

**BEFORE THE HEARINGS PANEL  
FOR THE PROPOSED TIMARU DISTRICT PLAN**

**UNDER** the Resource Management Act 1991 (RMA)

**IN THE MATTER** of the Proposed Timaru District Plan

**AND**

**IN THE MATTER** of the Ecosystems and Biodiversity, Natural Character and Natural Features and Landscapes Chapters and, the Open Space and Recreation Zones (OSRZ) Topic (Hearing D)

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**STATEMENT OF EVIDENCE OF MICHAEL BOSCHEN ON BEHALF OF THE  
CANTERBURY REGIONAL COUNCIL**

**Ecosystems and Biodiversity, Natural Character and Natural Features and  
Landscapes Chapters**

**Open Space Zone Chapter**

**25 October 2024**

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**Next date – 12 – 14 November 2024 – Hearing**

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## **INTRODUCTION**

- 1 My full name is Michael Zachary Boschen. I have been employed by the Canterbury Regional Council (**Regional Council**) as River Engineering Officer - Southern for one year.
- 2 My role includes the preparation of, and oversight, of physical work undertaken by the Regional Council that may require tree clearance within the Long-Tailed Bat Protection Area.
- 3 I have prepared this planning evidence on behalf of the Regional Council.

## **CODE OF CONDUCT**

- 4 While this is a Council level hearing, I can confirm that I have read and am familiar with the Code of Conduct for Expert Witnesses contained in the Environment Court Practice Note 2023. I have complied with the Code of Conduct in preparing this evidence and I agree to comply with it while giving any oral evidence during this hearing. Except where I state that I am relying on the evidence of another person, my evidence is within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.
- 5 Although I am employed by the Regional Council, I am conscious that in giving evidence in an expert capacity that my overriding duty is to the Hearing Panel.

## **SCOPE OF EVIDENCE**

- 6 I have been asked to provide evidence in support of the Regional Council's submission point 183.79, to describe the delivery of flood, erosion and drainage protection within the Long-Tail Bat Protection Area. My evidence is focused on field assessments to identify trees that may be removed, the existing processes of seeking independent verification of whether the tree may be used by roosting long-tailed bat, and physical works.
- 7 My evidence should be read alongside Ms Jolene Irvine's evidence which describes the Regional Council's responsibilities in providing flood and erosion protection, and the impacts the proposed Timaru District Council Plan may have on the delivery of those responsibilities.

- 8 My evidence is focused on the clearance of trees within the Long-Tailed Bat Protection Area.

### **Reasons for clearing trees within the Long-Tailed Bat Protection Area**

- 9 River works has established vegetated berms along the lengths of rivers to protect land from erosion and flooding. These large-scale erosion protection plantations require continual maintenance, which may on occasion require the removal or downsizing of some trees. Situations that may require the removal of large trees include:
- a. The tree is aged and rotten, overwhelmed by pests (ie. Old Mans Beard), damaged by wind or growing in a way that risks falling on people, access or assets. The willow and poplar trees that flank the river within the Bat Habitat are largely the result of flood and erosion planting programs and includes trees of varying ages that require regular maintenance. It is important that the public and staff have safe access to rivers, which may require pre-emptively removing 'risky' trees that may obstruct access during a flood event, where staff require safe access to monitor the river and assess break out risks.
  - b. Where there are active erosion sites that need to be stabilised before the erosion continues into the stopbank, which is the last line of flood defence in this system. The preferred approach is to use nearby large trees' to be 'tied-in' to the erosion site (anchored tree protection) or to 'layer' trees that are on the edge of the erosion site (see figure 1 as an example of layering). This creates a short-term physical barrier to worsening erosion, and if willow plants are used, the tree will continue to grow and establish a strong mat of roots providing long-term stabilisation.



*Figure 1: Aerial image of completed layering where poplars are partly cut and pushed over to stabilise an erosion site.*

- c. The tree is growing in, or within 5 metres of a stopbank and risks stopbank integrity. Historic plantings, or wild-growing trees may be within 5 metres of stopbanks and, as risk assessment determines the need, are methodically removed. Large tree roots that penetrate deep into a stopbank can create weaknesses that compromise the stopbank integrity during flood events. These roots may cause slipping or slumping of the banks as well as internal preferential flow paths. Figure 2 illustrates a section of stopbank that failed during the 2021 Ashburton floods. Whilst the failure in this situation cannot solely be attributed to the tree roots through the stopbank (the river was overtopping), the image does illustrate how far roots can penetrate through the bank.



*Figure 2: Section of washed out stopbank. The longitudinal crest followed the red lines, and the stopbank profile is shown by orange and blue.*

- 10 The trees in the image below (Figure 3) are larger than the limits provided in the existing Rule ECO-R4 PER 2 and have recently been identified as posing an increased risk to the stopbank or access if they are blown over during a storm. These provide a current example where trees have grown to a size or shape where they are susceptible to storm damage and pre-emptive tree clearance would ensure the safety of the stopbank and flood protection scheme, track users and staff.



*Figure 3: Current large trees that pose a risk to a stopbank (left) and access (centre-right).*

- 11 Understanding the risks associated with not removing trees in the above situations, and the actions that are required, is a core competency of the Regional Council's field-based Rivers staff. Failure to act can result in serious risk to staff and public from falling trees or being trapped during flood inspections, or the failure of the flood protection system during a flood, risking lives and livelihoods on the flood plain.

### **Current Practices for tree removal**

- 12 The physical clearance of trees this size is completed with chainsaws or machinery.
- 13 Prior to works occurring, Job Sheets are created for work delivered internally, or Statement of Works when contractors are engaged (refer to Ms Irvine's evidence for the process<sup>1</sup>). These documents record the need

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<sup>1</sup> paragraphs 26 to 30

for consultation with the Department of Conservation (**DOC**) prior to removal of any trees that may be bat habitat. The documents, including photos and records of engagement are saved against each job within a dedicated asset management database.

- 14 In practice, staff request a bat specialist from DOC to undertake a site visit and ascertain the likelihood of the tree providing roosting habitat for any trees larger than the stipulated requirement. As a recent example, I was involved with a tree clearance task on the Opihi River. There were several large poplars that I identified as being viable for the habitation of bats. I contacted DOC and we undertook a site visit together. One tree was identified as being actively used by bats for roosting and was tagged to be protected and remains standing today.
- 15 In the past, DOC bat experts have come to inform and upskill staff in bat habitat identification, and the Depot holds a map provided by DOC of known roost trees. I am in the process of requesting a similar session is repeated (dependant on DOC capacity). Staff engage in learning about potential bat roost trees by accompanying DOC onsite whenever tree assessments are required.



Michael Boschen

25 October 2024