

Before the Freshwater Hearings Panel convened by the Chief Freshwater Commissioner

In the matter of                      Freshwater parts of the Proposed Otago Regional Policy Statement 2021

---

**Rebuttal Evidence of Ami Coughlan on behalf of Otago and Central South Island Fish and Game Councils**

17 July 2023

---

**Submitters' solicitors**

Maree Baker-Galloway | Laura McLaughlan  
Anderson Lloyd  
Level 2, 13 Camp Street, Queenstown 9300  
PO Box 201, Queenstown 9348

p + 64 3 450 0700  
maree.baker-galloway@al.nz | laura.mclaughlan@al.nz

**anderson  
lloyd.**

## **Introduction**

- 1 My full name is Ami Coughlan. I prepared a statement of evidence on the Freshwater Parts of the Proposed Otago Regional Policy Statement 2021 (**pORPS**) dated 28 June 2023 (**EiC**). My qualifications and experience are set out in my EiC.
- 2 I have read the evidence filed for the Freshwater Planning Instrument components from the following experts/witnesses:
  - (a) Sandra McIntyre – Ngai Tahu
  - (b) Bruce McKinlay – Department of Conservation
  - (c) Marine Richarson – Department of Conservation
  - (d) Nicolas Dunn – Department of Conservation
  - (e) Tom Dyer – Otago Regional Council
  - (f) Mike Joy – Wise Response Incorporated
  - (g) Murray Brass – Department of Conservation

## **Executive summary**

- 3 Having read through the evidence from these experts, I have been struck by the many similarities in relation to the needs to protect and preserve highly threatened indigenous fish species, and the utmost importance of identifying and protecting and restoring these species and their habitats. As such, this rebuttal document is more aligned with a position of support. I have made some recommendations where paragraphs and statements have appeared to weigh the issue of salmonid predation as a pre-eminent threat to the persistence and survival of non-diadromous galaxiids and mudfish. While interspecies relationships need to be managed to protect, preserve, and enhance the abundance and distribution of threatened indigenous species, the impact of habitat loss and degradation, loss of spawning and juvenile rearing habitat, sediment infill and algal growth, and a decrease in available food resources will also be vital to resolve.

## **Responses to issues raised**

### *Evidence of Sandra McIntyre*

- 4 My concerns align with the statement in paragraph 17 which discusses long held concerns about the degradation of water resulting from land and water use practices. Based on my experience and research, these reflect the wide-ranging causes of degradation of the health and well-being of water bodies and their ecosystems.

- 5 I also agree with paragraph 17(e) that these concerns include the effects of water quality degradation on the mauri of the water itself, and on taoka and Mahika kai species, and the ability to safely interact with the wai.
- 6 I have read paragraph 78(b) which supports the insertion of a new clause 2A to LF-FW-P7 protecting habitats of trout and salmon insofar as is consistent with clause 2, as per agreement between Kai Tahu submitters, DOC, ORC, and Fish and Game. Ms McIntyre assumes omission is an oversight which can be easily addressed, and I concur that this clause should be inserted into the pORPS, particularly in light of the latest amended Natural and Built Environments Bill which retains protections of trout and salmon habitat, and the NPSFM 2020 which also includes said protections of trout and salmon habitat where consistent with the protection of the habitat of indigenous species.

*Evidence of Bruce McKinlay*

- 7 I have considered paragraph 18, where it is stated that deferring management response to respond to invasive species or other ecological pressures can lead to a loss of diversity and ecological intactness. Cumulative impacts are recognised in Otago with the risk of tipping points being reached.
- 8 I support this statement, with a caveat that there is a need for urgent management of the freshwater environment and fauna, however this must be science, ecology, and catchment based to avoid catastrophic impacts on food webs and policy.
- 9 I support paragraph 34, where it is noted that failure to address the population trend issues that threatened species face (including declining quantity and quality of habitat, inappropriate land use, or other activities) does increase the risk of extinction to threatened indigenous fish species.
- 10 It is considered in paragraph 62 that all large complex wetland systems are worthy of explicit mention in the RPS. I support this statement fully, and all other methods by which to increase habitat and life stage habitat for species resilience.

*Evidence of Marine Richardson*

- 11 Paragraph 4 of the evidence supports amending pORPS policies, visions and objectives towards freshwater using an outcome-driven approach that is adapted to the range of life histories and needs of freshwater species and specific to individual Freshwater Management Units of the Otago region. I

support this paragraph as a meaningful starting point to achieve a healthy freshwater biodiversity.

