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Committee Secretary
Senate Standing Committees on Environment and Communications
PO Box 6100
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10 September 2018

Dear Committee Secretary,

Submission in response to the Senate Environment and Communications References Committee Inquiry into Australia's Faunal Extinction Crisis

1. Thank you for the opportunity to make a submission to the Senate Environment and Communications References Committee Inquiry into Australia's Faunal Extinction Crisis ('the Inquiry').
2. WWF-Australia is part of the WWF International Network, the world's largest independent conservation organisation. WWF's global mission is to '*stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature*'.
3. WWF-Australia has approximately one million financial and non-financial supporters.

Australia's Fauna Extinction Crisis

4. Three unique Australian animals, the Bramble Cay Melomys, Christmas Island Pipistrelle, and Christmas Island Skink, have been driven to extinction in the last ten years. Twenty-nine fauna species are believed to have become extinct since European settlement.¹ This is the highest rate of fauna extinction in recent world history.
5. Facts suggest that a further wave of extinctions is imminent, as the number of *critically endangered* animals increased by 66% between 2011 and 2015 (from 38 in 2011 to 63 in 2015) and the number of *critically endangered* plants increased by 28% (from 112 to 143).²
6. The koala, cassowary, and Leadbeater's possum are among 1,900 species and ecological communities identified as threatened with extinction under the Commonwealth *Environment Protection and Biodiversity Conservation Act* (EPBC Act).
7. The threats to these species and the ecological communities they rely upon for homes and food include loss of habitat, invasive species, inappropriate fire regimes, disease, and climate change.³ However, threatened species recovery plans and scientific reports indicate that the primary driver of extinction is the destruction and degradation of habitat.^{4,5} Ending the loss of habitat is essential to reverse the fauna extinction crisis.

¹ John C. Z. Woinarski, Andrew A. Burbidge, and Peter L. Harrison, 'Ongoing unraveling of a continental fauna: Decline and extinction of Australian mammals since European settlement' PNAS April 14, 2015. 112 (15) 4531-4540; <http://www.pnas.org/content/112/15/4531>

² Don Driscoll, 'By slashing environment spending, the government is slashing opportunities' The Conversation, December 18 2017. <https://theconversation.com/by-slashing-environment-spending-the-government-is-slashing-opportunities-89149>

³ Jackson WJ, Argent RM, Bax NJ, Clark GF, Coleman S, Cresswell ID, Emmerson KM, Evans K, Hibberd MF, Johnston EL, Keywood MD, Klekociuk A, Mackay R, Metcalfe D, Murphy H, Rankin A, Smith DC & Wienecke B (2017). Australia state of the environment 2016: overview, independent report to the Australian Government Minister for the Environment and Energy, Australian Government Department of the Environment and Energy, Canberra

⁴ Megan C. Evans, James E. M. Watson, Richard A. Fuller, Oscar Venter, Simon C. Bennett, Peter R. Marsack, and Hugh P. Possingham, The Spatial Distribution of Threats to Species in Australia (April 2011) 61, 4, Bioscience.

