

A submission made on the Consultation Draft of
The Australian Government's Environmental Offsets Policy under the EPBC Act

21 October 2011

Megan Evans*, Morena Mills, Gustavo Moreira de Andrade, Dr. Tracy Rout,
Prof. Hugh Possingham, Dr. Jonathan Rhodes, Dr. Eve McDonald-Madden, Dr. Truly Rintanen,
Karen Gillow, Azusa Makino, Ayesha Tulloch, Viv Tulloch, Jessica Walsh, and Jessie Wells

* Corresponding author: [REDACTED]
[REDACTED] School of Biological Sciences, The University of Queensland, St Lucia, Queensland 4072

We are taking this opportunity to make comments on the Consultation Draft of the Australian Government's Environmental Offsets policy (hereafter Draft Policy). A well designed offsets policy has the potential to deliver positive environmental outcomes in a time when we are witnessing a catastrophic decline in Australia's biodiversity. It is imperative that an environmental offsets policy adheres to a set of fundamental principles which underpin the correct use of offsets in the context of biodiversity conservation.

These fundamental principles form the basis of our **Major Points**:

1. The Policy must be framed within an overall no-net-loss or net-gain objective
2. The Policy must be a binding policy that is applied for all matters of national environmental significance protected under the EPBC Act
3. Criteria for determining what is a "clearly unacceptable" risk of permanent environmental impacts must be defined and evaluated
4. A transparent, repeatable and quantitative approach for determining offsets is required
5. Indirect offsets should be made in addition to full compensation through direct offsets
6. Mechanisms which will ensure the long term security of offsets must be outlined

It is from within this framework that we address the following major points arising from the existing Draft Policy. These points (summarised in Figure S1) must be addressed if environmental offsets are not to cause further decline in Australian biodiversity.

