INQUIRY INTO WATER NSW AMENDMENT (WARRAGAMBA DAM) BILL 2018

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Submission to the New South Wales Legislative Council's inquiry into the Water NSW Amendment (Warragamba) Bill 2018

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Contact:

We are ecologists and conservation biologists working on highly threatened bird species in Australia. Our aim is to obtain robust scientific data to provide evidence to inform actions to conserve Australia's biodiversity. We have a global reputation for publishing high quality research on some of the most challenging species to study. Our peer-reviewed research relevant to Regent Honeyeater conservation is listed below^{1,2,3,4,5} and we are the eminent experts on contemporary factors affecting the species' ecology.

We commenced research on the Regent Honeyeater in 2015. We developed and implement a range-wide monitoring program for the Regent Honeyeater and update critical demographic parameters with contemporary information about the species. Increasing the quantity and quality of ecological data through better monitoring enhances capacity to identify threats facing the species and to implement appropriate conservation actions to prevent its extinction.

Summary of key issues:

- The Regent Honeyeater is listed as Critically Endangered under the Commonwealth Environmental Protection and Biodiversity Conservation (EPBC) Act 1999⁶.
- The Burragorang Valley is a key breeding site for the Regent Honeyeater^{3,7}. At least 21 adult birds, 7 nests and 2 juveniles were located there in 2017³. This represents 5-10% of the estimated Global population⁸, 15% of all adult birds and 1 of only 4 breeding aggregations located throughout the species' range in 2017⁷.
- Temporary inundation of the Word Heritage Area as proposed under the Water NSW amendment (Warragamba) Bill 2018 (hereafter 'The Bill') will destroy the majority of known Regent Honeyeater breeding habitat within the Burragorang Valley.
- Although Regent Honeyeaters are sighted frequently in the Burragorang valley¹⁰, targeted and standardized Regent Honeyeater survey effort in this area has historically been low due to inaccessibility. Much of the proposed inundation area remains un-surveyed, which limits current capacity to quantify the magnitude of the impact of inundation on the Regent Honeyeater population outside of those areas already surveyed.
- Nevertheless, data already obtained indicates The Bill will have a significant impact upon the survival of the Regent Honeyeater population as defined under the Commonwealth Environmental Protection and Biodiversity Conservation Act 1999 through loss of known breeding and foraging habitat.
- Regent Honeyeaters are very restricted in their breeding locations due to their specialised habitat requirements and tendency to be displaced by larger bird species^{2,7,11}. This means they are unable to simply 'breed somewhere else' when known breeding habitat is destroyed¹².
- The Bill would undermine millions of dollars of conservation investment to develop a Regent Honeyeater captive breeding program and decades of investment in habitat restoration and conservation action elsewhere⁷.
- Loss of known breeding habitat is very unlikely to be offset by protecting alternative habitat elsewhere because Regent Honeyeater breeding habitat does not exist at a comparable scale in other areas^{7,13,14}.
- The Bill would set a dangerous precedent for future biodiversity conservation issues arising as a result of state-significant infrastructure proposals.

Conflict of interest declaration:

Ross Crates was contracted by Snowy Mountains Engineering Coroporation Ltd. (SMEC) to undertake Regent Honeyeater surveys in November 2017 as part of a biodiversity assessment commissioned by Water NSW. Water NSW gave written permission for the monitoring data to be incorporated into the Regent Honeyeater national monitoring program, as presented in recent published research³.

Literature cited:

- 1. Crates, R.A., Terauds, A., Rayner, L., Stojanovic, D., Heinsohn, R., and Webb, M. H. (2017). An occupancy approach to monitoring regent honeyeaters. The Journal of Wildlife Management 81: 669-677.
- 2. Crates, R. A., Rayner, L., Stojanovic, D., Webb, M., and Heinsohn, R. (2017). Undetected Allee effects in Australia's threatened birds: implications for conservation. EMU 117: 207-221.
- 3. Crates, R.A., Rayner, L., Stojanovic, D., Webb, M.H, Terauds, A., and Heinsohn, R. (In Press). Contemporary breeding biology of critically endangered regent honeyeaters: implications for conservation. IBIS doi: 10.1111/ibi.12659.
- 4. Crates, R.A, Terauds, A., Rayner, L., Stojanovic, D., Heinsohn, R., Wilkie, C., and Webb, M.H. (In Press). Spatially and temporally targeted suppression of despotic noisy miners has conservation benefits for highly mobile and threatened woodland birds. Biological Conservation. doi:10.1016/j.biocon.2018.10.006.
- 5. Crates, R.A., Olah, G., et al. (Submitted). Genomic impact of severe population decline in a nomadic woodland bird.
- 6. Department of the Environment (2015). Conservation Advice *Anthochaera phrygia* regent honeyeater. Canberra: Department of the Environment. Available from: http://www.environment.gov.au/biodiversity/threatened/species/pubs/82338-conservation-advice.pdf. In effect under the EPBC Act from 08-Jul-2015.
- 7. Commonwealth of Australia (2016). National recovery plan for the Regent Honeyeater (*Antohchaera phrygia*). https://www.environment.gov.au/system/files/resources/286c0b52-815e-4a6c-9d55-8498c174a057/files/national-recovery-plan-regent-honeyeater.pdf.
- 8. Kvistad, L., Ingwersen, D., Pavlova, A., Bull, J.K. and Sunnucks, P. (2015). Very low population structure in a highly mobile and wide-ranging endangered bird species. PloS one, 10: p.e0143746.
- 9. Commonwealth of Australia (2013). Matters of National Environmental Significance. Significant impact guidelines 1.1. http://www.environment.gov.au/system/files/resources/42f84df4-720b-4dcf-b262-48679a3aba58/files/nes-guidelines 1.pdf.
- 10. Regent Honeyeater National Sightings Database. BirdLife Australia, Melbourne, Vic.
- 11. Ford, H.A., Davis, W.E., Debus, S., Ley, A., Recher, H., and Williams, B. (1993). Foraging and aggressive behaviour of the Regent Honeyeater Xanthomyza phrygia in northern New South Wales. EMU 93: 277-281.
- 12. Runge, C.A., Martin, T.G., Possingham, H.P., Willis, S.G., and Fuller, R.A. (2014). Conserving mobile species. Frontiers in Ecology and the Environment 12: 395-402.
- 13. Bradshaw, C.J.A. (2012). Little left to lose: deforestation and forest degradation in Australia since European colonization. Journal of Plant Ecology 5: 109-120.
- 14. Maron, M., Hobbs, R.J., Moilanen, A., Matthews, J.W., Christie, K., Gardner, T.A., Keith, D.A, Lindenmayer, D.B., and McAlpine, C.A. (2012). Faustian bargains? Restoration realities in the context of biodiversity offset policies. Biological Conservation 155: 141-148.