⁵ Australian Government, 'State of the Environment Report 2016.' March 2017

International Conservation Targets & National Nature Strategy

8. Australia is signatory to the United Nations *Convention on Biological Diversity*, including to the Aichi Targets which set clear, measurable biodiversity conservation goals for signatories of the Convention. These include: Aichi Target 11: *By 2020, at least 17 per cent of terrestrial and inland water areas and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscape and seascape*; and Aichi Target 12: *By 2020, the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained*.⁶
9. National Biodiversity Strategies and Action Plans are the domestic implementation mechanisms to achieve Aichi targets.
10. A draft of Australia's National Biodiversity Strategy and Action Plan was released in 2017, *Australia's Strategy for Nature (2018-2030)*.⁷ The document is only 17 pages long and provides very limited detail on national environmental policy or direction. By comparison, the previous National Biodiversity Strategy and Action Plan, *Australia's Biodiversity Conservation Strategy 2010-2020* released in 2010 was over 100 pages long, as are many of the policies of other parties to the *Convention on Biological Diversity*.⁸
11. The draft strategy has been heavily criticised as being inadequate for meeting the challenges of addressing Australia's biodiversity decline, with leading scientists warning that the Strategy "falls far short" of addressing a crisis in species loss.^{9, 10} A submission by the University of New South Wales' Centre for Ecosystem Science noted that the Strategy contains "major omissions and inconsistencies".¹¹ The Centre also pointed out that the draft Australian National Biodiversity Strategy and Action Plan compares poorly to the biodiversity strategies of Rwanda and Myanmar, much less wealthy countries than Australia, which "clearly articulate the challenge and set about providing clear measurable actions to overcome these challenges".¹²
12. Key concerns related to the draft strategy are summarised below:
 - a. The strategy contains no measurable or time-bound targets for addressing Australia's biodiversity decline;
 - b. The draft strategy contains lofty, yet imprecise, goals. Whilst many of these goals are noble in their ambition, there is no indication as to how they will be achieved. The discussion under each goal heading is limited, often vague in relation to implementation, and lacking the detail or rigour required by a guiding national policy;
 - c. The draft strategy fails to reflect the CBD Aichi targets, which remain in place until 2020. The draft strategy also fails to provide a pathway for meeting or making significant progress toward the Aichi Targets. Australia has currently fully met only one of the 2010-2030 Biodiversity targets, based on independent assessment;¹³

'Queensland is one of the world's worst places for deforestation' February 2018, <https://www.economist.com/news/asia/21737311-1000-rugby-pitches-worth-forest-disappear-every-day-queensland-one-worlds-worst-places>

⁶ <https://www.cbd.int/sp/targets/>

⁷ <http://www.environment.gov.au/biodiversity/conservation/strategy/draft-revision>

⁸ Australia's Biodiversity Conservation Strategy 2010–2030 <http://www.environment.gov.au/biodiversity/conservation/strategy/draft-revision>

⁹ 'Global embarrassment': Critics deride plan to stop plant and animal extinctions <https://www.smh.com.au/politics/federal/global-embarrassment-critics-deride-plan-to-stop-plant-and-animal-extinctions-20180119-h0ld7g.html>

¹⁰ Australia's draft 'Strategy for nature' doesn't cut it. Here are nine ways to fix it <https://theconversation.com/australias-draft-strategy-for-nature-doesnt-cut-it-here-are-nine-ways-to-fix-it-92345>

¹¹ Scientific experts 'extremely concerned' by plan to stop extinctions 2 April 2018 The Sydney Morning Herald <https://www.smh.com.au/politics/federal/scientific-experts-extremely-concerned-by-plan-to-stop-extinctions-20180402-p4z7ev.html>

¹² Scientific experts 'extremely concerned' by plan to stop extinctions 2 April 2018 The Sydney Morning Herald <https://www.smh.com.au/politics/federal/scientific-experts-extremely-concerned-by-plan-to-stop-extinctions-20180402-p4z7ev.html>

¹³ Australia's Biodiversity Conservation Strategy 2010-2030: An Independent Review of Progress <http://www.environment.gov.au/submissions/bio-cons-strategy/submissions/humane-society-international.pdf>

- d. The draft strategy provides no clear platform or ambitions for post-Aichi target development, but rather positions Australia as a global laggard on biodiversity conservation issues;
- e. The draft strategy provides no detail as to how it will align state and regional action with national priorities and international obligations. It provides no information on the incentives, policies, and intergovernmental fora that will drive these actions;
- f. The draft strategy relies on a speculative *action inventory* that is not available for review;
- g. The draft strategy briefly alludes to reporting frameworks to enable domestic or international monitoring of progress in implementation, but it does not include adequate detail of these;
- h. More broadly, the draft strategy confuses accessibility with over-simplification of content and structure. The dearth of detail in the draft strategy and its simplified objectives are problematic for a document purporting to be Australia's national conservation policy.

