
3.1.3 By 2003, additional Commonwealth marine protected areas have been established in the large marine ecosystem covered by the South-East Regional Marine Plan.	• Number of marine protected area declarations (Commonwealth/State/Northern Territory) and area covered by them.
3.1.4 By 2005, the number of Australian sites that have been included in the East Asian–Australasian Shorebird Site Network has increased from 11 in 2001 to 36.	• Increase in the number of and area covered by Commonwealth marine protected areas in the south-east region. • Number of additional sites included in the East Asian–Australasian Shorebird Site Network.
3.1.5 By 2002, the Commonwealth has in place a revised coastal policy that details coastal and estuarine biodiversity conservation in a natural resource management framework.	• Progress towards completing a revised coastal policy and extent to which policy targets are met.
3.1.6 By 2003, a national comprehensive system for prevention and management of introduced marine pests is in place.	• Progress towards establishing and implementing a national comprehensive system for the prevention and management of introduced marine pests.
3.1.7 By 2003, recovery plans for all marine listed threatened species are in place.	• Percentage of marine listed threatened species for which recovery plans are in place.
3.1.8 By 2003, the Commonwealth has completed ecological performance assessments of all export fisheries.	• Percentage of export fisheries for which ecological performance assessments are completed.
3.1.9 By 2005, strategic environmental impact assessment has commenced for all Commonwealth-managed fisheries.	• Percentage of Commonwealth-managed fisheries for which strategic environmental impact assessment has commenced.
3.1.10 By 2003, substantial progress has been made on the implementation of Commonwealth commitments outlined in Australia's Oceans Policy targeting the management, conservation and protection of marine biodiversity.	• Extent of progress in implementing Commonwealth commitments in Australia's Oceans Policy targeting biodiversity conservation.

Relevant 2000 ANZECC State of the Environment Indicators for:
- Biodiversity (BD) see: 4,5,11,12
- Estuaries and the Sea* (E+S) see: 2,4.

4 INVASIVE

KEY ACTIONS TO MITIGATE THREATS	OBJECTIVES (Outcomes needed to achieve the key actions)
4 Control invasive species. All targets in 4.1.1, 4.1.2 and 4.1.3 are Commonwealth responsibilities.	4.1 Prevent or control the introduction and spread of feral animals and weed species.

Bureau of Rural Sciences

Bureau of Rural Sciences

SPECIES

TARGETS 2001–2005 (What can be achieved in 2001–2005)[4]	PERFORMANCE INFORMATION (A measure that indicates the degree to which a target has been met)
4.1.1 By 2001, the import of all new live organisms is subject to a risk-based assessment process that identifies the conditions necessary to minimise threats to the environment.	• Percentage of new live organisms proposed for import subject to a risk assessment that identifies the conditions necessary to minimise threats to the environment.
4.1.2 By 2001, no new non-native species are deliberately introduced into Australia unless assessed as being of low risk to the environment.	• Number of new non-native species that are deliberately introduced to Australia and have not been assessed as being of low risk to the environment.
4.1.3 By 2003, all naturalised non-native species have been assessed and assigned to broad-based threat categories according to their threat to biodiversity.	• Number and percentage of introduced non-native species categorised into broad-based threat categories or uncatergorised.
4.1.4 By 2005: • all regional/catchment management plans include actions to reduce the threat to biodiversity from naturalised non-native species; and • programs are in place to manage invasive species that are major threats to biological diversity at sites of national environmental significance[6].	• Number of regional/catchment management plans, which include actions to reduce the threat to biodiversity from naturalised non-native species. • Number of introduced plants, mammals, birds, fish, invertebrates and pathogens that pose major threats to biological diversity and are being controlled at sites of national environmental significance.

Relevant 2000 ANZECC State of the Environment Indicators for:
- Biodiversity (BD) see: 4.

6 'National environmental significance' includes actions that have a significant impact on World Heritage Areas, wetlands of international importance, nationally listed threatened species and ecological communities, nationally listed migratory species and the marine environment.

