Submission on the NSW biodiversity and land management reforms: Draft regulations and products on public exhibition

prepared by

EDO NSW
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About EDO NSW

EDO NSW 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 25 years' experience in environmental law, EDO NSW has a proven track record in achieving positive environmental outcomes for the community.

Broad environmental expertise. EDO NSW 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.

EDO NSW is part of a national network of centres that help to protect the environment through law in their states.

Submitted to:

Biodiversity Reforms – Have Your Say
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Submitted online at: https://www.landmanagement.nsw.gov.au/have-your-say/

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Executive Summary

EDO NSW is a community legal centre specialising in public interest environmental law and has been making recommendations for strong biodiversity, native vegetation and land management laws since 1995.

We were heavily involved in the development of the *Native Vegetation Act* between 2002 and 2005, and in the Independent Biodiversity Legislation Review process in 2015; and provided extensive feedback on the legislative reforms in 2016.

We have engaged with representatives of the Office of Environment & Heritage, Department of Primary Industries and Department of Planning & Environment during targeted stakeholder consultations throughout the reform process. We have consistently raised a number of key concerns and made recommendations based on our extensive expertise in NSW environmental law.

Unfortunately these fundamental concerns or recommendations were not addressed in the legislation that was passed in 2016. In addition, some of the standards now proposed – for example in the Biodiversity Assessment Method and the Offsets Calculator – have actually been weakened compared with previous drafts.

The current public exhibition process presents an opportunity to ensure the regulatory instruments that provide the detail on how the new scheme will be implemented are as robust as possible. While it is not possible to fix the legislative deficiencies in the absence of an amendment bill, this submission makes a series of over **200 recommendations** to insert some protections, procedural safeguards and transparency into the subordinate instruments.

Again, we have undertaken community and expert seminars and provided analysis to assist the community to understand the reforms. And we have engaged our technical experts to assist in providing expert feedback on the technical tools.

This submission addresses each component in turn:

- Draft Biodiversity Conservation Regulation 2017
- Draft Local Land Services Amendment Regulation 2017
- Draft Environmental Planning and Assessment Amendment (Biodiversity Conservation) Regulation 2017
- Explanation of Intended Effect for the *State Environmental Planning Policy (Vegetation) 2017*
- Land Management (Native Vegetation) Code
- Biodiversity Assessment Method (**BAM**)
- Accreditation Scheme for the Application of the Biodiversity Assessment Method
- Serious and irreversible impacts guidance
- Offsets payment calculator

We note that there are a number of areas where detail has not yet been finalised or made public. EDO NSW will continue to engage and provide constructive expert feedback as the scheme progresses, however, **we strongly recommend that the scheme does not commence until key instruments have been consulted on and finalised, and until there has been sufficient time for assessors to be trained and accredited, LLS staff to**

conduct outreach for landholders, and mapping is accurate and comprehensive. The risk of regulatory failure is too high to commence an incomplete regime.

Introduction

This submission addresses each of the components that are on public exhibition:

- Draft Biodiversity Conservation Regulation 2017
- Draft Local Land Services Amendment Regulation 2017
- Draft Environmental Planning and Assessment Amendment (Biodiversity Conservation) Regulation 2017
- Explanation of Intended Effect for the *State Environmental Planning Policy (Vegetation) 2017*
- Land Management (Native Vegetation) Code
- Biodiversity Assessment Method (**BAM**)
- Accreditation Scheme for the Application of the Biodiversity Assessment Method
- Serious and irreversible impacts guidance
- Offsets payment calculator

For ease of reference, in addition to this full submission, separate submissions for each of these parts is available at http://www.edonsw.org.au/biodiversity_legislation_review.

This submission includes over **200 recommendations** to improve the proposed regulatory package.

The key concerns raised, and the recommendations made, build on our previous analysis of the reforms. This submission should be read in the context of our previous analysis:

- Submission on the draft Biodiversity Conservation Bill 2016 - **Download PDF**
- Submission on the draft Local Land Services Amendment Bill 2016 - **Download PDF**
- Technical submission on the Biodiversity Assessment Method and Mapping Method 2016 - **Download PDF**
- Technical submission on the draft Offsets Payment Calculator - **Download PDF**

EDO NSW would be happy to meet with relevant departments and agencies to discuss our recommendations in detail and the ongoing implementation of the scheme.

Draft Biodiversity Conservation Regulation 2017

This part of the submission comments on the proposed *Biodiversity Conservation Regulation 2017* (**Regulation**) which prescribes supporting regulatory detail under the *Biodiversity Conservation Act 2016* (**BC Act**). We make recommendations in relation to each part of the proposed regulation in turn:

- Part 1 Preliminary
- Part 2 Protection of animals and plants
- Part 3 Areas of outstanding biodiversity value
- Part 4 Threatened species and ecological communities—listing criteria
- Part 5 Provisions relating to private land conservation agreements
- Part 6 Biodiversity offsets scheme
- Part 7 Biodiversity assessment and approvals under Planning Act
- Part 8 Biodiversity certification of land
- Part 9 Public consultation and public registers
- Part 10 Biodiversity Conservation Trust
- Part 11 Regulatory compliance mechanisms
- Part 13 Criminal and civil proceedings
- Part 14 Miscellaneous
- Schedule 1 Penalty notice offences
- Schedule 2 Provisions relating to members and procedure of the Biodiversity Conservation Advisory Panel

Part 1 Preliminary

1.2 Commencement

This clause states that the Regulation commences on a date to be specified. The NSW Government has indicated a start date of 25 August 2017 for the biodiversity and land-clearing (**LLS Amendment Act**) reforms.

There are high risks in rushing commencement of the Biodiversity Offsets Scheme (**BOS**), and the new rural land-clearing system including the Native Vegetation Code (**Code**) by August 2017.

We strongly **recommend delaying commencement** of the BOS, the Code and other clearing via the Native Vegetation Panel (**NV Panel**), until the relevant institutions are fully established, regulatory maps and sensitive values maps are finalised and quality-assured, sufficient qualified staff are recruited and trained, and biodiversity conservation strategies and priorities are developed.

1.4 Additional biodiversity values

This section prescribes relevant 'biodiversity values' in addition to those listed at s. 1.5 of BC Act (vegetation integrity and habitat suitability).

We **welcome** the inclusion of additional biodiversity values in clause 1.4, particularly threatened species abundance, vegetation abundance, habitat connectivity and water sustainability.

We **recommend** *all* biodiversity values prescribed in clause 1.4 should encompass both *protected* and *threatened* species. If this change is not made and 'flight path integrity' is to be prescribed as proposed (cl. 1.4(e)), we **recommend** this is limited to animals that are listed *threatened and migratory* rather than *protected animals* to align with the general approach of other listed values.

We **recommend** amending the Regulation to include further values relating to *soil quality and erosion control*, *salinity protection, carbon storage* and *the resilience, and rehabilitation potential of the land in its landscape context*. These values would draw on the Environmental Outcomes Assessment Methodology (**EOAM**) under the *Native Vegetation Act 2003* and recognised carbon accounting methods. The additional values would be of a similar character to 'water sustainability' but would extend beyond threatened species and ecological communities. This would recognise that healthy, biodiverse soils support productive landscapes and interconnect with other biodiversity values prescribed in the BC Act and Regulation.

Part 2 Protection of animals and plants

We support the proposed clauses in *Division 2.1 Protection of marine mammals***.**

In relation to clause *2.12 Harming snakes*, we do not support the shift in the onus of proof.

Regarding clause *2.17 Picking protected plants on private land,* it should be clarified that 'grown' refers to deliberately planted in a horticultural context. It should be clear that picking protected species in bushland on your own property still requires a permit.

As previously submitted, we believe the list in *2.21 Harm to swamphens, raven, crow, cockatoo or galah* is too broad.

Clause *2.22 Exclusion of certain animals from offence of dealing in animals* lists species of birds (e.g. various cockatoos, parrots, quails and doves) that are exempt from the offence of dealing in an animal under s. 2.5 of the BC Act. We **recommend** narrowing the exemption to persons authorised to deal in those birds/species.

Part 3 Areas of outstanding biodiversity value

Areas of Outstanding Biodiversity Values (**AOBVs**) carry over and replace the under-used concept of 'critical habitat' in the *Threatened Species Conservation Act 1995* (**TSC Act**). The regulations may provide for the declaration (etc) and protection of AOBVs (BC Act, s. 3.5).

AOBVs could be a significant positive in the new system provided that this mechanism is well used. That is, areas are identified and nominated frequently, declared in a timely way, and protect areas in ways befitting their outstanding significance (whether of state, national or global importance) in perpetuity.

Division 3.1 Criteria for declaration [of AOBVs]

We **support** the positive recognition of climate refuges, resilience during environmental stress and ('established') education and research, in addition to critical habitat.

We make recommendations below to improve and expand the criteria in the Regulation.

Other areas for improvement for AOBVs include: addressing the issue that there is no formal public nomination process or timeframes set out in the BC Act or Regulation; and that there is no automatic interim protection for areas identified but not yet declared as AOBVs.

We **recommend** expanding the 'education and scientific research' criterion (3.1(1)(iv) and 3.1(5)) to provide for areas significant to future important research in addition to 'established infrastructure or data…'. This will ensure that AOBVs can provide for new studies, areas of research, and newly discovered species.

We **recommend** that areas contributing to 'ecological processes or ecological integrity' (clause 3.1(1)(iii)) include recognition of 'ecosystem services' (i.e. the benefits that nature provides humans). Examples of ecosystem services an area may provide include pollination, water purification, salinity prevention or carbon storage in wetlands or forests. Definitions of key terms should also be considered.

We **recommend** that the Regulations:

- make explicit that any person can nominate an AOBV for consideration, and a process, receiving body or form to do so (see e.g. BC Act sections 4.10-12);
- Provide that the Threatened Species Scientific Committee can recommend AOBVs as part of or separate to a listing process;
- set out timeframes for relevant bodies, including the Environment Agency Head, to provide advice and recommendations to the Minister on an AOBV;
- set out timeframes for the Minister to decide whether to declare an AOBV; and
- provide that interim protection orders[1] automatically apply to potential AOBVs (i.e. once their nomination is accepted for consideration), so that the areas are mapped on the Sensitive Values Land Map, and excluded from rural Code-based clearing etc. This could be given effect in Part 3 or Part 11 of the Regulation.

These amendments will ensure effective use, appropriate consideration, timely declaration and protection of AOBVs, avoiding some inadequacies of the former critical habitat provisions.

Part 4 Threatened species and ecological communities—listing criteria

Part 4 of the Regulation sets out listing criteria for threatened species (Div 4.1), ecological communities (Div 4.2), interpretation of listing criteria (Div 4.3) and procedure for listing (Div 4.4).

The BC Act s. 4.18 requires the Threatened Species Scientific Committee to keep these lists 'under review' and, at least every 5 years, determine whether any changes to the lists are necessary. This is to be done in accordance with the Regulations.

We **recommend** the Regulations clarify:

- that 'under review' includes ensuring the lists of threatened species and ecological communities are complete and up-to-date; and
- that determining if changes are necessary includes adjusting the threat category of species and ecological communities based on the precautionary principle and the best available scientific information - including but not limited to the Biodiversity Conservation Program (monitoring, reporting on and review under ss. 4.36-4.37 of

[1] See BC Act, Part 11, Division 3 (ss. 11.8-11.13).

the BC Act); and any Biodiversity Outlook Reports published 'from time to time' under the BC Act (see Regulations clause 14.2 below).

Part 5 Provisions relating to private land conservation agreements

Part 5 of the Regulation sets out a range of matters relating to private land conservation agreements including eligible land and fit and proper persons.

5.1 Eligibility for determining if land eligible to be designated as biodiversity stewardship site

We generally support the qualifications for eligible land listed in clause 5.1. We agree land should not be eligible where legal obligations already exist because biodiversity improvement (i.e. credits) would not be 'additional' to what would already occur.

However, regarding the exception to this at clause 5.1(1)(c)(i), there are questions around whether there is sufficient 'additionality' associated with sites where there is already a legal obligation to carry out ongoing 'biodiversity conservation measures' other than for 'biodiversity offset purposes'. We **recommend** deleting this exception. Alternatively the intent of the exception at clause 5.1(1)(c)(i) must be narrowed and clarified to apply to specific circumstances that ensure additionality and do not unduly entitle owners to dual benefits at the cost of biodiversity losses elsewhere. (We make further comment on this below).

5.3 Fit and proper person requirements for owners of biodiversity stewardship sites

We **welcome** the inclusion of fit and proper person requirements in the Regulation. However the proposed ministerial considerations need to be less discretionary and more certain.

We recommend amending clause 5.3 to:

- require the listed matters to be considered (replace 'may' with 'must');
- include matters that are known 'or ought reasonably to be known by' the Minister, such as through checking compliance databases of environmental and other agencies;
- require biodiversity stewardship applicants to declare and specify these matters on forms (BC Act s. 5.8(2)(a))
- define 'relevant legislation' more broadly at clause 5.3(3) (regarding past offences) to include planning, mining and pollution laws (i.e. the *Environmental Planning and Assessment Act 1979*; *Mining Act 1992*; *Petroleum (Onshore) Act 1991*; *Protection of the Environment Operations Act 1997* and equivalent interstate/overseas legislation).

5.4 Other grounds on which Minister may decline a request to enter into a biodiversity stewardship agreement

In addition to the fit and proper person test above, there may be situations where this test is satisfied but it is not in the public interest to enter a biodiversity stewardship agreement.

We **recommend** including an additional ground for the Minister to decline a biodiversity stewardship site agreement, where it is not in the public interest to enter a biodiversity stewardship agreement that generates biodiversity credits for sale because of a lack of additionality (for example where the land is already protected by legislation or a Crown land Plan of Management or a conservation agreement).

5.5 Determination that application to vary biodiversity stewardship agreement need not be accompanied by assessment report

Sub-clause 5.5(b) should be strengthened and clarified from a negative standard (i.e. the variation 'will not significantly impact' biodiversity values) to a positive standard. Also the draft clause does not state whether credits generated at the site can change without a further biodiversity stewardship site assessment report.

We **recommend** amending sub-clause 5.5(b) to state that the (non-minor) variation will result in biodiversity values being 'maintained or improved' in order to be exempt from a further assessment report; and to clarify that the exception prevents credit amounts being varied (especially increased) without further assessment.

5.9 Reimbursement provisions with respect to termination or variation of conservation agreements following grant of mining or petroleum authority (section 5.23 (10))

This clause establishes that where a [stewardship site can be destroyed by a mining or petroleum activity, the landowner and authorities *may* have their costs reimbursed. However, this doesn't reimburse the environmental loss. We therefore **recommend** that clause 5.9(3) should be expanded to require the mining or petroleum authority to pay the costs of sourcing an alternative offset site to replace that previously protected by the conservation agreement.

Part 6 Biodiversity offsets scheme

Part 6 of the Regulation sets out important details about the Biodiversity Offsets Scheme (**BOS**) that is established by the BC Act, and partly given effect via the new Biodiversity Assessment Method (**BAM**). The breadth of the offset and variation rules in the Regulation are a major concern, as they threaten the ecological integrity of, and public confidence in, the BOS. The BAM is discussed separately in detail below.

Despite relying on this market mechanism to protect biodiversity, as warned by the Government's expert peer reviewers of the draft BAM (Gibbons and Eyre 2015), weak offset rules – such as those proposed in the Regulation and enabled by the Offsets Payment Calculator – threaten to undermine the price signal in the offset market and create perverse outcomes that put valuable and biodiverse areas at risk. Under the theory of using the market to protect biodiversity, the price signal should prevent scarce and valuable local biodiversity from being traded away and lost via offsets and payments into the Biodiversity Conservation Fund (**BC Fund**). However, unless the offset rules are strengthened, they will heavily discount the 'price signal' in the offsets market. This is addressed under clauses 6.2 to 6.6 below.

6.1 Additional biodiversity impacts to which scheme applies

We **welcome** the list of additional impacts prescribed under sub-clause 6.1(1). However, there is very limited effect from this sub-clause when read with sub-clause (2).[2] We understand that measures to avoid and mitigate impacts on the additional matters may be required in the BAM (at 8.2 - and are included in the current BAM) but as stated in our comments on the BAM, there are no consequences for proponents failing to adequately avoid or mitigate impacts and there is no requirement to offset any residual impacts.

[2] Sub-clause (2) essentially says impacts on these additional values (caves and other habitat of threatened species, habitat connectivity, threatened species movement, water quality, turbine strikes and vehicle impacts) are relevant to biodiversity assessments and reports; but these impacts will not increase the credits required for (and therefore the cost of) the development, clearing or biocertification proposal.

We **recommend** clarifying the intent of listing additional biodiversity values in 6.1(1)-(2); giving guidance to consent authorities and proponents about assessing, avoiding and minimising these impacts; and, prescribing additional credit requirements or weighting in relation to those impacts in the BAM where appropriate. Sub-clause 6.1(1)(f) should apply to all protected species.

6.2 Offset rules under the biodiversity offsets scheme

This and the following clauses build on section 6.4 of the BC Act. They set out the biodiversity conservation measures potentially available to offset or compensate for impacts (of development, clearing or biocertification proposals) after avoidance and minimisation measures.[3] We note that the biodiversity conservation measures referred to in sub-clause 6.2(4) are not currently available for consultation.

We remain extremely concerned that weak offset rules, such as those proposed, threaten the ability to maintain meaningful environmental protection in NSW, including by undermining the price signal in the offset market, thus creating perverse outcomes that put valuable biodiversity areas at risk.

Although we accept that like-for-like offsets have been legislated through the BC Act, we **strongly recommend** that the other alternatives in clause 6.2 be restricted (i.e., the supplementary conservation actions, payments to the BC Fund) or removed altogether (variation rules, mine rehabilitation credits). As noted in our comments on the BAM, we are extremely concerned by the proposal in 6.2(2)(d) that an obligation to rehabilitate the impacted site that has the same credit value as the retirement of like-for-like biodiversity credits. This is a significant retrograde step from the current situation (which we also consider unacceptable) where mine rehabilitation activities generate 25% of credits predicted by the Framework for Biodiversity Assessment (**FBA**).

We **strongly recommend** that the Regulation prescribe prerequisites and safeguards before the proponent is eligible to pay into the BC Fund in accordance with s. 6.30 of the BC Act. The 'Payment-to-Fund' option should not be available unless the proponent or the Biodiversity Conservation Trust (**BC Trust**) has verified like-for-like credits are available.

If like-for-like credits are not available, this is an indication that the proposal's impact is significant (and potentially serious and irreversible), particularly for species or ecological communities already at risk of extinction. Options still available to the proponent include:

- further avoid or minimise the proposal's impact on biodiversity values;
- generate legitimate like-for-like credits on-site (not mine site rehabilitation);
- find and purchase like-for-like credits themselves;
- if a more stringent set of variation rules apply – follow those variation rules; or
- withdraw the project on the basis of significant impacts that cannot be offset.

The absence of like-for-like credits should also be a further trigger for considering whether impacts are serious and irreversible under clause 6.7.

[3] Options under clause 6.2 of the Regulation include, in *any* combination:
a) Retire **like-for-like** biodiversity credits
b) Retire credits under **Variation rules**
c) Fund an action [listed in the BAM] to benefit species or ecological community impacted
d) Major mine site rehabilitation
e) Pay to the Biodiversity Conservation Fund instead [per BC Act s. 6.30].
This means a proponent can use option (e) without needing to confirm if offsetting is possible.

We discuss like-for-like rules and Offset Variation rules at clauses 6.3 and 6.4 below.

Commonwealth Offsets Policy

We are further concerned that, unless weak variation rules and options are curtailed, the BOS will not meet federal standards in the Commonwealth Offsets Policy under the *Environment Protection and Biodiversity Conservation Act 1999* (**EPBC Act**). For example, the Commonwealth Offsets Policy limits supplementary measures (indirect actions such as research rather than direct offsets) to 10 per cent of total offset requirements; and otherwise requires offsets to be like-for-like using the EPBC Act definition of like-for-like.

