

**BEFORE THE MACKENZIE DISTRICT COUNCIL**

Under The Resource Management Act 1991

And

In the matter of a submission on the proposed Plan Changes 23 – 27  
to the Mackenzie District Plan

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**Evidence of Dean Calder Nelson  
on behalf of the Director-General of Conservation  
Dated: 3 May 2024**

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**Department of Conservation | *Te Papa Atawhai***

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## **Introduction**

1. My name is Dean Calder Nelson
2. I have been asked by the Director-General of Conservation (“D-G”) to provide ecological evidence in relation to the D-G’s submission on Plan Changes 23–27 to the Mackenzie District Plan.

## **Qualifications and experience**

3. I am employed by the Department of Conservation – Te Papa Atawhai (‘DOC’) as a Senior Ranger Biodiversity. I have worked for DOC since April 1987. Before that I worked as a ranger for the Department of Lands and Survey at Aoraki Mt Cook National Park for four years and at Mt Aspiring National Park for one year. I have extensive experience in threatened species management, and plant and animal pest control.
4. My qualifications are a Diploma in Parks and Recreation with Distinction (Lincoln College) and a post-graduate Diploma in Wildlife Management with Distinction (Otago University)
5. I have previously provided evidence on fish values for the Benmore Irrigation Scheme hearing, the impact of Russell lupins for the ECan Regional Pest Management Plan, freshwater and ecological values for the Rosehips Environment Court appeal, and ecological evidence for the Mackenzie District Council Plan Change 13 hearing.
6. I have contributed to publications, media articles and television programmes with articles and interviews about threatened species management and predator control.

## **Code of Conduct**

7. I have read the code of conduct for expert witnesses as contained in the Environment Court's Practice Note 2023 (the Code). I have complied with the Code when preparing my written statement of evidence.
8. The data, information, facts and assumptions I have considered in forming my opinions are set out in my evidence to follow. The reasons for the opinions expressed are also set out in the evidence to follow.
9. Unless I state otherwise, this evidence is within my sphere of expertise, and I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.

## Upper Ohau River Threatened Species and Management

10. In the upper Ohau River, there is a small island, informally known as Tern Island. Every year large numbers of black-fronted terns (*Chilodrias albostratus*) nest on the island and occasionally spill over onto the mainland on either bank beside the island. The true left bank of the Ohau River adjacent to Tern Island includes some of the land covered by the Ohau River Precinct.
11. Black-fronted terns are ranked as Threatened – Nationally Endangered in DOC's threat classification system. Criteria for this listing are that the total population size is 1000 – 5000 mature individuals and qualifiers include climate impact, conservation research needed, recruitment failure, and small, widely scattered populations.
12. The main threats to black-fronted terns are introduced predators, including feral cats, ferrets, stoats, Norway rats and hedgehogs. Cats, stoats and Norway rats are all very capable of swimming to the island.
13. The nesting black-fronted terns have been monitored from 1998 – 2000 and then every year since 2007. At peak nesting times, there have been up to 700 adult birds recorded on the island. Based on the maximum estimated number of adults (5000), this colony represents up to 14% of the national population and is considered to be the largest nesting colony in New Zealand.
14. An intensive predator trapping programme was set up in 2010 with a total of 418 traps in a one-kilometre radius of the island, along with regular night shooting for rabbit control. This trapping programme has relied on landowner permission (LINZ for the riverbed and Douglas McIntyre for the adjoining land subject to this Plan Change) to effectively provide sufficient buffer around the island.
15. Following total nesting failure in the 2010/11 season with strong evidence of Norway rats being the primary cause, rat control using toxins in bait stations was added in 2011/12 at 50m intervals alongside the river for 500m up and down stream (Figure 2 in Appendix 1).
16. Since trapping was introduced, a population of Lakes skink (*Oligosoma* aff. *chloronoton* "West Otago", Threatened – Nationally Vulnerable) has benefitted from the increased protection and is monitored annually. While this population is on the opposite bank to the proposed Ohau subdivision precinct, similar suitable habitat exists in this area and other populations of Lakes skink could be present.
17. A review of progress was undertaken in 2016 and consequently, the trapping area was reduced to approximately a 500 radius and a total of 360 traps. (Figure 1 in Appendix 1). Night shooting for rabbit control was ceased at this time as vegetation

growth was making it difficult to effectively shoot rabbits. Consequently, rabbit numbers have increased throughout the area and often get caught in traps as unintended by-catch.

