

Before the Fast-track Panel

Under: The Fast-track Approvals Act 2024
In the matter of: FTAA-2507-1089 – Bendigo-Ophir Gold Project

Statement of advice Dr Nicholas Rex Dunn
Freshwater fisheries
Senior Science Advisor – Freshwater – Department of
Conservation
16 March 2026



Department of
Conservation
Te Papa Atawhai

**Te Kāwanatanga
o Aotearoa**
New Zealand Government

Executive Summary

1. My advice addresses the following issues:
 - i. The presence of freshwater fishes within and downstream of the project area
 - ii. Freshwater Ecology Management and Monitoring Plan
 - iii. Rise and Shine Creek culvert location

Introduction

2. My full name is Dr Nicholas Rex Dunn

Instruction

3. I am providing expert advice on behalf of the Department of Conservation (DOC) on the Bendigo-Ophir Gold Project Fast-track application.
4. My advice specifically relates to the application for approvals relating to complex freshwater fisheries activities and may also be used to inform Section 53 comments.

Qualification and Experience

5. I am employed by the Department of Conservation Te Papa Atawhai (DOC) as a Senior Science Advisor - Freshwater in the Marine and Freshwater Biodiversity Unit of the Biodiversity Heritage and Visitors Group. I have held this role since September 2012. I was employed by DOC as a Technical Support Officer - Freshwater in the Canterbury Conservancy between December 2010 and September 2012.
6. I hold a Bachelor of Science (Earth Sciences) degree from the University of Waikato (2001) where I majored in hydrology and soil science. During this degree I studied freshwater ecology at Karlstad University in Sweden as an exchange student, completing a third-year level dissertation on the effect of drift availability on diet composition of stream resident brown trout.
7. I hold a Master of Science (Environmental Science) (First Class Honours) degree from the University of Canterbury (2004), majoring in freshwater ecology and hydrology. My MSc thesis investigated aspects of the influences of extremes in flow variations on the ecology and dynamics of populations of non-diadromous galaxias fishes.
8. I hold a Doctor of Philosophy degree from the University of Otago (2012). My PhD thesis investigated aspects of the influences of hydrological environments on the morphology, ecology, and spawning biology of non-diadromous galaxias fishes.
9. I am a professional member of the Royal Society of New Zealand (MRSNZ) and a member of the New Zealand Freshwater Sciences Society.
10. I worked with Te Uru Rākau / New Zealand Forest Service (Ministry for Primary Industries) in developing the Fish Spawning Indicator component of the Resource Management (National Environmental Standards for Plantation Forestry) Regulations 2017 (NES-PF).

11. In my role as Freshwater Science Advisor for DOC, I lead the New Zealand Threat Classification System freshwater fishes' expert panel which undertook the most recent (Dunn et al. 2025) conservation status assessment for these species.
12. I am currently undertaking research to formally describe fishes within the *Galaxias vulgaris* species complex, including *Galaxias* "Nevis" (Nevis galaxias), *Galaxias* "southern" (southern flathead galaxias), *Galaxias* "species D" (Clutha flathead galaxias), and *Galaxias* "Teviot" (Teviot flathead galaxias). I am also describing fishes in the *Galaxias paucispondylus* species complex including *Galaxias affinis paucispondylus* "Manuherikia" (alpine galaxias (Manuherikia River)). These taxa predominantly occur in the Otago Region.
13. I lead a research project that is investigating instream habitat suitability preferences of non-diadromous galaxias fishes, including *Galaxias affinis paucispondylus* "Manuherikia", *Galaxias gollumoides* (Gollum galaxias), *Galaxias* "Nevis", *Galaxias* "southern", and *Galaxias* "species D" which occur in the Otago Region.
14. I am leading multi-year research collating existing knowledge and describing the infield spawning ecology of non-diadromous galaxias including *Galaxias gollumoides*, and *Galaxias* "Pomahaka" (Pomahaka galaxias) which occur in the Otago Region.
15. I am familiar with a number of non-diadromous galaxiids and their habitats in the Otago Region.
16. I have appeared before Councils in both regional plan (e.g. Canterbury Regional Council Land and Water Regional Plan 2012, and a number of the Plan Changes (1, 2, 3, 4, 5 and 7), and Hurunui Waiau Regional Plan) and resource consent (e.g. Hurunui Water Project Limited) hearings to give expert evidence on freshwater ecology and ecohydrology matters.
17. I appeared before the Environment Court to give expert evidence in the Lindis (Plan Change 5A and Lindis Catchment Group resource consents) consolidated proceedings hearing. My evidence addressed the influence of water flow on, and habitat requirements of, *Galaxias* "species D" (Clutha flathead galaxias), and the application of residual flows in tributary streams containing that taxon's habitat. I also appeared before the Environment Court to give expert evidence in the Plan Change 7 to the Regional Plan: Water for Otago proceedings. Additionally, I have assisted during Environment Court mediation with Mt Campbell Station that related to proposed alteration of *Galaxias* "species D" habitat for irrigation infrastructure in Bickerstaffe Creek.