We do not support the use of supplementary measures but if they are to be used, we **strongly recommend** that supplementary conservation actions should be limited to 10 per cent of the value of offset credit requirements, with the remainder as like-for-like offsets (or satisfying obligations by avoiding and reducing impacts).

We **support** supplementary actions being restricted to measures (and species or ecological communities) listed in the BAM (clause 6.2(4)). However, such measures are not included in the draft BAM and we are unable to evaluate their adequacy.

Sub-clause 6.2(5) deals with 'biocertification' discussed under Part 8 below. To ensure that ecological integrity is a fundamental consideration in biocertification, we **recommend** that (ordinary) biocertification impacts may only be offset by like-for-like credits (i.e. delete from clause 6.2(5)(b): 'or, if authorised by the variation rules, other biodiversity credits').

If indirect offsets and alternatives continue to be available for biocertification (via cl. 6.2(5)), we strongly **recommend** the Minister can only prescribe conservation actions listed in the BAM (as for other proposals: 6.2(4)), and these be capped in line with the Commonwealth Offsets Policy. This could be achieved by deleting or amending clause 6.2(5)(a), along with other recommendations. We note our serious concerns with 'Strategic' biocertification below.

Again, we strongly **recommend** the alternative of paying money to the BC Fund must not be available (including for biocertification), without first verifying like-for-like offsets are available for the BC Trust (or other Fund manager) to purchase.

6.3 Like-for-like biodiversity credits

The like-for-like offset rules proposed provide a significant degree of flexibility, including in relation to spatial location of offsets;[4] and vegetation within the same *class* rather than the same *plant community type* (**PCT**).[5] This built-in flexibility reduces the need for variation rules and alternatives.[6]

The most concerning aspect of the draft rules in clause 6.3 is the lack of any location requirements for offsetting threatened plants and animals categorised as 'species credit' species such as koalas and squirrel gliders (i.e. whose presence cannot be reliably predicted by vegetation type).

While offset rules remain largely unknown to the general NSW population, local communities would be horrified at the potential for developers to destroy koala populations and habitat

[4] For example, allowing offsets in the same or adjoining IBRA sub-region or a sub-region within 100km of the site.
[5] NSW has 99 vegetation classes compared with ~1500 PCTs.
[6] If maintaining variation rules is prioritised, like-for-like rules should be tightened further with more of the system flexibility (location, vegetation class) incorporated into the variation rules.

around Gunnedah and offset them with koala populations on the south coast of NSW, and for this to be part of the 'default' rules of offsetting.

We **recommend** clause 6.3(4) include proximity requirements for 'species credit' species so that like-for-like offsets must be in the same IBRA sub-region.

6.4 Variation rules under biodiversity offsets scheme (and ancillary rules under 6.5)

The BC Act enables the regulations to set out circumstances in which the 'ordinary rules' for determining biodiversity offset credits can be varied (s. 6.4(4)). However, such variations (if any) must be strictly limited for the BOS and the offsets market to maintain their integrity.

EDO NSW has consistently argued that a like-for-like standard is 'absolutely fundamental' to offsets integrity.[7] The central problem with variation rules is that they weaken rules which ensure offsets are ecologically equivalent, and that provide appropriate prices for scarce biodiversity credits. Indeed, the independent experts appointed to peer-review the draft BAM expressed concern that weak offset rules could undermine the price signal in offset market: '*That is, the true cost of impacts on biodiversity are less likely to be reflected in decision-making as the offsetting rules become more flexible*.'[8] This means the price of credits will be artificially lowered so that scarce biodiversity is undervalued. The proposed variation rules in clause 6.4 of the Regulation perpetuate this problem. (The undervaluing of increasingly rare credits is discussed further in our comments on the proposed Offsets Payment Calculator below).

We **strongly recommend** removing the variation rules from the Regulations.

However, if the Regulations continue to allow offset variations despite these concerns, we **recommend** limiting the circumstances when variation rules can apply, and strengthening the offset requirements where those variation rules do apply.

In particular, we recommend the following amendments:

- insert a concurrence requirement from OEH or the BC Trust where offset variations are proposed – either in addition to, or as part of, 'reasonable steps' before a variation is permitted (clause 6.4(1)(a) and clause 6.5(2)(f));
- remove the option to substitute hollow bearing trees for artificial hollows (6.4(1)(b)(iv)) given insufficient scientific evidence that they are effective and include additional requirements to consider the type, size, age and number of hollows that form part of an offset;[9]
- remove the variation rules allowing offsets to move from class to formation.
- remove the option to substitute 'flora for flora' or 'fauna for fauna' (of same or higher threat status) under the variation rules for species credits (clause 6.4(1)(c)) – such offsets should always benefit the same species even if the potential to vary where in NSW the offsets are located is retained; and
- delete the option to meet offset obligations via mine rehabilitation (clause 6.2 (2)(e)).[10]

[7] EDO NSW, *Submission on the Biodiversity Conservation Bill 2016* (June 2016), at: http://www.edonsw.org.au/nsw_biodiversity_reform_package_2016.
[8] Gibbons, P., and T. J. Eyre. 2015. Draft independent review of the Biodiversity Assessment Methodology. NSW Office of Environment and Heritage.
[9] See D. Lindenmayer, M. Crane, M. Evans, M. Maron, P. Gibbons, S. Bekessy and W. Blanchard, 'The anatomy of a failed offset', *Biological Conservation* 210 (2017) 286–292, at: https://doi.org/10.1016/j.biocon.2017.04.022.
[10] We are also concerned that the wording of this section in the BAM appears to allow a much broader application of the type of works that would be done during mine rehabilitation, which is inappropriate. See our further comments on the BAM.

We **support** the power of the Environment Agency Head to exclude certain impacts on species and ecological communities from the variation rules (clause 6.4(2)) – for example, entities listed as endangered and critically endangered.

6.5 Ancillary rules of Environmental Agency Head for purposes of biodiversity offset and variation rules

We **support** the power of the Environment Agency Head to develop ancillary rules under clause 6.5 of the Regulation, including to exclude certain impacts from offset variation rules.

The ancillary rules themselves are not yet available for comment. However, clause 6.5(2)(f) notes that reasonable steps prior to exercising offset variation rules 'may' include: checking the 'credits available' register, following up potential Stewardship Sites from the register of interest, and listing 'Credits wanted'. This definition of reasonable steps is minimal and inadequate and creates a significant risk to the meaningful operation of the BC Trust. Reasonable steps must include an effort to locate like-for-like offsets beyond checking the register and expressing interest in credits on a website. Reasonable steps should include the requirement to approach landholders with potential like-for-like stewardship sites to negotiate potential offsets. A failure to include such requirements would have significant implications not only for the adequacy of offsets but also the effective functioning of the Offsets Payment Calculator. One of the three modules in the Offsets Payment Calculator is the cost of the operation of the BC Trust to find offsets. If all Proponents and the BC Trust are required to do is check a website, then the costs of identifying potential like-for-like offsets, as currently undertaken by the Nature Conservation Trust, will not be costed into the model and Proponents will not be required to pay for any reasonable landholder negotiations. We note that this component of the Offsets Payment Calculator is not currently available for consultation.

If offset variations continue to be permitted, we **recommend** inserting a concurrence requirement from OEH where offset variations are proposed, in addition to (or as part of) 'reasonable steps' (clauses 6.4(1)(a) and 6.5(2)(f)). We also **recommend** deleting 'artificial hollows' in 6.5(2)(g). As noted at clause 6.4, this variation should not be permitted as a substitute for hollow bearing trees.

6.6 Offset and other rules applying to Biodiversity Conservation Trust applying fund money towards securing biodiversity offsets

As noted above, we do not support the ability of proponents to purchase weak offsets, or pay direct into the BC Fund without verification that like-for-like credits are available.

With such safeguards in place (subject to amendments recommended in this submission), we recognise that some flexibility for the BC Trust is necessary to exercise its obligations under the BC Fund effectively. However, the extent of the proposed variation rules is excessive and likely to lead to significant biodiversity declines in NSW. We reiterate our support for clear and specific governance and integrity arrangements to apply to the BC Trust (or other BC Fund manager).

6.7 Principles applicable to determination of "serious and irreversible impacts on biodiversity values"

EDO NSW provided detailed comments on the meaning and definition of serious and (or) irreversible impacts in our 2016 submission on the Biodiversity Conservation Bill.[11]

[11] Available at: http://www.edonsw.org.au/biodiversity_legislation_review

We generally **welcome** the concept and principles underpinning serious and irreversible impacts, but remain concerned at the level of discretion in identifying and responding to those impacts. For example, the BC Act provides that this is a matter of 'opinion' for the consent authority.

Also, the Act does not prohibit the approval of serious and irreversible impacts from State Significant Development (**SSD**) or Infrastructure (**SSI**), local 'Part 5' infrastructure or biocertification applications. Such projects can be approved if the consent authority takes those impacts into consideration, and determines whether additional measures are needed to minimise those impacts (BC Act s. 7.16 and 8.8).

We **recommend** that the process, principles and environmental information underpinning serious and irreversible impacts be as objective as possible. For example, the consent authority's 'opinion' must be objectively formed; and accredited assessors should be required to present objective evidence to the consent authority, rather than interpretation that favours the developer or suffers from 'optimism bias'. This could be prescribed in the contents of assessment reports (Regulation cl. 6.8).

We also **recommend** that references to extinction risk be clarified to refer to an appropriate scale and scope. The scale of extinction risk is currently ambiguous in the Regulation and guidance. The regulation should define this to mean extinction in the relevant bioregion or, at most, New South Wales (see 6.7(2)). Furthermore, as noted in our comments on serious and irreversible impact below, extinction risk should also consider local extinction as per the existing 7 part test process. We consider it would be unacceptable to define extinction risk at any larger scale (e.g. Australia). Also, in the case of impacts on listed endangered populations, for example, the relevant scale would be at population level.

We also **recommend** that clause 6.7(2) explicitly require consent authorities to have regard to the *precautionary principle*[12] and *cumulative impacts* on the threatened species or community when assessing extinction risk. This should include a consideration of projected future environmental changes (such as those arising from climate change) or anticipated land use changes (such as those enabled by the land clearing codes) that will increase future risk to ecological integrity. The clause should also specify that a contribution to extinction risk includes a likely increase in threat status (e.g. from vulnerable to endangered).

We also **recommend** that the Regulation prescribe an additional serious and irreversible impact principle and guidance so that, where 'reasonable steps' are taken to verify if like-for-like offsets are available, and no such offsets are identified, this may be a *prima facie* indicator of serious and irreversible impacts that the consent authority should consider in detail.

Finally we **recommend** that the Regulation prescribe additional serious and irreversible impact principles and guidance relating to water quality and soil quality (including acidification, erosion and salinity). The Regulations already recognise the contribution of 'water sustainability' to biodiversity values (cl. 1.4). It is also evident that acidification, salinity, erosion are increasingly serious and often irreversible problems, as indicated by the NSW *State of the Environment Report 2015*.[13] These additions are of primary importance to large-scale clearing in rural areas where the BAM applies; and would draw on and update the existing Environmental Outcomes Assessment Methodology (**EOAM**). This would ensure

[12] I.e. lack of full scientific certainty is not a reason to defer precautionary measures. The objectives of the BC Act refer to acting consistently with ESD principles (s. 1.3).
[13] See NSW EPA, *State of the Environment Report 2015* (2016), Chapter 10.

the connection between healthy biodiverse soils and productive landscapes continues to be recognised.

Specific comments on the *Draft guidance and criteria to assist a decision maker to determine serious and irreversible impacts* are dealt with below.

Division 6.2 Biodiversity assessment reports (clauses 6.8-6.10)

We **recommend** the Regulation specify that biodiversity development assessment reports (**BDARs**, cl. 6.8) and biodiversity certification assessment reports (**BCARs**, clause 6.9) must:

- demonstrate that *all reasonable steps have been taken to avoid and minimise impacts* before biodiversity offset options have been considered (this reflects the aims of the BOS and the requirements of the BAM) and where this is not done require the consent authority to refuse the development;
- report on any *uncertainty* as to the likely effectiveness of measures to avoid, minimise or offset impacts (consistent with the precautionary principle) and where uncertainty exists require upfront offsets for potential impacts;
- specify how *raw data used to prepare the report can be freely accessed* by regulators and the community (for the purposes of public transparency and audit functions); and
- include precautions to prevent 'consultant-shopping' for more favourable reports, i.e. by requiring:
    - the proponent to state whether the BAM has been applied to that site over the past five years, whether by the same or a different consultant;
    - any previous BAM reports to be provided to the consent authority for consideration; and
    - the accredited consultant to explain any changes in the results.

In relation to the accreditation of biodiversity assessors we **recommend** that this Regulation breaks the nexus between developer and proponent and establishes a system of OEH appointing consultants to a project from an accredited pool of consultants. (This is discussed further below).

We also **recommend** the Regulation specify that biodiversity stewardship site assessment reports (clause 6.10) be required to:

- estimate the likely *timeframe* for different numbers and classes of credits to be realised as on-site biodiversity gains (time-lag between impacts and improvements is an important consideration in offsetting, and a specific requirement would inform consent authorities of these risks);
- report on any *uncertainty* as to the likely effectiveness and success of measures to improve biodiversity on the site; and
- specify whether credits generated from the site are to be used (i.e. sold or retired) as an offset for development, or are to be retired for altruistic or philanthropic purposes (if known; note this reflects Regulation clause 9.4(g)).

Division 6.4 Biodiversity Stewardship Payments Fund (clauses 6.14-6.25)

We are extremely concerned that if an individual site is in deficit then the BC Fund cannot pay the landholder, and if the entire fund "is insufficient to meet Fund Manager liabilities" the entire BC Fund can be wound up. Given the scheme is supposed to be providing in-perpetuity biodiversity protection, this is inappropriate. We **recommend** that the NSW

Government act as guarantor for the BC Fund so that biodiversity outcomes will continue to be maintained even if the market system fails.

Part 7 Biodiversity assessment and approvals under Planning Act

We **welcome** the approach of setting the biodiversity offsets scheme threshold (**BOS threshold**) with reference to both area of clearing and sensitive values (clause 7.1) although we remain concerned about the specific thresholds proposed.[14] However, as noted in previous parts of this submission, we caution against relying on the BAM and offset rules in their current form to protect sensitive areas. Without clearer protection, sensitive areas can still be offset or exchanged for money via the offset rules, pay-to-Fund option, and offset calculations that do not adequately factor scarcity into pricing.

We **strongly support** the comprehensive and up-to-date mapping for inclusion in the Sensitive Biodiversity Values Land Map (**sensitive values map**) (clause 7.3). It is important that this map is operational and accurate upon commencement of the new system, to protect vulnerable or sensitive land. The risk that the sensitive values map is incomplete (for example, mapping of areas that are core koala habitat, that contain high conservation value grasslands, or that contains critically endangered species) is a further reason not to rush commencement of the new regime.

7.2 Clearing of area of land that exceeds threshold

This clause sets out how lot size and area of clearing are used to determine whether proposed clearing meets the biodiversity offsets scheme (**BOS**) threshold (i.e. will be assessed using the BAM). Similar detail is required to define 'treatment areas' in the Native Vegetation Code, as the size of the treatment area has a significant bearing on what can be cleared. Indeed the BAM threshold highlights the unprecedented scale of clearing that can be done in rural areas without detailed impact assessment via Equity/Farm Plan Codes.

A strong BOS threshold is an important component of the new assessment system, and a central mechanism to regulate cumulative impacts of smaller-scale clearing. It is therefore important that these thresholds are not weakened (i.e. clearing size increased).

We recommend that the BOS threshold should be a standard **0.25 ha** regardless of lot size, as lot sizes does not reflect potential biological impact. To achieve the desired biodiversity goals, the new system needs to capture smaller sites with sensitive values, including residential sites that border sensitive areas and may cause negative 'edge effects'.

We also **recommend** that the new system assesses and tracks the cumulative impacts of clearing *non-threatened vegetation*. This clearing may result in more fauna and flora becoming newly threatened; may deplete land carbon storage and exacerbate urban heat island effects. However, not all of these impacts are assessed by the BAM. We are concerned, therefore, that consent authorities 'may (but are not required to)' further consider the impact of major projects on biodiversity values under the Planning Act beyond those addressed in the BAM. We are also very concerned that offset requirements for major projects appear to be widely discretionary (BC Act s. 7.14(2)-(3)).

7.3 Clearing within sensitive biodiversity values map exceeds threshold

We **strongly support** the list of matters proposed for inclusion in the sensitive values map (clause 7.3). Note we make further recommendations to extend this category in our

[14] See below and our submission on the BAM for further information.

comments on the native vegetation regulation and proposed code, for example to include TSRs, a minimum mapped riparian buffer of 20m around all watercourses, and the coastal zone.

It is vital these matters are comprehensively mapped by the time the new system commences to ensure they are properly assessed. As discussed above, further safeguards are also needed to protect them from insufficient offsetting requirements.

We **recommend** amending clause 7.3 to require the Environment Agency Head to keep the map accurate, comprehensive and up-to-date; and to require that the sensitive values map 'must' rather than 'may' include the matters listed in clause 7.3.

7.4 Amendments to list of vulnerable species or ecological communities

It is unclear why Part 5 activities should be exempt from having to consider newly-listed vulnerable species and ecological communities. We **recommend** this clause be deleted and that newly-listed species be considered in all assessment processes.

7.5 Modification of Part 5 activity

Subclause (4) appears to blur the line between avoidance, mitigation and offsetting when it says the retirement of credits should be considered as avoidance or mitigation when a Part 5 activity is later modified. We **recommend** this be deleted or clarified.

Part 8 Biodiversity certification of land

The biocertification scheme under the TSC Act allows large-scale, upfront assessment of biodiversity, such as to plan for greenfield development. For example, the Western Sydney Growth Centres were biocertified and offsets were required in exchange for the destruction of Cumberland Plain Woodland (now Critically Endangered). Biocertification removes the need for further project-by-project biodiversity assessment.[15] Proposals can be exhibited in tandem with a rezoning application.[16]

Part 8 of the BC Act will expand Biocertification to:

- adopt a lower environmental standard for approval (removing the requirement to 'maintain or improve' environmental outcomes, making it discretionary to require offsets in accordance with the BAM, along with other discretionary measures);[17]
- allow urban developers/rural landholders to apply (not just planning authorities); and
- allow planning authorities[18] to ask the Environment Minister to declare their proposal as 'strategic' biocertification (a new category allowing looser offset rules for planning authorities (BC Act s. 8.3)).

EDO NSW remains concern at the proposed 'strategic' biocertification category because it further compromises the environmental standards to which 'strategic' assessments should

[15] TSC Act Part 7AA; BC Act s. 8.4.
[16] See for example BC Act s. 8.6(6) (Consultation and public notification requirements).
[17] The existing requirement to 'maintain or improve' environmental outcomes (TSC Act Part 7AA) is replaced with the requirement to apply the BAM (BC Act s. 6.13); consider whether the proposal will cause 'serious and irreversible impacts' on biodiversity (s. 8.8); and apply discretionary 'approved conservation measures' which may, but need not, include like-for-like offsets or reflect the BAM (ss. 8.3, 8.7, 8.14).
[18] Planning authorities include local councils, Local Land Services (LLS), determining agencies under Part 5 of the Planning Act, the Greater Sydney Commission, NSW Planning Minister or the Secretary of the Planning Department.

be held. It does this based on broad ministerial discretion which is not properly clarified or limited by the criteria proposed in the Regulation (clause 8.2).

As noted above, we **recommend** clause 6.2(5)(b) be amended to require that:

- (ordinary) biocertification impacts may only be offset by like-for-like credits (not offset variation rules); and
- strategic biocertification impacts may only be offset by like-for-like credits or more strictly limited variation rules (in accordance with our recommendations on Part 6).