5 DRYLAND

KEY ACTIONS TO MITIGATE THREATS	OBJECTIVES (Outcomes needed to achieve the key actions)
5 Mitigate dryland salinity.	5.1 Protect and restore native biodiversity through retention and improved management of native vegetation, and revegetation aimed at reversing lost agricultural productivity, deteriorating water quality, and damage to native ecosystems caused by dryland salinity.

Near Lake Toolibin in the wheat belt of SouthWest, Western Australia, Annie Crawford.

SALINITY

TARGETS 2001–2005 (What can be achieved in 2001–2005)[4]	PERFORMANCE INFORMATION (A measure that indicates the degree to which a target has been met)
5.1.1 National standards will be developed and agreed under a COAG intergovernmental agreement to implement the National Action Plan for Salinity and Water Quality. Standards will cover salinity, water quality and associated water flows and stream and terrestrial biodiversity.	• Performance indicators will be developed and agreed in the processes to implement the National Action Plan for Salinity and Water Quality.

Relevant 2000 ANZECC State of the Environment Indicators for:

- Land (L) see: 4, 5.

6 ECOLOGICALLY

KEY ACTIONS TO MITIGATE THREATS	OBJECTIVES (Outcomes needed to achieve the key actions)
6 Promote ecologically sustainable grazing.	6.1 Protect areas of high conservation significance at risk of unsustainable grazing pressure.

Birrah, Western Australia, Environment Australia

Tony Karacsonyi

SUSTAINABLE GRAZING

TARGETS 2001–2005 (What can be achieved in 2001–2005)[4]	PERFORMANCE INFORMATION (A measure that indicates the degree to which a target has been met)
6.1.1 By 2002, all jurisdictions have identified threatened native grasslands and areas of high conservation significance that may be subject to unsustainable grazing pressure.	• Number of jurisdictions that have identified threatened native grasslands and areas of high conservation significance.
6.1.2 By 2003, all jurisdictions have identified sustainable levels of grazing by domestic animals within threatened native grasslands and areas of high conservation significance that may be subject to unsustainable grazing pressure.	• Number of jurisdictions that have identified sustainable levels of domestic grazing across catchments and bioregions and in different ecosystems.
6.1.3 By 2005, all jurisdictions have incorporated into integrated catchment/regional management plans, the protection of threatened native grasslands and areas of high conservation significance which may be subject to grazing pressure.	• Number of jurisdictions that protect threatened native grasslands and areas of high conservation significance in integrated catchment/regional management plans.

Relevant 2000 ANZECC State of the Environment Indicators for:
- Land (L) see: 1.

7 IMPACTS OF CLIMATE

KEY ACTIONS TO MITIGATE THREATS	OBJECTIVES (Outcomes needed to achieve the key actions)
7 Minimise impacts of climate change on biodiversity.	7.1 Minimise the impacts of human-induced climate change on biological diversity.

Tony Karacsonyi

CHANGE ON BIODIVERSITY

TARGETS 2001–2005 (What can be achieved in 2001–2005)[4]	PERFORMANCE INFORMATION (A measure that indicates the degree to which a target has been met)
7.1.1 By 2003, ANZECC has developed an action plan to identify the potential impacts of climate change on Australia's biodiversity and measures to address these impacts.	• Progress by ANZECC towards developing an action plan to identify the potential impacts of climate change on Australia's biodiversity and measures to address these impacts.

Environment Australia (Photodisc, Images of Australia)

8 ETHNOBIOLOGICAL

KEY ACTIONS TO MITIGATE THREATS	OBJECTIVES (Outcomes needed to achieve the key actions)
8 Maintain and record ethnobiological knowledge.	8.1 Ensure indigenous communities have access to resources to enable them to preserve their ethnobiological knowledge about biodiversity conservation.

