



Submission on Biodiversity Act Review

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

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A. Executive Summary

We highlight nine major areas of biodiversity concern, where the current legislation is not achieving its stated objectives and suggest how to improve biodiversity conservation across NSW (recommendations).

Recommendations (short form)

Recommendation 1 – Ensure funding for recovery of threatened species and ecological communities and effective management of threats to biodiversity is adequate, and improved and enhanced regulatory measures to limit further clearing as well as the repeal of the *Kosciuszko Wild Horse Heritage Act 2018*.

Recommendation 2. Actions required to ensure that the biodiversity legislation is adequate in relation to the management and conservation of native vegetation communities including

- i. Implementation of the ecosystem approach and mapping major ecosystems of New South Wales;
- ii. providing nationally compliant, comprehensive and up to date, threatened ecological community listings for NSW;
- iii. publishing annual estimates of clearing;
- iv. removal of exemptions under the Local Land Services Act, defined and replaced under a revised Biodiversity Conservation Act, with assessments carried out by independent certified professionals;
- v. application of the Mitigation Hierarchy needs to apply to all major developments;
- vi. Water Sharing Plans need to be linked to the Biodiversity legislation and;
- vii. Continued investment in stewardship programs, such as the Biodiversity Conservation Trust but ensuring representativeness. but ensure there is transparency, ensuring that reward for good practice.

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

Recommendation 4. All species, populations and ecological communities, identified as Serious and Irreversible Impact (SII) should trigger application throughout the *Biodiversity Act*, mandating the design of future development for avoidance of SII, including no implementation of biodiversity offsets.

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

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:

- i. comprehensive assessments of status for all species and TECs;
- ii. strengthen support for a more comprehensive SOS program for conservation management of threats, threatened species, populations, TECs and Areas of Outstanding Biodiversity (AOBV) and;
- iii. update the regulatory framework so that it truly and consistently applies the world's best practice, consistent with the Mitigation Hierarchy principle.

Recommendation 7. Complete comprehensive systematic risk assessments of ecosystems in NSW, requiring mapping of ecotypes, identified by the Global Ecosystem Typology.

Recommendation 8. Threatened Species Scientific Committee

- i. Establish a Biodiversity Scientific Committee with a purview over all biodiversity, including integrating roles and responsibilities of the current Threatened Species Scientific Committees under the Biodiversity Act and the NSW Fisheries Act and;
- ii. enhance resourcing for Biodiversity Scientific Committee for its functions.

Recommendation 9 - The role of the Biodiversity Conservation Advisory Panel be expanded to provide independent advice related to biodiversity conservation, beyond simply AOBVs.

B. Centre for Ecosystem Science, UNSW Sydney

The Centre for Ecosystem Science (CES), UNSW Sydney, supports instruments of government, including strategies that improve effectiveness of biodiversity conservation, founded on a strong evidence base. Current rates of biodiversity loss around the world and in Australia are unprecedented. Researchers in CES have established track records in the research and management of Australia's biodiversity, both within and outside protected areas. In particular, researchers focus on the three main realms of biodiversity (freshwater, terrestrial, marine) in the natural world (<https://www.ecosystem.unsw.edu.au/>) and welcomes the opportunity to provide a submission to the Biodiversity Act.

C. Background

The Biodiversity Act aims “to conserve biodiversity at bioregional and State scales” – its key purpose. It has demonstrably failed to deliver on this purpose. Much of this poor performance relates to the inadequacy of the legislation to adequately control threatening processes. Some of the processes that drive ongoing biodiversity decline are enabled by other legislation. For example, land clearing in New South Wales has increased since the legislation came into effect, in part through the operation of the Local Land Service Act 2013, State Significant Development and Infrastructure provisions, and in part through inadequacies in environmental assessment. Together, these arrangements allow for large scale land clearing, the major failure of government.

In addition, operation of the Water Management Act 2000 and implementation of other legislation has allowed ongoing development of floodplains, significantly affecting freshwater biodiversity, one of the world’s major realms and the one experiencing the most decline in biodiversity. For example, water sharing plans, the implementation and management approach to river management do not currently connect to biodiversity outcomes, even though there are commitments by the NSW Government’s Department of Planning and Environment to delivering on environmental water objectives.

