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To whom it may concern,

Thank you for the opportunity to make this submission to the Senate Inquiry into the history, appropriateness and effectiveness of the use of environmental offsets in federal environmental approvals in Australia. I am a Senior Lecturer in Environmental Management at The University of Queensland. My expertise is in biodiversity offset policy and conservation science. I have published several journal articles on biodiversity offset policy, have been involved in several reviews of offset policies and their implementation, and helped develop the EPBC Act Offsets Assessment Guide. I contributed to the Environmental Decisions Group's submission to this inquiry, but herein I present some more detail on particular issues with which I am most familiar.

1. Limitations to offset requirements

The EPBC Act Environmental Offsets Policy is not designed to achieve no net loss of biodiversity from developments. Rather, offsets are required only for *significant impacts* on *EPBC-listed species and communities*. Thus, 'biodiversity' more broadly, and even particular threatened species, would still suffer potentially large net negative impacts of developments, even if the policy were performing perfectly. Even in the case of a significant impact on a protected matter, only 90% of that impact is required to be offset, according to the policy. Therefore, assuming perfect implementation and compliance, the current policy settings are simply not designed to achieve no net loss of biodiversity from developments. The matter of the residual impacts on biodiversity remains, and needs attention if species declines and ongoing reductions in native vegetation extent and condition are to be addressed.

2. The offsets assessment guide has made offset calculations more transparent

As far as I am aware, the EPBC Act offsets assessment guide is the first tool being used by a government that requires explicit statement of the assumptions that are being made in the case of an impact-offset trade in biodiversity. It also combines the information that is entered in a logical and transparent way in order to derive an estimate of the 'benefit' from the offset action. Although conceptually simple and equivalent to the approach one would use to evaluate any other investment decision, some have suggested that it is difficult to use because of the information requirements. This information is embedded in every instance of an offset calculation, no matter how it is done – even if it is a simplified area-based ratio. The difference is that in most cases, the information is assumed and these assumptions are hidden. Transparency in offset assumptions is central not only to ensuring trades are fair from the perspective of the affected biota, but also for proponents, who quite reasonably want to see why they may be required to provide a particular offset.

It is *simply not possible* to identify whether an offset gain is equivalent to a loss without specifying the scenarios with and without offset, the time lag between the loss and the gain, and the uncertainty associated with these estimates. The basic approach in the existing guide is sound and should be a model for use more broadly. Any change toward to a simplified area-based ratio or multiplier system would be a backwards step and unless extensive work was done to generate ratios that reflect the fundamental approach of the offsets assessment guide, would mean that equivalence in offset trades could not be known. Nevertheless, having the right tool by no means ensures the job is done well, and in the remainder of my submission I outline areas of concern or risk in the application of the assessment guide and policy approach.

3. Averted loss and the problems of unrealistic baseline specification

The EPBC Act Environmental Offsets Policy states that offsets must “*achieve an overall conservation outcome that improves or maintains the viability of the protected matter as compared to what is likely to have occurred under the status quo, that is if neither the impact nor the offset had taken place*” (Commonwealth of Australia 2012). This means that the aim of EPBC Act offsetting is explicitly to maintain the current background trajectory of threatened species (even if these are declines).

Given this policy setting, the amount of 'credit' a given offset action yields is the difference in the biodiversity outcomes expected if the offset action was done, compared to what would have happened if it was not done (Maron et al. 2013). The baseline from which gains are measured is called the 'crediting baseline'. The EPBC Act policy thus allows the allocation of credits for averting loss the loss of biodiversity that already exists. Selection of a plausible baseline against which to calculate credits is central to offset effectiveness, because offset credits are *required to be sufficient only to maintain crediting the trajectory of the selected baseline across the impact and offset sites collectively*. The crediting baseline becomes “locked in” by the offset policy—in other words, it becomes a self-fulfilling prophecy. Thus, if a declining crediting baseline is used, the offset policy entrenches that decline across impact and offset sites, regardless of whether or not it is realistic.

The crediting baseline used must be as close as possible to the background rate of change in the absence of any actions that would themselves have triggered an offset requirement. Ignorance of

this requirement is resulting in very steep assumed baselines, on the basis that the offset sites were at risk of clearing for (for example) a mining development. Yet if that development had occurred, the impact of the loss of the site would have had to have been offset, and so there is no averted loss from protection from the mining development. In effect, the use of steep crediting baselines that inappropriately include such development risks is driving ever-steeper declines of biodiversity.

