



# **Submission on Biodiversity Act Review**

**Centre for Ecosystem Science,  
UNSW, Sydney**

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## Table of Contents

A. Executive Summary .....	5
B. Centre for Ecosystem Science, UNSW Sydney .....	6
C. Background.....	7
D.	

prevent species from becoming threatened? ..... 3  
17

8. Are there improvements that could be made to Areas of Outstanding Biodiversity Value

	4
effective way to support the Act to achieve its objectives?.....	20
25. How can the Act give the community more confidence and clarity in the approach to regulation? .....	20
26. Should the Act be strengthened to require data collection under the regulatory frameworks in place?.....	20
27. Is the risk assessment approach suitable? .....	20
28. Do you have any feedback on these matters or other issues you would like considered in the review of the Act?.....	21
F. A further detailed matter - Liberation of native (but not Protected) animals after veterinary care (e.g. dingoes) .....	21
G. References.....	21



## Recommendation

C.

for conservation, it is clear that recovery of species, populations and ecological communities is underfunded and needs additional resourcing as indicated by (Wintle et al. 2019).

Further there are some 39 Key Threatening Processes listed under the BC Act, including key threats such as clearing and fragmentation, weeds, pests and pathogens and high fire frequency. However, many of these remain major threats leading to ongoing decline in biodiversity (including clearing, feral deer, and horses, feral goats, pathogens, high fire frequency and weeds). Significantly increased resourcing is needed to ameliorate these threats to prevent both declines in existing threatened species and alarmingly, more species, populations and ecological communities declining to become eligible for threatened status. Some legislation in NSW such as the Kosciuszko Wild Horse Heritage Act 2018 undermine conservation efforts and lead to biodiversity decline by precluding the most effective threat abatement options. This Act will lead to increasing number of species and ecological communities being listed as threatened as well as decline in a number of currently listed threatened species. The *Kosciuszko Wild Horse Heritage Act 2018* should be repealed.

Additionally, current regulation measures are inadequate to prevent ongoing loss of habitat and threatened entities from clearing.

### **Recommendation 1**

- i. Ensure funding levels for both i) conservation recovery actions for threatened species populations and ecological communities and ii) effective management of threats to biodiversity is adequate.
- ii. Ensure improved and enhanced regulatory measures to limit further clearing.
- iii. Repeal the *Kosciuszko Wild Horse Heritage Act 2018*.

### ***2. Improve effectiveness of legislative instruments in conserving biodiversity, including vegetation communities***

There is growing evidence of the ineffectiveness of the Biodiversity Act for halting the clearing of native vegetation. This is primarily because of its inadequacies in influencing the implementation of the Local Land Services Act. There are a range of exemptions in the latter which allow for clearing to occur and the self-assessment processes are not adequate in scale, rigour or accountability.

Additionally, as there is not a comprehensive and up-to-date set of threatened ecological community listings in NSW, current Kf,veM2 (nena1 (e)-1m)4 (e)-2 ((nt)JJ( )T001 Tc 0.002 Tw [se]-3 (0[c]-1 D





system managed by the environment agency). A certification system for environment professionals is long overdue (not only for BAM assessments). This could even be a role for Natural Resources Access Regulator.

- xiii. The Mitigation hierarchy needs to apply to all major developments, ensuring that critical habitats are protected and impacts avoided for species, populations and ecological communities subject to a very high likelihood of extinction, there should be no loss of habitat permitted.
- xiv. Water Sharing Plan legislation needs to be linked to the Biodiversity legislation, ensuring that biodiversity objectives for different rivers, already defined by government, are listed and accountable in the delivery of water which should also include a provision for assessing the effects of climate change.
- xv. There is a need to continue stewardship programs but ensure there is transparency, ensuring that reward for good practice. Stewardship programs need to be continued, ensuring that they reward good practice. Investment priorities need to be on long-term commitments to conservation (i.e. in perpetuity through property covenants). The Biodiversity Conservation Trust is an excellent initiative, but it needs to be more strategic in its investments. There needs to be an assessment of priority ecosystems for investment which can guide priorities. There is a need to integrate the ecosystem approach.

### ***3. Inadequate application of the precautionary principle***

The objectives of the Biodiversity Conservation Act 2016 (see 1.3 Purpose of Act, in BC Act) are required to be consistent with the principles of Ecological Sustainable Development (ESD). In particular, this requires incorporation of the Precautionary Principle (Kriebel et al. 2001). The NSW legislation in the *Protection of the Environment Administration Act 1991* Section 6(2). This specifies:

*“a) the precautionary principle—namely, that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postpo*

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NSW Biodiversity Conservation Act does not give sufficient consideration to the precautionary principle.