Environmental Spending

- 13. Since 2013, Commonwealth and state/territory government investment in Australia's fauna conservation, biodiversity, and the environment generally has consistently declined, despite the increase in overall public spending.
- 14. Between 2013-14 and 2016-17, total Australian public expenditure across federal, state, and territory budgets increased by \$66.6bn (10.5%). At the same time, total public environmental investment decreased by \$630 million (9.7%).¹⁴
- 15. In 2018, Federal funding will hit its lowest level in more than a decade, a decline of 37% from 2013 levels.
- 16. Funding for biodiversity conservation now represents only five cents in every hundred dollars the Australian Government spends, or 0.05% of total government expenditure.
- 17. In 2017-18, the Federal government will spend more than twice as much on providing fuel tax credits for mining companies than it will invest in the environment and biodiversity.
- 18. Analysis of government environmental spending is complicated by confusion as to what constitutes environmental spending. Currently, there is no framework at any level of government for environmental budget accounting. Spending information can generally only be sourced from budget papers released by governments.
- 19. It is often the case that relevant departments' or Ministers' portfolios will be responsible for a mix of environmental spending and spending associated with other budget priorities. Insufficient granularity of information frequently makes it impossible to accurately delineate environmental and non-environmental spending.
- 20. The lack of a standardised framework results in inconsistencies in the presentation of budget information across federal, state, and territory governments.

Recovery Planning

- 21. Less than 40% of Australia's nationally listed threatened species have recovery plans in place to secure their long-term survival. Many recovery plans fail to identify habitat critical to the survival of the listed species and the actions needed to protect 'critical habitat'. Despite having over 1,900 nationally listed threatened species and ecological communities, Australia's national critical habitat register lists only five locations nationwide as critical habitats. The most recent critical habitat listing on the register was entered more than ten years ago in 2005, despite the number of critically endangered animals increasing from 38 in 2011 to 63 in 2015 and the number of critically

¹⁴ Australian Conservation Foundation, *Environment Spending in Australia*, February 2018
https://d3n8a8pro7vhmx.cloudfront.net/auscon/pages/5288/attachments/original/1517524145/Government_Environment_Spending_in_Australia.pdf?1517524145

endangered plants increasing from 112 to 143 over the same period.¹⁵ By contrast, 756 species have had critical habitat listed under the US *Endangered Species Act*, where listing is mandatory.

22. The impact of climate change on biodiversity is now evident, with the direct impacts of changing temperature and rainfall patterns and increases in the magnitude and frequency of extreme events on species distribution, populations, and ecosystem function being publicized. Changes in the climate system are also affecting human communities, and a range of human responses across terrestrial and marine realms have been witnessed, including proposals to construct dams and shift agriculture and fishing activities and/or efforts. Failing to account for the human responses to climate change is likely to compromise climate-smart conservation efforts. Only limited steps have been taken to integrate human responses to climate change into both species- and site-based vulnerability assessments and adaptation plans.

National Reserve System

23. In 2013, the Australian Government's highly cost-effective National Reserve System grants program was terminated and it has never been restored. This grants program provided funding for the establishment of a comprehensive, adequate, and representative network of lands and waters managed primarily for the conservation of biodiversity. This network, comprising public ('national parks', 'marine protected areas'), private (usually protected by a conservation covenant), and Indigenous Protected Areas, by permanently conserving critical habitat, climate refugia, wildlife corridors, and a representative sample of Australian species and ecological communities, provides the irreplaceable foundation of biodiversity conservation and is an essential strategy to reverse the fauna extinction crisis.
24. Although some progress continues to be made towards a truly ecologically representative protected area system covering at least 17% of Australia's total land area by 2020, Australia remains less than halfway to achieving this important commitment under the United Nations *Convention on Biological Diversity*. Specifically, 121 of Australia's 1,733 species of national significance and 1,691 of Australia's 6,249 unique ecosystems are not represented in the National Reserve System, and only 36 of 85 Australian terrestrial bio-regions have reached the 2020 commitment to protect 17% of total area. Approximately 53 million hectares of land need to be protected to reach minimum standards of ecosystem protection.¹⁶
25. It is an enduring problem that, although the number and area of Indigenous Protected Areas have grown significantly over the past ten years, their management is not supported by a long-term funding commitment from the Australian Government. This is true of private conservation more generally. A comparatively straightforward measure would be to significantly increase Commonwealth funding to Indigenous communities by providing greater long-term support for their Indigenous Protected Area and Indigenous Ranger programs, and increased funding for biodiversity conservation on private land through support for conservation land trust organisations and 'good stewardship' by private land owners.