Everlasting, Steve Szabo

KNOWLEDGE

TARGETS 2001–2005 (What can be achieved in 2001–2005)[4]	PERFORMANCE INFORMATION (A measure that indicates the degree to which a target has been met)
8.1.1 By 2002, all jurisdictions have, in cooperation with indigenous peoples: • established mechanisms to facilitate the intergenerational transfer of ethnobiological knowledge; and • identified high priority regions for ethnobiological research.	• Number of jurisdictions that have negotiated mechanisms with indigenous people to facilitate the intergenerational transfer of ethnobiological knowledge. • Number and percentage of high priority regions, by jurisdiction, in which ethnobiological research has commenced.
8.1.2 By 2005, in cooperation with indigenous peoples, ethnobiological research has commenced in all high priority regions.	• Number of jurisdictions with programs to facilitate the intergenerational transfer of ethnobiological knowledge.
8.1.3 By 2003, all jurisdictions have developed mechanisms to ensure indigenous communities can protect their interests in 'indigenous peoples' ethnobiological knowledge and information.	• Number of jurisdictions that have negotiated mechanisms with indigenous people to protect their ethnobiological knowledge and information.

9 KNOWLEDGE

KEY ACTIONS TO MITIGATE THREATS	OBJECTIVES (Outcomes needed to achieve the key actions)
9 Improve scientific knowledge and access to information.	9.1 Improve our scientific knowledge by: • identifying and monitoring Australia's biodiversity; • identifying and understanding threats to biodiversity; • monitoring the effectiveness of management techniques; and • identifying the economic value of biodiversity.

Tony Karacsonyi

9.2 Ensure the maintenance of scientific collections.

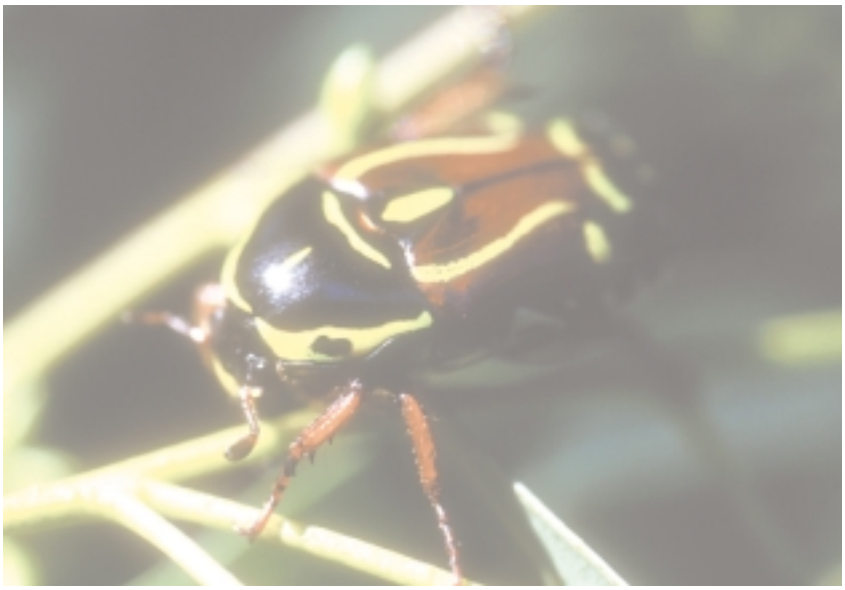
9.3 Verify, and make accessible, existing scientific knowledge and scientific collections.

