
The Parliament of the Commonwealth of Australia

Managing Australia's biodiversity in a changing climate: the way forward

**Final report of the inquiry into Australia's biodiversity in a
changing climate**

House of Representatives
Standing Committee on Climate Change, Environment and the Arts

May 2013
Canberra

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Cover images courtesy of committee secretariat

Front cover (L-R): One of the Goolwa Barrages in the Coorong, Lower Lakes and Murray Mouth region; Committee members inspecting the NSW Seedbank; flowering wattle gum.

Back cover (L-R): Committee members inspecting Sydney Olympic Park; Coorong, Lower Lakes and Murray Mouth region; Committee members inspecting the turtle hospital at Reef HQ.



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Foreword

The fact that the earth's climate is changing is well-documented. Australia and other countries have long-run data showing a marked change in the earth's temperature. But although we can be certain that climate change is occurring, its effect on Australia's environment, in particular on biodiversity, is unknown beyond the models and theories that are being used to make informed projections.

Australia has a rich biodiversity and many species are only found here. This has been recognised internationally. Australia is one of 17 'megadiverse' countries and has 15 national biodiversity hotspots across the continent. The Committee quickly learnt during the inquiry that climate effects vary greatly across species. For some, the increase in the earth's temperature and related effects will diminish their habitat and reduce their numbers, perhaps to extinction. For others, the changing climate will be to their advantage and their population will increase.

During its investigations, the Committee received a great deal of support from not-for-profit environmental groups, natural resource management bodies, State government agencies, research institutions and landholders. All these organisations and individuals were very generous with their time and expertise and they made important contributions to the report. As befitting a national inquiry, the Committee held site inspections, briefings, and public hearings in each of Australia's states and territories.

One of the major findings of the report is that important information is being collected about our biodiversity, but it can be better coordinated and the funding for it should be long term. In terms of coordination, the policy is already partly in place through the National Plan for Environmental Information. What is needed in this instance is quicker progress for a project that is admittedly very challenging due to its innovative nature and broad scope. The Council of Australian Governments can also contribute. The Committee would like to see it facilitate the development of national environmental accounts and of a central national

biodiversity database which can be scientifically accredited and to which information can be uploaded.

The Committee received consistent evidence that the usual three-year funding cycle for environmental projects is too short because it does not allow researchers to build up a baseline for a process that is continuing over decades. The Committee heard evidence from an organisation that had to reinvent their project at each funding application so that they could also continue their long term work. This is counter-productive and the Committee believes that agencies should be able to extend their funding periods where warranted.

The Committee recognises the importance of natural resource management (NRM) organisations in managing our natural environment. NRM organisations, groups and Catchment Management Authorities have the advantage of operating at the local level and deliver many NRM programs. However, they have different origins depending on the state or territory in which they are located. This has resulted in a significant variation in their consistency, standards and quality across the nation. The Committee supports the regional delivery model, but believes there is scope for improvement and has made recommendations in relation to NRM bodies' skills, standards and funding.

As in most research areas, there is considerable demand for funding but only limited resources are available. The Committee was mindful during the inquiry not to propose a large increase in funding for biodiversity action, in particular noting that much of the baseline research and data collection that would inform this work still needs to be done. However, the Committee did make some funding recommendations where the quality and value of the work warranted it. An example of this is the Atlas of Living Australia, which received funding up to June 2012 and was allowed to disburse unspent money until June 2013. The Committee believes that the Atlas would be a natural repository for the digitisation of Australia's biological collections and that the Australian Government should work with the Atlas to develop a sustainable funding model for it.

I again thank the organisations that assisted the Committee during the inquiry through submissions, participating at the hearings, or assisting the Committee at its briefings and inspections. I also thank my colleagues on the Committee and the secretariat for their contribution to the inquiry and the report.

