

As an environmental Scientist, I appreciate the extensive efforts and labour that have been invested into the development of the Winterbourne Wind Farm Environmental Impact Statement.

Submersed within the complexities of the document however exists several perhaps terminal issues associated with the proposal that cannot simply be dismissed as 'some inevitable impacts associated with the project'.

I would like here to formalise an objection to the submission and will focus my objection specifically on what I see as significant risks to the natural environment and biodiversity within and around the outlined project boundary.

First of all, I would like to comment briefly on the audacity of Vestas corporation and Winterbourne Wind to attempt to plough a project of this size through a small regional community without adequate community consultation. It is thoroughly obvious that developers have attempted to keep as low a public profile as possible in an effort to blindside the communities (plural) of the Walcha township and surrounds. How is it possible that my neighbours have apparently 'signed on' and have a number of wind turbines being proposed to be built on their property, while I and my family who have lived in the area since the late 70's only discovered its existence close to 12 months ago through a pamphlet (hidden in a newspaper) that was delivered to some friends of ours we were visiting?

I suspect that those involved were perhaps (rightfully) concerned that if the extent of the project were to have come to light earlier, more people would have been given the chance to adequately comprehend the exhaustive social, environmental and agricultural dangers associated with building 119, 230-metre turbines across 580 ha!

For the purposes of this objection, I have been studying appendix G 'Biodiversity Development Assessment Report' (BADR) as well as the Brett Lane report 'Wind Farms and Birds: Interims for risk Assessment, Appendix T 'World Heritage Impact Statement (version 2) Winterbourne Wind Farm', and have consulted with a professional Raptor expert.

I would like to focus on the Avian fauna bird strike risk because I have personally witnessed dozens of Wedge-Tail Eagles circling at various times of

the year, within very close proximity to the location of the proposed turbine building site (B001).

I refer to page 104 of the BADR 'survey sites (survey point and habitat description', figure 4.3 (fauna survey locations, 5.1.5 'Wind farm developments on page 139 which describe the potential for wind turbines to contribute to collision risks of birds and bats. I would like to draw your attention to the sentence that reads 'BUS survey points were chosen to be representative of the habitat types present at a wind farm site and are therefore not conducted at every potential turbine location'. Also 'higher risk turbines are typically located in areas where bird and bat collisions are considered more likely to occur, due to proximity to: Steep topography, gully heads, ridge lines, deep valleys and escarpments.'

Because the EIS has only conducted a level one' assessment for bird activity, I believe that stating the 'negligible' impact on wedge Tail eagles is premature. The proximity to the gorge is a hot spot for Wedge Tails, and the eagles would be attracted to the area by the topography, potentially creating a population 'sink' where eagles from the wider region move in and replace the ones that have been killed, and so it goes. Bus 3 (figure 4.3) is the closest survey site to the aforementioned locality I have mentioned near turbine (B001). I would argue that looking at the maps provided and by consulting google earth and by having actually walked the distance myself between the turbine site (B001) and the approximate location of Bus 3, that the survey site at Bus 3 is too far away to make a reasonable determination of avian fauna findings and nowhere near deep enough into the gorge (closest to turbine site (B001). Why is it that the EIS admits (as above) (or does not admit) that turbine (B001, B001 and B003) may be 'higher risk turbines due to their proximity to steep topography and likely areas of raptor habituation?

The studies conducted by Hull (2013 ) in determining (and concerning) eagle productivity that the conclusions of the EIS and appendix G are based on are found to be inherently flawed (journal of the Australasian Raptor Association). Despite the claims by Hull *et al.* (2013) concerning eagle productivity, more rigorous studies with better sample sizes and design still found lower eagle productivity at windfarms than away from windfarms and the driving factor is turbine mortality of breeding adults (eg Balotari-Chiebao et al. 2016). For long-lived, slow-reproducing species such as large eagles, adult mortality is a key factor in population dynamics, and local windfarm mortalities potentially

create a continental-scale population sink (Katzner et al. (2016). Though Wedge-Tail eagles are not considered as a 'threatened species,' the Tasmanian wedge Tail eagle, through human interaction and loss of habitat is considered critically endangered with an estimated number of breeding pairs to be near 300 only. Considering that the lifespan of a typical wind turbine is close to 30 years, can Vestas or Winterbourne Wind accurately and confidently claim that over the course of that life span, there will be zero contribution to population demise of mainland raptors given the claims that 'negligible' effect of wind turbines on avian fauna particularly Wedge-Tail eagles are proven false? Finally, It must be stated that evidence alluding to findings associated with birdstrike based on carcasses (surveying) underestimates the strike rate and hence population impact because they miss eagles that get injured and fly off to die elsewhere.

