



Submission on:

**The independent review of
the Environment Protection
and Biodiversity
Conservation Act 1999**

**Centre for Ecosystem Science,
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The Centre for Ecosystem Science (CES), UNSW Sydney, supports instruments of government, including strategies, policy and legislation that improve effectiveness of biodiversity conservation, founded on a strong evidence base. Current rates of biodiversity loss around the world and in Australia are unprecedented. Researchers in CES have established track records in the research and management of Australia's biodiversity, both within and outside protected areas. In particular, researchers focus on the three main realms of biodiversity (freshwater, terrestrial, marine) in the natural world (<https://www.ecosystem.unsw.edu.au/>). The Centre for Ecosystem Science welcomes the opportunity to provide a submission to the Review of the Environment Protection and Biodiversity Conservation Act 1999. This submission focuses on the main elements of the review, providing 24 recommendations.

Background

The world has entered the Anthropocene epoch, characterised by widespread degradation of the environment and its dependent biodiversity at unprecedented rates and scales, including species' extinctions, ecosystem collapses (Wilson 2016), resulting in loss of ecosystem services (Newbold et al. 2016) and straining planetary boundaries for human existence (Steffen et al. 2015).

There is substantial scientific evidence that Australia's environments are undergoing substantial degradational change, reducing their biodiversity and ecosystem services. Australia has the worst mammal extinction record of any continent with more than 10% of 273 land mammal species becoming extinct in the last two centuries (Burbidge and McKenzie 1989, McKenzie et al. 2007, Woinarski et al. 2015), with 50% of the global mammal extinctions in the last 200 years from the continent (Short and Smith 1994). The Bramble Cay melomys (*Melomys rubicola*) became extinct (Gynther et al. 2016), likely due to sea level rise caused by climate change. Birds and frogs are also suffering extinctions and precipitous declines (Szabo et al. 2012).

Climate change causing increasing severity of dry periods, increasing temperatures and sea level rise will continue to affect a range of biodiversity, including those occupying niches in mountains and rainforests (Williams et al. 2003). While many mammal, frog, reptile and bird species have a high public profile, extinctions are occurring in other groups as well, including plants and invertebrates. Climate change will also interact with other threatening processes, exacerbating extinction risk (Kingsford et al. 2009).

There are a range of different threatening processes driving this biodiversity loss in Australia including habitat destruction and degradation, invasive species, climate change, overharvesting, pollution and disease (Kingsford et al. 2009). Habitat loss remains the overarching and most pressing of these threatening processes. Between 1972 and 2014, more than 7.2 million ha of primary forest was cleared across Australia, about 7% of the available forest (Evans 2016). In 2015, Eastern Australia, including NSW, was identified as one of only 11 regions of the world undergoing high deforestation and the only one in a developed country (WWF 2015). Deforestation includes vegetation clearing or land clearing and destroys habitats contributing to serious declines in woodland birds and reptiles (Garnett et al. 2011, State of the Environment Committee 2011,

Bradshaw 2012). For example, it was estimated that about 100 million native birds, reptiles and mammals were killed because of destruction of their habitat in NSW between 1998 and 2005 (Johnson et al. 2007). The loss of such habitat threatens the continent's biodiversity, affecting 60% of Australia's nearly 1700 threatened species (Radford et al. 2005, Natural Resource Management Ministerial Council 2010, State of the Environment Committee 2011).

Habitat loss and degradation is also the threat which can be most easily contained through focused legislation and policy but governments have generally failed to adequately address habitat loss and degradation occurring in terrestrial, marine and freshwater ecosystems around Australia. This is regularly the subject of state of environment reporting around Australia (e.g. (Australian State of Environment Committee 2001, Australian State of Environment 2006, State of the Environment Committee 2011, Jackson et al. 2017).

Terms of reference for the review

We have focused our submission on providing recommendations relevant to the modernising the EPBC Act and its operation to address current and future environmental challenges as detailed in the Terms of reference for review and associated relevant matters.

A. The objects in section 3(1)(a)-(g) of the Act

Recommendation 1 - The main object of the Act should focus on the environment, linked to decision-making and environmental outcomes.

Recommendation 2 - The main object of the Act should be supported by secondary objectives including:

- the **Precautionary Principle**—if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation;
- **inter-generational equity**—the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations.
- **Conservation of biological diversity and ecological integrity**
- **recognition of the role of First Nations peoples** in the custodianship of land and water resources and their ongoing knowledge
- **effective tracking and reporting of environmental change** and
- **improved and effective valuation and pricing of environmental resources.**

Recommendation 3 - Establishment of clear assessment and implementation processes which ensure that the objects of the Act will achieve environmental outcomes which are monitored and reported.

