



Biodiversity Assessment Method (BAM)

This part of the submission provides technical feedback on the proposed Biodiversity Assessment Method (**BAM**).

As stated previously, EDO NSW has significant concerns with the application of the proposed BAM.¹ The most recent version of the BAM does not address these concerns and in fact is likely to deliver poorer environmental outcomes than the 2016 draft BAM by reducing offset ratios and defining 'no net loss' in a way that significantly weakens environmental protections compared to the current 'maintain and improve' test. Offsets should be a measure of last resort, especially given the evidence that offsetting often fails to deliver its stated outcomes. This means that relying on offsets for the delivery of environmental outcomes is highly uncertain.² The BAM should therefore contain the ecological limits necessary to prevent extinctions. The current BAM does not.

This part provides comment on:

- 1 Background to the Draft Biodiversity Assessment Method
- 2.2.3 Use of certified more appropriate local data
- 3.1 Streamlined assessment modules
- 3.6 Assessment of biodiversity values
- 5.3 Identifying native plant community types and ecological communities on the subject land
- 6 Assessing the habitat suitability for threatened species
- 8 Avoiding and minimising impacts on biodiversity values
- 9.1.4 Requirements for assessing direct impacts that are prescribed biodiversity impacts
- Section 9.4 Adaptive management for uncertain impacts
- 10.2 Impact assessment of candidate entities of serious and irreversible impacts on biodiversity values
- 11 Application of the no net loss standard
- 11.3 Identifying the credit class for ecosystem credits and species credits
- 13.3 Management actions that improve biodiversity values
- 13.3.2 Additional active restoration management actions
- 13.5 Estimating the future value of vegetation integrity attributes without management

¹ Our submission on the May 2016 version of the draft BAM is available at: http://www.edonsw.org.au/nsw_biodiversity_reform_package_2016.

² See for example Maron et al (2012) Faustian bargains? Restoration realities in the context of biodiversity offset policies *Biological Conservation* 155: 141-148 reference and Lindenmayer, D., Crane, M., Evans, M., Maron, M., Gibbons, P., Bekessy S. and W. Blanchard (2017) The anatomy of a failed offset *Biological Conservation* 210: 286–292.

- 13.6.2 Probability of reaching benchmark for composition, structure and function
- 13.8 Calculating the security benefit score at a biodiversity stewardship site
- 13.13 Existing obligations and management actions
- Appendices 1 and 2
- Appendix 7
- Drafting errors

1 Background to the Draft Biodiversity Assessment Method

Section 1.1.1.4 notes:

The draft BAM has been developed by the Office of Environment and Heritage (OEH) with the intention of achieving a biodiversity assessment method that is as simple as possible, practical and repeatable in its application, and robust in its design and scientific foundations.

It is of significant concern that testing of the BAM done to date shows that under the new assessment method the biodiversity offset ratios are proposed to be significantly reduced from both the current BioBanking Assessment Methodology (**BBAM**) and the Framework for Biodiversity Assessment (**FBA**). This will lead to significant biodiversity decline across NSW.

This reduction in offset requirements occurs in a context where there is significantly increased flexibility in requiring like-for-like offsets and offset requirements can be met entirely by paying money into a BC Fund with no guaranteed environmental outcomes. Given that research to date shows significant concerns with the effectiveness of protecting biodiversity through offsets, these biodiversity risk weightings should use a more precautionary approach.³

Section 1.1.1.8 notes that Stage 2 of the BAM requires assessment of the direct and indirect impacts of a development proposal. While we welcome the requirement for upfront consideration of indirect impacts, there is no requirement to prevent or offset (where possible) indirect impacts. While the BAM includes consideration of activities designed to avoid and minimise indirect impacts, it remains entirely at the discretion of the consent authority to prevent unlimited indirect impacts. This is inappropriate in itself but also has significant implications for the appropriate consideration of cumulative impacts. The lack of assessment of cumulative impacts is further exacerbated by the failure to require consideration of cumulative impacts in relation to all prescribed biodiversity impacts (section 9.1.4). See our recommendations regarding cumulative impacts in our comments on the Biodiversity Conservation Regulation above.

2.2.3 Use of certified more appropriate local data

We **recommend** that the BAM should include clear information on how the Environment Agency Head (**EAH**) will determine whether local data is appropriate to be certified for a particular development proposal.

³ See our submission on the BC Regulation for further comment.

