

Biodiversity Coordination Unit
Department for Environment and Water
Government of South Australia
GPO Box 1047
Adelaide SA 5001
By email: biodiversityact@sa.gov.au

18 February 2025

Dear Biodiversity Coordination Unit,

Joint Submission by The Wildlife Crime Research Hub, the Invertebrate Systematics and Biodiversity Lab, and the Freshwater and Ecophysiology Lab on South Australia's Draft Biodiversity Bill.

Thank you for the opportunity to provide a submission to this draft of South Australia's first dedicated Act to safeguard and enhance biodiversity.

We represent a group of environmental science researchers with extensive experience in fields addressing key biodiversity challenges faced by South Australia, including invasive species management, wildlife crime research, invertebrate conservation, restoration ecology, vegetation ecology, freshwater ecology and marine ecology.

Consequently, we have reviewed this draft of the Biodiversity Act with particular emphasis on matters relating to native habitat clearance, regulation of wildlife trade, aquatic ecosystem health, and improving broad protections for the full extent of our state's biodiversity, much of which is critical not only due to its environmental heritage value, but to ecosystem services that play an important role in our state's economy. This submission was developed during a series of workshops subsequent to the 'Submission by the Environment Institute of The University of Adelaide on A New Biodiversity Act for South Australia', which many authors of this current submission also contributed to.

Our feedback is provided with the following principles in consideration:

- Biodiversity is a core biological resource underpinning not just the long-term sustainability of native ecosystems, but also plays a crucial role in maintaining the productivity of the industries and economy that depend on such ecosystems.
- Biodiversity encompasses all forms of life and their interactions. Species protection priorities should not be dictated by their charismatic value but rather their critical roles in the functioning of ecosystems. For example, invertebrates should not be seen as less deserving of protection compared with mammals.
- South Australia has experienced extensive biodiversity loss, both as an immediate consequence of broad changes to land management, species introductions and

altered water regimes, but also more recently as a result of contemporary threatening processes (including but not limited to climate change, invasive species and habitat clearance).

- Preventing ongoing biodiversity loss is crucial to the long-term ecological, social, cultural and economic health of South Australia. However, for many ecosystems, simply preventing further loss is not enough, and more proactive action is needed to reverse the effects of existing threatening processes.
- We recognise that the trade or movement of wildlife (including wildlife-derived products) can occur for a diversity of reasons. Nonetheless, wildlife trade may still be a source of conservation and biosecurity risks that should be mitigated whenever appropriate through trade regulation. We also recognise that wildlife trade may involve threatened species and species that are culturally important to First Nations peoples.

Our feedback is intended to provide a constructive direction for improvements to the draft Biodiversity Act, which we have structured into 3 main sections:

- Section 1 outlines our support for key areas in which the new Biodiversity Act improves upon shortcomings in the Native Vegetation Act 1991 and the National Parks and Wildlife Act 1972.
- Section 2 highlights areas that require improvement in order to best conserve and enhance biodiversity in line with the objects of the Act. In each case we have endeavored to provide detailed, evidence-informed recommendations, including alternative terminology whenever relevant.
- Section 3 focuses on matters that are set to be prescribed in future regulations. For these instances we have outlined what key information should be considered by those regulations in future decision making.

Headings within each Section are provided in approximate order of priority and an executive summary is provided. If the Biodiversity Coordination Unit wishes to discuss any of these topics in further detail, we are happy to make ourselves available as needed.

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Executive Summary

We support the following ways that the draft Biodiversity Act improves biodiversity protections:

- The inclusion of all threatened animals as Protected Animals, therefore requiring the possession, killing, taking from the wild, import or export of these animals to be controlled by permits.
- Providing stronger deterrents for wildlife crime, including much higher maximum penalties, enhanced powers of authorised officers (including the license to take genetic samples to aid with wildlife forensic analysis), and placing the burden of proof upon suspected offenders.
- A state-specific list of threatened species, threatened ecological communities and ecological entities, which differentiates between national and state threat status and facilitates rapid response capacity through a provisional listing process.
- The creation of new committees that empower perspectives from First Nations and scientific communities on matters relating to biodiversity.
- Inclusion of limited protections for some human-planted native plants, recognising their value in restoration programs.