It is important to note that a declining trajectory is not universal. In some cases, the trajectory without intervention might be, on average, positive, such as the improvement of regrowth vegetation structure and complexity over time (Bowen et al. 2007). Baselines also are meant to reflect plausible futures, not legally possible futures. This may not be understood by all who use the Assessment Guide. Because of this confusion and the incentive to use inappropriately steep baseline trajectories, it is essential that guidance on reasonable assumptions for background trajectories of biodiversity is developed to assist with making fair and reasonable offset calculations that don't perversely result in ever-steeper biodiversity declines.

Finally, it is worth noting that allowing the use of a declining trajectory is contrary to Australia's national goals: '*increase the national extent and connectivity of native vegetation*' (COAG Standing Council on Environment and Water 2012) and recovering threatened species. Thus, conservation investment outside of offsetting is still sorely needed. Further, baselines should be updated over time as we invest in improving outcomes for threatened species. Ultimately, the goal should be to converge on a situation where averted loss offsetting is not possible, because we have achieved our biodiversity conservation goals of reversing declines.

4. Checking of values entered into assessment guide

Because of the above-mentioned potential for misunderstanding and the incentive to use steep crediting baselines to artificially inflate the measurement of offset benefit from an action, the role of the Department of the Environment in checking the information used to assess offsets is crucial. In an example of which I am aware, an assumption of baseline clearing rates of 30% in ten years was made during EPBC Act offset calculations for the Cobbora Coal Project (Thompson 2013). This did not appear to have been rejected by the Department of the Environment in its review of the calculations, which is a concern. The justification for this extraordinarily high rate of background decline was that other coal mine exploration was occurring in the area. As noted above, it is not valid to consider this contribution to baseline trajectories. Instead, averting potential losses from activities exempted from regulatory controls, such as firewood collection and minor clearing for fencelines, would be valid.

5. Implicit assumption that offsetting is always possible

The domain within which effective offsetting can confidently be achieved is probably relatively small. Few vegetation types can be reliably revegetated to a state that resembles the original in structure and function, and many actions take very long periods of time to achieve outcomes, whereas species are threatened with extinction within decades (Maron et al. 2012). Some habitat features are simply irreplaceable, such as the cliffines that are threatened bat habitat in the Cobbora Coal project and

which are to be removed (Thompson 2013). In such cases, it is misleading to imply that an impact will be offset. It should be made much more explicit that many impacts cannot be offset, and then the choice is between development and associated biodiversity loss, or the alternative. We cannot always have our cake and eat it, and it is misleading to imply otherwise.

6. Risk of perverse outcomes

Apart from the potential risks from poor policy design and implementation, there are also broader risks that arise simply from the existence of an offset policy. These risks need to be recognised early on and carefully managed to ensure that the operation of an offset policy, even if working well, does not actually lead to worse environmental outcomes. Some examples of these risks are:

- Offsets may 'crowd out' other conservation funding, particularly when payment in lieu of direct offsets is received by a government.
- Worse, investment in conservation actions directly competes for offset 'credits' – credits are generally easier and cheaper to obtain for a protected matter that is declining. Thus, a government with a preference for both making offset credits available and affordable, but also for achieving stated conservation goals, is conflicted. The argument to avoid improving (or even to wind back) conservation regulations in order to maintain (or increase) the ability of potential providers to sell offset credits is already active in Queensland.
- In some cases, offset actions are presented as voluntary conservation activities in which community volunteers (and even schoolchildren) unwittingly participate, thus crowding out volunteer conservation. Already, credits from voluntary conservation work going back to the introduction of the EPBC Act can be sold. This erodes additionality, as these actions were done without the intent to sell them as offset credits. The implications of contributing to an offset are not necessarily obvious to all community members when they make the decision to provide their time and labour.

Thank you once again for this opportunity to contribute. I would be keen for the opportunity to elaborate on any of the points listed above. However, I will be overseas between 17th April and 11th May. I list below some literature that may be of use.

Sincerely,

Dr Martine Maron.

References

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