

Submission for the Hunter Transmission Project – SSI-70610456

Please accept this submission regarding the EIS for the Hunter Transmission Project from the Centre for Conservation Science at the University of Newcastle. We have serious concerns about the proposed creation of the transmission line and placement of the Olney State Forest Switching Station due to the significant impact they will have on the Watagans population of endangered Littlejohn's tree frog. Although we support the transition to renewables, we request that an alternative location be used for the switching station, and that further consideration be given to underground construction options.

We raise two main issues in this submission: 1) Failure of the EIS to adequately assess impacts of the proposal on the endangered Littlejohn's frog, and 2) The prioritisation to reduce visual impact over threatened species impacts. We discuss both these points below.

1. Failure of the EIS to adequately assess impacts of the proposal on the endangered Littlejohn's frog.

Over the past eight years, the University of Newcastle's (UoN) Centre for Conservation Science has studied Littlejohn's tree frog (*Litoria littlejohni*) and found it to be at high risk of extinction (Endangered on the IUCN Red List, Commonwealth EPBC Act, and the NSW BC Act). This is due to declines driven by amphibian fungal disease and low effective population sizes ranging from just 18 to 181 breeding individuals across a few isolated populations (Stock et al. 2022). These small, fragmented populations suffer from reduced genetic diversity and high inbreeding rates, which likely impact fitness (Stock et al. 2022). In response, we've implemented conservation actions including captive breeding, genetic rescue, and habitat creation — but continued efforts are essential to secure the species in the wild.

Littlejohn's tree frogs are known from only three regions: the Woronora Plateau, the Blue Mountains, and the Watagans Mountains. In the Watagans, despite the presence of extensive intact forest, the species is restricted to a narrow ~5 km range — which falls within the planned transmission line and switching station footprint. Until recently, we considered the Watagans population to be a single metapopulation across two pond clusters (~2 km apart). However, genetic analysis revealed limited dispersal between them, indicating they are becoming isolated into two sub-populations with reduced genetic diversity (Nolan 2024). This finding also demonstrates the species' limited capacity to move across the landscape — especially along dry or open (unforested) areas.

To address this conservation concern, a collaboration between UoN, NSW Forestry Corporation, and NSW National Parks and Wildlife Service constructed over 40 ponds to reconnect these sub-populations and enhance genetic exchange. Early signs of success include breeding in nearly half of the new ponds, including genetic evidence of sub-population mixing (UoN unpublished data). The species' absence from other parts of the Watagans suggests this location has unique ecological features that cannot be replicated elsewhere, making relocation unviable. Additionally, our work with other amphibians has shown that relocated or translocated animals do not always behave the same way as resident animals, potentially causing additional indirect impacts to already vulnerable populations (Gould et al., 2023).

The Hunter REZ Transmission Project threatens this fragile population. It proposes transmission towers alongside sites of the original population and the newly created ponds, places the Olney State Forest Switching Station directly over the southern end of the population, and cuts through habitat at the northern end. These actions will destroy critical breeding sites and significantly impact the entire population.

Other vulnerable frog species in the area include red crowned toadlets (*Pseudophryne australis*), southern stuttering frogs (*Mixophyes australis*) and the giant burrowing frog (*Heleioporus australiacus*). These species share similar habitat and would also likely be affected – particularly the giant burrowing frog which has a wide-ranging terrestrial distribution. There is also a risk to stream frogs in the area if the proposed works increases sedimentation of streams.

While the EIS claims the preferred route avoids at least four artificial breeding ponds, there are known, occupied ponds within tens of metres of the proposed 60 m-wide corridor. The Olney State Forest Switching Station would sit atop several key breeding sites that have been monitored for over 20 years. This species is only known from this <5 km stretch of ridgeway (from just south of the proposed Olney site to the Pines picnic area), and large-scale construction and land clearing here poses a serious threat to its survival. Map 3.11 of the EIS omits Littlejohn's tree frog sightings, which would show that this species is only found in proximity to the proposed Olney State Forest Switching Station site. Even if some ponds remain intact, the degradation of surrounding terrestrial habitat — crucial for dispersal and survival — could be devastating as forest fragmentation in other populations has likely isolated them (Stock et al., 2022).

The EIS states that the Olney State Forest Switching Station site has “social benefits ... combined with reasonable technical, environmental and cost benefits,” but we do not believe that the serious impact this site will have on Littlejohn's tree frog and co-occurring amphibians has been adequately considered. The EIS also states that “This [Olney State Forest] option does not require the 500 kV transmission line to be constructed through the communities of Martinsville and Cooranbong”. However, the options of Martinsville East and Eraring West run alongside the current transmission line, so a switching station in these locations would not require a new transmission line to be constructed in these communities, making the above quoted statement highly misleading. In fact, all seven alternate proposed locations for the switching station run alongside the existing transmission line. Furthermore, the EIS says that Olney State Forest site has “issues associated with fire and access”, which we believe to be a serious issue that warrants appropriate consideration. The proposed Olney switching station site is the most remote site option and access is difficult due to the unsealed, narrow, windy nature of the existing roads. Wildfire is currently listed as a known threat to the Littlejohn's tree frog (NSW Government 2022, Berenek et al., 2023), but it would also threaten other endangered species, forestry land, and people who use this area for recreation.