Tony Zappia MP
Chair



Membership of the Committee

Chair Mr Tony Zappia MP

Deputy Chair Dr Mal Washer MP

Members Ms Anna Burke MP (to 7/2/12)

Mr Geoff Lyons MP (from 11/10/11 to 18/1/12)

Mr Darren Cheeseman MP (from 13/2/13)

Ms Nola Marino MP

Ms Jill Hall MP

Mr Wyatt Roy MP

Mr Harry Jenkins MP (from 7/2/12)

Mr Kelvin Thomson MP (to 11/10/11; from 18/1/12 to 13/2/13)

Committee Secretariat

Secretary Ms Julia Morris

Inquiry Secretaries Ms Peggy Danaee (from 7/11/11 to 7/12/12)
Ms Julia Searle (to 4/11/11)

Senior Research Officers Ms Susan Dinon (from 28/5/12)
Mr James Nelson (to 25/5/12)

Research Staff Mr David Monk (from 29/04/13)
Ms Leonie Bury (from 29/04/13)

Administrative Officers Ms Tamara Palmer (to 23/9/11)
Mr Peter Pullen (from 12/9/11)
Ms Jessica Hargreaves (from 9/8/12)



Terms of reference

The Committee will inquire into and report on biodiversity in a changing climate, in relation to nationally important ecosystems. The inquiry will have particular regard to:

- terrestrial, marine and freshwater biodiversity in Australia and its territories
- connectivity between ecosystems and across landscapes that may contribute to biodiversity conservation
- how climate change impacts on biodiversity may flow on to affect human communities and the economy
- strategies to enhance climate change adaptation, including promoting resilience in ecosystems and human communities
- mechanisms to promote the sustainable use of natural resources and ecosystem services in a changing climate
- an assessment of whether current governance arrangements are well placed to deal with the challenges of conserving biodiversity in a changing climate
- mechanisms to enhance community engagement.

The scope of the committee's inquiry shall include some case studies of 'nationally important ecosystems', as defined by submissions to the inquiry.¹

¹ Referred on 2 June 2011 by the Minister for Sustainability, Environment, Water, Population and Communities, the Hon Tony Burke MP, and the Minister for Climate Change and Energy Efficiency, the Hon Greg Combet AM MP.



List of abbreviations

| | |
|---------|------------------------------------------------------------------------------|
| ABS | Australian Bureau of Statistics |
| ACE CRC | Antarctic Climate and Ecosystems Cooperative Research Centre |
| ACF | Australian Conservation Foundation |
| ACRS | Australian Coral Reef Society |
| ACS | Australian Coastal Society |
| AIATSIS | Australian Institute of Aboriginal and Torres Strait Islander Studies |
| AMSA | Australian Marine Sciences Association |
| ANEDO | Australian Network of Environmental Defender's Offices |
| BOM | Bureau of Meteorology |
| CFOC | Caring for our Country |
| CMA | Catchment Management Authority |
| COAG | Council of Australian Governments |
| CSIRO | Commonwealth Scientific and Industrial Research Organisation |
| DAFF | Department of Agriculture, Fisheries and Forestry |
| DIISRTE | Department of Industry, Innovation, Science, Research and Tertiary Education |

| | |
|----------|------------------------------------------------------------------------------------|
| DIT | Department of Infrastructure and Transport |
| DSEWPAC | Department of Sustainability, Environment, Water, Population and Communities |
| EPBC | Environment Protection and Biodiversity |
| GER | Great Eastern Ranges |
| IMAS | Institute for Marine and Antarctic Studies |
| IMOS | Integrated Marine Observing System |
| ISC | Invasive Species Council |
| IUCN WPA | International Union for Conservation of Nature World Commission on Protected Areas |
| MPA | Marine Protected Area |
| NAILSMA | Northern Australian Indigenous Land and Sea Management Alliance |
| NCCARF | National Climate Change Adaptation Research Facility |
| NHT | Natural Heritage Trust |
| NFF | National Farmers' Federation |
| NPA | National Parks Association |
| NPAC | National Parks Australia Council |
| NRM | Natural Resource Management |
| NRS | National Reserve System |
| NWCP | National Wildlife Corridors Plan |
| RCAAE | Research Centre for Applied Alpine Ecology |
| REDMAP | Range Extension Database and Mapping Project |
| SWCC | South West Catchments Council |
| TERN | Terrestrial Ecosystem Research Network |

WALGA Western Australian Local Government Association

WRAFBARN Water Resources and Freshwater Biodiversity Adaptation
Research Network



List of recommendations

1

Introduction to biodiversity and the inquiry

2

Biodiversity, human communities and the economy

Recommendation 1

The Committee recommends that in the course of developing and implementing an effective and sustainable system of national environmental accounts, the Australian Government include on the agenda of the Council of Australian Governments a requirement for five-yearly reports, using the existing framework of the national State of the Environment Report, and equivalent reports of each state and territory. Such reports should include assessments of the state of all significant national parks and reserves, including:

- qualitative and quantitative analysis of native biota including any loss of distribution, and
- qualitative and quantitative analysis of invasive species of flora, fauna and pathogens, including any increase of distribution.