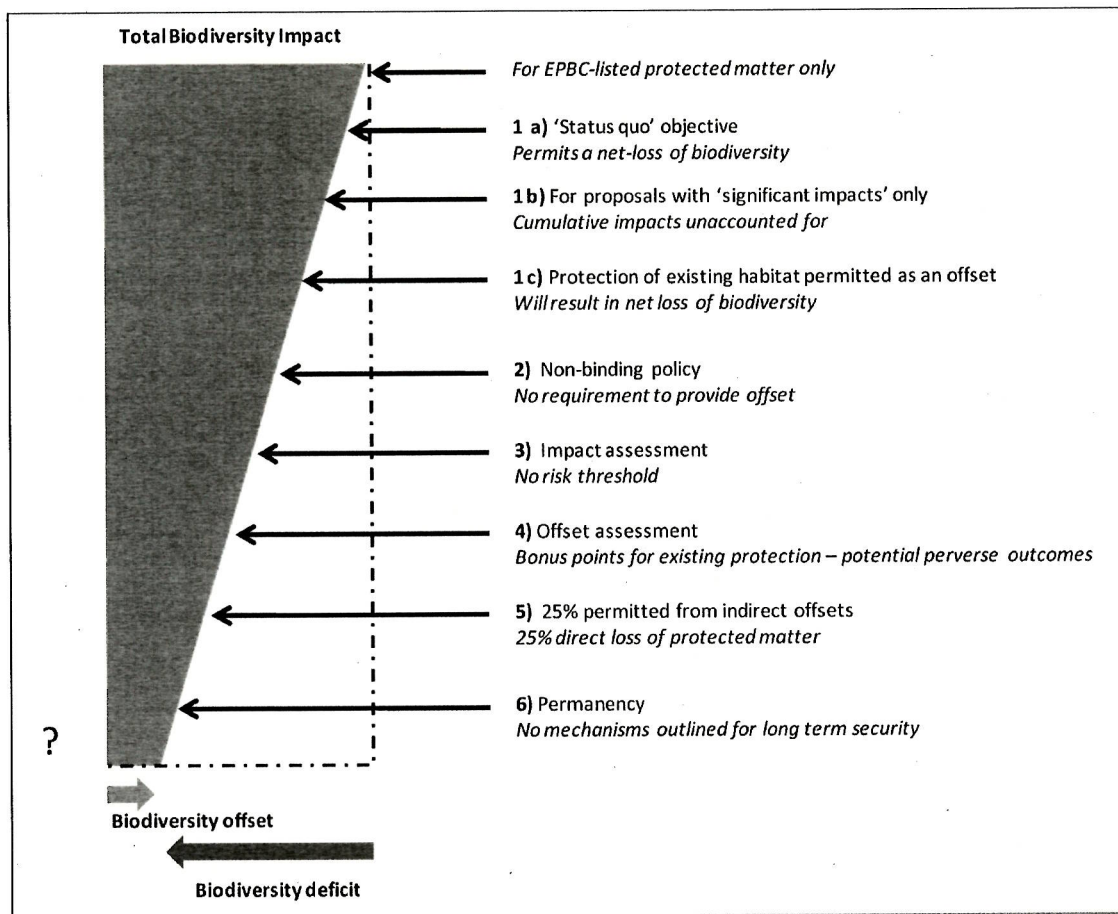


Figure S1: Graphic indicating the net loss of biodiversity over a number of stages contained in the existing Draft Environmental Offsets Policy. Biodiversity decline occurs for biodiversity not listed under the EPBC Act, and so is not captured by the Draft Policy. The objective to 'maintain or improve' compared to what is likely to have occurred under the 'status quo' is effectively an objective for a net-loss of biodiversity (Major Point 1), and this objective permeates all other stages where potential additional loss may occur.

* Note that the graphic is indicative only, the loss of biodiversity along these stages is highly uncertain and may be non-linear.

Major Points

1. The Policy must be framed within an overall no-net-loss or net-gain objective

The Draft Policy indicates that the objective of the offsets framework is to '*deliver an overall conservation outcome that improves or maintains the viability of the aspect of the environment that is protected by national environment law and affected by the proposed development*' (Pg 4).

The baseline from which outcomes are to be improved or maintained are stated as '*relative to the state prior to the proposed action taking place*' (Pg 12), which suggests that the proposed offsets framework is to operate within a no net loss or net-gain objective. However, information provided elsewhere in the document contradicts this objective in the following ways:

(a) Use of the status quo as the objective

We refer to correspondence sent to the Department of Sustainability, Environment, Water, Population and Communities by [REDACTED] who was advised (by [REDACTED] 17 October 2011 and [REDACTED] 18 October 2011) that the principle of 'maintain or improve' referred to in the Draft Policy is actually based on a comparison with *what is likely to have occurred under the status quo*. This suggests that the Draft Policy is in error, and that **the current policy objective is ultimately for a net-loss of biodiversity, rather than no-net-loss, as stated** (Pg 10 and Pg 12). This objective runs counter to the Objects of national environmental legislation (Sect 3 EPBC Act) and the principles of ecologically sustainable development (Sect 3A EPBC Act), Australia's commitments under the Convention on Biological Diversity¹, and is below the standard of related State level² and international policies³.

Quantifying a 'status quo' baseline effectively requires a prediction of the future, which is highly problematic given the uncertainty from a range of factors, including: projections of future economic and population growth, land use change, and whether future additions to the NRS and environmental stewardship program are accounted for. Spatial and temporal heterogeneity would make it impossible for the calculation of a 'status quo' baseline to be applied equally to all development proposals which trigger the Environmental Offsets Policy.

In light of these uncertainties, and Australia's commitment to at least halve the rate of loss of natural habitats by 2020 under the Convention on Biological Diversity, we argue that a 'status quo' baseline is untenable as a basis for developing an offsets framework.

(b) Limited consideration to proposals with significant impacts

Since the Environmental Offsets Policy is to be applied only when a development proposal is likely to have a significant impact on matters of national environmental significance (Pg 9, Fig 1), it is likely the calculation of a 'status quo' baseline will underestimate the true biodiversity loss, since the existing decline in biodiversity is not limited to these protected matters. A focus on species vulnerability may negatively influence the conservation of species that are not currently listed as vulnerable or endangered, and fail to consider processes essential for the survival of species, e.g. ecosystem function and connectivity⁴.

(c) Consideration of habitat already in good condition as an offset

¹ Strategic Plan 2011-2020 agreed to at the Nagoya COP10 Summit under the Convention on Biological Diversity <http://www.cbd.int/sp/targets/>. In particular, Target 5: "By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced."