3.1 Streamlined assessment modules

We **recommend** the proposed area limit for application of the streamlined assessment modules should be less than 2 ha for all lot sizes. We note that the information provided in Table 1 is different to that provided in Table 15, Appendix 2 so it is unclear what the intended area limit is.

It is also unclear whether there are any effective limits on the use of streamlined modules and whether multiple applications on the same property are permitted. Without clearly communicated enforceable limits, a significant amount of clearing could be conducted under this assessment framework.

The streamlined assessment fails to recognise the importance of paddock trees in the landscape, particularly for maintaining fauna species richness and diversity. The removal of paddock trees permitted under the streamlined assessment is likely to remove habitat essential to fauna, creating barriers to dispersal and reduction in population genetics. The definition of paddock trees applied in Appendix 1 greatly expands what can be cleared without approval and in fact leaves the definition entirely open to individual interpretation. For example, trees located on Category 2 land entirely surrounded by Category 1 land, provides no information on what scale this assessment should be undertaken. The definition includes 3 trees, not single paddock trees; and no offset is required for trees with negligible biodiversity value (which is largely undefined but includes trees that are <20cm DBHOB, regardless of the species or geographical area). The system fails to recognise the importance of recruitment of new paddock trees by allowing all small trees to be removed. There is also no offset required for properties with greater than 70% vegetation cover, regardless of the Class of paddock trees. The size of offsets required for paddock trees has been significantly reduced from the draft BAM of May 2016.

We **recommend** much stronger protections for small areas and paddock trees.

3.6 Assessment of biodiversity values

The current draft of the BAM retains the proposal to not require offsets for vegetation that is “in highly degraded condition”. As stated in previous submissions, this is inappropriate, particularly in relation to threatened species habitat and threatened ecological communities that must be encouraged to regenerate if their threatened status is to be reversed. While we recommend that all threatened ecological communities and threatened species habitat should be offset, regardless of condition, we particularly note that section 10.3.1 fails to incorporate vulnerable ecological communities. At a minimum, we **recommend** that these should be included in 10.3.1.1(b).

5.3 Identifying native plant community types and ecological communities on the subject land

The BAM notes:

It is the intention that portable field survey devices will be increasingly available to support BAM assessments. This will enable field survey data to be efficiently imported into either the Credit Calculator or the Flora Survey (BioNet). This would enable field data to be re-used to improve the NSW PCT classification and supporting information.

This can only be effective where it is a mandatory requirement for accredited assessors to provide the raw data used to determine the assessments. Given this will also be important

for ensuring compliance with BAM requirements, we **recommend** that at a minimum the *Accreditation Scheme for the Application of the Biodiversity Assessment Method 2017* must include a mandatory requirement to provide raw data to the EAH and to OEH.

6 Assessing the habitat suitability for threatened species

Ensuring that all threatened species habitat is offset is particularly important for those species which are known to regularly inhabit what would otherwise be considered degraded environments, such as the Green and Golden Bell Frog. Protecting threatened species habitat regardless of its current degradation status will become increasingly important as species adapt to and utilise previously developed areas. A species credit species can also be considered unlikely to occur on a development site if “the assessor determines that the habitat is substantially degraded” (section 6.4.1.17). This is a highly subjective assessment which creates the potential for significant misuse, particularly where there are no approved survey guidelines for a particular threatened species.

Similarly, where there are no published OEH survey guidelines for a species, the assessor must undertake a survey “using best practice methods that can be replicated for repeat surveys” (section 6.5.1.4.). While we welcome the recognition of the need for best practice survey methods, this approach has the potential to create highly variable assessments between assessors. To ensure the appropriate standard of survey is conducted, there should be an explicit requirement (e.g. in the Regulations, phrased as a ‘must’ not a ‘may’) for OEH to reject a biodiversity assessment report where insufficient or inappropriate surveys have been undertaken and to consistently update guidelines to reflect best practice.

There appears to be inconsistent guidance given on whether it is necessary to provide offsets for threatened species that are recorded on a site at a proposed development but are not predicted to occur by the Threatened Biodiversity Data Collection. For example, it is unclear how the exemption for targeted surveys given in section 6.2.1.2 interacts with the requirements to consider past records of the threatened species on the subject land in section 6.1.1.3 for areas where the Collection does not predict that species will occur. Similarly, a threatened species only requires assessment if it meets *all* the criteria in section 6.4.1.3 (which includes being associated with the PCT) and a site is not considered suitable habitat if it does not (section 6.4.1.7). Section 6.4.1.5 requires assessment if the species has been recorded on site. We **recommend** that the previous presence of a threatened species on a subject site should mandate that offset credits should be required for the impacted habitat and the BAM should be clarified accordingly.