8.1 Avoiding or minimising impacts of clearing and loss of habitat may be specified as related other approved conservation measures in order conferring biodiversity certification

The BC Act sets out 'approved conservation measures' to compensate for the negative impacts of biocertification (s. 8.3). The Act permits the regulations to specify additional approved conservation measures and related matters (s. 8.3(2)(e), (3)(c)).

However, clause 8.1 of the Regulation contradicts the intent of the BOS by blurring the line between avoidance, minimisation and offsets. The BOS claims to embed a hierarchy of actions, with avoidance and minimisation first.[19] Yet clause 8.1 states that: 'Measures to avoid or minimise the impacts on biodiversity values… may be specified as approved conservation measures in the order conferring biodiversity certification.' Avoidance and minimisation should be *prerequisites* to biocertification, not an 'offset' for the impacts.

We **recommend** deleting clause 8.1. The BC Act and Regulations should ensure that biocertification proposals must first avoid and minimise biodiversity impacts, rather than allow avoidance and minimisation actions (which the hierarchy states should occur anyway) to somehow 'offset' loss.

If this is not the intended effect of clause 8.1, then that needs to be clarified (in s. 8.3 of the BC Act and Part 8 of the Regulation), to avoid 'discounting' the true value of measures required to offset biocertification impacts. See related concerns regarding clause 8.8.

8.2 Criteria to be taken into account by Minister when declaring strategic application

Noting our concerns about weaker, discretionary environmental standards for 'strategic' biocertification, we consider the proposed criteria in clause 8.2 are vague and inadequate.[20] There are no specific environmental heads of consideration (such as the principles of ESD which underpin the Act[21]), and there is no requirement to seek advice from the Environment Agency Head, the Biodiversity Conservation Advisory Panel, or the Threatened Species Scientific Committee which lists species and communities and evaluates their extinction risks. These requirements should be inserted into the Regulation.

Furthermore, as noted above (clause 6.2), strategic biocertification impacts should only be offset by like-for-like credits (or limited variation rules in accordance with our

[19] See for example Regulation cl. 6.2(1) (Offset rules under biodiversity offsets scheme).

[20] As proposed, cl. 8.2 essentially requires the minister to consider:

- the size of the area proposed to be certified;
- applicable regional or district plans;
- advice from the Planning Minister (who may in fact be the proponent); and
- the 'economic, social or environmental outcomes that the proposed biodiversity certification could facilitate'.

[21] Specifically the precautionary principle; conservation of biodiversity and ecological integrity as a fundamental consideration; intergenerational (and intra-generational) equity; and full environmental costs and risks in decision-making. See BC Act s. 1.3 and *Protection of the Environment Administration Act 1991* (NSW) s. 6.

recommendations on Part 6). The alternative of paying money direct to the BC Fund, without verifying if sufficient like-for-like offsets are even available for the BC Fund to conserve, must not be available without first ensuring like-for-like offsets do exist.

8.3 Consultation with local councils on biodiversity certification applications

We **welcome** the additional requirement to consult with local councils for at least 42 days before the public consultation period. The minimum period for *public* consultation (BC Act s. 8.6(3)(b)) is only 30 days – this should be extended.

To improve public transparency and participation we **recommend**:

- requiring the proponent or local council to publish the draft proposal online at the same time (and for the same period) as it is provided to the council;
- requiring the proponent to publish a summary of changes arising from council's submission when the proposal is exhibited for public comment;
- extending the minimum public consultation period to 42 days (instead of 30).

8.5 Additional grounds for suspension or revocation of biodiversity certification

We **welcome** this clause that permits suspension or revocation where the Minister considers that approved conservation measures no longer address the impacts.

8.8 Extension of period or modification of biodiversity certification

Clause 8.8(2) of the Regulation requires applications to modify biocertification to identify whether the land subject to the modification includes areas where biodiversity impacts were *avoided and minimised* under the original biocertification.

We have strong concerns that this clause does not go on to prohibit impacts on those areas previously avoided. It is unacceptable that proponents can renege on strategic commitments to protect and preserve biodiversity via later modifications.

We **recommend** clause 8.8 be amended to prohibit modifications that have adverse impacts on land where previous biocertification was required to avoid and minimise impacts, or where offsets (or related measures) from that biocertification are located.

Part 9 Public consultation and public registers

9.1 Exclusion of Christmas/New Year period

We **support** the exclusion of Christmas/New Year period from public consultation periods.

9.2 Public register of biodiversity conservation licences

It is unclear why this clause excludes existing biodiversity conservation licences from public registers under the BC Act. We **recommend** deleting clause 9.2 to ensure the licensing system is transparent, particularly while those licences are still in force.

9.3 Register of private land conservation agreements

We **recommend** ensuring that information in this register is at least equivalent to existing registers.

We **recommend** the creation of an additional public register to ensure that previous offset arrangements made by conditions of consent are also recorded and that relevant biological data from these sites is available to OEH and the public.

We **recommend** that the register of set asides under the LLS Amendment Act and its Regulation is required to contain information at least equivalent to clause 9.3. Note, we make further comment on this below.

We **support** legitimate IT safeguards to protect this information from people with unlawful intent (such as poachers). See, for example, Regulation clause 9.10.

9.5 Public register of accredited persons who apply BAM

We **recommend** this clause include any compliance outcomes or findings of misconduct in relation to an accredited person (unless that outcome or finding results in the person's accreditation being cancelled).

9.6 Public register of remediation orders

It is unclear why this clause excludes information relating to a remediation direction given under the *Native Vegetation Act 2003*. We **recommend** deleting clause 9.6, unless the LLS Amendment Act and Regulation include an equivalent requirement.

9.10 Additional authority for restriction of access to information in public registers

We note that the fact sheet refers to only restricting information if it is in the public interest. If this is the intent, then it should be explicit. It is not appropriate to withhold information on offset areas when they are part of a legislative mechanism to protect biodiversity.

Part 10 Biodiversity Conservation Trust

As noted in our comments on Part 6, we **recommend** the Regulations require that, before a payment can be made into the BC Fund under s. 6.30 of the BC Act, the BC Trust (or the proponent of development, clearing or biocertification) is required to verify that like-for-like credits are available.

If so, the proponent can acquit their offsetting obligation by paying into the BC Fund.[22] If not, the BC Trust must be prohibited from accepting payment to the BC Fund, and the proponent must consider other options to generate offsets, modify or withdraw the project.

On a separate matter, we **welcome** the linkage in clause 10.1(1)(c) between the BC Trust's business plan and the monitoring and evaluation data required for biodiversity information programs (BC Act s. 14.3). We **recommend** a similar requirement in the LLS Amendment Regulation with regard to land-clearing data.

Part 11 Regulatory compliance mechanisms

The BC Act provides that interim protection orders may contain terms of a kind set out in the regulations (s. 11.9(2)).

[22] I.e. with clearing permitted once offsets are secured, and the BC Trust ensuring these offsets are delivered via biodiversity stewardship agreements, payments and management actions.

As noted under Part 3, we **recommend** the Regulation also provides that interim protection orders *automatically* apply to *potential* AOBVs (i.e. once their nomination is accepted for consideration). These areas must be protected from adverse impacts, mapped as sensitive lands and excluded from rural Code-based clearing while they are under consideration. This could be given effect under Part 3 or Part 11, and supported by timeframes for declaring an AOBV.

Part 13 Criminal and civil proceedings

We **recommend** that Part 13, or Schedule 1 to the Regulation (penalty notice offences) clarify that multiple penalty notices can be issued where a person's act or omission allegedly breaches multiple provisions of an Act or regulations.

Part 14 Miscellaneous

14.2 Biodiversity information programs

We **welcome** the requirement to establish programs to collect, monitor and assess biodiversity information under s. 14.3 of the BC Act. We also **welcome** the proposal that the data collection and reporting methods are subject to peer review (clause 14.2(5)).

We **recommend** an equivalent peer review requirement apply to the Native Vegetation Code under the LLS Amendment Act and Regulation.

Biodiversity Outlook reports

We **strongly support** the proposal for Biodiversity Outlook Reports (on status and trends) to be published frequently under the Regulation (clause 14.2).

We **recommend** replacing 'from time to time' (clause 14.2(4)) with a set timeframe of every **2 years.** Biodiversity outcomes should continue to be reported in the State of the Environment Report every five years. However, SOE reports require a comprehensive data set and analysis to draw upon. Recent SOE reports note the '…paucity of data' (SoE 2012) and 'little new information…' (SoE 2015) is available on biodiversity status and trends. Annual Biodiversity Outlook reporting would address this gap, including going beyond threatened species and ecological communities.

We **recommend** clause 14.2 require Biodiversity Outlook reports to include comparative results from different regions of NSW over time. This would inform the review and improvement of land management and biodiversity laws and policies, and help identify data gaps by region, by type of biodiversity asset, or emerging threats.

We also **recommend** an independent panel prepare Biodiversity Outlook reports. This panel could comprise members of the Threatened Species Scientific Committee, members of the Biodiversity Conservation Advisory Panel, and other independent experts with requisite skills and qualifications.

We **recommend** clause 14.2 requires the Environment Minister to:

- table each Biodiversity Outlook report in Parliament within 1 month of receiving it; and

- table the Government's response to key threats, indicators and actions recommended in each Biodiversity Outlook report within 6 months of receiving it.

14.4 Additional persons to whom functions may be delegated by Minister or Agency Head

The BC Act allows the Minister to delegate his or her functions to the Environment Agency Head (or an OEH employee) or any person authorised by the regulations. A similar process applies to Environment Agency Head delegations (s. 14.4(2)).

We are concerned at the breadth of delegations under the Regulation (clause 14.3) given those already available under the BC Act. For example, functions of the Minister or Agency Head could be widely delegated to the BC Trust, LLS staff or board members, a local council or employee, a police officer, EPA staff or the EPA Chair, or a Department of Planning employee.

We **recommend** clause 14.4 be revised to limit each delegation to certain functions or Parts of the Act and regulations, and with clear justifications for each delegate.

Schedule 1 Penalty notice offences

The penalties available under the new regime need to provide a significant deterrent to illegal behaviour, particularly where a person stands to gain financially from that behaviour,[23] and may otherwise risk the chance of being detected and fined.

For example, a person who is caught dealing in (or harming/picking) a species vulnerable to extinction could deal with the offence by paying a penalty notice of $880 (or $220 if the species is not threatened). However, they may charge hundreds of dollars for those species on the black market and calculate that the fine (as proposed) is worth the risk.

We recommend that OEH publish a clear and updated compliance and enforcement policy that details the various compliance tools and escalating use of tools scaled to unlawful actions. This will be necessary to ensure compliance with the new regime and to establish deterrence.

Schedule 2 Provisions relating to members and procedure of the Biodiversity Conservation Advisory Panel

The BC Act establishes a Biodiversity Conservation Advisory Panel to advise the Environment Minister on any biodiversity conservation management issue as requested by the Minister, and on AOBVs declarations (BC Act s. 14.2).

Clause 6 - *Removal from office of members* - allows the Environment Minister to remove a member of the Biodiversity Conservation Advisory Panel 'at any time for any reason and without notice'. This is problematic because it could allow the Panel membership to become unduly politicised and not sufficiently independent. It also contradicts the intention of the BC Act, that the content of the Panel's advice is not subject to ministerial direction or control (s. 14.2(3)).

We **recommend** deleting clause 6 or amending it to allow removal for misconduct only. Beyond this, clause 7 provides various appropriate grounds to fill a vacancy.

[23] The BC Act provides for a court to issue orders regarding monetary benefits (s. 13.24), but this will not affect penalty notices unless the regulations specify further equivalent increases.

Draft Local Land Services Amendment Regulation 2017

This part of the submission comments on the proposed *Local Land Services Amendment (Land Management—Native Vegetation) Regulation 2017* (**LLS Regulation**).

For detailed analysis of the amendments made to the LLS Amendment Act in 2016, please refer to our previous submission.[24]

Our key concerns have not been adequately addressed and include:

- removal of the 'maintain or improve' test;
- repeal of the environmental outcomes assessment methodology – particularly as the new scheme details do not indicate equivalent mandatory assessment of soil, salinity and water;
- expansion of allowable activities;
- use of code-based clearing – especially for vegetation at very high risk of extinction (endangered ecological communities (**EECs**) and vulnerable ecological communities); and
- the transitional arrangements for the native vegetation scheme to commence in the absence of comprehensive and accurate maps.

The subordinate instruments and documents on exhibition present an opportunity to address some of these issues. This part of the submission addresses the proposed clauses of the LLS Regulation in turn:

- Schedule 1 – Amendment of Local Land Services Act 2013 (**LLS Act**) No 51
- Schedule 2 Amendment of Local Land Services Regulation 2014
- Division 2 Native vegetation regulatory map
- Division 3 Clearing native vegetation under land management (native vegetation) code
- Division 4 Approval for clearing native vegetation not otherwise authorised
- Division 5 Miscellaneous
- Other issues - Regional strategic land use map pilot

Schedule 1 – Amendment of Local Land Services Act 2013 No 51

This schedule contains 6 clauses that propose to amend Schedule 5A of the LLS Act. The clauses relate to private native forestry (**PNF**) provisions, incorporating the new category of sensitive regulated land, and regarding soil erosion.

We seek clarification regarding how the special provisions for PNF will be carried over from clause 47 and 48 of the current *Native Vegetation Regulation 2005*, and note the concurrent separate review of PNF (clause [1] 11A).

We **strongly support** the amendments to Schedule 5A – Part 4 of the LLS Amendment Act to recognise the new Category 2 - sensitive regulated land.

[24] EDO NSW submissions on the biodiversity and land management legislation in 2016 are available at: http://www.edonsw.org.au/nsw_biodiversity_reform_package_2016

We support the proposed new clause 36 that stipulates that the part only authorises clearing that achieves the purpose of the clearing in a manner that minimises the risk of soil erosion. However as noted, we have concerns about the repeal of the mandatory soil assessment module of the EOAM and we would like to see equivalent requirements for soil assessment in the new regime.

Schedule 2 Amendment of Local Land Services Regulation 2014

This schedule inserts a new **Part 14 Land management (native vegetation)** into the LLS Regulation 2014. This part of the submission makes recommendations on the key parts of the amended regulation.

Division 2 Native vegetation regulatory map

Transitional arrangements

EDO NSW has repeatedly raised concerns about the regulatory risk of commencing the new native vegetation management scheme before the maps have been finalised. We therefore remain concerned about the transitional provisions proposed. The Native Vegetation Regulatory Map (**NV Regulatory Map**) was envisaged and designed as the regulatory centrepiece of the Government's native vegetation reforms. Significantly, the transitional provisions allowing the scheme to commence *without* the NV Regulatory Map were never subject to public consultation prior to the revised Bill being introduced to Parliament. It is also highly doubtful that the Government's own advisory panel would have supported this.

The reform timeline states that the reforms will commence on 25 August 2017. The *Land management and the Native Vegetation Regulatory Map fact sheet* states that there will be targeted consultation on the draft map 'over the coming months' and 'the regulatory effect of the map is likely to commence in 2018.' There is therefore a significant transitional period when land categories will be self-determined and significant code based clearing will occur. If the scheme does commence without a quality-assured NV Regulatory Map, it will be difficult to verify if clearing was legal after the fact, particularly if no LLS staff set foot on the land.

The *Regulatory provisions for the native vegetation regulatory map - Submission Guide* states:

> **Transitional arrangements for the NVR Map**
> The NVR Map will commence after the other aspects of the reform package commence, to enable further stakeholder consultation on the NVR Map. Once the LLSA Act commences the following transitional arrangements will be in place (until the final NVR Map is made):
> - If landholders wish to undertake any clearing on their land they will determine whether their vegetation is on regulated or unregulated land, using the criteria set out in the LLSA Act and the draft LLSA Regulation (except for low conservation grasslands). Local Land Services (LLS) can assist landholders to apply the criteria. [emphasis added]
> - For low conservation value grasslands on regulated land, the criteria that currently applies to determine whether groundcover can be cleared under section 20 of the Native Vegetation Act 2003 will continue to apply during the transitional period.
> - Landholders can rely on the draft NVR Map for the purposes of determining whether land is vulnerable regulated land or sensitive regulated land.

The criteria are not clear and self-assessment of whether land is regulated is high risk. We strongly **recommend** that the scheme should not commence until maps are complete.

If rushed commencement does proceed, we strongly **recommend** that all levels of Code-based clearing require LLS certification (not only notification). This would ensure LLS staff have the opportunity to talk to and assist landholders with the new scheme; verify vegetation types, status and condition; observe the scale of land-clearing proposed (and ultimately undertaken); and observe the condition of the land and other environmental assets, including waterways, before and after clearing.

New category 2 – sensitive regulated land

We **strongly support** the new map category 2 – sensitive regulated land (clause 108). Clause 108 provides that the new category applies where the land:

- contains native vegetation grown or preserved with public funds for the funding period, or
- is subject to remedial action, or
- is subject to a private land conservation agreement under the *Biodiversity Conservation Act 2016*, or
- is subject to be set aside under a requirement made in accordance with a land management (native vegetation) code, or
- is subject to an approved conservation measure that was the basis for other land being biodiversity certified under Part 8 of the *Biodiversity Conservation Act 2016* or under any Act repealed by that Act, or
- is an offset under a property vegetation plan under the *Native Vegetation Act 2003* or is a set aside under a Ministerial order under Division 3 of Part 6 of the *Native Vegetation Regulation 2013*, or
- is in the coastal wetlands and littoral rainforests area of the coastal zone referred to in the *Coastal Management Act 2016*, or
- is identified as koala habitat (of a kind prescribed by the regulations) in a plan of management made under *State Environmental Planning Policy No 44—Koala Habitat Protection*, or
- is a declared Ramsar wetland within the meaning of the *Environment Protection and Biodiversity Conservation Act 1999* of the Commonwealth, or
- has (subject to the regulations) been mapped by the Environment Agency Head as land containing critically endangered species of plants under the *Biodiversity Conservation Act 2016,* or
- has been mapped by the Environment Agency Head as land containing a critically endangered ecological community under the *Biodiversity Conservation Act 2016*, or
- contains high conservation value grasslands.

Clauses 111, 112 and 113 go on to confirm that the new category includes:

- core Koala habitat (i.e. identified in a Plan of Management under SEPP 44) (clause 111). Although we note that a concurrent review is underway;[25]
- critically endangered plants or communities (clause 112), although the wording of this clause is unclear: “only if it is land around the location of particular plants of that species”;
- PNF plans (clause 113(a));
- land subject to funded conservation agreement, property vegetation plan (**PVP**) etc (clause 113(b), (c), (d), (e));
- vegetation related to a plantation approval (clause 113(h));
- grasslands beneath the canopy or drip line of woody vegetation (clause 113(g));

[25] See our submission on the Koala SEPP Review (State Environmental Planning Policy 44 – Koala Habitat Protection January 2017). Available at http://www.edonsw.org.au/native_plants_animals_policy.

- land in the Southern Mallee Planning Group subject to western lands lease conditions (clause 113(h));
- land managed as a condition/offset of a planning approval (clause 113(i)) – we note it is unclear how OEH will obtain this information to regularly update the map category, and urge the Department of Planning to ensure this information is made available as soon as possible; and
- mapped old growth forest and rainforest (clause 113(k) and (l)).

We **strongly support** the proposed list of land that will be categorised in the new sensitive regulated land category. We also welcome the intention that the Sensitive Values Map will be available from commencement (unlike the NV Regulatory Map). The fact that the Sensitive Values map can now identify areas where code clearing is excluded is a positive improvement. We strongly support clause 124 and the note after Clause 108 stating:

> **Note.** Category 2-sensitive regulated land (including land taken to be so categorised under subclause (4)) is not authorised to be cleared under a land management (native vegetation) code—see clause 124.

To ensure this new category is effective in protecting environmentally sensitive and high conservation value land, we **recommend that this category be expanded**, for example, to include travelling stock reserves (**TSRs**).[26]

The *Regulatory provisions for the native vegetation regulatory map - Submission Guide* (p10) notes that:

> TSRs play a key role in ecological landscape connectivity and biodiversity conservation across NSW as well providing important agricultural, social, Aboriginal cultural heritage and recreational values.
> The Independent Biodiversity Legislation Review Panel in its final report recommended that high-conservation value TSRs should be maintained to prevent the current network from being broken and connectivity lost.

