

**BEFORE AN INDEPENDENT HEARING COMMISSIONER FOR WAITOMO DISTRICT
COUNCIL**

IN THE MATTER of the Resource Management Act 1991 (the **RMA**)

AND

IN THE MATTER of an application by Taumatotara Wind Farm Limited to
change conditions of a land use consent for the Taumatotara
Wind Farm

Summary Statement of Moira Anne Pryde (Bat Ecology)

for the Director-General of Conservation

Dated 14 November 2023

Department of Conservation Te Papa Atawhai

P O Box 10 420

WELLINGTON

Counsel acting: Michelle Hooper / Alice McCubbin-Howell

Telephone: 027 324 6314

Email: mhooper@doc.govt.nz / amccubbinhowell@doc.govt.nz

1. In this summary I would like to highlight and expand on four points from my evidence.

Potential for individual turbines to have a major effect.

2. The rotor sweep area of each individual remaining turbine will increase by 114% from 9759 m² to 20,857 m². As well as this there is an increase in height from 121.5 m to 180.5 m.¹
3. This is an important point. I acknowledge that there is a reduction in the number of turbines and the overall rotor area but the increase in the individual turbines is more important. Bats do not use the landscape uniformly. Social groups of bats have specific roosting areas, and they travel to the foraging areas along specific routes. This means that the location and the bat activity at turbine sites is really important to understand. The whole colony could be traveling along a specific route and if the turbine cuts across this route, then the potential to injure or kill bats will be increased. A large increase in the rotor sweep area will mean that there will be a greater probability of bats being in the danger zone.

The importance of baseline monitoring²

4. The applicant has done the first stage of monitoring that identifies that bats are using the site. In my opinion the bat activity levels require further investigation to adequately assess the level of risk to bats. At the minimum there needs to be seasonal surveys throughout the year to assess the use of turbines sites and the surrounding land to look at potential flight paths. By doing these surveys the level of risk can be identified and quantified. Bats use the landscape differently throughout the year and this varies according to sex and age therefore only doing one survey may miss significant bat activity. The results of these surveys will then give guidance if further investigation is required. Examples of the tools that could be used are thermal surveys and radiotracking surveys to find roosts and identify flyways. A case study where these tools have been used to provide data for making development decisions is the Southern Links Roding network and the Weston lea subdivision development (Figure 1).

¹ EIC paragraph 129, EIC Liz Williams Table 1.

² EIC paragraphs 67 – 71

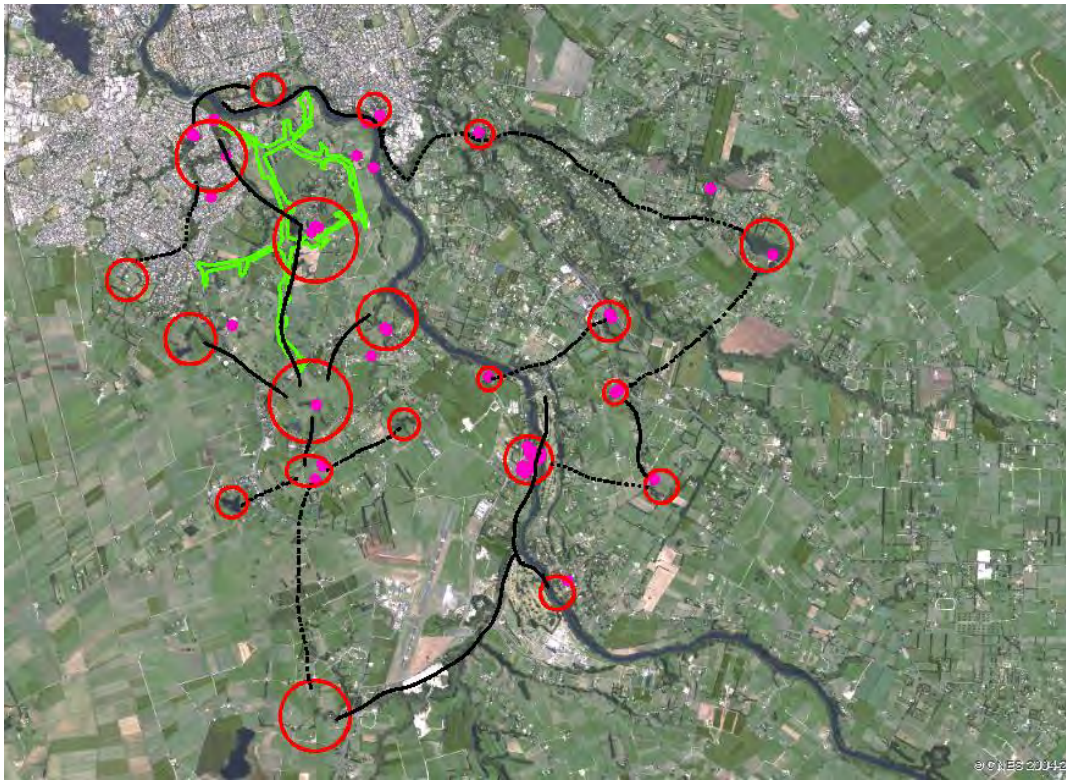


Figure 1 : an example of the information gained from thermal imaging and radio-tracking from the southern links roading in Hamilton. Green lines are the southern links roading, pink circles are roosts found, red circles are hotspots for bat activity, black lines are the flyways connecting these hotspots. Map created from data from the Weston Lea case - [Weston Lea Limited | Hamilton City Council](#).

5. It must be noted that the further studies may mean that the level of risk is low, and no more work is needed. Alternatively, it will give an idea of which turbines are a risk to bats so that curtailment (if considered necessary) can be targeted.

Flight height and migratory species³

6. There has been some work done on flight height and it does vary with species. In my work with bats, I have seen long-tailed bats flying high above the trees – so well over 30 m and therefore within the risk zone of the turbines. There is also evidence to show that bats will investigate turbines, especially bats that roost in trees and are insectivores (long-tailed bats roost in trees and insectivorous). This means that even if

³ EIC paragraphs 120 - 129

you study flight height of long-tailed bats in their current habitat – it may change once the turbines are built due to their inquisitive nature.

7. Mr Chapman gives an example of one study (4.32) that compared the height of turbines with bat fatalities and found that bat fatalities increased with increasing turbine height⁴. Mr Chapman dismissed this study as it was referring to migratory bat species, but I disagree and think it is relevant. Migratory species will be at risk from turbines as they are moving large distances and potentially as a group so will be vulnerable if the turbines are intersecting a flyway. This scenario could equally apply to long-tailed bats as they are flying long distances in a night (up to 25km) and have recognised flyways.

DOC Windfarm Information Sheet

8. I note that the 2023 DOC Windfarm Information Sheet was raised in the legal submissions presented by the Applicant (paragraph 8.34). For completeness, I note I was involved in the production of the DOC Windfarm Information sheet, but I provide this evidence as an independent expert witness.

⁴ Barclay RMR, Baerwald EF, Gruber JC 2007. Variation in bat and bird fatalities at wind energy facilities: assessing the effects of rotor size and tower height. Canadian Journal of Zoology 85:381- 387.