In contrast, it should be a requirement that a threatened species that is assessed using ecosystem credits is demonstrated to use a proposed stewardship site before credits can be obtained for that species, to ensure that the species is actually receiving protection through the offset. We **recommend** that this should apply to both species credit species and dual credit species.

8 Avoiding and minimising impacts on biodiversity values

Again, we welcome the upfront focus on the need to avoid and minimise impacts but remain concerned by the lack of consequences for projects that do not adequately do this. We are also concerned that guidelines for avoiding and minimising impacts do not consider issues such as salinity, soil impacts, hydrology and hydrogeology, noise, light, dust, climate change, or habitat overcrowding as a result of displacement.

In the absence of a requirement on the consent authority to prevent unlimited indirect impacts, we **recommend** that the identification of indirect impacts should require offsets to be based on the assumption that the development will completely destroy all affected vegetation communities and associated species and these communities will be unable to be rehabilitated. This is consistent with the precautionary principle, and biodiversity as a fundamental consideration.

9.1.4 Requirements for assessing direct impacts that are prescribed biodiversity impacts

We note that section 9.1.4.7 requires consideration of impacts as follows:

“based on predictions of impacts on water dependant plant communities and the species they support, calculate the maximum predicted offset liability in accordance with the Policy Framework for Biodiversity Offsets for Upland Swamps and Associated Threatened Species”.

Expert comment on the draft version of this policy (which was implemented largely unchanged) identified that the policy is highly inappropriate for upland swamps. EDO NSW **does not support** including this policy in the BAM.⁴ As submitted previously, we **recommend** that the Government create ‘red flag’ areas which prohibit mining directly beneath and close to swamps, and require companies to ensure mine layouts avoid impacting these areas.

We **recommend** that threatened swamp species and ecological communities should be explicitly recognised in serious and irreversible impacts, including as a prime candidate for principle 4 (unresponsive to management actions and largely irreplaceable).

Section 9.4 Adaptive management for uncertain impacts

The BAM continues to misapply the principles of adaptive management. Section 9.4 of the BAM includes no maximum limit to impact, merely a need to reduce or eliminate impacts when a certain threshold is passed. As stated by Preston, C.J. of the Land and Environment Court:⁵

In adaptive management the goal to be achieved is set, so there is no uncertainty as to the outcome and conditions requiring adaptive management do not lack certainty, but rather they establish a regime which would permit changes, within defined parameters, to the way the outcome is achieved.

In line with this definition, we **recommend** that the BAM should establish a method by which there is a clear statement of the maximum allowable environmental impact. Development should cease if these impacts are exceeded. At that point, a proponent should be required to undertake additional actions to rectify unforeseen impacts. Significant unassessed and unapproved harm could be permitted if adaptive management is implemented as proposed. Arguably the current wording of section 9.4.2 authorises such harm and is highly inappropriate.

⁴ For more information on our concerns see our submission at: https://d3n8a8pro7vhmx.cloudfront.net/edonsw/pages/2185/attachments/original/1439453255/EDO_NSW_Submission_IMP_Stage_1.pdf?1439453255.

⁵ *Newcastle & Hunter Valley Speleological Society Inc v Upper Hunter Shire Council and Stoneco Pty Limited* [2010] NSWLEC 48.

10.2 Impact assessment of candidate entities of serious and irreversible impacts on biodiversity values

We provide comment on serious and irreversible impacts assessment in our submission sections on the Biodiversity Conservation Regulation and on the *Draft guidance and criteria to assist a decision maker to determine a serious and irreversible impact*. In summary, we generally welcome the concept and principles underpinning serious and irreversible impacts, but remain concerned at the level of discretion in identifying and responding to those impacts. We **recommend**:

- that the process, principles and environmental information underpinning serious and irreversible impacts be as objective as possible;
- references to extinction risk be clarified to refer to an appropriate scale and scope;
- that the Regulation prescribe additional serious and irreversible impact principles and guidance so that:
 - the Regulation clause 6.7(2) explicitly require consent authorities to have regard to the principles of ecologically sustainable development, in particular the precautionary principle, and cumulative impacts;
 - where ‘reasonable steps’ are taken to verify if like-for-like offsets are available, and no such offsets are identified, this may be a prima facie indicator of serious and irreversible impacts that the consent authority should consider in detail; and
 - that the Regulation prescribe additional serious and irreversible impact principles and guidance relating to water quality and soil quality (including acidification, erosion and salinity).