The little eagle (a threatened raptor species) is mentioned heavily within the EIS, however for reasons unexplained, surveyors have missed the key breeding month (August) to find active little eagle nests. Having consulted with a Raptor expert who is familiar with the area, it is likely that there is in fact a breeding habitat (of little eagles) in or around the windfarm footprint.

With regards to the adequacy of survey hours and localities (figure 4.3, threatened fauna-raptor, survey sites, table 4.7, table 4.6, table 4.7? (summary of total field survey time), table 4.5 total number of field hours spent assessing potential development impacts, I have noted as follows. Of the total 2,663.5 hours completed at the site between 2020 and 2022 (January being the solitary month surveyed in 2022 so more accurately and perhaps less misleading, the years 2020 and 2021 were surveyed and one month in 2022) 2,276 hours were recorded between August and December (2020 and 2021) and only 386 between January (in 2022) with hours in March and April in 2021 and none in 2020 (all survey types). BUS survey results (page 107) indicate that the highest number of observations, 64(for wedge tail eagles) occurred during Autumn (March, April and May). There were 41 observations in Spring and 28 in summer. Given that the highest amount of observations of the wedge tail eagle occurred in Autumn, would it not be pertinent then to replicate survey hours (and therefore increase time spend observing eagles) in the Autumn months? Autumn is when juvenile wedge tails are dispersing and concentrating along topographic features that provide lift i.e ridges and gorge

rims (as near B001). The adults are renovating nests around May and laying around June with eggs to early August and young in the nest till November. Half of the adult wedge tail breeding population will be tucked away in nests from June till September, by which time many juveniles would have left the population until the next cohort fledges but they will not be frequently airborne until December or so.

Wedge tail eagles start breeding earlier than little eagles but have a longer breeding cycle (a week longer for eggs and a month longer for nestlings). It's possible the survey protocol was intended to target breeding wedge -tails but the latter half of the year is a bit late to find all of the nests that may have been started but failed at the egg stage.

Grand total of survey hours as a focus on Avian fauna, 240 (BUS), fauna surveys (100), BAM plots (714). Surveying for fauna across the total hours surveyed equates to only 314 hours (exclusive of the BAM plots), expressed as a percentage over total hours surveyed this is only 12 %. If you include BAM plots (1028) it's 38 %. 1028 survey hours covering 119 turbines (for avian fauna) in only 9 hours per turbine site, 3 hours per site excluding BAM plots. Even expressed as an absolute total (2,663 hours) this is still only 22 hours of surveying per turbine site! Given the scale of the project and everything considered including the most pertinent fact (that there is a 30 year life stay of the turbines) I feel 22 hours for each site is scientifically underwhelming and ecologically irresponsible.

The Executive summary of the BADR states " During the public exhibition of the Environmental Impact Statement and the subsequent response to agency and community submissions, the following additional surveys will be completed"

- Additional Little Eagle surveys to be conducted during breeding season.

As the exhibition period of the EIS completes in mid-December, it is therefore too late to find nests for little eagles (far easier in August while they are noisy due to breeding) and surveys will likely miss the nests that have already failed. Surveys may miss active nests at this late stage, when young are already on the verge of leaving the nest and the eagles are not particularly conspicuous.

If the 2023 season is surveyed with all things above considered (as well as other responses to the EIS) it's possible there may be sufficient time to

properly survey for avian fauna and accurate potential bird strike risk from wind turbines but as admitted by Winterbourne Wind this is only subject to 'response to agency and community submissions' reading between the lines, I'd take that with a grain of salt.

I refer to the position statement of Bird life Australia in consideration of Wind farms and birds policy. 'Wind farms should only be developed at sites where there will be no negative significant impacts on native Australian birds. An evaluation of the significant impacts necessitates a thorough risk assessment of potential impacts and potential benefits to birds (including if the wind farm did not proceed).'