We **strongly recommend** that TSRs be included in the new category 2 - sensitive regulated land or mapped as excluded land. Even if mapped as sensitive, the fact that TSRs could still be cleared with NV Panel approval emphasises the need for land-clearing applications to the NV Panel to be exhibited for public comment.

We **strongly recommend** the LLS Regulation set out a **broader definition of koala habitat** to be mapped as sensitive land. This is because: very few areas are protected and mapped under Koala Plans of Management (**KPOMs**) (only 5 local government areas across NSW have Comprehensive KPOMs); the definition of core koala habitat is widely acknowledged as inadequate (yet the proposal to expand this from 10 tree species to over 60 species has yet to take effect under Koala SEPP 44); and the Chief Scientist has recommended the planning system address this as a priority.

In addition, we **recommend** that the **coastal zone** also be included in the new category.

We also **recommend** a **minimum riparian buffer zone** of 20 m around all watercourses be mapped as category 2 sensitive regulated land.

We also **recommend** that Code clearing is excluded from all **E-zones**.

[26] The consultation note after clause 113 states:
> ***Consultation note.*** *This Regulation may be revised after public consultation to prescribe travelling stock reserves as category 2 - regulated land.*

Grasslands and groundcover

We are concerned that the draft NV Regulatory Map "will not be operational for grasslands in this [transitional] period" (*Regulatory provisions for the native vegetation regulatory map - Submission Guide p 8),* however we support the continued use of the criteria set out in the *Native Vegetation Act 2003* to be applied to groundcover during the transitional period. The Guide goes on to state: "until a determination is made of conservation value, grasslands will be mapped according to the 'significantly modified or disturbed' test" (discussed below).

The LLS Regulation gives the Environment Agency Head discretion to determine the conservation value of grasslands and groundcover (clauses 109 and 110). We note that a determination of low conservation value (clause 109(1)) could potentially conflict with EEC definitions.

We **recommend** that the `Grasslands and Other Groundcover Assessment Method' that is to be published (clause 108(2)(e)), identifies objective scientific criteria for categorisation to assist with accurate and comprehensive mapping of grasslands and groundcover. We note that the *Land management and the Native Vegetation Regulatory Map fact sheet* indicates this method will be peer reviewed 'with targeted consultation undertaken before it takes effect.' This method should be publicly exhibited and consulted upon. The unclear timeframe for when it takes effect raises concerns about inappropriate clearing during the transition phase when important grasslands may remain unmapped.

Determining whether native vegetation has been disturbed or modified or unlawfully cleared

Clause 114 proposes that determining whether grassland or other non-woody vegetation has been disturbed or modified will be determined by aerial assessment (for example of cropping patterns). It is not clear how this would pick up unlawfully cropped grasslands where no official compliance action was completed.

Clause 115 (*Compliance or enforcement action required for determination that land was unlawfully cleared)* requires a conviction or a court order to prove that land was unlawfully cleared. This has the potential to overlook and retrospectively validate illegal clearing where compliance has not been completed yet. There is scope for regulations (under section 60J of the Act) to provide that warning letters and lesser compliance activities such as PINs are relevant to such determinations.

Furthermore clause 116 (*Additional grounds on which land is authorised to be re-categorised to category 1 – exempt land*) is confusing as it appears to give discretion to re-categorise land even where there has been unlawful clearing, followed by lawful clearing of subsequent regrowth. This is not clear as regrowth vegetation did not require approval under the *Native Vegetation Act 2003*.

We **recommend** that land must not be mapped as exempt if that would represent a perverse benefit from unauthorised clearing.

Re-categorisation of mapped land

Clauses 116 to 123 deal with the process of re-categorisation. It is likely that mapping in some areas may be highly contested and so a clear, objective and accountable process for re-categorising – where ecologically valid – is essential.

We **recommend** that the circumstances identified in clause 117(2)(b) *must* involve public notification of re-categorisation.

We **support** the designation of land as category 2 regulated land while a decision is being made, but it should be made clear what happens at the end of 60 days (clauses 118 and 119). Land should remain regulated until a decision is made.

We **support** the ability of the Environment Agency Head to seek further information for a re-categorisation review request (clause 121), and that the review 'clock is stopped' while the necessary information is being sourced (clause 122).

We **support** deemed refusal if no decision is made after 40 days (clause 122(3)).

Local Councils and LLS should have rights to make submissions on, and to appeal against, re-categorisation requested by a landholder.

We **recommend** that third party rights regarding re-categorisation decisions are provided for in the LLS Regulation, especially where Crown lands such as TSRs are involved.

Division 3 Clearing native vegetation under land management (native vegetation) code

Land excluded from code clearing

As noted above, we strongly support clause 124 that stipulates that category 2 – sensitive regulated land and other certain land (i.e., some old growth forest) is excluded from application of the code.

As noted throughout, we recommend this clause be strengthened by applying to all old growth forest and being extended to include other lands such as travelling stock reserves, the coastal zone, a broader category of koala habitat, a minimum riparian buffer zone, and all e-zones.

Maximum period of clearing

Clause 126(b) provides that codes can set maximum periods for clearing. As noted, the cumulative impacts of applying multiple codes needs to be carefully monitored. There is a risk of accumulating unexercised code authorisations over a number of years, i.e. long periods of un-activated code clearing with multiple notifications and certifications possible.

We **recommend** that the LLS Regulation set clear short term maximum periods, such as 5 years. This would generally align with development consent rights under the Planning Act (s. 95). If a landholder still wants to undertake code clearing, they can notify or apply for certification for another 5 year period. This would assist LLS and OEH in keeping track of the scale of code clearing in each LLS and across NSW.

Areas that cannot be set aside areas

It is vitally important that any set aside area be a new and additional area managed for conservation, and cannot be an area that is already managed under an agreement, approval condition or program. We therefore **support** clause 129 to avoid potential double counting of offset/set aside areas.

Public register of set aside areas

It is essential that there be a public register of set aside areas and clause 130 is therefore **supported**. EDO NSW believes that ideally such areas should be registered on title like

PVPs were, but as this is not provided for in the legislation that was passed, it is necessary to ensure the register is accurate, comprehensive and public.

We therefore **recommend** that the clause be strengthened in two ways:

- ensure that register *must* be in electronic form *and* any other form determined appropriate (i.e., to ensure accessibility, a hard copy register would not be sufficient) in clause 130(2); and
- require that the register is made public by LLS in clause 130(5). The current drafting of this sub-clause is too vague and gives LLS discretion about how the register is made public.

Division 4 Approval for clearing native vegetation not otherwise authorised

Division 4 provides further detail about the process for clearing applications to the NV Panel.

We **recommend** there be a requirement for "detailed" information in clause 131 when an applicant is seeking a variation and the applicant must demonstrate they have taken reasonable steps to secure like-for-like credits. We **support** the ability of the NV Panel to seek further information (clause 132); that the clock stops while obtaining further information (clause 133(2)); and there is a deemed refusal if no decision is made in 90 days (clause 133(3)).

We **recommend** that third party rights regarding NV Panel approval decisions are provided for in the regulation, especially where Crown lands such as TSRs are involved.

Division 5 Miscellaneous

Division 5 contains one clause regarding the offence of contravening certain requirements of approvals or certificates. Clause 135(3) could be clarified – it may provide a defence to a third party contractor who clears land if they are not aware of the relevant approval or certificate – it should be made clear in supporting materials, guidelines, outreach that the landholder may still be liable.

In relation to offence provisions, there has been scant detail provided on how compliance and enforcement will be undertaken under the new scheme. We **recommend** that an **updated compliance policy** be published by OEH to make it clear to landholders what kinds of infringements will activate regulatory clauses like this scaled up to offences that will attract more serious compliance and enforcement action.

Other issues

Regional strategic land use map pilot

The *Fact sheet - Land management and the Native Vegetation Regulatory Map* notes:

> *the LLS will pilot development of a regional land strategic land use map to identify high, moderate and low conservation value land at a landscape scale and land that is likely to be suitable for high level agricultural development.*

EDO NSW supports landscape scale strategic planning that is comprehensive and robust. There needs to be further detail provided and public consultation on how this strategic map

is developed and what the application will be. It is unclear how it will link to the regulatory map, sensitive values map, grasslands mapping etc. EDO NSW would be happy to be involved in developing this further.

Draft Environmental Planning and Assessment Amendment (Biodiversity Conservation) Regulation 2017

This part of the submission comments on amendments to the draft *Environmental Planning and Assessment Regulation 2000* (NSW) (**Planning Regulation**) arising from the new biodiversity assessment and land clearing reforms.

We comment on:

Schedule 1 Amendment of Environmental Planning and Assessment Regulation 2000

- *Item [1] Clause 5 Advertised development*
- *Item [6] Clause 63 Reasons for granting concurrence*
- *Item [12] Schedule 2, clause 3 (waiving requirement for EIS)*
- *Items [15] and [16] Schedule 4, clauses 10 and 10A (s149 certificates)*

Schedule 1 Amendment of Environmental Planning and Assessment Regulation 2000

Item [1] Clause 5 Advertised development

We **recommend** this clause be amended to ensure that advertised development includes rural native vegetation clearing proposals under Division 6 of Part 5A of the LLS Amendment Act. This refers to broadscale land-clearing beyond what is allowed under the proposed self-assessable clearing Code. Such clearing is to be assessed by the Native Vegetation Panel (**NV Panel**) after a biodiversity assessment report has been prepared in accordance with the Biodiversity Assessment Method (**BAM**).

This recommendation reflects the principle, enunciated by the Government's Independent Biodiversity Review Panel, that land-clearing for change of use (i.e. broadscale clearing of remnant native vegetation for cropping, grazing or other agricultural purposes) should be treated equivalently to development proposals under the *Environmental Planning and Assessment Act 1979* (NSW) (**Planning Act**).

There are a range of well-established reasons why public exhibition and consultation on major land-clearing proposals is important, including to ensure transparency and public oversight, improve data and decision-making and deter corruption risks.

Item [6] Clause 63 Reasons for granting concurrence

This clause would remove a requirement to publicly exhibit reasons and conditions for granting or refusing concurrence (at the office of National Parks and Wildlife or the office of NSW Fisheries depending on species affected). We are concerned that this amendment will reduce, instead of increase, public scrutiny of decisions affecting threatened species and ecological communities.

We **recommend** deleting this draft clause, and instead amending clause 63 to require *online publication* of reasons and conditions for granting or refusing concurrence associated with development proposals (under the Planning Act, the Biodiversity Conservation Act (**BC Act**) or the LLS Amendment Act). Reasons and conditions should be published on a website maintained by a relevant agency.

Item [12] Schedule 2, clause 3 (waiving requirement for EIS)

The effect of this amendment appears to be to allow the Secretary of Planning to waive the requirement for an EIS where a State Significant Development proposal will affect critical habitat, threatened species or ecological communities. It is unclear why clause 3(9)(d) is omitted.

We **recommend** clause 3(9)(d) of Schedule 2 of the Planning Regulation instead be updated to refer to threatened entities and Areas of Outstanding Biodiversity (AOBVs, which replace critical habitat) listed under the BC Act. Otherwise, if this item is to give effect to some other amendment (e.g. as a consequence of the introduction of the BAM), that should be clearly explained.

Items [15] and [16] Schedule 4, clauses 10 and 10A

We **support** these amendments as they provide for transparency of set aside areas and biodiversity stewardship sites on section 149 planning certificates.

Explanation of Intended Effect for the *State Environmental Planning Policy (Vegetation) 2017*

This part of the EDO NSW submission comments on the proposed *State Environmental Planning Policy (Vegetation)* (**Vegetation SEPP**). This part provides comment on:

Background to the policy
- Role of new Vegetation SEPP and DCPs in urban areas and environmental zones
- Proposed changes to LEPs and the Standard Instrument

EDO NSW comments on the Vegetation SEPP proposals
- Biodiversity offsets scheme threshold
- 'More robust' DCPs – regulated tree species and public consultation requirements
- Clearing permissions will continue under a range of existing SEPPs and Codes
- Synchronise Vegetation SEPP and other environmental SEPPs now under review

Questions posed in the Explanation of Intended Effect

Background – A policy to assess vegetation-clearing in urban and E-zones, for land uses that do not require development consent

The NSW Government is proposing to introduce a new Vegetation SEPP to support its Land Management and Biodiversity Conservation reforms.

The new SEPP would assess proposals to clear native vegetation in urban areas (various zones) and Environment zones (E2, E3, E4) (**E-zones**) state-wide. It would require clearing to be assessed using the Biodiversity Assessment Method (**BAM**) or a local council's Development Control Plan (**DCP**) depending on the size and location of clearing.

The SEPP would *not* apply in rural zones, nor where the clearing or subsequent the land use requires development consent (e.g. in a local environmental plan (**LEP**)). Those areas will be regulated via the *Local Land Services Amendment Act 2016* (**LLS Act**) and *Environmental Planning and Assessment Act 1979* (**Planning Act**) respectively. Assessment may also involve the *Biodiversity Conservation Act 2016* (**BC Act**).

A major purpose for the proposed SEPP is to fill a 'regulatory gap' that may otherwise exist for tree removal outside of the LLS Act (rural zones) or Planning Act approvals (activities that need development consent).

The Vegetation SEPP may also help to address impacts of incremental clearing that does not require consent, or where a landowner may try to gradually clear smaller patches that should be assessed together using the BAM. However, the details and level of compliance oversight are yet to be clarified.

Role of new Vegetation SEPP and DCPs in urban areas and environmental zones

For clearing and tree removal above certain thresholds (i.e. the Biodiversity Offset Scheme (**BOS**) threshold[27]), the Government proposes that clearing will be approved or refused by the Native Vegetation Panel (**NV Panel**) under the LLS Act, following the BAM assessment.

For clearing and tree removal *below* the BOS threshold, local councils will continue to assess applications via permits in their DCPs. Clearing some trees will remain exempt from any approval (i.e. species that are not prescribed in the council's DCP).

Proposed changes to LEPs and the Standard Instrument

The Government proposes to repeal the standard LEP provisions that give effect to tree protection orders in DCPs (clauses 5.9 and 5.9AA), and remake them in the Vegetation SEPP based on the policy settings that are finalised after consultation. One proposed change is that DCPs will no longer be able to require development consent for clearing (as opposed to a permit). See standard instrument cl. 5.9(3)(a).

EDO NSW comments on the Vegetation SEPP proposals

The Government is exhibiting an Explanation of Intended Effect (**Explanation**) only. There is no draft SEPP on exhibition which makes it more difficult to comment on the details. We would welcome the opportunity to comment on draft SEPP provisions.

As a starting point, we **support** the role of the Vegetation SEPP in filling a potential regulatory gap – by ensuring consistent assessment of smaller-scale and cumulative clearing that wouldn't otherwise require development consent or BAM assessment. We also **recommend** the SEPP go further, setting more consistent and robust environmental standards for tree protection and public participation in decisions. We also **recommend** holistic conservation and planning for 'green infrastructure' below.

BOS threshold

We strongly support the Sensitive Values Land Map approach but comment on the proposed BOS thresholds in our submissions on the Regulation. A strong BOS threshold is very important to capture cumulative impacts of small-scale clearing (including incremental clearing by stealth) which can have disastrous effects on biodiversity, including in urban areas and environmental zones.

The Explanation notes that in some cases the size of clearing will be determined by the consent authority with regard to the future land use purpose (e.g. residential subdivision). As noted, we **support** the need to prevent clearing by stealth for purposes that should be assessed by the BAM. However the detail of how clearing area and purposes will be predicted in advance is unclear.

It is also important to note that the BAM assessment is only the start of a highly discretionary assessment process that we have major concerns about – including the ability to 'discount' offset requirements; weaken offsetting rules; pay money into a fund without verifying if offsets are available; and major deficiencies in the offset payment calculator, which fails to

[27] The threshold may be triggered by clearing size (e.g. over 0.25ha - over 2ha, depending on minimum lot size in the LEP) or mapped sensitive areas (clearing of any size where the site is mapped on the Sensitive Biodiversity Values Land Map). The proposed BOS threshold is set out in the draft *Biodiversity Conservation Regulation 2017*, cl. 7.2. See our submission on the BAM for our concerns regarding the proposed thresholds.

recognise the true value of scarce biodiversity. These concerns are detailed elsewhere in this submission (and 2016 submissions).

'More robust' DCPs – regulated tree species and public consultation requirements

We **welcome** the proposal for 'more robust' tree protections in DCPs, including enabling councils to charge application fees and place conditions on tree removal permits. However, there is limited further detail on proposals to improve DCPs.

We **recommend** that the SEPP be used to bring tree protection orders in DCPs up to a robust minimum environmental standard – including:

- the types of trees subject to permits and other protections; and
- to improve transparency and public consultation regarding local tree-clearing.

With regard to types of trees, we **recommend** the Office of the Government Architect, Local Land Services and the Office of Environment and Heritage coordinate to set baseline lists of trees to be protected under DCP permit schemes (appropriate to NSW bioregions). Alternatively, revised DCPs should apply to all tree species *except* those specified as exempt (with reasons for the exemption – for example, locally declared weeds).

Transparency and public consultation is a serious concern for the NV Panel process. It appears there is no requirement to exhibit large-scale rural clearing applications for public scrutiny and comment under the LLS Amendment Act. However, the same concern arises for clearing in urban and environmental zones under the Vegetation SEPP: the NV Panel process does not include consultation. We strongly **recommend** the LLS Regulation and Vegetation SEPP require that clearing proposals and BAM reports be publicly exhibited for consultation, and require the decision-maker to take public submissions into account when making a decision to approve or refuse clearing.

Transparency and public consultation is also a serious concern regarding tree removal undertaken via SEPPs. For example, complying development does not require consultation. Nor is consultation required for a range of Part 5 local infrastructure. Our recent submission on the Infrastructure SEPP review (2017)[28] provides further detail. EDO NSW receives numerous calls from people in urban and regional areas about tree removal, damage and lack of consultation. These range from high-profile major projects by state agencies, to local councils removing well-loved trees in streets or reserves without public notification.

We **recommend** that existing and proposed SEPPs require public notification of, and consultation on, proposals to remove trees and other vegetation.

Clearing permissions will continue under a range of existing SEPPs and Codes

We note the intention that clearing allowed under existing SEPPs will still continue once the Vegetation SEPP is adopted. However, current policy settings in SEPPs and LEPs make it all too easy to remove valuable tree cover, instead of improving landscape design principles to respect and enhance green infrastructure.

For example, other SEPPs will continue to allow tree removal in and around building and subdivision footprints, trees under a certain height, etc. Examples include the Exempt and Complying Development Codes SEPP, the Infrastructure SEPP, the Growth Centres SEPP and the Priority Precincts SEPP.

[28] EDO NSW submission: State Environmental Planning Policy (Infrastructure) Amendment (Review) 2016 –EDO NSW submission, April 2017, available at: http://www.edonsw.org.au/planning_development_heritage_policy

We also reiterate our concern that the Government continues to expand the categories of complying development, before resolving problems with private certifier compliance and oversight. Examples include a draft Medium Density Housing Code (2016) and current consultation open on a Greenfields Development SEPP.[29]

Expansion of complying development is a particular concern here, because current policy settings *exclude* complying development from the BAM assessment process. The perverse effect is that complying development (and other policies like the Infrastructure SEPP) could apply to areas on the Sensitive Biodiversity Values Land Map; or to areas that would otherwise trigger the BOS threshold due to cumulative size of clearing. This must be addressed in the Vegetation SEPP or elsewhere.

We **recommend** a systematic review of tree removal permitted via existing and proposed SEPPs (see examples above), to ensure they complement, not undermine, the aims of the Vegetation SEPP – to preserve local and regional biodiversity and amenity. We **recommend** these issues be addressed holistically, whether via the Vegetation SEPP or other clear, mandatory regulatory process. The aim should be to reduce and monitor the cumulative impacts on biodiversity, streetscape amenity and urban heat island effects; and to protect and enhance urban tree canopy and green infrastructure (by which we mean urban bushland, public parks, active transport networks, private gardens etc).