11 Application of the no net loss standard

The proposed definition of no net loss in the BAM clearly undermines the intent of the BC Act. The definition of no net loss is based entirely on a set of subjective decisions that do not guarantee any positive biodiversity outcomes, including through the use of offsets, and ultimately require only management of indirect offsets. We **recommend** that this test needs to be significantly strengthened to meet accepted definitions of no net loss.⁶

11.3 Identifying the credit class for ecosystem credits and species credits

Section 11.3.1.1 defines the credit class for an ecosystem credit as being identified by the “*offset trading group for the PCT or ecological community, as identified in the ancillary rules in clause 6.5 (2)(d) of the BC regulation*” (amongst other things). The *Submission Guide on Ecologically Sustainable Development* notes that:

- “[the] offset trading group will be defined in the BAM and will be based on the percent cleared of the vegetation type or, where relevant, association with a threatened ecological community” and
- “For some threatened entities, it is not appropriate that the offset credit type can be varied. As part of the ancillary rules, the Chief Executive of OEH will publish a list of entities where proponents will not be allowed to apply the variation rules. It is proposed that all critically endangered entities will be included on this list.”

⁶ See for example Bull, J., Gordon, A., Watson, J. and Maron, M. (2016) Seeking convergence on the key concepts in ‘no net loss’ policy *Journal of Applied Ecology* 53(6): 1686-1693 and Maskeyk, F., Barea, L., Stephens, R. Possingham, H., Duston, G. and Maron, M. (2016) A disaggregated biodiversity offset accounting model to improve estimation of ecological equivalency and no net loss *Biological Conservation* 204(Part B): 322-332.

We **support** the power of the EAH to develop ancillary rules under clause 6.5 of the Regulation, including to exclude certain impacts from offset variation rules. However it is extremely concerning that the ancillary rules are not available for consultation and the offset trading groups are not defined in the BAM. The likely effectiveness of the offset system is limited by the inability to understand how the variation rules will be applied. We strongly **recommend** that entities to which it is not appropriate to apply variation rules are identified in the Biodiversity Conservation Regulation. See our submission on the Regulation for further information.

13.3 Management actions that improve biodiversity values

Management actions that are already required by legislation (e.g. those actions required under the *Biosecurity Act 2015*) should not generate offset credits under the BAM. Similarly, while EDO NSW strongly supports appropriate monitoring, the need for monitoring is a prerequisite to appropriate management. It does not provide an improved environmental outcome in and of itself and should be seen as a compulsory feature of any stewardship agreement, not something that generates credits (particularly as proposed by Table 10). It remains extremely concerning that the assumptions in relation to environmental gain at stewardship sites as a result of the proposed offset management actions remains untested. The lack of adequate monitoring of previous offsets means, if implemented, the BAM will weaken environmental protections for unproven environmental outcomes.

13.3.2 Additional active restoration management actions

EDO NSW **does not support** allowing mine rehabilitation to generate credits under the BAM. While not explicit, this approach appears to have been incorporated into the current BAM as “additional active restoration management actions”. This means that unproven and highly uncertain biodiversity outcomes will be given upfront credits (displacing requirements to find more certain offsets) an approach which has also been broadened to additional sites and activities.

We are also concerned that the “additional” management actions listed under Table 10 are the same actions that were previously identified as actions that may be required on a biodiversity stewardship site to achieve offset credits in the first instance (i.e. would previously have been included in the current Table 9 where needed to adequately protect species and communities identified on the biodiversity stewardship site).

The consultation note for section 13.3.2 states:

The BAM includes the ability to undertake active restoration actions that use innovative restoration techniques on highly modified sites and in highly-cleared landscapes where the methods and expertise employed have a high likelihood of success. Active restoration could potentially achieve larger gains and may be applicable in lower condition sites. This component of the BAM is still being developed. OEH is interested to receive feedback on this component, particularly regarding the balance between encouraging innovation in active restoration and managing risks in terms of the credit generation. Readers should note that this component has not been included in the draft BAM Credit Calculator.

