Australian Conservation Foundation (ACF) Submission to the Senate Inquiry

Effectiveness of threatened species and ecological communities' protection in Australia.

21 December 2012

Biodiversity in Australia

Australia is a rich bio-diverse environment

Australia is home to some 570,000 terrestrial and marine species[1], or approximately 10% of all species found on earth[2]. Not only is Australia a mega-diverse continent, its contribution to global biodiversity is particularly significant due to the high endemism of species found here: species that, as a result of millions of years of evolution in isolation, are found nowhere else in the world. The estimate of endemism for Australian

[1] Chapman, AD (2009) Numbers of Living Species in Australia and the World. Report for the Australian Biological Resources Study, Canberra. 84 pp

[2] Cork, S., et al. *State of the Environment*. 2011.

mammals is 87 per cent and 92 per cent for vascular plants. These species live in highly diverse marine and terrestrial environments, from the Southern Ocean to the Tropics.[3]

Biodiversity is in decline

However, Australia's biodiversity is in decline, threatened on many fronts, including:

- climate change;
- vegetation clearing;
- introduced pests and weeds;
- widespread use of fertiliser and other chemicals;
- changed fire regimes; and
- urbanisation, mining, and over-harvesting.

Climate change will have serious and unprecedented consequences for a wide range of species and habitats in Australia and globally. But even in the absence of climate change, the loss of biodiversity that Australia has experienced in the last two centuries is massive by international standards, with almost 1200 plant species and 343 species of animals considered endangered or vulnerable.[4] The overall picture for Australian biodiversity is a rich natural heritage in rapid decline.

Effectiveness of protection for threatened species and ecological communities

Focus of this submission:

The focus of this submission is on the following Terms of Reference of the Inquiry:
a) management of key threats to listed species and ecological communities; and
c) management of critical habitat across all land tenures.

This submission will therefore focus on the following key issues:

1. management of cumulative impacts – particularly habitat loss and fragmentation; and
2. management of long term nation-wide impacts – particularly climate change impacts.

1. Management of cumulative impacts

On the first issue, ACF strongly supports the foundation principles articulated in the *2011 Australian Government Biodiversity Policy* starting with the principle that "it is better to prevent diversity decline before it happens". Applying this principle, the government has recognised that "a deliberate shift in the focus of investment and effort from only treating the 'symptom'—those species and ecosystems that are most degraded or at risk—to focus on causes that reduce the health of biodiversity on a landscape scale" is required. This is further reinforced by principle 6 - that "solutions need to be at landscape and seascape scale, over time periods that make ecological sense." Effective protection of our biodiversity must work nationally "at ecologically meaningful scales, looking at entire landscapes, seascapes, regions and ecosystems to deal with longer-term environmental trends, constraints and opportunities."

Put simply, the effective management of cumulative impacts that threaten the survival of species must be addressed through strong national leadership, laws and programs.

[3] Chapman, AD (2009) Numbers of Living Species in Australia and the World. Report for the Australian Biological Resources Study, Canberra

[4] Department of Sustainability Environment Water Population and Communities (2009). *EPBC Act List of Threatened Fauna.*

The Australian Government recognises this in the 2011 Biodiversity Policy statement: "The Australian Government's roles and responsibilities in ensuring effective biodiversity conservation are based on:

- Giving effect to our international obligations to protect, conserve and sustainably use biodiversity;
- Providing national leadership in tackling large-scale threats to biodiversity— including those posed by climate change, habitat loss and invasive species—and creating opportunities for effective cooperation and partnership between all levels of government, business and the community; and
- Ensuring that legislated matters of national environmental significance are protected and conserved.'

2. Management of long term nation-wide impacts, particularly climate change impacts.

Reinforcing the need for strong national leadership, laws and programs is the growing body of evidence on the impacts of climate change on biodiversity. For more detail, we refer the Committee to the evidence and interim report of the House of Representatives Climate Change, Environment and the Arts Committee Inquiry: *Australia's Biodiversity in a Changing Climate*.

ACF strongly supports the listing of "Natural Systems of National Significance" as one of the six national priorities for adaption action in the 2010 Australian Government Position Paper "*Adapting to Climate Change*". This report recognises that: "*Climate change is already affecting Australia's natural ecosystems, and given their high vulnerability to climate change, and national significance, places such as the Great Barrier Reef and Kakadu, will require ongoing priority attention. In addition to these important places, the interconnectedness of natural systems points to the need for holistic landscape approaches that maintain ecosystem functions as ecosystems adapt*." This 2010 Position Paper included a commitment by the Government to track our progress on positioning Australia to adapt to climate change by commissioning a regular Climate Futures Report as a mechanism for evaluating how effective our collective adaptation efforts are. This report is to be produced at least every five years, with the first to be produced by the end of 2010. ACF notes that the first of the Climate Futures Reports has not yet been produced. The Critical Decade report produced by the Climate Commission in 2011 does provide updated information of the faster changes and more serious risks that threaten Australia's ecosystems and biodiversity.