AND ACCESS TO INFORMATION

TARGETS 2001–2005 (What can be achieved in 2001–2005)[4]	PERFORMANCE INFORMATION (A measure that indicates the degree to which a target has been met)
9.1.1 By 2001, ANZECC has identified priorities for biodiversity research up to 2005.	• Progress toward the identification by ANZECC of highest priority biodiversity research up to 2005.
9.1.2 By 2003, all jurisdictions have identified and mapped the biogeographically important populations of native flora and fauna, taking into account centres of endemism, refuges for primitive species, significant sites for migratory species, critical habitat for threatened species and ecological communities.	• Percentage of identified high priority research areas where research (a) has begun and (b) is being applied to biodiversity conservation. • Percentage of area in catchments/regions in which the flora and fauna have been systematically surveyed. • Percentage of high priority areas which have programs to monitor biodiversity. • Percentage of area of catchments and bioregions where biogeographically important populations of native flora and fauna have been systematically identified and mapped.
9.1.3 By 2003, all jurisdictions are developing comprehensive data on the economic value of biodiversity conservation.	• Number of, and area covered by, research projects on the economic value of biodiversity conservation that have been completed or are in progress. • Area covered by published data sets on the economic value of biodiversity, by jurisdiction.
9.1.4 By 2005, there is a 20 per cent increase nationally in the number of taxa described for Australian fungi and non-vascular plants; and a 5 per cent increase in the number of taxa described for Australian invertebrates, bacteria and other microorganisms.	• Number and percentage of taxa described for Australian fungi, non-vascular plants, invertebrates, bacteria and other microorganisms.
9.2.1 By 2005, scientific collections are being conserved and augmented.	• Comparison of the taxonomic groups represented in scientific collections in 2005 as compared to 2000, including: – number of additional groups represented; and – number of and percentage of groups that were poorly represented and have become significantly better represented.
9.3.1 By 2003, there is a networked and distributed system of databases that is accessible to scientists, planners, decision-makers and the community containing information about the important components of biodiversity.	• Number and coverage of agreements to share data and information about biodiversity.

9 KNOWLEDGE

KEY ACTIONS TO MITIGATE THREATS	OBJECTIVES (Outcomes needed to achieve the key actions)
9 Improve scientific knowledge and access to information. *(continued)*	9.3 Verify, and make accessible, existing scientific knowledge and scientific collections. *(continued)*
	9.4 The community understands the concept of biodiversity and actions that can be taken to conserve species, ecological communities and ecosystems.



Tony Karacsonyi

AND ACCESS TO INFORMATION

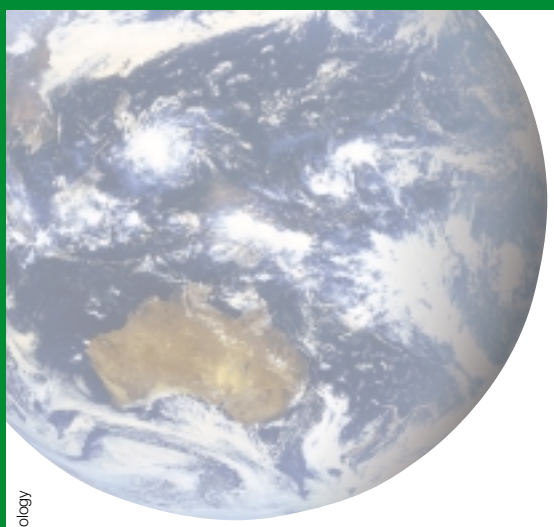
TARGETS 2001–2005 (What can be achieved in 2001–2005)[4]	PERFORMANCE INFORMATION (A measure that indicates the degree to which a target has been met)
9.3.2 By 2005, a universally accessible, Internet-based, integrated Australian flora information system is completed.	• Extent of land area covered by geographic information system data that is accessible for use by local government in land use approval and other processes.
9. 4.1 By 2005, there is a 50 per cent increase in the awareness by the community of the concept and significance of biodiversity and actions that can be taken to conserve species, ecological communities and ecosystems.	• Percentage of the community which understands the concept of biodiversity, the major issues impacting on its conservation, and the personal, local and national actions required to conserve biodiversity.

Relevant 2000 ANZECC State of the Environment Indicators for:

- Biodiversity (BD) see: 9.

