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Biodiversity Reforms - Have Your Say
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Comment on the NSW Biodiversity Reforms and Draft Biodiversity Legislation

The Royal Zoological Society of New South Wales (RZS NSW) is Australia's oldest and largest zoological society, comprising approximately 1100 members, including professional zoologists and ecologists and members of the broader community passionate about the conservation of Australia's unique animals.

The Society and our members have approached the draft biodiversity conservation legislation backed by a long history of interest in and involvement with the conservation of the fauna of NSW, through research, development of legislation and management plans, and through academic inquiry and dissemination of information. The current RZS NSW Council includes past or serving members on the NSW Scientific Committee as well as practising ecological consultants who are involved in undertaking biodiversity assessments.

In 2004, the Society published the proceedings of a symposium, titled "Threatened species legislation: is it just an act?" (Hutchings *et al.* 2004). Twelve years later, the question in the title is still very relevant. As highlighted in the NSW Government's 2014 Review of Biodiversity Legislation in NSW (Byron *et al.* 2014), and documented in the latest NSW State of the Environment Report (Environment Protection Authority 2015), the current legislation is not succeeding in terms of conserving the biodiversity of NSW. This is seen in the most basic measures of decline in the populations of our native species, leading to an increase in the number of species listed as threatened.

The RZS NSW believes that a change in legislation is an opportunity to take a step forward in biodiversity conservation; one that shouldn't be missed. However, we are strongly of the opinion that the proposed biodiversity conservation bill is a step backwards for conservation and a step forward for those who view nature and its conservation as an impediment to development. We therefore urge that the draft legislation and associated legislative and policy changes be reconsidered and refocussed towards conserving the rapidly dwindling biodiversity of NSW.

Yours sincerely,

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The Royal Zoological Society of New South Wales has the dual objectives of promoting and advancing the science of zoology and protecting, preserving and conserving the indigenous animals of Australia and their associated habitats. To this end we have provided comments on the proposed biodiversity reforms and the draft *Biodiversity Conservation Bill* (the Bill) focussing on the issues that will affect fauna. The main point of each comment is highlighted in bold, references are included within the text and supplementary information is provided in footnotes.

General comments

- The proposed legislation **strikes the wrong balance between biodiversity conservation and infrastructure development**. The main aim of biodiversity conservation legislation should be to conserve biodiversity rather than facilitate development, whereas in its current form, the proposed legislation gives precedence to development. This is reflected in the overall aims of the draft bill (e.g. the interpretation of ecologically sustainable development (ESD) to facilitate development) as well as in the detail. As an aim, ESD is appropriate in legislation related to environmental planning, but not to biodiversity conservation where the aim is to restrain damaging developments, conserve what we have, and restore what has been degraded or diminished.
- The **draft biodiversity conservation bill must have stronger conservation aims**. It should aim primarily to **halt** biodiversity loss. The current aim of the draft bill is to merely slow the rate of biodiversity loss, which suggests that we are willing to accept that we are fighting a losing battle; that the continuing decline and extinction of native species in NSW is not only inevitable but also acceptable. Moreover, loss of habitat is the major cause of loss of biodiversity. The draft bill, if enacted in its current form, would accelerate habitat loss and thus accelerate the loss of biodiversity.
- Much of the **detail of the proposal is being left to codes and regulations that are not available for review**. The detail is important and we are of the strong view that such detail should be available for review at the same time as the draft legislation. Of notable concern to the RZS NSW is the lack of clarity around “Areas of Outstanding Biodiversity Values”, an important mechanism for conserving both threatened and non-threatened wildlife. RZS NSW is able and willing to have input into the development of the codes and regulations, and we would welcome this opportunity.
- The draft legislation is written using terms that in many cases have **vague definitions** (e.g. habitat, stress), **are not defined** (e.g. biodiversity) or that include elements **contradictory to widely-accepted definitions** (e.g. the inclusion of populations in the definition of species). This can only lead to confusion, increases the potential for legal challenge (see for example, Agnew and Agnew 2016) and does not embed the proposed legislation within either a robust scientific framework or current management practice. RZS NSW recommends that definitions listed in the current *Threatened Species Conservation Act 1995* are included in the draft legislation.