BirdLife Australia advocates the following approaches to wind farms:

1. Commercial-scale wind farms are not developed where there is a demonstrable risk to important bird populations or their habitat. In the absence of government-declared "no go zones", particular attention should be paid to areas with high avian conservation values. These include (but are not limited to):

- a. the protected areas network, including National Parks and reserves and linking habitats, that are significant for bird conservation.
- b. Migratory corridors and staging areas for birds
- c. Sites strongly favoured by soaring birds such as raptors and broilgas, and/or daily movements by large flocks.

2. The assessment and approval process demonstrates sound scientific and risk assessment approaches and makes the results publicly available, specifically:

Impact assessments need to consider the full set of potential impacts at a site, landscape and population levels, and to account fully for diurnal, seasonal and annual variation in bird distributions and numbers.

- d. Any associated habitat destruction or other indirect affects such as alterations in migratory flight paths or daily movements of regionally important species (the barrier effect of turbine arrays) need to be fully assessed and must not pose a significant threat to birds
- e. Migratory flight paths, at altitude, may bring migrants into contact with turbines at the beginning and end of their migration. Of more importance is that migrants tend to become resident for some months

at their destination. Here flight movements take place at consistently low altitudes, and birds are therefore at higher risk of collision.

Appendix T (World Heritage Assessment) states the following within its first introductory paragraph:

“It is important to stress that this report does not present new research or a new assessment of impacts. The report draws on the findings of other expert assessments, especially those relating to biodiversity and visual impacts”.

It is clear that Winterbourne Wind has not conducted appropriate studies in areas it deems outside of the New England REZ area including that of Boughyard Gorge.

I would like to draw your attention to point (a) above, in which bird Life Australia states: Particular attention should be paid to areas with high avian conservation values. These include (but are not limited to):

- the protected areas network, including National Parks and reserves and *linking habitats*, that are significant for bird conservation.

Would these ‘Linking habitats’ not include areas outside of the REZ but within the boundary of New England Bio Diversity region? (See figure 1 below).

Appendix T appears to have been prepared in haste. There are several reference errors present including within the Executive summary itself and then multiple errors on page 10! How is anyone to believe a 1.5 billion dollar project has meticulously checked every box of concern with relation to biodiversity risk yet cannot clear basic formatting errors within important documents?