We also **recommend** that BAM assessments be required for complying development that meets the BOS threshold, either due to cumulative clearing size (for example, multiple uses of any medium density housing code) or on sensitive mapped land.

Synchronise Vegetation SEPP and other environmental SEPPs now under review

Updating and consolidating existing environmental SEPPs that are already under review could greatly enhance the Vegetation SEPP (or a parallel, holistic consideration of green infrastructure). Key examples are the Urban Bushland SEPP (**SEPP 19**) in urban areas and the Koala Habitat Protection SEPP (**SEPP 44**) in environmental zones. Both SEPPs are widely acknowledged to have useful intentions but limited and outdated application.[30] Both could be readily improved to work with the Vegetation SEPP to ensure that important remnant bushland and biodiversity is protected. This should not be limited to requiring the BAM to apply where development is proposed, but should identify and protect areas that the community values for its amenity, biodiversity, climate regulation and heritage value.

We also note that there will be a new **coastal management SEPP**. The interaction of the newly mapped coastal zones and biodiversity provisions will need to be clarified.

Questions posed in the Explanation of Intended Effect

The Explanation asks questions on key details about the scope and operation of the Vegetation SEPP. We respond to selected questions paraphrased in italics below.

- *Is the grant of development consent appropriate for clearing of heritage vegetation? Or would a permit be equally effective for regulating this vegetation?*

[29] Our planning instrument submissions are available at: http://www.edonsw.org.au/planning_development_heritage_policy.
[30] For example, the NSW Chief Scientist & Engineer's review of the decline in key koala populations (O'Kane 2016) recommended koala habitat protection be improved via the planning system (rec. 4).

We **recommend** development consent as a more appropriate process for considering the protection or removal of heritage vegetation (than a permit). Our main reasons for this are the importance of public consultation on heritage values, and requirements (in the LEP clause 5.10 and Planning Act s. 79C) to consider all relevant impacts on the natural and built environment. Whatever the process, it is essential that community engagement and expert heritage advice inform decisions.

- *Should all clearing of native vegetation in urban areas and environmental zones require development consent if it exceeds the BOS thresholds?*

There are potential advantages in requiring all clearing above the BOS threshold to require development consent. For example, unless the LLS Regulation and the Vegetation SEPP are amended to provide for public consultation on tree removal applications, this is an important advantage in requiring development consent for all clearing above the BOS threshold. This would align with proposed amendments in the Planning Regulation which require such applications to be 'advertised development'.[31] It is inconsistent and non-transparent if the same level of scrutiny is not applied to clearing over the BOS threshold in the Vegetation SEPP.

Another advantage of requiring development consent is that it may avoid public confusion around the technical use of 'consent', when clearly some form of 'approval' is required (whether from a consent authority under the Planning Act; or from the NV Panel, or indeed the council, under the Vegetation SEPP and LLS Act). That is, it is more straightforward if clearing that requires BAM assessment also requires development consent, instead of BAM assessment and 'approval', but 'no development consent'.

As noted, it is not sufficient to consider which body makes the decision, but also what would the decision-making process be – for the Native Veg Panel (s. 60ZG LLS Act) or Council (s. 79C EP&A Act). Both decision-making processes require consideration of:

- economic, social and environmental impacts of the proposed clearing, and
- the principles of ESD (although to its credit, the NV Panel process requires this explicitly, whereas in 79C this occurs via the 'public interest' test only), and
- the impacts on biodiversity values as set out in a BAM report (or BDAR).

In addition, the NV Panel process requires explicit consideration of soil erosion and various other adverse land or water impacts, but does not apply a scientific method (like the EOAM).

Section 79C requires a range of additional considerations: any environmental planning instrument (such as SEPPs and LEPs), any DCP (this would include tree protection orders), coastal zone management plans, the suitability of the site, any public submissions and the 'public interest'.

- *Should the NV Panel delegate urban and e-zone clearing decisions to Councils?*[32] *What involvement do you think councils should have in assessing clearing applications above the BOS threshold? (e.g. notified, review, delegation)*

EDO NSW acknowledges that there is a wide range of expertise, operating procedures and cultural differences between different councils across the state. For example, some local councils have expressed concerns to us about the biodiversity reforms reducing and limiting

[31] Draft Environmental Planning and Assessment Amendment (Biodiversity Conservation) Regulation 2017, Schedule 1, item [1] *Clause 5 Advertised development*.
[32] The Government does not intend that the Panel would delegate *rural* clearing (Explanation p 11).

their ability to control development on valuable vegetation; while other community members have expressed concerns about delegating widely discretionary decisions to councils.

Our primary concern is less about which body makes the decision, and more about the level of transparency, public participation, objective criteria and advice involved. Accordingly we **recommend** the Vegetation SEPP ensure:

- opportunities are available for public participation in decision-making and scrutiny of decisions;
- decision-makers have, or are required to rely on, ecological/arborist expertise;
- decision-makers are required to consider objective criteria, including the cumulative impacts of small-scale tree-removal on amenity, biodiversity and climate change readiness; and
- information before the decision-maker is objective, accurate and complete.

- *Should the Vegetation SEPP set out mandatory exemptions to allow certain clearing?*

This proposal raises concerns given the recent misuse of the 10/50 Bushfire Code. We **do not support** this proposal. As noted in the Frequently Asked Questions on the Vegetation SEPP, mandatory clearing exemptions conflict with the objectives of environmental land use zones; they would also threaten bushland and coastal vegetation (e.g. mangroves) in urban areas.

It is not clear from this question whether the Government intends councils to decide whether to permit 'allowable activities' (formerly Routine Agricultural Management Activities) in environmental zones.[33] We **do not support** wide council discretion on this matter. If this approach is being considered, any such decision must be based on a detailed scientific assessment of local vegetation values and potential impacts.

[33] See Explanation, p 18. See also Standard Instrument LEP, sub-clause 5.9(8)(ii) and optional sub-clause (9). Currently, if councils include sub-clause (9) in their LEP, RAMAs are *not* exempt clearing in R5 or E-zones.

Land Management (Native Vegetation) Code

This part of the submission comments on the proposed *Land Management (Native Vegetation) Code 2017* (**Code**).

For detailed analysis of the amendments made to the LLS Act in 2016, please refer to our previous submission.[34] We maintain our serious concerns with the deregulation of native vegetation clearing and emphasise the significant risk of policy failure in parts of the proposed Code.

Our key concerns have not been adequately addressed and include:

- the proposed Code exacerbates key threatening processes and extinction risks: it allows broadscale clearing, clearing of Endangered Ecological Communities (**EECs**), and hollow-bearing trees. The NSW *State of the Environment Report 2015* notes: 'The clearing of native vegetation and the associated destruction of habitat has been identified as one of the greatest threats to biodiversity in New South Wales.'
- self-assessable codes can be an appropriate regulatory option for genuinely low risk activities, however, the clearing that is proposed to be permitted under Code – particularly the Equity and Farm Plan codes – equates to broadscale clearing and is very high risk in terms of policy failure. Code settings have not been peer reviewed.
- clearing under the proposed code will not involve safeguards or a scientific method to maintain or improve biodiversity, soil and water quality or salinity.
- climate change and carbon storage impacts from vegetation clearing are ignored.
- set aside areas will not require ecological evaluation or equivalence, instead involving a set ratio that will often not actually meet a no net loss test.
- in terms of implementation, the code is complex to navigate. There are many exceptions, variations to exceptions, and Zone-specific requirements that can also be varied. LLS may vary rules or prescribe limits with discretion. There is little consistent guidance for exercising this discretion and therefore application of the Code may vary adversely across the state.
- there is missing information, for example, blank code schedules that provide critical definitions, notification requirements and environmental management actions.
- mapping of land excluded from codes (i.e., sensitive regulated land such as koala habitat) will not be comprehensive if the code commences as early as 25 August 2017.

Given these serious concerns the proposed Code needs to strengthened, particularly by setting clear limits where code clearing cannot occur. (We also make recommendations for strengthening the *Local Land Services (Land Management - Native Vegetation) Regulation 2017* to ensure this – see above).

This part of the submission comments and makes recommendations on each part of the code in turn:

- Preliminary
- Part 1 - Invasive Native Species
- Part 2 - Pasture Expansion
- Part 3 – Stock Fodder Harvesting
- Part 4 - Continuing Use

[34] EDO NSW submissions on the biodiversity and land management legislation in 2016 are available at: http://www.edonsw.org.au/nsw_biodiversity_reform_package_2016

- Part 5 - Property Vegetation Plan Transition
- Part 6 - Equity
- Part 7 - Farm Plan
- Missing detail - schedules
- Other issues - Requirement for Commonwealth approvals

Preliminary

2 Commencement

This clause states that the code commences upon gazettal.

We recommend that the codes should not commence until the mapping process is completed to accurately and comprehensively identify regulated land. As noted in our comments on the proposed LLS regulation, the transitional arrangements for landholders to determine whether their land is regulated are not adequate, and run the risk of facilitating inappropriate and unlawful clearing in the short-term. This is of particular concern when some clearing can be 'notified' without LLS staff verifying the status of the proposed clearing. If clearing proceeds without certification, when the NV Regulatory Map that underpins the system has not been finalised or quality assured, it will be very difficult to prove illegal activity in hindsight.

3 Aims

The proposed aims of the draft Code are limited and procedural – to authorise clearing on regulated land, establish and manage set aside areas and authorise land re-categorisation.

We recommend the aims of the Codes should at a minimum reflect the additional aim inserted into the LLS Act by the LLS Amendment Act 2016, namely, 'to ensure the proper management of natural resources in the economic, social and environmental interests of the State, consistently with the principles of ecologically sustainable development…'.

4 Definitions and Interpretation

Public consultation on the draft Code is significantly hindered by the lack of definitions. The Dictionary at the end of the Code (referred in clause 4) is blank. Examples of key terms, and what they may include or exclude, are as follows: 'treatment area' (relevant to determining the boundaries, size and impact of clearing, e.g. clause 46); 'likely to minimise soil and groundcover disturbance and land degradation'; cumulative impacts (in the context of treatment area restrictions); mulga species; boundaries for measuring estuaries and wetlands; Endangered Ecological Community (and whether this is intended to exclude Vulnerable ECs); 'primary use of the land' (landholding restrictions, e.g. clause 78) and 'area' of set asides (see clause 109).

5 Structure of this Code

While this clause provides some orientation to users, the Code would benefit from a contents page and a summary of where each Part applies (e.g. by holding size and State division).

6 Land to which this code applies

This clause states that the Code applies to all the rural areas of the state (i.e., excluding urban areas, national parks etc). Section 60A of the LLS Act provides that the regulation can qualify this application.

We recommend that this clause be extended to exclude certain areas from code clearing. This is discussed further below and in our comments on the LLS Regulation.

7 Unauthorised clearing of native vegetation

This clause sets out where code clearing is not permitted, including on sensitive regulated land, old growth forest on regulated land, critically endangered ecological communities etc.

We strongly support excluding sensitive and important areas and communities from code based clearing. We recommend that this clause be extended to include:

- all endangered ecological communities (these are unique communities of species at *very high risk of extinction in the near future* and are not suitable for code clearing)
- all vulnerable ecological communities (at *high risk of extinction in the medium-term*)
- the coastal zone
- all small holdings (defined elsewhere as less than 10ha; in Western Division, 40 ha)
- travelling stock reserves
- a broader definition of koala habitat (beyond the five Plans of Management approved by councils under SEPP 44, noting 2016 proposals to expand the SEPP definition).

We agree that PNF clearing should be dealt with separately and not included under this code.

8 Clearing under authority of this code not to harm threatened animal species

Given that the proposed Code allows self-assessed clearing of mature trees that could contain hollows, we support the recognition that clearing can harm threatened species. However, this clause will only be effective if a landholder is aware the animal is present in a hollow and *knows* that the clearing will harm the animal. Any obligation could be discharged by claiming no knowledge. This is an example of the risk of self-assessable clearing. We recommend amending clause 8 to include where the landholder knew 'or ought reasonably to know' that the clearing was likely to harm the animal.

Similarly, we are concerned about the note stating that any other harm to a threatened species that occurs under Code clearing is not an offence. This could seriously undermine the purpose and objectives of the *Biodiversity Conservation Act 2016*.

9 Re-categorisation of land

As discussed below, we are concerned about the ability of the equity and farm plan codes to convert significant areas of land from regulated to unregulated. For this reason, we do not support the Equity or Farm Plan code and recommend those parts be deleted.

10 Notification of intended clearing of native vegetation and 11 Certification of intended clearing of native vegetation

We support the requirements for notification and certification set out in these clauses. However, public consultation is hampered by the lack of notification requirements (Schedule 3 – *Notification Requirements* is left blank).

There is also some confusion regarding certification requirements. Clause 11 (2) states that "Applications for a mandatory code compliant certificate for intended clearing of native vegetation must be made in accordance with Schedule 4 to this Code." However, schedule 4 is currently titled "Set aside area management strategies" and no detail at all is provided. This needs to be clarified.

We note that notification and voluntary code compliant certificates have effect for 15 years (where no re-categorisation of land is involved). We **recommend** a shorter timeframe to ensure the cumulative impacts of code clearing in LLS areas is monitored and continually assessed (including what 'sleeper' notifications and certificates are yet to be activated). (See also our recommendation to clarify clause 126 of the proposed LLS Regulation to address this). We note that the Act already provides some protection for landholders by noting that a certificate continues to have effect if the clearing has been substantially carried out (LLS Amendment Act s. 60Y(8)).

12 Power for LLS to refuse certificate

We strongly support the role of LLS in assessing the cumulative impacts of all clearing are not adverse to biodiversity values, and the ability to refuse a mandatory code compliant certificate if they are. A key problem of the previous *Native Vegetation Conservation Act 1997* was the ability to 'stack' clearing exemptions to authorise broadscale clearing.[35] We therefore strongly support the note that states:

> **Note**: The intention of this clause is to prevent "stacking", that is, the inappropriate application of clearing under multiple parts of this code that would lead to adverse impacts on biodiversity. It is not intended to restrict the legitimate application of more than one part of this code on a particular property.

However, we are concerned that the cumulative impact (under clause 12(1)(b)) is in the subjective opinion of the LLS. It is unclear how this important safeguard will be consistently and meaningfully applied. Further guidance – including objective criteria and thresholds – is needed on this. Clear guidance on cumulative impacts will assist in managing landholder expectations and providing confidence to LLS staff in decision-making.

We also recommend this power be amended and extended to *notified* clearing (for example Part 2 – Pasture expansion, Division 1), to prevent land-clearing by notification where LLS has a reasonable belief that the Code cannot be complied with. If clause 12 remains limited to 'certificate'-based clearing then LLS can only respond to improper 'notifiable' clearing after the damage has been done.

It may also be confusing that clause 12(2) states "nothing in this clause prevents clearing under more than one Part or Division of this Code on the same area of land." There needs to be careful analysis of how this clause is used by LLS as the scheme is implemented.

13 Establishment of set aside areas

We strongly support there being a public register of set aside areas, and recommend that the detail available be comparable with current native vegetation registers. This is discussed further below and in our comments on the LLS Regulation.

[35] See: *Performance audit: regulating the clearing of native vegetation,* Audit Office of New South Wales, 2002 for a summary of the failures of the previous regime. Robyn L Bartel, Compliance and complicity: An assessment of the success of land clearance legislation in NSW, (2003) 20 EPLJ 81.

While clause 13 requires the certificate to identify the location and management obligations for the set aside area, public consultation is hampered by the lack of management strategies that are presumably to be set out at Schedule 4 (left blank).

14 Prohibition on clearing native vegetation in set aside areas

We support a clear and enforceable prohibition on clearing set aside areas. However, this clause notes the exception is clearing needed to manage the area (1(a)). It needs to be clarified what kind of clearing this includes.

15 Buffer distances for wetlands and streams

The provisions regarding buffer distances from water courses are confusing in the Code. We recommend that it would be more user-friendly to set a clear minimum buffer distance in the LLS Regulation and set out the relevant distances (if more than the minimum) clearly in each part of the Code. Furthermore, the buffers should be mandatory and consistently applied, i.e., not merely a matter for the LLS to have regard to.

We note that in rural areas, clearing in areas of mapped 'protected riparian areas' will require NV Panel approval after a BAM report, and the code does not apply to *mapped* protected riparian areas.[36] However, for other streams (not on the Sensitive Values Map), the proposed Code says LLS may prescribe a buffer, having regard to DPI guidance.

This clause gives LLS discretion to prescribe a distance from wetlands and streams:

- but only sometimes – where mandatory certificates are required and the Code refers to streams (e.g. INS code clause 31);
- in exercising this discretion, LLS is to have regard to buffer distances in DPI "Guidelines for riparian corridors on waterfront land";[37]
- LLS may disregard 1st and 2nd order streams with no defined channel and banks; and
- however, a note for the public exhibition draft states: This clause may be changed to restrict clearing within a certain distance of an estuary, wetland or incised watercourse.

The application of this clause is unduly discretionary and difficult to navigate. We therefore recommend including clear minimum buffer distances expressed in each relevant part of the Code (e.g. as it is in the stock fodder code – 20 m – clause 56(b)), and a clear minimum distance excluding codes from riparian areas set out in the LLS Regulation.

[36] LLSA Act: 'Sensitive values map' may include 'protected riparian areas' (60F(2)(c)); LLSA Act: 'Allowable activities' are more limited in 'protected riparian areas' (Schedule 5A, clause 35)

[37] Table 1 of the Office of Water (DPI) document titled "Guidelines for riparian corridors on waterfront land":

Watercourse type	VRZ width (each side of watercourse)	Total RC width
1st order	10m	20m + channel width
2nd order	20m	40m + channel width
3rd order	30m	60m + channel width
4th order and greater (includes estuaries, wetlands and any parts of rivers influenced by tidal waters)	40m	80m + channel width

Note: where a watercourse does not exhibit the features of a defined channel with bed and banks, the Office of Water may determine that the watercourse is not waterfront land for the purposes of the Water Management Act.

16 Management of set aside areas

This clause requires a landholder to "make reasonable efforts to manage the set aside area in a manner expected to promote vegetation integrity in the set aside area." We recommend strengthening this to require the landholder to ensure that vegetation integrity is maintained and improved. This should explicitly define integrity to include extent, quality and diversity.

We strongly support the basic record keeping requirements as these will assist landholders in showing due diligence.

Sub-clause 5 refers to evidence obtained through an LLS monitoring and evaluation program. It is unclear whether this can include evidence or concerns raised from other parties.

Again, it is difficult to comment in the absence of detail in Schedule 4. The schedule must set out clear minimum standards. The *Land Management (Native Vegetation) Code Fact sheet* states: "Local Land Services will work with landholders on a case-by-case basis to identify the management interventions likely to deliver the best possible environmental outcomes in a set aside area." This suggests there will not be a list of minimum requirements for management (as currently exist for PVP and biobank arrangements). The Schedule needs to be completed and exhibited so it is clear what the minimum requirements will be and what additional requirements may need to be tailored to a particular area.

We do not support the potential for the expanded range of allowable activities being used cumulatively in set aside areas.

17 Identification of threatened ecological communities

This clause relates to identifying threatened ecological communities for the purpose of calculating set aside requirements. We do not accept that code-based clearing and set asides (or discounting) are an appropriate management response to deal with extinction risk.

We strongly recommend deleting clauses that facilitate the application of code clearing to threatened ecological communities (**TECs**). It is highly inappropriate to use a code based tool to allow them to be cleared. Any potential clearing of an EEC or vulnerable ecological community should be assessed fully, based on scientific method and transparent evaluation.

Taking into account surrounding land use (17(2)(d)) could promote poor management or set a perverse incentive to increase clearing around EECs to reduce their viability.

