

# INDEPENDENT PEER REVIEW REPORT

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SNOWY 2.0 THREATENED FISH MANAGEMENT PLAN

OCTOBER 2023

## Authorisation

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<b>Date:</b>	31/10/2023	<b>Date:</b>	31/10/2023

## Document Revision History

Revision	Date	Details
0.1	21/6/2023	Draft peer review report
1.0	31/10/23	Final peer review report updated in response to DPE approved TFMP

**Report Name:** Snowy 2.0 Threatened Fish Management Plan Peer Review

**Project No.:** 883

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# 1. INTRODUCTION

## 1.1 Project background

The Snowy 2.0 Project was designated Critical State Significant Infrastructure (CSSI 9687) and assessed under Part 5 of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act). The project was approved by the NSW Minister for Planning and Public Spaces under Section 5.19 of the EP&A Act on the 20th of May 2020.

A referral (EPBC 2018/8322) was also prepared and lodged with the Commonwealth Minister for the Environment (DAWE, now DCCEEW) under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and the proposal was subsequently determined to be a controlled action under that Act.

The project was approved under section 130(1) and 133(1) of the EPBC Act on the 29th of June 2020.

Conditions that relate to aquatic biosecurity and fish were included within the NSW Main Works Infrastructure Approval in Schedule 3, Conditions 20-27 and in the EPBC Approval in Annexure A, Part A, Conditions 12-16.

A key requirement of the NSW Approval from an aquatic perspective is the preparation of a Threatened Fish Management Plan (TFMP) (Condition 24). Prior to approval of the TFMP by the Director-General of the NSW Department of Primary Industries, Condition 14 of the EPBC Approval, requires that the TFMP be peer reviewed by an independent, suitably qualified expert/s approved by the Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW).

On 9 May 2023, the DCCEEW approved Steve Fermio, Will Steggall and Leonie Stevenson from WolfPeak to undertake the peer review of the TFMP as required under Condition 14 of the EPBC Approval (Appendix A).

Section 2 of this report details our assessment as to whether or not the TFMP (Revision A dated 18 September 2023) satisfies the specific requirements of Condition 24 (a)-(g).

Other comments and conclusions relevant to our review are provided in Section 3.

## 1.2 About the review team

WolfPeak is a specialist environmental and sustainability consultancy based in NSW with its main offices in Sydney and Port Macquarie. We provide specialist and high quality environmental, ecological, sustainability, compliance assurance, auditing and strategic advisory services to government and communities, proponents and design and construction contractors in the private and public infrastructure sectors, including but not limited to:

- Inland Rail Project (Australian Rail Track Corporation)
- Central Land Council (Northern Territory)
- Sydney Metro (NSW Transport)
- NSW Department of Education

- NSW Department of Health
- Coffs Harbour Bypass (Gamuda Ferrovia Joint Venture)
- NSW Northern Rivers Reconstruction Corporation
- Port Authority of NSW
- Local councils in the Mid North Coast region of NSW
- NSW National Parks and Wildlife Service

We are regularly appointed as independent Environmental Representatives and Auditors by the NSW Department of Planning and Environment (DPE) (formerly the Department of Planning Industry and Environment or DPIE) on major development (SSD) and infrastructure (CSSI/SSI) projects including Sydney Metro, Inland Rail, NSW National Parks and Wildlife Service, NSW Department of Education school infrastructure projects, NSW Health infrastructure projects and Port Botany operations to name a few.

In these roles we are trusted to act and advise in an independent capacity and our reports are made publicly available and relied on for assurance purposes by government agencies, proponents and the community.

Steve Fermio (Peer Review Lead Author) is an independent environmental expert appointed by the NSW DPE to the Wollongong City and Lane Cove Council's Independent Local Planning Panels. These Panels determine development applications within those two local government areas that are of a contentious nature or where significant departures from planning controls are proposed.

The TFMP was also reviewed by our experienced ecologists Will Steggall (Practice Lead, Biodiversity) and Leonie Stevenson (Senior Aquatic Ecologist).

WolfPeak has not previously been engaged directly by Snowy Hydro Limited (SHL) for work on the Snowy 2.0 Project and has had no involvement whatsoever in the preparation of the TFMP.

## 2. PEER REVIEW

Our assessment as to whether the TFMP (Revision A dated 18 September 2023) satisfies the requirements of Condition 24 (a) – (g) is detailed in Table 1 below.

The TFMP is a comprehensive document prepared by SHL and a suitably qualified expert (Dr Lachlan Barnes), informed by close consultation with NSW DPI fisheries scientists and input from several other nationally recognised fisheries scientists including Mark Lintermans, Zeb Tonkin, Sylvia Zukowski and Tarmo Raadik. The TFMP references a significant suite of published scientific literature in the field of aquatic ecology.