**Recommendation 3.** Ensure that the Precautionary Principle, as defined by current NSW legislation, *Protection of the Environment Administration Act 1991* Section 6(2), be incorporated and applied to all parts of the NSW Biodiversity Act and associated Regulations.

#### **4. *Inadequate application of the concept of Serious and Irreversible Impact (SAIL)***

Related to the Precautionary Principle, the concept of Serious and Irreversible Impact (SAIL) was developed for the *Biodiversity Conservation Act 2016* to identify, through evidence-based science, any species, populations and ecological communities that cannot tolerate further loss. SAIL is referenced in BC Act 6.5 Serious and irreversible impacts on biodiversity values; 7.16 Proposed development or activity that has serious and irreversible impacts on biodiversity values; 8.8 Biodiversity certification where serious and irreversible impacts. SAIL is referenced in the BC Regulation in explanatory note (e); 6.7 Principles applicable to determination of “serious and irreversible impacts on biodiversity values”, which provides the four principles/criteria for identifying SAIL entities.

The SAIL list (<https://www.environment.nsw.gov.au/topics/animals-and-plants/biodiversity-offsets-scheme/local-government-and-other-decision-makers/serious-and-irreversible-impacts-of-development>) is based on criteria (Part 6.7 of BC Regulation)(see also <https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Animals-and-plants/Biodiversity/guidance-decision-makers-determine-serious-irreversible-impact-190511.pdf>), underpinned by global best practice, specifically the extinction risk criteria from IUCN Red List for Species or Ecosystems. This was recently exemplified in its application to NSW flora (Le Breton et al. 2019).

The precautionary principle needs to be applied to those entities designated as SAIL. To effectively apply this for all SAIL listed entities, losses to development must be avoided (i.e. red flagged) and there should be no option for mitigation or offsetting for SAIL entities. As SAIL represents the last remaining examples of unique biodiversity assets, their immutable protection is an essential foundation to avoid acceleration of ongoing species declines and extinctions. It sets a bar for where there can be no further loss without precipitating extinction of listed species, populations and ecological communities. Offsetting as employed under current NSW policy, involves the exchange of immediate and certain losses for uncertain future gains. Such an imbalance promotes certain extinction outcomes unless avoidance actions are mandated for all SAIL entities through the implementation of the precautionary principle, ensuring that there is no offsetting for SAIL entities.

**Recommendation 4.** All species, populations and ecological communities, identified as Serious and Irreversible Impact (SAIL) should trigger application throughout the *Biodiversity*

*Act*, mandating the design of future development for avoidance of SAI, including no implementation of biodiversity offsets.

### **5. *Failure to list new Areas of Outstanding Biodiversity Value (AOBV)***

The ability to list and protect Areas of Outstanding Biodiversity (AOBV) was one of the positive outcomes of legislative reform in 2016. The AOBV criteria are based on global best practice criteria for IUCN Key Biodiversity Areas (IUCN 2016) and are needed as a mechanism to bridge the gap between management of protected areas for conservation, and conservation of threatened entities that occur outside protected areas. AOBV within the *NSW Biodiversity Act 2016* provide criteria for identifying and then protecting areas, including key refugia for biodiversity, areas of high concentrations of threatened species, areas of high ecological integrity. Application of AOBVs aligns with the Kunming-Montreal Global Biodiversity Framework, including the role for AOBVs in ‘reducing to near zero the loss of areas of high biodiversity importance, including ecosystems of high ecological integrity’.

At the time of the enactment of the *Biodiversity Act 2016*, four species that had identified critical habitat (under the previous *Threatened Species Conservation Act*) were transferred to AOBV listings under the *Biodiversity Act 2016*. It has now been over 5 years and there have been no additional listings of AOBV under the *BC Act*, even though guidelines have been developed (NSW Department of Planning Industry and Environment 2021), and several key AOBV candidates have been assessed as warranting listing as AOBV. This failure to implement an important new provision is a major barrier to the *BC Act* achieving its objectives.

**Recommendation 5.** Ensure that Areas of Outstanding Biodiversity (AOBV) are identified and listed, including those already assessed as candidates, as well as future AOBVs.