- Throughout the bill, and the whole of government approach to biodiversity conservation, there **needs to be monitoring (monitoring, evaluation, reporting)**, the results of which must be publicly available. This should not be limited to monitoring the implementation of the legislation or reviewing how actions have been implemented, but must include monitoring of the species that the legislation aims to protect (that is, *all native species* in NSW) and the factors that are affecting their distribution and abundance. Instead of increasing currently inadequate levels of monitoring, the bill will reduce opportunities for data collection. One aim of the bill is to 'slow the rate of biodiversity loss', yet there is no provision for measuring biodiversity loss to assess the aim's success. Monitoring of species, their populations and factors that affect their status is the only way of measuring this rate of loss, and a key step in halting it.
- The proposed legislation and associated changes fail to engage with climate change and the impacts of changing temperature and rainfall patterns on our environment. All relevant climate data indicate that Australia is being, and will continue to be, affected more than many other regions. That is, climate change, especially drought, is becoming the norm in the southern half of Australia. Anthropogenic climate change is listed as a key threatening process under the current *Threatened Species Conservation Act 1995* (NSW Scientific Committee 2000) and predicted changes are likely to have significant impacts on our native wildlife (Lunney and Hutchings 2012). **The proposed legislation must address the threat of climate change in a meaningful manner.**
- RZS NSW notes that no changes are being made to the *Fisheries Management Act 1994*. We believe that any **substantive and robust changes to biodiversity conservation must address threats that: occur in all environments, not just terrestrial; across all habitats, including urban habitats; and include all native species, not just listed threatened species.**

Native Animals

- The draft *Biodiversity Conservation Bill* is focussed on listed threatened species of vertebrates – this is **not a focus on biodiversity and ignores the other 74% of protected faunal species** that are not currently listed as threatened. By focussing on listed threatened species the proposed legislation will provide insufficient protection for the majority of species and will almost certainly miss the species that are sliding towards threatened status or the 'sleeper threatened species' (see Beeton 2004). The concern is that the non-threatened species are about to be neglected, yet both in number of species, and in number of individuals, the current list of non-threatened species comprise the vast bulk of the faunal biodiversity of NSW. These species need to be a central focus of the legislation.
- **The move from a licensing system to a risk based exemption program for pest native species means that there is limited scope for data collection/monitoring.** In a review of overabundant native vertebrates in NSW, in a book published by RZS NSW in 2007 (Lunney *et al.* 2007), 50 native faunal species (11 mammals and 39 birds) were



recognised as over-abundant. The evidence for this was the issuing of s121 licences (under the current NSW *National Parks and Wildlife Act 1974*) to harm these species. To not record the species being harmed, the locations, or the numbers, is to abandon global-standard wildlife management practices. RZS NSW is of the opinion that it is essential to monitor the harming of native species, and there should be no exemptions from licences that include collection of important data. Such data must be made publicly available.¹

- We are concerned that the process of alignment of the NSW threatened species list with the Commonwealth list (under the *Environment Protection and Biodiversity Conservation Act 1999*) is not clear. RZS NSW wants to **ensure that the process will not result in a reduction of the number of species on the NSW lists or enable any outside influence on the listing process for the State**. The draft *Biodiversity Conservation Bill*, as it stands, seems open to interpretation as to whether a process of alignment with the Commonwealth, and the regular application of IUCN criteria in a review of all threatened species, will result in a major shedding of the current schedules of NSW threatened fauna. This needs to be clarified. If the current schedules are intended to remain largely intact, then the bill needs revision.
- The Save our Species (SoS), and other similar programs, needs to be exposed to independent review and have input outside the NSW Office of Environment and Heritage. SoS is but one way of allocating funds for conservation, but the adequacy of the program and the information it contains has yet to be tested. RZS NSW is concerned that an untested program is being proposed to be embedded in legislation. The SoS program, like most of the draft bill dealing with fauna, is exclusively for listed threatened species, and yet the criteria for listing a species as threatened mean that these species are likely to become extinct in the near future. **Far more effort should be made to prevent additional species becoming threatened.**
- RZS NSW is concerned that **the majority of the fauna, that is, the non-threatened species, has even fewer protection under this proposed legislation than in the current Acts**. For example, by allowing locally abundant species to be killed without a licence, without inspecting the problem and without record, e.g. the purple swamp hen (in the