However “high likelihood of success” has not been defined and there is no evidence in the application of mine rehabilitation credits to date to suggest that such a standard would be rigorously or objectively defined. While the details of any credits to be generated have not been included in the BAM, the Regulation clearly states:

In the case of State significant development or infrastructure under the Environmental Planning and Assessment Act 1979 that is mining under a mining lease—an obligation to rehabilitate the impacted site that has the same credit value (determined in accordance with the biodiversity assessment method) as the retirement of like-for-like biodiversity credits. (section 6.2(d))

This is a significant retrograde step from even the current situation where credits for mine rehabilitation are significantly discounted to recognise the high level of uncertainty in achieving positive biodiversity outcomes. Providing any offset credits for mine rehabilitation work creates a perverse incentive for the Department of Planning to allow or recommend poor rehabilitation outcomes during the approval stage, and for mining companies to undertake poor rehabilitation in the first instance and only undertake an adequate standard of rehabilitation where there will be a financial reward through the offsetting system. In our view, this approach constitutes double-dipping and we **recommend** that this option should not be allowed.

We find it difficult to fathom that the Government would proceed to grant biodiversity credits for future mine rehabilitation, either on scientific grounds, or in light of the 2017 Auditor-General's report, which found existing mine rehabilitation bonds are already insufficient, liability estimates are not properly verified, and conditions for mine rehabilitation outcomes are unclear. If the proposal to 'credit' mine rehabilitation for biodiversity outcomes proceeds, it will reward inadequate past performance and regulation, and rely on unproven science. We strongly recommend the regulations do not give effect to credits for mine rehabilitation. If this option proceeds, the value of credits must be heavily reduced to account for uncertainty, and ensure the risk of poor performance is not borne by the public or the environment.

13.5 Estimating the future value of vegetation integrity attributes without management

EDO NSW remains extremely concerned about the use of averted loss as part of the measurement of gain at a stewardship site.⁷ The use of averted loss embeds a presumption that high quality vegetation that has been protected and appropriately managed by landholders in the past, can and will be cleared in the immediate future.

The BAM includes unacceptable criteria for allowing an increased rate of decline due to the presence of high threat weeds, many of which would be required to be controlled under the *Biosecurity Act 2015*. This is another instance of double-dipping.

13.6.2 Probability of reaching benchmark for composition, structure and function

Given that the fundamental principle of an offset system is that destruction is permitted at one site on the basis of in-perpetuity protection at another site, it is unacceptable to propose the ability for an offset site to generate additional credits after 20 years management. This proposal should be removed.

Rather, we **recommend** that section 13.2.1.4 should mandate the requirement for the preparation of a new management plan after the expiry of the first 20 year management plan to ensure that biodiversity values remain protected in perpetuity.

⁷ See our previous EDO NSW *Technical submission on the Biodiversity Assessment Method and Mapping Method 2016*, available at: http://www.edonsw.org.au/nsw_biodiversity_reform_package_2016.

13.8 Calculating the security benefit score at a biodiversity stewardship site

We recognise the long-standing issue that the NSW biodiversity offset mechanisms reward management of partially degraded sites more than protecting existing high quality sites, which potentially incentivises landholders allowing good quality sites to degrade. However, this issue should be addressed by providing appropriate protections for these sites. It is inappropriate for the BAM to include a provision for additional credits for simply protecting sites that have high vegetation integrity, low weed infestation and that is not on Crown land, or land to which an existing conservation obligation applies. This is clear double counting of both the averted loss criteria (section 13.5) and the site resilience component of stewardship site recovery (Appendix 9).

13.13 Existing obligations and management actions

We **recommend** that section 13.13.1.2 must apply to sites that are being managed to offset impacts of biodiversity under any existing legislative approval.

Appendices 1 and 2

As discussed in relation to section 3.1 of the BAM, we **do not support** the streamlined modules as described in Appendices 1 and 2.

Appendix 7

We note our serious concerns in relation to the use of strategic biodiversity certification in our submission to the Regulation. While we do support the reservation of land under the *National Parks and Wildlife Act 1974* as an approved conservation measure, we do not support the adoption or development controls or state infrastructure means as conservation measures. At a minimum it should be clarified that Appendix 7 references to state infrastructure contributions are limited to those 'that conserve or enhance the natural environment', as required by the BC Act, and further guidance such as limiting actions to those that benefit the species impacted, should be included.

We note that this Appendix is consistent with the statement in the *Submission Guide on Ecologically Sustainable Development* that “*No Offset Rules have been proposed for these additional conservation measures for strategic biodiversity certification in the Regulation*”.

Drafting errors

- Section 10.3.1.1(c) refers to <20 where it should refer to >20.