



**Biodiversity
Council**

Submission to the Hunter Transmission Project

23 September 2025

About The Biodiversity Council

The Biodiversity Council brings together leading experts including Indigenous knowledge holders to promote evidence-based solutions to Australia's biodiversity crisis. The Council was founded by 11 universities with the support of Australian philanthropists.



Introduction

The Biodiversity Council welcomes the opportunity to provide feedback on the [Hunter Transmission Project](#). The New South Wales government considers the project to be one of the State's most critical energy projects as it will supply clean energy to the Hunter, Sydney and Illawarra where 80% of NSW's electricity is consumed.

Our understanding

The project involves the construction of a 110 km transmission line and towers to connect the existing transmission line at Bayswater to the existing transmission line in the Olney State Forest near Eraring in the Hunter region of New South Wales (NSW). In addition the new transmission line and towers, two new switching stations will be constructed and existing infrastructure will be upgraded. The construction easement will be approximately 140m wide and the operational easement 70m wide.

There are three types of disturbance associated with the project:

Disturbance area	Treatment	Area (ha)
A	All vegetation would be removed to ground level and would be subject to ongoing maintenance.	1,949 ha
B	Partial clearing would be undertaken. Vegetation with mature growth heights <2m will be retained	367 ha
HZ	Removal of hazard trees (trees ≥ 20 m with the potential to fall on the transmission line, towers or other infrastructure).	<2 ha.

The continued rollout of renewable energy projects is the only viable solution available to cut climate-harming carbon emissions from electricity production in the rapid time frames required. However, it must be done in a manner that avoids impacts on biodiversity.

The Biodiversity is concerned that this project undervalued biodiversity and did not undertake sufficient avoidance. Additionally, the impact on Littlejohn's Tree Frog is significant and specific actions must be taken to avoid and minimise these impacts. We expand on these points below.

Key concerns

1. Biodiversity values are not sufficiently avoided in choice of route corridor

The proposed route significantly impacts biodiversity, affecting [66 threatened species and seven threatened ecological communities](#). [This assessment report](#) notes that there will be

Significant and Irreversible Impacts to 8 plant species, 6 animal species, and two ecological communities. The choice of the route corridor is very poor from a biodiversity perspective. Biodiversity values appear to have been given less weight relative to other social and economic values when choosing the route corridor; the proposal fails the “avoid where possible” principle.

We note that high biodiversity values are not a ‘priority to avoid’. In the [Environmental Impact Statement \(EIS\) ‘key considerations graded by significance’](#), the only environmental values that are ‘priority to avoid’ are World heritage properties, Ramsar wetlands, Areas subject to conservation agreements and Declared wilderness areas. Nationally-listed threatened species and communities, national parks and reserves, and significant aboriginal sites are all Tier 2 ‘avoid where possible’ (see Table 1, below).

Table 1: Key considerations graded by significance from the EIS (NB: value categories determined by Biodiversity Council).

Tier	Environmental values	Aboriginal cultural heritage	Other values or constraints
1 - priority to avoid	- World heritage properties - Ramsar wetlands - Areas subject to conservation agreements - Declared wilderness areas	<i>n/a</i>	- National and Commonwealth heritage places - Town centres and settlements - Schools, hospitals and churches - Aerodromes and their surrounding area - Large waterbodies - Active mining voids - Mine subsidence zones - Operational Defence land
2 - avoid where possible	- EPBC-listed threatened species and communities - NSW-listed threatened species and communities - National parks and nature reserves	- Land subject to Native Title determination with ‘exclusive use’ - Land where Native Title has not been extinguished - Significant Aboriginal sites	- State heritage listed items and properties - Critical industry clusters - Biophysical strategic agricultural land (BSAL), notably land used for viticultural or equine purposes

