



**Royal Zoological Society
of New South Wales**

**PO Box 20 Mosman NSW 2088
P: 02 9978 4616
W: rzsnsw.org.au
E: office@rzsnsw.org.au
ABN 31 000 007 518**

29th August 2022

Australia's extinction crisis

The Royal Zoological Society of New South Wales (RZS NSW) welcomes the opportunity to make a submission to this inquiry.

The Royal Zoological Society of NSW, established in 1879, is Australia's longest running scientific zoological society, and it includes zoologists and ecologists and members of the general community who are passionate about the conservation of Australia's unique animals and the habitats on which they depend.

The Society made a submission to Australia's Faunal Extinction Crisis in September 2018, and the points we made then are still relevant. We welcome the new Inquiry and appreciate the opportunity it provides to include reflections about both the Samuel Review and the State of the Environment Report 2021. Here, we add a few more comments to expand upon those we have already made.

The State of the Environment Report 2021, like all previous Reports, paints a grim picture of a deteriorating environment and the degrading or destroying of the habitats of native species and ecological communities. Perhaps unlike previous Reports, the 2021 Report also makes it clear that compliance with existing legal and regulatory frameworks is weak or non-existent, thus allowing the many causes of species extinction to continue to escalate unchallenged. Several of our members of the RZS NSW contributed to the 2021 Report and are aware of the extent of the challenges ahead. We urge that the findings and recommendations made in that report be taken on board. One of the many findings of the 2021 Report was that it was difficult to evaluate ecological and environmental changes in many regions of Australia due to a lack of monitoring, so confidence in assessments of the state of the environment was low, especially in the coastal and estuarine environments. The lack of regular monitoring was hampered further by taxonomic impediments. We strongly encourage the need for more funding for taxonomic research as highlighted in the Australian Academy of Science 2021, report by Deloitte Access economics (2021), which provides a Cost Benefit analysis of a mission to discover and document Australia's species, following on from the Decadal plan for taxonomy (2018). These reports highlight the poor state of biodiversity knowledge in Australia, which really limits our ability to conserve and manage our biodiversity in the face of threats, such as habitat loss, climate change and invasive species.

We also urge that the findings of the Samuel Review of the Environment Protection and Biodiversity Conservation Act (EPBC) 1999, handed to the previous government in October 2021, leads to change. A key recommendation is that an independent body be set up to oversee any future developments and to ensure that they adhere to the provisions of the EPBC Act, as well as Acts at state or territory level.

The Royal Zoological Society of New South Wales held a forum in 2021 on bushfires, entitled, "Out of the ashes: Lessons learned from bushfires and how we can better manage our fauna". It is now published (*Australian Zoologist* 42(2)). A summary paper by Dickman et al. summarises the findings of the 21 papers in the publication on the effects of fire on the fauna following the 2019-2020 fires in eastern Australia. The findings relevant to this Inquiry are:

1. Long-term monitoring of fauna and habitat must be initiated and then maintained consistently and systematically across the forest estate.
2. The devastating fires occurred not only in forests but in rainforests that previously were rarely if ever impacted by fires, so the fauna occurring in these habitats were also impacted.
3. Such monitoring and assessments of impact and recovery will depend on research to better understand the basic biology and resource requirements of forest fauna, particularly the invertebrates at the bottom of the food chain. Much of this fauna is still undescribed.
4. There is an urgent need to consider the interactive effects of fire with other disturbance factors including invasive species, habitat fragmentation and other anthropogenic disturbances such as mining, logging, droughts, floods and climate change.
5. Refuges at landscape and smaller scales are critically important for the long term persistence of many species, and these need to be identified and protected as a priority.