10 INSTITUTIONAL

KEY ACTIONS TO MITIGATE THREATS	OBJECTIVES (Outcomes needed to achieve the key actions)
10 Introduce institutional reform.	10.1 Biodiversity conservation is recognised as core business in the management of Australia's natural resources.
	10.2 Market-based instruments and formalised conservation agreements are used to assist in the conservation of biodiversity.



Bureau of Meteorology

REFORM

TARGETS 2001–2005 (What can be achieved in 2001–2005)[4]	PERFORMANCE INFORMATION (A measure that indicates the degree to which a target has been met)
10.1.1 By 2005, all jurisdictions have in place: • integrated regional and catchment management plans in which biodiversity conservation is a core component; and • partnership arrangements where State, local government and community responsibilities for biodiversity conservation are clearly identified.	• Percentage of area covered by bioregional and catchment strategies which have been developed or reviewed since 2000 and which identify biodiversity conservation priorities and targets. • Percentage of area covered by property management plans, which have biodiversity conservation priorities and targets. • Percentage of catchment, regional and local government development plans developed or reviewed since 2000 that include biodiversity conservation targets and identify the responsibilities of State/Territory Governments, local government and the community.
10.2.1 By 2001, all jurisdictions have reviewed their legislative and regulatory frameworks to identify any impediments to the introduction and use of formalised conservation agreements.	• Number of, and area covered by, formalised conservation agreements in operation, by jurisdiction. Agreements include conservation covenants, management agreements and/or other formalised conservation agreements.
10.2.2 By 2003, all jurisdictions have reviewed their legislative and regulatory frameworks to identify: • impacts on the appropriate use of natural resources and the effectiveness of economic instruments and incentive-based policies (such as tradeable permit schemes, taxes, charges and subsidies) that promote biodiversity conservation; and • perverse incentives encouraging biodiversity loss or environmental damage.	• Percentage of area in catchments/regions within each State and Territory and the number of local governments where legislative and economic instruments are used to conserve biodiversity. • Percentage of area in catchments/bioregions, by jurisdiction, where economic instruments are assessed by an independent body to be effective in conserving biodiversity. • Number of perverse incentives identified.
10.2.3 By 2005, jurisdictions have removed or are removing legislative and regulatory impediments to biodiversity conservation, including perverse incentives that encourage biodiversity loss.	• Number of jurisdictions where legislative and regulatory impediments to biodiversity conservation and perverse incentives that encourage biodiversity loss have been removed.

REFERENCES

Australian and New Zealand Environment and Conservation Council (ANZECC) State of the Environment Reporting Task Force, 2000, *Core Environmental Indicators for Reporting on the State of the Environment*, Environment Australia, Canberra, endorsed by ANZECC in December 1999, http://www.environment.gov.au/soe/envindicators/coreindicators.html

Brown, Topfer, Wolfensohn and Lash, 2000, *World Resources 2000–2001 – People and Ecosystems: The Fraying Web of Life*, World Resources Institute, Washington, USA

Fairweather P. and G. Napier (1998) *Environmental indicators for national state of the environment reporting – Inland waters, Australia: State of the Environment (Environmental Indicator Reports)*, Department of the Environment, Canberra.

Hamblin A. (1998) *Environmental indicators for national state of the environment reporting – The Land, Australia: State of the Environment (Environmental Indicator Reports)*, Department of the Environment, Canberra.

Saunders D., C. Margules and B. Hill (1998) *Environmental indicators for national state of the environment reporting – Biodiversity, Australia: State of the Environment (Environmental Indicator Reports)*, Department of the Environment, Canberra.

State of the Environment Council (eds), *Australia: State of the Environment 1996*, Department of the Environment, Sport and Territories, CSIRO Publishing, Melbourne, Vic

Ward T., E. Butler and B. Hill (1998) *Environmental indicators for national state of the environment reporting – Estuaries and the Sea, Australia: State of the Environment (Environmental Indicator Reports)*, Department of the Environment, Canberra.