The intent of clause 17(3) is also unclear. It could imply that impacts of 'notified' clearing on threatened ecological communities can be ignored. Rather, the Codes should be excluded where these communities exist. This is another reason to enable LLS to prevent notified clearing where there is a reasonable suspicion the Code cannot be complied with (cl. 12).

If provisions for clearing EECs remain in the final Code, then guidelines should be made for specific EECs in each LLS area as a matter of priority. The *Land Management (Native Vegetation) Code Fact sheet* notes that "guidelines will be developed to support implementation, including species lists and how to measure/calculate percentages." Assumptions about viability in the absence of guidelines (17(5) could be potentially problematic given species lists are not definitive. It is also unclear what qualifications will be required by the LLS officer to determine this (in contrast to accredited BAM assessors).

In relation to the treatment of TECs, the *Land Management (Native Vegetation) Code Fact sheet* states: "A set aside discount will also be available where a landholder elects to set

aside land of strategic landscape value." As discussed in our comments above, there is a lack of detail about proposed strategic landscape mapping and how it will be developed and applied. We do not support discounting of set aside areas, and we recommend further consultation on strategic landscape value mapping.

The discretion for LLS to determine loading and discounts will lead to inconsistent application of the new rules. The Code must not commence until the guidance documents are complete.

Finally in relation to the preliminary Part we reiterate our concerns that the Code will exacerbate key threatening processes under the BC Act such as the loss of hollow bearing trees. While there are requirements to retain very large trees (e.g. cl. 43, diameter >90cm) there is no standard requirement to survey for or retain hollow bearing trees, or to support hollow recruitment by appropriate retention of smaller trees. We recommend all Codes be reviewed against key threatening processes and include safeguards that respond to them.

Part 1 - Invasive Native Species

This part of the Code permits, by several treatment methods, clearing of native vegetation on Category 2 - regulated land that has been identified as an Invasive Native Species (**INS**), and permits certain agricultural activities in treatment areas.

A comparison of the current INS code with what is proposed shows an expansion of what can be cleared as INS. For example, for management burning, the new code allows for more clearing of INS as clause 21(1) outlines that there are nil treatment area restrictions, while the old code states that no more than 80% of the INS extent on the landholding may be cleared. The old code had the same limit for all other clearing types (individual plant clearing of INS, clearing at paddock scale with minimal disturbance, clearing at paddock scale with temporary disturbance). In comparison, the new code outlines that for these clearing types, for each 1000 hectares treatment area, 10% of the area must not be cleared unless authorized. The new codes thus allow greater clearing, either having no restrictions, or up to 90%, as opposed to the 80% allowed prior.

It is not clear what the justification for expanding the code is. Under the current code an enormous area was subject to INS clearing – the public register states 4,389,190.06 ha was treated between 2005 and 2015, and 388,757.62 between 2015 and 2017 (a total of **4,777,947.68 ha**).[38] Significant concerns have been raised regarding the impacts of this type of clearing from experts such as Phil Gibbons.[39]

We therefore recommend at least maintaining the previous limit of INS permitted on 80% of a property rather than being increased to 90%. And given the extent of this clearing, there should be publically available data on the extent of INS clearing for each LLS and state-wide (equivalent to information currently on the register for INS).

We support the continued application that clearing under this part must be to "the minimum extent necessary." Further guidance on what this means in practice would assist landholders. We also welcome consideration of cumulative impacts (cl. 26), although this is not defined, and may be contradicted by the reduced property vegetation limits noted above.

[38] See public register INS treatment area totals available at: http://www.environment.nsw.gov.au/vegetation/approvedclearing.htm.

[39] Analysis of the Land clearing rates from the Commonwealth Department of Climate Change and Energy Efficiency by Dr Phil Gibbons. See: National Greenhouse Gas Inventory - Kyoto Protocol Accounting Framework: http://ageis.climatechange.gov.au/QueryAppendixTable.aspx.

Regarding clearing of individual plants (Division 2), it is unclear what is meant by the note to clause 27: ***Note for public exhibition draft:*** *This clause may be changed to deal with any clearing of non-invasive native species which is permitted by this Division*. This should be clarified as it is not appropriate that this code authorise clearing of non-invasive native species.

For management burning we support requirements for nil soil disturbance, no land degradation and that clearing must not result in the introduction of non-native vegetation.

For paddock clearing we support requirements for minimum soil and groundwater disturbance and to avoid introduction of non-native vegetation.

Part 2 - Pasture Expansion

This part of the Code permits a range of clearing of woody native vegetation on Category 2-regulated land, in particular to encourage groundcover growth in treatment areas for grazing purposes (i.e., thinning).

The NSW *State of the Environment Report 2015* (Theme 13) notes that despite some improvement in land management, pressures on native vegetation condition *are likely to persist due to the long-term effects of fragmentation following clearing*, coupled with invasive species and climate change.

The thinning code under the *Native Vegetation Act 2003* mandated that all thinned vegetation must retain a stem density for each hectare not less than 75% of the benchmark density (specified in Appendix 1). The benchmark stem density ranged from 150-300 stems per hectare. Further, thinning was not permitted in various vegetation formations (e.g. rainforests).

In comparison, the new proposed code has different thinning allowances depending upon whether it is uniform or mosaic thinning. For uniform thinning (notification), the new code states that the removing of native trees and shrubs from a treatment area must be done so that the density of the remaining native trees and shrubs in the treatment area is at least 225 stems per hectare.

For uniform thinning (certification), the new code states that thinning must be done in such a way that the remaining vegetation in the treatment area is at least the minimum stem density for the Keith vegetation formation (ranges from 75-150 stems per hectare). Further, if the vegetation comprises part of an EEC, the density of the vegetation must be at least the minimum stem density for the Keith vegetation formation (ranges from 115-225 stems per hectare). There is also discretion for LLS to vary minimum stem density, but the thresholds for this are not defined clearly (clause 43(5).

With regards to mosaic thinning of woody vegetation (certification), the new code states that native vegetation must be removed so that the canopy cover of the remaining native over-story in the treatment area comprises of at least 30% of the total treatment area and retained native vegetation are in patches of at least 5 hectares evenly distributed throughout the treatment area. The treatment area restrictions do not specify the time frame for the 30% treatment maximum (clause 51(1)). Furthermore “retained native vegetation patches” is not defined in clause 52(2) – does this mean set aside areas?

The new code appears to be less stringent than the old one. For example, the old code outlines that thinning within 30m of a waterbody must only be undertaken by clearing

individual vegetation with no disturbance to soil and groundcover. In contrast, the new code focuses on minimising soil and groundcover disturbance, instead of avoiding it altogether. As noted above, it would be clearer to state in the code what the clear enforceable minimum riparian buffer distances are.

We support requirement that thinning must be done "in a manner that *will* minimise soil and groundcover disturbance and land degradation" (clause 42(1), rather than the weaker wording in clause 47(1) and 52(3) "in a manner *that is likely to* minimise…" (emphasis added).

Part 3 - Stock Fodder Harvesting

This part of the Code permits clearing of certain native vegetation species on Category 2-regulated land in prescribed parts of the State for the purposes of harvesting stock fodder.

We support the clear 20 metre buffer specified in clause 56(b). Clarification is needed on the appropriate measurement of distances from estuaries, wetlands and watercourses.

Clarification is also needed with reference to timeframes. For example: 'Clearing must not exceed 50% of the total area of mulga species on the landholding within a 10 year period' (clause 57). How is this period measured in practice? What is the limit or obligation in year 11, or year 19?

Part 4 - Continuing Use

This part of the Code permits continuation of a farming or vegetation management practice that was undertaken prior to commencement of the *Local Land Services Amendment Act 2016*; permits certain agricultural activities in treatment areas; and in prescribed circumstances authorises re-categorisation of mapped land.

Division 1 Managing woody native regrowth in managed native pastures could be strengthened by requiring any clearing "to be done in a manner that minimises soil and groundcover disturbance" instead of "likely to minimise" (clause 62(2)).

The public exhibition note states: "It is not intended that this Division will allow the clearing of new growth or natural growth from intact patches of remnant vegetation that have no previous clearing history." This should be stated in the code, i.e., "This division does not authorise the clearing of …etc", rather than a note.

In *Division 2 Continuation of rotational practices undertaken prior to 1990*, it is unclear what degree of variation is covered by "substantially consistent" in clause 67(1). This should be clarified. It is also unclear why Division 2 does not include requirements to prevent long-term groundcover decline or land degradation (cf Method and clearing conditions, Division 1)

Also, the code allows permanent re-categorisation of land to Category 1 exempt land, but the clause does not specific the circumstances when this could happen (clause 68 Note).

Part 5 - Property Vegetation Plan Transition

This part of the Code provides for extinguishment of a Property Vegetation Plan (**PVP**) made under the *Native Vegetation Act 2003* and in prescribed circumstances provides for establishment of set aside areas on Category 2- regulated land.

Division 1 Extinguishing a property vegetation plan that provides for invasive native species, thinning, regrowth identification or continuing use allows an LLS to vary a PVP, including any offset area and condition (clause 70). We do not support any varying that would allow a previous offset area to now be cleared. The Code should expressly prevent this.

Division 2 Extinguishing a partially exercised property vegetation plan for paddock tree clearing or broadscale clearing provides that offsets that have been established under a PVP become Category 2 regulated land (clause 74(3)). Category 2 land can be cleared under the codes or with approval. Again, we note that areas set aside as offsets should not be able to be cleared. The Code must expressly prevent this.

Also in Division 2, there is discretion in how the offset area may be converted to a set aside area under the new scheme (clause 75). The averaging of previous offset ratios (clause 75(1)(a)), the discretionary decreasing of offset ratios (clause 75(2)); and the "same or similar" expansion of like for like requirement are not supported, ecologically or by EDO NSW.

The Note for this division states "Set aside areas are to be situated in the same location as the offset or offsets under the property vegetation plan." This requirement should be in the clauses of the code and not in a note.

It should also be noted that PVP offset areas that are converted to set aside areas will be on the register of set aside areas. As PVPs will no longer be on title and there will not be equivalent registers to the current system, it is important that the set aside register is accurate, comprehensive and public.

Part 6 - Equity

This part of the Code permits significant clearing of native vegetation on Category 2-regulated land; provides for re-categorisation of areas cleared of native vegetation in accordance with the Part; and provides for establishment of set aside areas on Category 2-regulated land, i.e. in areas containing remnant vegetation.

We do not support this code as the scale of the clearing potentially permitted is so significant that it equates to broadscale land clearing. Any clearing of this scale should be properly assessed by the NV Panel and not allowable under a code.

The code is confusing, highly discretionary, and extremely risky. Set aside requirements are riddled with exceptions and discretions. For example, our concerns include:

- *Division 1 Removing native vegetation from paddock tree areas - 79 Treatment area restrictions* – allows 1 tree per 50 ha every year (clause 76(2)). No set aside is required for this clearing, and it can be used with 'notification' only (clause 77). Previous rules allowing a number of individual trees to be cleared per year undermined vegetation management by providing an exemption with cumulative

impacts to be overused.[40] The division can be used even where there is only 11% of vegetated (yellow) land left (i.e., 89% unregulated land clause 78(1)); there is LLS discretion to apply this code in the environmentally sensitive coastal zone (clause 78(3)); the division has no mandatory buffer distances clearly set out (clause 79(1)); there is no requirement to avoid substantive adverse impacts or land degradation; and there is no requirement to survey for or retain hollow bearing trees.

- *Division 2 Removing native vegetation from small areas* – allows for clearing of small patches (e.g.. one small area – between 1-4 ha depending on what division – for each 250 ha in any 12 month period (clause 82)). We refer to our previous submissions on the use of codes to remove small patches of vegetation. The implications of this are significant as the removal of small patches can undermine the connectivity of vegetation across the landscape.[41] It is unclear what the timeframe or process for LLS to decide the 10% landholding restriction in clause 84(1) is; it is unclear how the treatment area restrictions will be interpreted in 85(1)(c) (a problematic example of cumulative impacts, and of exceptions to exceptions); and the set aside area requirements in 88(2) would not meet a "no net loss" test. Set aside requirements are uncertain, complex and contradictory (see 88(3) and 88(6)). Again the discretion for LLS to reduce set aside requirements by 50% has no clear justification or decision-making criteria (clause 88(4)). While it is positive to see recognition of the like-for-like concept in clause 88(6) – that TECs must be set aside by the same TEC – we do not support this code being applied to any TEC.

- *Division 3 Removing native vegetation from regulated rural areas (regulated land set aside area)* – in the first three years of the code *allows* (a) clearing of 25% of the estimated total area from which native vegetation may be removed under this Division up to a cumulative maximum of 625 hectares, or (b) the total area from which native vegetation may be removed up to 100 hectares (clause 89). This equates to broadscale clearing. There are no erosion or land degradation conditions. The estimated total area from which native vegetation may be removed under this Division is determined by LLS. Although the set aside area requirements are scaled (i.e., the set aside ratio increases if EECs are cleared or where a property has less regulated land left), we do not support this code being applied to *any* TECs as it is an inappropriate regulatory tool for a category of listed communities at high risk of extinction. Again, we note that the 50% reduction in set aside requirements in clause 95(7) is completely arbitrary, makes no sense ecologically, and completely undermines the set aside requirements set out in clause 95(2). The 50% discount is highly discretionary for 'strategic landscape importance' also. When LLS determines the importance of a proposed set aside area, there is no requirement to have regard to bioregional plans or threat status (clause 95(9)). While it is positive to see recognition of the like-for-like concept in clause 95(10) – that TECs must be set aside by the same TEC – we do not support this code being applied to any TEC.

We therefore recommend deleting clauses relating to the Equity code – i.e., **delete Part 6.** If our recommendation is not accepted, serious efforts must be made to address our concerns.

[40] See: *Performance audit: regulating the clearing of native vegetation,* Audit Office of New South Wales, 2002 for a summary of the failures of the previous regime. Robyn L Bartel, Compliance and complicity: An assessment of the success of land clearance legislation in NSW, (2003) 20 EPLJ 81.

[41] See EDO NSW Submission on the Draft Landholder Guides and Draft Orders to implement self-assessable codes under the Native Vegetation Regulation 2013, May 2014, available at: http://www.edonsw.org.au/native_plants_animals_policy

Part 7 - Farm Plan

This part of the Code permits clearing of native vegetation on Category 2- regulated land; provides for re-categorisation of areas cleared of native vegetation in accordance with the Part; provides for establishment of set aside areas on Category 1-exempt land (i.e., involving planting/revegetation of cleared land); and provides for re-categorisation of set aside areas established in accordance with the Part.

Similar to the equity code discussed above, we do not support this code as the scale of the clearing potentially permitted is so significant that it equates to broadscale land clearing. Furthermore, it is not possible to replace biodiversity values of remnant or mature vegetation with planted seedlings in the short term. This code fails the no net loss test. Any clearing of this scale should be properly assessed by the NV Panel and not allowable under a code.

Our serious concerns include:

- *Division 1 Removing native vegetation from paddock tree areas (exempt land set aside area)* – It is ecologically nonsensical to assume that biodiversity values of remnant native vegetation can be replaced with revegetation after 12 months (clause 102(5)). The corresponding delay in removing vegetation is not actually linked to the successful establishment of the set aside (in compliance with clause 102), but only to a 12-month period (e.g. clauses 97, 101, 104, 108). We note that the BAM requires hollows for hollows when offsetting.[42] Division 1 is not subject to a landholding restriction, i.e. it could apply even where there is less than 10% regulated land left, and there is still discretion to apply it in the coastal zone (clause 98). While EECs are excluded (cl. 99) it appears the Farm Plan Code could apply to vulnerable ecological communities. Set aside requirements are poorly calculated and expressed (102(2)).

- *Division 2 Removing native vegetation from regulated rural areas (exempt land set aside area)* – allows clearing regulated vegetation in exchange for a set aside that involves planting new vegetation on cleared (unregulated) land. It is not limited to 'paddock tree areas' (Division 1). This can include clearing 25% of the regulated land on a property (clause 103). The only saving grace of this code is that it does not apply to EECs (clause 106(d)), but in the absence of definitions we cannot verify whether vulnerable ECs can still be cleared under this Part. As we have consistently recommended, no code clearing of EECs or vulnerable ECs should be permitted. Delaying clearing for 12 months while revegetation is established can be overridden for vague discretionary reasons (clause 108(1) Note), and in any event as observed, it is ecologically nonsensical to assume that biodiversity values of remnant native vegetation can be replaced with revegetation after 12 months (clause 109(5)). Again the proposed set aside requirements (e.g. in clause 109 (2)(a)) fail a "no net loss" test.

We therefore recommend deleting clauses relating to the Farm plan code – i.e., **delete Part 7.** If our recommendation is not accepted, serious efforts must be made to address these concerns. This should include scientific peer review of the Code and set aside requirements.

[42] Although we note our concerns on the variation rules in the Regulation that allow the use of artificial hollows.

Missing detail

We note that the following detail is not provided for consultation:

- *Schedule 1 Invasive native species list*
- *Schedule 2 Description of Keith Vegetation Formations*[43]
- *Schedule 3 Notification Requirements*
- *Schedule 4 Set Aside Area Management Strategies*
- *Dictionary*

As noted throughout, this information is important for understanding how the Code will work and should be exhibited for comment before the Code commences.

Other issues

The significant clearing permitted under the Code – particularly the Equity and Farm Plan provisions – combined with the ability to clear EECs under codes makes liability under Commonwealth laws a real possibility for NSW farmers.

We note the *Land Management (Native Vegetation) Code Fact sheet* states:

> ***Requirement for Commonwealth approvals***
> *Actions that are likely to have a significant impact on a matter of environmental significance require approval under the Environment Protection and Biodiversity Conservation Act 1999. Where LLS considers that proposed clearing may require Commonwealth approval, LLS will only certify the clearing after being reasonable satisfied by the landowner that Commonwealth approval is unnecessary or alternatively, that Commonwealth approval has been given.*

We recommend that LLS do not certify clearing unless there is clear confirmation that Commonwealth approval is not required or has been given. Extension and outreach information will be needed for rural landholders so they are clear on their potential liability.

[43] We note this information is available elsewhere, but should be provided in the Schedule for ease of reference.

Biodiversity Assessment Method (BAM)

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

As stated previously, EDO NSW has significant concerns with the application of the proposed BAM.[44] The most recent version of the BAM does not address these concerns and in fact is likely to deliver poorer environmental outcomes than the 2016 draft BAM by reducing offset ratios and defining 'no net loss' in a way that significantly weakens environmental protections compared to the current 'maintain and improve' test. Offsets should be a measure of last resort, especially given the evidence that offsetting often fails to deliver its stated outcomes. This means that relying on offsets for the delivery of environmental outcomes is highly uncertain.[45] The BAM should therefore contain the ecological limits necessary to prevent extinctions. The current BAM does not.

This part provides comment on:

- 1 Background to the Draft Biodiversity Assessment Method
- 2.2.3 Use of certified more appropriate local data
- 3.1 Streamlined assessment modules
- 3.6 Assessment of biodiversity values
- 5.3 Identifying native plant community types and ecological communities on the subject land
- 6 Assessing the habitat suitability for threatened species
- 8 Avoiding and minimising impacts on biodiversity values
- 9.1.4 Requirements for assessing direct impacts that are prescribed biodiversity impacts
- Section 9.4 Adaptive management for uncertain impacts
- 10.2 Impact assessment of candidate entities of serious and irreversible impacts on biodiversity values
- 11 Application of the no net loss standard
- 11.3 Identifying the credit class for ecosystem credits and species credits
- 13.3 Management actions that improve biodiversity values
- 13.3.2 Additional active restoration management actions
- 13.5 Estimating the future value of vegetation integrity attributes without management
- 13.6.2 Probability of reaching benchmark for composition, structure and function
- 13.8 Calculating the security benefit score at a biodiversity stewardship site
- 13.13 Existing obligations and management actions
- Appendices 1 and 2
- Appendix 7
- Drafting errors

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

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

1 Background to the Draft Biodiversity Assessment Method

Section 1.1.1.4 notes:

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

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

This reduction in offset requirements occurs in a context where there is significantly increased flexibility in requiring like-for-like offsets and offset requirements can be met entirely by paying money into a BC Fund with no guaranteed environmental outcomes. Given that research to date shows significant concerns with the effectiveness of protecting biodiversity through offsets, these biodiversity risk weightings should use a more precautionary approach.[46]

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

2.2.3 Use of certified more appropriate local data

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

3.1 Streamlined assessment modules

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

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

[46] See our submission on the BC Regulation for further comment.