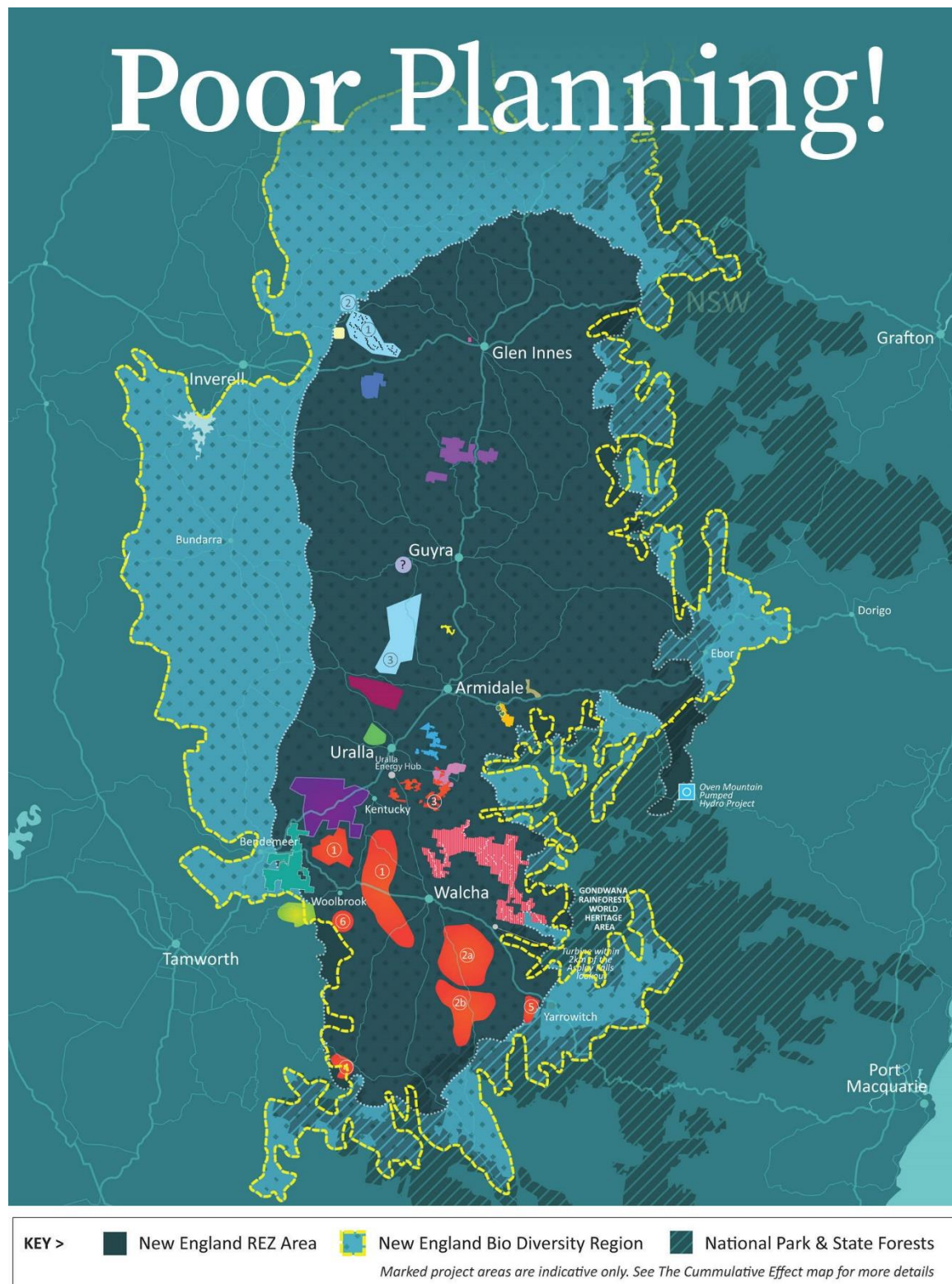


Figure 1 New England Bio diversity region

On page 14 (Summary Assessment of potential impacts on specific world heritage values) there are as follows:

'A moderate risk of impact related to bird mortality arising from collisions with turbines in the case of three species. The species are:

- Glossy Black-cockatoo;
- White-throated Needle-tail; and
- Wedge-tailed Eagle.

These kinds of inconsistencies, where risks to avian fauna specifically raptors are deemed as 'negligible' within the EIS but here apparently, 'a moderate risk' raise concern as to the official stance Winterbourne Wind holds in relation to real risks associated with bird strikes by turbines.





Figure 2 Wedge Tail eagle as identified by raptor expert (taken from film)