However, the following aspects of the Biodiversity Act require improvement to better align with the objects and purposes of the Act:

- The concept of 'nateness' should acknowledge that Australian native biota can still pose a biosecurity risk in other regions of Australia beyond their natural range, including risks to South Australia. The definition of nateness used in this Act (& corresponding regulated activities) should not impede rapid responses to biota from elsewhere in Australia that pose biosecurity/environmental risk within South Australia.
- Definitions of Australian taxa should use scientific terms wherever possible, to avoid accidental inclusions/exclusions or conflicting interpretations of the Act. We provide specific recommendations for definitions of 'plant', 'fish', 'poison' and 'animal product'.
- Protection of some native animals (e.g., invertebrates) is contingent on declaration as threatened species, however lack of descriptions may prevent many taxa from meeting the criteria for 'threatened species' classification, even if clear threatening processes are detected. We recommend mechanisms for the provisional protection of such animals to allow time for scientific descriptions and risk assessments to be conducted.
- The Act inherits many exceptions to the regulation of native plant clearance from the Native Vegetation Act 1991. For these exceptions, the relevant Minister should be obligated to obtain concurrence with the Minister responsible for the Biodiversity Act, prior to any native plant clearance being approved.

Finally, future regulations pertaining to the Biodiversity Act should consider the following matters:

- Criteria for what constitutes an 'Ecological Entity' should be inclusive of undescribed taxa and provide provisional protections for them.
- Determination of trafficable quantities should be conducted with input from relevant experts and consider the life history traits of each species of Protected Animal.
- Permit systems should allow streamlined approval processes for NGO's, research organisations and zoos that have a demonstrable record of commitment to broad environmental or public benefit.

Section 1: The Biodiversity Act Improves Upon Past Legislation

Purpose and Objects of the Act

We support the recognition within the objects of the Act that biodiversity conservation and restoration is a shared societal responsibility; that South Australia's biodiversity needs to improve at multiple scales to safeguard ecosystem services for future generations, and that First Nations people contribute a crucial role in biodiversity restoration via their vast knowledge and experience in caring for Country.

Improved Mechanisms of Wildlife Crime Enforcement

The draft Biodiversity Act provides a variety of tools to improve detection and prevention of wildlife crime, primarily by allowing for increased penalties and empowering Authorised Officers to collect information pertaining to suspected instances of wildlife crime.

There is a growing body of evidence that Australian animals are being targeted by poachers because of their uniqueness and value in the international exotic pet market (e.g., Chekunov et al. 2024). Given Australia's low human population density throughout much of its biodiversity-rich regions, it is highly unlikely that poaching of wild animals will be detected in real time.

As such, heavy penalties are necessary to deter future wildlife poachers and traffickers. Current maximum penalties for conducting regulated activities pertaining to Protected Animals without a permit can sometimes be lower than the potential value of the smuggled animals. For example, the National Parks and Wildlife Act 1972 states a maximum penalty of \$10,000 or imprisonment for 2 years in the case of the illegal taking of endangered species from sanctuaries. In many cases these species can be worth thousands per individual animal. The new increased penalties also bring South Australia in line with some of the strictest state penalties in Australia, being comparable in size to the Queensland Nature Conservation Act 1992 penalties for a Class 1 offence of keeping unauthorised protected animals (\$482,000, or 2 years imprisonment).

We welcome higher maximum fines as a poaching deterrent, especially for cases when an offender is dealing with a trafficable quantity. However, as noted in Section 3, we recommend that the Regulations set trafficable quantity thresholds for each protected animal based on the best available scientific evidence relating to their vulnerability to wildlife crime.

Beyond higher penalties, an increased likelihood of detection provides a key disincentive for prospective offenders, with 'certainty of punishment' (specifically certainty of apprehension) being a more consistent source of crime deterrence than severity (Nagin 2018). Therefore,

we support the inclusion of powers for authorized officers, including the power to inspect locations, vehicles and to take samples (including genetic samples) of any wildlife and wildlife products. Genetic samples provide key forensic resources that are increasingly being used to provide crucial information in wildlife crime cases, including identification of species, kinship, individual animals, geographic origin and wild-caught versus captive-bred provenance (Brown et al. 2023; Hogg et al. 2017; Sandoval-Arias et al. 2023).

Further to this, the Act places the burden of proof upon suspected wildlife crime offenders:

'If in any proceedings for an offence against this Act, a question arises as to whether...possession of any plant, animal, animal product, egg or thing was lawful, the onus of proving that the possession was lawful lies on the defendant'.

This approach is a substantial improvement upon past legislation which simultaneously placed the burden of proof upon the accuser without granting authorized officers the power to take samples of animals and animal products, therefore hindering their ability to verify the provenance or ID of these animals.