Tree Clearing

26. Tree clearing across Eastern Australia is pushing one of Australia's most beloved icons, the koala, to extinction in parts of Queensland and New South Wales.
27. Since 2012-13, tree clearing rates in Queensland have tripled to almost 300,000 hectares per annum.
28. Scientists estimate that tree-clearing in Queensland has killed 45 million animals each year, including 900,000 koalas, possums, gliders, and other mammals, 2.6 million parrots and other birds, and 30 million goannas, dragons, and other reptiles.¹⁷

¹⁵ Don Driscoll, 'By slashing environment spending, the government is slashing opportunities' The Conversation, December 18 2017. <https://theconversation.com/by-slashing-environment-spending-the-government-is-slashing-opportunities-89149>

¹⁶ Taylor, MFJ (2017) Building Nature's Safety Net 2016: State of Australian terrestrial protected areas 2010-2016. WWF-Australia, Sydney: <http://apo.org.au/system/files/96836/apo-nid96836-349256.pdf>

¹⁷ Taylor, MFJ, Booth, C, Paterson, M, 2017. Tree-clearing: the hidden crisis of animal welfare in Queensland. Report by RSPCA Queensland and WWF-Australia: <http://www.wwf.org.au/ArticleDocuments/353/pub-tree-clearing-hidden-crisis-of-animal-welfare-queensland-7sep17.pdf.aspx?Embed=Y>

29. RSPCA Queensland records show that rescues of forest-dependent wildlife more than tripled from 2,331 in 2011 to 7,950 in 2016, with much of this increase attributed to habitat destruction.
30. Over the six years from 2009 to 2014, more than 10,000 koalas – out of a population estimated in 2010 as only 15,000 – were admitted to the four south-east Queensland wildlife hospitals and only 27% of them survived.¹⁸
31. Tree clearing in Queensland, along with the recent repeal of the *Native Vegetation Act* in NSW, has led to the listing of Eastern Australia as one of 11 “global deforestation fronts” by WWF International. Australia is the only developed country on this list.
32. The Queensland Government was elected on a promise to implement stronger laws addressing excessive tree clearing and it recently amended legislation to effect this. However, these positive steps are being undermined by the Commonwealth Government’s failure to properly enforce the *Environment Protection and Biodiversity Conservation Act*. In the period 2013-16, nearly 300,000 hectares of habitat of Commonwealth-listed threatened species and communities, or within 100 metres of a Great Barrier Reef watercourse, were cleared, without a single referral being made under the *Environment Protection and Biodiversity Conservation Act*.¹⁹

Excessive freshwater extraction

33. Fresh water that has been extracted from surface and underground water sources for consumptive purposes since European settlement has significantly altered natural flow regimes and catchment hydrology. This has caused substantial adverse impacts to native fish, amphibians and other flow dependent species by restricting their ability to migrate and breed. Extensive areas of wetland ecosystems have been lost, for example, where there is now insufficient water to inundate floodplains.
34. Along with changes to natural flow regimes, Australia’s freshwater biodiversity has also been adversely impacted by the introduction of numerous non-endemic fish and other species, which breed prolifically, out-compete native fish for available food, and change the ecological structure of freshwater ecosystems.
35. Actions required to improve freshwater biodiversity include: adding cold water pollution control devices to dams, removing redundant in-stream flow barriers, installing fish/amphibian passage devices on dams and restoring freshwater habitat by reducing pest fish numbers, replanting riparian/wetland vegetation and reducing sediment, nutrient and pesticides in run-off from agricultural areas.
36. Restoring river corridor vegetation provides a great many benefits by restoring wildlife corridors, improving water quality, increasing fish populations, providing shelter for livestock and improving recreational opportunities.