3 - impacts to be minimised	● EPBC-listed threatened species and communities ‘already impacted or cleared’ ● NSW-listed threatened species and communities ‘already impacted or cleared’ ● National parks and nature reserves ‘already impacted or cleared’ ● Key fish habitat ● Koala habitat ● Local environmental plan sensitive mapped land (e.g. scenic protection, habitat corridors or biodiversity)	● Aboriginal sites directly impacted	● Non-State listed heritage sites directly impacted ● Biophysical strategic land already impacted ● Intensive cropping land already impacted ● Critical industries land already impacted ● Town centres or settlements ● Flood prone land ● Steep slopes ● Certain soils ● Bushfire prone land ● Mining lease areas ● Residential land (one km buffer) ● Commonwealth owned land ● High usage Defence areas ● Proposed mines ● Renewables projects ● Major developments
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We understand that [three broad transmission corridors were considered for the project](#). We note that limiting the number of landowners impacted and reducing visual impact was a significant consideration. For instance, the Northern strategic corridor avoided all Tier 1 constraints and limited Tier 2 constraints, but was not supported because “this option passes a greater number of visual receivers than other options considered, especially residential areas between Glendon Brook and Brunkerville. This option is not able to use mining, public or Crown owned land to the same extent as the other options.”

The Southern strategic corridor was chosen because there would be “fewer impacts to people as South A crosses less private land and is situated further away from residential dwellings and suburbs within valley landforms. Greater capacity for colocation with existing transmission lines and the utilisation of large amounts of public land and potentially available mining land. Lesser impacts to viticulture industry cluster. No disturbance within National parks.” This is despite the fact that this route includes 37.5 km of native vegetation in Pokolbin State Forest, Corrabare North Flora Reserve, Corrabare State Forest, Watagan State Forest, Olney State Forest and Jilliby State Conservation Area. However, this is considered an advantage because of “reducing visual impacts”.

It is clear that the biodiversity impacts were given considerably less weight than other considerations in determining the preferred corridor. Avoiding impacts on biodiversity was

not even a standalone strategic objective, but incorporated into a generic principle *‘Minimise significant land use conflicts and impacts on people and environment’*.

There is inconsistency between the EIS ‘key considerations graded by significance’ that informed the choice of transmission corridor and the Biodiversity Assessment Technical Report (‘Assessment Report’), that assessed impacts from the chosen route within the Southern strategic corridor. [In the Assessment report](#), nationally-listed threatened species are no longer ‘areas to be avoided’ but downgraded to ‘minimise impact’ (see Table 2, below).

Table 1: Measures to void and minimise from the Biodiversity Assessment Technical Report

Tier	Constraint	Category in EIS	Change from EIS
1 - Areas to avoid	World heritage properties	Tier 1 - priority to avoid	
	Ramsar wetlands	Tier 1 - priority to avoid	
	National parks	Tier 2 - avoid where possible	Upgraded
	Ecological conservation areas (flora reserves, state conservation areas, biobanks, wilderness protection areas)	Tier 2 - avoid where possible (except biobank sites which were Tier 1)	Upgraded
2 - Areas to be avoided if reasonable, or minimise impact	EPBC-listed communities	Tier 2 - avoid where possible (except if already impacted or cleared’ which were Tier 3)	
	NSW-listed and communities that are serious and irreversible impact entities (SAII)	Tier 2 - avoid where possible (except if already impacted or cleared’ which were Tier 3)	
	Other important wetlands protected by international agreements	n/a	

3 - Areas to minimise impact	EPBC-listed threatened species	Tier 2 - avoid where possible (except if already impacted or cleared' which were Tier 3)	Downgraded
	NSW-listed threatened species	Tier 2 - avoid where possible (except if already impacted or cleared' which were Tier 3)	Downgraded
	NSW-listed and communities that are not SAI	Tier 2 - avoid where possible (except if already impacted or cleared' which were Tier 3)	Downgraded
	Large intact woodland remnants	n/a	
	Key fish habitat	Tier 3 - impacts to be minimised	
	Groundwater dependent ecosystems	n/a	

Minimising impact is not appropriate for nationally-listed threatened species, all attempts to avoid should be taken.

