

**IN THE MATTER**

of the Resource Management Act 1991

**AND**

**IN THE MATTER**

of the Proposed Waikato District Plan (Stage  
1) – Hearing 21A – Significant Natural Areas

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**SUMMARY OF STATEMENT OF EVIDENCE OF TERTIA THURLEY FOR THE  
DIRECTOR-GENERAL OF CONSERVATION – TERRESTRIAL ECOLOGY**

**16 NOVEMBER 2020**

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**Department of Conservation**

Private Bag 3072

Hamilton 3240

Counsel acting: Troy Urlich

Email: [turlich@doc.govt.nz](mailto:turlich@doc.govt.nz)

Phone: 027 324 8991

## **Introduction**

1. My name is Tertia Thurley. My evidence in chief sets out my qualifications and experience.
2. This is a summary of the statement of evidence in chief that I prepared in relation to Hearing 21A – Significant Natural Areas of the Proposed Waikato District Plan.

## **Evidence Summary**

3. This summary evidence addresses the following matters:
  - a. long-tailed bats are critically endangered nationally;
  - b. long-tailed bats require trees and vegetation such as hedgerows to roost and forage;
  - c. long-tailed bats within urban and rural areas of Waikato District face increasing pressures from trees and vegetation clearance due to development;
  - d. bat distribution data is incomplete as not all areas have been surveyed, however there is some data available for known bat populations;
  - e. protection measures are required within the surveyed areas and within the known bat areas as well as in the areas that have not been surveyed to prevent local extinctions.
4. Bats are New Zealand's only land mammal, and there are likely only two species remaining. One of these, the Long-tailed bat, is found in the Waikato District.
5. Long-tailed bats are predicted to decline by more than 70% over the next three generations, which is the highest threat classification of Nationally Critical.
6. Long-tailed bats that are present in urban and rural landscapes are very vulnerable because trees and taller vegetation are important habitat requirements for roosting, for foraging and commuting. These resources are limited in urban and rural landscapes. Ongoing pressures from tree and vegetation clearance because of development further restricts the availability of these habitat requirements.

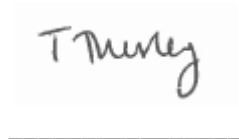
7. Long-tailed bat roost sites are almost always in trees, with roosting cavities having very specific thermal requirements. Bats specifically choose roosts to raise young that will retain warmth during the night so adults can leave the young in the roost while foraging. Cavities in trees which have these thermal properties are generally very rare in the landscape even in forested areas and are even rarer in urban and rural landscapes given the scarcity of trees and vegetation.
8. Long-tailed bats roost in exotic trees as well as native trees. Roost trees range in size from small trees (15cm diameter at breast height) to large trees, and have characteristics such as cavities, flaking bark and epiphytes where bats can roost.
9. Long-tailed bat foraging sites are typically around tree and forest edges and above canopies of trees as well as over pasture.
10. Long-tailed bats require 'commuting' routes to travel between their roosting and foraging sites. The bats use vegetation such as hedges and trees to travel along. In Hamilton, vegetated gullies have been shown to be very important for roosting, foraging and commuting.
11. Bats are highly mobile animals which require us to think at a landscape scale. They require large areas to roost, forage, socialise and commute over. Bats in the Waikato have been shown to travel over 7km in a night and can cover a range over 1600 hectares.
12. Negative impacts of development can result in bat deaths from cutting down roost trees, from loss of habitat due to vegetation clearance, from modification and disturbance of habitat from residential housing development, and associated street lighting, road networks and associated noise impacts.
13. Loss of vegetation can result in loss of roost trees, foraging habitat and commuting routes. Without these, bat populations cannot function.
14. Development including vegetation clearance, street lighting and road networks reduces the amount of habitat requirements suitable for bats to function. This may also fragment the habitat, thereby isolating bat communities. Fragmented populations are smaller and more vulnerable to extinction.

15. The Waikato District holds several known populations of long-tailed bats for which we have some distribution data, that is highlighted in the map attached to this summary as Appendix "A". There are large areas of the Waikato District where bats have not yet been surveyed, and it is highly likely that bats do exist in some of these areas.
16. The current mapping of Significant Natural Areas within the Waikato District does not offer adequate protection for bat populations because it is known that bats function outside of the mapped areas.

### **Conclusion**

17. For bat populations to function within urban and rural landscapes of the Waikato District, bats need protection from loss of vegetation, habitat fragmentation and disturbance. Without protection bat populations in the Waikato District are vulnerable to local extinction. Given the high threat status of Long-tailed bats, extinction of bats in the Waikato District is significant on a national scale.

**Dated** 16 November 2020



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Tertia Thurley

## APPENDIX A

Bat distribution in Waikato District from DOC National bat distribution database (Of note, much of the Waikato District has not been surveyed for bats and records may be incomplete).

