

From vision to delivery: Australia's biodiversity conservation objectives

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Abstract

This paper considers Australia's vision for the conservation and sustainable use of biodiversity as expressed through the international agreements that Australia has ratified and our national strategies, intergovernmental agreements and national programs. The Intergovernmental Agreement on the Environment, the National Strategy for the Conservation of Australia's Biological Diversity, the National Objectives and Targets for Biodiversity Conservation 2001–2005 and the frameworks for the extension of the Natural Heritage Trust and the National Action Plan for Salinity and Water Quality are examined. With an emphasis on regional investment based on accredited integrated natural resource management plans and investment strategies, the Trust and the National Action Plan are changing the focus of natural resource management delivery across Australia. The paper concludes by outlining the way in which, under these programs, regions address nationally identified matters to set regional targets for the conservation and sustainable use of biodiversity.

Keywords

biodiversity conservation, Intergovernmental Agreement on the Environment, Natural Heritage Trust, natural resource management

Introduction

There are practical and cultural reasons why Australian governments at all levels recognise that we have a duty of care to conserve biodiversity. This awareness has grown over several decades as international agreements have been negotiated and national strategies and plans have been developed. Recent years have seen substantial government investment to ensure that integrating biodiversity conservation with rural land use in natural resource management planning becomes core business for regional communities.

What is biodiversity and why conserve it?

Biological diversity is defined in the *National Strategy for the Conservation of Australia's Biodiversity* as 'the variety of all life forms — the different plants, animals and microorganisms, the genes they contain and the ecosystems of which they form a part'. The Strategy continues, 'It is not static, but constantly changing; it is increased by genetic change and evolutionary processes and reduced by processes such as habitat degradation, population decline and extinction.'

The true value of biodiversity to our society is far greater than most people would ever imagine. Many services are delivered by natural and managed ecosystems — the provision of fresh water, maintenance of soil moisture and nutrient cycles, prevention of soil erosion and silting of waterways, mitigation of drought and flood, pollination of agricultural crops, pest control, and breakdown of pollutants. Our native plants, animals and micro-organisms provide timber, foods, fibres, traditional medicines, substances for the pharmaceutical industry, and genetic material for biotechnology applications.

Our natural landscapes and biodiversity provide us with a sense of place, cultural identity and spiritual inspiration. Many of our tourists are attracted to Australia to experience our unique wildlife and landscapes.

Biodiversity has intrinsic value. Recognising that our continent and surrounding seas support a significant proportion of global biodiversity, Williams et al. (2001) point out that 'Australia has a diverse and often unique environment that represents a priceless heritage and should be a source of pride to all Australians'.

We have a duty of care to conserve our endemic species and ecological communities and to participate in international efforts to conserve migratory species. This is reflected in the international agreements ratified by Australia, and in our domestic agreements.

The current status of biodiversity in Australia

The 2001 national State of the Environment report found that 8% of Australia's higher plants, 14% of birds, 23% of marsupials, 8% of reptiles, 18% of amphibians and 9% of freshwater fish are extinct, endangered or vulnerable at the national level (Williams et al. 2001).

In seeking to provide for Australia's growing population and development, vast areas have been damaged. For instance, at least 2.5 million hectares or 5% of our cultivated land is currently affected by dryland salinity (Council of Australian Governments 2000). Soil acidification, land salinity, toxic algal blooms, soil erosion, siltation of our waterways and declining fish catches are all symptoms of ecosystem dysfunction (ANZECC and BDAC 2001, p. 6). These problems are due to particular management practices, and many are directly related to declines in biodiversity.

The state of the environment report found that many key threats to biodiversity are persisting: 'clearance of native vegetation remains the single most significant threat to terrestrial biodiversity. Salinity and hydrological changes continue to threaten terrestrial and inland waters; sedimentation and nutrient loading threaten coastal waters; and arid and semi-arid regions are under threat from the effects of altered fire regimes, grazing and invasive species.' Urbanisation of land on the intensively settled coastal areas, climate change and diseases were also identified in the report as key threats.

