Submission No 368

INQUIRY INTO PROPOSAL TO RAISE THE WARRAGAMBA DAM WALL

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To the Director of the Select Committee on the Proposal to Raise the Warragamba Dam Wall,

We the undersigned wish to contribute our expert advice regarding the impact of the proposal to raise the Warragamba Dam wall by 14 – 17 metres (hereafter 'the proposal') on the population status of the Regent Honeyeater. The Regent Honeyeater is a critically endangered songbird, with only 250-500 individuals estimated to remain in the wild[1,2]. In summary, raising the Warragamba Dam wall will:

- Result in the loss of hundreds of hectares of known Regent Honeyeater breeding habitat.
- Have a significant impact upon the Regent Honeyeater population as defined under the federal Environmental Protection and Biodiversity Conservation Act 1999.
- Contribute to the extinction of the Regent Honeyeater.
- Conflict with decades of conservation effort and undermine tens of millions of dollars of conservation investment.

We represent non-governmental organisations, universities and local communities with expertise in conservation of the Regent Honeyeater. Our role is to help oversee actions detailed within the Regent Honeyeater national recovery plan[2] as required under the Federal Environmental Protection and Biodiversity Conservation (EPBC) Act 1999[3]. The aim of the national Regent Honeyeater recovery plan is to provide a framework to arrest the species' severe population decline and prevent its extinction in the wild.

The Regent Honeyeater is a nomadic songbird endemic to south-eastern Australia. Regent Honeyeaters were historically abundant, but due to major habitat loss the species has suffered a severe population decline that became apparent by the 1960s. The Regent Honeyeater was listed as 'endangered' under the EPBC act in 1999[4]. Due to an ongoing decline, the population status of the Regent Honeyeater was elevated to 'critically endangered' under federal legislation in 2015[5]. It is predicted that, without major conservation initiatives, there is a greater than 50% probability that the Regent Honeyeater will be extinct within two decades[6].

Regent Honeyeaters are a woodland specialist, occupying high quality woodland habitats and nesting in association with flowering events in a select number of *Eucalyptus* tree species. Preferred tree species typically grow at low elevation on fertile soils and often along alluvial river flats[1]. To exploit flowering events, Regent Honeyeaters are highly mobile and can travel

hundreds of kilometres within and between seasons. Regent honeyeaters are amongst the smallest of the bird species that specialise on rich nectar sources, and are therefore susceptible to displacement from their favoured habitat through competition with larger species[2].

Current conservation actions to conserve the Regent Honeyeater include a captive breeding for release programme coordinated by Taronga Zoo[2], habitat protection and restoration through land covenants and tree planting, and the implementation of active measures to boost reproductive success through protection of nests from predators. An intensive research programme that commenced in 2015 aims to gain a better understanding of the distribution of the remaining wild population and to help inform where these conservation actions should be targeted[7].

Results of the monitoring programme in combination with public sightings indicate that the majority (around 80%) of the remaining wild Regent Honeyeater population occur and breed within the greater Blue Mountains[8]. Known contemporary breeding activity within the greater Blue Mountains occurs within the Capertee and Wolgan Valleys, the Mudgee-Wollar district, the lower Hunter Valley and the Burragorang Valley[1, 8].

Colour marking and resighting of individuals demonstrates that birds frequently move between these key areas and breed in different locations in different seasons[9]. In any given year, flowering conditions may mean that only one of these locations is suitable for breeding[10]. The Regent Honeyeater population is therefore dependent upon this small network of key nesting sites to persist. **Crucially, the specific habitat requirements of the Regent Honeyeater mean that birds cannot simply 'nest elsewhere' if key breeding habitat is lost.**

Due to access restrictions, historical knowledge of the importance of the Burragorang Valley as a Regent Honeyeater breeding area is limited, relative to other areas such as the Capertee and lower Hunter Valleys[1]. Nonetheless, public sightings and previous surveys confirm that the Burragorang Valley has traditionally been a key area for the Regent Honeyeater[1, 11]. The Burragorang Valley comprises thousands of hectares of vegetation communities that are known Regent Honeyeater breeding habitats. Because the Burragorang Valley lies within the Blue Mountains World Heritage Area[12], the woodlands there are free from agricultural pressures such as grazing and chemical runoff that can impact the quality of breeding habitats in other areas.