Code of conduct

18. 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 advice 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.

Material Considered

19. In preparing this advice I have reviewed material appended to this statement.
20. I have undertaken a site visit on 17 February 2026 to the Bendigo-Ophir Gold Project area with the applicant.

Scope of advice and expert opinion

21. My expert advice will address the following matters:
 - i. The presence of freshwater fishes within and downstream of the project area.
 - ii. The applicant's proposed Freshwater Ecology Management and Monitoring Plan.
 - iii. Rise and Shine Creek culvert location.

The presence of freshwater fishes within and downstream of the project area

22. I concur with the assessments of Dr Allibone and E3 Scientific that there are no freshwater fishes present in Shepherds Creek. My opinion is based on knowledge of freshwater fish communities in tributaries of the Lindis River catchment and records of freshwater fish species presence as given in the New Zealand Freshwater Fish Database. That freshwater fishes are unlikely to be able to access Shepherds Creek from the Lindis River is based on my knowledge of Lindis River tributaries, and the description of the catchment and its hydrology given in the assessments of Allibone, E3 Scientific, and Kōmanawa Solutions.
23. I concur with the assessments of Dr Allibone and E3 Scientific that *Galaxias brevipinnis* (koaro) is present in the Bendigo Creek catchment which includes Rise and Shine and Clearwater creeks. This is because Bendigo Creek is a tributary of the Clutha River where a landlocked population of *G. brevipinnis* has established that likely uses Lake Dunstan for the juvenile rearing stage of its life history. Dunn et al. (2025)¹ assessed the conservation status of *G. brevipinnis* as At Risk – Declining based on it having a very large population size and a low ongoing or predicted population trend decline.
24. The environmental DNA (eDNA) assessment of E3 Scientific also indicates the presence of *Galaxias* DNA sequences other than *G. brevipinnis*, but this was not recorded in the later assessment by Dr Allibone, nor did he comment on it. This raises some uncertainty as to the indigenous freshwater fishes present in the Bendigo Creek catchment, particularly given the sampling methodology used a low replication of sample collection which could result in a low eDNA detection rate; and that no *G. brevipinnis* or other *Galaxias* was captured and identified using electrofishing.

¹ Dunn, N.R.; Closs, G.P.; Crow, S.K.; David, B.O.; Goodman, J.M.; Griffiths, M.; Hicks, A.S.; Hickford, M.J.H.; Jack, D.C.; Kitson, J.C.; Ling, N.; Waters, J.M.; Wylie, M.J.; Hitchmough, R.A.; Makan, T. 2025: Conservation status of New Zealand freshwater fishes, 2023. *New Zealand Threat Classification Series 46*. Department of Conservation, Wellington. 66 p.