B. Australia's international environmental responsibilities

Australia is a leader in Conservation Science and Management, recognized around the world. Australia has international and national obligations to conserving the environment including commitments to the Convention on Biodiversity (CBD), The World Heritage Convention, the Convention to Combat Desertification, the United Nations Framework Convention on Climate Change, the Ramsar Convention, the United Nations Sustainable Development Goals, International Conventions and agreements to protect migratory species and The convention on the international

Trade in Endangered Species of Fauna and Flora. All of these international agreements and conventions have clear commitments to goals, targets and indicators relevant to Australia's environment.

Recommendation 4 - Ensure that there are mechanisms within the legislation (with resources), which explicitly and transparently link commitments (goals and targets) by the Australian Government in international agreements to on-ground actions, supported by appropriate reporting.

C. Matters of National Environmental Significance

Recommendation 5 - Existing matters of National Environmental Significance should be retained including: World Heritage Sites, National Heritage Sites, Wetlands of International Importance, Threatened Species and Ecological Communities, Migratory Species, Nuclear actions and Commonwealth Marine Areas.

Recommendation 6 - To adequately deal with current and future challenges and modernise the legislation, five additional matters of National Environmental Significance are required: the National Reserve System; Areas of Outstanding Biodiversity Value; Vulnerable Ecological Communities; Key Threatening Processes and Areas of Outstanding Cultural Value.

D. Key threatening processes

Recommendation 7 - There needs to be independent scientific nomination of key threatening processes.

Recommendation 8 - Threat abatement planning for nominated key threatening processes needs to be completed, including impacts of other actions, policies and legislation which may affect environmental outcomes.

E. Regional Environmental Planning

There are well established state processes for regional environmental planning which could be effectively utilised.

Recommendation 9 - There is a need to establish Environmental Planning Standards developed by the Australian Government for approval of environmental regional plans, taking account of the objects of the legislation and all matters of national significance, including recommended additions.

Recommendation 10 - Regional environmental planning needs to account for spatial connectivity between ecosystems and the importance of key processes (e.g. water supply to Wetlands of International Importance).

Recommendation 11 - Regional environmental planning needs to incorporate cumulative effects of development (i.e. many small developments amounting to a significant environmental impact).

Recommendation 12 - Regional environmental planning should incorporate reward structures for landholders who are carrying out good stewardship of the environment.

F. Offsets

Recommendation 13 - For offset approvals, proponents should demonstrate that options of avoidance and minimisation, using a mitigation hierarchy (specified in the legislation) should have occurred.

Recommendation 14 - There should be an independent assessment of offsets by an independent scientific committee, established under the legislation.

Recommendation 15 - There should be a public register of approved offsets, detailing approval, monitoring of effectiveness and reporting.

G. Indigenous peoples' knowledge and role in the management of the environment and heritage

Recommendation 16 - The legislation should support the importance of indigenous custodianship by including areas of outstanding cultural diversity in Matters of National Significance.

Recommendation 17 - Programs should promote opportunities for traditional knowledge to be included in effective conservation of biodiversity and cultural diversity, including indigenous ranger programs.

H. Legislation that may relate to the operation of the Act

Recommendation 18 - Where natural resource management legislation (e.g. vegetation, water, mining) degrades the environment as specified by the objects of the EPBC Act, there need to be effective mechanisms for reducing this impact, as well as considering cumulative impacts.

I. Structures and processes

Recommendation 19 - The listing of threatened species, ecological communities and key threatening processes needs to be implemented by ensuring

- a. the integrity and operation of the independent Threatened Species Scientific Committee for these three tasks, using best available scientific data, not conflated by policy and management interpretation;
- b. potential changes to criteria are consistent with the Memorandum with the States and Territories in relation to a common assessment method (CAM);
- c. increased resourcing for the listing of species, particularly organisms not currently well covered (e.g. plants and invertebrates) and ecological communities and;
- d. developing a national assessment of the continent's freshwater, terrestrial and marine ecosystems to identify areas of outstanding biodiversity and the status of ecosystems to inform management.

Recommendation 20 - The following could be established:

- a. an Environment Protection Authority to regulate matters of national importance and;
- b. a National Biodiversity Committee to assist with strategic matters related to the Act (e.g. Areas of Outstanding Biodiversity, Offsets).

Recommendation 21 – For referrals and assessments, the following need to be adequately developed and incorporated:

- a. national environmental standards for consistency which adequately incorporate assessment of cumulative impacts on the environment from particular developments but also planning processes (e.g. State natural resource plans) and;
- b. national assessment processes that provide rigorous assessment of projects and plans in relation to matters of national importance and do not defer to State legislation and processes.

J. Monitoring and reporting

It is critical to improve monitoring of the status of threatened species and ecological communities and other species which may become threatened. There is relatively little investment, relative to the number of threatened species and ecological communities. The status of many other plant and animal species remains poorly known with declining numbers. Overall monitoring of the Australian environment is poor.

Recommendation 22 – There needs to be resourcing of nationwide monitoring of the environment, strategically focusing on particular ecosystems and organisms.

Recommendation 23 – A system of National Environmental Accounts should be established to track changes to different freshwater, terrestrial and marine ecosystems, and inform State of Environment reporting.

