



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

**Re: Inquiry into Australia's Biodiversity in a changing climate**

Thank you for the opportunity to provide information to the inquiry and comments on the terms of reference.

Our submission, addressing a number of the terms of reference, is set out on the following pages.

Your sincerely

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## **Submission to the Inquiry into Australia's Biodiversity in a changing climate**

Earlier this year, the Royal Geological Society met in London to consider whether a new division of the geological time scale should be recognised. The thought that humanity could so transform the land, seas and atmosphere of the Earth to establish a new geological epoch, the Anthropocene, is startling in itself, and would have seemed inconceivable to earlier generations.

Yet, at least since the beginning of the industrial revolution we humans have profoundly affected the Earth and life on it. The consequences are becoming more evident every day. The nature of soils, the chemistry of the oceans and atmosphere and alteration of land habitats are producing a world beyond our reckoning. Scientists such as Professor Will Steffen of the ANU has estimated that species extinction is currently running significantly ahead of background levels, and will increase further this century.

As the most powerful evolutionary force on the planet we must acknowledge our responsibility as the holistic managers of the planet's biodiversity and ensure that we have the best possible outcome for all species.

## **Connectivity between ecosystems and across landscapes that may contribute to biodiversity conservation**

An emerging area for consideration is the role that urban areas can play in supporting biodiversity. As Australia's population becomes increasingly urbanised and detached from nature (Planet Ark 2011) this also provides opportunity for community education and engagement as well as providing ecosystem services in areas where there is much need.

The urban landscape can provide an important haven and environment for building resilience. For example, in the US and Europe studies have identified that populations of bees fare better in urban areas than do their country cousins due to a more varied diet and fewer pesticides, to which bees are particularly susceptible (Benjamin. A, 2010).

Building resilience in urban ecosystems requires a cross-disciplinary approach engaging urban planners and ecologists (Colding, 2006). More could be done to support the existing urban islands of biodiversity, such as is found in cemeteries, and other urban landscapes such as golf courses provide further scope for enhancing biodiversity.

## **How climate change impacts on biodiversity may flow on to affect human communities and the economy**

Whilst the social and economic value of biodiversity is only beginning to be identified by groups such as the UN backed study *The Economics of Ecosystems and Biodiversity* (TEEB, 2009), a precautionary approach in terms of safeguarding biodiversity loss should be adopted.

Further research is required into the risks that biodiversity loss poses to ecosystem services and food security (for example the impacts on fish stocks, pollinators, crop and livestock resilience to disease).

## **Mechanisms to promote the sustainable use of natural resources and ecosystem services in a changing climate**

There is much research to demonstrate the importance of protecting areas of high conservation value, including in the marine environment, and this should be paramount. However studies indicate that the restoration of degraded ecosystems can also be of considerable value in economic as well as environmental terms (TEEB, 2009).

As debate into the use of marginal land for agriculture continues, research is required into the feasibility of establishing sustainably managed forests comprising mixed native species, as opposed to monoculture or relying purely on existing native forest for sawn hardwood timber production. This could provide positive biodiversity as well as economic and other environmental benefits, particularly if coupled with a move towards more sustainable lower carbon intensity practices in the building industry (use of timber products in place of steel, concrete and aluminium).

Further research should also be conducted into the benefits that organic food production has over conventional practices in terms of biodiversity.

## **An assessment of whether current governance arrangements are well placed to deal with the challenges of conserving biodiversity in a changing climate**

Since Australia, along with the majority of signatories to the 2002 Convention on Biological Diversity, failed to meet its biodiversity target in 2010 it is clear that more needs to be done.

As evaluation of the economic value of biodiversity progresses, regulatory mechanisms such as the 'polluter pays principle' being applied in the area of carbon pollution is one area for consideration, as recommended by TEEB.

## **Mechanisms to enhance community engagement.**

As identified in Australia's Biodiversity Conservation Strategy 2010-2020, it is vital that there is broad community engagement with the issue of biodiversity. As such a well targeted biodiversity education program should be established.

**Business Sector:** Surveys indicate that there is growing concern amongst business executives over the threat to their operations posed by biodiversity loss. The TEEB for Business Report (July 2010) states that 27% of global CEOs surveyed expressed concern about the impacts of biodiversity loss on their business growth prospects, with concern amongst CEOs in the Asia-Pacific region being 34%. Whilst this is welcome news, more could be done to engage with the CEO community, particularly those employed in the food industry.

**Community Sector:** Scientists and educators have struggled with the challenge of selling the biodiversity message. An approach that takes behaviour change theory and market research into account could help engage a broader section of the community, such as advocated in 'Branding Biodiversity: The New Nature Message' (Futerra). Further research into identifying

attitudes, behaviors (desirable / undesirable) and barriers to change could inform a targeted campaign around biodiversity.

Additional inspiration can be found by looking overseas. As stated above, one example of the importance of urban habitats which has been identified elsewhere is in providing a haven for bees. Community responses to this include the recently established Urban Bee Project in Seattle, US [[urbanbeeprojectseattle.com](http://urbanbeeprojectseattle.com)].

**School Community:** Build on the existing biodiversity education components of the national curriculum, incorporating experiential education and ensure it is delivered at all stages throughout Australian schools. Identify and implement measures that counteract the disconnect between kids and nature as indicated by the decline in outdoor play (Planet Ark 2011).

## References

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