Submission to the Environment and Communications Standing Committee on the effectiveness of threatened species and ecological communities' protection in Australia

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Dear Committee members,

I provide this brief submission based on my experience in ecological research and threatened species management over the past twelve years. In particular, I focus on the case study with which I am most familiar: the nationally endangered south-eastern red-tailed black-cockatoo *Calyptorhynchus banksii graptogyne*, but I suggest that the concerns I raise occur very commonly in the context of conservation of threatened species and communities in Australia. I also raise a further issue that I believe is relevant to this Committee: the use of environmental offsets. I summarise my main points below according to several of the Committee's terms of reference.

Management of key threats to listed species and ecological communities

Management of critical habitat across all land tenures

Protection of threatened species and ecological communities in Australia is very poor, as evidenced by the ongoing declines of many species, and in the extent and condition of most ecological communities. A primary threat to the persistence of species and ecological communities in Australia continues to be removal of vegetation for development such as mining, agriculture, infrastructure and urbanisation. Such development is often necessary or unavoidable, but the legislation intended to protect threatened species and communities is inadequate. It is often suggested that we must achieve a balance between conservation and development. This is certainly desirable – but such a balance appears to be elusive, when even the last few percent of threatened communities can be judged by regulators to be at least partly expendable. There are value judgements to be made here, to be sure, but Australia is bound by the Convention on Biological Diversity and as a community we have already enshrined the goals of preventing extinction and maintaining ecological services in various legislation, so my submission is made with respect to these generally accepted goals of society.

I will elaborate on two examples:

1) The nationally endangered south-eastern red-tailed black cockatoo is threatened largely because its extremely small population is limited by the availability of feeding habitat, and this feeding habitat continues to be cleared faster than it is being replaced. Its critical resources include very old trees, including those that occur in paddocks, and such a resource is effectively irreplaceable considering that the taxon in question has a very real probability of becoming extinct in the next 50 years. The considerable community interest in conservation of this flagship species has resulted in much effort in restoration and protection of habitat, but the benefits of this continue to be more than undone by deliberate removal of habitat. Individual instances of habitat loss often are considered to be small, but cumulatively they represent the main threat to the persistence of this species (Maron and Fitzsimons 2007; Maron et al. 2010).

2) Queensland introduced legislation to prevent large-scale clearing of remnant native vegetation in the form of the Vegetation Management Act 1999. The Act categorises each remnant vegetation type into endangered, of concern, or least concern categories based on historical threat and, in theory, bestows greater legislative protection on vegetation communities in the most threatened compared to the least threatened categories. To evaluate the effectiveness of this legislation for protection threatened vegetation communities in Queensland, our research group has estimated woody vegetation clearing rates in Queensland for each threat category (endangered, of concern, and least concern) between 1999 and 2009 using data from the Statewide Landcover and Trees Study. Although clearing rates have declined since the introduction of the legislation, current clearing rates for endangered and of concern vegetation communities as a proportion of remaining extent are still approximately double that of 'not of concern' vegetation. Therefore, those ecosystems that have historically been most threatened continue to be the most threatened under the current legislation. The manuscript describing this research is still in preparation but I would be pleased to present further information should the Committee be interested.

Recommendations:

1) Enforcement, monitoring and compliance with existing environmental legislation should be improved.

2) A sound policy framework for dealing with incremental, cumulative impacts on threatened species and communities is urgently required.

Development and implementation of recovery plans

Regulatory and funding arrangements at all levels of government

Recovery plans do not exist for most listed threatened species and communities. There is no requirement that they be implemented, and rarely is funding provided for their implementation. Recovery teams struggle to demonstrate their own benefit because they are simply not funded adequately to implement the recovery plans. As current co-chair of the south-eastern red-tailed black-cockatoo Recovery Team, I have observed a continuous decline in funding over the past decade along with an ever-increasing administrative burden in applying for and reporting on funding. This has reduced the conservation work that the team has been able to do, and funding appears likely to disappear entirely from 2013. The Recovery Team's existence is crucial: over the past decade we have helped our partners to win millions of dollars of funding including from the private sector that has been ploughed into on-ground works, collaborated with local and state government to protect habitat, developed the scientific knowledge which all these actions are based upon, including through our community-based monitoring programs, and actively educated the community and relevant agencies interested in conserving the cockatoo. Without basic funding, such activities cannot be continued.