Recommendation 24 – There needs to be transparent and reporting provided in public registers of data, relevant to decision-making, including approvals, conditions, offset locations, compliance reports and monitoring data.

References

- Australian State of Environment. 2006. Australian State of Environment Report 2006. Department of Environment and Heritage, Canberra.
- Australian State of Environment Committee. 2001. Independent Report to the Commonwealth Minister for the Environment and Heritage, CSIRO. Publishing on behalf of the Department of the Environment and Heritage, Canberra.
- Bradshaw, C. J. A. 2012. Little left to lose: deforestation and forest degradation in Australia since European colonization. *Journal of Plant Ecology* **5**:109-120.
- Burbidge, A. A., and N. McKenzie. 1989. Patterns in the modern decline of Western Australia's vertebrate fauna: causes and conservation implications. *Biological Conservation* **50**:143-198.
- Evans, M. 2016. Deforestation in Australia: drivers, trends and policy responses. *Pacific Conservation Biology* **22**:1-22.
- Garnett, S., J. Szabo, and G. Dutson. 2011. Action plan for Australian birds 2010.
- Gynther, I., N. Waller, and L. K.-P. Leung. 2016. Confirmation of the extinction of the Bramble Cay melomys *Melomys rubicola* on Bramble Cay, Torres Strait: results and conclusions from a comprehensive survey in August-September 2014. Queensland Government.
- Jackson, W. J., R. M. Argent, N. J. Bax, G. F. Clark, S. Coleman, I. D. Cresswell, K. M. Emmerson, K. Evans, M. F. Hibberd, E. L. Johnston, M. D. Keywood, A. Klekociuk, R. Mackay, D. Metcalfe, H. Murphy, A. Rankin, D. C. Smith, and B. Wienecke. 2017. Australia state of the environment 2016. Independent report to the Australian Government Minister for the Environment and Energy. Canberra.
- Johnson, C., H. Cogger, C. Dickman, and H. Ford. 2007 Impacts of land clearing: The impacts of approved clearing of native vegetation on Australian wildlife in New South Wales.
- Kingsford, R. T., J. E. M. Watson, C. J. Lundquist, O. Venter, L. Hughes, E. L. Johnston, J. Atherton, M. Gawel, D. A. Keith, B. G. Mackey, C. Morley, H. P. Possingham, B. Raynor, H. F. Recher, and K. A. Wilson. 2009. Major conservation policy issues in Oceania. *Conservation Biology* **23**:834-840.
- McKenzie, N. L., A. A. Burbidge, A. Baynes, R. N. Brereton, C. R. Dickman, G. Gordon, L. A. Gibson, P. W. Menkhorst, A. C. Robinson, M. R. Williams, and J. C. Z. Woinarski. 2007. Analysis of factors implicated in the recent decline of Australia's mammal fauna. *Journal of Biogeography* **34**:597-611.
- Natural Resource Management Ministerial Council. 2010. Australia's Biodiversity Conservation Strategy 2010–2030. Canberra.

- Newbold, T., L. N. Hudson, A. P. Arnell, S. Contu, A. De Palma, S. Ferrier, S. L. Hill, A. J. Hoskins, I. Lysenko, and H. R. Phillips. 2016. Has land use pushed terrestrial biodiversity beyond the planetary boundary? A global assessment. *Science* **353**:288-291.
- Radford, J. Q., A. F. Bennett, and G. J. Cheers. 2005. Landscape-level thresholds of habitat cover for woodland-dependent birds. *Biological Conservation* **124**:317-337.
- Short, J., and A. Smith. 1994. Mammal decline and recovery in Australia. *Journal of Mammalogy* **75**:288-297.
- State of the Environment Committee. 2011. Australia state of the environment 2011 Canberra.
- Steffen, W., K. Richardson, J. Rockström, S. E. Cornell, I. Fetzer, E. M. Bennett, R. Biggs, S. R. Carpenter, W. De Vries, and C. A. de Wit. 2015. Planetary boundaries: Guiding human development on a changing planet. *Science* **347**:1259855.
- Szabo, J. K., S. H. Butchart, H. P. Possingham, and S. T. Garnett. 2012. Adapting global biodiversity indicators to the national scale: A Red List Index for Australian birds. *Biological Conservation* **148**:61-68.
- Williams, S. E., E. E. Bolitho, and S. Fox. 2003. Climate change in Australian tropical rainforests: an impending environmental catastrophe. *Proceedings of the Royal Society of London Series B-Biological Sciences* **270**:1887-1892.
- Wilson, E. O. 2016. Half-earth: our planet's fight for life. WW Norton & Company.
- Woinarski, J. C. Z., A. A. Burbidge, and P. L. Harrison. 2015. Ongoing unraveling of a continental fauna: Decline and extinction of Australian mammals since European settlement. *Proceedings of the National Academy of Sciences* **112**:4531-4540
doi:4510.1073/pnas.1417301112.
- WWF. 2015. WWF Living Forests Report. Gland, Switzerland.