

Submission
No 92

INQUIRY INTO INTEGRITY OF THE NSW BIODIVERSITY OFFSETS SCHEME

Organisation: Environmental Defenders Office

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Environmental
Defenders Office

**Submission to the inquiry into the Integrity of the NSW
Biodiversity Offsets Scheme**

14 September 2021

About EDO

EDO is a community legal centre specialising in public interest environmental law. We help people who want to protect the environment through law. Our reputation is built on:

Successful environmental outcomes using the law. With over 30 years' experience in environmental law, EDO has a proven track record in achieving positive environmental outcomes for the community.

Broad environmental expertise. EDO is the acknowledged expert when it comes to the law and how it applies to the environment. We help the community to solve environmental issues by providing legal and scientific advice, community legal education and proposals for better laws.

Independent and accessible services. As a non-government and not-for-profit legal centre, our services are provided without fear or favour. Anyone can contact us to get free initial legal advice about an environmental problem, with many of our services targeted at rural and regional communities.

Environmental Defenders Office is a legal centre dedicated to protecting the environment.

www.edo.org.au

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Legislative Council Portfolio Committee No. 7 – Planning and Environment
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INTRODUCTION

Environmental Defenders Office (**EDO**) welcomes the opportunity to make a submission to the Inquiry into the integrity of the NSW Biodiversity Offsets Scheme (**BOS**).

EDO is a national community legal centre specialising in public interest environmental law. We have a long history of providing legal advice on biodiversity and conservation matters, including on the use of biodiversity offsets in NSW.

We were a key stakeholder engaged in the biodiversity conservation and land management reforms that led to the introduction of the BOS under the *Biodiversity Conservation Act 2016* (**BC Act**) and have continued to engage in the implementation of the BOS. We have ongoing concerns about the use of biodiversity offsets in NSW and the effectiveness of the scheme to halt or reverse the loss of biodiversity values. Our key concerns have been raised in previous submissions and reports, which we include for the benefit of the Committee – see **Attachment 1**.

It is EDO’s view that the policy settings underpinning the BOS do not align with best practice science-based biodiversity offsetting; permit an inappropriate level of variation and discretion; and do not adopt the ecologically necessary limits to prevent extinctions (e.g. ‘red flags’). The BOS will not deliver the intended biodiversity outcomes, including to conserve biodiversity and maintain the diversity and quality of ecosystems.

We make **16 recommendations** for strengthening the BOS to ensure that it aligns with best practice science-based offsetting principles and delivers improved biodiversity conservation outcomes for NSW. Our submission is structured as follows:

1. Summary of Key Recommendations

2. Background

State of biodiversity in NSW

Biodiversity offsetting

Best practice science-based offsetting principles

The NSW Biodiversity Offsets Scheme (BOS) - Current rules and requirements

3. Key Issues

- No clear and objective requirement to improve biodiversity outcomes
- Like-for-like offsetting requirements and variation rules provide too much flexibility
- Biodiversity conservation measures are allowed in lieu of genuine direct offsets
- Payments can be made to the Biodiversity Conservation Fund in lieu of securing offsets
- Mine rehabilitation is allowed in lieu of genuine offsets
- Credit requirements can be discounted based on non-ecological considerations
- Credit pricing is not aimed at achieving biodiversity outcomes
- BOS standards do not meet Commonwealth offset standards for accreditation
- Swamp offset policy

4. Response to terms of reference

ai) The effectiveness of the scheme to halt or reverse the loss of biodiversity values, including threatened species and threatened habitat in New South Wales,

aii) The role of the Biodiversity Conservation Trust in administering the scheme and whether the Trust is subject to adequate transparency and oversight,

- b) The use of offsets by the NSW Government for major projects and strategic approvals,
- ci) The impact of non-additional offsetting practices on biodiversity outcomes
- cii) Offset prices
- ciii) The opportunities for private landowners to engage in the scheme
- (d) Any other related matters.

Attachment 1 – Previous EDO reports and submissions

This inquiry provides an important opportunity to deeply interrogate the BOS and the use of biodiversity offsets in NSW, and to recommend key reforms that would address fundamental deficiencies that are undermining the ability of the BOS and the BC Act to deliver improved biodiversity outcomes for NSW.

Glossary of key terms used	
BAM	Biodiversity Assessment Method
BC Act	<i>Biodiversity Conservation Act 2016</i> (NSW)
BDAR	Biodiversity Development Assessment Report
BOS	Biodiversity Offsets Scheme
EPA Act	<i>Environmental Planning and Assessment Act 1979</i>
LLS Act	<i>Local Land Services Act 2013</i>
NV Act	<i>Native Vegetation Act 2003</i> (now repealed)
Part 4 local development	Development that requires consent under Part 4 of the <i>Environmental Planning and Assessment Act 1979</i> , but not State significant development.
Part 5 activity	Activity that requires approval under Part 5 of the <i>Environmental Planning and Assessment Act 1979</i>
Major project	State significant development or State significant infrastructure
SSD	State significant development
SSI	State significant infrastructure

1. Summary of Key Recommendations

Overarching recommendation 1: Significant reform of the BOS is needed to increase its effectiveness in halting or reversing the loss of biodiversity values. Given the significant challenges in achieving genuine biodiversity outcomes through offsetting, it should only be allowed in limited circumstances, in line with best practice science-based principles. The principles are:

- Biodiversity offsets must only be used as a last resort, after consideration of alternatives to avoid, minimise or mitigate impacts
- Offsets must be based on the ‘like for like’ principle
- Legislation and policy should set clear limits on the use of offsets
- Indirect offsets must be strictly limited
- Offsetting must achieve benefits in perpetuity
- Offsets must be designed to *improve* biodiversity outcomes
- Offsets must be additional
- Offset arrangements must be legally enforceable
- Offset frameworks should build in mechanisms to respond to climate change and stochastic events

Recommendation 2: Impose a clear and objective environmental standard to improve biodiversity outcomes (e.g. no net loss or better) under the BOS and BC Act.

Recommendation 3: Prescribe additional biodiversity-related values in the BC Regulation, including for soil quality, salinity, and water quality.

Recommendation 4: Update the BAM to include components for the assessment of soil quality, salinity, and water quality.

Recommendation 5: Require genuine attempts to avoid and minimise impacts on threatened species and ecological communities be demonstrated before the BOS can be applied. Clear guidance on the required steps and evidence of steps taken should be developed.

Recommendation 6: Tighten like-for-like offsetting requirements and variation rules.

Recommendation 7: Significantly limit indirect offset options.

Recommendation 8: Set stricter parameters around the payment of money to the BCT in lieu offsets, including allowing/requiring the BCT to refuse to accept an offset liability for a proponent where it would not be possible for them to obtain like-for-like offsets.

Recommendation 9: Do not allow future mine rehabilitation to generate offset credits and be counted as an upfront offset.

Recommendation 10: Remove the ability to discount offsets. However, if a discounting mechanism is retained, it should be strictly limited – i.e. any discounts should only be allowed if based on ecological reasons, and if reasons are provided for decisions.

Recommendation 11: Formulas used to determine credit pricing must incorporate an appropriate risk factor to ensure that like for like offsets can be sourced and managed in perpetuity and that increasing

scarcity of biodiversity is embedded in the pricing mechanism in a non-linear fashion (to ensure that it becomes increasingly expensive to purchase credits for increasingly scarce species and ecosystems).

Recommendation 12: The NSW BOS must meet or exceed national biodiversity offset standards by strictly limiting indirect offsetting. The BOS should not be accredited for the purpose of handing over federal approval powers, without significant reform.

Recommendation 13: Upland swamps should be considered red-flag areas and excluded from the offset system.

Recommendation 14: Biodiversity offset reform should include recommendations for strengthening of the native vegetation clearing rules under the LLS Act, including the 'set aside' system.

Recommendation 15: Offsetting under the NSW biocertification system be reviewed and strengthened in line with best practice offsetting principles.

Recommendation 16: Offset rules for major projects should be strengthened, and in particular:

- a) Red flags must apply to major projects (e.g. major projects must be refused if there are serious and irreversible impacts).
- b) Discounting of offsets requirements should not be allowed, or very strictly limited (as noted above).

2. Background

State of biodiversity in NSW

Biodiversity refers to the complexity of biological life, including genetic diversity within species, between species and between ecosystems.¹

The latest NSW State of the Environment Report (2018)² advises that:

- There are 1,025 species listed as threatened in NSW. This is a 3% increase from the previous report, with 26 species added to the list in the three years between reports.
- There are also 57 populations and 112 ecological communities listed as threatened.
- A total of 46 key threatening processes have been listed as causing these threats.³
- The main threats to listed species in NSW are habitat loss due to the clearing and degradation of native vegetation and the spread of invasive pests and weeds. The capacity of species to adapt to these pressures is further constrained by climate change.
- Other threats include: climate change, water extraction and changes to river flows; overgrazing by cattle, sheep and invasive herbivores; altered fire regimes due to European settlement; the indirect impacts of development, particularly in new areas where high rates of mortality and injury to wildlife can occur; and disturbance to behaviour and breeding cycles from infrastructure, noise and lighting.
- Overall, there has been a general pattern of decline in species diversity since European settlement.

Additionally, the 2019-2020 bushfire season has fundamentally changed the landscape in which the BOS operates. The bushfires had a devastating impact on our natural environment. Significant ecosystems and landscapes were decimated, including World Heritage-listed National Parks,⁴ ancient rainforests⁵ and waterways, following post-fire flooding.⁶ An estimated 830 million tonnes of greenhouse gases were emitted.⁷ While it is difficult to estimate the exact number of native animals

¹ United Nations, *Convention on Biological Diversity*, 1992

² New South Wales Environment Protection Agency, State of the Environment Report 2018, available at <https://www.soe.epa.nsw.gov.au/>

³ A threat may be listed as a key threatening process under Part 2, Division 5 of the NSW *Biodiversity Conservation Act 2016* if it adversely affects threatened species or ecological communities, or could cause species or ecological communities to become threatened.

⁴ See, for example, Department of Agriculture, Water and the Environment, 2020. *Greater Blue Mountains Area State of Conservation update - April 2020*, available at <http://www.environment.gov.au/system/files/resources/2073fd28-88e8-42f6-8b2a-20a811f7a279/files/greater-blue-mountains-area-state-conservation-update-april-2020.pdf>

⁵ See, for example, Queensland Government, 2020, *Altered fire regimes pressure on the Gondwana Rainforests*. Available for viewing at <https://www.stateoftheenvironment.des.qld.gov.au/heritage/world/altered-fire-regimes-pressure-on-the-gondwana-rainforests-of-australia>

⁶ NSW Government, 2020. *Bushfire impacts on water quality, February 2020*, available at <https://www.epa.nsw.gov.au/-/media/epa/corporate-site/resources/water/20p2093-bushfire-impacts-on-water-quality.pdf>

⁷ DISER, 2020, *Estimating greenhouse gas emissions from bushfires in Australia's temperate forests: focus on 2019-20*, Australian Government, available at <https://www.industry.gov.au/data-and-publications/estimating-greenhouse-gas-emissions-from-bushfires-in-australias-temperate-forests-focus-on-2019-20>

impacted by the fires, some experts originally predicted it could be as many as 800 million in NSW and one billion nationally,⁸ with more recent analyses suggesting as many as three billion nationally.⁹

In NSW bushfires burnt over 5.52 million hectares of land.¹⁰ The fire ground in NSW covered approximately 7% of the state, including 2.7 million hectares in national parks (37% of the NSW park system). The habitat of more than 293 threatened animals and 680 threatened plants has been impacted.¹¹

Further, the 2019-2020 bushfires demonstrate what has long been known: that climate change poses a serious threat to the viability of our wildlife and ecosystems.

This inquiry therefore needs to consider the BOS against the backdrop of the twin threats of a warming climate and biodiversity decline, and make recommendations accordingly.

Biodiversity offsetting

Biodiversity offsetting aims to ameliorate the negative environmental impacts from clearing vegetation for development, agriculture, and industrial and infrastructure projects. The premise behind biodiversity offsetting is to protect and improve biodiversity values in one area to compensate for impacting on biodiversity values in another area. Improvement (i.e. gain) in the biodiversity values of the offset area is needed to ensure there is a no net loss in biodiversity values.

Offsetting is understood to have emerged in the United States of America in the 1970s, originally as an approach to manage the impacts of development on wetlands. Since then, the use of offsets has expanded rapidly across jurisdictions world-wide.¹² Offsetting has become an attractive option for governments and policy makers seeking to ensure development can proceed despite environmental impacts.