It is evident that the plan has been prepared in consultation with the relevant government agency scientific specialists and includes a comprehensive implementation schedule and reporting framework.

The TFMP includes oversight by an Expert Advisory Committee and Annual Reporting provisions with a commitment to make these reports publicly available.

A Memorandum of Understanding will be developed between SHL and NSW DPI that will detail how these parties will co-operate to implement the TFMP.

The TFMP also includes appropriate review provisions and a commitment to remain in place for the life of the EPBC Approval (December 2040) unless otherwise agreed by the Australian Government Minister administering the EPBC Act.

Table 1 – Compliance with Condition 24

Condition	Requirement	Where addressed	Requirement satisfied (Yes/No)	Comment / recommendation
Schedule 3, Condition 24	<b>Threatened Fish Management Plan</b> Within 12 months of the commencement of construction, the Proponent must prepare a Threatened Fish Management Plan for the development to the satisfaction of the Director-General of NSW DPI.	The TFMP, Certificate of Approval and Section 1.5	No	<p>This requirement cannot be satisfied until the TFMP is approved by the Director-General of NSW DPI. Notwithstanding, its pre-requisites have been satisfied as set out in this table and via the completion of this Peer Review Report.</p> <p>We note that several extensions to the timeframe for the approval of the TFMP were advised in correspondence between SHL, NSW DPI and DPE (TFMP, Appendix A, Table 9).</p>

Condition	Requirement	Where addressed	Requirement satisfied (Yes/No)	Comment / recommendation
	<p>This plan must:</p> <p>(a) be prepared by a suitably qualified and experienced person in consultation with DPIE and DAWE;</p>	<p>The TFMP, Certificate of Approval and Section 1.5</p>	<p>Yes</p>	<p>The TFMP has been prepared by Dr Lachlan Barnes, Principal Marine Science Lead, SLR Consulting. Dr Barnes has extensive experience in this field with a Bachelor degree in Science Marine Biology and a PhD in Fish Ecology.</p> <p>A Working Group overseeing the development of the TFMP - comprising representatives of SHL and NSW DPI (formerly part of DPIE) - have met on a monthly basis since July 2020. The Working Group reports to a Steering Committee that met on an approximately quarterly basis from December 2020.</p> <p>On 31 January 2023 a meeting was held with DCCEEW (formerly DAWE) to provide an overview of the TFMP and consult with them on the plan. On 7 March 2023 SHL provided a response to DCCEEW's comments on the draft TFMP including details of the changes made to the plan as a result of their comments.</p>



Condition	Requirement	Where addressed	Requirement satisfied (Yes/No)	Comment / recommendation
	(b) include the establishment and use of an expert advisory committee to provide advice to the proponent on the implementation of the plan;	TFMP, Sections 2.1, 2.2	Yes	The TFMP includes details regarding the establishment, terms of reference and role of the Expert Advisory Committee. NSW DPI have nominated members to be included on the committee.

Condition	Requirement	Where addressed	Requirement satisfied (Yes/No)	Comment / recommendation
	(c) describe the detailed measures that would be implemented to comply with condition 20(b) above;	TFMP, Sections 3.2, 3.3, 4.2, 4.3 and 6.2	Yes	<p>The TFMP includes details of the following key measures, among others:</p> <ul style="list-style-type: none"> <li>• Construction of a fish barrier at the downstream extent of the Stocky Galaxias habitat and fish screens at the southern end of the Tantangara Reservoir (details of the barrier and fish screens are included in Part 2 of the draft Biosecurity Risk Management Plan (Version 0.2))</li> <li>• Captive breeding program (including population monitoring, surveillance and research, habitat surveys and captive breeding and stocking) for the Macquarie Perch and Stocky Galaxias</li> <li>• Habitat enhancement for the Macquarie Perch</li> <li>• Population monitoring, relocation and habitat enhancement for the Murray Crayfish (details of relocation and habitat enhancement measures are provided in the Aquatic Habitat Management Plan, Rev F) (AqHMP)</li> </ul>

Condition	Requirement	Where addressed	Requirement satisfied (Yes/No)	Comment / recommendation
	<p>(d) include a detailed captive breeding program for the Macquarie Perch and Stocky Galaxias involving the spending of \$5 million over 5 years from the commencement of the program that provides for:</p> <ul style="list-style-type: none"> <li>population monitoring, surveillance and research on the Macquarie Perch and Stocky Galaxias in the Mid to Upper Murrumbidgee catchment;</li> <li>habitat surveys to identify suitable receiving sites for stocking insurance populations of Stocky Galaxias and Macquarie Perch;</li> <li>captive breeding, stocking and monitoring of Macquarie Perch and Stocky Galaxias with the aim of achieving self-sustaining populations of these species;</li> <li>habitat enhancement for the Macquarie Perch in the mid-Murrumbidgee catchment in accordance with the National Recovery Plan to increase the existing population's resilience to the potential biosecurity risks from the development</li> </ul>	<p>Stocky Galaxias TFMP, Section 3.3</p> <p>Macquarie Perch TFMP, Section 4.3</p>	Yes	As per above
	(e) include a review after 5 years of the commencement of the captive breeding program in (d) above and detail the trigger, action and response plan for the extension of the program;	TFMP, Section 5	Yes	Provision for review of the captive breeding program is set out in section 5 of the TFMP and the TARP in Table 8 of the Plan.