Biodiversity agreements, strategies and legislation

The responsibility for natural resource management lies to varying degrees with the Commonwealth, states and territories, and local government. Large regional authorities such as the Murray–Darling Basin Commission and smaller regional bodies and catchment management authorities are playing an increasingly important role. Much of the on-ground work is carried out by landholders and others in the community, working independently or with Landcare, Bushcare, Rivercare, Coastcare and other conservation groups. In this section, the role of governments is examined.

International agreements

A number of international agreements that are relevant to the protection of biodiversity have been ratified by Australia:

- Sanitary and Phytosanitary (SPS) Agreement, 1994, concerning plant quarantine and annexed to the agreement establishing the World Trade Organization
- Convention for the Conservation of Southern Bluefin Tuna, 1993
- UN Convention on Biological Diversity, 1992
- UN Framework Convention on Climate Change, 1992
- UN Convention to Combat Desertification, 1992
- UN Convention on the Law of the Sea (UNCLOS), 1982
- Convention on Migratory Species (Bonn), 1979
- Convention on International Trade in Endangered Species (CITES), 1973
- UN World Heritage Convention, 1972
- Convention on Wetlands (Ramsar), 1971
- Convention for the Regulation of Whaling, 1946.

The broadest in scope of these agreements is the Convention on Biological Diversity. This was the first international agreement to comprehensively address biological diversity at the

genetic, species and ecosystems levels. The convention highlights the need to integrate conservation measures and ecologically sustainable use.

Related bilateral and multilateral agreements include:

- China–Australia Migratory Birds Agreement (CAMBA), 1986
- Convention for the Protection of the Natural Resources and Environment of the South Pacific (SPREP), 1986
- Convention on the Conservation of Nature in the South Pacific (Apia), 1976
- Japan–Australia Migratory Birds Agreement (JAMBA), 1974.

Commonwealth responsibilities and legislation

The Commonwealth government's responsibilities and interests, set out in the 1992 Intergovernmental Agreement on the Environment, are:

- matters of foreign policy relating to the environment and, in particular ... ensuring that international obligations relating to the environment are met by Australia, that is, international responsibilities under conventions and bilateral agreements that Australia has ratified (see the discussion above, and the matters of national environmental significance below)
- ensuring that the policies or practices of a State do not result in significant adverse external effects in relation to the environment of another State or the lands or territories of the Commonwealth or maritime areas within Australia's jurisdiction
- facilitating the cooperative development of national environmental standards and guidelines
- the management of living and non-living resources on land which the Commonwealth owns or which it occupies for its own use.

The Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* provides an integrated regime for biodiversity conservation, management of protected areas and, since amendments in July 2001, wildlife protection. Three of the objectives of the Act are to promote:

- the conservation of biodiversity
- ecologically sustainable development through the conservation and ecologically sustainable use of natural resources
- a cooperative approach to the protection and management of the environment involving governments, the community, landholders and indigenous peoples.

The environmental assessment and approval provisions of the Act are triggered by acts which could have a significant impact on any of the six matters of national environmental significance: World Heritage properties, Ramsar wetlands of international significance, nationally threatened species and ecological communities, listed migratory species, Commonwealth marine areas, and nuclear actions. Bilateral agreements between the Commonwealth and a state or territory minimise duplication by enabling the Commonwealth to rely on state or territory assessment processes and, in some circumstances, state or territory approvals.

National agreements and strategies

The Intergovernmental Agreement on the Environment was signed on 1 May 1992 by the Commonwealth, states, territories, and the Australian Local Government Association. This agreement provided the basis for a cooperative national approach to the environment, a better definition of the roles of the respective governments, greater certainty of government and business decision-making, and better environmental protection.

The National Strategy for Ecologically Sustainable Development was endorsed at the Council of Australian Governments meeting in December 1992. A core objective is to 'protect biological diversity and maintain essential ecological processes and life-support systems'. The

strategy stresses the need to consider in an integrated way the long-term economic, social and environmental implications of our decisions and actions.