However, questions remain about the effectiveness of biodiversity offsetting and its ability to deliver the anticipated environmental outcomes. Critics of biodiversity offsetting point to difficulties in quantifying biodiversity values for market purposes, and in establishing offset markets (i.e. supply and demand requirements), challenges in re-creating nature, time lags in restoring areas, failure to

⁸ Professor Chris Dickman, Faculty of Science, University of Sydney. For an explanation of Professor Dickman's estimates see <https://www.sydney.edu.au/news-opinion/news/2020/01/08/australian-bushfires-more-than-one-billion-animals-impacted.html>

⁹ WWF-Australia, *Impacts of the Unprecedented 2019-20 Bushfires On Australian Animals*, November 2020, available at https://www.wwf.org.au/ArticleDocuments/353/WWF_Impacts-of-the-unprecedented-2019-2020-bushfires-on-Australian-animals.pdf.aspx

¹⁰ NSW Independent Bushfire Inquiry, *Final Report of the NSW Bushfire Inquiry*, 31 July 2020, available at <https://www.dpc.nsw.gov.au/assets/dpc-nsw-gov-au/publications/NSW-Bushfire-Inquiry-1630/Final-Report-of-the-NSW-Bushfire-Inquiry.pdf>

¹¹ See NSW Department of Planning, Industry and Environment, *Understanding the effects of the 2019-20 fires*, available at <https://www.environment.nsw.gov.au/topics/parks-reserves-and-protected-areas/fire/park-recovery-and-rehabilitation/recovering-from-2019-20-fires/understanding-the-impact-of-the-2019-20-fires>

¹² See, for example: Maron, M. et al. (2012). *Faustian bargains? Restoration realities in the context of biodiversity offset policies*, *Biological Conservation* 155 141-148; Ruoso, L. & Plant, R. (2021) *Distributive and contextual equity in landholder participation in biodiversity offsets: a case study of biodiversity offsets in New South Wales, Australia*, *Ecosystems and People*, 17:1, 6-24, DOI: 10.1080/26395916.2020.1862914

account for declining base lines, failures to effectively manage offsets sites and protect offset sites in perpetuity, and perverse outcomes, as reasons to adopt the use of biodiversity offsets with caution.¹³

Best practice science-based offsetting principles

There are a number of fundamental principles that must underpin any ecologically sound biodiversity offsetting scheme. These principles must be enshrined in relevant legislation, and in assessment methodology tools. For example:

- **Biodiversity offsets must only be used as a last resort, after consideration of alternatives to avoid, minimise or mitigate impacts:** The mitigation hierarchy should be clearly set out in relevant planning legislation as a mandatory pre-condition before any offsetting option is considered. Appropriate guidance and emphasis should be provided to proponents on how they can demonstrate their endeavours to genuinely ‘avoid’ and ‘mitigate’ aspects of the proposed development.
- **Offsets must be based on the ‘like for like’ principle:** Any ecologically credible offset scheme must enshrine the requirement of ‘like for like’ offsets, to ensure that the environmental values of the site being used as an offset are equivalent to the environmental values impacted by the proposed action. Otherwise the resulting action is not an offset. A ‘like for like’ requirement is absolutely fundamental to the ecological integrity and credibility of any offset scheme. Any concerted policy action and long-term strategic planning to contextualise offsetting within a broader strategy of environmental conservation, must be based on sound landscape conservation principles, without eroding the like for like principle.
- **Legislation and policy should set clear limits on the use of offsets:** Offset schemes must have clear parameters. The use of ‘red flag’ or ‘no go’ areas is essential to make it clear that there are certain matters in relation to which offsetting cannot be an appropriate strategy. This is particularly relevant to critical habitat and threatened species or communities that cannot withstand further loss. (This principle must not be undermined by relaxing the ‘like for like’ rule).
- **Indirect offsets must be strictly limited:** There should be extremely minimal use of indirect offsets under any offset scheme, including, for example, payment of money in lieu of a direct offset. This is due to significant uncertainty of regarding any link between an indirect offset and relevant environmental outcomes, and higher risk that biodiversity outcomes may not be achieved at all. Expanded use of indirect offsets results in net loss of impacted biodiversity.

¹³ See, for example: Bull, J.W., Blake Suttle, K., Gordon, A., Singh, N.J., and Milner-Gulland, E.J. (2013). *Biodiversity offsets in theory and practice*, Fauna and Flora International, Oryx, 47(3) 369-380; Curren, M. et al. (2014). *Is there empirical support for biodiversity offset policy?* Ecological Applications, 24(4) pp 617-632; Fallding, M. (2014). *Biodiversity Offsets: Practice and Promise*, (2014) 31 Environmental Planning & Law Journal 33; Gordon, A., Bull, J.W., Wilcox, C., Maron, M., (2015). *Perverse incentives risk undermining biodiversity offset policies*. J. Appl. Ecol. 52, 532–537; Gibbons, P., Macintosh, A., & Constable, A., and Hayashi, K. (2017). *Outcomes from 10 years of biodiversity offsetting*. Global Change Biology. 24. 10.1111/gcb.13977; Pope, J., Morrison-Saunders, A., Bond, A. et al. *When is an Offset Not an Offset? A Framework of Necessary Conditions for Biodiversity Offsets*. Environmental Management 67, 424–435 (2021). <https://doi.org/10.1007/s00267-020-01415-0>

- **Offsetting must achieve benefits in perpetuity:** An offset area must be legally protected and managed in perpetuity, as the impact of the development is permanent. Offset areas should not be available to be offset again in the future.
- **Offsets must be designed to improve biodiversity outcomes:** Simply requiring ‘no net loss’ does not acknowledge current trajectories of biodiversity loss, and that positive action is required to halt and reverse this trend. Offset schemes should be designed to *improve* biodiversity values (e.g. ‘no net less or better’, ‘net gain’, ‘maintain and improve’).
- **Offsets must be additional:** Any offset action must be additional to what is already required by law. The requirement of ‘additionality’ must be based on clear criteria to ensure that offsets are not approved unless they provide a conservation benefit additional to what would otherwise occur.
- **Offset arrangements must be legally enforceable:** Any offset scheme must be underpinned by strong enforcement and compliance mechanisms in legislation, with adequate resourcing, established from the outset.
- **Offset frameworks should build in mechanisms to respond to climate change and stochastic events:** Climate change and associated impacts (such as more frequent and intense weather events) have a significant impact on biodiversity. Any biodiversity offsets scheme must build in mechanisms for responding to climate change and stochastic events (for example, a mechanism to ensure credit charge estimates can be reviewed following significant events, such as bushfires).

Overarching recommendation 1: Significant reform of the BOS is needed to increase its effectiveness in halting or reversing the loss of biodiversity values. Given the significant challenges in achieving genuine biodiversity outcomes through offsetting, it should only be allowed in limited circumstances, in line with best practice science-based principles. The principles are:

- Biodiversity offsets must only be used as a last resort, after consideration of alternatives to avoid, minimise or mitigate impacts
- Offsets must be based on the ‘like for like’ principle
- Legislation and policy should set clear limits on the use of offsets
- Indirect offsets must be strictly limited
- Offsetting must achieve benefits in perpetuity
- Offsets must be designed to improve biodiversity outcomes
- Offsets must be additional
- Offset arrangements must be legally enforceable
- Offset frameworks should build in mechanisms to respond to climate change and stochastic events

The NSW Biodiversity Offsets Scheme (BOS) – Current rules and requirements

The BOS was introduced as part of broader biodiversity conservation and land management reforms implemented via the new BC Act and Part 5 of the *Local Land Services Act 2013* (**LLS Act**). Prior to the BOS, various offsetting mechanisms have been used in NSW, including for example, ad hoc application of Office of Environment and Heritage Principles of Biodiversity Offsetting, the *Environmental Outcomes Assessment Methodology* under the former *Native Vegetation Act 2003* (**NV Act**), BioBanking and Biodiversity Certification Assessment Methodologies under the former *Threatened Species Conservation Act 1995*, and the NSW Biodiversity Offsets Policy for Major Projects.

The BOS replaced former mechanisms with a single biodiversity offsetting framework for all development pathways in NSW. However, contrary to advice from the Independent Biodiversity Legislation Review Panel that the same rules apply for rural land clearing,¹⁴ a separate system of ‘set asides’ was introduced for code-based land clearing under the LLS Act (see our comments on the use of set asides below). For the benefit of the Committee, we provide a brief outline of the legal framework that establishes the BOS:¹⁵

- The BOS is a system for offsetting the impacts associated with development or clearing through the purchase and retirement of ‘biodiversity credits’. It is established under Part 6 of the BC Act.
- The Biodiversity Offsets Scheme is underpinned by the Biodiversity Assessment Method (**BAM**) (BC Act, Part 6, Division 2).¹⁶ The BAM is a scientific tool that enables accredited assessors to identify the biodiversity values of a piece of land and assess the impacts of proposed clearing or development on those values. The BAM is applied using the BAM Calculator.¹⁷
- Details of the assessment are contained in a Biodiversity Development Assessment Report (**BDAR**) prepared by an accredited assessor.¹⁸ The BDAR is required to identify the biodiversity values of the land; identify the impacts of the proposed development or activity; outline the actions proposed by the proponent to avoid or minimise the impacts of the development or

¹⁴ The Final Report of the Independent Biodiversity Legislation Review Panel stated that:

“The panel recommends that decisions on all development, including agricultural development, should be based on a balanced and transparent appraisal of environmental, social and economic factors. This can be achieved by moving the regulation of agricultural development into the mainstream planning system. The panel recommends that all development should be required to determine how biodiversity impacts should be avoided, minimised and/or offset in accordance with a single, transparent and peer-reviewed method for biodiversity assessment”.

Independent Biodiversity Legislation Review Panel, *A review of biodiversity legislation in NSW Final Report*, December 2014, available at <https://www.environment.nsw.gov.au/topics/animals-and-plants/biodiversity/overview-of-biodiversity-reform/legislation/independent-panel>

¹⁵ Further information is available in EDO’s Fact Sheet: *Protecting Native Animals, Plants, Threatened Species & Ecological Communities*, June 2018, available at https://www.edo.org.au/wp-content/uploads/2020/06/180621_Protecting_Native_Animals_Plants_threatened_species_and_ecological_communities.pdf

¹⁶ See: <https://www.environment.nsw.gov.au/topics/animals-and-plants/biodiversity-offsets-scheme/accredited-assessors/biodiversity-assessment-method-2020>
<https://www.lmbc.nsw.gov.au/bamcalc>

¹⁸ *Biodiversity Conservation Act 2016*, Part 6, Division 3.

activity; and specify the number and class of biodiversity credits that are required to be retired to offset the residual impacts on biodiversity values.¹⁹

- Only developments that are likely to significantly affect threatened species will trigger the BOS (and require a BDAR). A development or activity is ‘likely to significantly affect threatened species’ if:
 - The ‘5-part test’ is applied and shows that the development or activity is likely to significantly affect threatened species or ecological communities, or their habitats;²⁰ or
 - The development exceeds the ‘BOS threshold’.²¹ There are two ways that clearing can exceed the BOS threshold: the area of clearing exceeds the limit for the lot size, or the clearing is proposed over land within the Biodiversity Values Map;²²
 - The development is proposed to be carried out in a declared area of outstanding biodiversity value.²³

- Once it is established that a development or activity has triggered the BOS, the implications vary according to the type of development proposed:
 - **Part 4 Local development:** for proposed local development (including designated development but not complying development):
 - the development application must be accompanied by a biodiversity development assessment report (BDAR).²⁴
 - when determining the development application, the consent authority must consider the likely impact of the proposed development on biodiversity values as assessed in the BDAR.²⁵
 - if the consent authority decides to grant consent, it must attach conditions requiring the proponent to offset the impacts of the development on biodiversity by purchasing and retiring biodiversity credits of the number and class specified in the BDAR.²⁶

¹⁹ *Biodiversity Conservation Act 2016*, s. 6.12

²⁰ The ‘5 Part test’ is set out in section 7.3 of the BC Act. It is designed to determine whether a proposed development or activity is likely to significantly affect threatened species, ecological communities or their habitats. It takes into account the following questions:

1. Whether the proposed development is likely to result in a viable local population of a species being placed at risk of extinction;
2. Whether the proposed development is likely to place an endangered ecological community at risk of extinction by reducing its extent or modifying its composition;
3. Whether the habitat of a threatened species or ecological community will be removed, modified, fragmented, or isolated and the importance of that habitat to the long term survival of the species or ecological community;
4. Whether the proposed development is likely to have an adverse effect on any declared area of outstanding biodiversity value; and
5. Whether the proposed development is or is part of a key threatening process or is likely to increase the impact of a key threatening process.