Significant improvements in the legislation and government programs and activities are required to ensure that it delivers on its purpose. The most challenging factor is the control of threats to biodiversity. These are largely identified through the threatened species component of the legislation, providing a significant list of major concerns. However, there is little track record of implementation and no real progress on the threats that are driving down biodiversity. One major exception is the increasing resourcing to control invasive mammal species, particularly foxes, cats, deer and horses (representing only four of 39 listed Key Threatening Processes). This is welcomed and should be continued. But it represents only one of the major threatening processes affecting biodiversity, including habitat loss and degradation (across all realms, freshwater, marine and terrestrial), climate change, changes in fire regimes, over exploitation, pollution and disease.

D. Major areas of biodiversity concern

We have identified eight areas of major concern where there is currently inadequate implementation of the *NSW Biodiversity Act 2016*, and a further need to extend application more broadly to incorporate the ecosystem approach to conservation.

1. Inadequate resourcing, management and regulation of threats to biodiversity including clearing, weed, pests, pathogens, adverse fire regimes, altered river flow and flooding regimes and climate change

The *BC Act* has currently 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 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 regulations do not adequately consider protection of ecosystems across NSW.

There is a need to ensure that Water Sharing Plans, governed under the Water Management Act 2000 link to agreed environmental objectives developed by the NSW Department of

Planning and Environment. This is particularly important given that the NSW Environment Minister has concurrence on these plans and yet there is no link to whether they meet their environmental objectives. Further, there is no provision to incorporate the effects of climate change.

Recommendation 2. Actions required to ensure that the biodiversity legislation is adequate in relation to the management and conservation of native vegetation communities include the following.

- viii. There is a need to implement the ecosystem approach and map the major ecosystems of New South Wales, integrating it into current classifications. This ecosystem approach should be the basis for the development of a Nationally compliant, comprehensive and up to date, set of threatened ecological community listings for NSW.
- ix. Annual estimates of clearing should be published each year on this basis and overseen by an independent audit process, potentially the Natural Resource Access Regulator (NRAR) or the Natural Resources Commission (NRC) with sufficient resources.
- x. Any exemptions under the LLS Act need to be defined and transparently developed within the framework of the Biodiversity Conservation Act, rather than in the LLS Act or associated regulations. Scientific rigour and transparency should be applied to these exemptions and there should be a scientifically based set of criteria to define where, in order to prevent ongoing extinctions, no exemptions should be permitted. Audits and spot checks should be carried out regularly to ensure they are correctly applied, with adjustments made urgently where they are not.
- xi. The weak LLS codes should be removed because these allow unregulated vegetation clearing and potential loss of global, national and state conservation assets (e.g. removal of: ecological communities that are of significant conservation value and are at risk of decline, but have not yet been listed under the threatened schedules of the BC Act; isolated habitat trees from paddocks, native vegetation misrepresented as 'invasive native scrub' some of which comprises significant occurrences of threatened ecological communities otherwise protected under the BC Act, unregulated small scale clearing that may lead to loss of matters of high conservation significance).
- xii. There is a need to remove provisions for self-assessment for vegetation clearing to avoid conflicts of interest and enhance public confidence. Self-assessment is not allowed in medical, engineering, financial auditing or other sectors and should not be permitted in environmental management. Assessments should be done by independent certified professionals, similar to building inspectors (certification

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 postponing measures to prevent environmental degradation.

In the application of the precautionary principle, public and private decisions should be guided by—

- (i) *careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment, ...”*

The precautionary principle needs to be embedded in all aspects of the NSW Biodiversity Conservation Act. In particular, this includes listing of threatened species, populations, and ecological communities; consideration of regulatory actions; and implementation of recovery actions in the Saving Our species program. Currently, the regulatory side of the

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 biodiversity conservation and sustainability of ecosystem services by first assessing risk and diagnosing threats, and then designing and implementing measures for risk reduction. Importantly, NSW researchers are leading the world in this area. This approach is driven through two principal initiatives. The Red-List of Ecosystems <https://iucnrle.org/>, adopted by IUCN (International Union for the Conservation of Nature) as the international standard, and now a Headline Indicator of the Un Global Biodiversity Framework, has been adopted in the criteria for listings threatened ecological communities under the BC Act. The Global Ecosystem Typology, also under the IUCN <https://portals.iucn.org/library/node/49250>, <https://global-ecosystems.org/> (more user friendly website)) offers a new way forward for identification, mapping, assessment and conservation of ecosystems.