Recommendation 2

The Committee recommends that the Australian Government, through the Council of Australian Governments, develop a central national database, incorporating a consistent and adaptable model of uploading and storing information which is able to be scientifically accredited.

3

Sustainable use of natural resources

4

Connectivity conservation

Recommendation 3

The Committee recommends that ongoing funding for threatening processes, including fire and invasive species management, be provided under the National Wildlife Corridors Plan.

Recommendation 4

The Committee recommends that national marine and terrestrial biodiversity corridors be included on the agenda of the Council of Australian Governments.

5

Climate change adaptation strategies

Recommendation 5

The Committee recommends that the Australian Government ensure funding cycles for environmental and biodiversity data collection programs are long enough to allow a proper baseline to be developed. This may be up to 10 years.

The Committee also recommends that funded research needs to comply with proper governance requirements such as reporting, acquittal, and ensuring that the original project goals are still being met.

Recommendation 6

The Committee recommends that the Australian Government ensures the success of the National Plan for Environmental Information by:

- implementing the recommendations of the Independent Review of Australian Government Environmental Information Activity
- publishing information about project scope and timelines as a means of helping the Plan being conducted in a timely manner
- consulting widely with the scientific community and other stakeholders, such as the Australian Bureau of Statistics, on the design of the Plan.

Recommendation 7

The Committee recommends that the Australian Government work with the Atlas to develop a sustainable funding model for it, which could include the involvement of non-government partners.

Recommendation 8

The Committee recommends that the Australian Government provide funding to the CSIRO and Atlas of Living Australia to:

- assess the current level of digitisation of biological collections in Australia
- coordinate the digitisation of biological data into the Atlas.

Recommendation 9

The Committee recommends that the Australian Government consult with the museum and education sectors to develop a strategy to attract, train, and retain taxonomists.

Recommendation 10

The Committee recommends the Australian Government include a focus on incorporating Indigenous ecological knowledge into federal biodiversity conservation and land management programs.

Recommendation 11

The Committee recommends that the Australian Government continue funding the Australian Seed Bank Partnership.

6

Natural resource management

Recommendation 12

In recognising the importance that NRM boards operate effectively, the Committee recommends that the Australian Government conduct a review, with particular reference to:

- funding, including assessing claims that existing application processes result in 'grant fatigue', and can foster competition, rather than cooperation between NRM bodies
- measures to improve consistency of standards between NRM bodies nationally
- measures which may improve skills management, including sufficient capacity to attract and retain personnel, especially in regional areas.

Recommendation 13

That the Australian Government advise the Committee and stakeholders as to how the research and development needs formerly undertaken by Land and Water Australia are now being met.

7

Governance issues

Recommendation 14

The Committee recommends that the Minister refer an exposure draft of the EPBC Amendment Bill to the Committee for review prior to introduction in the Parliament.

Recommendation 15

The Committee recommends that the Australian Government publish a progress report on developing a single national list of threatened species as part of the changes to the EPBC Act, as well as expected future timelines.

Recommendation 16

The Committee recommends that the Australian Government review the current co-management arrangements in the Australian Alps with a view to determining whether a different model – such as the Great Reef Marine Park Authority model – would improve coordination and priority management of the area’s biodiversity.

Recommendation 17

The Committee recommends that the Australian Government establish an expert panel, including representatives of the timber industry and national parks, to inquire into and report on options for Australia’s future integrated forest management.

Minority Report – Nola Marino MHR – Member for Forrest

Appendix A: List of submissions

Appendix B: List of exhibits

Appendix C: List of site inspections and public hearings