When one looks at these conclusions in a wider context, it becomes apparent that the 2019-2020 fires were a shock to the Commonwealth government, and while the response in terms of short-term study support was welcome, the cause of the shock was not well appreciated. The cause is the lack of preparedness, especially of long-term research that is essential to enable assessments of the impact of the fires, the losses, the rate of recovery and what can be done in future. The expert elicitation study by Legge et al. (2022) goes some of the distance to grasping these issues, but that paper made clear that we, as a nation, lack the long-term studies that are needed to understand our fauna and how best to conserve it. The Commonwealth has a vital role here, it needs to fund long-term studies across the nation, and spread the funds to a wide range of researchers, not just a few research centres. The Commonwealth could breathe life back into the now-disbanded CSIRO Division of Wildlife Research, invest more in its own departments and their expert staff, and create an additional chief scientist position dealing with biodiversity issues.

One of the distressing features of the Commonwealth's position on biodiversity is the extreme concentration on threatened species. Of course, they are important, but when one looks at the list of native species, and compares it to the list of threatened species, there is an enormous gap. The species that are not listed as threatened are automatically 'non-threatened'. This is a farcical statement of the status of our fauna and flora. So many species that are not on the lists are in fact locally threatened or sliding towards extinction, albeit more slowly than the species that are listed, but nonetheless, are fading from view. All our fauna and flora species need to be studied, valued and managed. One of the advantages of doing so is that good population numbers of a great many species allow statistically robust interpretations to be made of population responses to drought, fire, climate change more broadly, and to interpret that the effectiveness of different legislative initiatives and restoration efforts.

We finish by commending the Commonwealth government for supporting the commercial use of selected wildlife, especially the large kangaroos, in the face of some high-profile opposition. The Society recognises the intensity of the public debate on this matter, but we point out that there are many ecological advantages of utilising native fauna rather than introduced stock.

Yours sincerely,



Dr Pat Hutchings, President of RZS NSW

References

Decadal Plan Working Group, 2018. A Decadal plan for taxonomy and biosystematics in Australia and New Zealand 2018-2027. Australian Academy of Science and Royal Society Te Apârangi, Canberra and Wellington, 63 pp. Available from: <https://www.science.org.au/files/userfiles/support/reportsand-plans/2018/taxonomy-decadal-plan-hi-res-v200618.pdf> (Accessed 24 Dec. 2019)

Deloitte Access Economics 2021. Cost benefit analysis of the Taxonomy Australia mission, prepared for the Australian Academy of Sciences

<https://www.science.org.au/files/userfiles/support/reports-and-plans/2021/cost-benefit-analysis-of-taxonomy-australias-mission-deloitte-2021.pdf>

Dickman, C.R., Hutchings, P., Law, B. & Lunney, D. 2022. Raking over the ashes the impact of fire on native fauna in the aftermath of Australia's 2019-2020 fires. *Australian Zoologist* 42(2): 642-653
DOI: <https://doi.org/10.7882/AZ.2022.037>

Legge, S., Rumpff, L., Woinarski, J. C. Z., Whiterod, N. S., Ward, M., Southwell, D. G., Scheele, B. C., Nimmo, D. G., Lintermans, M., Geyle, H., Garnett, S. T., Hayward-Brown, B., Ensbey, M., Ehmke, G., Ahyong, S. T., Blackmore, C. J., Bower, D. S., Brizuela-Torres, D., Burbidge, A. H., Burns, P. A., Butler, G., Catullo, R., Chapple, D. G., Dickman, C. R., Doyle, K., Ferris, J., Fisher, D., Gallagher, R., Gillespie, G. R., Greenlees, M. J., Hohnen, R., Hoskin, C. J., Hunter, D., Jolly, C., Kennard, M., King, A., Kuchinke, D., Law, B., Lawler, I., Lawler, S., Loyn, R., Lunney, D., Lyon, J., MacHunter, J., Mahony, M., Mahony, S., McCormack, R. B., Melville, J., Menkhorst, P., Michael, D., Mitchell, N., Mulder, E., Newell, D., Pearce, L., Raadik, T. A., Rowley, J., Sitters, H., Spencer, R., Valavi, R., West, M., Wilkinson, D. P., and Zukowski, S. 2022. Assessing the conservation impacts of ecological disturbance: time-bound estimates of population loss and recovery for fauna affected by the 2019-20 Australian megafires. *Global Ecology and Biogeography*, online DOI: 10.1111/geb.1347