These two approaches are increasingly identified as the global standard. Many countries are moving quickly forward in implementing this approach. There are likely to be new targets in the Convention on Biological Diversity focusing on ecosystem extent. This approach is entirely consistent with current legislation. Reframing of government work and focus to one that integrates the ecosystem approach up front will help the BC Act meet its objectives more effectively.

Recommendation 7. Complete comprehensive systematic risk assessments of ecosystems in NSW, requiring mapping of ecotypes, identified by the Global Ecosystem Typology. This

would provide the basis for a strategic approach to representativeness that includes all parts of ecosystems, particularly their functional components, currently largely missing from the operation of the Biodiversity Act. This would be consistent with IUCN and the Convention on Biological Diversity targets and approach.

8. *Scientific Committee for Biodiversity legislation*

Continued Independence of the Committee is essential for public confidence. There is a need to continue to support high quality work done by independent NSW Threatened Species Scientific Committee. There is an option to rename the committee as the Biodiversity Scientific Committee and expand its role to cover scientific listing of all threatened and non-threatened species, ecological communities and key threatening processes, following world's best practice. This extends its remit to focus on all biodiversity. NSW is the only jurisdiction to have two Threatened Species Scientific Committees – Environment (largely terrestrial) and Fisheries. It would make sense and save resources if both were combined into a single committee, as in all other jurisdictions of Australia and the world. It would be considerably more efficient. It would save on anomalies (e.g. algae listed under the Fisheries Management Act, dragon flies are under fisheries, except for the giant dragon fly which is under the Biodiversity Act because its larvae live on land, replicate key threatening processes – dams and diversions).

It is important to continue to support the Biodiversity Scientific committee with sufficient resourcing to take on the additional responsibilities. Also agency representatives need to be provided sufficient resources and time are allocated to carry out Committee work expeditiously. Remuneration commensurate with the Commonwealth Scientific Committee to ensure high calibre membership (see also Biodiversity Conservation Advisory Panel options).

Recommendation 8

- iii. Establish a Biodiversity Scientific Committee with a purview over all biodiversity, including threatened species in New South Wales, threatened ecological communities and key threatened processes. This committee should amalgamate the roles and responsibilities of the current Threatened Species Scientific Committees under the Biodiversity Act and the Fisheries Act.
- iv. Enhance resourcing for Biodiversity Scientific Committee to support it to develop a comprehensive set of listings for vascular plants and ecological communities and to adequately review all other listings to ensure they are up to date.

9. *Biodiversity Conservation Advisory Panel*

This panel is currently underutilized by the agency and the government, with no clear

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 legislation which identifies the ability to provide the Minister or the department with independent advice related to biodiversity conservation, beyond simply AOBVs, including issues such as biodiversity offsets, landscape conservation planning, conservation legislation and compliance, the importance of an ecosystem approach to conservation. Also it could advise on other mechanisms for conservation such as the Register of the National Estate, Ramsar listing of wetlands and Other Effective Area-based Conservation measures (OECMs).

E. Consultation questions and responses

1. *How effective are the objects of the Biodiversity Conservation Act to restore, conserve and enhance biodiversity today and into the future?*

See above (Point 1 and Recommendation 1) for how better consideration of how precautionary principle is required in regulations.

2. *Is the current purpose to conserve biodiversity consistent with the principles of Ecologically Sustainable Development appropriate?*

The purpose is consistent but as described above the application of the precautionary principle in parts of the BC Act and associated regulations is deficient.