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

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

3.6 Assessment of biodiversity values

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

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

The BAM notes:

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

This can only be effective where it is a mandatory requirement for accredited assessors to provide the raw data used to determine the assessments. Given this will also be important for ensuring compliance with BAM requirements, we **recommend** that at a minimum the *Accreditation Scheme for the Application of the Biodiversity Assessment Method 2017* must include a mandatory requirement to provide raw data to the EAH and to OEH.

6 Assessing the habitat suitability for threatened species

Ensuring that all threatened species habitat is offset is particularly important for those species which are known to regularly inhabit what would otherwise be considered degraded environments, such as the Green and Golden Bell Frog. Protecting threatened species habitat regardless of its current degradation status will become increasingly important as species adapt to and utilise previously developed areas. A species credit species can also

be considered unlikely to occur on a development site if “the assessor determines that the habitat is substantially degraded” (section 6.4.1.17). This is a highly subjective assessment which creates the potential for significant misuse, particularly where there are no approved survey guidelines for a particular threatened species.

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

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

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

8 Avoiding and minimising impacts on biodiversity values

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

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

9.1.4 Requirements for assessing direct impacts that are prescribed biodiversity impacts

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

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

Expert comment on the draft version of this policy (which was implemented largely unchanged) identified that the policy is highly inappropriate for upland swamps. EDO NSW **does not support** including this policy in the BAM.[47] As submitted previously, we **recommend** that the Government create 'red flag' areas which prohibit mining directly beneath and close to swamps, and require companies to ensure mine layouts avoid impacting these areas.

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

Section 9.4 Adaptive management for uncertain impacts

The BAM continues to misapply the principles of adaptive management. Section 9.4 of the BAM includes no maximum limit to impact, merely a need to reduce or eliminate impacts when a certain threshold is passed. As stated by Preston, C.J. of the Land and Environment Court:[48]

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

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

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

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

- that the process, principles and environmental information underpinning serious and irreversible impacts be as objective as possible;
- references to extinction risk be clarified to refer to an appropriate scale and scope;

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

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

- that the Regulation prescribe additional serious and irreversible impact principles and guidance so that:
    - the Regulation clause 6.7(2) explicitly require consent authorities to have regard to the principles of ecologically sustainable development, in particular the precautionary principle, and cumulative impacts;
    - where 'reasonable steps' are taken to verify if like-for-like offsets are available, and no such offsets are identified, this may be a prima facie indicator of serious and irreversible impacts that the consent authority should consider in detail; and
    - that the Regulation prescribe additional serious and irreversible impact principles and guidance relating to water quality and soil quality (including acidification, erosion and salinity).

11 Application of the no net loss standard

The proposed definition of no net loss in the BAM clearly undermines the intent of the BC Act. The definition of no net loss is based entirely on a set of subjective decisions that do not guarantee any positive biodiversity outcomes, including through the use of offsets, and ultimately require only management of indirect offsets. We **recommend** that this test needs to be significantly strengthened to meet accepted definitions of no net loss.[49]

11.3 Identifying the credit class for ecosystem credits and species credits

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

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

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

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

13.3 Management actions that improve biodiversity values

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

13.3.2 Additional active restoration management actions

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

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

The consultation note for section 13.3.2 states:

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

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

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

This is a significant retrograde step from even the current situation where credits for mine rehabilitation are significantly discounted to recognise the high level of uncertainty in achieving positive biodiversity outcomes. Providing any offset credits for mine rehabilitation work creates a perverse incentive for the Department of Planning to allow or recommend

poor rehabilitation outcomes during the approval stage, and for mining companies to undertake poor rehabilitation in the first instance and only undertake an adequate standard of rehabilitation where there will be a financial reward through the offsetting system. In our view, this approach constitutes double-dipping and we **recommend** that this option should not be allowed.

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

13.5 Estimating the future value of vegetation integrity attributes without management

EDO NSW remains extremely concerned about the use of averted loss as part of the measurement of gain at a stewardship site.[50] The use of averted loss embeds a presumption that high quality vegetation that has been protected and appropriately managed by landholders in the past, can and will be cleared in the immediate future.

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

13.6.2 Probability of reaching benchmark for composition, structure and function

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

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

13.8 Calculating the security benefit score at a biodiversity stewardship site

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

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

13.13 Existing obligations and management actions

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

Appendices 1 and 2

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

Appendix 7

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

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

Drafting errors

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

Accreditation Scheme for the Application of the Biodiversity Assessment Method

This part of the submission provides feedback on the proposed *Accreditation Scheme for the Application of the Biodiversity Assessment Method Order 2017* (**Draft Order**)**.**

EDO NSW has long supported the accreditation of consultants to undertake biodiversity assessments. As indicated by the number of inquiries and concerns received by EDO NSW, the independence and integrity of biodiversity assessors is fundamental to an effective regulatory regime. We therefore welcome the proposed accreditation scheme and recommend changes that will help to ensure the scheme is transparent, robust and includes sufficient penalties for consultants who do not comply with the scheme.

We note that there are currently a number of industry organisations who run either accreditation or professional development schemes. It is unclear how the Biodiversity Assessment Method (**BAM**) accreditation and compliance requirements will interact with these schemes. We recommend that further targeted consultation occur with bodies such as ECA and EIANZ.

EDO NSW has also previously submitted that in order to increase objectivity, independent assessors should be allocated to proponents by Office of Environment and Heritage (**OEH**) from a pool of accredited assessors to work on proposed projects. This would break the nexus between developers and consultant and ensure independence and objectivity in assessments. Accreditation of assessors provides an opportunity to implement this system.

This part addresses:

- Part 2 - Accreditation of certain persons
  4 Accreditation may be conditional
- Part 3 – Applications for accreditation
  6 Eligibility of persons to be accredited
  8 Accreditation advisory panel
  9 Form of an application
- Part 4 - Conduct of accredited persons
- Part 5 – Variation, suspension or cancellation of accreditation
- Drafting errors

Part 2 - Accreditation of certain persons

4 Accreditation may be conditional

The Draft Order states that conditions which **may** be imposed include "the provision of information including but not limited to records of surveys and assessments." Having this data, linked to data on credit trading, in a central repository will be vital to the effective implementation and management of the offsets system. The Environment Agency Head (**EAH**) must be able to review the information being provided by accredited persons to ensure both compliance with the BAM and the accreditation process. This data is also fundamental to understanding whether the BAM is operating effectively and meeting its goal

of no net loss of biodiversity. Accordingly, we **recommend** that records of surveys and assessments *must* be provided to the EAH to maintain accreditation, and the order should be amended to require this.

To ensure that the proposed scheme is transparent, we **recommend** that a list of accredited consultants *must* be made available on a public register that includes any accreditation conditions, the term of the accreditation and any variations, suspensions or cancellations that have been applied to that accreditation.

Part 3 – Applications for accreditation

6 Eligibility of persons to be accredited

Accreditation requires "relevant training in biodiversity assessment". This training is not currently defined and there has been previous concern from the industry that there is a single monopoly training provider.

Appropriate implementation of the BAM will require skills in botany, ecology and mapping, particularly given that the BAM has been expanded to include consideration of impacts on threatened species or ecological communities associated with karst, caves, crevices, cliffs and other features of geological significance; human made structures; water quality, water bodies and hydrological processes; and vehicle strike (amongst others). We **recommend** that any accreditation scheme *must* ensure that each BAM assessment is completed by an individual or individuals with the appropriate range of skills.

Regarding the definition of a fit and proper person, see our comments on clause 5.3 of the Regulation that includes some criteria that could be relevant here also.

8 Accreditation advisory panel

It is unclear who the membership of any accreditation advisory panel would be. We **recommend** that Panel members should include at a minimum representation from the OEH, local government, ecological consultants, independent academic scientists with expertise in threatened species, and a specialist in environmental law. Furthermore, we note that there is no obligation on the EAH to follow the recommendation of any panel. There needs to be transparency around the reasoning behind any decisions not to follow panel recommendations.

9 Form of an application

We **recommend** that the Code of Conduct Declaration should be available for public consultation prior to finalisation.

The application is to consist of (amongst other things) two completed Accredited BAM Assessor Referee Reports. We understand that currently accredited assessors have been contacted regarding training in the new method but transitional arrangements remain unclear. Given that BAM Assessor training has not been undertaken, the proposed implementation date of 25 August 2017 is highly concerning.

Part 4 - Conduct of accredited persons

We **support** the mechanism for auditing of reports and for random audits, and **recommend** that it is essential that audits be conducted by an independent auditor.

Part 5 – Variation, suspension or cancellation of accreditation

We **support** the provisions allowing for the EAH to vary, suspend or cancel an accreditation and **recommend** that they should be expanded to allow third parties to trigger a review of any assessor accreditation. There should be clear deadline for the EAH to respond to any properly made complaint.

Penalties should apply for actions that are not consistent with the conduct of accredited persons and should be of a scale that ensures an individual is not profiting from poor conduct. We **recommend** that the Order make clear that any person whose accreditation is cancelled should be debarred from re-applying for accreditation for a period of time sufficient to act as a deterrent. Provisions similar to section 57 of the *Contaminated Lands Management Act 1997* should apply, whereby an individual cannot claim to be accredited whilst their accreditation is suspended.

Drafting errors

EDO NSW has identified the following drafting errors:

- Part 3, Division 1, section 6(2)b(ii) possession should be possessing
- Part 5, section 22(4) reference to clause 17(3) should be a reference to clause 22(3)
- Part 5, section 22(5) reference to clause 17(4) should be a reference to clause 22(4)

Draft guidance and criteria to assist a decision maker to determine a serious and irreversible impact

This part of the submission comments on the *Draft guidance and criteria to assist a decision maker to determine a serious and irreversible impact* (**SAII Guidelines**).

As discussed in our comments on the proposed Biodiversity Conservation Regulation, EDO NSW generally welcomes the concept and principles underpinning serious and irreversible impacts, but remain concerned at the level of discretion in identifying and responding to those impacts and the lack of detailed information on the proposed thresholds. For example, the BC Act provides that serious and irreversible impacts are a matter of 'opinion' for the consent authority; and State Significant Development, State Significant Infrastructure, Part 5 projects, and biocertification that will have serious and irreversible impacts can still be approved.

We recommend that the process, principles and environmental information underpinning serious and irreversible impacts be as objective as possible. For example, the consent authority's 'opinion' must be objectively formed; and accredited assessors should be required to present objective evidence to the consent authority, rather than interpretation that favours the developer or suffers from 'optimism bias'. This could be prescribed in the contents of assessment reports (Regulation cl. 6.8).

It is also unclear how the SAII Guidelines incorporate consideration of cumulative impacts on threatened species or communities, particularly when considering extinction risk. The SAII Guidelines should require consideration of projected future environmental changes (such as those arising from climate change) or anticipated land use changes (such as those enabled by the land clearing codes) that will increase future risk to ecological integrity.

This part of the submission comments and makes recommendations on the following sections of the SAI Guidelines in turn:

- 2.1 Principles for determining serious and irreversible impacts
- 2.2 What happens when a decision maker determines a proposal is likely to have a serious and irreversible impact on biodiversity values
- 3.1 Decision makers evaluate impacts on candidate SAII entities
- 3.3 Determining whether impacts are serious and irreversible

2.1 Principles for determining serious and irreversible impacts

The SAII Guidelines note:

> *The first three principles broadly align with the criteria prepared by the IUCN in 2016 to assess the extinction risk of species and ecological communities.*

However, in our view references to extinction risk should be further clarified to refer to an appropriate scale and scope, which is currently ambiguous in the Regulation and associated guidance. Extinction risk should consider local extinction as per the existing 7 part test process or, at most, in relation to New South Wales (see 6.7(2)). We consider it would be unacceptable to define extinction risk at any larger scale (e.g. Australia).

In addition to the principles currently proposed, we **recommend** that the decision maker should be required to:

1. consider the precautionary principle and other specific principles of Ecologically Sustainable Development (**ESD**);
2. recognise that the inability to identify like-for-like offsets may be a prima facie indicator of serious and irreversible impact; and
3. prescribe additional serious and irreversible impact principles and guidance relating to water quality and soil quality (including acidification, erosion and salinity).

Ecologically Sustainable Development

The objects of the BC Act make it clear that decision makers should act consistently with the principles of ESD; and the very concept of 'serious and (or) irreversible' impacts derives from the precautionary principle. This recognises that serious and irreversible threats call for precautionary measures, particularly if outcomes are uncertain. We **recommend** the SAI Guidance (and Regulation) require decision-makers to apply ESD principles in considering serious and irreversible impacts, with guidance on:

- the precautionary principle (noting there is scientific uncertainty about the likely success of offsets and, by definition, a threat of serious or irreversible harm);
- ensuring biodiversity and ecological integrity as a fundamental consideration in decision-making;
- intergenerational and intra-generational equity (i.e., that present generations must ensure a healthy environment and life-support systems for future generations, and costs and benefits of decisions should be borne equitably in the present); and
- full environmental costs and the risk-weighted consequences of various actions.

Inability to identify like-for-like offsets

We **recommend** that the Regulation prescribe an additional serious and irreversible impact principle (with associated guidance) so that, where 'reasonable steps' are taken to verify if like-for-like offsets are available, and no such offsets are identified, this may be a prima facie indicator of serious and irreversible impacts that the consent authority should consider in detail.

Water quality and soil quality considerations

We **recommend** that the Regulation prescribe additional serious and irreversible impact principles and guidance relating to water quality and soil quality (including acidification, erosion and salinity). The Regulations already recognise the contribution of 'water sustainability' to biodiversity values (clause 1.4). It is also evident that acidification, salinity, erosion are increasingly serious and often irreversible problems, as indicated by the *NSW State of the Environment Report 2015*.[51] These additions are of primary importance to large-scale clearing in rural areas where the Biodiversity Assessment Method (**BAM**) will apply; and would draw on and update the existing Environmental Outcomes Assessment Methodology (**EOAM**). This would ensure the connection between healthy biodiverse soils and productive landscapes continues to be recognised.

[51] See NSW EPA, *State of the Environment Report 2015* (2016), Chapter 10.

2.2 What happens when a decision maker determines a proposal is likely to have a serious and irreversible impact on biodiversity values

We note the *Submission Guide on Ecologically Sustainable Development* refers to a requirement for the Native Vegetation Panel to refuse to allow clearing under the Vegetation SEPP when clearing a proposal will trigger a serious and irreversible impact. This requirement is not currently discussed in the *Explanation of Intended Effect for the Vegetation SEPP* or included in the SAII Guidelines. EDO NSW supports this proposal and **recommends** it is made explicit in the relevant Regulations and guidance documents.

The table on p 3 notes that proposed clearing under s 60ZF of the LLS Act must be refused if it would cause serious and irreversible impacts. This refusal is appropriate. However, we are concerned that landholders could evade this rule by choosing the biocertification pathway. Biocertification further weakens like-for-like offset rules, and means that serious and irreversible impacts are only a 'consideration' (with a determination of whether other measures should apply to minimise impacts) instead a requirement to refuse. We **recommend** this loophole be closed, either by amending the BC Act or Regulation.

3.1 Decision makers evaluate impacts on candidate SAII entities

The SAII Guidance states (at p 4):

> *These criteria have been applied to all threatened species and threatened ecological communities listed under the BC Act.*

However, this is contradicted by caveats in Appendices 2 and 3, which note that staff have not had sufficient time to properly assess the full list of threatened species and ecological communities for serious and irreversible impacts, but have instead had to adopt a triage approach. This is due to the rushed timeframe for developing and commencing the reforms, and raises a significant risk that serious and irreversible impacts will be overlooked or that guidance will be inadequate. This is a further reason we recommend the reforms commence when all the components are ready, rather than the premature and arbitrary date of 25 August 2017 as proposed.

The SAII Guidance (p 4) notes that decision makers will, at a minimum, need to evaluate the 'candidate entities' at risk of serious and irreversible impacts listed in Appendices 2 and 3. It goes on to say that a consent authority 'may' still consider if other threatened species and ecological communities will be seriously and irreversibly depleted using the SAII criteria. This does not sufficiently reflect the scope of the decision-maker's duty in the BC Act. We **recommend** the SAII Guidance state that decision-makers 'must' also consider potential SAI impacts on other biodiversity values.

We are also concerned by the additional limiting thresholds proposed for Appendix 2 and 3. Given that the species and communities being referred to are at imminent risk of extinction, it is inappropriate to limit the application of the series and irreversible test based on features such as patch size or habitat thresholds. It is also highly concerning that these thresholds that will effectively provide exemptions to the serious and irreversible test have not been provided for public consultation.

3.3 Determining whether impacts are serious and irreversible

These comments refer to the definitions provided in both section 3.3 and the supporting material in Appendix 1.

Principle 1

We are concerned that the proposed definition of population decline (80% or greater in 10 years or 3 generations) is too high a bar to meaningfully protect a sufficient range of threatened entities, particularly given the severely limited data available on NSW biodiversity. We also consider this threshold is higher than the community would expect (for example, noting the level of public concern at the estimated decline of koala populations by 26% in 3 generations). We **recommend** a lower or more nuanced threshold for 'rapid decline', and as noted above, recommend applying the precautionary principle to such decisions to account for scientific uncertainty and data limitations.

Principle 2

We note the principle refers to ecological communities but this is not discussed in the relevant sections of the SAII Guidance. We **recommend** that it be clarified whether this principle is intended to apply to ecological communities.

We welcome the recognition of the problematic effects of time-lag from offsetting. Time-lag is not mentioned at all in the BC Act or Regulation.

The definition of very small population size fails to adequately incorporate research on minimum viable population, i.e., the number of individuals required to maintain a viable population in the wild over the long term. Research consistently shows that these population sizes number in the few thousands and are context-specific rather than the 50 or 250 mature individuals proposed here.[52]

Principle 3

We are concerned that the guidance related to *Very limited geographic distribution (species)* sets too high a bar for SAII impacts, particularly with regard to inhabiting less than three locations (i.e. one or two locations) in NSW. An example is the recently-discovered Mahony's Toadlet which has now been found in three locations, including locations threatened with imminent development (as many discovered locations are). Despite the fact that it does not exist anywhere else in the world, and despite imminent additional threats, Mahony's Toadlet would not qualify for protection under this sub-principle.

Principle 4

We agree that for some species 'there is insufficient knowledge to be able to manage it at a stewardship site' (p 12), and therefore threats may be serious and irreversible. This guidance needs to clarify how this problem will be dealt with, given the offsetting options enable such species to be impacted in exchange for funding supplementary 'biodiversity actions'. We **recommend** that a precautionary approach guide species conservation where there is insufficient knowledge of a species, rather than allowing little-known biodiversity to be destroyed in exchange for research or survey funding

[52] See for example Traill, L., Bradshaw, C., and Brook, B. (2007) Minimum viable population size: A meta-analysis of 30 years of published estimates *Biological Conservation* 139(1–2): 159-166

We strongly support the principle of protecting irreplaceable biodiversity. However, the proposed offset 'variation rules' contradict this principle by allowing hollow bearing trees to be offset with artificial hollows. As noted in our comments on the Regulation, we **recommend** this variation be deleted.

We also **recommend** that an additional consideration for ecological communities should include whether there is any evidence of successful rehabilitation or restoration that would justify allowing existing areas to be cleared.

The meaning of a 'component' of species habitat should be defined or illustrated with examples.