²¹ Note that this does not apply to development that is subject to assessment under Part 5 of the EPA Act.

²² *Biodiversity Conservation Act 2016*, s. 7.4; *Biodiversity Conservation Regulation 2017*, cl. 7.1, cl. 7.2 and cl. 7.3.

²³ An Area of Outstanding Biodiversity Value (AOBV) is an area of NSW that has been declared by the Environment Minister as an area of outstanding biodiversity value by virtue of its biodiversity significance, see *Biodiversity Conservation Act 2016*, Part 3.

²⁴ *Biodiversity Conservation Act 2016*, s. 7.7.

²⁵ *Biodiversity Conservation Act 2016*, s. 7.13 (2).

²⁶ *Biodiversity Conservation Act 2016*, s. 7.13 (3)

- however, the consent authority can reduce or increase the number of biodiversity credits required to be retired if it determines that the reduction or increase is justified having regard to the environmental, social and economic impacts of the proposed development.²⁷
 - the proponent must comply with the condition to retire biodiversity credits before undertaking the development but has the option to make use of variation rules outlined below.²⁸
 - if the consent authority believes that the development will have serious and irreversible impacts on biodiversity values,²⁹ the consent authority must refuse the application.³⁰
- **Major Projects:** for proposed State Significant Development or State Significant Infrastructure:
- the proponent's development application must be accompanied by a BDAR, unless the Secretary of the Department of Planning and Environment and the Chief Executive of OEH both determine that the proposed development is not likely to have any significant impact on biodiversity values.³¹
 - The application must also include any biodiversity assessment set as an environmental assessment requirement by the Secretary of Planning.³²
 - When determining the application, the consent authority must consider the likely impact of the proposed development on biodiversity values as assessed in the BDAR (if provided).³³
 - If the consent authority decides to grant consent or approval it can (but does not have to) attach a condition requiring the proponent to offset the impacts of the development on biodiversity by purchasing and retiring biodiversity credits (whether of the number and class specified in the BDAR or other number and class).³⁴
 - Any condition to retire biodiversity credits is required to be complied with before any development is carried out that would impact on biodiversity values.³⁵
 - If the consent authority believes that the development is likely to have 'serious and irreversible impacts' on biodiversity values, it is required to take those impacts into consideration and determine whether there are any additional and appropriate measures that will minimise those impacts if consent or approval is granted.³⁶ In other words, **there is no obligation to refuse major projects that will have serious and irreversible impacts on biodiversity values.**

²⁷ *Biodiversity Conservation Act 2016*, s. 7.13 (4)

²⁸ *Biodiversity Conservation Act 2016*, s. 7.13 (5)

²⁹ Serious and irreversible impact on biodiversity means the impact is likely to contribute significantly to the risk of a threatened species or ecological community becoming extinct, see *Biodiversity Conservation Act 2016*, s. 6.5; *Biodiversity Conservation Regulation 2017*, cl. 6.7

³⁰ *Biodiversity Conservation Act 2016*, s. 7.16

³¹ *Biodiversity Conservation Act 2016*, s. 7.9.

³² *Biodiversity Conservation Act 2016*, s. 7.9 (3)

³³ *Biodiversity Conservation Act 2016*, s. 7.14 (2)

³⁴ *Biodiversity Conservation Act 2016*, s. 7.14 (3)

³⁵ *Biodiversity Conservation Act 2016*, s. 7.14 (4)

³⁶ *Biodiversity Conservation Act 2016*, s. 7.16 (3)

- **Part 5 activities:**

- Applications for Part 5 activities that are likely to significantly affect threatened species must be accompanied by a species impact statement or a BDAR (the proponent can choose which one).³⁷
 - When determining whether to approve or carry out the Part 5 activity, the determining authority must consider the likely impact of the proposed activity on biodiversity values as assessed in the BDAR.³⁸
 - If the determining authority decides to approve or carry out the Part 5 activity, it may attach conditions requiring the proponent to offset the impacts of the activity on biodiversity by purchasing and retiring biodiversity credits of the number and class specified in any BDAR.³⁹
 - If the determining authority determines the number of biodiversity credits required to be retired is less than that specified in the BDAR, the determining authority must give reasons for the decision.⁴⁰
 - The proponent must comply with the condition to retire biodiversity credits before undertaking the development.⁴¹
- Offsets may be discharged by paying money to the Biodiversity Conservation Fund using the Biodiversity Offset Payment Calculator.⁴²

3. Key Issues

The Biodiversity Offsetting Scheme (**BOS**), and Biodiversity Assessment Method (**BAM**) established under the BOS, diverge so significantly from best practice science-based offsetting principles that biodiversity outcomes (including ‘no net loss’ in biodiversity values) are unlikely to be delivered. In particular, we highlight the following key deficiencies:

- **No clear and objective requirement to improve biodiversity outcomes**
- **Like-for-like offsetting requirements and variation rules provide too much flexibility**
- **Biodiversity conservation measures are allowed in lieu of genuine direct offsets**
- **Payments can be made to the Biodiversity Conservation Fund in lieu of securing offsets**
- **Mine rehabilitation is allowed in lieu of genuine offsets**
- **Credit requirements can be discounted based on non-ecological considerations**
- **Credit pricing is not aimed at achieving biodiversity outcomes**
- **BOS standards do not meet Commonwealth offset standards for accreditation**
- **Swamp offset policy**

³⁷ *Biodiversity Conservation Act 2016*, s. 7.8

³⁸ *Biodiversity Conservation Act 2016*, s. 7.15(2)

³⁹ *Biodiversity Conservation Act 2016*, s. 7.15 (3)

⁴⁰ *Biodiversity Conservation Act 2016*, s. 7.15 (4)

⁴¹ *Biodiversity Conservation Act 2016*, s. 7.15 (5)

⁴² See: <https://www.environment.nsw.gov.au/topics/animals-and-plants/biodiversity-offsets-scheme/offset-obligations-and-credit-trading/offsets-payment-calculator>

These are discussed in more detail below.

- **No clear and objective requirement to improve biodiversity values**

The BOS adopts a ‘no net loss’ standard. This will not achieve improved environmental outcomes as it does not acknowledge current trajectories of biodiversity loss, nor specify that positive action is required to halt and reverse this trend. Offset schemes should be designed to *improve* biodiversity values (e.g. ‘no net less or better’, ‘net gain’, ‘maintain and improve’).

Additionally, current legislative provisions are subjective and discretionary. When the Minister establishes the BAM, the Minister is to adopt a standard that, *in the opinion of the Minister*, will result in no net loss of biodiversity in New South Wales (BC Act s 6.7(3)(b)). This requirement should be strengthened by removing any subjectivity, and requiring a standard that meets objective criteria.

Recommendation 2: Impose a clear and objective environmental standard to improve biodiversity outcomes (e.g. no net loss or better) under the BOS and BC Act.

- **No consideration of impacts on broader ecosystem values, including soil, salinity and water**

The former NV Act recognised the importance of protecting not just biodiversity values but also ecosystem values, including soil and water quality.⁴³ The former *Environmental Outcomes Assessment Methodology* (EOAM) that underpinned the NV Act included not only a module for biodiversity assessment, but also modules for assessments of water quality, salinity and soil quality.

The BC Act is much more limited in its application. ‘Biodiversity values’ is currently defined as:

- (a) vegetation integrity—being the degree to which the composition, structure and function of vegetation at a particular site and the surrounding landscape has been altered from a near natural state,
- (b) habitat suitability—being the degree to which the habitat needs of threatened species are present at a particular site, and
- (c) biodiversity values, or biodiversity-related values, prescribed by the regulations.⁴⁴

While a ‘consultation note’ in the Biodiversity Conservation Bill suggested that values that might be prescribed in the regulations included soil health (to enable assessment of the degree to which proposed development impacts on soil salinity or soil degradation),⁴⁵ such ecosystem services have not been prescribed by the BC Regulation to date.⁴⁶

⁴³ One of the aims of the former *Native Vegetation Act 2003* was “to protect native vegetation of high conservation value having regard to its contribution to such matters as water quality, biodiversity, or the prevention of salinity or land degradation” (*Native Vegetation Act 2003*, section 3(c)).

⁴⁴ *Biodiversity Conservation Act 2016*, section 1.5(2)

⁴⁵ Draft Biodiversity Conservation Bill 2016, available at <https://biodiversity-ss.s3.amazonaws.com/Uploads/1462186512/Biodiversity-Conservation-Bill-2016.pdf>

⁴⁶ Clause 1.4 of the *Biodiversity Conservation Regulation 2017* provides that the following are prescribed as additional biodiversity values for the purposes of the Act:

- a) threatened species abundance—being the occurrence and abundance of threatened species or threatened ecological communities, or their habitat, at a particular site,
- b) vegetation abundance—being the occurrence and abundance of vegetation at a particular site,
- c) habitat connectivity—being the degree to which a particular site connects different areas of habitat of threatened species to facilitate the movement of those species across their range,
- d) threatened species movement—being the degree to which a particular site contributes to the movement of threatened species to maintain their lifecycle,

The failure to maintain mandatory soil, salinity and water assessments for clearing is not consistent with ensuring landscape health and productivity for future generations to achieve intergenerational equity. This is despite one of the purposes of the BC Act being to “maintain the diversity and quality of ecosystems and enhance their capacity to adapt to change and provide for the needs of future generations”.⁴⁷

Recommendation 3: Prescribe additional biodiversity-related values in the BC Regulation, including for soil quality, salinity, and water quality.

Recommendation 4: Update the BAM to include components for the assessment of soil quality, salinity, and water quality.

- ***The avoid, mitigate, offset hierarchy is poorly implemented***

The BOS framework intends for offsets to be used after action is taken to avoid or minimise that impact.⁴⁸ However, the ‘avoid, mitigate, offset’ hierarchy is poorly implemented and as a result, offsets can be used without a requirement to *genuinely* avoid and minimise impacts on threatened species and ecological communities.⁴⁹ There must be clear guidance provided as to what steps must be taken and evidenced before offsets can be used. Projects that do not demonstrably attempt to avoid or minimise environmental impacts should be rejected.

Recommendation 5: Require genuine attempts to avoid and minimise impacts on threatened species and ecological communities be demonstrated before the BOS can be applied. Clear guidance on the required steps and evidence of steps taken should be developed.

- ***Like-for-like offsetting requirements and variation rules provide too much flexibility***

One of the cornerstones of best-practice science-based offsetting is that offsetting is like-for-like (that is, impacts are sought to be countered by ecologically equivalent offsets). However under the BOS, like-for-like offset rules provide a significant degree of flexibility, including in relation to the spatial location of offsets (for example, proponents could destroy koala populations and habitat around Gunnedah and offset them with koala populations on the south coast of NSW) and allowing offsetting of vegetation within the same class rather than the same plant community.⁵⁰ Variation rules provide further flexibility, including that in some cases offsets *need not even be the same species*, so long as the offset species has the same or a higher threat status under the BC Act, and is in the same or adjoining subregion, or any other subregion within 100km of the impacted site.⁵¹

This level of flexibility is not in line with best practice and will not reverse declining biodiversity. If like-for-like credits are not available, this is an indication that the proposal’s impact is significant (and

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- e) flight path integrity—being the degree to which the flight paths of protected animals over a particular site are free from interference,
 - f) water sustainability—being the degree to which water quality, water bodies and hydrological processes sustain threatened species and threatened ecological communities at a particular site.

⁴⁷ *Biodiversity Conservation Act 2016*, section 1.3(b)

⁴⁸ *Biodiversity Conservation Act 2016*, s 1.3(k), 6.2(d), 6.4(1), 6.12(c), 7.13(3), 7.13(6), 7.14(3), 7.14(5), 7.15(3), 7.15(6), 7.16(1), 7.17(2)(d)).

⁴⁹ *Biodiversity Conservation Regulation 2017*, cl 6.2(1).

⁵⁰ *Biodiversity Conservation Regulation 2017*, clause 6.3

⁵¹ *Biodiversity Conservation Regulation 2017*, cl 6.4(1)

potentially serious and irreversible), particularly for species or ecological communities already at risk of extinction. This should trigger a refusal, rather than a further bending of the rules to allow indirect offsetting.

Recommendation 6: Tighten like-for-like offsetting requirements and variation rules.