The National Strategy for the Conservation of Australia's Biodiversity was agreed in 1996 by the Commonwealth and all state and territory governments. The strategy aims for 'the effective identification, conservation and management of Australia's biological diversity'. It outlines a series of objectives and actions, including:

- identifying and monitoring biodiversity• introducing bioregional planning and incentives for conservation on private land
- managing protected areas and conserving biodiversity off-reserve
- integrating biodiversity conservation and sustainable natural resource use in industries such as agriculture, grazing, fisheries, forestry, water management, tourism, recreation and biotechnology
- conserving wildlife and threatened species
- identifying and managing threatening processes: land clearing, weeds, feral animals, other pests, genetically modified organisms, pollution including salinity, altered fire regimes and climate change
- involving the community including indigenous people
- recognising the value of traditional knowledge and conducting scientific research
- increasing public awareness
- cooperating in international efforts to conserve biodiversity.

In November 2000, Commonwealth, state and territory governments and the Australian Local Government Association agreed to implement a National Action Plan for Salinity and Water Quality in Australia. The goal of this strategy is to motivate and enable regional communities to:

- prevent, stabilise and reverse trends in dryland salinity affecting the conservation of biological diversity, the sustainability of production and the viability of our infrastructure
- improve water quality and secure reliable allocations for human uses, industry and the environment.

In 2001 a review of the National Strategy found that, while significant advances had been made since 1996, a number of objectives had not been achieved (ANZECC 2001). Assessing progress was difficult because many of the objectives were expressed in general terms. This highlighted the need for specific, time-bound national targets.

The National Objectives and Targets for Biodiversity Conservation 2001–2005 were developed to provide a set of priority actions and specific time-bound objectives for ongoing practical action. They were agreed in June 2001 by the Commonwealth, New South Wales, Victoria, South Australia, Western Australia and the Australian Capital Territory governments. The Coalition government's 2001 election commitments included to 'contribute to achieving the biodiversity targets in the National Objectives and Targets for Biodiversity Conservation 2001–2005'. The 10 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 people's knowledge
- 9 improve scientific knowledge and access to information
- 10 introduce institutional reform.

The National Objectives and Targets include national targets for legislated requirements, incentives, agreed standards, allocation of natural resources such as water, identification of

biodiversity, designation of protected areas, impact assessments, management plans, performance assessments, access to information, awareness raising and institutional reform. For example:

‘By 2003, all jurisdictions have developed statutory instruments for marine and estuarine water quality standards.’

‘By 2005, all jurisdictions have incorporated the recovery of threatened species and ecological communities into integrated catchment/regional management plans.’

‘By 2005, all jurisdictions have effective legislation and management plans in place to protect wetlands of national significance.’

The National Objectives and Targets complement the Council of Australian Government water reforms, the Natural Heritage Trust areas of activity, the National Action Plan for Salinity and Water Quality, the National Framework for Management and Monitoring of Australia’s Native Vegetation, the National Greenhouse Strategy, the Ramsar Convention Strategic Plan 1997–2002, and the Asia–Pacific Migratory Waterbird Conservation Strategy and Shorebird Action Plan 2000–2005.

State and territory strategies

A number of states and territories have strategies, action plans and legislation that provide a strategic framework for addressing biodiversity conservation. Victoria’s *Flora and Fauna Guarantee Act 1988* pre-dates the agreement of the National Strategy for the Conservation of Australia’s Biological Diversity, and the Victorian Biodiversity Strategy (NRE 1997) was completed soon after the National Strategy.

Local Government Strategy

In November 1998 the National Local Government Biodiversity Strategy was endorsed by a unanimous vote at the National General Assembly of Local Government (ALGA 1998). Natural resource management is a logical extension of land use planning and development control which, in most parts of Australia, is a core function of local government. Two key objectives of the strategy are to encourage biodiversity conservation through catchment and regional planning, and to establish a nationally coordinated information and monitoring system. There are also a range of regionally based local government biodiversity strategies and council biodiversity programs.

National programs

The National Strategy for the Conservation of Australia’s Biological Diversity has, as its main goal, to protect biological diversity and maintain ecological processes and systems. It stresses that a high priority must be placed on developing and implementing integrated approaches to conservation that conserve biological diversity and meet other community expectations.

