

**UNDER**

The Resource Management Act 1991

**IN THE MATTER**

of the Proposed Otago Regional Policy Statement  
2021

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**STATEMENT OF EVIDENCE OF CIARAN SEWELL MERRICK CAMPBELL**

Dated 30 September 2022

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## STATEMENT OF EVIDENCE OF CIARAN SEWELL MERRICK CAMPBELL

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### Qualifications and Experience

- 1 My full name is Ciaran Sewell Merrick Campbell.
- 2 I have a Bachelor of Science (Ecology and Zoology) from Massey University (2010), and a PgDipWLM (Wildlife Management) (2019) from the University of Otago. I have completed the academic requirements for a Master of Science (Zoology) at the University of Otago and will have my degree conferred at a graduation ceremony in December 2022.
- 3 I am a Freshwater Ecologist at the Otago Regional Council, where I have worked since January 2020.
- 4 Prior to working at the Otago Regional Council, I was a Freshwater Ranger at the Department of Conservation – Te Papa Atawhai from January 2011 to December 2019. During this time, I was based in Dunedin in the Coastal Otago Area Office, and then the Coastal Otago District Office. My role focused on conservation of freshwater biodiversity in the Otago region and the Waitaki catchment in the Canterbury region.
- 5 I have published 2 scientific papers in peer-reviewed international scientific journals. My research has focused on the use of next-generation sequencing to resolve the phylogenomic relationships of the *Galaxias vulgaris* species complex, using phylogenomics for taxonomy, and advancing taxonomy for conservation. My research used information contained in national threat classification assessments.
- 6 I have 13 years of experience with conservation and restoration of freshwater indigenous biodiversity in Aotearoa New Zealand. I have extensive experience working with indigenous freshwater fishes, especially those within the Otago region and Waitaki catchment of Canterbury region which includes the majority of Aotearoa's threatened freshwater fishes.

- 7 In my role as Freshwater Ranger at the Department of Conservation, I was in attendance for the Freshwater fish taxonomic workshop<sup>1</sup> and the associated discussions leading into the assessment of the Conservation status of New Zealand freshwater fish, 2013<sup>2</sup>.
- 8 In my role as a Freshwater Ecologist at the Otago Regional Council, I routinely use the New Zealand Threat Classification System (NZTCS), following methodology described in the New Zealand Threat Classification System manual<sup>3</sup>, and subsequent amendments to criteria and qualifiers<sup>4</sup> and categories<sup>5</sup>. I am very familiar with the national threat classification system.

### **Code of Conduct**

- 9 I have read and agree to comply with the Environment Court's Code of Conduct for Expert Witnesses, contained in the Environment Court Practice Note 2014. I have complied with the code in preparing my evidence. I confirm that the issues addressed in this statement of evidence are within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.

### **Scope of Evidence**

- 10 I provide this statement of evidence specifically to address:
- the memorandum I co-authored for the Otago Regional Council with Dr Scott William Jarvie, a Biodiversity Scientist at the Otago Regional Council dated 9 February 2022;
  - the evidence of Dr Jarvie dated 20 September 2022; and
  - whether the evidence of Dr Jarvie equally applies to freshwater biodiversity.
- 11 In preparing this evidence, I have read and considered several documents, all of which are cited where relevant in the text below.

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<sup>1</sup> Bowie S, Pham L, Dunn N, Allibone R, & Crow S 2014. Freshwater fish taxonomic workshop focussing on New Zealand non-migratory galaxias taxonomic issues. Proceedings of a workshop, Dunedin 14th May 2013. Unpublished DOC report. Christchurch.

<sup>2</sup> Goodman JM, Dunn NR, Ravenscroft PJ, Allibone RM, Boubee JAT, David BO, Griffiths M, Ling N, Hitchmough RA and Rolfe JR 2014. Conservation status of New Zealand freshwater fish, 2013. New Zealand Threat Classification Series 7. Department of Conservation, Wellington. 12 p.

<sup>3</sup> Townsend AJ, de Lange PJ, Duffy CAJ, Miskelly CM, Molloy J, Norton DA 2007. New Zealand Threat Classification System manual. Department of Conservation, Wellington. 35 p.

<sup>4</sup> Rolfe J, Makan T, Tait A 2021. Supplement to the New Zealand Threat Classification System manual 2008: new qualifiers and amendments to qualifier definitions, 2021. Department of Conservation, Wellington. 7 p.

<sup>5</sup> Michel P 2021. Amendment to the New Zealand Threat Classification System manual 2008: revised categories 2021. Department of Conservation, Wellington. 5 p.

## Report

- 12 I was asked by Melanie Hardiman in the Policy Team of Otago Regional Council to provide advice on ECO-O1 as notified in the proposed Otago Regional Policy Statement 2021 (“pORPS 21”). This request came to both Dr Jarvie and I, and in response we jointly prepared a memorandum entitled “*Ecological advice on threatened species for pORPS21 ECO—O1*” dated 9 February 2022.
- 13 I have read the statement of evidence of Dr Jarvie dated 20 September 2022. I agree with its contents.
- 14 In his evidence, Dr Jarvie has addressed terms such as ‘*species*’, definitions for biological diversity, and conceptual terms such as ‘*indigenous*’<sup>6</sup>. He has also addressed the tools that are widely used in Aotearoa New Zealand to assess the threat status of species<sup>7</sup>. Throughout his evidence, Dr Jarvie has referred to the NZTCS, including the manual and subsequent amendments. He has also referred to the International Union for Conservation of Nature (IUCN) Red List, and the Resource Management Act (RMA) 1991.
- 15 The NZTCS manual describes the scope of the NZTCS. The scope of the classification system includes the description: “*The classification system [i.e., the NZTCS] has been developed to apply equally to terrestrial, freshwater and marine biota*”; therefore, the NZTCS equally applies to terrestrial, freshwater and marine biota (flora and fauna).
- 16 The RMA defines biological diversity as “*the variability among living organisms, and the ecological complexes of which they are a part, including diversity within species, between species, and of ecosystems*”, which encompasses all biodiversity, including freshwater.
- 17 The IUCN Red List of Threatened Species shows trends in extinction risk for species globally. Species that have been assessed are then classified into one of three systems, or combinations of more than one system. These systems are “Terrestrial”, “Freshwater (=inland waters)”, and “Marine”; therefore, the IUCN Red List applies to freshwater species.

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<sup>6</sup> Statement of Evidence of Dr Jarvie dated 20 September 2022 at paragraphs [20] to [32]

<sup>7</sup> Ibid at paragraphs [22] to [32]

- 18 Dr Jarvie has provided evidence about biodiversity. Freshwater biodiversity is a subset of biodiversity; therefore, Dr Jarvie's evidence applies to freshwater biodiversity.
- 19 Dr Jarvie has provided evidence about indigenous biodiversity. Indigenous freshwater biodiversity is a subset of indigenous biodiversity; therefore, Dr Jarvie's evidence applies to indigenous freshwater biodiversity.
- 20 Dr Jarvie has provided evidence about threatened species. Threatened freshwater threatened species are a subset of threatened species, therefore Dr Jarvie's evidence applies to threatened freshwater species.
- 21 Dr Jarvie has provided evidence about tools for assessing threat status of species, specifically the NZTCS and IUCN Red List. These tools assess the threat status or trends in extinction risk of species, including freshwater species, therefore Dr Jarvie's evidence applies to freshwater species.



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Ciaran Sewell Merrick Campbell

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30 September 2022

