Proposed Freshwater Planning Instrument Otago Regional Policy Statement Hearing

Summary of Evidence of: Bruce McKinlay

Introduction

1. The first section of this paper is a summary of my evidence as signed on 28 June 2023. In the second section I refer back to my previous evidence and highlight the ecological values and processes that are present in wetlands and implications of differing definitions of wetlands. This particularly applies to the definitions of a wetland which might have a significant proportion of vegetation cover comprising more than 50% exotic pasture species.

Summary

2. Tools to estimate the risk of extinction utilise time-based assessments and other criteria to give guidance. These are complex processes as they seek to reflect a large variety of biological data into one headline statement.

3. Deferring management responses to respond to invasive species or other ecological pressures can lead to loss of diversity and ecological intactness. Cumulative impacts are recognised as being present in Otago with the risk of tipping points being reached.

4. Ephemeral wetlands are small habitats and threatened ecosystems in Otago. They are diverse in their form and function. They have been identified in previous research as diverse and holding high species richness.

5. Ephemeral wetlands can be contrasted with Inland Saline Sites by having a larger range of hydrological contexts, a larger flora which include not only salt tolerant

herbs and grasses but also species which are not salt tolerant but are water tolerant.

6. Ephemeral Wetlands are worthy of specific mention in the RPS as current wetland definitions do not always recognise their processes or values.

7. Inconsistencies in the mapping of the coastal margin of the Freshwater Management Units (FMU) have occurred. The coastal margin is a complex matrix of plant and animal communities that are spaced in the environment according to the ratio of freshwater and salt water.

8. Dryland ecosystem processes underpin much of the context of water usage in Otago. Drylands are much reduced in extent, suffer ongoing loss and fragmentation, support a rich diversity of plants and animals, and support a disproportionally high number of threatened and rare species.

9. Consequently, specific mention in the RPS that water and land management occur in the context of many dryland ecosystems is justified.

10. Otago is the location of a number of large mostly intact wetland complexes. Some are specifically mentioned in the PORPS. Others are not, even with the same range of ecological and biological values. I set out a justification for recognising all of these in the Regional Policy Statement.

Wetland definition

11. The definition of wetland between planning instruments is inconsistent. There is alternate wording attempting to address a wide range of ecological contexts[1].

[1] Definition of 'natural wetland' proposed in Felicity Boyd's supplementary evidence regarding the implications of the NPSIB, at page 30.

What I want to emphasise here is that the ecological processes of wetlands are described and documented in my evidence and elsewhere and this provides a consistent basis for the development of policy to meet the objectives of Section 6 of the RMA and the objectives of the NPS Freshwater Management, and the NPS-IB.

12. In my evidence dated 23 November 2022[2] at para's 66-67 using the Upper Taiari and Paerau Wetlands scroll plains as examples I set out the range of values that are present and that are likely to be expected in any wetland complex. In particular, I describe the presence of distinct categories of wetlands:
    - Permanent river and lagoons
    - Semi permanent shallow marshy areas created by flooding and which exist for two months or longer
    - Temporary (existing for less than two months or less on an average year).

13. In my evidence dated 28 June 2023[3] I discussed this again in the context of ephemeral wetlands at para's 38-39 and noted the range of values identified in ephemeral wetlands by national reviews[4].

14. These values include:
    - A species richness of 20.6% of native flowering plants of NZ, and an even higher proportion (29.3%) of monocots,
    - the presence of 28 species of threatened plant species in this ecosystem,
    - As assessed as a >- 90% decline over the previous 500 years which led to the assessment as a naturally uncommon ecosystems in NZ.

15. There is a clear ecological basis for recognising these wetlands in the RPS and regardless of their current vegetation to provide policy which gives a framework for Regional and District Plans to maintain these areas.

[2] Expert Evidence of Bruce McKinlay for the Director-General of Conservation. DOC-7204255. https://www.orc.govt.nz/media/13252/director-general-of-conservation-bruce-mckinlay.pdf
[3] Expert Evidence of Bruce McKinlay for the Director-General of Conservation. DOC-7381971 https://www.orc.govt.nz/media/14559/department-of-conservation-bruce-mckinlay.pdf
[4] Holdaway, R. A., et al. (2012). "Status Assessment of New Zealand's Naturally Uncommon Ecosystems." Conservation Biology 26(4): 619-629. Johnson, P. and P. Gerbeaux (2004). Wetland Types in New Zealand. Wellington, Department of Conservation. Johnson, P. N. and G. M. Rogers (2003). Ephemeral wetlands and their turfs in New Zealand. Science for Conservation. Wellington, Department of Conservation.

16. This should allow for the protection and restoration of wetlands to provide for māhika kai and other mana whenua values, an increase, in the range extent and diversity of indigenous ecosystem types and habitats in natural wetlands, and an improvement in ecosystem health, and hydrological functioning.

Bruce McKinlay

5 September 2023