Revised Definition of Protected Animal

The inclusion of threatened species of amphibians, fish and invertebrates as Protected Animals is a substantial improvement upon the previous criteria, which suffered from clear taxonomic biases (only including mammals, reptiles and birds native to Australia). The previous definition failed to recognize the immense value of fish, amphibians and invertebrates that provide significant ecosystem services and biodiversity value to our state. Allowing the unrestricted (and undocumented) harvest of these animals across most of South Australia (outside of National parks) has been a barrier to preserving the State's biodiversity. While supporting this improvement, we outline further in Section 2 the need for protection mechanisms for animals that have yet to be described by science, yet are nonetheless impacted by threatening processes.

Provisional Listing of Threatened Species

The ability to list threatened species for up to 2 years under a provisional listing is a welcome inclusion that will allow for rapid conservation planning and action to take place.

Our understanding of taxonomy is dynamic and subject to rapid change. It is currently estimated that only 33% of Australia's insect fauna is formally described, with similar shortfalls occurring within other highly-diverse groups such as spiders, nematodes and flatworms (Taxonomy Decadal Plan Working Group 2018). Similarly, Australian reptiles are undergoing rapid taxonomic revision, meaning that entities originally considered as sub-populations of a single species are being redescribed as multiple species, with revised population size and range size estimates (Flanagan et al. 2024). For these reasons, we support the allowance for a species to receive provisional listing upon description in section 76 of the Act:

‘The Minister may, by notice in the Gazette, make a provisional listing... if a new native species or new ecological community is described resulting from a taxonomic revision and is considered by the Minister to be threatened.’

However, we note in Section 2 of our submission that further improvements that can be made to this process, specifically that a full assessment of the species within 2 years of provisional listing should be guaranteed, and that there should be some mechanism by which undescribed taxa can be provisionally protected.

Inclusion of Scientific Committee and First Nations Expert Biodiversity Committee

We strongly support the establishment of the Scientific Committee and the First Nations Expert Biodiversity Committee; their roles as advisors to the Minister in key matters such as the assessment and listing of threatened species, ecological communities and ecological entities; and the application of First Nations' knowledge in the management of biodiversity. As outlined further in Section 2, we recommend that more specific detail is provided in how the Minister is obligated to consider the advice of these two committees in their decision making.

Partial Protection of Human-Planted Vegetation

We welcome improved protection for native plants that have been ‘intentionally sown or planted by a person’. The Native Vegetation Act 1991 did not provide protection for such plants, as they were considered outside the definition of native vegetation. The new Biodiversity Act protects intentionally planted species of native plants if they are ‘more than 20 years old and... not growing in a commercial forest or domestic gardens’. While the term ‘domestic garden’ should be clarified in order to determine whether planted trees in agricultural paddocks are protected, the overall improvement of protection of planted vegetation is a welcome improvement.

Comprehensive Biodiversity Terminology

We welcome the inclusion of the concepts of genetic diversity and ecosystem services within the definition of Biodiversity. The ability for threatened species, threatened ecological communities and ecological entities to be listed at the state level is very important. There are some native taxa that are considered non-threatened at a national level yet threatened within South Australia, so the consideration of local threatened status is appropriate.

Section 2: Recommended Areas for Improvement

Discrepancies in Defining Nativeness

The draft Biodiversity Act, in seeking to unify legislation from the *Native Vegetation Act 1991* (NV Act) and the *National Parks and Wildlife Act 1972* (NPW Act), has to deal with noteworthy divergences in how each Act defines nativeness. The NPW Act defines native plants to mean ‘any plant that is indigenous to Australia...’ whereas the Native Vegetation Act defines native vegetation as ‘a plant or plants of a species indigenous to South Australia...’. It is recognised that the NPW Act’s definition catered to the need for South Australia to be part of the national system for protecting native species. However, expanding this to give protection in South Australia to any native plant from anywhere in Australia has major, perhaps unforeseen implications

The difference in jurisdiction (national versus state) used to define nativeness has very important repercussions for the management of ‘native’ invasive species within Australia. For both plants and animals, there are an abundance of examples where a species native to Australia has been transported beyond its native range to another region within Australia, established a new population and become invasive, having notable impacts on local native ecosystems or agricultural industries (Cobden et al. 2021; Downey and Taylor 2023; Keighery 2013; Robinson et al. 2020). This includes examples specific to South Australia (Adair 2008; Berkinshaw 2009). The draft Biosecurity Act would require site-based permissions to control such non-indigenous natives, even when clearly impacting on local biodiversity. This would disincentive the valuable work routinely done by many volunteer groups working in bushland across the state to control invasive native species. It would also add a considerable administrative burden and delay to control programs, which require timely action (e.g., to prevent further spread). We acknowledge that invasive native species may be treated under the Landscape South Australia Act through declaration as a weed. However, a preventative approach to invasive species is more effective than a reactive one.