### **6. *Make threatened listings as comprehensive and up to date as possible***

There is a need to consider conservation across the whole of a species distribution (as opposed to just a few sites in SoS) to avoid ongoing species-wide decline. This requires more pre-emptive approaches to prevent extinctions: full regulatory protection for Vulnerable species and ecological communities, as is currently the case for Critically Endangered and Endangered listings. Automatic protection if any Extinct species are re-discovered. To prevent extinctions, reduce species declines, enact suitable conservation measures and flag consideration in regulation, species and ecological communities must have been assessed for listing as threatened. This requires that the schedules of threatened listings under the *BC Act* are **both** comprehensive and up to date. To achieve this, all taxonomic groupings where data are available should have comprehensive listings and these need to be regularly revised to keep them up to date.

Currently, vertebrate listings are relatively comprehensive (although some frog and reptile groups may need further consideration). However, vascular plant listings are far from comprehensive (Alfonzetti et al. 2020) and while sufficient data are available for vascular plants to be assessed as threatened or otherwise (i.e., to reach a comprehensive set of listings), at present we estimate that the list of threatened vascular plants on the BC Act represents only 40-50% of those vascular plants that should currently warrant listing as threatened. For these threatened but currently unlisted plants there is a high risk of decline and even extinction. This lack of comprehensive listings for plants has been highlighted in assessments of the impacts of the 2019/20 fires on plants (Gallagher 2020, Gallagher et al. 2021, Gallagher et al. 2022) where numerous unlisted NSW plant species have been identified as warranting listing as threatened. Clearly further urgent resourcing for the NSW Threatened Species Scientific Committee is needed to make the vascular plant listings comprehensive. Failure to do so will see ongoing global plant extinctions in NSW. There are very few listings for non-vascular plants, fungi and invertebrates on the *BC Act*, largely due to a lack of adequate information on taxonomy, distribution, life history and threats for these organisms. It remains an issue as to how protection of these poorly known groups can be better accommodated under the BC Act, although more comprehensive listings of associated ecological communities or AOBVs may provide a way forward.

The list of threatened ecological communities is not comprehensive and needs urgent resourcing to develop a comprehensive set of threatened ecological communities for NSW.

**Recommendation 6.** Develop a comprehensive and up to date list of threatened plants and ecological communities for NSW. Threatened species and ecological communities (TECs) management and conservation program needs restructuring to deal with 3 key elements:

- iv. comprehensive assessments of status for all species and TECs potentially eligible for listing as threatened in NSW (currently, not all of the state's species have been assessed; the Save Our Species program (SOS) and regulatory system cannot function correctly until this has been done and the current listings are not yet comprehensive due to an on-going lack of funding support for the NSW Threatened Species Scientific Committee, see below).
- v. strengthen support for a more comprehensive SOS program for conservation management of threats, threatened species, populations, TECs and Areas of Outstanding Biodiversity (AOBV) (currently the SOS program has a narrow focus almost exclusively on threatened species), also see Ecosystem Approach and;
- vi. update the regulatory framework so that it truly and consistently applies world's best practice (e.g. impact avoidance where serious and irreversible impacts (SAII) are identified, effective obligations to demonstrate impact avoidance, consistent with the Mitigation Hierarchy principle (see vi), 'like for like' and 'additional' offsetting and realized improvement before losses are

permitted.

### ***7. Application of the Ecosystem Approach***

There is a need to improve the scale of conservation of biodiversity, focusing on functionality of ecosystems. By doing this, there is more opportunity to include all of biodiversity and its supporting processes. For example, this approach can include organisms that are seldom considered part of biodiversity conservation, although essential, such as invertebrates, bacteria, fungi (as there is rarely sufficient data to allow comprehensive assessments of individual threatened species for these taxonomic groups).

The IUCN Global Ecosystem Typology, coupled with ecosystem risk assessment and risk reduction strategies, represents a rigorous and conceptually simple approach to the biodiversity conservation at the ecosystem scale (Keith et al. 2022). An ecosystem approach can be implemented in the legislation by utilizing the typology in a range of key mechanisms including specification of threatened ecological communities, avoiding land clearing of poorly represented ecosystems (ie. through representative maps), investment in AOBVs, new National Parks and Biodiversity Conservation Trust.

There is a need to invest in and roll out a more comprehensive approach to conservation focused on ecosystems. This provides a highly complementary way of capturing conservation (ie. incorporates ecological processes and forgotten components of ecosystems and). There is a global focus on ecosystems, as a means of addressing both



directions in providing advice. Its primary role is to assist with the nominations of Areas of Outstanding Biodiversity and, as noted, no new areas have been announced apart from some transition ones. There is considerable opportunity for strengthening this panel's role in providing government with independent advice. This would require some more detail in the legislation in relation to its role, increased transparency of its work and advice from government in relation to issues raised.

