Upper Murrumbidgee Demonstration Reach
Improving fish habitat and river health in the Upper Murrumbidgee
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Snowy 2.0 Major Works Environmental Impact Statement Comment

Dear Sir/Madam

I am writing on behalf of the Upper Murrumbidgee Demonstration Reach (UMDR) initiative to provide comment on the Snowy 2.0 Major Works Environmental Impact Statement (EIS) (hereafter referred to as the proposed development).

The UMDR is a partnership initiative that seeks to facilitate an integrated approach towards protecting and enhancing the health of the upper Murrumbidgee River (both in NSW and the ACT) for the benefit of native fish populations and associated aquatic communities. Significant species found in the upper Murrumbidgee include Stocky galaxias, Trout cod, Macquarie perch, Murray cod, Platypus, Murray river crayfish and Rakali (Water rats), most of which are threatened species listed under Commonwealth, NSW and or ACT legislation. Our partners include government and non-government catchment organisations, river interest groups and landholders.

The upper Murrumbidgee River downstream of Tantangara Reservoir is the known habitat of Macquarie perch, Trout and Murray cod, which are listed species under the Environment Protection and Biodiversity Conservation Act (1999) and the NSW Fisheries Management Act (1994). The Macquarie perch population in the upper Murrumbidgee is highly significant, and the area is considered a relative stronghold for the species. Stocky galaxias are found upstream of the Tantangara Reservoir, and are listed as critically endangered in NSW (and are in the process of being listed similarly under Commonwealth legislation). Their range is currently restricted to just 3km of the Tantangara Creek.

***The Tantangara catchment and receiving waters contain two highly endangered species, the Stocky galaxias and Macquarie perch. Actions through the proposed development need to ensure the protection of these species.***

The proposed development's aquatic assessment identifies that the transfer of Redfin perch and other pest species to Tantangara Reservoir could occur as a result of the proposed development. Given the life of the proposed development is 100 years, transfer is likely. Currently, the upper Murrumbidgee River upstream and downstream of Tantangara Reservoir is free of Redfin perch, and this is a factor which contributes to the current resilience of threatened native fish populations in the upper Murrumbidgee catchment. We are very concerned about Redfin perch as they carry the EHN Virus and that it is likely to be transferred downstream of Tantangara Reservoir. Macquarie perch are very susceptible to EHN virus infection. If Redfin invasion occurs and an outbreak of EHN Virus occurs, it is likely that the Macquarie perch population in the upper Murrumbidgee will be decimated by the disease. In addition, if Climbing galaxias are transferred to the upper Murrumbidgee, their effect on the Stocky galaxias will als0 similarly devastating. These severe, direct

effects likely from Redfin perch and Climbing galaxias highlight the negative impact of pest species on the ecology of aquatic systems. This is not to mention further cumulative impacts caused by further pest species being introduced such as Goldfish and Oriental weatherloach. Such impacts are complex, and can lead to a range of issues which increase pressure on species already under duress.

***We find that the Environmental Impact Statement (EIS) has not adequately assessed these aspects and we would like to see more information provided in regard to these issues.***

The EIS proposes that impact from the likely transfer of pest fish species will be 'mitigated by design' via fish control structures at Tantangara Creek and the Tantangara Dam, so that the spread of pest fish once they are transferred is mitigated. ***We do not accept this as a long-term or reliable solution.*** Once pest fish are present in Tantangara Reservoir, the risk that these pests may spread will be there forever, outlasting any design solutions and the life of the proposed development. Additionally, from case studies such as the Tasmanian Carp eradication program we know that once pest fish are established, controlling them and managing their impacts is virtually impossible, even given unlimited capacity and resources. Given what we currently know about the impact of pest species, we feel the proposed development, in its current design, is likely to knowingly decimate one of the last remaining populations of Macquarie perch and only Stocky galaxias population in the Murray-Darling Basin. There is already public outcry at the loss of native fish species, and to proceed with the proposal in its current form, knowing that the loss of these fish is likely, is irresponsible. It is also disregarding the legislative protections and policy setting that have been put in place to protect species impacted by human initiated developments such as the proposed.