Recommendations

37. The decline towards extinction of Australian fauna can be reversed by:
 - a. A *comprehensive, adequate, and representative* National Reserve System comprising networks of land (‘national parks’) and marine areas (‘marine protected areas’) managed in perpetuity for the conservation of native fauna and flora;
 - b. Ending excessive tree clearing and excessive extraction of freshwater in Australia, largely by protecting remnant (‘old growth’) and other high conservation value native vegetation and properly implementing the [Murray Darling] *Basin Plan*;
 - c. The strategic conservation and enhancement of fauna habitat outside the protected area network, including through the widespread – and effective for conservation purposes – use of strategic assessments, conservation agreements, bilateral agreements, and bioregional plans

¹⁸ Taylor, MFJ, Booth, C, Paterson, M, 2017. Op cit, page 22. <http://www.wwf.org.au/ArticleDocuments/353/pub-tree-clearing-hidden-crisis-of-animal-welfare-queensland-7sep17.pdf.aspx?Embed=Y>

¹⁹ <https://sites.google.com/view/pervasiveinaction>

under the *Environment Protection and Biodiversity Conservation Act* and similar provisions in state and territory legislation and the effective implementation of existing national agreements such as the *Basin Plan* and *Australia's Native Vegetation Framework*;

- d. Federal, state, territory, and local governments implementing measures to help reverse Australia's faunal extinction crisis by providing habitat for fauna and controlling threats in urban areas.
38. To provide a measurable goal, the Commonwealth and state and territory governments should set an aspirational goal that: *'By 2025 healthy and resilient populations of all species of native animals, plants, and ecological communities indigenous to the bio-regions of Australia have been established.'* On a practical level, this aspirational goal could be taken to be achieved if: (a) no fauna species, population or ecological community not presently listed as threatened is placed on the threatened species list; (b) no fauna species, population, or ecological community presently listed as threatened is shifted to a more threatened category; (c) all existing fauna species, populations, and ecological communities listed as critically endangered or endangered are recovered to the extent that they are 'down-listed' to vulnerable; and (d) that threatened species recovery plans require 'down-listing' of species or groups of species by specified dates and include quantifiable and time-bound intermediate objectives, supported by adequate Commonwealth funding.
39. Healthy and resilient fauna requires healthy and resilient water, soil, and native vegetation and a moderate local and regional climate. Accordingly, fauna goals should be embedded in equitable, community-led goals applying to the landscape generally. This will require effective implementation at the local, regional, and catchment levels of targets to improve water, soil, and native vegetation, and implementation of effective measures to reduce Australia's greenhouse gas pollution in accordance with the *Paris Agreement* within the *United Nations Framework Convention on Climate Change*.
40. Accordingly, a second aspirational goal should be that: *'All future developments should either improve or maintain the environment'*. On a practical level, this aspirational goal could be taken to be achieved by: (a) more efficient use of already developed waters and lands; (b) remediation or restoration of degraded waters and lands; and (c) restoration or permanent protection of waters and lands required to conserve our fauna. The effective implementation of local and regional plans which guide development into areas where its impact will be minimal or small, to mitigate the cumulative impacts of many individual projects, would also improve the transparency of decision-making and reduce opportunities for corruption.
41. Adequate metrics-based decision tools, scientific knowledge, and legislative provisions already exist to achieve this for present day purposes, but further work is required to plan habitat protection and restoration which takes account of species shifting their ranges in response to climate change.²⁰ More efficient and cost-effective outcomes are likely to be achieved through further conservation science research and the implementation of the [reforms proposed by the Places You Love Alliance](#) of conservation organisations.

Threatened Species Recovery

42. Investment in threatened species recovery should aim to 'down-list' species by a specified date and include quantifiable and time-bound intermediate objectives. There is currently no accountability or transparency. Recovery plans are out of date, often by many years, and there is little information available on actions that have been undertaken and their success or otherwise. Furthermore, there are no consequences for ongoing decline in a species' status. 'Down-listing' means shifting a species from a higher threat of extinction (for example, the Australian Government category of 'critically endangered') to a lower threat of extinction (for example, 'endangered').
43. Relatively few threatened species recovery plans include measurable aims and objectives of this nature and many also fail to specify habitat critical for species survival and actions to protect it and

²⁰ Steffen, W. et al. 2009. *Australia's biodiversity and climate change: summary for policy makers 2009*. Australian Government Department of Climate Change.

include no realistic estimates of the cost of recovery. This need not be the case, because adequate data is usually available.