- 12 I have read paragraph 5 which supports adoption of statements with clear measures of the change expected, associated timeframes, and high-level results for species and ecosystems at FMU level. I support this paragraph, and would like to add that certain species and habitats may require more detailed assessment of expected time frames and anticipated results, those highly threatened, fragmented, endemic species will require rapid action to protect and enhance their populations while the FMU statements are in progress.
- 13 I considered paragraph 25: non-diadromous galaxiids represent a significant and highly threatened proportion of the endemic fish fauna of New Zealand their populations are often fragmented and vulnerable to incursions from introduced salmonids; and paragraph 34: policy LF-FW-P7 (2) considers the protection of habitat but does not include any notion of protecting populations. As such, this policy might therefore fail to trigger any (or any timely or appropriate) intervention, for instance, should a salmonid incursion occur in a protected non-diadromous galaxias habitat.
- 14 I support these statements in general terms, but add additional context: non-diadromous galaxiids and mudfish are indisputably a significant and highly threatened proportion of NZ's freshwater fish fauna, and their populations are often fragmented and therefore vulnerable to any form of predation impacts, therefore signalling salmonids here as the priority threat ignores the threats of water abstraction, removal, or reduction in life-stage habitat (for spawning, or juvenile survival), and indeed predation by other piscivorous fish and birds. The small order tributaries inhabited by some highly threatened species may not be conducive to the presence of salmonids large enough to be piscivorous, although again, I agree that any negative impacts on these vulnerable species needs to be avoided. Species interactions must be addressed on a site-specific level to focus targeted management leading to robust, resilient, and abundant non-diadromous and mudfish populations, and preferably this should fall within an overarching framework of objectives, methods, and policies at a catchment or FMU level.
- 15 Paragraph 32 requests specificity in the pORPS to restore and protect the populations of non-diadromous galaxiids and Canterbury mudfish, their living and life-cycle specific habitats, and to protect the same from incursions of undesirable fish species via flow and fish passage changes. I support this paragraph, and note that it aligns with my comments on paragraphs 25 and 34: while species interactions (including from those

species which are desirable elsewhere, such as koaro or trout) do require management for threatened species, so too does their habitat.

- 16 I have considered paragraph 42, stating that fish populations require management efforts which span different timeframes. Long-lived species require management strategies and trend monitoring to be set across decades, for shorter-lived organisms a finer timescale might be more appropriate. I agree with this paragraph and would anticipate it assisting with managing fish populations.
- 17 Paragraph 43(a) notes provision of geographically explicit, location-based visions, as is the case for the Taieri FMU, is extremely useful. The evidence recommends similar details to be provided for the other FMUs and rohe. I support this statement in providing integrated visions and objectives to lead to integrated and inclusive management and protections for freshwater and freshwater fauna.
- 18 Paragraphs 44 and 45 discuss limitations linked to data availability and quality. Therefore, while the NZFFD is a well-established and broadly utilised database of fish records it does not allow establishing trends for fish communities nor individual species. Good baseline and monitoring data are therefore required in each FMU to allow for robust progress indicators on freshwater values. I strongly support the need for on-the -ground baseline and monitoring data collection, and identification of species, habitats, and communities.
- 19 Paragraph 47 concludes the evidence by requesting specific, outcome-driven policies, objective, and methods for each FMU would be useful to address taxon-specific issues and deliver an RPS that is sufficiently adaptive to tackle anthropogenic pressures and threats facing the regions biodiversity. I strongly support this paragraph.

#### *Evidence of Nicolas Dunn*

- 20 I have read paragraph 3, stating that mapping the distributions of threatened freshwater fish species and description of their habitats is important in the development of planning instruments and provisions assessing and managing the effects of activities. I support this as an important step towards protection and restoration of these species and habitats.
- 21 I have considered paragraph 27, where it is stated that non-diadromous galaxiids typically occupy smaller, lower discharge tributary streams that may be associated with wetlands, with local populations separated by larger river reaches containing piscivorous salmonids. I support this

paragraph, with certain additional comments: while salmonid predation will impact other fish species, cohabitation can occur where environmental conditions allow. Degraded and hydrologically altered waterways can exacerbate inter-species pressures, allowing for extirpation of some species. While managing species interactions is vital, it is important to ensure habitat protections and species interactions should be addressed together in a scientifically robust manner.