² The New South Wales, Victorian, and Queensland offset policies operate under a stated objective of 'no net loss' or 'net gain'.

³ The Business and Biodiversity Offsets Program (BBOP) stipulates a 'no net loss' objective and that offsets must 'demonstrate additional, measurable conservation outcomes'.

⁴ Burgin, S. 2008. BioBanking: an environmental scientist's view of the role of biodiversity banking offsets in conservation. Biodiversity and Conservation 17:807-816.

The Draft Policy states that a suitable offset may be achieved through protecting habitat that is already in a good condition (Pg 10). A framework which permits the clearance of protected matter to be offset by protecting habitat that is already in a good condition will always result in a net loss of overall biodiversity⁵, and so cannot result in an improved conservation outcome as stated by the Draft Policy.

2. The Policy must be a binding policy that is applied for all matters of national environmental significance protected under the EPBC Act

The Draft Policy indicates the final Policy will be *'used in developing suitable offset packages, but as it is a general guide it is not binding on decision-makers'* (Pg 17). While we agree that specific guides may need to be developed for special cases⁶, any proposal expected to have a significant impact on matters of national environmental significance should trigger the Environmental Offsets Policy.

3. Criteria for determining what is a "clearly unacceptable" risk of permanent environmental impacts must be defined and evaluated

Thresholds for determining when the risks of permanent environmental impacts outweigh the likely compensation gained from an environmental offset are not clearly defined within the Draft Policy. It is not clear in what circumstances an offset may be judged as being an inadequate compensation for the values lost in a proposed development (decision stages indicated in Figure 1 of Draft Policy).

A formal risk assessment procedure must be developed for assessing and compensating for the risk that the offset will fail to conserve the intended environmental values. This procedure must explicitly state:

- The maximum acceptable risk level, i.e., a threshold probability of failure above which an offset will not be considered,
- The assumed relationship between the risk of failure and the scale of the offset needed to compensate for this risk.

Both of these elements are alluded to in Figure 3, but for a procedure to be usefully implemented they must be quantified and made explicit. There is a substantial body of literature on developing formal risk assessment procedures, including guidance for applications in conservation and environmental management⁸.

Given the uncertainties associated with habitat restoration which will impact on the ability to meet offset targets, we suggest that a risk premium is explicitly incorporated into the calculation of offset requirements.

The Draft Policy does not specify what the consequences are in the case of failure of offset implementation, and which party holds the burden of proof for demonstrating offsets will achieve policy objectives. We recommend that the proponent should hold responsibility for demonstrating a suitable offset is available during the environmental impact assessment process, and for these options to be evaluated according to a quantitative,

⁵ Gibbons, P., and D. B. Lindenmayer. 2007. Offsets for land clearing: No net loss or the tail wagging the dog? *Ecological Management & Restoration* 8:26-31

⁶ For example, separate offset policies exist in Queensland for vegetation, koala habitat and marine habitat

⁸ Burgman, M. A. 2005, *Risks and Decisions for Conservation and Environmental Management*, Cambridge University Press, Cambridge.

transparent and repeatable methodology (see **Major Point 4**) by the Department. The final Policy must explicitly hold accountable the responsible parties for the risk of offset failure and any residual impact derived from anthropogenic actions.

4. A transparent, repeatable and quantitative approach for determining offsets is required

The Draft Policy aims to provide an '*efficient, effective, transparent, proportionate, scientifically robust*' (Pg 4) framework for the use of offsets under the EPBC Act. Yet the framework presented is qualitative and lacks transparency, and moreover, there is no reference to the scientific literature or existing offsets calculators.

The Environmental Offsets Assessment Guide (Appendix 1) presented in this Draft policy is vague and does not provide a robust and repeatable methodology for measuring impacts and calculating their equivalent offsets. For example, it is not clear what is meant by the terms 'high points', 'medium points', 'low points', 'various points', and 'bonus points'.

The proposed Impact and Offsets Calculators disregard the importance of landscape composition, structure, and functionality, which are crucial aspects that must be quantified and measured when implementing offset proposals.^{7,8} The alignment of a strategic landscape-level conservation plan with the Environmental Offsets Policy would assist in the identification and securing of important areas with high conservation value within a no-net-loss or net-gain objective. In order to put such a planning scheme into practice, targets must be set with regards to landscape composition, structure and functionality.