The proposed national definition of native plants also inherently devalues South Australia’s unique biodiversity. It could have perverse outcomes for restoration projects. For example, cheap seed of interstate natives could be sourced for mass ‘so-called’ biodiversity plantings, in alignment with what the Act prescribes, rather than sourcing seed of local species.

We acknowledge that the intent of a broad definition of native plants is to recognise that non-indigenous native species can have habitat value in certain circumstances, for example providing a food source or nesting habitat for native birds. Such a definition also accounts for the southerly shift of climate under global warming, although South Australia’s northern arid environment provides a pool of species and genotypes for pre-emptive introduction to southern regions.

We propose that the Biodiversity Act definition for native plants should be the same as in the NV Act, that is species indigenous to South Australia. A further provision within this definition could allow for Ministerial declaration of species from elsewhere in Australia as native plants for the purposes of the Act, where analysis has shown that protecting these from clearance would have net ecological value for South Australia’s biodiversity. The Act could also

separately allow for recognition of the rare/threatened status of species in all other jurisdictions and afford them the same protections regarding restrictions on keeping and trade, rather than having to do this via an all-encompassing native plant definition.

Undescribed Species are not Considered Protected Animals

Taxonomic description can be a slow-process, due to the effort associated with inspecting material, undertaking genetic and morphological analysis, peer-review and scientific publication, and limited personnel with necessary experience to undertake such work. This means that the period between detection of a new species and final description of said species can span years. This slow rate of description, coupled with increasing risk of extinctions, has created a so-called 'Taxonomic Impediment' (Engel et al. 2021).

This problem is best exemplified by invertebrates, which are experiencing rapid rates of extinction due to a variety of threatening processes. A high proportion of invertebrate taxa have yet to be described to species level and many species are believed to be going extinct before they can be formally recognised (Woinarski et al. 2024). Under the current draft of the Biodiversity Act, there is no avenue for these important but as-yet undescribed taxa to be considered as Protected Animals, as they cannot be classed as a threatened species.

For example, the invertebrate fauna associated with South Australia's Great Artesian Basin mound springs is poorly known to science, with a high proportion of taxa remaining unnamed and undescribed (>65%) (Beasley-Hall et al. 2024). This is despite the ongoing decline of these ecosystems resulting from key threatening processes including climate change, as well as both historical and contemporary impacts associated with water extraction, grazing and other factors of land use (Beasley-Hall et al. 2023, Beasley-Hall et al. 2024). Despite the clear concern regarding species persistence, and the need to alleviate threatening processes, no species associated with this system (outside of Mollusca (snails)) has had its conservation status assessed at the state, federal or international level (Beasley-Hall et al 2024).

In cases where threatening processes are clearly impacting undescribed taxa, a legislative procedure is needed to provide provisional protections, so that relevant experts have sufficient time to resolve taxonomy and/or undertake risk assessments and research. Specifically, we recommend the addition of the following clause to the section on provisional listing of threatened species, threatened ecological communities and ecological entities:

'The Minister may, by notice in the Gazette, make a provisional listing in the following circumstances:

- (a) if a native species or ecological community is discovered in the State and is considered by the Minister to be threatened;
- (b) if a new native species or new ecological community is described resulting from a taxonomic revision and is considered by the Minister to be threatened;
- (c) if a native species or ecological community that was presumed to be extinct, extinct in the wild or collapsed has been located or reintroduced in the State and is considered by the Minister to be threatened;

- (d) if an event rapidly changes the extinction risk or potential extinction risk of a native species or ecological community;
- (e) in circumstances of a kind prescribed by the regulations;
- (f) if it is brought to the attention of the minister that a taxon is currently undergoing taxonomic review that will lead to the designation of a new species; or
- (g) if undescribed taxa are known to be present in an ecological community that is being impacted, or expected to be impacted by, threatening processes'

Furthermore, in section 3 we outline how the new concept of Ecological Entities may allow for the inclusion of undescribed taxa.

Regulated Activity Exclusions for Native Plant Clearance

While the clearance of native plants in South Australia is a Regulated Activity in this draft of the Biodiversity Act (except under specific circumstances), there are several notable exceptions listed in Schedule 2. Many of these exclusions are inherited from the Native Vegetation Act and do not currently impose strong enough requirements to ensure proper oversight. In particular, the language lacks the necessary legal clarity and enforceability to guarantee that the relevant Minister must obtain concurrence from the Environment Minister before any native plant clearance is approved.