Given the limited dispersal ability of Littlejohn's tree frog and the threats facing the other populations (mining, fire, inbreeding, isolation, and disease) (Klop-Toker et al., 2022; NSW Government 2022), the destruction of one-third of its known habitat will **significantly increase this species' risk of extinction. We therefore strongly request:**

- a. An alternative site is used for the proposed Olney State Forest Switching Station**

- b. 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)**

2. The prioritization to reduce visual impact over threatened species impacts

Table 3.4 of the EIS lists a suite of priorities that have been considered when developing this project plan. There is a list of Tier 1 priorities of areas that need to be avoided, Tier 2 priorities that are to be "avoided if possible", and then Tier 3 "impacts to be minimized". Nowhere in this table does it mention a need to avoid "visual impacts" for the public. The following table 3.5 then lists advantages and disadvantages of the three proposed routes for the transmission line (the northern, central, and southern (which we oppose)). In this table 3.5, it lists the "reduction of visual impacts" and an avoidance of Tier 1 priorities as ADVANTAGES for the southern route, but it fails to state that there is serious impact to the Tier 2 priorities in terms of destroying threatened species habitat. This same table 3.5 also states that the "visual amenity" of the northern and central routes are disadvantages for those options. *Why are visual impacts listed as an advantage when they are not listed as a priority to avoid? Why do the visual impacts hold more weight than the serious damage that will be done to threatened species?*

The preferred route is stated to **impact 66 threatened species and seven threatened ecological communities**, including 8 plant, 6 animal, and two ecological communities listed as having Significant and Irreversible Impacts (SAII). Impact to such species poses a series risk of causing extinction, plus there is risk of extinction to the Watagans' population of Littlejohn's tree frog. We understand that local people might not want to see powerlines, *but has any of the public consultations included information regarding the serious impacts to endangered species?*

The Technical Report for the Biodiversity Assessment Part 1, lists the estimated offset credits that would be required to compensate for all threatened species impacted by the proposed corridor. If the number of credits listed is multiplied by the current average cost of species credits listed on the NSW government website (<https://www.environment.nsw.gov.au/topics/animals-and-plants/biodiversity-offsets-scheme/biodiversity-credits-market/estimating-credit-prices/biodiversity-credits-market-sales-dashboard>), then this project is planning to **spend over \$400 million of taxpayer's money on offsetting**.

In Table 6.4 of the EIS, which outlines local landholders' concerns, visual amenity is listed as an Environmental Theme – how is this an environmental issue over a social issue? Biodiversity is also mentioned in this table but impacts to threatened species are not listed. *Were landholders made aware in early consultations how many threatened species will be impacted by the southern route through the Watagans and the extent of this impact? What evidence do you have to say that the majority of the local public are happy to impact 66 threatened species in order to avoid seeing new powerlines? How many threatened species would avoid impacts if the transmission line maintained the southern route but avoided cutting through Olney and Watagans state forests?*

We understand that the Hunter Valley is an important tourist destination and relies, in part, on its natural beauty to attract visitors, however, the public should be made fully aware of what a

tradeoff between biodiversity and visual amenity means for threatened species – as it means potential extinctions and high costs to tax payers for compensation/offsetting/conservation actions.

If visual amenity and avoiding impacts to threatened species are both to be avoided, placing the powerlines underground may be a viable option. It is stated in the EIS that underground construction of the transmission cables will be more expensive, *but have costs been calculated that compare underground construction against above-ground construction + offsetting costs? Could underground cables be used only in part of the corridor?* Also, the EIS states that repair to underground cables would take longer and be more expensive than repairing above-ground lines, *but wouldn't underground cables be less likely to experience damage – particularly if they are not running through a dry sclerophyll forest where the fire risk is high?*

To minimize these impacts, we strongly request:

- a. Any further media or public outreach be transparent about the biodiversity impacts and clearly state that 66 threatened species will be negatively impacted by the southern route, and that offsetting will cost over \$400 million.**
- b. That further consideration be given to underground options, at least in part to circumvent locations where there is the greatest trade-off occurring between public and biodiversity impacts.**
- c. That further consideration be given to placing the southern extent of the corridor (whether above or below ground), along existing transmission lines.**

To conclude,

Transitioning to renewables is a crucial action to benefit future generations. But we cannot pay for this transition by robbing future generations of intact, functioning ecosystems and biodiversity (Hayward et al., 2022). Most threatened species persist in their remaining small habitat patches because there is something unique about that patch that supports their survival. And whilst there are a suite of conservation actions that may help a species, almost nothing is as important as protecting that irreplaceable patch.

The green transition needs to be green for all – humans and biodiversity – no compromise. The climate crisis and the biodiversity crisis are not separate issues. We are Australia, one of the most economically and naturally rich nations on earth. We can and must do better than this current transmission line plan.

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