Further to the points made above, even if the fish control screens could be installed and maintained for an indefinite time into the future, they would not prevent the downstream movement of pests in the event of a dam spilling flood event (such as occurred over Tantangara Dam in the 1990s). There are also other types of failures that could also result in a breach. In addition, the proposed screening measures do not adequately mitigate concerns around the spread of the EHN Virus downstream of the dam should there be an outbreak in the Tantangara Reservoir. The current proposal would also enable pest fish to establish in the waters upstream of Tantangara Reservoir, which is currently free of pest species. By letting pest fish ingress into this area we are foregoing the ability to expand the range of the Stocky galaxias here. Screens also do not prevent indirect impacts such as the movement of pest species from Tantangara Reservoir via vectors such as recreational fishers. Even though this is not related to the operation of the proposed development per se, it is facilitated by it if pest species are transferred and so could be an indirect consequence of the development.

Given the above factors, and according to basic pest species management principles, the only acceptable measure is to prevent the ingress of pest species in the first place. At a minimum this should include 'prevention by design' by installing a fish control screen at Talbingo Reservoir. Even then, we can never be certain that screens cannot be breached, so we would like to see a dedicated monitoring program tracking risk and impacts integrated into the operational plans for the development, as well as contingency trust funding available throughout the life of the project (and beyond) to address impacts when they become known.

***Facilitating the invasion of Tantangara Reservoir through the proposed development scheme by pest and invasive species, such as Redfin perch and Climbing galaxias, should***

***be prevented. Such prevention measures could include a screen at the Talbingo water inlet and measures including monitoring and contingency trust funding for the life of the project and beyond. This work needs to be done in tandem with a public education campaign highlighting the need to keep Redfin perch and other pest species out of the upper Murrumbidgee.***

Given that the impact on threatened native fish species of the upper Murrumbidgee species is possible, and that at least two of the species potentially affected (Macquarie perch and Stocky galaxias) have local populations which are critical to the survival of the species itself, the proposed development has the potential to affect not only the survival of local populations, but the conservation status of the species as a whole. We know that to maintain or even elevate the conservation status (resilience and health) of threatened species, impacts cannot be managed in hindsight, once they have occurred. So, if we are serious about conserving threatened species we must 'work ahead' to improve resilience and status of critically endangered species populations so that they can survive future impacts (such as those of the proposed development). The required offsets for the proposed development should include such 'future-proofing' measures for threatened species potentially affected by the development over its life (or the life of the impact). These measures should be adequately resources and supported by best available science.

***The development, via the offset scheme should contribute to conserving the Macquarie perch and Stocky galaxias species. In the case of the Macquarie perch this includes supporting conservation efforts more broadly across the whole of the species and its range. In terms of the Stocky galaxias work to increase its current range is critically needed.***

There is a lot of work occurring in the upper Murrumbidgee catchment to increase the health and resilience of the upper Murrumbidgee River and native fish populations, including Macquarie perch and Stocky galaxias. Activities include research, riparian restoration, improving instream habitat, community engagement, vertebrate pest and pest fish management and monitoring. Many organisations involved in this work are UMDR partners, and actions are funded from a range of sources, including government and private sector investment. There is however much more work to do, and there is a united objective among our partners to carry this work on into the future. We hope that the impacts of the proposed development do not detrimentally affect the beneficial outcomes we have achieved so far. We need to be looking at ways to mitigate negative impacts and consider offset strategies so that existing work and partnerships can continue and the health of the upper Murrumbidgee River and the fish and fauna species it supports can thrive.

***Resilience of the upper Murrumbidgee aquatic communities and river health needs to be maintained or improved through a range of actions and involving all stakeholders. We welcome partnership and contribution to theses efforts. Actions include further research, restoring riparian stability and connectivity, terrestrial vertebrate pest management, willow management, instream habitat improvement and better environmental flow provision.***

This submission has been prepared as a joint response on behalf of the UMDR initiative and its partners.

Please do not hesitate to contact me if you have any queries in regard to this submission on 0429 778 633 or upperbidgeereach@gmail.com

Yours faithfully,

Antia Brademann
UMDR Facilitator

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