3. *How could the Act best support national and international biodiversity aspirations including climate change adaptation, nature positive and restoration goals?*

See comments above (Point 3 and Recommendation 3) on Areas of Outstanding Biodiversity Value.

4. *How could the Act better integrate Aboriginal knowledge and support the aspirations of Aboriginal people in biodiversity conservation?*

Ongoing engagement with indigenous peoples.

5. *How current and comprehensive are the existing elements of the Act for biodiversity conservation?*

See comments above for i) need to a comprehensive and up to date set of vascular

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 SAll. 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 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 to the 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.

9. *How can perspectives of Aboriginal people and indigenous knowledge be embedded in the conservation of threatened species and ecological communities?*

Increased engagement across implementation of conservation measures for threatened entities and management of threats to biodiversity.

Private land conservation and investment

10. *How could the Biodiversity Conservation Act best support partnerships with private landholders to conserve, restore and enhance biodiversity across New South Wales?*

11. *How could the Act best support strategic landscape-scale biodiversity conservation outcomes and improve connectivity?*

12 *How could the Act enable financial investment by government, businesses and philanthropic organisations?*

Fundamentally it is the government role to fund and implement biodiversity conservation and the government should therefore provide the necessary funding. Encouraging businesses and philanthropic organisations to also invest is worthwhile, but it cannot come at the cost of less investment by the government.

Biodiversity Offsets Scheme

13. *Is the Biodiversity Conservation Act providing an effective mechanism to ensure that the right developments and land use changes are being assessed?*

14. *Does the Act provide the appropriate framework for avoiding and minimising impacts, and addressing serious and irreversible impacts?*

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 can complexity and costs be minimised while still achieving positive biodiversity outcomes?

Enact ‘red flags’ for all SAll entities.

17. How could the Act better support an effective and efficient offset market?

Biodiversity Certification

18. How can the Biodiversity Conservation Act support better 'up front' consideration of impacts on biodiversity from development?

Impacts need to be assessed on a case-by-case basis. Cumulative impacts also need to be incorporated.

19. How can the Act support better consideration of impacts on biodiversity from development at a regional level?

Enact red flags for all SAll entities. Cumulative impacts also need to be incorporated.

Regulating impacts on, and caring for, native animals and plants

20. How could the Biodiversity Conservation Act best support the protection of native animals and plants?

See major points above and responses to Q 1,3,5,6,8 above.

Enact red flags for all SAll entities. Cumulative impacts also need to be incorporated.

21. Are the requirements and conditions for biodiversity conservation licences in the Act suitable?

22. Do you have any suggestions for improvements?

Enact red flags for all SAll entities. Cumulative impacts also need to be incorporated.

23. How should wildlife licensing be modified to allow for climate-adaptation conservation activities?

Compliance and enforcement

24. Are the Biodiversity Conservation Act's penalties and enforcement instruments an effective way to support the Act to achieve its objectives?

25. How can the Act give the community more confidence and clarity in the approach to regulation?

Public registers of all offsetting is needed (see (Kujala et al. 2022)).

26. Should the Act be strengthened to require data collection under the regulatory frameworks in place?

Yes along with public registers for all data.

27. Is the risk assessment approach suitable?

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 listed as Protected in NSW, with the specific exception of possums and snakes, which can be captured and released under a “catch and release licence” to facilitate their movement away from residences.

Dingoes are specifically excluded from the “Schedule 5 Protected animals” designation in the Act. Their release after capture is prohibited, even for veterinarian intervention to treat anthropogenic injuries. This leads to land managers (including NSW National Parks and Wildlife staff) killing dingoes that could otherwise be released back to the wild. This does not recognise the importance of this top predator promoting biodiversity in Australian ecosystems (Letnic et al. 2012). The Biodiversity Act states that “Wild dingoes are protected within lands managed by the National Parks and Wildlife Service (for example, national parks)”.

It does not deal with the problem of injured dingoes, even where they are protected, unnecessarily compromising animal welfare outcomes and broader conservation outcomes.

We recommend an alteration to 2.6 (1) of the Act to:

“(1) A person who, without authority, liberates in New South Wales any animal (other than a captured native animal, including a dingo) is guilty of an offence.”

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