

Waitaha Hydro Proposal - Advice regarding conservation values and effects of proposed hydro scheme on blue duck ASSYST request R50618

Comment on the blue duck report and the Waitaha Hydro Scheme Application for Concessions and Assessment of Effects July 2014

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1. Summary

1.1 The blue duck report, "*Assessment Of Environmental Effects of the proposed Waitaha Hydro Scheme on Whio/Blue Duck (Hymenolaimus malacorhynchos)*", compiled by Sustainability Solutions is a comprehensive and well constructed report.

1.2 The blue duck report addressed the possible effects as far as is possible given the complex nature of understanding the data as gathered and the general difficulty with understanding wildlife population dynamics.

1.3 I agree with the negative effects as assessed by the report but there are some areas where my views and interpretations differ from the authors. However, in my view, the assessment of effects and mitigation measures made by the applicant in the proposal, *Application for Concessions and Assessments of Effects*, are sufficient, with some minor considerations, **for the concession to be granted**. Specifically :

- 15.7 some sense of security that a duckling friendly weir is possible, if this is not possible other mitigation options need to be considered such as long-term predator control or reintroduction of birds or WHIONE type population enhancement – notwithstanding the options for these within current mitigation measures with their own trigger levels.
- 15.11 clarity around blasting and the presence of blue ducks in blast areas and how this will be dealt with.

2. Comment on the report "Assessment of Environmental Effects of the proposed Waitaha Hydro Scheme on Whio/Blue Duck (Hymenolaimus Malacorhynchos)"

2.1 Summary of report

- is comprehensive and well constructed
- identifies the area to be effected by the hydro scheme is a significant habitat of indigenous fauna in respect to blue duck and to have high natural heritage values for blue duck
- provides information on blue duck population and ecology in the Waitaha River and some adjacent catchments based on surveys conducted for the report and other data
- provides an assessment of potential effects of the hydro proposal

- provides a comparison of potential effects from two proposed intake options and the relative merits and issues with each with the Morgan Gorge site being the one which would have the lesser impact on blue duck.
- provides an assessment of effects and proposed mitigation for these
- overall the assessment concludes that the project has been designed to minimise the effects of the hydro development on this area which is considered to have high significance and natural heritage values for blue duck and their habitat in relation to criteria in the West Coast Regional Policy Statement 2000, the Westland District Plan 2002 and the West Coast Management Strategy 2010-2020. It also states that the scheme will change the habitat and that this should continue to sustain a blue duck population if recommended mitigation measures are adopted and a monitoring programme is put into place to monitor outcomes and inform response triggers which will ensure no adverse effects result from the scheme.

2.2 Technical comment

2.2.1 Population and ecological assessment

The report does provide an assessment of the population and the various theories explaining the observations. I am not convinced that there is a reasonable understanding of the relationship between the Waitaha catchment and other adjacent catchments and how changing the habitat or behaviour of the Waitaha birds will influence the wider blue duck population. There is some suggestion that the various catchments are integral in the meta population but this relationships and the various contributions or dependencies of the other catchments is not well understood. Is the influence of this hydro development wider than just the Waitaha catchment?

There is clear evidence that the blue duck population is currently vulnerable as a result of predator pressure, a key consideration is, will this development exacerbate (by compounding negative pressure on the population) or improve the current situation through mitigation measures – deploying stated and other unstated mitigation options such as predator control regimes?

I don't subscribe to the repeated statement that the significance of the catchment will no longer be relevant should the population be extirpated due to ongoing predator pressure.

I am not convinced that the reach where water flow will be reduced, the Morgan Gorge, is not important for blue duck and I feel more work is necessary to determine the role this areas plays for the Waitaha blue duck population and the wider blue duck meta population. The report states that reducing flows may improve habitat for blue duck – it would be useful to determine with more confidence what the result of reducing flows would mean for blue duck.

2.2.2. Assessment of Effects within the blue duck report

I feel there could have been more investigation of the following adverse effects:

- Water quality effects from riparian vegetation modification, riparian activities and riverbed disturbance and construction activities and structures in the riverbed.
- Predator pressure has been identified as a key cause of blue duck mortality and a possible reason long term survival prospects for blue duck in the Waitaha catchment. I feel the proposed forest clearance, riparian disturbance, access roads and other construction activities could alter predator dynamics and abundance and it would be useful to investigate this more.
- The weir design is said to be designed to allow duckling movement – it is necessary to demonstrate that some work has been done to find a suitable design which ducklings can navigate in both directions before granting a concession
- More investigation was needed on blue duck flight paths and the location of aerial obstacles such as power lines, towers etc.. The risk of line strike needs to be investigated as this is likely to be an additional mortality factor which, if it kills productive females or established pairs, could have a major influence of the local and wider population.
- There are still many uncertainties around the weir construction and the impact long and short term of the resulting impoundment of water behind this.
- The potential carrying capacity of the area for blue ducks and how this could be effected by dewatering and impoundments.

2.3 Conclusion

The report provides a good assessment of the blue duck situation in respect to this proposal. I feel it underplays the impact on blue duck.

Having said this I believe a well reasoned and developed mitigation package could compensate for any negative impacts from the development that should result in a similar or possibly better population in the catchment.

3. Comments on the mitigation measures for effects on blue duck in “WAITAHA HYDRO SCHEME - Application for Concessions and Assessment of Effects July 2014”

3.1 Summary of effects

I agree with the following summary of effects

A. Morgan Gorge:

- 1. The effects of disturbance and noise during the construction period, including changes to nesting behaviour and raising young, feeding habitat, and roosting behaviour.*
- 2. Trout access and duckling access to Kiwi Flat.*
- 3. Weir ponding and aggradations above Morgan Gorge.*
- 4. The effects of ongoing scheme operation.*

B. Effects of water abstraction and sediment discharge in and below Morgan Gorge.

C. Effects of works and structures at and downstream of the powerhouse/tailrace site.

D. Multi-site potential effects.

The following conditions are set out in section 9 of the application as mitigation for the identified effects, 1.1-1.2, 4.8-4.9, 5.16, 7.1-7.4, 8.1-8.12, 9.1-9.4, 12.1-12.7, 14.1-14.5, 15.1-15.7, 15.10 -15.11, 18.1-18.4, 18.15-18.20.

In general I agree these will mitigate the effects identified. I suggest the following changes are considered for some of the mitigation measures.

15.7 The intake weir shall be designed in consultation with the appropriate specialists to allow for ... b) blue duck access.

I feel it is important to establish that such a design is at least feasible prior to granting a concession – if this is not feasible then it may be necessary compensate the population by looking at additional long-term predator control commitments or reviewing the trigger conditions for a WHIONE operation as in 18.7 or activate an applicant funded captive bred blue duck replenishment programme

15.11 Prior to any rock blasting the Concessionaire shall undertake a visual inspection to ensure that blue ducks are not present within or about the entrance to Morgan Gorge or within the potential fall zone.

The blue duck report alluded to ‘moving blue ducks prior to blasting’, condition 15.11 highlights that prior to blasting a visual inspection is made but does not identify what will be done if birds are known to be in the area or seen during the visual inspection. Moving birds could be by ‘scaring them off’ or catching and temporarily holding in captivity until after blasting ceases or re-location to ‘safe’ area. If the birds are resident then they would probably need to be held temporarily until after blasting is completed then released. ‘scaring off’ may not be appropriate as birds will circle and return. If they are to be relocated it would need to be into an area where no resident pairs live. This situation needs advice to be sought from the recovery group.