¹ This is not a protest about killing native fauna, but a concern about no record keeping, and therefore no chance to manage overabundant species. Consider two examples. The first is the management of overabundant kangaroos. This was an issue that the Fauna Protection Panel grappled with in the 1960s, and that experience led to a succession of changes, beginning with numbers of kangaroos shot and tagged, to arrive at a more mature position today. In contrast, flying-foxes were on the schedule of unprotected fauna until 1986, meaning no licences were required to kill them and no records of the numbers killed were maintained. Consequently, the NSW Office of Environment and Heritage now has far less experience in dealing with the issues and the conflicts that relate to flying-foxes, particularly in relation to the threatened species status of the grey-headed flying-fox. Record keeping and monitoring allows for evaluation and reporting, critical elements in the NSW Natural Resources Monitoring, Evaluation and Reporting (MER) Strategy.



guide to exemptions), opens the door to loss, injury and changes in faunal populations without any need for record keeping. The draft Bill also potentially allows insufficient regard for changing conditions and biological/ecological requirements and behavioural responses of affected species. For example, a non-threatened species can be locally abundant when the locality has a temporary concentration of resources that they are dependent on (e.g. food and water) and at other times may be dispersed widely over a broader geographical area. Killing these species without a licence when they are attracted to these concentrated resources has the potential to not only impact on the overall abundance of these species, but also to significantly reduce their range when they disperse to other locations because there are fewer individuals in the populations.

- The NSW Scientific Committee may look at potential species to be listed as threatened, but it is not charged with looking at all the fauna and their status. Since most species do not meet the criteria for listing as threatened, there is no process for monitoring their status. There **needs to be complementary effort to regularly assess the status of all the fauna, not just those listed as threatened species.**

Private land conservation

- **Monitoring of biodiversity is an important part of private land conservation**, not just monitoring of biodiversity credit-generating actions. This key element is missing from the legislation and further evidence of the focus on development rather than conservation-generating actions.
- RZS NSW are extremely concerned that the Minister for the Environment has the ability to override conservation agreements if there is a mining or petroleum licence. **Conservation agreements must be in perpetuity and should not be overturned**, particularly for developments that are major contributing factors to climate change and hence potential biodiversity loss (see Lunney and Hutchings 2012).

Biodiversity offset scheme (including the test of significance of impacts)

- While we recognize that biodiversity offsets are increasingly used as an aid to the conservation of biodiversity, **there is increasing scientific evidence that offsets do not achieve what they set out to do and that they can have perverse conservation outcomes both for biodiversity conservation and the public's perception of conservation action**, e.g. the impacts of development are considered acceptable because we can offset (Devictor 2015; Maron *et al.* 2015; Bull *et al.* 2015; Moreno-Mateos *et al.* 2015; Spash 2015). The draft Bill allows projects to move from “avoid and minimize” to offsets too readily, while in many instances offsets are encouraged from the start. RZS NSW believes offsets are often not the most appropriate means for conserving biodiversity and should be a tool of last choice.