The Offsets Calculator gives 'bonus points' for achieving immediate ecological benefit from an offset. However, immediate benefit can only be achieved by protecting already high quality habitat, which is perverse as it will result in a net loss of habitat overall (see also **Major Point 1**).

This time lag needs to be carefully considered in offset decisions. It may take decades for an area undergoing rehabilitation to provide high quality habitat, and in the meantime species extinctions could occur. Unless rehabilitation of proposed offsets is undertaken prior to the clearing of high quality habitat, an offset cannot be considered equivalent to the habitat being impacted. We recommend that an approach which incorporates the banking of biodiversity credits should be incorporated into the Environmental Offsets Policy for future implementation. A credit-based or 'savings bank' approach⁹ to biodiversity offsets is the only true way to deal with the risks and uncertainties associated with offsets.

We recommend that a review of existing offset calculators (including the UNEP endorsed Business and Biodiversity Offsets Program (BBOP)¹⁰ and BioMetric: Terrestrial Biodiversity Tool for the NSW Property Vegetation Planning System¹¹ as key examples) is undertaken, and that the effectiveness of existing State and Federal level offset policies is reviewed and reported in the form of case studies from a variety of ecosystems.

⁷ Forman, R. T. T. 1995. Some general principles of landscape and regional ecology. *Landscape Ecology* 10:133-142.

⁸ Noss, R. F. 1990. Indicators for Monitoring Biodiversity: A Hierarchical Approach. *Conservation Biology* 4:355-364.

⁹ Bekessy, S. A., B. A. Wintle, D. B. Lindenmayer, M. A. McCarthy, M. Colyvan, M. A. Burgman, and H. P. Possingham. 2010. The biodiversity bank cannot be a lending bank. *Conservation Letters* 3:151-158.

¹⁰ Business and Biodiversity Offsets Programme (BBOP) Biodiversity Offset Design Handbook

¹¹ Gibbons, P., S. V. Briggs, D. Ayers, J. Seddon, S. Doyle, P. Cosier, C. McElhinny, V. Pelly, and K. Roberts. 2009. An operational method to assess impacts of land clearing on terrestrial biodiversity. *Ecological Indicators* 9:26-40.

5. Indirect offsets should be made in addition to full compensation through direct offsets

The Draft Policy proposes that up to 25% of the direct impacts on biodiversity could be derived from *indirect offsets*, defined as a “range of other measures that improve our knowledge, understanding and management of environmental values leading to improved outcomes for the impacted protected matter” (Pg 7).

Uncertainties due to time lags, likelihood of success and baseline measurements mean that it cannot even be guaranteed that full compensation for the pre-development quality and quantity of an environmental value will be achieved using 100% direct offsets. Therefore, **permitting 25% of offset points to be derived from indirect offsets is essentially committing to a minimum 25% loss of these environmental values, before** considering the likelihood that the direct offset will fail, or the fact that other “non-significant” impacts are not offset at all.

To achieve the stated goal of “*improving or maintaining the viability of the aspect of the environment that is protected by national environment law and affected by the proposed development*”, at least 100% of the quantity and quality of the affected environmental value must be offset **directly**, while explicitly taking into account the risk of failure. The assessment of environmental offsets should be undertaken with use of a quantitative, transparent and repeatable framework (**Major Point 4**), where social and economic factors are considered separately such that tradeoffs between these factors may be clearly analysed. Indirect offsets should be made in addition to direct offsets as a way to compensate for uncertainties which cannot be quantified.

6. Mechanisms which will ensure the long term security of offsets must be outlined

There is no information provided in the Draft Policy regarding what legally binding mechanisms will be used to ensure the future security of offsets. It is also unclear whether offset sites may be subject to development proposals and offsetting in the future. Figure 2 of the Draft Policy indicates proposed offsets will be evaluated according to whether ‘*the benefit lasts at least as long as the impact*’. As in most cases it is reasonable to assume that the impact is permanent (e.g. the clearing of vegetation for development), there should be mechanisms put in place to ensure the permanent protection of the offset if there is any chance of adhering to the criteria to ‘*maintain or improve*’ biodiversity outcomes.