We recommend strengthening the legislative language to explicitly require Ministerial concurrence as a binding obligation, rather than a discretionary step. This will ensure that decisions affecting native vegetation are made with adequate environmental oversight, preventing unsanctioned or ecologically harmful clearances. A more assertive approach will reinforce accountability and uphold South Australia's commitment to biodiversity protection.

Ambiguous Inclusions Within the definition of Plants

The draft Biodiversity Act currently defines plants to include 'fungi; and algae; and flowers, seeds or any other part of a plant'. There are multiple issues with this definition. Chiefly, at no point does the definition actually declare the term 'plant' to include species of the plant kingdom (Plantae). This lack of specificity contrasts with the definition of animal within this Act ('animal includes any species of the animal kingdom other than a human being') and particularly in contrast to the way plants are defined in the South Australia Biosecurity Act ('plant includes any member of the Plantae...kingdom'). Such lack of detail in the current draft of the Biodiversity Act may lead to inconsistent interpretations of what biota are considered as plants (e.g., moss).

Similarly, fungi and algae are not clearly defined. The term 'fungi' typically refers to members of the kingdom Fungi, including both multicellular and unicellular organisms. This kingdom, like animals and plants, are 'monophyletic' meaning they contain all species reasonably considered to be fungi, without including anything else.

By contrast, the term 'algae' refers to many different types of organisms, most of which are nested within the protist kingdom (Protista); however, not all members of Protista are considered algae. Additionally, some organisms are colloquially referred to as 'algae' but are actually unicellular prokaryotes (e.g., 'blue-green algae' a.k.a., cyanobacteria are a type of Bacteria). Blue-green algae are toxic when overabundant and are routinely managed in waterways throughout our state to safeguard human health. With these factors in mind, we anticipate that the inclusion of the term 'algae' in the definition of plants may lead to problematic interpretations of the legislation, such as the consideration of harmful cyanobacterial blooms in native freshwater ecosystems as 'native plants', resulting in unnecessary barriers that may lead to difficulties, or appeals against the bill in the future.

We have provided below our recommendation for an amended definition of plants to reduce potential ambiguity in its interpretation. This recommendation is based on taxonomic classification of biota as well as other definitions used in Australian legislation, chiefly the SA Biosecurity Act:

'Plant includes—

- (a) plants (being any member of the kingdom Plantae);
- (b) fungi (being any member of the kingdom Fungi);
- (c) algae (being any member of the kingdom Protista that is a multicellular algae)
- (d) flowers, seeds, timber or any other part of a plant;'

Full Assessments of Provisional Listings

Under the section of the Biodiversity Act pertaining to the provisional listing of threatened species or ecological communities, it is stated that 'A provisional listing expires 2 years after it has been made, unless a final listing decision has been made in place of the provisional listing.' However, this wording does not clarify whether an assessment for final listing *must* be made within this 2-year period. We recommend that the Act clarifies whether there is a requirement to fully assess provisional listings prior to their expiry.

Broad Definition of Fish

In the current draft of the Biodiversity Act, the term 'fish' has the same meaning as in the Fisheries Management Act 2007:

'fish means an aquatic animal other than—

- (a) an aquatic bird, an aquatic mammal, a reptile or an amphibian; or
- (b) an aquatic animal of a kind declared by the regulations to be excluded from the ambit of this definition;'

With an aquatic animal meaning 'an aquatic animal of any species, and includes the reproductive products and body parts of an aquatic animal'.

Therefore, the definition of 'fish' in the Biodiversity Act includes not only bony & cartilaginous fishes, but also all forms of aquatic invertebrates such as annelids, echinoderms, cnidarians,

molluscs, arthropods, flatworms and sponges. Given that the Biodiversity Act refers to both 'fish' and 'invertebrates' as separate entities, we are concerned that this broad definition of fish is an oversight for the purposes of this Act, especially as all species of aquatic invertebrates simultaneously fall under the definition of 'fish' and 'invertebrate'. We anticipate realistic scenarios where Regulations may apply circumstances to vertebrate fish differently compared to invertebrates (e.g., establishing trafficable quantities). Therefore, we outline three possible amendments to the Act with the intention of avoiding conflicting interpretations:

1. Define fish specifically within this Act as follows: 'fish include any member of bony fishes (Osteichthyes), cartilaginous fishes (Chondrichthyes) or jawless fishes (Agnatha)'
2. Define fish specifically within this Act as follows: 'fish include any aquatic vertebrate other than mammals, reptiles, amphibians and birds'
3. Retain the broad definition of fish from the Fisheries Management Act and replace 'invertebrates' with 'terrestrial invertebrates' throughout the Biodiversity Act

These options are provided in order of our preferred recommended changes. Option 1 is the most scientifically rigorous. Option 3 is the least desirable because some invertebrate species are aquatic in their larval stage, but entirely terrestrial in their adult stage, so do not fit unambiguously into a single category.