18. There are strict controls around the use of toxins and DOC operates under an operational plan which details consents required, consultation with landowners and neighbours, monitoring, security and public safety. The current plan finishes in 2024 and DOC is currently preparing a new five-year plan starting for the 2024/25 season.
19. The consultation requirement in the operational plan is currently relatively straight forward as DOC only needs to consult with two landowners (LINZ for the riverbed and Douglas McIntyre for the adjoining land subject to this Plan Change) neither of whom are resident on the land. This would become much more complex with multiple residential neighbours.
20. The current operational plan and the new one in preparation are for the use of pindone. In terms of available toxins, pindone has relatively few major constraints however if DOC wished to use other selected toxins due to rats becoming pindone bait shy, the constraints would become more onerous including requiring Medical Officer of Health consent.
21. All available toxins for pest and predator control are extremely toxic to domestic animals, particularly cats and dogs. The proximity of domestic animals on adjoining land could severely constrain DOC's use of toxins at this site.
22. Feral cats are a targeted predator of the trapping programme. Domestic cats are known to roam widely and would be at risk of interacting with and potentially getting caught in predator traps. They would also present another risk to black-fronted terns, particularly those that nest on the true left bank adjacent to the island.
23. As a colonial nester, black-fronted terns have been known to totally abandon their nesting colony due to disturbance or ongoing presence of predators. The impact of light, noise and increased human presence is unknown at this site.
24. Access to this site is crucial for ongoing management for black-fronted terns. Contractors use a variety of 4WD tracks to access traplines and staff use the main 4WD tracks to access the island for black-fronted tern nest monitoring. Year-round unrestricted access has been courtesy of the landowner however this access may well become limited if subdivision takes place.

## Conclusion

25. Every year large numbers of Nationally Endangered black-fronted terns (*Chidonias albobriatus*) nest on a small island in the upper Ohau River. In some seasons, this nesting colony has contained up to 14% of New Zealand's maximum estimated population.
26. The main threats to black-fronted terns are from introduced predators, including feral cats, ferrets, stoats, Norway rats and hedgehogs. Management to protect the black-fronted terns using traps and toxins in bait stations has relied on permission to use, and access through adjoining, non-residential private land which is included in the proposed Ōhau River Precinct. Multiple residential neighbours would make ongoing management difficult for this threatened species in terms of trap placement, getting permission for toxin use and access to the site. Additionally, the presence of domestic cats and dogs will add further risk for the birds as well as creating added complications for the use of toxins.



Dean Nelson

DATED this 3rd day of May 2024

Appendix 1



Figure 1. Traps around Tern Island

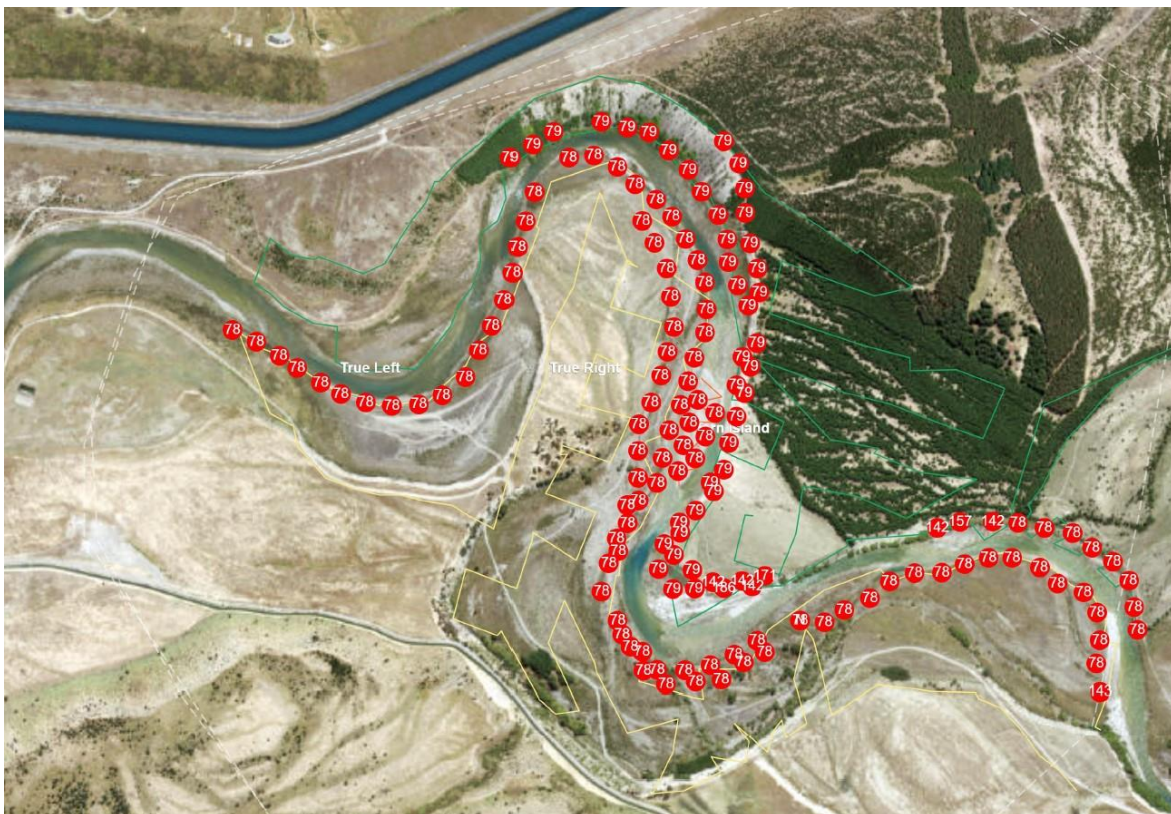


Figure 2. Bait stations around Tern Island