- ***Biodiversity conservation measures are allowed in lieu of genuine direct offsets***

In some instances, the BOS allows alternative ‘biodiversity conservation measures’ (such as research and targeted surveys) to be credited in lieu of genuine direct offsets.⁵² While there are some restrictions around when biodiversity conservation measures can be used, this is another example of undermining like-for-like standards for biodiversity offsetting. It is essentially trading off a permanent impact for an activity that may or may not yield a direct environmental outcome in the future.

Recommendation 7: Significantly limit indirect offset options.

- ***Payments can be made to the Biodiversity Conservation Fund in lieu of securing offsets***

The BOS allows payments to be made to the Biodiversity Conservation Fund managed by the BCT in lieu of securing offsets.⁵³ We do not support payments into the fund in lieu of finding actual direct offsets. This puts the onus on the BCT to find a credit without stopping to check if a relevant credit can be found. It also allows the BCT to use funds for “other biodiversity conservation measures or actions” as an alternative to retirement of credits for genuine like-for-like offsets.

Recommendation 8: Set stricter parameters around the payment of money to the BCT in lieu offsets, including allowing/requiring the BCT to refuse to accept an offset liability for a proponent where it would not be possible for them to obtain like-for-like offsets.

- ***Mine rehabilitation is allowed in lieu of genuine offsets***

Ancillary rules can set out standards for the ecological rehabilitation of sites impacted by the carrying out of mining and the credit value of any such rehabilitation.⁵⁴ The NSW Government is currently considering feedback on draft Mine Rehabilitation Ancillary Rules. Allowing mine rehabilitation to generate credits under the BAM is highly problematic. Providing any offset credits for mine rehabilitation work creates a perverse incentive 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 counting. We also note that, under previous rules,⁵⁵ credits for mine rehabilitation were significantly discounted to recognise the high level of uncertainty in achieving positive biodiversity outcomes through mine rehabilitation but even this safeguard has been weakened. It is particularly concerning that the use of

⁵² See *Ancillary rules: Biodiversity conservation actions* Published under clause 6.5 of the *Biodiversity Conservation Regulation 2017*, available at <https://www.environment.nsw.gov.au/resources/bcact/ancillary-rules-biodiversity-actions-170496.pdf>

⁵³ *Biodiversity Conservation Act 2016*, Part 6, Division 6

⁵⁴ *Biodiversity Conservation Regulation 2017*, cl 6.5(2)

⁵⁵ Under the former *Framework for Biodiversity Assessment* mine rehabilitation activities generated just 25% of credits, see *Framework for Biodiversity Assessment* (p 50) <https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Animals-and-plants/BioBanking/framework-biodiversity-assessment-140675.pdf>

mine rehabilitation offset credits has been occurring despite the absence of a finalised policy on this issue.

Recommendation 9: Do not allow future mine rehabilitation to generate offset credits and be counted as an upfront offset.

Case Study – Mine Rehabilitation Offsets

Despite the NSW Government failing to finalise the ancillary rules for mine site ecological rehabilitation under the BOS; and in the ongoing absence of independent, scientifically verified evidence that mine rehabilitation is able to create specific, self-sustaining ecological communities, development approvals have increasingly permitted the use of mine rehabilitation to provide biodiversity offsets.

The problems with such an approach can be seen through the approval of the United Wambo Open Cut Coal Mine Project (SSD 7142) and associated Modifications (DA 305-7-2003 MOD 16 & DA 177-8-2004 MOD 3) (**United Wambo**).⁵⁶ United Wambo is located in the Hunter Valley coalfield near Singleton and is generally bounded by Wollemi National Park to the southwest. Approval of United Wambo facilitated the integration of open cut mining operations across two existing coal mining operations under a single development consent and allowed extraction of an additional 150 million tonnes of run-of-mine (**ROM**) coal over a 23-year period.⁵⁷ Conditions of approval for United Wambo include:

B61 The Applicant may use Ecological Mine Rehabilitation to satisfy up to 20% of the CEEC ecosystem credit requirements in Table 5.

B62. Within 10 years of the cessation of mining operations, or other timeframe agreed by the Planning Secretary, the Applicant must retire the ecosystem credits generated from Ecological Mine Rehabilitation. If the Ecological Mine Rehabilitation areas do not comply with the residual credit requirements in Table 5 and/or the relevant objectives in Table 6, then the Applicant must retire the residual credit requirements in consultation with BCD and in accordance with the Biodiversity Offsets Scheme of the BC Act, to the satisfaction of the BCT.

Table 5 of the approval refers to the “Central Hunter Valley Eucalypt Forest and Woodland CEEC” (**CHVEFW**), a critically endangered ecological community under the *Environment Protection and Biodiversity Conservation Act 1999* (**EPBC Act**) and includes the number of offset credits that must be generated to offset the clearing of 246.8 ha of this CEEC.

⁵⁶ http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7142

⁵⁷

<https://majorprojects.accelo.com/public/9d419afa80d7c781aef75f34cdbe7d05/SSD%207142%20Conditions%20of%20Consent%20FINAL.pdf>

During the assessment process, the decision maker, the Independent Planning Commission (**IPC**) was advised that the area of the CEEC to be impacted by the Project was one of only two large remnants (>200ha) remaining in the valley.⁵⁸ Further, the IPC heard from Dr Stephen Bell that:⁵⁹

“There are several scientific papers in the peer-reviewed literature that clearly show how successfully recreating natural ecosystems on former mined lands is improbable (e.g. Doley & Audit 2013; Erskine & Fletcher 2013; Lamb et. al. 2015; Ngugi & Neldner 2015; Ngugi et. al. 2015; McDonald et al 2016; Chen et. al. 2018). I therefore do not believe that the proposed mine rehabilitation objectives or expected environmental outcomes will be achieved, or that satisfactory re-establishment of cleared threatened ecosystems on mined lands will occur. Novel ecosystems (Doley & Audit 2013; Erskine & Fletcher 2013) will be established in their place, which are unlikely to provide an adequate offset for cleared threatened communities.”

Dr Bell had previously provided expert advice to community members commenting on the EIS that:⁶⁰

“Despite claims by Umwelt that successful rehabilitation of mined land has already been demonstrated in the Hunter Valley (including at Mt Owen and Mangoola), there is no documented evidence of this. Suggestions that existing mine rehabilitation at United and Wambo, within the Project area, already comply with Central Hunter Ironbark – Spotted Gum – Grey Box Forest EEC (Appendix 13, p. 115) are unsubstantiated and misleading. Consequently, based on the literature, and my own observations of mining rehabilitation over the past two decades, I do not agree that mine rehabilitation should comprise any of the required offsetting for any mine development in the Hunter Valley until there is conclusive evidence (i.e. peer-reviewed publications) that successful restoration can be achieved. Clear evidence of recruitment (new individuals added to the population via seed production and germination, not merely observations of flowering events) are a critical component of success to ensure self-sustaining communities.

Given the extent of published scientific studies on coal mine rehabilitation depicting poor resemblance to target ecological communities, and the lack of evidence to show that successful restoration has already been achieved in the Hunter Valley, I do not believe that the proposed offsetting targets will deliver the stated environmental outcomes.”

In its Statement of Reasons (**SoR**), the IPC acknowledged the uncertainty about whether CHVEFW can be established through mine rehabilitation. It also acknowledged that “it can take up to 20+ years to restore self-sustaining native woodland ecosystems that are resilient”. The IPC’s response to this was to impose a condition that requires the proponent to retire alternative credits (Condition B62).

It is clear from the scientific literature that the 10 year timeframe in Condition B62 is insufficient to establish self-sustaining ecosystems. At best, mine rehabilitation creates a significant lag between the

⁵⁸ Expert evidence of Mr David Paull available at:

<https://www.ipcn.nsw.gov.au/resources/pac/media/files/pac/projects/2018/11/united-wambo-open-cut-coal-mine-project-ssd-7142/comments-and-presentations/david-paull.pdf>

⁵⁹ Expert evidence of Dr Stephen Bell available at:

<https://www.ipcn.nsw.gov.au/resources/pac/media/files/pac/projects/2018/11/united-wambo-open-cut-coal-mine-project-ssd-7142/independent-experts-engaged-by-edo-on-behalf-of-hunter-environment-lobby/united-wambo--expert-biodiversity-report--stephen-bell.pdf>

⁶⁰ Expert evidence of Dr Stephen Bell, available at:

<https://majorprojects.accelo.com/public/0bb4066778d387f1dc68b52c4418191f/160922%20App%20%20Review%20of%20Biodiversity%20Issues%20and%20Rehabilitation.pdf>

impact of the clearing and the generation of the offsets. Of more concern is the significant risk that the offsets will not be delivered as intended, or at all. In the case of United Wambo if the mine rehabilitation offsets are unsuccessful, the condition permits offsets to be generated through the BCT, which does not require like-for-like offsets under variation rules. This means there can be no certainty the conditions will deliver the necessary protection for CHVEFW, a critically endangered ecological community.

- **Credit requirements can be discounted based on non-ecological considerations**

Offsetting credit requirements for approvals under the LLS Act or development under the EP&A Act can be reduced based on non-ecological considerations including the social and economic impacts of the proposed clearing or development.⁶¹ The relevant provisions vary depending on whether it is Part 4 local development, State significant development or State significant infrastructure, or a Part 5 activity. For example:

- In the case of **Part 4 local development**, the conditions of the consent *must* require the applicant to retire biodiversity credits to offset the residual impact on biodiversity values of the number and class specified in the biodiversity development assessment report (**BDAR**) (BC Act, s7.13(3)). However, the consent authority may reduce or increase the number of biodiversity credits that would otherwise be required to be retired if the consent authority determines that *the reduction or increase is justified having regard to the environmental, social and economic impacts of the proposed development*. The consent authority *must give reasons for a decision* to reduce or increase the number of biodiversity credits (BC Act, s 7.13(4)).
- In the case of **State Significant Development** or **State Significant Infrastructure**, the Minister has significant discretion regarding whether to require the proponent to retire biodiversity credits to offset biodiversity impacts. If the Minister for Planning decides to grant consent or approval and the biodiversity offsets scheme applies to the proposed development, the conditions of the consent or approval *may* require the applicant to retire biodiversity credits to offset the residual impact on biodiversity values (whether of the number and class specified in the report *or other number and class*) (BC Act, s 7.14(3)). Unlike the requirements for Part 4 local development, the Minister is not required to justify the decision having regard to the environmental, social and economic impacts of the proposed development, or provide reasons for the decision.
- In the case of **Part 5 activities**, if the determining authority decides to carry out the activity or approve the carrying out of the activity and the biodiversity offsets scheme applies to the proposed activity, the conditions on which the activity is carried out or of the approval to carry out the activity *may* require the proponent to retire biodiversity credits to offset the residual impact on biodiversity values (whether of the number and class specified in the report *or other number and class*) (BC Act, s7.15(3)). If the number of biodiversity credits required to be retired is less than that specified in the biodiversity development assessment report, the determining authority is to *give reasons for the decision to reduce the number of biodiversity credits* (BC Act, s7.15(4)).

⁶¹ See section 60ZG(4) of the LLS Act and section 7.13(4) of the *Biodiversity Conservation Act 2016*

This discretion is another avenue whereby the ecological validity and integrity of an offset can be undermined under current NSW laws. In particular, the option to discount offset requirements based on non-ecological considerations is inconsistent with the principle that offset requirements should be science-based.

Recommendation 10: Remove the ability to discount offsets. However, if a discounting mechanism is retained, it should be strictly limited – i.e. any discounts should only be allowed if based on ecological reasons, and if reasons are provided for decisions.

- ***Credit pricing is not aimed at achieving biodiversity outcomes***

Turning biodiversity into a tradeable commodity without a comprehensive system of red-flags simply puts a price on extinction. The justification for creating a market for biodiversity credits is that as species and ecosystems become scarcer, it will become more expensive to purchase offset credits and therefore provide limits on the amount of clearing undertaken. However, the process of credit pricing under the NSW framework is fundamentally undermined by the failure to require true like-for-like offsets and the existence of the variation rules. These rules mean that it is possible to comply with offset requirements without actually protecting the populations or ecological communities at risk, thereby avoiding increased credit prices for rare species or ecosystems. The underlying formulation of the credit price also fails to adequately recognise scarcity. Further, the ability for a proponent to meet their offset obligation by simply paying money to the BCT creates a lag between the ability to clear vegetation and habitat and the identification that there are no equivalent species or ecosystem offset areas available, i.e. like-for-like areas no longer exist. The presence of the BCT as a major purchaser of credits also risks further distorting the market, with anecdotal reports that landholders willing to create stewardship sites and sell offset credits are not able to obtain sufficient financial benefit from the process because their cost of management exceeds the estimates generated by the Biodiversity Offset Payment Calculator.⁶²

There is ongoing consultation regarding the form of the BCF Charge System, with a revised system currently under development. The key problems with current system described above continue to be embedded into proposals for the revised Charge System. The purpose of the Charge System is consistently expressed in the language of creating a functioning market, when in fact the key purpose should be to deliver positive environmental outcomes and internalise what would otherwise be externalities of biodiversity destruction.

