



Environmental Decisions Group

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To whom it may concern,

Thank you for the opportunity to make this submission to the Senate Committee Inquiry into environmental offsets. The Environmental Decisions Group (EDG) is a network of conservation researchers working on the science of effective decision making to better conserve biodiversity. The EDG includes a variety of Australian and International research centres, hubs and teams, all focused on Environmental Decisions Science. Several of our members have been involved in research relating to environmental offsets over many years (please see list of relevant publications below). Our members have also assisted with the development of offset policy, guidelines and decision support tools at state, national, and international levels, and worked collaboratively with the Department of the Environment to develop the EPBC Act Offsets Assessment Guide. Our primary funding sources are: a national Environmental Research Program hub (NERP hub), an Australian Research Council Centre of Excellence for Environmental Decisions and other Australian Research Council grants.

Our collective experience is that there are substantial problems with the way in which most offset approaches are designed, implemented and monitored. Here, we summarise the main issues of relevance to the use of environmental offsets in federal environmental approvals in Australia that contribute to the risk of poor environmental outcomes.

1. Monitoring, evaluation and compliance is poor to non-existent

There is a severe lack of information on the performance of environmental offsetting in Australia to date, and so there is no way to tell whether the 'no net loss'/'improve or maintain' policy objective

of environmental offsetting is being achieved or not. A recent paper (Pickett et al. 2013) is one of only few to conduct a comprehensive evaluation of the outcomes from an offset in Australia.

Monitoring and evaluation (M&E) of environmental offsetting is crucial to determine whether the anticipated environmental outcomes from an offset proposal are actually realised on the ground. The importance of M&E has previously been recognised by the Environment and Communications References Committee, which in August 2013 as part of the Senate Inquiry into the Effectiveness of threatened species and ecological communities' protection in Australia, stated that:

7.123 The committee recommends that the Department of Sustainability, Environment, Water, Population and Communities conduct an audit and evaluation of the offsets granted under the Environment Protection and Biodiversity Conservation Act 1999 to date, and make the results of this audit publicly available

This recommendation was partly motivated by the fact that “SEWPAC is only now reviewing offsets that have been granted in the past (pg 196)”. To date, such an audit has not occurred. It is also unclear to what extent the performance of offsets has been reviewed.

It is crucial that the Department of the Environment has the resources and capacity to evaluate the effectiveness of environmental offsetting policy. At a minimum, a publicly available register of offsets, such as has been implemented by the Western Australian Government (<http://www.offsetsregister.wa.gov.au/public/home>), should be developed as a matter of priority. Data must be collected and stored in a manner such that the link between the impact of the offset intervention is clear, and can be measured and evaluated over time (Ferraro, 2009).

2. The mitigation hierarchy rarely appears to be followed

Biodiversity offsets seek to compensate for residual environmental impacts of planned developments *after* appropriate steps have been taken to avoid, minimize or restore impacts on site. A chief concern about advancing biodiversity offsets is that, if not implemented according to the mitigation hierarchy and a set of standards, the approach could allow development in areas where impacts should have been avoided or more effectively minimized. It is evident from recent studies that the mitigation hierarchy is either bypassed or poorly implemented (e.g., McKenney and Kiesecker 2010, Bull et al. 2013). For instance, recent studies in Canada have found a strong tendency to skip over avoidance in favour of compensatory payments for wetland loss (Clare & Crogman 2013). There is a tendency in Australia to treat offsets as a foregone conclusion. For example, the nature of EPBC Act offsets for the Perth-Peel Strategic Assessment is already being discussed, before the extent of impact is known, and without first having considered avoidance and minimisation.

More effective policy guidance is therefore needed for determining whether projects conform to the mitigation hierarchy. While many offset policies including the EPBC Act policy have the stated aim of following the mitigation hierarchy, clear guidelines for determining whether the first steps of “avoid” and “minimize” have been adequately implemented. Such guidance should incorporate science-based criteria such as irreplaceability and vulnerability of the biodiversity assets in question.

A key challenge is hence to establish – and rigorously adhere to - a clear and defensible process for determining when offsets are an appropriate tool in conformance with the mitigation hierarchy, and when offsets should be rejected in favour of more intensive efforts at steps higher up in the mitigation hierarchy.

3. Offsets should be like for like, with direct and measurable benefits for the affected biota

Out-of-kind offsets involve trading the loss of one type of biodiversity with gains in another (e.g. particular species or vegetation communities). They are therefore measured in two different currencies and it cannot be determined whether such a trade results in a no net loss or ‘improve or maintain’ outcome. Maintenance of in-kind or like-for-like offsetting is important for transparency. Offsets must have direct, attributable, additional benefits on the particular biota being offset. If these criteria are not met, then an offset cannot be said to be adequate or to deliver “no net loss” of biodiversity. In some cases, perfect “like for like” is impossible. Here, the choice is between no offset, or a carefully considered trade-off between strict like for like and providing the flexibility to make some kind of offsetting possible when all other options have failed. The conceptual frameworks within which such out-of-kind trades can be done robustly and fairly are yet to be fully developed, but an important principle is that such trades should only “trade up” - that is, exchange a less-threatened for a more-threatened type of biodiversity.