Recommendations:

3) Develop a sound framework for recovery planning, based on what we have learned works best.

4) Combining several species/communities in one plan may be more efficient in some cases.

5) Fund the implementation of plans (the above becomes a little pointless otherwise).

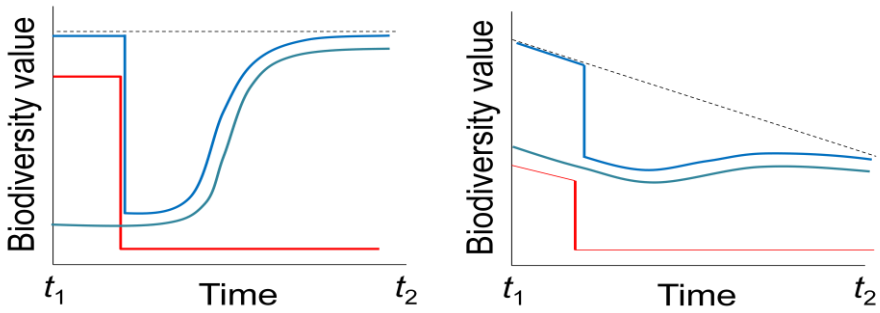
Any other related matter

Environmental offsets are increasingly being used in an attempt to reconcile development and conservation. Since 2005 I have conducted research on environmental offset policy and assisted in policy development. It is clear that offsetting the loss of biodiversity in one place with a gain elsewhere is a practice that has had limited success to date in instances where it has been reviewed, and the science of restoration ecology also suggests that the ability of offsetting to compensate for lost biodiversity is very limited. It is important that the rapid increase in the uptake of offsetting approaches in Australia does not breed complacency with respect to the conservation of biodiversity. The oft-stated goal of 'no net loss' or 'improve or maintain' implies, and is interpreted by most, to mean that there will be no net loss of biodiversity compared to before the relevant impact. This is not correct for several reasons, including:

a) only certain aspects of biodiversity are targeted for offsetting; many are never measured or accounted for;

b) many elements of biodiversity and types of ecological processes simply cannot feasibly be replaced (Maron et al. 2012);

c) perhaps most significantly, much offsetting relies on averting losses of area or quality of habitat (through protection and improved management). By definition, such 'averted loss' offsetting entrenches the rate of decline that is used as a baseline against which the averted loss is measured. This is demonstrated in the figures below. The figure on the left shows the concept of a loss in biodiversity at the site represented by the red line being compensated with a gain at the site represented by the light blue line, with the total value of the biodiversity across sites through time shown by the dark blue line. After a lag period (which is often unavoidable and another reason for concern), the total amount of biodiversity (say, a threatened species) returns to its pre-impact level. However, the way existing offset policies operate is closer to the figure on the right, where an ongoing baseline of decline is used, and the 'gain' is in fact the prevention of an expected loss at the offset site, leading to less biodiversity than before the impact, but no less than would have been expected to remain under 'business as usual'.



So, in reality, our offset policy goals are 'no net loss *compared to what we would have expected in the future in the absence of the impact and offset*' – which in the case of averted loss offsets, must mean a loss compared to before the impact. In sum, averted loss offsetting both <u>relies upon</u> and can <u>entrench</u> ongoing declines of biodiversity. That is not to say that it is inappropriate, but the example does highlight why it is essential to understand the future that our policies lead us toward.

Recommendations:

6) The futures toward which environmental offset (and other) policies lead us should be transparently and explicitly considered during their formulation.

I would be pleased to elaborate on any of the above for the Committee in person.

Sincerely,

Martine Maron.

References

Maron, M., Dunn, P. K., McAlpine, C. A., Apan, A. 2010. Can habitat offsets really compensate for habitat loss? The case of the red-tailed black-cockatoo. Journal of Applied Ecology 47, 348–355

Maron, M., Fitzsimons, J. 2007. Agricultural intensification and loss of matrix habitat over 23 years in the West Wimmera, south-eastern Australia. Biological Conservation 135, 603-609

Maron, M., Hobbs, R., Moilanen, A., Matthews, JW., Christie, K., Gardner, T. A., Keith, D. A., Lindenmayer, D. B., McAlpine, C. A. 2012. Are restoration offsets Faustian bargains? Restoration realities in the context of biodiversity offset policies. Biological Conservation 155, 141-148