Recommendation 11: Formulas used to determine credit pricing must incorporate an appropriate risk factor to ensure that like for like offsets can be sourced and managed in perpetuity and that increasing scarcity of biodiversity is embedded in the pricing mechanism in a non-linear fashion (to ensure that it becomes increasingly expensive to purchase credits for increasingly scarce species and ecosystems).

⁶² The Offsets Payment Calculator is an interactive tool designed to determine how much a developer must pay into the Biodiversity Conservation Fund to satisfy an offset obligation, if they opt to do so instead of obtaining and retiring credits. The public tool provides an estimate of this price in advance of any formal negotiations with the BCT.

- **BOS standards do not meet Commonwealth offset standards**

We are concerned that **NSW offsetting standards are weaker than the national standards**. This has been highlighted in a number of instances, for example:

- As examined in the recent independent Review of the EPBC Act by Prof Graeme Samuel, the Commonwealth has had an offsets policy since 2012 that was “developed with a focus on regulatory and scientific considerations rather than the potential for a market.”⁶³ An important standard in the national policy is that indirect offsetting is strictly limited – 90 percent of an offset must be direct. The flexibility and discretion in the BOS to approve 100 percent indirect offsets is clearly inconsistent with the national standard.
- Documents released under FOI (see Case Study below) reveal that federal bureaucrats in the Environment Department identified key areas of difference between the NSW Biodiversity Offsets Policy for Major Projects (the predecessor of the BOS) from federal standards. Many of the policy settings from the NSW Biodiversity Offsets Policy for Major Projects were carried over into the BOS.

Despite these inconsistencies, the BOS has been endorsed for the purpose of the existing NSW *assessment* bilateral agreement. The assessment bilateral allows the Commonwealth Minister for the Environment to rely on specified environmental impact assessment processes of the State of New South Wales in assessing actions under the EPBC Act.⁶⁴

The inconsistency between NSW and national standards is also critical in the context of proposed legislation before the Senate designed to facilitate hand over environmental *approval* powers to states and territories on the basis that the states and territories meet national standards assessing impacts on matters of national environmental significance.

EDO has published extensive analysis of the proposal to hand over environmental approval powers (also known as “one stop shop” or “single touch” approvals policy), and engaged in the recent Independent Review of the EPBC Act by Prof Graeme Samuel. We would be happy to provide the Committee with further details on the implications of this policy for NSW biodiversity.⁶⁵

Any proposal to accredit NSW processes through an *approval*/bilateral agreement would involve seeking federal accreditation of weaker NSW standards. This has been done before as the following case study shows.

⁶³ Independent review of the EPBC Act, Discussion Paper, 2020, p25.

⁶⁴ See <https://www.environment.gov.au/epbc/bilateral-agreements/nsw>. Amending Agreement No 1, which commenced on 24 March 2020, recognises the BOS under the New South Wales Assessment Bilateral Agreement. Offsets were also assessed in the Transitional Review of the agreement noting areas for improvement – see: [Transitional review of the New South Wales Assessment Bilateral Agreement \(environment.gov.au\)](#). The Agreement was amended to refer to the BOS after legislative changes in NSW – see: [nsw-bilateral-agreement-amending-agreement.pdf \(environment.gov.au\)](#)

⁶⁵ See for example: [Devolving Extinction: The risks of handing environmental responsibilities to state & territories - Environmental Defenders Office \(edo.org.au\)](#) and [EDO Submission to the EPBC Act Review Discussion Paper - Environmental Defenders Office EPBC Act reform: Can national environmental standards save our environment? - Environmental Defenders Office \(edo.org.au\)](#) and [EPBC Act reform: National environmental law reform on a knife edge - Environmental Defenders Office \(edo.org.au\)](#).

Case study: Accreditation of weaker NSW offset standards

It took a three-year legal process for the Humane Society International (**HSI**), represented by EDO NSW, to access documents about how the Australian Government came to accredit a NSW biodiversity offsets policy for major projects. The NSW policy in question allowed significant biodiversity trade-offs (that is, permitting developers to clear habitat in return for compensatory actions elsewhere) seemingly inconsistent with national biodiversity offset standards. HSI wanted to know how the national government could accredit a policy that didn't meet its own standards.

The original FOI request in this case was submitted in early 2015, during a time when federal, state and territory governments were actively in consultation on handing over federal approval powers to the states and territories under the EPBC Act. This was to be done in the name of efficiency, with the assurance that national standards would be upheld by the states.

Over 60 documents finally accessed by HSI show this was a false promise. After a three year process, on the eve of a hearing at the Administrative Appeals Tribunal, the federal Environment Department agreed and released over 60 documents. The documents revealed that **federal bureaucrats in the Environment Department identified key areas of the NSW policy that differed from federal standards.**

Recommendation 12: The NSW BOS must meet or exceed national biodiversity offset standards by strictly limiting indirect offsetting. The BOS should not be accredited for the purpose of handing over of federal approval powers, without significant reform.

• **Swamp Offsets Policy**

It has been known since at least 2014 that there is no evidence that damage to upland swamps from longwall mining can be mitigated or remediated. A report prepared for the Australian Government evaluating mitigation and remediation techniques in respect of longwall mining beneath the Temperate Highland Peat Swamps on Sandstone concluded that:⁶⁶

- The only strategy that has been proven to effectively mitigate the impacts of longwall mining on swamps is to change the mine plan layout.
- There were no examples upland peat swamps impacted by longwall mining that have been remediated. That is, it is not possible to remediate peat.
- Existing remediation techniques 'are unproven and appear insufficient without the destruction of the surface environment.'

Earlier versions of NSW offset systems explicitly excluded upland swamp communities because it was recognised that remediation of swamps cannot be demonstrated; impacts to upland swamps from activities such as longwall mining do not arise purely as a consequence of direct land clearing; and existing offset policies failed to adequately deal with these types of impacts. Despite this earlier recognition of the inappropriateness of offsetting upland swamp ecosystems, the *Policy Framework*

⁶⁶ Commonwealth of Australia 2014, Temperate Highland Peat Swamps on Sandstone: evaluation of mitigation and remediation techniques, Knowledge report; prepared by the Water Research Laboratory, University of New South Wales, for the Department of Environment, Commonwealth of Australia, p. 7.

for Biodiversity Offsets for Upland Swamps and Associated Threatened Species Impacts by Longwall Mining Subsidence) was finalised in 2016 as an addendum to the *NSW Biodiversity Offsets Policy for Major Projects (BOP)*. The *Addendum to NSW Biodiversity Offsets Policy for Major Projects: upland swamps impacted by longwall mining subsidence (Swamp Offset Policy)* is now adopted by the BOS under the BAM.⁶⁷

Upland swamps are highly susceptible to damage arising as a result of changes to hydrological systems, and underground mining can have significant impacts on these systems. Further, changes to hydrological systems may not result in immediately obvious surface impact that have occurred, or will occur in the future, as a consequence of the mining activity. As the Swamp Offset Policy notes:

“Subsidence impacts on upland swamps are inherently more uncertain than the clearing of native vegetation and it takes time and monitoring to ascertain whether impacts have occurred. This means that this addendum applies beyond the development application stage of a major project and requires an adaptive management approach to environmental consequences throughout the life cycle of a major project that involves longwall mining underneath upland swamps.”

The Swamp Offset Policy requires that “If consent [to a project] is granted, then conditions of consent must include performance measures preventing greater than negligible environmental consequences.” Greater than negligible environmental consequences include one or more of the following:

- “a shallow groundwater level within swamp sediments lower than the baseline level at any monitoring site within a swamp (in comparison to control swamps)
- a rate of shallow groundwater level reduction post-mining that exceeds the rate of shallow groundwater level reduction during the baseline period at any monitoring site (measured as average millimetres per day during the recession curve).”

While the Swamp Offset Policy requires a Proponent to calculate a theoretical maximum predicted offset liability and prepare a Biodiversity Offset Strategy that demonstrates how it can fully meet the requirements of its maximum predicted offset liability for the required ecosystem and species credits, there is no requirement for a Proponent to actually provide or have access to these offsets. Further, offsets are only required to be implemented if an impact remains after 12 months, irrespective of the scale of the impact during the 12 months. The policy recognises that it may not be possible to predict the actual impacts on upland swamps but assumes that impacts will be identified during the life of the development and that further offsets will be available if required. This assumption is particularly problematic in the current environment where some swamp communities are considered critically endangered, many of the existing upland swamps are already located in protected areas, and there is no evidence that there are sufficient areas of upland swamp available to appropriately offset impacts from development.

Recommendation 13: Upland swamps should be considered red-flag areas and excluded from the offset system.

⁶⁷ See Biodiversity Assessment Method: definition of Upland Swamp Policy in Glossary, and cl 8.3.4(1)(c) and cl 8.5(6).

Case Study – Springvale Mine Extension Project

The Springvale Mine Extension Project (**Springvale Project**) is an underground coal mine located 15 km northwest of Lithgow in New South Wales, operated by Centennial Coal.⁶⁸ The Springvale Project approval permitted long wall mining for 4.5 million tonnes of run of mine (**ROM**) coal per year for 13 years, which in 2017 was increased to 5.5 million tonnes of ROM coal per year.⁶⁹ The mine sits within the catchment of the Coxs River which flows into Lake Burragorang and is impounded by Warragamba Dam. This dam is the primary reservoir for Sydney, supplying water to over 5 million people.⁷⁰ The mine also sits, in part, below Newnes Plateau Shrub Swamps in the Sydney Basin Bioregion, an endangered ecological community.

The draft Swamp Offsets Policy was developed during the period that the Springvale Project was being assessed, and was applied to the project.⁷¹ The environmental assessment for the Springvale Project downplayed existing concerns about previous mining impacts on upland swamps in the vicinity of the Project⁷² and suggested that only small areas of swamps were likely to be impacted by ongoing mining.⁷³ The approval for the Project imposed a requirement for negligible environmental consequences for shrub swamps (Sunnyside and Nine Mile) and hanging swamps, but also included offset conditions that recognised that if the negligible impact condition was breached, it may not be “reasonable or feasible to remediate the subsidence impact or environmental consequence”.⁷⁴ Offsets were required to “give priority to like-for-like physical environmental offsets, but may also consider payment into any NSW Offset Fund established by OEH, or funding or implementation of supplementary measures”.

A Swamp Offset Bond of \$2m was required to be paid prior to the commencement of mining, to be available to provide offsets in the event that monitoring demonstrated greater than ‘negligible environmental consequences’ resulted to Sunnyside East or Carne West Swamps as a consequence of mining. The conditions also recognised that it may become necessary to provide offsets for Gang Gang South West, Gang Gang East, Pine, Pine Upper, Paddys, Marangaroo Creek or Marrangaroo Creek Upper Swamps. The consideration of future potential impacts was to be undertaken through the ongoing development of longwall Extraction Plans.

It became evident during the development of Extraction Plans that impacts on swamps were likely to constitute greater than negligible environmental consequence and therefore require offsets in the

⁶⁸ Planning Assessment Commission, *Springvale Mine Extension Project Review Report*, June 2015, available at <https://www.ipcn.nsw.gov.au/resources/pac/media/files/pac/projects/2015/05/springvale-mine-extension-project/completed-review-report/springvale-mine-extension-project-review-reportpdf.pdf>

⁶⁹ <https://www.planningportal.nsw.gov.au/major-projects/project/4236>

⁷⁰ Water NSW < *Warragamba Dam*, <<https://www.watnsw.com.au/supply/visit/warragamba-dam>>.