3.3.2 Evaluate nature of impact on candidate entity

The SAII Guidance (p 7) notes that the accredited BAM assessor is to provide information to the decision-maker (e.g. local council, regional planning authority, the relevant Minister etc) on the extent of any SAII impacts, and whether the SAII 'threshold' is likely to be exceeded.

The Government's current policy settings are that the proponent appoints and pays the assessor. This is an unacceptable conflict of interest/duty, given the serious consequences at stake for biodiversity, and the potential that such impacts may require the project to be refused (or reviewed in the case major projects and biocertification). As discussed in our comments on the proposed accreditation scheme, we **recommend** that accredited assessors be appointed independently of the proponent, with a duty to provide objective information to the decision-maker. The proponent would still pay for the cost of the assessment. If this recommendation is not accepted, we **recommend** evidence of SAII impacts must be peer reviewed by a separate, independently appointed assessor.

Finally, we submit that it inappropriate for the impact on threatened ecological communities to be considered across an IBRA sub region for strategic biodiversity certification.

Offsets Payment Calculator

This part of the submission comments on the draft Offsets Payment Calculator (**Calculator**).

Further to our technical submission in August 2016, we remain concerned that the Calculator focuses on creating a market for biodiversity credits in a way which undermines the legislative goal of achieving biodiversity outcomes in NSW. At the *Draft Offsets Payment Calculator Information Briefing* in May 2017 (**information briefing**), it was again stated that the primary goal of the Calculator is to make the biodiversity credit market work, as well as to ensure that the method could be understood, and that it is 'perceived to be equitable'; rather than having a primary goal to deliver environmental outcomes. The result of this premise is that the Calculator fails to adequately consider the consequences to biodiversity and the system fails to create a market disincentive for clearing rare ecosystems.

In fact, the current version of the Calculator is likely to lead to significantly worse biodiversity outcomes than the version that was available for stakeholder consultation during August 2016. This is because the current version of the Calculator fails to incorporate a recognition that scarcity should generate increased credit prices. Instead, the Calculator relies on existing market purchases to drive credit price. For such a system to adequately incorporate the effect of scarcity, there would need to be a direct relationship between the supply and demand of credits for specific Plant Community Types (**PCTs**) or endangered ecological communities (**EECs**) in specific geographical areas. The current exemptions to the offsetting framework, the watering down of the 'like for like' rules, and the nature of the Calculator itself mean that this relationship will not exist, and the market will be flawed. The system can only deliver the outcomes required by the *Biodiversity Conservation Act 2016* (**BC Act**) if scarcity is built into the pricing model.

The Calculator also fails to incorporate key ecological considerations and environmental risks. At the time of writing we have only been able to review a copy of the Calculator as it relates to ecosystem credits. We understand from the information briefing that pricing for species credit species will be based solely on expert opinion. Any expert based system must be extremely transparent and the expert input received and the rationale for pricing decisions must be made publicly available.

We note that the revised Calculator includes three modules:

1. biodiversity credit price module – the predicted market price for biodiversity credits based on the trade history of the ecosystem credit type and the IBRA subregion;
2. biodiversity credit price risk loading module – a margin that accounts for any market credit price variation; and
3. Fund administration costs module – the estimated cost of operating and administering the Biodiversity Conservation Fund (**BC Fund**).

Many of our concerns and recommendations made regarding the August 2016 version of the Calculator have not been addressed in the current version of the Calculator. Where they remain relevant, we re-iterate these concerns here. We provide more detailed comments on the following aspects of the Calculator:

- Environmental Principles Lacking in the Calculator Framework
- Failure to Incorporate Scarcity
- Credit Price Module
- Credit Price Risk Loading Module
- Fund Administration Costs Module

- Governance

We are grateful for the expert analysis and input of Dr Neil Perry for this part of the submission.

Environmental Principles Lacking in the Calculator Framework

Examples of key environmental principles that are missing from the Calculator are provided below.

Ecological Considerations

The Calculator does not include consideration of the percentage of a PCT that has already been cleared. This is a failure to understand the ecological implications of scarcity. While the Biodiversity Assessment Methodology (**BAM**) incorporates a multiplier for biodiversity risk based on the percent of a PCT (or endangered ecological community) cleared, this is merely a conversion factor which recognises that a hectare of cleared land of one PCT does not have the same impact as a hectare of cleared land in another. The BAM cannot be seen in isolation to the Calculator because they work together, along with the legislation, to underpin, or undermine, the future of the State's biodiversity. The BAM multiplier for biodiversity risk is akin to the conversion factor of methane to carbon dioxide emission equivalents in global carbon markets. However, in carbon markets, the carbon price still reflects the scarcity of the underlying resource, in that case the atmosphere. With a well-designed carbon market, the price will increase through time as the atmosphere becomes a scarcer resource (as reflected in a reduced number of credits to purchase). We are concerned that this fundamental mechanism which ties the market to its underlying ecological resource has been lost.

In a well-designed carbon market, methane emissions will always be more costly than carbon emissions. However, the cost of emitting both methane and carbon will increase through time as the ecological resource becomes scarcer. This does not appear to be the case in the Calculator and the associated regulatory tools. It is not appropriate to build this scarcity mechanism into the BAM as suggested at the information briefing because the issue of pricing concerns the operation of the market, which operates outside the BAM. Thus, we **recommend** that a scarcity mechanism must be built into the Calculator, as was the case with the 2016 Draft Offsets Calculator. We address this issue further below.

There is also no consideration within the Calculator of the quality of sites to be purchased as offsets. While quality is reflected within the number of credits that an offset site generates to some extent, the nature of the offset system encourages protection of moderately degraded sites.[53] As such there is no recognition of the ecological damage that arises from protecting moderately degraded offset sites when high quality sites are subject to clearing.

Environmental Accounts

The Calculator is designed to operate in a legislative environment with the stated purpose of maintaining "a healthy, productive and resilient environment for the greatest well-being of the community, now and into the future, consistent with the principles of ecologically sustainable development". It is not possible to adequately integrate environmental factors in NSW decision-making without clear environmental goals, targets, and good data to guide natural resource management (**NRM**) (often delivered through environmental accounts). To make

[53] See our comments in relation to protecting high quality sites in our submission to the BAM.

the environment visible in decision-making and create the right incentives, a regulatory regime for biodiversity needs to establish:

- clear, high-level biodiversity conservation and NRM goals;
- specific targets to be integrated in strategic planning and NRM;
- a set of state and regional environmental accounts to track environmental status and condition; and inform investment, strategic plans and development decisions; and
- a state-wide ecosystems assessment to provide better data to inform decisions.

All of these requirements are relevant to informing the Calculator. The lack of comprehensive and adequate state-wide environmental information means that the Calculator is not informed by sufficient information about the value and scarcity of biodiversity in NSW.[54] Other jurisdictions such as the United Kingdom have completed a National Ecosystems Assessment to better understand their environmental assets. The United States of America Government and Ontario Biodiversity Council also have policies and programs to more adequately value ecosystem services (the benefits provided to humans by nature).[55]

We **recommend** that the Calculator should be informed by ecological considerations and ensure that the pricing model adequately reflects the ecological systems it purports to protect.

Failure to Incorporate Scarcity

The current version of the Calculator fails to incorporate any recognition of scarcity in credit pricing. This is a serious retrograde step from the August 2016 version of the Calculator. The premise behind creating a market for biodiversity is that credit price should increase through time as an ecosystem type becomes scarcer, thereby creating a disincentive for clearing rare ecosystems and an incentive to protect them. The market price is supposed to reflect the 'external cost' of land clearing, such as the ecosystem services that native vegetation provides to other farmers and the broader community, or the loss of intrinsic value for those individuals who would like to see native vegetation protected. The negative externality or spill-over cost of land clearance increases as more of a vegetation type is cleared and as the vegetation type is cleared in a specific geographical area. This suggests that credit prices should increase through time as more of a specific vegetation type is cleared in an area.

The Ricardian theory of rent also suggests that credit prices should rise as more of a vegetation type is cleared. Here, the concern is with the opportunity cost of the land protected. As a vegetation type is cleared and offset, the land used for offsetting moves from relatively unproductive and inexpensive agricultural land to more productive and more expensive land. That is, the opportunity cost of the land increases and a landowner will require a higher offset price.

These mechanisms to drive credit price rises are not reflected in the structure of the Calculator. This problem is initially created by the watering down of the principle of like-for-like and the ability to pay into the BC Fund rather than identifying offsets at the time the demand is created. Credits can later be purchased by the BC Fund, but the purchased credits do not need to have any ecological association or like-for-like properties with the land cleared. Within this regulatory structure, the role of the Calculator must be to represent how

[54] To this end, we strongly support the proposal for Biodiversity Outlook Reports (on status and trends) as proposed by the Regulation. See our submission on the Regulation for further comment on this.
[55] See further EDO NSW, Submission 3, Technical Submission on the biodiversity reforms (June 2016), pp 24-27, at http://www.edonsw.org.au/nsw_biodiversity_reform_package_2016.

the market would work in a well-functioning system - to 'make the market work'. Thus, the Calculator itself should act to build in the kind of scarcity that would result in a well-functioning system. The Calculator only exists because the market for biodiversity in NSW has failed to date. It has failed to reflect the true underlying value of biodiversity and the Calculator's role is to fix this. Thus, as with a well-functioning system, it must be designed to incorporate scarcity.

Another problem is the use of past prices to determine future prices. Over the long-run, the price of credits will increase due to the scarcity of land and biodiversity, as discussed. However, the Calculator relies on previous credit prices to incorporate this scarcity. This would be appropriate if the previous trades had been determined in a good, well-functioning market. The data would then simply reflect equilibrium prices and the flat pricing curve implied in the structure of the Calculator would indicate that no scarcity effect has yet been reached. However, the previous trades cannot be relied upon because they have been determined in a very imperfect market – again, this is the very reason for the existence of the Calculator. In this context, a perfect market is one where landholders have complete knowledge about the value of native vegetation, where there are no spill-over effects from land clearing, and where landholders value the long-term condition of the land as much as they value current income. In particular, for past prices to reflect equilibrium prices, the number of buyers and suppliers must be large and this has typically not been the case. Thus the actual traded credit prices are not 'equilibrium prices' and cannot be used as an indicator of scarcity. Given the highly limited market to date, and the failure of the BC Act and supporting material to create a perfect market, previous pricing is not able to adequately incorporate increasing land and biodiversity scarcity.

As discussed earlier, it was argued by the OEH at the information briefing that the appropriate place to incorporate scarcity is in the BAM. If this is the case, however, there is no reason to have a market at all. A fixed price for a credit could be used and biodiversity units of varying quality (as set by the BAM) would be traded. As it is currently structured, the legislation relies on a market mechanism. The role of the BAM is to set the conversion factors just as methane emissions are converted to carbon emission equivalents. However, as noted as with a carbon market, the biodiversity market must reflect scarcities and thus the Calculator must have a built-in scarcity factor as with its predecessor.

The BAM also fails to create true 'red lights' to development. Without genuine red lights, a market response to scarcity simply will not exist. Without scarcity, the price of credits will not increase as areas of certain biodiversity are reduced and there will be no market response to over-clearing and loss of biodiversity. The current lack of red lights and the proposed variation rules will inevitably lead to ongoing and unassessed loss of biodiversity unless scarcity is incorporated into the Calculator.

We **recommend** that the Calculator must incorporate a scarcity multiplier.

We **recommend** that the Calculator must incorporate multipliers that account for the environmental risks to biodiversity that result from the use of the deferred offset system.

Credit Price Module

The Credit Price Module is based on a Dynamic Panel Data Model (**Model**) that only considers recent trades for ecosystem credit species and PCTs. A key assumption is that "for a biodiversity market-based scheme we can expect that the price of credits depends (positively) on the number of credits, given the scarcity effect". The proposed operation of

the offset scheme means that this assumption is not met and the associated modelling cannot be relied on to drive increased pricing as biodiversity becomes scarcer.

It has also not been demonstrated, and the data used to date suggests that it is unlikely, that the Calculator meets the statistical assumptions for the use of the Arellano–Bover/Blundell–Bond method, namely situations with:

> 1) few time periods and many individuals; 2) a linear functional relationship; 3) one left-hand-side variable that is dynamic, depending on its own past realisations; 4) independent variables that are not strictly exogenous, meaning they are correlated with past and possibly current realisations of the error; 5) fixed individual effects; and 6) heteroskedasticity and autocorrelation within individuals but not across them.[56]

Using the Model, only 9 PCTs currently have sufficient data to generate a PCT specific market factor and dynamic factor. Factors for all other PCTs are based on data from the region (of which there are only three across the state). At the information briefing it was stated that the lowest market factor has been used to avoid crashing the market – that is avoid making prices too high. Again this is a highly inappropriate premise that fails to reflect the threat status of different PCTs. Given that offsets will be required for all native vegetation "in a vegetation zone with a current vegetation integrity score <20[sic][57] where the PCT is not representative of a TEC or associated with threatened species habitat" there will be significantly more trades in non-threatened PCTs. The previous version of the Calculator incorporated a price premium for critically endangered ecosystems (in the so called costs model). As stated previously an equivalent measure of scarcity should be incorporated here.

The Credit Price Module is designed to use previous prices where they are available. Where they are not available, it is intended to use the average price of credits of the immediately previous quarter, or the last quarter where data is available, of the market region where the trade will take place. This is a high risk strategy given the extremely large regions that the Calculator is based on and the low number of trades undertaken. There is no information to suggest that areas facing high development pressure in the short term are the same areas that have experienced trades to date. Nowhere in the Credit Price Module or the Risk Loading Module is this accounted for.

The proposed Calculator also fails to include any recognition of the true cost of providing the offsets – both in terms of land value and the in-perpetuity management actions required. We **recommend** that the Calculator should include a minimum estimated cost of obtaining and managing environmental offsets with any additional cost driven by market mechanisms (including proper consideration of significant and irreversible impacts.

We understand from the information briefing that pricing for species credit species will be based on expert opinion. This creates an inherent risk that costs will be underestimated and the lack of timeframe required to implement credits means any such underestimation may exist for a long period of time. We **recommend** that any expert based system must be extremely transparent and the expert input received and the rationale for pricing decisions must be made publicly available.

[56] As described in the Draft Offsets Payment Calculator Dynamic Panel Data Model Technical Report (p. 19).
[57] We assume that the final BAM will refer to offsetting vegetation with an integrity score >20, thus reflecting higher quality vegetation.

Credit Price Risk Loading Module

The current approach to risk in the Calculator focusses purely on market risk, i.e. whether the credit prices are likely to be higher or lower than the price predicted by the Calculator. Such an approach significantly under-estimates the *environmental risks* that arise when using the Calculator.

In this regard, the context surrounding the use of the Calculator is important. Under current proposals, funds will only be paid into the BC Fund through the use of the Calculator where development has been approved and offsets for the environmental harm to be caused have not been identified. As such, there is a significant environmental risk that either offsets will not be available for purchase or that there will be a significant lag between the environmental harm being undertaken and the offset being implemented. This likely delay in the sourcing of offsets and the increased environmental harm arising is not accounted for in the BAM and therefore must be recognised in the Calculator to ensure that the goal of achieving no net loss of biodiversity through the use of the BAM is realised. Furthermore, it is likely that development pressure will arise most quickly in areas (such as the Cumberland region) where credits are most expensive. Consequently, if credit prices are consistently under-estimated in this region, even if they are potentially over-estimated overall, the financial risk to the ongoing operation of the BC Fund, particularly in its early stages where limited funds are available, is high.[58]

Precautionary Principle and Risk

The approach taken to risk assessment is contrary to the application of the precautionary principle. Adequately incorporating the precautionary principle into the Calculator requires embedding a 100% chance of ensuring that sufficient funds are available to meet the actual costs of delivery the necessary biodiversity offsets. The Calculator incorporates a formula to allow a varying level of risk to be used to calculate the credit price. Given that in the early stages of the operation of the BC Fund there will be a risk of inefficient operation and uncertain success, we **recommend** that this risk should be fixed in the Calculator and not left to the further discretion of the Minister or the BC Trust (as the Fund manager).

Risk of Failure

The Calculator currently fails to incorporate the risk of catastrophic failure, in this case likely to be driven by factors such as the BC Trust being unable to source the necessary offsets (or consistently sourcing offsets using variation rules), the time lag to implementation, and that a number of ecosystems are simply not amenable to being offset (for example, there is good evidence the Warkworth Sands Woodland cannot be successfully re-established). We are extremely concerned that the broad offsetting variation rules proposed for the BC Trust will significantly undermine the ability to create an effective and efficient market, let alone protect biodiversity. (For more information see our comments on the Regulation).

We **recommend** that the Calculator should incorporate an additional credit requirement to recognise the fact that offset obligations are being discharged by a proponent without any assessment of whether the offset obligation can be met. An example of a similar system is the Carbon Farming Initiative which currently includes a risk premium of 5% additional credits.

[58] We provide further comment on the need for the Fund to operate in-perpetuity in our submission on the Regulation.

Fund Administration Costs Module

We understand that the Fund Administration Costs Module will be populated once the structure of the BC Trust is clearer. There is a significant risk that the structure of the BC Trust will not be fully formed by the proposed implementation date and that estimation of these costs will be a high risk component of the Calculator.

As discussed in our comments on the Regulation, failure to include substantive measures to meet the 'reasonable steps' required before applying variation rules will have significant implications for the effective functioning of the Calculator. Under the current proposals the costs of identifying potential like-for-like offsets, as currently undertaken by the Nature Conservation Trust, are not clearly costed into the model. Given the Fund is also proposed to be given more flexible variation arrangements, failure to adequately cost the identification, negotiation and implementation of like-for-like offsets could lead to significant cumulative impacts on biodiversity as variation rules could be applied to simply to reduce the Funds operating costs.

Accurately estimating the Fund Administration Costs Module will depend entirely on the BC Trust's ability to accurately predict the likely scale and nature of the offsets to be required and the level of effort required to source. It is therefore remains highly concerning there has been no supply and demand modelling, estimation of future development levels and the associated likely take up of the offset fund, or forward testing of the Calculator to assess likely effectiveness.

Governance

It is extremely concerning that no detailed information is provided to justify the significant change from the Deloittes developed Calculator that was made available for public consultation in August 2016 and the current proposed Calculator. The removal of the scarcity factor embedded in the previous version of the Calculator creates a significant risk to both biodiversity and the effective function of a credit market. Peer reviews have not been made publicly available for either version of the Calculator from either economists or ecologists. It is therefore entirely unclear how the revised Calculator has been assessed against the legislative requirement to "maintain a healthy, productive and resilient environment for the greatest well-being of the community, now and into the future, consistent with the principles of ecologically sustainable development".

It was indicated at the information briefing that the Calculator will be informed by all credit trades, regardless of whether they are undertaken by the BC Trust or by private individuals and/or corporations. It is unclear how trades that aren't made at market price (such as where the offset is located on the same parcel of land or where sites that were previously designed as offsets and are being 'upgraded' to biodiversity stewardship agreements and only stewardship payments are required, or where related commercial entities don't require market price for credit transfer) will influence the predicted credit price. There is a significant risk that the BC Trust will undervalue credits if these situations are not treated separately. However, we note a broader understanding of what credits are being traded will be necessary to understand how biodiversity is being impacted.

It is also concerning that the Calculator will be used to set pricing for the approved biodiversity actions that seek to avoid offsets. While we recognise the intention is to ensure that the cost of biodiversity protection is compatible, there is no guarantee that an action will be achieved with the amount of funding identified by the Calculator. Any use of the Calculator for this purpose must be considered in conjunction with estimates of the actual cost of achieving positive environmental outcomes through the use of biodiversity actions.

At the information briefing it was also stated that the Calculator is likely to be jointly managed by OEH and the BC Trust. For this to be effective, we **recommend** that clear data sharing arrangements must be in place prior to the implementation of the system and information on credit trades must be publicly available to allow independent verification of the data. Ongoing use of the Calculator should be subject to review by an expert advisory panel including:

- an independent ecologist;
- a member or nominee of the TSSC; and
- Two economists from the disciplines of environmental and ecological economics.