Notable Exclusions to Animal Products and Derivatives

Animal products are defined in this draft of the Biodiversity Act to mean:

'the whole or any part of—

- (a) the flesh or internal organs of the animal; or
- (b) the feathers, wool, hair, skin or hide of the animal; or
- (c) the bones, horns or hooves of the animal;'

The Act also states with respect to animal products that 'dealing with a protected animal product of a protected animal that has been harvested' is a Regulated Activity. Clearly the intention is to limit/regulate the killing of wild animals for their body parts and subsequent sale of animal-derived products. We support the inclusion of such an activity as a Regulated Activity. The wording 'of a protected animal that has been harvested' is appropriate as this allows the control of the animal product trade without the need to prove that an individual 'dealing with' the product was the same individual who killed the Protected Animal.

However, we believe that the list of inclusions could be made more comprehensible to include all of the appropriate animal derivatives that should be controlled in trade. We have based our recommendations to expand the definition of animal products (below) based on the systematically collected list of traded wildlife derivative types provided by Stringham et al. (2021):

‘animal product means the whole or any part of—

- (a) the flesh, tissues, reproductive materials or internal organs of the animal; or
 - (b) the feathers, quills, wool, hair, skin, scales, scutes, nesting material or hide of the animal;
- or
- (c) the carapace, bones, cartilage, teeth, shells, tusks, horns or hooves of the animal; or
 - (d) the blood, secretions, bile or bodily fluids of the animal;’

Given that dealing in protected animal products only involves regulated animals if the products come from an animal that was harvested (i.e., ‘to kill the protected animal in the wild; or to capture the protected animal from the wild and then kill it, in order to sell an animal product of the animal or to use it for any other purpose’) we do not believe that the broader and more inclusive definition proposed here is prohibitive upon any existing industries within South Australia.

However, as we address in Section 3, the criteria for permits to carry out this regulated activity should consider that research institutions, zoos and other relevant Non-Government Organisations (NGOs) often use animal products (e.g., blood samples, voucher specimens) for a variety of pursuits aimed at providing long-term environmental and societal benefits. Such activity should not be hampered by an overly restrictive permitting process.

Minister’s Powers to Sell Animals and Animal Products

Under Section 158: ‘The Minister may sell any protected animal, protected animal product or protected egg surrendered to the Minister, or an entity prescribed by the regulations for the purposes of Schedule 4(a), and must pay any proceeds into the Biodiversity Conservation Fund.’

We strongly recommend that further stipulations are provided here, including the consideration that surrendered animals or animal products may pose ongoing biosecurity risks and that consultation is needed with the Minister responsible for administering the SA Biosecurity Act before a decision can be made to sell surrendered animals or animal products.

Cross-Jurisdictional Ecosystems & Implementation of Extraterritorial Powers

South Australia’s unique and valuable ecosystems rarely stop at state borders, and many span multiple states. Whilst this is the case for many ecosystems, including South Australia’s terrestrial and marine areas, it is of particular concern for freshwater ecosystems. Notably, our three most valuable freshwater ecosystems: the Murray-Darling and Lake Eyre basins on the surface and the Great Artesian Basin underground, all have headwaters that begin outside of South Australia. Activities undertaken upstream (e.g., pollution, unsustainable water extraction) often lead to impacts downstream, meaning that what is happening interstate can lead to (sometimes severe) environmental consequences within South Australia.

As such, it is important that South Australia is able to disincentivise harm to its biodiversity regardless of whether that harm occurs within the state. For this reason, we welcome the inclusion of extraterritorial powers stated by this Act: 'This Act extends to an act, activity or circumstance carried out, undertaken or existing outside the State that may affect the biodiversity of the State'.

This implies that regulation of matters affecting South Australian ecosystems that extend into other jurisdictions can be achieved via the Biodiversity Act, even when actions take place beyond the state. However, it is currently unclear to what extent, and by what mechanisms the Act can enforce compliance, as well as investigate and prosecute offenses that have occurred interstate. Furthermore, it is unclear how (or whether) this Act will apply differently to offenses committed by individuals compared with offenses committed by organisations in the public and private sector.