⁷¹ See Planning Assessment Commission, *Springvale Mine Extension Project Review Report*, June 2015, p 24, available at <https://www.ipcn.nsw.gov.au/resources/pac/media/files/pac/projects/2015/05/springvale-mine-extension-project/completed-review-report/springvale-mine-extension-project-review-reportpdf.pdf>

⁷² See for example Planning Assessment Commission Second Review Report on Springvale Mine Extension Project, p. 5, available at:

<https://majorprojects.accelo.com/public/0cbf58fa90745afa2230adfad1c6c221/Springvale%20MEP%20Planning%20Assessment%20Commission's%20Second%20Review%20Report.pdf>

⁷³ See for example Springvale Mine Extension Project – Response to PAC Review Report p. 2, available at:

https://majorprojects.accelo.com/public/34182065ffe5d54def7944c3aa4f41bf/Springvale%20MEP_Centennial's%20Response%20to%20PAC%20Review.pdf

⁷⁴ Conditions of Consent

<https://majorprojects.accelo.com/public/153db5c0f5b4d6e848df4772a587d3bb/12.%20SMEP%20Consolidated%20Consent%20MOD%201.pdf>

future. In 2018, the (then) Department of Planning & Environment (**DPE**) increased the Swamp Offset Bond to \$14 million, recognising the more extensive environmental damage that was likely to occur.⁷⁵ Not only did the scale of the predicted impact on swamps change as the true impacts of mining became evident, the number of swamps likely to be subject to greater than negligible environmental consequence increased.

Sadly, it would appear that this damage has now occurred. In its submission on the Angus Place Mine Modification 5, another underground coal mine in the Springvale area, the Lithgow Environment Group (**LEG**) notes:

“LEG is all too familiar with this issue, given the recent loss of Sunnyside East Swamp, Carne West Swamp, Gang Gang East Swamp, and Gang Gang West Swamp to Springvale Colliery Longwall Panels LW418-421. Centennial Coal and the Department of Planning assured the community that these longwalls would have a “negligible (sic) impact”, yet all four swamps have now been irreparably damaged.”⁷⁶

This damage has occurred despite Extraction Plans being approved with no offsets in place and no clear pathway for the impacts to be offset in a timely manner.⁷⁷

- **‘Set asides’ for code-based land clearing**

As noted above, the BOS does not apply to code-based rural land clearing. Instead, a separate system of ‘set asides’ was introduced for code-based land clearing under the LLS Act.

Most clearing under Parts 5 and 6 of the Code requires landholders to establish ‘set-aside’ areas of managed vegetation but this mechanism side-steps genuine, evidence-based offsets. Instead, set-asides are based on simple area-based ratios and do not prevent a net loss of biodiversity.

Currently, there are no requirements that vegetation to be set-aside should be the same as (or of ecological equivalence to) the vegetation being cleared, and there are no requirements on what condition the vegetation should be in. Landholders are only required to ‘make reasonable efforts to manage the set-aside area in a manner expected to promote vegetation integrity in the set-aside area’.⁷⁸ Without a clear requirement for landholders that set-asides achieve no net loss or better, or detailed guidance about the location, type, extent, quality and diversity of vegetation provided, there is a high risk that set-asides will not actually deliver outcomes to compensate for the biodiversity values that are lost. For example, remnant vegetation containing mature trees can be cleared and compensated with shrubs and/or planted seedlings of a completely different species. The provisions that allow a discount or reduction in the area of a set-aside if it contains threatened ecological communities⁷⁹ may incentivise landholders to focus conservation efforts on high conservation value

⁷⁵ Independent Monitoring Panel and DPE correspondence regarding Extraction Plan for Longwalls 424 - 427, May 2018, available at:

[https://data.centennialcoal.com.au/domino/centennialcoal/cc205.nsf/0/59F8D36580DA11E3CA2582D90082E076/\\$file/Springvale%20IMP%20Advice_DPE%20Approval_DEE%20Approval.pdf](https://data.centennialcoal.com.au/domino/centennialcoal/cc205.nsf/0/59F8D36580DA11E3CA2582D90082E076/$file/Springvale%20IMP%20Advice_DPE%20Approval_DEE%20Approval.pdf)

⁷⁶ Submission available at: http://www.lithgowenvironment.org/uploads/leg_submission_-_angus_place_mod_5_-_8_june_2018_final.pdf

⁷⁷ Independent Monitoring Panel and DPE correspondence regarding Extraction Plan for Longwalls 424 - 427

⁷⁸ *Land Management (Native Vegetation) Code 2018*, clause 18(1)(a).

⁷⁹ *Land Management (Native Vegetation) Code 2018*, clause 81(5) and (6) 88(6) and (7).

land, but would only lead to improved environmental outcomes if the set-asides were genuine, best-practice offsets.

Further, while set-aside areas are intended to be managed in perpetuity (i.e. set-asides run with the land so as to apply to future landholders), legal requirements under the LLS Act are that set-asides are recorded on a public register.⁸⁰ This is not as effective as registering set-asides on title.⁸¹ Additionally, provisions allow set-aside areas to be cleared in the course of land management activities authorised or required by the Code or a certificate, and for allowable activities under Schedule 5A that improve the native vegetation on the set-aside area as determined under that code and certificate.⁸²

There are inadequate or non-existent monitoring and reporting requirements for set asides to determine if they are delivering environmental benefits over time – for example, whether planted seedlings actually thrive or perish.

The use of set-asides (including areas of replanted vegetation) to ameliorate impacts under Parts 5 and 6 of the Code is not appropriate for managing environmental harm. Any clearing of this type and scale should be properly assessed by the Native Vegetation Panel (**NV Panel**), with adequate offset requirements imposed.

We note that the Audit Office has identified several concerns regarding the operation, biodiversity value and feasibility of set-asides to achieve actual environmental benefits, including that there are limited requirements and no specific goals for the management of set-asides; no measures have been developed for gauging the success of the Code; there are limited monitoring requirements; and no specific requirements to control grazing.⁸³

Concerns with the use of set-asides are reinforced by the findings of a Natural Resource Commission (**NRC**) Report which found that, in contrast to the stated policy goal of setting aside two to four times the area approved for clearing:

nine of the eleven regions are setting aside less than the area approved for clearing (between 6 and 69 percent of the area approved to be cleared). These low set aside ratios are driven mainly by the extensive use of Part 3 of the Code (pasture expansion).⁸⁴

Any inquiry into offsetting in NSW should consider impacts of related offset systems that are having significant impacts on habitat and vegetation retention. The significant levels of clearing of native vegetation allowed under land clearing codes in NSW has the potential to reduce the availability of viable intact offset areas, and undermines objectives to conserve biodiversity.

A holistic approach to offsets reform is required. For related recommendations for reform we refer the Committee to: [Report: Restoring the balance in NSW native vegetation law - Environmental Defenders Office \(edo.org.au\)](https://www.edo.org.au).

⁸⁰ *Local Land Services Act 2013*, s 60ZC and *Local Land Services Regulation 2014*, clause 130

⁸¹ We note that Property Vegetation Plans under the former *Native Vegetation Plan 2003* were required to be registered on title. Best-practice offsetting would require genuine offsets to be registered on title.

⁸² *Local Land Services Act 2013*, s 60ZC(5)

⁸³ See Auditor General's report pp 20-22.

⁸⁴ Natural Resources Commission, *Final Advice on Land Management and Biodiversity Conservation Reforms*, July 2019, available at <https://www.nrc.nsw.gov.au/land-mngt>

Recommendation 14: Biodiversity offset reform should include recommendations for strengthening of the native vegetation clearing rules under the LLS Act, including the ‘set aside’ system.

- **Biodiversity certification**

Outline of current rules

Part 8 of the BC Act contains provisions for the biodiversity certification of land (**biocertification**). These provisions allow for biodiversity values and impacts to be assessed and addressed upfront at the strategic planning stage, with subsequent individual development applications on biodiversity certified land no longer requiring biodiversity assessment, or consideration of impacts on biodiversity (on the premise that these issues have already been addressed).

There are two types of biocertification available under the BC Act:

- Standard – available to land holders and planning authorities; or
- Strategic – available only to planning authorities. The Environment Minister may declare that an application by a planning authority is a strategic application by taking into account the size of the area, regional or district strategic plans that apply and the economic, social or environmental outcomes that biocertification would support.⁸⁵

Any planning authority or landholder can apply to the Environment Minister for biocertification of an area.⁸⁶ An application for biodiversity certification must: identify the land proposed for biocertification; identify the land on or in respect of which proposed conservation measures are to be implemented; and identify any person or body proposed as a party to the conservation measures (and who will be responsible for the implementation of the proposed conservation measures).⁸⁷ Applicants who are not planning authorities must consult with the relevant local council early in the process before any public consultation occurs.⁸⁸

An application must be accompanied by a Biodiversity Certification Assessment Report (**BCAR**).⁸⁹ This will require an accredited assessor to apply the BAM to the proposed biocertification area. The BCAR will: assess the biodiversity values of the land proposed for biocertification; assess the impacts on biodiversity values of the proposed actions; specify the number and class of biodiversity credits that would be required to offset those impacts; and specify other proposed conservation measures on other land to offset the impacts on biodiversity values.⁹⁰

If the Minister is of the opinion that land clearing and habitat loss on land proposed for biocertification is likely to have serious and irreversible impacts on biodiversity values, the Minister is required to consider those impacts and any additional measures to minimise them, when determining whether to confer biocertification.⁹¹ There is no mandatory ‘red flag’ requiring the Minister to refuse an application that has serious and irreversible impacts.

⁸⁵ *Biodiversity Conservation Act 2016*, s. 8.5(2); *Biodiversity Conservation Regulation 2017*, cl. 8.3.

⁸⁶ *Biodiversity Conservation Act 2016*, s. 8.5

⁸⁷ *Biodiversity Conservation Act 2016*, s. 8.5(3)

⁸⁸ *Biodiversity Conservation Act 2016*, s. 8.6(1)

⁸⁹ *Biodiversity Conservation Act 2016*, s. 8.5(4); *Biodiversity Conservation Regulation 2017*, cl. 6.9.

⁹⁰ *Biodiversity Conservation Act 2016*, s. 6.13

⁹¹ *Biodiversity Conservation Act 2016*, s. 8.8(2)

The order conferring biocertification must specify ‘approved conservation measures’ to offset the impacts on biodiversity values:

- For standard biocertification: the conservation measures will be the requirement to retire biodiversity credits in accordance with the BCAR.⁹²
- For strategic biocertification: in addition to biodiversity credits, other measures are available including the reservation of land under the *National Parks and Wildlife Act 1974*, the adoption of development controls (or State infrastructure contributions) under the *Environmental Planning and Assessment Act 1979* that conserve or enhance the natural environment, or any other measure determined by the Minister.⁹³

The Environment Minister can only grant biocertification over land if the Minister is satisfied that the ‘approved conservation measures’ adequately address the likely impacts on biodiversity values with regard to the biodiversity certification assessment report.⁹⁴

Analysis

EDO has previously raised concerns that the provisions for biocertification in the BC Act, and in particular the provisions for strategic biodiversity certification,⁹⁵ involve broad Ministerial discretion and compromised environmental standards.⁹⁶ For example:

- In determining whether to declare an application as ‘strategic’, the Minister must take listed criteria into account (including the size of the land, any regional or district plan that applies, any advice from the Planning Minister, and the economic, social or environmental outcomes that the proposed biodiversity certification could facilitate).⁹⁷ These criteria are not very informative or directive, and once taken into account, the decision to declare strategic biodiversity certification appears otherwise highly discretionary.

Under section 8.3(2)(b) of the BC Act, the Minister has broad discretion to authorise ‘approved conservation measures’ for strategic biodiversity certification. For example, in addition to the retirement of biodiversity credits, additional measures could include reserving land for new or expanded national parks, adopting development controls that conserve or enhance the environment (e.g. this may include restrictive zoning or development conditions), paying money for green infrastructure,⁹⁸ or any other measure determined by the Minister, including measures that the biodiversity certification applicant asks the Minister to sign-off on.⁹⁹ The Department has released *Guidance for planning authorities proposing conservation measures in strategic applications for*

⁹² *Biodiversity Conservation Act 2016*, s. 8.3(2)(a)

⁹³ *Biodiversity Conservation Act 2016*, s. 8.3(2)(b)

⁹⁴ *Biodiversity Conservation Act 2016*, s. 8.7

⁹⁵ A category of biodiversity certification, called strategic biodiversity certification, is available for planning authorities only – see *Biodiversity Conservation Act 2016*, clause 8.5(2)

⁹⁶ See, for example, EDO, *Submission on the NSW biodiversity and land management reforms: Draft regulations and products on public exhibition*, June 2017, available at https://www.edo.org.au/wp-content/uploads/2020/08/170615_EDO_NSW_Submission.pdf

⁹⁷ *Biodiversity Conservation Regulation 2017*, clause 8.3.

⁹⁸ For example, ‘Special infrastructure contributions’ that conserve or enhance the natural environment – *Environmental Planning and Assessment Act 1979* - section 7.22(1)(c).

⁹⁹ *Biodiversity Conservation Regulation 2017*, clause 8.2.