44. For example, WWF's *Action Plan for Threatened Australian Macropods 2011-2021* (copy available online²¹) identifies quantifiable and time-bound recovery actions to down-list 21 threatened species of macropod (kangaroo and wallaby) and their cost. The same approach would be effective for other threatened species.
45. In many cases, the same actions will recover a number of species.
46. Protection of habitat should be the highest priority for species recovery, as is required by the *EPBC Act* for recovery plans. To the greatest extent possible, recovery funding should be aimed at securing permanent protected areas – public, indigenous, or private – or funding should be given preferentially to threat abatement in existing protected areas. The Landcare budget should be devoted to implementation of threatened species recovery plans.
47. A large proportion of threats to native animals are from feral animals – cats and foxes in particular – and other 'invasive' and pest species. As well as invasive species that have entered Australia in the past, new invasive species continue to enter Australia, with more than fifty new invaders detected since 2000. Each new invasion increases the cost of threatened species conservation and/or other agricultural and natural resources management. There is an urgent need to strengthen environmental biosecurity by stopping new species arriving and establishing and limiting the harm caused by the worst invasive species, as proposed by the Invasive Species Council (<https://invasives.org.au/>), including by:
 - a. Establishing a biosecurity fighting fund, sourced through a levy on air and sea cargo;
 - b. Appointing a champion for environmental biosecurity based in the environment department;
 - c. Creating a national priority list of major threats;
 - d. Enabling a stronger focus on social and environmental risks posed by dangerous new invasive species.
48. However, measures still need to be taken to address existing invasive species. This is particularly the case for feral cats and foxes, which are identified as the most critical factor in the extinction of mammal fauna in Australia and which continue to threaten the survival of many native species.²²
49. The first priority for invasive species control should be feral cats. Recent research has found that Australia's feral cat population ranges between 6.3 million and 2.1 million, with populations at the upper end of the range after heavy rainfall across the continent and at the lower end after average to drought conditions.²³
50. In addition, a key measure to control feral cats is likely to be the promotion of non-lethal control of dingo predation on livestock, as the loss of the 'top predator services' provided by dingoes²⁴ has been a significant contributor to local extinctions of native animals.
51. New Zealand has had great success with eradicating pests and has now eradicated all introduced pest mammals from over 100 offshore islands around New Zealand.²⁵
52. The New Zealand Government says that pest eradication has already been responsible for improving the threat status of native species.²⁶

²¹ WWF Report 'The Action Plan for Threatened Australian Macropods 2011-2021', available at:

<http://www.wwf.org.au/ArticleDocuments/353/pub-action-plan-for-threatened-australian-macropods-1aug11.pdf.aspx?Embed=Y>

²² Woinarski JCZ, Burbidge AA, and Harrison PL, 2014. *The Action Plan for Australian Mammals 2012*, CSIRO Publishing, Melbourne.

²³ Legge, S., et al., Enumerating a continental-scale threat: How many feral cats are in Australia?, *Biological Conservation* (2016), <http://dx.doi.org/10.1016/j.biocon.2016.11.032>

²⁴ Van Bommel, L. and Johnson, C.N., 2012. Good dog! Using livestock guardian dogs to protect livestock from predators in Australia's extensive grazing systems. *Wildlife Research*, 39(3), pp.220-229.

²⁵ Ecological restoration of offshore islands, NZ Department of Conservation, available at: <http://www.doc.govt.nz/nature/habitats/offshore-islands/ecological-restoration-of-offshore-islands/>

²⁶ Ecological restoration of offshore islands, NZ Department of Conservation, available at: <http://www.doc.govt.nz/nature/habitats/offshore-islands/ecological-restoration-of-offshore-islands/>