- Allowing development proponents to pay money to the Biodiversity Conservation Trust, and for their offset obligations to be covered at this point, without ensuring the trust can in fact deliver on like-for-like requirements, is a significant problem. **There should be strict requirements for like-for-like and the Trust must demonstrate that the offset requirements can be met before the obligation of the proponent is fulfilled.**
- The **Local Land Services should not have discretion to set a lower offset obligation** if justified by the social and/or economic benefit of clearing. This weakens the bill in terms of biodiversity conservation.
- To say it is acceptable **to offset with another species from the same taxonomic rank shows little or no understanding of the specialised requirements of many threatened animal species.**
- Significant and irreversible impacts are not defined in the legislation, yet these are key to determining how development will impact on threatened species. The **consideration of significant and irreversible impacts should be equal across all developments**, including state significant projects. It is the larger projects, such as state significant projects, that are likely to have the major impacts.
- The new Four-part Test of Significance for assessing potential impacts of development on threatened species or populations has removed irrelevant points or issues that plagued the previous Seven-part and Eight-part Tests. However, there is no reference to “Key Threatening Processes” in the Four-part Test, which are important processes to consider when assessing the potential of developments to impact on the status of a threatened species or population. Yet Key Threatening Processes are listed on p. 177 of the draft Bill. We believe that **an assessment of Key Threatening Processes in relation to proposed developments and activities is a crucial component of the Four-part Test of Significance.**
- RZS NSW encourages the government to **support accreditation schemes for consultants undertaking all ecological assessments**, not just those following the biodiversity assessment method.

Land clearing

- RZS NSW notes that much of the draft Bill’s focus is on remote-sensed maps, vegetation maps, and a native vegetation regulatory map that categorises the clearing history of the landscape for decisions for future land uses. None of these mapping procedures, developed from satellite images or aerial photographs, detect fauna. Thus **the entire proposed fauna protection in NSW is dependent on a method that is not designed to detect fauna, let alone conserve it.** Maps of Plant Community Types (PCT) and vegetation condition, for the most part, cannot lead to accurate predictions of the presence of faunal species, including threatened species, the structure of fauna communities, and the environmental processes that are acting upon them. Therefore,



these regulatory maps are not an adequate surrogate for fauna conservation. Fauna need their own procedures for survey, and decision-making. We consider this to be a yawning gap in the Bill.

- The focus of the native vegetation regulatory map is on woody vegetation – this **ignores species, including threatened species, that are found in other habitat types (e.g. grasslands) or that use paddock trees** (e.g. Law *et al.* 2000). Examples include roosting bats (Fischer *et al.* 2010), brown treecreepers (NSW Department of Environment and Conservation 2001), grey-crowned babbler (Davidson and Robinson 1992), superb parrot (Webster 1988; Manning and Lindenmayer 2009), turquoise parrot (Department of Environment and Conservation 2005) and little lorikeets (NSW Scientific Committee 2009) dispersing through the landscape, and the critically endangered regent honeyeater (Oliver 2000), which feeds on the nectar of food tree species in paddocks.
- **Paddock trees important to wildlife conservation will likely be lost.** Class 2 or class 3 paddock trees cannot be cleared if the clearing of the habitat provided by the paddock trees is listed as a serious and irreversible impact (not yet defined) for a threatened species. But there is no requirement for a landscape assessment of hollow availability or for the role of hollow-bearing trees in the movement of animals through the landscape (e.g. Gibbons and Boak 2002). Paddock trees, which are typically old and contain hollows, may provide the last available hollows in a local landscape, but the current value (and its loss) won't be known.
- The importance of paddock trees as drought food refuges for nectarivorous threatened species may be episodic, but these trees are nevertheless crucial to their long-term survival. Recognition of habitats as drought refuges for fauna, especially threatened species, usually requires an ecologist with specialist expertise. **A landholder involved in the self-assessment of the importance of paddock trees may not be aware of their episodic importance as threatened species habitat, especially if the self-assessment is conducted between peak flowering periods.**
- Tree hollows could be used by a range of cryptic species (such as insectivorous bats) that a landholder may not know are present. Only the extent of native vegetation on a property is assessed, but this could be regrowth with no hollows (no credits are required if there is greater than 70% vegetation cover on a property). **It is essential that the condition of this cover is assessed.** This is especially the case for the presence of hollow-bearing trees (e.g. via remote sensing/Lidar).²