Condition	Requirement	Where addressed	Requirement satisfied (Yes/No)	Comment / recommendation
	<p>(f) include a program to minimise the impacts of the development on the Murray Crayfish in Talbingo Reservoir, including:</p> <ul style="list-style-type: none"> <li>population monitoring and surveillance for Murray Crayfish;</li> <li>relocating any Murray Crayfish from the disturbance area of the development prior to disturbing the relevant area; and</li> <li>habitat enhancement for the Murray Crayfish habitat in the vicinity of the disturbance area at the Talbingo Reservoir, including the use of woody debris salvaged during construction; and</li> </ul>	<p>TFMP, Section 6.3</p> <p>Snowy 2.0 Aquatic Habitat Management Plan; TFMP, Section 6.3.2</p> <p>Snowy 2.0 Aquatic Habitat Management Plan; TFMP, Section 6.3.3</p>	Yes	<p>The program to minimise impacts to the Murray Crayfish is detailed in section 6.3 of the TFMP.</p> <p>The TFMP includes measures for population monitoring. Detailed measures for relocation and habitat enhancement consistent with the requirements of this condition are included in the AqHMP (RtS AE01 and Main Works Aquatic Ecology Assessment, Appendix M.2 of EIS).</p> <p><b>Recommendation:</b></p> <p><b><i>It is recommended for transparency that either the AqHMP (or relevant sections) be made publicly available, or alternatively the TFMP include the relevant details from Appendix A and C of the AqHMP regarding the relocation and habitat enhancement measures for the Murray Crayfish.</i></b></p>
	<p>(g) include a program to monitor and publicly report on the progress of each program/plan and the effectiveness of these measures.</p>	TFMP, Section 2.4	Yes	<p>An Annual Report (prepared by NSW DPI) on the results of the implementation of the TFMP is proposed to be submitted to the Expert Advisory Committee established under Condition 24(b). The Report is to be made publicly available on SHL's website.</p>

### 3. CONCLUSIONS

We consider that the TFMP (Revision A dated 18 September 2023) is fit for purpose and satisfies the requirements of NSW Approval Condition 24<sup>1</sup> (a) – (g), as detailed in Table 1 above.

We therefore endorse the Plan for approval by the Director-General of the NSW DPI.

Without affecting our endorsement, we make the following comment on the TFMP for consideration in its finalisation and approval:

- It is recommended for transparency that either the AqHMP (or relevant sections) be made publicly available, or alternatively the approved TFMP include the relevant details from Appendix A and C of the AqHMP regarding the relocation and habitat enhancement measures for the Murray Crayfish.

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<sup>1</sup> Noting that the approval of the TFMP by the Director-General of NSW DPI is required to fully satisfy Condition 24

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## **APPENDIX A – APPROVAL OF PEER REVIEW TEAM**



EPBC ref: 2018/8322

Elizabeth Pope  
Senior Environmental Scientist  
Snowy Hydro Limited  
Elizabeth.Pope@snowyhydro.com.au

**Approval of qualified experts for Snowy Hydro 2.0 Main Works, NSW (EPBC 2018/8322).**

Dear Elizabeth

Thank you for your correspondence dated 17 February 2023 to the department, requesting approval of suitably qualified experts to undertake a peer review of the Threatened Fish Management Plan under condition 14 of *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) approval 2018/8322.

I have noted the information provided, including the qualifications and experience of the nominated experts and the requirements specified in the conditions attached to the EPBC Act approval for the above project.

I have approved:

- Steve Fermio for undertaking a peer review of the Threatened Fish Management Plan, under condition 14 of EPBC 2018/8322
- Will Staggall for undertaking a peer review of the Threatened Fish Management Plan, under condition 14 of EPBC 2018/8322
- Leonie Stevenson for undertaking a peer review of the Threatened Fish Management Plan, under condition 14 of EPBC 2018/8322

Should you require any further information please contact Karina Richards on 0476 564 933 or by email to [PostApproval@dcceew.gov.au](mailto:PostApproval@dcceew.gov.au).

Yours sincerely

Brendan Linton-Smith  
A/g Branch Head  
Environment Assessments (Vic, Tas) and Post Approvals Branch  
Department of Climate Change, Energy, the Environment and Water  
9 May 2023