4. Offset calculation approaches should be transparent and logical

- 4a) The EPBC Act environmental offsets policy is one of few that is accompanied by a transparent and logical accounting approach. A robust offset is one in which each unit of loss is compensated for by an equivalent amount of gain. Assumptions must be transparent and evidence-based (Maron et al. 2013).
- 4b) An offset almost always involves trading a certain and immediate loss for an uncertain and future gain. It is like making a loan to someone who has no capital – there is a risk of default, and you are not repaid until some future time. Therefore, an appropriate rate of interest must be paid in order to compensate for these risks and time delays. Fair accounting requires that both time lags and uncertainty are dealt with explicitly. In some cases, time lags risk causing extinction of the target biota, and so no time discounting will be adequate. Such risks can be dealt with by generating offset gains ahead of the impact, such that the benefit is already ‘banked’ and is therefore as certain as the loss. There is limited incentive currently to move towards this ‘savings bank’ model in Australia (Bekessy et al. 2010).
- 4c) “Avoided loss” offsets that purport to generate gains from protecting areas that might otherwise be lost must make plausible transparent assumptions, but often do not. For example implausibly high assumptions about ‘background’ rates of decline are often made, and this has the effect of artificially inflating the measurement of offset benefit from an action. For example, an assumption of baseline clearing rates of 30% in ten years was made during EPBC Act offset calculations for the Cobbora Coal Project, a rate much higher than

background rates of woodland loss in the region; and 70% likelihood of loss was assumed for the offset established in an existing protected area (Justice Robert Hope Park) in the Australian Capital Territory.

4d) Restoration offsets are not a panacea and many things are, in effect, not able to be offset (Maron et al. 2012). While some restoration actions can be effective in particular circumstances, recreation of a vegetation community from scratch, or restoration from a highly degraded state, mostly fails to mimic the original community in structure and function, so 'like for like' is rarely achieved and a net loss of biodiversity is the most likely outcome (Curran et al. 2013).

5. Current Federal approaches are limited in the impacts they offset and do not require 100% direct offsets

As only controlled actions are subject to federal environmental offset requirements, only potential 'significant impacts' on nationally threatened species and communities are required to be offset. Yet incremental, cumulative impacts are major threats to many species and ecological communities. Where an impact is considered 'significant' and an offset required, only 90% of the impact is required to be offset through actions directly benefiting the protected matter. In some cases, funding for research or other activities without a measurable, direct conservation benefit may be necessary to enable an offset to occur, but this funding itself is not the offset. Funding for research or other activities should be included after 100% of the impact has been accounted for using direct offsets. In this way, research or other activities can then be seen as one component of mitigating the risk of the offset failing to deliver "no net loss" of biodiversity.

6. Marine offsets need work

The EPBC Act policy applies to marine ecosystems as well as those on land. Fundamental differences between these two realms suggest that separate offset policy approaches are required to adequately protect marine ecosystems (Bell et al. 2014). There are a number of reasons for this. Firstly, compared to land, marine environments are subject to typically larger scales of ecological connectivity, are highly prone to environmental disturbance, and have a tendency to exhibit alternate stable states (Carr et al. 2003) - all of which influence the process of degradation and recovery from disturbance. Secondly, marine environmental restoration techniques, such as those used for seagrass habitats, are in early developmental stages, with highly variable success rates (Ganassin and Gibbs 2008; Statton et al. 2012). Lastly, marine ecosystems are influenced by "diffuse impacts" from activities occurring on land far from the coast, such as sediment run-off from agriculture and development, which are not currently accounted for in offset accounting.

7. Achieving 'improve or maintain' still means that biodiversity declines

Under the EPBC Act policy, offset benefits are measured relative to a 'status quo' baseline – generally presumed to be one of decline (Commonwealth of Australia 2012; Gordon 2011). Offset benefits are required to be sufficient only to maintain the trajectory of the selected baseline (referred to as a crediting baseline) across the impact and offset sites collectively (Gordon et al. 2011). Thus, if a declining baseline is used, the offset policy entrenches that decline (see Fig. 1 below for a schematic representation of this issue). This means that such baselines must be selected with care (see 4c below; Bull et al. 2014) and that offsets cannot be relied upon for species recovery or to halt species decline - other conservation investment remains essential (Maron and Gordon 2013).

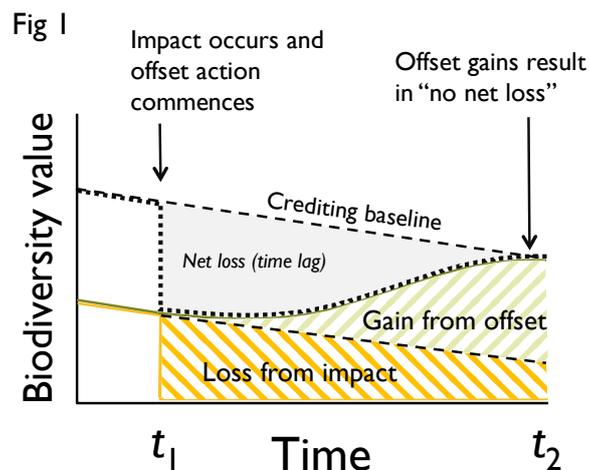


Figure 1. Illustration depicting how the crediting baseline chosen becomes “locked in” by the offset scheme.

Much of the Environmental Decision Group’s research on offsets is also summarised in our publication Decision Point, available at: <http://www.decision-point.com.au/>. Please find attached to this submission a series of the most relevant Decision Point articles from the past few years.

Thank you for this opportunity to contribute to this Senate Inquiry. Representatives of the Environmental Decisions Group are available to provide further information if requested.

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