53. These successes and lessons learned can act as a guide for future invasive species eradication in Australia.

National Parks

54. Private, public, and Indigenous Protected Areas safeguard Australia's native plants and animals against extinction and promote their recovery.²⁷
55. They also secure ecosystem services including water, soil, and species conservation, climate moderation, and social, cultural, and health benefits.²⁸
56. It is estimated that these benefits to land are worth over \$38 billion per year.²⁹
57. Nature tourism, including domestic and international visitors to Australia's national parks and nature reserves, dominates the Australian tourism market.
58. Tourism Research Australia surveyed over 13,000 people from around the world and found³⁰:
- "Australia's biggest strength is its World Class Nature, well regarded from all markets and core to our tourism offering."
 - "For 37% of respondents Nature is a 'top 5' consideration when it comes to selecting a holiday destination."
 - "Australia tops the ratings when it comes to World Class Beauty and natural environments across most markets."
59. Visitors to national parks and nature reserves spend over \$23.6 billion a year in Australia, generating tax revenue for state and territory governments of \$2.36 billion a year.³¹
60. These economic benefits from tourism greatly exceed the amount spent on protected area expansion and management by all Australian governments, which is estimated to be approximately \$1.28 billion a year.³²
61. Australia's National Reserve System, comprising protected land under government, Indigenous, and private management, has greatly contributed to species recovery and has been identified by the Australian National Audit Office as "a cost-effective mechanism for achieving conservation outcomes."³³ It also provides value for money.
62. Under the Convention on Biological Diversity, the principal global treaty on biodiversity conservation, Australia has committed to bringing at least 17% of terrestrial and 10% of marine areas into ecologically representative, well-connected systems of protected areas by 2020 (Aichi Target 11).
63. Although good progress has been made – in the ten years between 2002 and 2012, Australia extended protection to an additional 436 terrestrial ecosystems and 176 threatened species³⁴ – Australia has not yet met Aichi Target 11 because the existing system is not 'ecologically representative' or 'well-connected'.³⁵
64. Meeting these requirements will require the protection, under either public, Indigenous, or private ownership, of a further 25 million hectares of strategically-sited terrestrial protected areas and 97 million hectares of strategically-sited marine protected areas.

²⁷ WWF *Building Nature's Safety Net 2014: A decade of protected areas achievements in Australia*, M. Taylor, J. Fitzsimons, P. Sattler, p. 16, available at: <http://www.wwf.org.au/ArticleDocuments/353/pub-building-natures-safety-net-2014-18nov14.pdf.aspx?Embed=Y>

²⁸ WWF *Building Nature's Safety Net 2014*, op cit.

²⁹ WWF *Building Nature's Safety Net 2014*, op cit.

³⁰ Tourism Australia, 'Consumer Demand Project – Nature', available at: <http://www.tourisminvestment.com.au/content/dam/assets/document/1/6/x/9/w/2002676.pdf>

³¹ WWF *Building Nature's Safety Net 2014*, ibid.

³² WWF *Building Nature's Safety Net 2014*, ibid.

³³ Australian National Audit Office, 2008b. Review of the Administration of the National Reserve System. 28 Feb 2008, Australian Government, Canberra. IBRA refers to the Interim Biogeographic Regionalisation of Australia, the national map of bioregions. [cited in WWF Report '*Building Nature's Safety Net 2014: A decade of protected areas achievements in Australia*', M. Taylor, J. Fitzsimons, P. Sattler, available at: <http://www.wwf.org.au/ArticleDocuments/353/pub-building-natures-safety-net-2014-18nov14.pdf.aspx?Embed=Y>

³⁴ WWF *Building Nature's Safety Net 2014*, ibid, page 14

³⁵ <https://www.environment.gov.au/system/files/pages/4f59b654-53aa-43df-b9d1-b21f9caa500c/files/mem-meeting5-statement.pdf>

65. Doing so will provide adequate protection for 138 threatened species which have no habitat protection, a disproportionate number of which are critically endangered species,³⁶ and adequate protection for all nationally-listed threatened species and ecological communities.
66. Taking a strategic approach to protected area growth which uses public, Indigenous, and private nature conservation, WWF-Australia submits that an additional 25 million hectares of terrestrial threatened species habitat could be protected in perpetuity at a cost of \$170 million per year over five years. Acquisition relying on government purchases alone would cost approximately \$220 million. These figures have been modelled using historical costs. On average, Commonwealth national reserve system grants have protected land in perpetuity at a cost to the Commonwealth of \$44.40 per hectare and leveraged six times the purchase price in capital and in perpetuity management spending from state/territory and private conservation partners.