Limited Scope of What Constitutes a Significant Environmental Benefit

In Section 58 on the assignment of credit under a Significant Environmental Benefit (SEB) Scheme, there are multiple references to 'the land on which the native plants that are the subject of the credit to be assigned'. This wording strongly implies that native plants are the only biodiversity resource that can be used to contribute to an SEB scheme, or at least contribute to transferable SEB credits.

Habitat restoration is not limited to planting efforts. The provision of critical abiotic structures (such as artificial rocky outcrops used by reptiles, or nesting boxes to simulate tree hollows) and species translocations, when informed by appropriate scientific evidence, also constitutes habitat restoration. Maintenance of already undertaken environmental planting programs (watering, weeding, fencing and pest control) is critical both in ensuring plant survival and success, and that credits granted represent *actual* environmental gain.

We propose that all referrals to SEB credits within this Act acknowledge a broader suite of activities that can constitute environmental restoration, in line with the initial definition of SEB under the Act: 'significant environmental benefit means an environmental benefit that has been, or will be, achieved and which the NPCAC has determined to be of significant value in accordance with the SEB scheme, but does not include a payment into a fund in lieu of achieving an environmental benefit'.

Differences in Administration of Biodiversity Conservation Fund versus Biodiversity Restoration Fund

The differing responsibilities, sources of funding, activities that can be undertaken, and bodies responsible for the Biodiversity Restoration Fund (BRF) and the Biodiversity

Conservation Fund (BCF) seem to be a legacy of the historical two acts that have formed the basis for this Act (the aforementioned NV Act and NPW Act). This has resulted in some inconsistencies in what certain funds may be used for, and the approval pathways for their use.

The BRF raises funds through plant-related expiations & penalties whereas the BCF raises funds from expiations & penalties relating to hunting or protected animals. A likely natural outcome is that the BRF will acquire a much greater amount of funding due to the large scale of plant clearance in South Australia. In isolation this is not necessarily an issue, however the two funds cannot be applied in the same way, leading to an asymmetry of resources for different forms of ecosystem restoration and research.

The BCF can be applied to:

- ‘(a) plant and animal conservation programs; and
- (b) the promotion of research into—
 - (i) problems relating to the conservation of plants and animals; or
 - (ii) the impact of the issue of any permits under this Act; or
 - (iii) any other matter connected to this Act; and
- (c) programs for the benefit of any industry requiring a permit under this Act; and
- (d) any other purpose for which the fund may be applied under this Act.’

By contrast, the BRF may be applied

- ‘(a) in re-establishing, enhancing, preserving, managing and researching native plants and otherwise in accordance with any requirements of this Act; or
- (b) towards any other purpose for which the fund may be applied under this Act’

In summary, the BRF can only be applied to matters relating to native plants, whereas the BCF can be applied to both plants and animals. Further, there is a notable asymmetry in how each fund is administered, with the BRF being administered by the Biodiversity Council, but the BCF requiring ministerial approval. This additional step potentially represents another barrier for animal restoration programs that isn’t present for plant restoration.

These differences in funding sources and administrative oversight may lead to less effective restoration work being undertaken for animal conservation than for plant conservation. We recommend either:

- A) That these funds be combined into a shared fund to ensure more equitable access to funding across areas of restoration,
- or,
- B) That the list of activities that can be undertaken with each fund is unified to apply to both plants and animals, in recognition that the ecosystem-level impacts that are caused by clearance of native plants also affect animals

Finally, we recommend removing the phrase ‘programs for the benefit of any industry requiring a permit under this Act’ as this purpose does not seem to be related to biodiversity conservation or restoration.

Inconsistent Use of the Term Poison

In this draft of the Biodiversity Act: 'poison means any substance that might endanger the life or health of an animal;' however the act of poisoning is not limited to animals. In fact, the definition of 'substantial damage' as it relates to native plants includes 'ringbarking or poisoning a native plant'. Therefore, we recommend extending the definition of poison to mean 'any substance that might endanger the life or health of an animal or plant'.

Appointment Criteria for the Biodiversity Council

We have some general recommendations about the constitution and appointment process involved in the selection of members of the Biodiversity Council.