² Not all hollow-bearing trees are the same. Different tree species produce different types of hollows and many species, including threatened species, are selective as to which hollow-bearing tree they select. The retention of hollow-bearing species needs to reflect the ecology of the fauna selecting the hollow-bearing trees by species and location. It also needs to reflect the ecology and growth patterns of the trees. Any suggestion that trees with trunk diameters over 80 cm are the only ones to be considered for protection needs to be removed from the draft bill and associated documents. All trees need to be considered for protection because little bats, birds, arboreal mammals, reptiles and amphibians use little trees.



- Loss of vegetation impacts not only fauna populations and communities associated with trees but also: reduces dead wood as habitat for many animals; changes water retention of soil; results in the loss of invertebrate biodiversity that is not protected under the current or proposed acts; and further results in the loss of ecosystem functioning of soils, such as the breakdown of organic matter and the release of nutrients into the soils. **Loss of soil nutrients would result in a greater need to apply fertilisers to agricultural land, which would increase farmers' costs and be detrimental to the natural environment.**
- It is unclear from the proposal how travelling stock reserves will be managed. These reserves are critically important for biodiversity conservation in agricultural landscapes (Lindenmayer *et al.* 2010). Their loss, along with the further loss of habitat, will likely result in significant collapse of biodiversity in central and western regions of NSW. RZS NSW strongly **recommends that travelling stock reserves are protected specifically under the proposed legislative changes.**

Current RZS NSW Council

This submission has been prepared and approved by the current council of the RZS NSW. Current members of the RZS NSW Council include:

Dr Martin Predavec (President)	Dr Peggy Eby
Dr Pat Hutchings (Senior Vice-president)	Dr Brad Law
Paul Maguire (Junior Vice-president)	Associate Professor Noel Tait
Professor Peter Banks (Honorary Treasurer)	Dr Arthur White
Dr Adele Haythornthwaite (Honorary Secretary)	JC Herremans
Dr Dan Lunney	Hayley Bates
Professor Chris Dickman	Associate Professor Ricky Spencer Professor
Dr Stephen Ambrose	Pauline Ross
	Dr Catherine Herbert

References

Agnew, C. and Agnew, R.C.N. 2016. Protecting badger setts – Where law and science clash. *Environmental Law Review* **18**, 8-24. DOI: 10.1177/1461452915623713

Beeton, R. J. S. 2004. Foreword. In: *Threatened species legislation: is it just an act?* Forum of the Royal Zoological Society of New South Wales. pp. IV–V Royal Zoological Society of New South Wales. [online]. Available from: <http://publications.rzsnsw.org.au/doi/abs/10.7882/FS.2004.051>.

Bull, J. W., Hardy, M. J., Moilanen, A., and Gordon, A. 2015. Categories of flexibility in biodiversity offsetting, and their implications for conservation. *Biological Conservation* **192**, 522–532. DOI: 10.1016/j.biocon.2015.08.003