Since the National Biodiversity Strategy was developed, a number of processes have been put in place to address this goal. These include the Natural Heritage Trust, the Regional Forest Agreement process under the National Forest Policy Statement (1992), the Council of Australian Governments’ Water Reform Framework (1994) and Australia’s Oceans Policy. More recently the *Environment Protection and Biodiversity Conservation Act 1999* and the National Framework for the Management and Monitoring of Australia’s Native Vegetation (ANZECC 1999) have been developed to strengthen regulatory and institutional mechanisms for conserving biodiversity and managing threatening processes. The National Action Plan for Salinity and Water Quality is also expected to have a positive effect on biodiversity conservation.

State and territory governments also have a range of programs that address biodiversity conservation.

The Natural Heritage Trust

The Natural Heritage Trust is a major Commonwealth initiative to conserve, repair and replenish Australia's natural capital infrastructure. The Trust aims to facilitate practical on-ground biodiversity conservation. A further \$1 billion has been committed for five more years from July 2002, to build on the achievements of the Trust's community-based effort.

The second phase of the Natural Heritage Trust features a new streamlined structure. Investment is being made through four overarching programs with the following focus:

- Bushcare: conserving and restoring habitat for our unique native flora and fauna, which underpins the health of our landscapes
- Landcare: reversing land degradation and promoting sustainable agriculture
- Rivercare: improving water quality and environmental condition in our river systems and wetlands
- Coastcare: protecting our coastal catchments, ecosystems and the marine environment.

Together these four programs invest in the 10 Natural Heritage Trust areas of activity:

- protecting and restoring the habitat of threatened species, threatened ecological communities and migratory birds
- reversing the long-term decline in the extent and quality of Australia's native vegetation
- protecting and restoring significant freshwater, marine and estuarine ecosystems
- preventing or controlling the introduction and spread of feral animals, aquatic pests, weeds and other biological threats to biodiversity
- establishing and effectively managing a comprehensive, adequate and representative system of protected areas
- improving the condition of natural resources that underpins the sustainability and productivity of resource based industries
- securing access to natural resources for productive purposes
- encouraging the development of sustainable and profitable management systems for application by land-holders and other natural resource managers and users
- providing landholders, community groups and other natural resource managers with understanding and skills to contribute to biodiversity conservation and sustainable natural resource management
- establishing institutional and organisational frameworks that promote conservation and ecologically sustainable use and management of natural resources.

The greater part of the Trust funding is in regional investment. The remainder is for local action grants (the Envirofund) and National/Commonwealth/State investments. The Trust funds projects throughout Australia, including those in the 21 priority regions identified under the National Action Plan for Salinity and Water Quality.

National Action Plan for Salinity and Water Quality

The National Action Plan (Council of Australian Governments 2000) involves the expenditure by Commonwealth, State and Territory governments of \$1.4 billion over seven years to address land salinity, deteriorating water quality and reduced water flows in key regions across Australia. Central to the program is funding for affected regions to implement integrated regional natural resource management plans.

Regional plans, targets and monitoring

Regional plans

A series of natural resource management frameworks and guidelines have been developed to guide regional investment under the extension of the Natural Heritage Trust and the National Action Plan for Salinity and Water Quality. A condition of investment is that in each region the community-based regional body develop an integrated natural resource management plan and investment strategy in consultation with stakeholders. The natural resource management plans need to meet accreditation criteria.

Relevant frameworks and guidelines developed in 2002 include:

- Accreditation Criteria for Integrated Catchment/Regional Natural Resource Management Plans
- Framework for the Extension of the Natural Heritage Trust
- National Natural Resource Management Capacity Building Framework
- National Framework for Natural Resource Management Standards and Targets
- National Natural Resource Management Monitoring and Evaluation Framework.

Setting targets

Under the regional investment arrangements, the regional bodies set specific time-bound targets for the condition of their natural resources including biodiversity and for the management actions that will be taken to achieve these resource condition targets.