Large-scale targeted Regent Honeyeater surveys commenced in the Burragorang Valley in November 2017. These surveys detected a minimum of 21 adult birds and 7 nesting attempts[8]. These numbers represent 5 to 10 % of the estimated global population detected within 1 week of surveys. In 2018, a male bird was detected along the Wollondilly River that would be inundated under the proposal[13]. On a catchment scale, only a small proportion of the area that would be inundated under the proposal has been surveyed for Regent Honeyeater presence or breeding activity. The available survey data therefore represents a 'best case scenario', meaning the true impact of the proposal on the Regent Honeyeater population could be substantially greater.

Despite limited spatial survey coverage, results of recent targeted surveys clearly demonstrate that the Burragorang Valley is a crucial breeding site for the remaining Regent Honeyeater

population[8]. Inundation of the riparian woodland habitats as would occur under the proposal will lead to the loss of hundreds of hectares of known breeding habitat. Because the Regent Honeyeater population requires a network of breeding sites[1, 10], loss of breeding habitat in the Burragorang Valley will impact the entire population. It is clear from available evidence that inundation of woodland habitats within the Burragorang Valley due to the raising of the Warragamba Dam wall would have a significant impact on the global Regent Honeyeater population and significantly increase the species' extinction risk.

The Regent Honeyeater is a flagship species for conservation in Australia. The current plight of the species has a very high public profile. Over recent decades, Regent Honeyeater conservation has received tens of millions dollars of investment from biodiversity offsets, state and federal government grants and public donations. Raising the Warragamba Dam wall will therefore undermine decades of conservation effort and will eliminate conservation returns on these significant financial investments.

Yours sincerely,

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Mr Allan Benson. NSW Central Coast Representative, National Regent Honeyeater Recovery Team.

Dr Stephen Debus. Honorary Research Associate, Department of Zoology, University of New England and member of the National Regent Honeyeater Recovery Team.

Professor Robert Heinsohn. Professor of conservation biology, Fenner School of Environment and Society, Australian National University. Member of the National Regent Honeyeater Recovery Team.

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Mr Mick Roderick. BirdLife Australia. Member of the National Regent Honeyeater Recovery Team.

Dr. Jim Shields, Australian Ecosystems Foundation Inc., President, Board of Directors. Member of the National Regent Honeyeater Recovery Team.

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Literature cited:

1) Kvistad, L. et al. (2015). Very low population structure in a highly mobile and wide-ranging endangered bird species. *PloS one*, *10*(12), p.e0143746.

2) Commonwealth of Australia (2016). National Recovery Plan for the Regent Honeyeater. Available at: https://www.environment.gov.au/system/files/resources/286c0b52-815e-4a6c-9d55-8498c174a057/files/national-recovery-plan-regent-honeyeater.pdf.

3) Environmental Protection and Biodiversity Conservation Act. Available at: https://www.environment.gov.au/epbc/about.

4) Department of Environment (2019). *Anthochaera phrygia* in Species Profile and Threats Database. Available at: http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=82338.

5) Threatened Species Scientific Committee. (2015). Regent Honeyeater conservation advice: Available at: http://www.environment.gov.au/biodiversity/threatened/species/pubs/82338-conservation-advice.pdf.

6) Geyle, H. et al. (2018). Quantifying extinction risk and forecasting the number of impending Australian bird and mammal extinctions. *Pacific Conservation Biology*, *24*: 157-167.

7) Rayner, L. (2016). National Regent Honeyeater Monitoring Program summary document. See document accompanying this submission.

8) Crates, R. et al. (2019). Contemporary breeding biology of critically endangered regent honeyeaters: implications for conservation. *Ibis* 161: 521-532.

9) Ingwersen, D. (unpublished data). Regent Honeyeater colour mark and resighting database. Managed by BirdLife Australia.

10) Runge, C. et al. (2017). Solving problems of conservation inadequacy for nomadic birds. Australian Zoologist 39: 280-295.

11) Atlas of Living Australia (2019). Regent Honeyeater records. Available at: https://bie.ala.org.au/species/urn:lsid:biodiversity.org.au:afd.taxon:af9380ee-2f65-4213-bb6f-ea6baf92ad3e#tab_recordsView. Accessed 18/8/19.

12) UNESCO (2019). Greater Blue Mountains World Heritage listing. Available at: https://whc.unesco.org/en/list/917/. Accessed 18/8/19.

13) Breckenridge, M. and Crates, R. (2018). eBird Checklist Joorilands, Wollondilly River. Available at: https://ebird.org/view/checklist/S48431908.