25. If another *Galaxias* were present, I consider it would most likely be *Galaxias* “species D” (Clutha flathead galaxias) as it is present in Lindis River tributaries, and in Lake Dunstan and Clutha River tributaries between Cromwell and Queensbury on the true right of the Clutha River valley. Dunn et al. (2025) assessed the conservation status of *Galaxias* “species D” as Threatened – Nationally Vulnerable based on it having a moderate area of occupancy and a moderate ongoing or predicted population trend decline.
26. Further survey work in the Bendigo Creek catchment would be beneficial to resolve which freshwater fish species are present, their local population demographics and importance to the species, and also to determine the extent of habitat occupied, particularly in those reaches immediately downstream of the project area.

Freshwater Ecology Management and Monitoring Plan

27. My review of this plan has been limited as freshwater fishes do not occur within the project area.
28. In general, understanding which freshwater fish species are present and the extent of their habitat in waterbodies downstream of the project area is important, as this should determine what flows are necessary to maintain appropriate downstream habitat given upstream modification of landforms and wetlands in the project area which will affect catchment water yields. Moreover proposed willow control may further modify channel form and habitat availability.

Rise and Shine Creek culvert location

29. The location in Rise and Shine Creek where a culvert is proposed to be installed as part of a haul road to access the SRX and SRE areas was observed during the site visit. A stream at this location is marked on topographical maps however on the ground, this would be more appropriately described as an intermittent swale. My observation is consistent with the assessment of Dr Allibone who recorded this reach as being intermittent.
30. In respect of the above, I do not consider the proposed location of the culvert as containing freshwater fish habitat, and as no freshwater fish have previously been recorded at this location, it should be considered that there are no fish passage issues at this location.



Dr Nicholas Rex Dunn

16 March 2026

Appendix A – Reference material

- Allibone, R.M. 2025: Bendigo Ophir Gold Project: assessment of effects on aquatic habitat. Report Number: 38-2024A. Prepared for Santana Minerals Limited by Water Ways Consulting. Dunedin, New Zealand. 89 p.
- Boffa Miskell Limited 2025. Bendigo Ophir Gold Project: Assessment of Freshwater Ecological Effects. Report prepared by Boffa Miskell Limited for Matakanui Gold Limited. Auckland, New Zealand. 78 p.
- Dumont, M.; Cleary, C.; Rekker, J.; Durney, P. 2025: Groundwater modelling analysis for mining Bendigo Ophir Gold Deposit. Report: Z24002.m1.1 Prepared by Kōmanawa Solutions Limited for Matakanui Gold Limited. Christchurch, New Zealand. 69 p.
- E3 Scientific 2025: Bendigo-Ophir Gold Project: freshwater ecological assessment. Prepared for Santana Minerals Ltd and Matakanui Gold Ltd by E3 Scientific, Arrowtown, New Zealand. 82 p.
- Mine Closure Management Pty Ltd 2025: Bendigo-Ophir Gold Project mine closure plan. Version J-NZ0454-002-R-Rev1. Prepared for Matakanui Gold Limited. Subiaco, Australia. 299 p.
- Rekker, J. 2025. Bendigo – Ophir Gold Mine Project – surface water & catchment existing environment & effects assessment (Report Series No. Z24002BOG-2). Prepared by Kōmanawa Solutions Limited for Matakanui Gold Limited. Christchurch, New Zealand. 90 p.
- Rekker, J.H., Dumont, M. 2025: Bendigo – Ophir Gold Mine Project – Groundwater existing environment & effects assessment. Kōmanawa Solutions Client Report No. Z24002BOG-1. Prepared by Kōmanawa Solutions Limited for Matakanui Gold Limited. Christchurch, New Zealand. 98 p.
- Rekker, J.H. 2025: Bendigo–Ophir Gold Mine Project – Bendigo groundwater bore take effects assessment Kōmanawa Solutions (KSL) Report No. Z24019SML-3. Prepared by Kōmanawa Solutions Limited for Matakanui Gold Limited. Christchurch, New Zealand. 73 p.
- Ryder, G. 2025: Bendigo-Ophir Gold Project - Recommended water quality compliance limits for the Bendigo-Ophir Gold Project. Draft version 4.2 (Final). Prepared for Matakanui Gold Limited by Greg Ryder Consulting. Dunedin, New Zealand. 48 p.