- 22 Paragraph 33 of the evidence seeks the inclusion of provisions into policy and methods which seek to restrict and manage activities affecting threatened non-diadromous galaxiids and their habitats in particular. I support the request for this inclusion.
- 23 Paragraphs 35-37 discuss the need to address, via planning instrument provisions, the fragmentation of threatened non-diadromous galaxiid populations through alteration of the hydrological environment, decline in quality and complete loss of habitat, decline and loss of habitat for critical life stages, and negative interactions due to the presence of predatory salmonids. I support these statements, particularly as further defined in paragraph 45 on developing planning framework provisions which support appropriate hydrological environments, particularly in the tributary habitats of non-diadromous galaxiids.
- 24 I have read paragraph 49, where it is noted that the hydrological environment of non-diadromous galaxiids can be managed through planning provision guided activities, and that without appropriate management these activities can create conditions for negative interactions between salmonids and galaxiids to occur. I strongly support this statement and agree that habitat mediates and mitigates – and in the case of disturbance can completely overrule – species interactions. While all threats need to be addressed, the impact of degraded habitat on persistence and resilience of freshwater species cannot be overstated.
- 25 Paragraphs 53 and 54 discuss the use of barriers to protect non-diadromous galaxiids from salmonids and sometimes koaro as a management tool. I support these paragraphs, with proviso that these tools are monitored for success, and that there are desired outcomes so managers can assess when success has been achieved.
- 26 Paragraph 56 speaks to the importance of mapping freshwater fish habitat and identification and distribution of species and communities provides basis for effective conservation. I agree with this, particularly when read alongside paragraph 62 of this evidence, where it is noted that the majority of non-diadromous galaxiid habitats are on private property, with sites

typically only being discovered during consenting processes, or after works have been undertaken.

*Evidence of Mike Joy*

- 27 Paragraph 68 notes that it is impossible to separate the health of freshwater from the health of the life dwelling within it. Intensification and vegetation clearance harm the land and water, and also severely threaten New Zealand's biodiversity. I agree with this paragraph and consider it an important overview of the threats facing freshwater fauna.
- 28 I have read paragraph 71 of this evidence, stating that modelling of riverine freshwater fish communities shows location of gaps in population distribution are found in lowland waterways in farming catchments, but not in native forest catchments, highlighting the importance of protecting and enhancing native forest to protect mahinga kai. I support this statement, and the importance of native forest catchments in promoting healthy freshwater ecosystems.
- 29 Paragraph 102 comments that any management actions of activities undertaking aiming to achieve the wellbeing of freshwater ecosystems as per TMOTW must be concurrent and part of catchment-based plans. Ad hoc restoration simply does not work, it is not possible to fix individual parts of a totally connected and integrated system like a freshwater catchment. I agree and would add that while the need for holistic catchment-based management plans is irrefutable, there still needs to be site specific management plans for areas where species are introduced or excluded to prevent further harm to fish communities and food webs.

*Evidence of Murray Brass*

- 30 I note in paragraph 3 that concerns were raised at the Non-Freshwater hearing about a lack of integration across the various domains and issues covered in the pORPS 2021, and this applies equally to the Freshwater parts. I concur with this and have made similar comments in my evidence where issues have been treated as separate, however they impact each other in myriad, often cumulative ways, and should be assessed as a whole.
- 31 Extending on paragraph 3, paragraph 20 states concerns regarding the lack of integration and consistency within and between the Freshwater and Non-Freshwater parts of the pORPS. I support this paragraph; the impact of freshwater on land, and land use on freshwater, is interwoven, and artificially separating the two for the purposes of creating policy may create barriers to achieving the visions and outcomes requested by national policy and the community.

- 32 I read in paragraph 27 of this evidence that threats to non-diadromous galaxiids include water abstraction, loss of habitat, riverbed disturbance, vegetation removal, gravel extraction, and changes to fish passage including if salmonids are introduced into galaxiid habitat. All these activities can be managed under the pORPS 2021. I agree these and other environmental factors are major threats to valued freshwater fish fauna and support the effective management of the same being enshrined in policy and legislation.
- 33 Paragraph 32 notes that mapping and defining freshwater fish habitat is important. I agree with this, and that it should be a priority, as it is difficult to manage and restore species and habitats without the basic information required, such as what species are where, and what habitats they require and reside in.

### **Conclusion**

- 34 This rebuttal evidence has considered expert evidence, in the aspects involving indigenous fish and salmonid habitat and species interactions.
- 35 In the main I support the statements made in the evidence read, particularly those who note the need for recognition of the connected nature of environment, the threats of land and water use practices to the health of the water, the requirement for species and habitat mapping and identification, specific protections for the living and lifecycle habitats of threatened species, and requirements to protect threatened non-diadromous galaxiids and mudfish from predation of salmonids or other species.

17 July 2023

Ami Coughlan