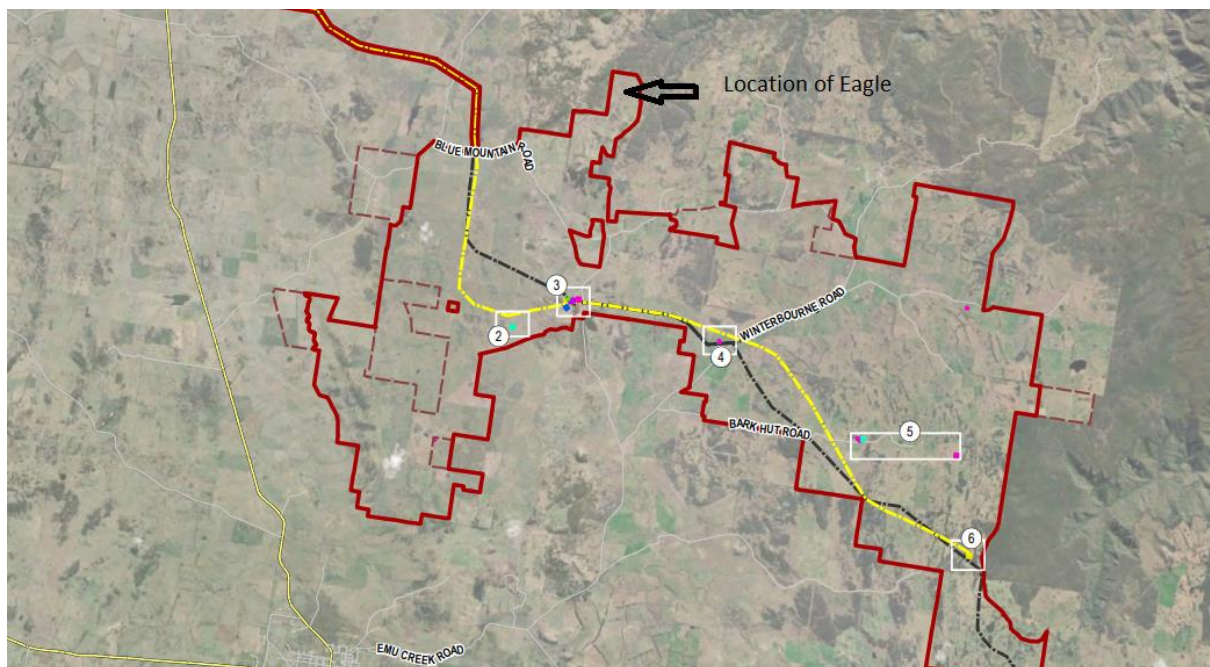


Figure 3 Location of Wedge tail as shown in figure 1

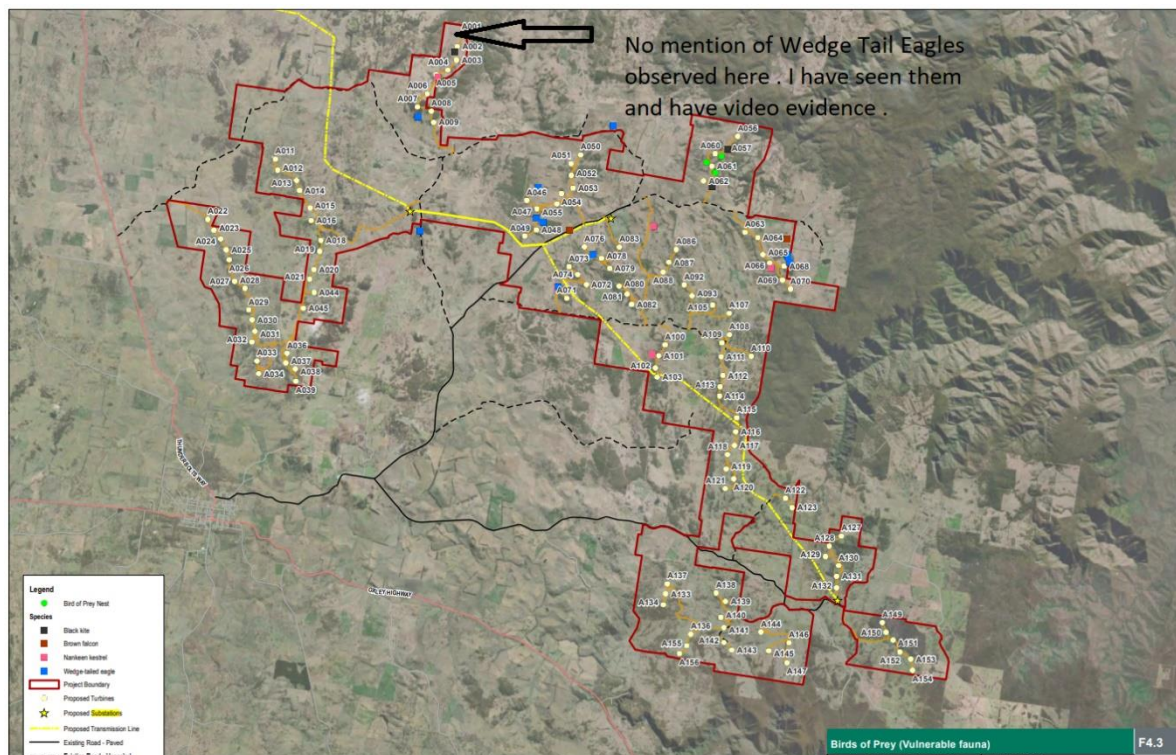


Figure 4 From appendices G BDAR Appendices Birds of prey vulnerable fauna

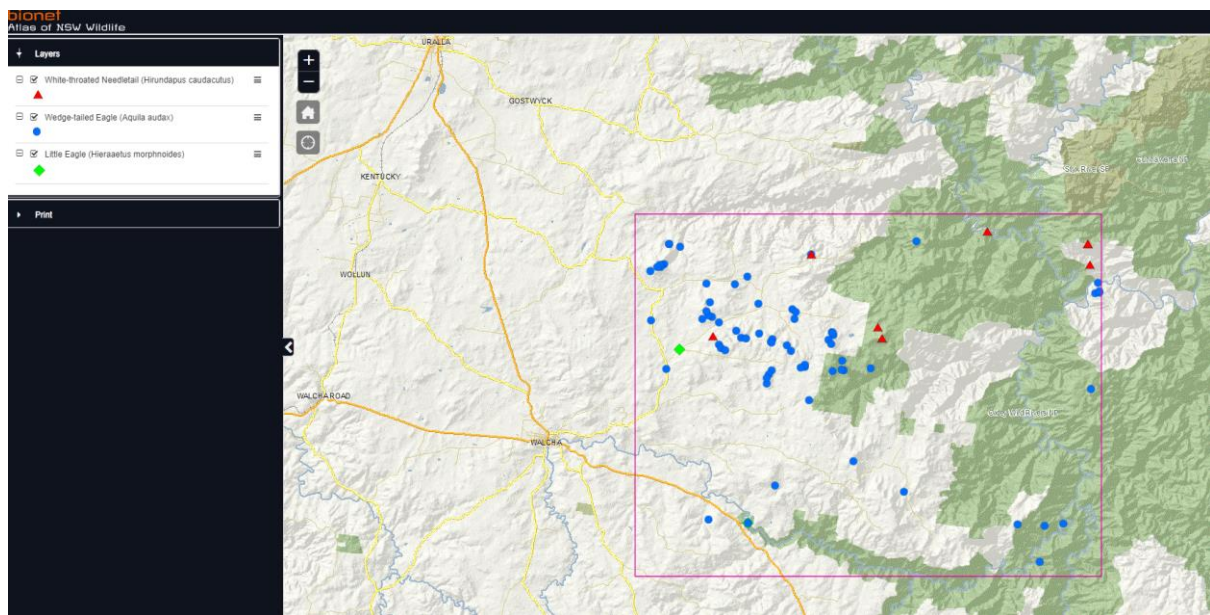


Figure 5 bionet map showing locations of wedge tail. needle tail and little eagle within footprint

At Robbins Island in Tasmania, the White Throated Needletail is the main bird being killed at the nearby wind farm according to Prof. Mike Tarburton, this is in spite of the WTN being one of the fastest birds in the world. As the WTN

flies all day it is going to pass many wind farms and many wind turbines and risk being killed. The White-throated Needletail is considered 'vulnerable' by the government of Australia (Commonwealth status). According to the NSW Office of Environment and Heritage, the WTN is migratory and usually seen in Eastern Australia from October to April. With regards to their regional distribution and habitat (according to OEH) the WTN is known to be predicted within the new England Tablelands Interim biogeographic regionalisation, particularly with respect to the Winterbourne footprint near Walcha Plateau and also the Yarrowyck -Kentucky Downs. As mentioned in appendix G which viewed the NSW Bionet atlas in Jan 2022, the WTN does indeed populate the area in question as does two other bird species listed as 'identified as having moderate risk associated with a collision with turbine blades during the operation of the Project; the wedge tail eagle and the little eagle which is listed as threatened (see figure 5).

At this point I would like to directly quote the WW EIS:

'The White-throated Needletail is known to fly at heights within the range of the RSA (Appendix Q). As such direct strike from wind turbines is a possibility for this species. Direct mortality of these species is considered likely to seriously disrupt the lifecycle of these species populations due to unknown population numbers and little understood migratory patterns.'

Surveying for the WTN was conducted over a period of 5 days only during the period considered to be optimal for WTN observation according to OEH which is Oct to April. 80 hours of total surveying within the space of one week of that period is nowhere near enough to accurately represent species' existence considering they are known to the area according to the government data base, the fact that WW admits that their own turbines will 'seriously disrupt the species lifecycle' of extreme concern.

Furthermore, the conclusions and recommendations in appendix Q does not suggest mitigation techniques to quell any likely or potential biodiversity destruction with regards to the WTN but instead read 'it is recommended that



a further, targeted needletail survey be undertaken late February 2022 when the species is starting to move north in Australia. I am writing this in December 2022. So, either the further surveying recommended never took place (possibly WW deemed it unnecessary) or the surveying was completed and not presented to the public.

In conclusion, I'm glad that Vestas has managed to find appropriate loopholes to undermine Australian biodiversity protection protocols and have decided to simply pay 64 million dollars for the assessed destruction of native habitat ecosystems within the wind farm footprint. I wonder how much more Vestas would be liable to pay in damages had they had to calculate the ecosystem credit payment and species credit payment to cover the neighbouring world heritage listed Oxley wild rivers national park? I wonder if after they had made such calculations would they still feel as though their 'investment' would be viable.