*biodiversity certification*¹⁰⁰ (**Conservation Measures Guidelines**) to assist planning authorities preparing applications for strategic biodiversity certification to design proposed conservation measures and demonstrate that proposed conservation measures adequately address the likely impacts on biodiversity values of the biodiversity certification of the land.

The following case study regarding the *Draft Cumberland Plain Conservation Plan* highlights how the provisions of Part 8 of the BC Act are applied in practice, and confirms many of EDO's concerns about the use of strategic biodiversity assessment including the inappropriate use of offsets, and the likely poor outcomes for biodiversity.¹⁰¹

Case Study - Draft Cumberland Plain Conservation Plan

The *Draft Cumberland Plain Conservation Plan* was prepared to support both an application to the NSW Minister for Energy and Environment (**the Minister**) for strategic biodiversity certification under the BC Act and an application to the Commonwealth Minister for the Environment seeking endorsement of the plan under the strategic assessment provisions of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (**EPBC Act**).

It is the first plan developed under the new BC Act provisions, and is a test-case for whether the new provisions of the BC Act will achieve the objects of the BC Act, including to maintain a healthy, productive and resilient environment, conserve biodiversity at bioregional and State scales and slow the rate of biodiversity loss and conserve threatened species and ecological communities in nature.

Biodiversity values of the Cumberland Plain

The Cumberland Plain region is a biologically diverse area with significant biodiversity values. The Draft Plan summarises key features of the landscapes and ecosystems of the area covered by the Draft Plan as including:

- More than 100 threatened or migratory fauna and flora species, including matters of national environmental significance;
- Approximately 61,000 hectares of retained native vegetation, much of this being ecological communities or habitats for species listed under the BC Act and/or EPBC Act;
- 40 plant community types in the area, approximately 30 of which are associated with BC Act or EPBC Act listed threatened ecological communities or classified as over-cleared vegetation types;
- Areas of remaining native vegetation that are often of high conservation value as they may contain the only remaining habitat for species and ecological communities that occur only in the Cumberland sub-region; and,

¹⁰⁰ Department of Planning, Industry and Environment, *Guidance for planning authorities proposing conservation measures in strategic applications for biodiversity certification*, September 2020, available at <https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Animals-and-plants/Biodiversity/conservation-measures-strategic-applications-biodiversity-certification-200425.pdf>

The Draft Plan and associated documents refers to draft Guidelines, as the Guidelines had not been finalised at the time of writing the Draft Plan.

¹⁰¹ A copy of our full submission on the Draft Cumberland Plain Conservation Plan is available at <https://www.edo.org.au/publication/submission-draft-cumberland-plain-conservation-plan/>

- Severely fragmented landscapes. Connectivity in the Cumberland sub-region is already compromised - once clearing levels exceed 70% of the landscape, biodiversity loss from fragmentation increases. This threshold has been passed in the Cumberland sub-region.

The Draft Plan identifies that there will be potential impacts from future development on:

- 1,777.8 hectares of native vegetation;
- 8 threatened ecological communities listed under the BC Act and 4 threatened ecological communities listed under the EPBC Act (and a fifth currently under nomination); and
- 25 flora species and 24 fauna species.¹⁰²

Key proposals for ameliorating impacts on biodiversity

The Draft Plan includes a number of key proposals for ameliorating impacts on biodiversity. These include:

- *Avoided areas:* 2,735 hectares of native vegetation avoided from development for its biodiversity value and 935 hectares of native vegetation avoided for other purposes including riparian corridors and steep slopes. These areas will be zoned E2 Conservation with strict development controls.
- *Strategic conservation area:* 28,300 hectares of strategic conservation area that will be subject to development controls set out in a new strategic conservation planning SEPP.
- *New, protected conservation lands:* Creating a minimum of 5,475 hectares of new, protected conservation lands for impacted native vegetation communities.
- *Ecological restoration:* Undertake up to 1,370 hectares of ecological restoration of threatened ecological communities.
- *Koala reserves and corridors:* Secure important koala movement corridors by establishing the Georges River Koala Reserve.
- *Prioritise and investigate other reserves:* The establishment of two new reserves - Gulguer Reserve Investigation Area and The Confluence Reserve Investigation Area.

Impacts on biodiversity, and use of offsets and approved conservation measures

- *Impacts on critically endangered Cumberland Plain Woodland (CPW):* The Biodiversity Assessment anticipates that a total of 1,015 ha of CPW will be directly impacted by the development. This is approximately 68 per cent of the threatened ecological community in the nominated areas. In contrast, only 393 ha was avoided for biodiversity purposes and 80 ha was avoided for other purposes. Given the critically endangered nature of this ecological community such a large amount of clearing should be considered unacceptable. The Conservation Plan proposes securing an offset target of 3,170 ha of CPW (Commitment 8.1) in conservation lands within strategic conservation areas. We are concerned that this commitment will be difficult to meet, particularly because:
 - Appropriate offset sites have not been identified upfront. The Confluence Reserve Investigation Area is considered unlikely to benefit CPW;

¹⁰² See Table 3: Summary of impacts based on the Assessment Report in Department of Planning, Industry, and Environment, *The Draft Cumberland Plain Conservation Plan*, August 2020, p 36, available at <https://www.planning.nsw.gov.au/Policy-and-Legislation/Strategic-conservation-planning/Cumberland-Plain-Conservation-Plan/Community-engagement>

- Limited funding for securing offsets has been secured; and
 - Securing offsets for CPW is known to be difficult - the Growth Centres Biodiversity Offset Program, which was developed as part of the 2010 Sydney Growth Centres Strategic Assessment, was intended to secure offsets for CPW, but publicly available reporting shows that cost and suitability constraints may impede the ability to secure high-value biodiversity offsets on the Cumberland Plain in a timely manner.¹⁰³
- *Impacts on threatened ecological communities and species:* We are concerned that the Draft Plan will have a significant impact on listed threatened species and communities. For example:
 - The offset hierarchy has been inappropriately applied, with areas that have been identified as unavailable for development being considered ‘avoided’ land;
 - Impacts are not limited to the identified areas, as infrastructure routes have not been determined and the Draft Plan envisages permitting infrastructure in otherwise ‘avoided’ land. This creates a significant risk of increased fragmentation;
 - The proposed offset ratio is low given the critically endangered and endemic status of many ecological communities and threatened species in the region;
 - Offset areas will include a significant proportion of revegetated areas which are not guaranteed to deliver the required vegetation communities or ecological functions and even if successful, won’t provide many ecological functions for tens - and for some important habitat features such as hollows - hundreds, of years; and
 - Cumulative impacts of development in surrounding areas have not been adequately considered.
 - *Approved conservation measures:* In conferring strategic biodiversity approval under the BC Act, the Minister has broad discretion under section 8.3(2)(b) to authorise ‘approved conservation measures’ for strategic biodiversity certification. In this instance, we are concerned that:
 - It is unclear exactly which proposed ‘actions’ and ‘commitments’ are intended to be approved conservation measures - the terminology used in the Draft Plan is confusing, and inconsistent with the BC Act, EPBC Act Terms of Reference,¹⁰⁴ or Guidelines for Conservation Measures.
 - Implementation of the commitments and actions identified in the Draft Plan will be challenging. Key challenges include:
 - Lack of committed funding beyond the first five years of the Draft Plan;
 - Multiple agencies and levels of government being responsible for delivering the various actions identified in the Draft Plan; and,
 - Reliance on a SEPP as a key mechanism for implementing key proposals such as the rezoning of avoided land to E2 – Environmental Conservation, and the implementation of development controls for strategic conservation areas, and

¹⁰³ Department of Planning, Industry and Environment, *Conserving western Sydney’s threatened bushland Growth Centres Biodiversity Offset Program Annual Report 2018-19*, May 2020, available at <https://www.environment.nsw.gov.au/research-and-publications/publications-search/growth-centres-biodiversity-offset-program-annual-report-2018-19>

¹⁰⁴ EPBC Act Terms of Reference outline the requirements for the Strategic Impact Assessment Report for the Cumberland Plain Conservation Plan for the purpose of the EPBC Act. A copy is available here [https://shared-drupal-s3fs.s3-ap-southeast-2.amazonaws.com/master-test/fapub_pdf/AA+Exhibitions/Final+Terms+of+Reference+\(1\).pdf](https://shared-drupal-s3fs.s3-ap-southeast-2.amazonaws.com/master-test/fapub_pdf/AA+Exhibitions/Final+Terms+of+Reference+(1).pdf)

DCPs for implementing other development controls. These instruments do not create fixed, permanent controls – there are broad discretions for making, amending and repealing these instruments.

- Commitments and actions being drafted inadequately for the purposes of compliance and enforcement (for example, use of uncertain language such as “where possible”, “consult”, “consider” etc.; or ‘high-level’ actions - where lack of specificity makes it difficult to determine whether an action has been adequately completed - e.g. “Provide ongoing support to Councils in the application of DCP controls within the nominated areas, including the sharing of knowledge, maps and data”).
- The Minister has broad discretion to determine ‘equivalent conservation measures’ as alternatives to the conservation actions identified, and to give effect to those equivalent measures without the need for further biodiversity assessment or public consultation (BC Act, ss 8.13, 8.13, 8.22).

Further information is available EDO’s full submission on the Draft Cumberland Plain Conservation Plan.¹⁰⁵

Recommendation 15: Offsetting under the NSW biocertification system be reviewed and strengthened in line with best practice offsetting principles.

4. Response to Terms of Reference

ai) The effectiveness of the scheme to halt or reverse the loss of biodiversity values, including threatened species and threatened habitat in New South Wales

It is our view that, without sufficient strengthening, the BOS will not be effective in halting or reversing the loss of biodiversity values, including threatened species and threatened habitat in New South Wales.

The policy settings underpinning the BOS do not align with best practice science-based biodiversity offsetting; they permit an inappropriate level of variation and discretion; and do not adopt the ecologically necessary limits to prevent extinctions (e.g. ‘red lights’). A summary of the key deficiencies and other key concerns are outlined Part 3 of this submission. The practical implication of the current BOS settings is that everything is amenable to offsetting, despite ecological evidence to the contrary. The BOS will not deliver the intended biodiversity outcomes, including to conserve biodiversity and maintain the diversity and quality of ecosystems, and it will not be effective in halting or reversing the loss of biodiversity values.

Significant reform of the BOS is needed to increase its effectiveness in halting or reversing the loss of biodiversity values.

¹⁰⁵ A copy of our full submission on the Draft Cumberland Plain Conservation Plan is available at <https://www.edo.org.au/publication/submission-draft-cumberland-plain-conservation-plan/>

aii) The role of the Biodiversity Conservation Trust in administering the scheme and whether the Trust is subject to adequate transparency and oversight

EDO has met with the BCT on a number of occasions to discuss implementation of key elements of the NSW offsets regime. We note that the BCT has been moving to increase transparency and there is an increasing amount of information on elements of the regime publicly available on the BCT website, including for example, specific detail of stewardship properties, and outcomes achieved to date.¹⁰⁶

However, important information that would permit the public to understand how the regime is functioning remains lacking. Of key concern is the fact that there is no overall offsets register that allows third parties to see and understand how much clearing, including information on species and ecosystem type, has been permitted under the scheme; and where, when and how such clearing has been offset. Although the BCT does not have responsibility for management of all offset types, as a key organisation in the offset market, it has an important role to play in ensuring this information is made publicly available.

We also remain concerned about the process used by the BCT to purchase credits where payments have been made into the Biodiversity Conservation Fund (i.e. BCT have been given funds by a developer in lieu of that developer identifying a direct offset themselves). Although the BCT has developed guidelines on the process it will use to seek and attempt to identify like for like offsets, it remains unclear how the BCT will source an appropriate offset if they are unable to acquire a like for like offset, or if there is simply no offset available. It is also unclear how information on the unavailability of offsets will feed into the BCT's decision making when acquiring new offset liabilities.

We provide more information on the financial administration of the scheme below.

b) The use of offsets by the NSW Government for major projects and strategic approvals

We are particularly concerned with the application of the BOS to major projects (i.e. State significant development and State significant infrastructure) and strategic approvals (biodiversity certification), as noted above.