Federal Law Reform

67. National leadership is needed to protect native wildlife in Australia including effective (and enforced) national protections and laws and increased funding for threatened species recovery. In particular, the current lack of action against non-compliance³⁷ must be replaced with fair and efficient compliance action, supplemented by new laws that include requirements to develop binding, enforceable, science-based recovery plans for all threatened species, including measures to assess and address the impact of climate change on habitat.
68. This should be supported by strong and independent national institutions, including:
 - a. An independent National Environmental Protection Authority that operates at arm's length from Government to conduct transparent environmental assessments and inquiries and to undertake monitoring, compliance, and enforcement actions;
 - b. An independent National Sustainability Commission that develops enforceable national environmental protection standards, bioregional plans, and recovery and threat abatement plans.
69. Australia's environment laws should ensure permanent protection of threatened species habitat by:
 - a. Ending land clearing of old growth and high conservation value native vegetation;
 - b. Protecting ecosystems of national importance to protect species before they become threatened;
 - c. Establishing a new national critical habitat register which applies across all land tenures;
 - d. Ensuring that the registration of critical habitat is mandatory and occurs within 12 months of a species being added to the national threatened species list;
 - e. Ensuring that harm to critical habitat is treated as an impact on the species itself, whether or not the species is found there.
70. Along with stronger protections, new national environment laws should guarantee community rights and participation in environmental decision-making, including; open standing provisions; review of decisions on their merits; third-party enforcement provisions; and protections from cost orders in public interest proceedings.

Spending and Monitoring

71. The Federal Government should significantly increase resources for recovery plan and threat abatement implementation, including establishing a Recovery Fund with an annual investment of at least \$200m to implement recovery plans.
72. The Government should also support the strategic expansion of Australia's National Reserve System to protect threatened species habitats with an annual investment of at least \$170 million per year.

³⁶ WWF *Building Nature's Safety Net 2014*, *ibid*, page 16

³⁷ <https://sites.google.com/view/pervasiveinaction>

73. Finally, the Australian Government should commit to prompt, transparent, and regular release of data on the state and trends of threatened species, the state and impacts on critical habitat of threatened species, and outcome-focussed monitoring of species conservation efforts and spending.
74. In the medium term, the Wentworth Group of Concerned Scientists' *Regional Scale Environmental Asset Condition Accounts* are likely to offer the most comprehensive system of monitoring and evaluation. However, it will be some time before a comprehensive set of Regional Scale Environmental Asset Condition Accounts at an appropriate local scale is available. In the meantime, providing clearer, numerical (unless impossible) targets in catchment action plans, together with regular, transparent reporting against those targets and transparent reporting against the relevant targets in *NSW 2021*, transparent adoption and implementation at a regional and catchment level of *State-wide Targets for Natural Resource Management*, National Parks Establishment Plan, NSW Report on Native Vegetation, and project-scale targets are likely to remain the most effective ways to monitor and evaluate the effectiveness of conservation programs. Now that baselines have been established for many of the key *State-wide Targets for Natural Resource Management*, these targets should be enhanced by the provision of clearer, ideally numerical, targets for improving environmental outcomes.
75. There would be great advantage in transparent reporting on all state natural resource targets in an annually or bi-annually updated website.

State Government Legislation

76. The New South Wales Government should reinstate the level of protection provided by the recently repealed *Native Vegetation Act* and extend the protection to all other development, including major projects.
77. The Western Australian Government should amend the *Biodiversity Conservation Act 2016* to bring it into line with contemporary biodiversity conservation legislation. This would include amendments to establish a statutory independent Scientific Advisory Committee to advise the Minister on listings and also repeal of the provision in the Act allowing the Minister to approve the 'taking' of a threatened species even if it results in the species becoming extinct.

Further Federal Government Policies

78. The Australian Government should retain and boost the Carbon Farming Initiative with a funding source that provides long-term certainty for carbon-farming proponents, such as through a compliance cap-and-trade market for carbon pollution reduction, while accompanying the initiative with measures to conserve biodiversity and maintain freshwater ecosystems. It should also promote Carbon Farming methodologies that credit carbon absorbed via natural ecosystem recovery from clearing or degradation.
79. The Australian Government should promote the establishment and uptake of credibly certified, ecologically sustainable, and low biodiversity impact agriculture through assistance for the development of a certification system, assistance to certified agricultural operations, and support for the marketing of products from certified farms.

If you require further information about any of the above, please contact Paul Toni, Conservation Director - Sustainable Futures, WWF-Australia on _____ or _____.

Yours sincerely,

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