The selection of members of the Biodiversity Council is undertaken by the Minister by 'selecting a reasonable range of persons who collectively have skills, knowledge and experience' in a list of fields. We welcome the need for specific expertise areas that the Minister should consider in their appointments to the council. However, it is unclear from the wording of 'reasonable range of persons' whether the Minister is obligated to ensure that *all* of these expertise areas are accounted for. We recommend more decisive wording is used to ensure that all these areas of expertise are accounted for within the Biodiversity Council, to avoid subjective appointments that are disproportionately weighted towards specific expertise areas. Additionally, to the list of skills, knowledge and expertise, we recommend the addition of the following:

- Some facet of threat or environmental risk management to these considerations that may or may not include wildlife crime
- 'Aquatic biodiversity conservation and restoration' should be modified to make a distinction between freshwater and marine aquatic ecosystems as management of these is undertaken with different considerations and priorities.

Obligating the Minister to Duly Consider Advice from Scientific Committee and First Nations Expert Biodiversity Committee

While we support the creation of the new First Nations Expert Biodiversity Committee and Scientific Committee, we recommend that the legislation adopts stronger, more assertive language to mandate consultation with these committees, rather than recommending it. Their inputs should be a formal and binding component of decision-making processes related to conservation, land management, and biodiversity protections. Embedding this obligation within the legislative framework will ensure that their expertise is not only sought but also meaningfully integrated into policy and management actions. For example, the scientific committee provides advice to the Minister 'on matters in relation to...assessment, listing and recovery of threatened species, threatened ecological communities and ecological entities'. However, the Act should further specify what obligations the Minister is under to review and consider this advice, in order to ensure the scientific committee has a consistent level of input into decision making when scientific expertise is required.

Section 3: Key Considerations for SA Biodiversity Regulations

Inclusion within Ecological Entities

While we welcome the inclusion of the term Ecological Entity as a ‘spatially delineated level of biological organisation that meets the criteria prescribed by the regulations for the purposes of this definition’, the Regulations should clarify whether this includes populations of a taxa that have yet to be described to species level. If so, this may provide an important mechanism to preliminarily protect undescribed species until such time that experts can conduct relevant species descriptions and risk assessments.

We recommend that the definition of a Protected Animal be expanded to include any registered Ecological Entity that is a member of the animal kingdom. This broader definition is particularly crucial for safeguarding undescribed invertebrates, which often play vital but poorly recognised roles in ecosystems.

To enable this, we recommend removing the phrase ‘of a species’ from clause (d) of the definition of Protected Animal and including the possibility of Ecological Entities to be considered Protected Animals under future Regulations:

‘(d) any animal or relevant ecological entity declared by regulation to be a protected Animal;’

Setting Trafficable Quantity Thresholds

As detailed in Section 1, we support the setting of trafficable quantities as they relate to unauthorised regulated activities involving trade of Protected Animals. However, it is important that the Regulations incorporate scientific evidence when prescribing trafficable quantities and that these quantities are appropriate for each species of Protected Animal. Factors that should be considered include, but are not necessarily limited to:

- Species life history traits (e.g., lifespan, annual fecundity)
- Whether the species is already known to be traded?
- Whether the species is known to be captively bred in trade?
- What is the market value of the species?

Given the need to consider scientific evidence, we recommend that the setting of trafficable quantities should require input from either the Scientific Committee or a relevant advisory group to the Scientific Committee. However, in the absence of reliable evidence, a broader trafficable quantity could be applied by default to taxonomic groups. For example, a blanket trafficable quantity of 10 individuals could be set for reptiles, which could be revised down further on a species-by-species basis. Similar limits could be set for birds (e.g. 5 individuals), invertebrates (e.g. 50 individuals), etc.

Hurdles to Permits for Regulated Activities

Some activities that fall under the ambit of Regulated Activities (e.g., using animal tissue samples for research, importing invertebrates from other states) need to be conducted by the research & NGO sector. While such organisations should still need to abide by permitting requirements, there should be streamlined processes available for these organisations compared with private individuals carrying out Regulated Activities for reasons not relating to public or environmental good.

Conclusion

In summary, we commend the South Australian Government and the Biodiversity Coordination Unit for the proactive development of the new Biodiversity Act. We appreciate the Act's promising features, particularly in broadening taxonomic coverage, integrating First Nations expertise, and strengthening enforcement and penalty provisions. We offer our recommendations in the spirit of collaborative improvement. In doing so, we hope to ensure the legislation will effectively address the full scope of threats to South Australian biodiversity, including habitat clearance, invasive species, and wildlife crime. We thank you for your consideration of our feedback and are prepared to discuss or further clarify any of the points made here as development of the Biodiversity Act continues.

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Contributing Authors

This submission was led by the following contributing authors:



[REDACTED]

Further insights, perspectives and expertise were provided by the following contributing authors:

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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