ACF commends to this Senate Inquiry the findings and conclusions of the 2009 *Report of the Biodiversity and Climate Change Expert Advisory Group to the Natural Resource Management Ministerial Council*. Specifically, ACF supports the criteria advanced in this report to guide priority setting and use of funds to build resilience:

- Maintain well-functioning ecosystems
- Protect a representative array of ecosystems
- Remove or minimise existing stressors
- Build appropriate connectivity
- Identify and protect refugia

Because the threatening processes affect Australia at a national and long term scale, increasing the effectiveness and efficiency of strategies and programs to address this threatening process can only be achieved via strong national leadership, laws and programs.

A further key component of Australia's ability to manage long term impacts of climate change is the National Reserve System – one of the most effective tools available for preventing mass extinction of native wildlife and degradation of ecosystems. Protected areas put land management plans in place permanently, and have shown to actually result in recovery of threatened species. The National Reserve System needs to be maintained, resourced, and expanded.

In relation to ToR (f), the historical record of state and territory governments on these matters, ACF refers the Committee to the analysis of the strengths and weaknesses of State and Territory biodiversity protection laws by the Australian Network of Environment Defenders' Offices (ANEDO) in its recent report *An Assessment of the Adequacy of Threatened Species & Planning Laws in all Jurisdictions of Australia* which is attached to this Submission as Appendix A.

The ANEDO analysis concludes that no state or territory currently has planning laws that meet best practice standards, and that '**threatened species laws in all jurisdictions needed to be reviewed, strengthened, and fully resourced and implemented**'.

ACF submits that the effective laws for the protection of threatened species and ecological communities must include following elements:

- Increased and strong Commonwealth oversight and approval role – integrated and harmonised with state and territory policies and programs as far as is possible;
- Implementation of a nation-wide ecosystem approach (refer to the principles in the Australian Government Biodiversity Policy 2011)
- Effective oversight by an independent Scientific Committee with a well-funded science and monitoring program to ensure the best result from policies and programs;
- A focus on avoiding and mitigating impacts
- Significantly increased resourcing for recovery and threat abatement planning
- Increased resources for adequate monitoring and enforcement with increased penalties for non-compliance;
- Public participation provisions – both in relation to listing, planning and civil enforcement;
- Easily accessible publicly available information on listing, habitat mapping, government research and enforcement.

Case Study: Protection of the Koala under National Environmental Law

Koalas are an iconic Australian species, with populations distributed across the East from Northern Queensland to South Australia. While the status of koala populations varies widely from one area to another, nationally the species is at risk on many fronts, two of the gravest of which are habitat loss and climate change.

As a highly particular food and habitat specialist, the koala is very vulnerable to habitat loss and fragmentation: koalas can eat only eucalyptus leaves, and not even all species of eucalyptus, and therefore suitable habitat is crucial to their survival – they cannot adapt easily to live in different environments. Unfortunately their habitat is being lost to land clearing, urbanisation and other pressures at a rapid rate. Habitat loss and fragmentation also mean koalas need to travel longer distances on the ground to meet their food needs, making them more susceptible to vehicle strikes, and dog attacks, two major causes of koala deaths which kill an estimated 4000 koalas each year[5]. As the current koala population has recovered from a brush with extinction in the early 20th century due to hunting for fur, most koala groups are highly inbred, making them more susceptible to disease, and habitat fragmentation reinforces this trend by making it harder for koalas to find mates[6].

Climate change is another looming problem for the species, which compounds the problems caused by habitat loss. Thee koala is recognised by the International Union for the Conservation of Nature (IUCN) as one of only ten species worldwide that is highly vulnerable to climate change.With its thick fur, the koala is adapted to cold southern temperatures, but suffers in extreme heat. Global warming is expected to contract koala habitat significantly along the eastern seaboard as temperatures rise beyond the koala's tolerance, or 'climate envelope'. The predicted contraction of koala habitat due to global warming will force koala populations further into areas which are densely populated and urbanised. [7]

Global climate change is also predicted to increase the incidence and severity of bushfires and droughts, both of which have eliminated many populations of koalas. Koalas are extremely vulnerable to bushfire, as they move slowly, live in bush-fire prone landscapes, and in the case they survive a fire, may find their food sources reduced to the point of starvation. Habitat fragmentation compounds the danger of bushfire by making it harder for koalas in bushfire affected areas to move to new habitat. During droughts koalas must

[5] IUCN *Koalas and Climate Change, The IUCN Red List of Threatened Species* p3

[6] *IBID* p4

[7] C Adams-Hosking et al *Modelling Climate-change-induced shifts in the distribution of the koala* CSIRO Publishing 2011

spend more time on the ground looking for water, making them far more susceptible to predator and vehicle related deaths, especially in highly populated or urbanised areas.