However, an objective to improve or maintain according to ‘status quo’ baseline (**Major Point 1**) creates a large degree of uncertainty in the evaluation and monitoring of the outcomes from offsets. The ‘status quo’ baseline will vary across space and time, effectively meaning there will be an attempt to evaluate offsets against a ‘moving target’. Without a clear, measurable and transparent objective it will prove impossible to determine the effectiveness of the Environmental Offsets Policy. **A ‘no-net loss’ objective is therefore necessary to ensure the effectiveness of offsets may be evaluated against a consistent baseline.** This will also ensure that that biodiversity outcomes are maintained or improved ‘*relative to the state prior to the proposed action taking place*’ (Pg 12), will be consistent with international and State-level policies, as well as adhere to what is actually stated within the publicly available Draft Policy.

The Environmental Offsets Policy needs to be supported by a consistent monitoring strategy and adaptive management to reduce the risk of failure when implementing offset proposals.

Conclusion

In summary, we make the following key recommendations:

1. The Policy must be framed within an overall no-net-loss or net-gain objective

- A *no-net-loss objective* must be embedded within the Environmental Offsets Policy in order to be consistent with:
 - The Objects of national environmental legislation (Sect 3 EPBC Act)
 - The principles of ecological sustainable development (Sect 3A EPBC Act),
 - Australia's commitments under the Convention on Biological Diversity,
 - State level and international policies,
 - The publicly available Draft Policy
- Mechanisms must be put in place to deal with impacts assessed as residual or non-significant
- Protection of habitat that is already in a good condition will always result in a net loss of overall biodiversity, and so cannot be considered as an offset

2. The Policy must be a binding policy that is applied for all matters of national environmental significance protected under the EPBC Act

3. Criteria for determining what is a "clearly unacceptable" risk of permanent environmental impacts must be defined and evaluated

- A formal risk assessment procedure must be developed for assessing and compensating for the risk that the offset will fail to conserve the intended environmental values
- A risk premium should be explicitly incorporated into the calculation of offset requirements.
- The party which holds the burden of proof for demonstrating offsets will achieve policy must be explicitly stated

4. A transparent, repeatable and quantitative approach for determining offsets is required

- Strategic landscape-level conservation planning is aligned with the Environmental Offsets Policy
- A credit-based or 'savings bank' approach to biodiversity offsets is incorporated within the Environmental Offsets Policy to deal with the risks and uncertainties associated with offsets

5. Indirect offsets should be made in addition to full compensation through direct offsets

- At least 100% of the quantity and quality of the affected environmental value must be offset directly, while explicitly taking into account the risk of failure
- Social and economic factors should be considered separate to the environmental offset assessment such that tradeoffs between these factors may be clearly analysed

6. Mechanisms which will ensure the long term security of offsets must be outlined

- A 'no-net loss' objective is necessary to ensure the effectiveness of offsets may be evaluated against a consistent baseline
- The Environmental Offsets Policy needs to be supported by a consistent monitoring strategy and adaptive management

Key literature cited

Bekessy, S. A., B. A. Wintle, D. B. Lindenmayer, M. A. McCarthy, M. Colyvan, M. A. Burgman, and H. P. Possingham. 2010. The biodiversity bank cannot be a lending bank. *Conservation Letters* 3:151-158.

Burgin, S. 2008. BioBanking: an environmental scientist's view of the role of biodiversity banking offsets in conservation. *Biodiversity and Conservation* 17:807-816.

Burgman, M. A. 2005, *Risks and Decisions for Conservation and Environmental Management*, Cambridge University Press, Cambridge.

Business and Biodiversity Offsets Programme (BBOP) Biodiversity Offset Design Handbook. <http://bbop.forest-trends.org/>

Gibbons, P., and D. B. Lindenmayer. 2007. Offsets for land clearing: No net loss or the tail wagging the dog? *Ecological Management & Restoration* 8:26-31.

Gibbons, P., S. V. Briggs, D. Ayers, J. Seddon, S. Doyle, P. Cosier, C. McElhinny, V. Pelly, and K. Roberts. 2009. An operational method to assess impacts of land clearing on terrestrial biodiversity. *Ecological Indicators* 9:26-40.