Major projects

Despite major projects having, typically, the most significant environmental impacts, the assessment and offsetting rules are most flexible and discretionary when it comes to major projects. We reiterate two key concerns:

- **Lack of red flags:** For Part 4 local development, a consent authority must refuse an application if it is of the opinion that the proposed development is likely to have serious and irreversible impacts on biodiversity values (BC Act, s7.16(2)). However, in the case of State significant development or State significant infrastructure, the Minister or determining authority is only required to take those impacts into consideration and determine whether there are any additional and appropriate measures that will minimise those impacts if consent or approval is to be granted (BC Act, s7.16(3) and s7.16(4)). The discretion, combined with the flexibility of the BOS (e.g. no strict like for like, non-direct offsets allowed) means there are essentially no 'red flags' for major

¹⁰⁶ For example, see: [Biodiversity Offsets Program | BCT \(nsw.gov.au\)](https://www.biodiversity.gov.au/biodiversity-offsets-program)

projects; any impact can be essentially be ‘paid away’ through pseudo (indirect) offsetting obligations.

- **Discretion in applying offset credits:** As noted above, the Minister has significant discretion regarding whether to require the proponent to retire the amount biodiversity credits specified in the relevant BDAR to offset biodiversity impacts or a different number and class of biodiversity credits (BC Act, s7.14(3)). Unlike Part 4 local development or Part 5 activities, the Minister is not required to provide reasons for his/her decision.

We were disappointed to read recently that the NSW Government has been asked for a review of the BOS following criticism from the Deputy Premier John Barilaro and lobbying from developers and the mining industry about the inhibitive costs of offsets.¹⁰⁷ The costs of offsets should reflect the environmental value and scarcity of a natural asset. If the cost of offsetting the impacts of a particular project are prohibitive, then this would suggest that the impacts of the project are so great that the project should not proceed. Indeed, an offsets scheme based on best practice science-based principles, would trigger ‘red flags’, leading to the project being refused (or needing to be substantially modified), for biodiversity that cannot withstand further loss.

Recommendation 16: Offset rules for major projects should be strengthened, and in particular:

- c) Red flags must apply to major projects (e.g. major projects must be refused if there are serious and irreversible impacts).
- d) Discounting of offsets requirements should not be allowed, or very strictly limited (as noted above).

Strategic approvals

We assume that the reference to strategic approvals in the ToRs is a reference to biodiversity certification and strategic biodiversity certification under Part 8 of the BC Act. Our concerns with Part 8 of the BC Act have been detailed above.

Strategic environmental assessment can be a useful tool to underpin strategic land-use planning, providing a mechanism for assessing cumulative impacts and landscape scale processes, and providing upfront certainty to business and the community about the future development potential of an area. However, to be done properly, it must include important safeguards (such as stringent environmental impact thresholds, accountability mechanisms, and strong provisions for monitoring and enforcement),¹⁰⁸ and must not replace important site-specific assessment.

¹⁰⁷ See Sydney Morning Herald, ‘Greatest handbrake to investment’: NSW to review biodiversity offset scheme, 6 August 2021, available at <https://www.smh.com.au/national/nsw/greatest-handbrake-to-investment-deputy-premier-says-biodiversity-offset-scheme-is-broken-20210806-p58ggc.html>

¹⁰⁸ Strategic assessment processes to date have not yet got the balance right in the trade-off between upfront comprehensive assessment requirements and providing future administrative streamlining and certainty. An appropriate model would include the following safeguards:

- Mandatory required information standards for strategic assessment (including verified site data and consideration of alternative development scenarios).
- A requirement that the plan, policy or program for an area meets a ‘maintain or improve environmental outcomes’ test, as confirmed by the application of objective methodologies for biodiversity (for example, such as the NSW Environmental Outcomes Assessment Methodology under the Native Vegetation Act 2003).

ci) The impact of non-additional offsetting practices on biodiversity outcomes

Non-additional offsetting practices undermine the ability of the BOS to deliver biodiversity outcomes. Additionality is a key principle of best-practice science-based biodiversity offsetting. Any offset action must be additional to what is already required by law. The requirement of ‘additionality’ must be based on clear criteria to ensure that offsets are not approved unless they provide a conservation benefit additional to what would otherwise occur.

For example, concerns about ‘additionality’ have been raised with respect to proposed offsets for the Western Sydney Airport (WSA). A key component of the Biodiversity Offset Delivery Plan (BODP)¹⁰⁹ for the WSA is proposed restoration and management of native vegetation as a direct offset at the Defence Establishment Orchard Hills, land owned by the Commonwealth Department of Defence. The core offset area is contained within a Commonwealth Heritage Listed area. Critics of the BODP have raised concerns that the use of the Orchard Hills site does not provide additional benefits, consistent with the principle of additionality.¹¹⁰ Similar examples have arisen in other areas of the state including the lack of additionality regarding offsetting in areas that are already protected by planning laws such as E2 zones.

cii) Offset prices

Anecdotally it would appear that offset prices in NSW are effectively being driven by BCT pricing, with proponents using BCT credit prices as a guide to determine what they are willing to pay for offset prices in the broader market. This may be to the detriment of landholders wishing to enter into conservation agreements and who may not be able to match the cost efficiencies that are inherent in an organisation the size of the BCT. The pricing system is currently under review and provides an opportunity to address this and other problems with the current credit Biodiversity Offset Payment Calculator.

EDO has recently obtained expert economic advice in relation to offset pricing and the current BCT Charge System proposals.¹¹¹ Some key issues arising from that advice include:

- Current and proposed arrangements will tend to drive the BCT to purchasing the lowest cost land, rather than the highest value biodiversity. This in turns means the level of biodiversity protection across the state is likely to be skewed.

-
- Comprehensive requirements for public participation in both the assessment and accreditation process.
 - Clear mechanisms (such as zoning) to provide for adaptive management and deal with impacts at a fine scale that may not be foreseeable at the time of the assessment.
 - Monitoring, auditing, and reporting to ensure policy outcomes are being achieved.

See, further, EDO submission, *A legal assessment of NSW biodiversity legislation A report prepared for the Independent Biodiversity Legislation Review Panel*, September 2014, available at

<https://www.environment.nsw.gov.au/resources/biodiversity/reviewsubmissions/ELOLegalAssmntNSWBiodivLegEDO.pdf>

¹⁰⁹ See <https://www.westernsydneyairport.gov.au/environment-heritage/environment/biodiversity>

¹¹⁰ See, for example:

- The Guardian, *'Development should stop': serious flaws in offsets plan for new western Sydney airport*, 17 February 2021, available at <https://www.theguardian.com/environment/2021/feb/17/development-should-stop-serious-flaws-in-offsets-plan-for-new-western-sydney-airport>
- The Guardian, *Environment officials questioned use of land government already owned as offset for western Sydney airport*, 2 August 2021, available at <https://www.theguardian.com/environment/2021/aug/02/environment-officials-questioned-use-of-heritage-listed-land-as-offset-for-western-sydney-airport>

¹¹¹ Dr Neil Perry and Dr Gillian Hewitson *Expert comment on BCF Charge System - BCT Preliminary Design Approach - Issues paper for stakeholder meetings* August 2021.

- Systems such as the reverse auction system used by the BCT, which are aimed at minimising the cost of offsets, worsen the incentives for higher value land owners to offer their land as offsets. Under such a system, landholders may only be willing to generate offset credits on otherwise unprofitable land. Such an approach risk of prioritising small pockets of biodiversity that are not connected and that do not maximise the offset's biodiversity potential.
- The use of an econometric model to drive the Charge System means that past trades are used to inform future trades. This is problematic in circumstances where past trades have not appropriately valued the biodiversity destroyed, as has been the case to date.
- Currently, the BOS allows credits to be created for averted biodiversity loss, which occurs when unsecured biodiversity assets are secured. Effectively, a developer is paying for the loss of biodiversity at the development site relative to an assumed underlying decline in biodiversity rather than the value of the biodiversity being destroyed. This disincentivises development action that avoids biodiversity loss at the site.
- If biodiversity creation is not secured before it is destroyed by developers, a net loss of biodiversity occurs. This is not currently recognised in the credit pricing system but could be recognised in the Charge System by creating time-sensitive credits. For example, credits associated with the creation of biodiversity in 50 years could be worth half of the otherwise identical credits associated with creating biodiversity in 25 years.

Use of the system to date has also demonstrated that there is a significant risk that the BCT will not have sufficient funds to discharge ongoing offset obligations, further putting environmental outcomes at risk.¹¹² The ability of the Total Fund Deposit to support landholders to undertake management of offset sites in perpetuity also remains of concern to EDO.

ciii) Opportunities for private landowners to engage in the scheme

As noted above, we are aware of anecdotal reports that landholders willing to create stewardship sites and sell offset credits are not able to obtain sufficient financial benefit from the process because their cost of management exceeds the estimates generated by the Biodiversity Offset Payment Calculator.¹¹³ This creates a long term financial risk to landholders who are committing themselves and future owners to in perpetuity agreements, and a risk to the environment if necessary future management is not undertaken because funds are not available to support this work.

In the short term, Charge System must generate sufficient income to cover establishment costs, provide equivalent or better profit than traditional land uses, and cover any uncertainty and risk aversion associated with creating an offset site.¹¹⁴ We note that the upfront cost of entering the scheme is substantial and is likely to act as a disincentive for landholders interested in participating in the scheme unless adequately supported.

¹¹² DPIE Biodiversity Offset Payment Calculator Technical Review 30 September 2020, available at:

<https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Animals-and-plants/Biodiversity/biodiversity-offsets-payment-calculator-technical-review-consultant-extract.pdf>

¹¹³ The Offsets Payment Calculator is an interactive tool designed to determine how much a developer must pay into the Biodiversity Conservation Fund to satisfy an offset obligation, if they opt to do so instead of obtaining and retiring credits. The public tool provides an estimate of this price in advance of any formal negotiations with the BCT.

¹¹⁴ Dr Neil Perry and Dr Gillian Hewitson *Expert comment on BCF Charge System - BCT Preliminary Design Approach - Issues paper for stakeholder meetings* August 2021

(d) Any other related matters.

We draw the Committee’s attention to the following additional issues:

- A significant amount of “offsetting” is done under land clearing codes and rather than under the BOS. The “offsetting” done under the set aside mechanism does not trigger application of the BOS (see comments on set asides, above). If the BOS was effectively designed to actually reverse trajectories of decline for NSW biodiversity it needs to coordinate with and address the significantly increased habitat clearing that is occurring under land clearing rules.¹¹⁵
- The significant non-market benefits remain unvalued. Under the previous *Environmental Outcomes Assessment Methodology* (**EOAM**) under the *Native Vegetation Act 2003*, the methodology specifically assessed impacts of clearing on soil, water and salinity as part of a more holistic mandatory impact assessment. The BOS does not do this. As noted by Neil Perry: “Other non-market benefits of biodiversity could also be valued. For example, the climate regulatory functions of local biodiversity, the nutrient cycling performed, and the flood and soil erosion mitigation of existing forest stands can all be valued along with the existence, altruistic or intrinsic value of species and ecosystems using contingent choice or contingent valuation modelling.”
- Further consideration should be given to developing coordinated carbon and biodiversity policy stewardship mechanisms to maximise genuine environmental co-benefits.

¹¹⁵ See also: <https://www.edo.org.au/2020/04/02/native-veg-clearing-nsw-regulatory-failure/>

Attachment 1 – Previous EDO reports and submissions

- *Restoring the balance in NSW native vegetation law - Solutions for healthy, resilient and productive landscapes* – August 2020, available [here](https://www.edo.org.au/publication/report-nsw-native-vegetation-law/) [<https://www.edo.org.au/publication/report-nsw-native-vegetation-law/>]
- *Submission on proposed changes to Biodiversity Assessment Method*, October 2019, available [here](https://www.edo.org.au/publication/nsw-biodiversity-assessment-method-draft/) [<https://www.edo.org.au/publication/nsw-biodiversity-assessment-method-draft/>]
- *Submission on the NSW biodiversity and land management reforms: Draft regulations and products on public exhibition*, June 2017, available [here](https://www.edo.org.au/publication/submissions-on-the-nsw-biodiversity-law-reform-package-2016/) [<https://www.edo.org.au/publication/submissions-on-the-nsw-biodiversity-law-reform-package-2016/>], including, relevantly:
 - *Submission on the draft Biodiversity Conservation Regulation 2017*
 - *Submission on the draft Biodiversity Assessment Method*
 - *Submission on the draft Offsets Payment Calculator*
- *Submissions on the NSW Biodiversity Law Reform Package 2016*, 2016, available [here](https://www.edo.org.au/publication/submissions-on-the-nsw-biodiversity-law-reform-package-2016/) [<https://www.edo.org.au/publication/submissions-on-the-nsw-biodiversity-law-reform-package-2016/>]
including, relevantly:
 - *Submission on the draft Biodiversity Conservation Bill*
 - *Technical submission on the Biodiversity Assessment Method and Mapping Method*
 - *Draft Offsets Calculator EDO NSW Submission*