One further effect of climate change relates to the nutrition levels in koalas' only food – gum leaves. Increased atmospheric CO2 levels tend to result in faster plant growth through a process known as 'CO2 fertilisation'. However, while plants grow faster, experiments have shown that it also reduces protein levels and increases tannin levels in plants' leaves. As CO2 levels continue to rise, koalas and other browsers will need to cope with increasingly nutrient-poor and tannin-rich leaves. This is a particular problem for pregnant or lactating koalas, which may be unable to produce young or feed them if they cannot get sufficient nutrition.[8]

When the federal Government listed the koala under national environmental law, it did so only for those populations in Queensland, NSW and the ACT, the populations which, perhaps not coincidentally, are most vulnerable to climate change related stressors.

To ensure that koala populations are able to survive climate change, national and regional policies which plan for the fact that many current inland koala habitats will no longer be livable for them due to climate change, and ensure that appropriate coastal habitats, under threat from urbanisation, are protected and restored, are essential.

This kind of planning can clearly not be carried out without leadership and coordination at the national level requiring a strong Commonwealth Government role. Protection of the koala and its habitat must be undertaken at a national AND a regional or 'landscape' level, with an appreciation of the interaction of changes to ecosystems in various parts of the country, to be effective.

Conclusions

The rate of species loss in Australia is already at crisis levels, with national and international assessments indicating that Australian biodiversity loss to date may be moderate in relation to predicted losses in coming decades. The 2009 report on Australia's Biodiversity and Climate Change concluded that Australia is "*pushing the limits of our natural life support system*."[9] The system of protections in place for Australia's threatened species and ecological communities is ***not effective***, and is failing to prevent biodiversity loss on a massive scale.

It is gravely concerning that in light of these facts, rather than strengthening a failing legislative regime, the reaction of most states and the Commonwealth has been to focus on 'streamlining', 'efficiency' and fast-tracking of major projects, further diluting the inadequate protections for biodiversity provided by our laws.

ACF submits that a comprehensive review of biodiversity protection law at the state and federal level is required on an urgent basis, to implement best practice standards and adequately fund their implementation. Without this level of commitment Australia will not arrest the rapid loss of species currently occurring, and will see the loss of biodiversity accelerate to catastrophic proportions in the coming years.

[8] IUCN *Koalas and Climate Change, The IUCN Red List of Threatened Species* p3

[9] Steffan, W. (et al), Australia s Biodiversity and Climate Change: Summary for Policy makers 2009, Australian Government, Department of Climate Change, Canberra, 2009, p.2

RECOMMENDATIONS

Review, strengthen, and increase resources to implement best practice in all jurisdictions in relation to the effectiveness of threatened species and ecological communities' protection in Australia, beginning with stronger Commonwealth leadership, laws and programs against the following best practice tests:

- **Increased and strong Commonwealth oversight and approval role – integrated and harmonised with state and territory policies and programs as far as is possible;**
- **UN System of Environmental Economic Accounts to be fully implemented by Australian Bureau of Statistics or Bureau of Meteorology and resourced at approximately $20 million annually;**
- **Implementation of a nation-wide ecosystem approach (refer to the principles in the Australian Government Biodiversity Policy 2011);**
- **Threatened Species Recovery Plans to be mandatory, and completed and updated within statutory timeframes;**
- **Earmark $2m/year per listed threatened species as a baseline capability for recovery planning & management;**
- **Renew investment in the National Reserve System at $100 million over three years**
- **Effective oversight by an independent Scientific Committee with a well-funded science and monitoring program to ensure the best result from policies and programs;**
- **A focus on avoiding and mitigating impacts;**
- **Significantly increased resourcing for recovery and threat abatement planning**
- **Increased resources for adequate monitoring and enforcement with increased penalties for non-compliance;**
- **Public participation provisions – both in relation to listing, planning and civil enforcement;**
- **Easily accessible publicly available information on listing, habitat mapping, government research and enforcement;**
- **Introduce binding standards for decision-making under the EPBC Act which are clear and objective.**