In 2002 the Natural Resources Management Ministerial Council agreed to a set of national matters for regional targets, addressing land salinity, water quality, water flows, biodiversity and soils. The biodiversity matters include native vegetation, river and other wetland ecosystems, native species and ecological communities, and invasive species. In regions along the coast or that have an impact on the coast, targets will also be set to address estuarine, coastal and marine habitat condition.

Regional bodies may choose to set targets for others matters in addition to the nationally-identified minimum set. Priorities of the relevant state or territory and any regional authority such as the Murray–Darling Basin Commission are included within the region’s targets to achieve an integrated approach to natural resource management.

Central to the setting of resource condition targets at the regional scale is an understanding of the social and economic consequences that arise in the delivery of actions towards the targets. It is important that an analysis based on social, economic and environmental data is undertaken.

As outlined in the National Framework for Natural Resource Management Standards and Targets, an iterative process for setting targets takes place as integrated natural resource management plans and strategies are prepared. This includes:

- identifying the regional natural resource assets to be managed and the threatening processes and risks to them
- setting goals or aspirational targets with reference to the national natural resource outcomes being addressed
- collecting available resource data and identifying baseline conditions
- identifying social and economic values requiring particular consideration
- trade-off analysis using management scenarios¹
- setting achievable resource condition targets for the region with associated timeframes, for those matters identified in the minimum set of regional targets, using agreed guidelines² identified for each matter, and setting targets for other issues of specific relevance to the region
- establishing shorter-term management actions which will result in progress towards each resource condition target; an iterative planning process should be used to identify ‘best bet’ strategies that go farthest towards achieving resource condition targets given socio-economic objectives
- assessing the broad social and economic impacts, with particular reference to the economic production profile of the region, the broad social profile (demography, social trends, etc.), and any relevant ongoing structural adjustment processes
- monitoring, evaluating and reviewing targets.

Regional investment in natural resource management will affect how the rural sector does business, as planning can be more responsive to the regional social, economic and environmental conditions. Strategic planning could lead to multiple benefits from regional

¹ Refer to standards and targets framework for more details.

² For instance, the water quality guidelines (ANZECC and ARMCANZ, 2000).

activities. Native vegetation regeneration could, for instance, be planned to stabilise river banks, improve water quality and provide habitat for endemic and rare species.

Monitoring and evaluation

In 2001 the Australian National Audit Office (ANAO) reviewed the performance of the Natural Heritage Trust and found that there was a need to identify a core set of performance indicators in order to assess the effectiveness of investment in Trust activities. The ANAO recognised that it can be technically difficult to measure change in environmental conditions because there are substantial time lags between actions (e.g. revegetation) and the results expected (e.g. increased biodiversity or a reduction in the watertable level to control salinity) (ANAO 2001, p. 12). The absence of baseline data on environmental condition in much of Australia was also found to be a major constraint on measuring and reporting on changes and trends in natural resource management and the environment. The ANAO proposed that intermediate outcomes be identified and monitored, as well as longer-term outcomes.

The National Natural Resource Management Monitoring and Evaluation Framework was developed to help regions assess and report on progress made in meeting regional natural resource condition and management action targets. Indicators are being developed for each set of targets. Monitoring will contribute to a better understanding of the state of our environmental and natural resource assets, and will guide any revision of the regional plans and renewed investment.

Conclusion

Australia's vision for the conservation and sustainable use of biodiversity has formed in the context of a series of international agreements and national strategies and is articulated through a series of policy frameworks. A guiding principle in these frameworks is that the conservation of biodiversity is the responsibility of all spheres of government, regional bodies and communities.

Regional investment is a feature of the extension of the Natural Heritage Trust and the National Action Plan for Salinity and Water Quality. In each region, an integrated natural resource management plan and investment strategy is being developed by a community-based regional body in consultation with stakeholders. When regions set their specific time-bound targets, they address a set of nationally identified natural resource matters, including water, soil and biodiversity conservation.

Integrated natural resource management planning by regions provides an opportunity to address broad landscape and waterways issues and find ways to achieve positive biodiversity outcomes in balance with social and economic needs in the midst of rural land use change.

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