- Byron, N., Craik, W., Keniry, J., and Possingham, H. 2014.** *A review of biodiversity legislation in NSW*. NSW Office of Environment and Heritage, Sydney, Australia.
- Davidson, I. and Robinson, D. 1992.** *Grey-crowned Babbler Action Statement No 34*. Department of Sustainability and Environment, Victoria.
- Department of Environment and Conservation 2005.** Turquoise Parrot - Profile. [online]. Available from: <http://www.threatenedspecies.environment.nsw.gov.au/tsprofile/profile.aspx?id=10555>.
- Devictor, V. 2015.** When conservation challenges biodiversity offsetting. *Biological Conservation* **192**, 483–484. DOI: 10.1016/j.biocon.2015.09.032
- Environment Protection Authority 2015.** *NSW State of the Environment Report 2015*. Environment Protection Authority, Sydney, Australia.
- Fischer, J., Stott, J., and Law, B. S. 2010.** The disproportionate value of scattered trees. *Biological Conservation* **143**, 1564–1567. DOI: 10.1016/j.biocon.2010.03.030
- Gibbons, P. and Boak, M. 2002.** The value of paddock trees for regional conservation in an agricultural landscape. *Ecological Management & Restoration* **3**, 205–210. DOI: 10.1046/j.1442-8903.2002.00114.x
- Hutchings, P., Lunney, D., and Dickman, C. eds 2004.** *Threatened species legislation: is it just an act?* Royal Zoological Society of New South Wales. [online]. Available from: <http://publications.rzsnsw.org.au/doi/book/10.7882/0958608598>.
- Law, B., Chidel, M., and Turner, G. 2000.** The use by wildlife of paddock trees in farmland. *Pacific Conservation Biology* **6**, 130–143.
- Lindenmayer, D. B., Cunningham, R. B., Crane, M., Montague-Drake, R., and Michael, D. 2010.** The importance of temperate woodland in travelling stock reserves for vertebrate biodiversity conservation. *Ecological Management & Restoration* **11**, 27–30. DOI: 10.1111/j.1442-8903.2010.00509.x
- Lunney, D., Baker, J., Matthews, A., Waples, K., Dickman, C., and Cogger, H. 2007.** Overabundant native vertebrates in New South Wales: characterising populations, gauging perceptions and developing an ethical management framework. In: *Pest or Guest* Forum of the Royal Zoological Society of New South Wales. pp. 158–173 Royal Zoological Society of New South Wales. [online]. Available from: <http://publications.rzsnsw.org.au/doi/abs/10.7882/FS.2007.020>.
- Lunney, D. and Hutchings, P. 2012.** *Wildlife and Climate Change: Towards robust conservation strategies for Australian fauna*. Royal Zoological Society of New South Wales.
- Manning, A. D. and Lindenmayer, D. B. 2009.** Paddock trees, parrots and agricultural production: An urgent need for large-scale, long-term restoration in south-eastern Australia.



Ecological Management and Restoration **10**: 126-35. DOI: 10.1111/j.1442-8903.2009.00473.x.

Maron, M., Bull, J. W., Evans, M. C., and Gordon, A. 2015. Locking in loss: Baselines of decline in Australian biodiversity offset policies. *Biological Conservation* **192**, 504–512. DOI: 10.1016/j.biocon.2015.05.017

Moreno-Mateos, D., Maris, V., Béchet, A., and Curran, M. 2015. The true loss caused by biodiversity offsets. *Biological Conservation* **192**, 552–559. DOI: 10.1016/j.biocon.2015.08.016

NSW Department of Environment and Conservation 2001. *Final determination to list Brown Treecreeper (eastern subspecies) as a vulnerable species.* Department of Environment and Conservation, Hurstville.

NSW Scientific Committee 2000. *Human-caused climate change - key threatening process declaration.* Department of Environment and Conservation, Hurstville.

NSW Scientific Committee 2009. *Little Lorikeet Glossopsitta pusilla - vulnerable species listing NSW Scientific Committee - final determination.* Department of Environment, Climate Change and Water. [online]. Available from: <http://www.environment.nsw.gov.au/determinations/littlelorikeetFD.htm>.

Oliver, D. 2000. Foraging behaviour and resource selection of the Regent Honeyeater *Xanthomyza phrygia* in Northern New South Wales. *EMU* **100**, 12–30.

Spash, C. L. 2015. Bulldozing biodiversity: The economics of offsets and trading-in Nature. *Biological Conservation* **192**, 541–551. DOI: 10.1016/j.biocon.2015.07.037

Webster, R. 1988. *The Superb Parrot. A Survey of the Breeding Distribution and Habitat Requirements.* ANPWS Report Series No. 12, Canberra.