

Attachment 3: Comments from Dr Collins regarding freshwater ecology

Introduction

1. My full name is Dr Kathryn Elizabeth Collins.

Instruction

2. I have been asked to provide expert advice on behalf of the Department of Conservation on the Mt Welcome – Fast-track application in relation to the alternative proposal for management of stormwater and separation from offsetting ecological effects.

Qualification and Experience

3. I hold a PhD in Biological Sciences from the University of Canterbury (2019), a Master of Resource Studies with first class honours (2012) and a Bachelor of Environmental Management (2009) both from Lincoln University.
4. I am employed as a Senior Science Advisor in the Freshwater Ecosystem and Threats team at the Department of Conservation. I have held this position for 8 years and prior to completing my PhD I worked in environmental strategy and policy at Auckland Council. My work focuses on river and wetland restoration, freshwater biosecurity, fish passage, and aquatic macrophytes. I am a member of the New Zealand Freshwater Sciences Society and am a current NZFSS executive committee member.

Code of conduct

5. Whilst it is acknowledged this is not an Environment Court Proceeding; I confirm that I have read the Code of Conduct for expert witnesses contained in the Environment Court Practice Note 2023. I have complied with the Code of Conduct in the preparation of this advice. Unless I state otherwise, this assessment is within my area of expertise, and I have not omitted to consider material facts known to me that might alter or detract from the opinions I express.

Discussion

6. The aquatic ecology and wetland experts from GWRC, DOC and the Applicant conferenced on 13 October.
7. The JWS from that conferencing is being prepared alongside the deadline for parties to provide comment on the alternative proposal.
8. Some areas of initial discussion remain unresolved, including:
 - a. whether pasture wetlands meet the definition of natural inland wetlands and should be included when calculating the area of offsetting required (Issue 2, 18 August JWS).
 - b. the scale at which the EIANZ Guidelines are applied (Issue 6, 18 August JWS).
9. The aquatic ecology and wetland experts talked at length about the shift from retention wetlands to stormwater detention ponds.
10. Previous issues that I identified around the suitability of retention wetlands for offsetting, and the use of wetlands to offset stream loss are resolved under the alternative proposal.
11. However, there are water quality risks with the shallow (~100 mm) stormwater detention ponds being prone to high water temperatures and low dissolved oxygen, discharging to downstream environments. These ponds are also likely to provide ideal habitat for insect species such as mosquitoes and midges.
12. I understand fish passage is not intended to be provided at stormwater detention ponds A, B and C. Given the likely water quality challenges above, limiting fish passage to these stormwater detention ponds reduces the risks to fish. However, some fish species, particularly tuna (eels) might still get there anyway, and fish management may be required.
13. There is some suitable fish habitat upstream of stormwater detention pond E, thus it is appropriate that fish passage be provided for. However, I am concerned that the habitat within stormwater pond E may be unsuitable for fish, given the shallow wet basin design.

14. My preference is for stream channels to be retained in stormwater detention basins that are generally maintained as dry basins/flood plains that hold water during periods of rain (this point was agreed by the other experts in the conferencing held on 13 October). If this option is agreed with the applicant and stormwater experts, then maintaining fish passage in the associated stream channels is appropriate.
15. The Complex Freshwater Fisheries Activities application has not been updated/resubmitted to reflect the alternative proposal for management of stormwater.