Recommendation 1: *The Biodiversity Council recommends that there should be a multi-criteria decision analysis that quantifies the different social, economic and environmental values affected by each of the route options. This would make the pros and cons of each option transparent.*

2. Impact on Littlejohn's Tree Frog

Littlejohn's Tree Frog (*Litoria littlejohni*) is a forest-dependent species that is listed as Endangered under the *Environment Protection and Biodiversity Conservation Act 1999* and the *NSW Biodiversity Conservation Act 2016*.

Littlejohn's tree frogs are known from only three regions: the Woronora Plateau, the Blue Mountains, and the Watagans Mountains. It has a very low effective population sizes ranging

from just 18 to 181 breeding individuals across a few isolated populations.¹ These small, fragmented populations suffer from reduced genetic diversity and high inbreeding rates.² A reduction in suitable breeding habitats puts the species at risk of disappearing from one of its three remaining strongholds.

The Hunter REZ Transmission Project threatens the Watagans Mountains' (Watagans) population.

Until recently, experts considered the Watagans' population to be a single metapopulation across two pond clusters. However, genetic analysis revealed limited dispersal between them, indicating they are becoming isolated with reduced genetic diversity.³ To reconnect these sub-populations and enhance genetic exchange, a collaboration between University of Newcastle, NSW Forestry Corporation, and NSW National Parks and Wildlife Service constructed over 40 ponds. Early signs of success include breeding in nearly half of the new ponds, including genetic evidence of sub-population mixing.⁴

In the Watagans Mountains, despite the presence of extensive intact forest, the species is restricted to a narrow band approximately 5 km across. The Project has proposed to construct transmission towers alongside the original population and the newly created ponds; sites the Olney State Forest Switching Station directly over the southern end of the population; and cuts through habitat at the northern end of the population. There are known, occupied ponds within tens of metres of the proposed 60 m-wide corridor and the Olney Switching Station would sit atop several key breeding sites that have been monitored for over 20 years. These actions will destroy critical breeding sites and significantly impact the entire population.

The species has limited capacity to move across the landscape, especially along dry or unforested areas. The [conservation advice for the species](#) notes that it is adversely affected by disturbance and loss of habitat and has never been recorded from areas of cleared native forest.

The [biodiversity development assessment report](#) concludes that the project is likely to result in a significant residual impact on the species as the loss of 63.53 ha of habitat will reduce the available resources of the species and potentially lead to a long-term decrease in the size of the local population and reduce the area of occupancy for the species. This is likely an understatement of impact. Even if some ponds remain intact, the degradation of surrounding terrestrial habitat will reduce connectivity and survival.⁵

¹ Stock, S. E., Klop-Toker, K., Wallace, S., Kelly, O., Callen, A., Seeto, R., ... & Mahony, M. J. (2023). Uncovering inbreeding, small populations, and strong genetic isolation in an Australian threatened frog, *Litoria littlejohni*. *Conservation Genetics*, **24**(5): 575-588.

² Ibid.

³ Nolan, N. (2024). Post fire conservation action for the Littlejohn's tree frog (*Litoria littlejohni*). PhD Thesis, University of Newcastle, Australia

⁴ University of Newcastle, unpublished data.

⁵ Stock et al. 2022.

These impacts will not be solved by offsets or translocation. The species' absence from other parts of the Watagans Mountains suggests this location has unique ecological features that cannot be replicated elsewhere, making relocation unviable. Experts advise that relocated or translocated animals do not always behave the same way as resident animals, potentially causing additional indirect impacts to already vulnerable populations.⁶

The EIS notes that there are seven alternative locations for the Olney Switching Station.

Recommendation 2: *The Biodiversity Council recommends that an alternative site is used for the Olney Switching Station that does not impact on Littlejohn's Tree Frog.*

Recommendation 3: *The Biodiversity Council recommends there is complete avoidance of all known Littlejohn's tree frog habitat with a 2 km buffer zone (breeding and terrestrial - determined through existing records and further expert elicitation).*

⁶ Gould, J., Callen, A., Knibb, G., Schmahl, K., Donnelly, R., Davies, B., & McHenry, C. (2023). Moved frogs don't settle: Evaluating the impact of translocation on the movement behaviour of a threatened frog. *Journal for Nature Conservation*, **76**: 126512