#### **Recommendation 9**

The Biodiversity Conservation Advisory Panel have a more clearly articulated role in revised



plant listings (Points 5 and Recommendation 5); ii) need for adequate resourcing and for management of threats to biodiversity (Point 4 and Recommendation 4); iii) need to apply AOBV concept beyond critical habitat for four species (Point 3 and Recommendation 3).

**6. *Is there other architecture that should be included to achieve the objects of the Act?***

Application of red flag (no further loss and no permitted mitigation or offsetting) for species, populations and ecological communities listed as SAI. This is critical to prevent ongoing declines and extinctions. – see Point 2 and Recommendation 2.

Conserving threatened species and ecological communities

**7. *How could the Biodiversity Conservation Act best support landscape-scale actions to prevent species from becoming threatened?***

Increased resourcing to mitigate threats (see Point 4 and Recommendation 4).

**8. *Are there improvements that could be made to Areas of Outstanding Biodiversity Value and the Saving our Species program to give them a greater role in enhancing biodiversity?***

*i. Areas of Outstanding Biodiversity (AOBV)*

AOBV criteria are based on global best practice criteria for IUCN Key Biodiversity Areas (IUCN 2016) and provide criteria for identifying and then protecting areas of key refugia for biodiversity, areas of high concentrations of threatened species, areas of high ecological integrity. Application of AOBVs aligns with the Kunming-Montreal Global biodiversity framework, including the role of AOBVs in ‘reducing to near zero the loss of areas of high biodiversity importance, including ecosystems of high ecological integrity’.

At the time of the enactment of the BC Act, four species that had been identified as critical habitat (under the previous Threatened Species Conservation Act) where transferred to AOBV listings under the BC Act. It has now been over 5 years and there have been no additional listings of AOBV under the BC Act, even though guidelines have been developed (DPIE 2021), and several key AOBV candidates have been assessed as warranting listing as AOBV. Increased resourcing for development of, listing and management of AOBV is urgently needed.

*ii. SOS program*

The *BC Act* currently has over 1100 threatened species listings and a funded Saving Our Species (SOS) program. As only a subset of threatened listings currently have active funding for conservation, it is clear that recovery of species, populations and

ecological communities is underfunded and needs additional resourcing as clearly indicated by (Wintle et al. 2019). Additionally, for many funded threatened species only a small subset of the known distribution in NSW is included in any SOS conservation program. For the remaining parts of the distribution, no effective conservation is undertaken. This is not species conservation but site conservation for many entities and risks increased species declines and losses.

Further there are some 39

Clearly not. The concept of SAll was developed for the *BC Act* to identify, through a sound scientific underpinning, those species, populations and ecological communities that cannot tolerate further loss. The SAll list is based on criteria that themselves are underpinned by global best practice, i.e., the extinction risk criteria from IUCN Red List for Species or Ecosystems (critically Endangered criteria, see Le Breton et al. 2019 for SAll application to NSW flora).

The precautionary principle needs to be applied to those entities recognised as SAll, in particular Protection of the Environment Administration Act 1991 Section 6(2)(a)(i) 'careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment', i.e., for all SAll listed entities, losses to development must be avoided, (red flagged) and there should be no option for mitigation or offsetting for SAll entities. This is a necessary foundation to avoid ongoing species declines and extinctions. It set a bar at where there can be no further loss. Offsetting as employed in NSW, involves losses now for potential future gains and does not adequately apply the precautionary principle to SAll entities.

Additionally, the current listings are neither comprehensive (particularly for vascular plants) nor up to date- see Key Point 5 above.

**15. *Can the Act in its current form result in improved ecological and environmental outcomes?***

This can only happen if the following points are addressed:

- i. an up to date and comprehensive set of listings of what is threatened (see response to Q5);
- ii. sufficient funding for recovery actions to halt decline in species and to manage existing and emerging threats to stop further species becoming threatened (see for example (Wintle et al. 2019) and;
- iii. a capacity in legislation and regulation to actually stop further clearing, particularly for those species, populations and ecological communities that have been identified as not tolerating further loss (see response to Q1), ie the application of red flag (no further loss and no permitted mitigation or offsetting) for species, populations and ecological communities listed as SAll at a minimum. This is critical to prevent ongoing declines and extinctions.

**16. *How ca.ilo***



Risk assessment is critical throughout and should be applied to species and ecosystems.

***28. Do you have any feedback on these matters or other issues you would like considered in the review of the Act?***

See main points 1-5 at top of this submission.

**F. A further detailed matter - Liberation of native (but not Protected) animals after veterinary care (e.g. dingoes)**

The existing Biodiversity Act prevents the legal release of injured/rehabilitated wildlife, not

