

1. My name is Dr Rebecca Stirnemann and I am employed as the Central North Island Regional Manager for Forest and Bird since 2017. I have a PhD in ecology from the University of Massey, MSc from Trinity College Dublin in Climate change modelling and a MSc in Ecology from Trinity College Dublin. As an environmental consultant I have undertaken work in freshwater stream ecology as well as habitat restoration.
2. The reason Forest and Bird is concerned with the suggested option of take water from the Ohinemuri river and discharge because it will have significant ecological consequences. The information provided does not show that adverse effects from water takes and discharge activities can be managed to avoid, remedy and mitigate adverse effects.
3. Granting the new consent would allow the applicant to take 20% of the Ohinemuri River 61% of the time (223 days per year on average) for 10-14 years. This not a short term or minor abstraction.
4. Indeed there will be consequences such as:
 - Increased downstream water temp
 - Affect water quality
 - Reduce wetted area or habitat availability
5. The ecological impact below the abstraction point will impact native fish habitat and breeding. Barrier (1994) stated that abstraction was the greatest risk to fish populations in this catchment and recommended avoidance of physical changes.
6. The loss of habitat is not proportional to the amount of water removed. For instance 20% of water removal is not equal to a loss of 20% habitat loss. Instead habitat loss is considerably higher.
7. Habitat loss can also occur through the introduction of invasive fish. It has been proposed that the pit lake will be a breeding area for invasive Koi carp. This is of considerable biosecurity concern about which DOC should have been notified.
8. It is also concerning that the application has failed to consider adequate alternative options which would limit environmental impacts on the surrounding river.
9. Though it is important to restore and enhance the biological values of the pite site this should not result in net negative impacts on the biological values of the river. The applicant has not quantified the harm or their additional cost that would justify the increased 20% take aside from filling the pit hole faster.

DATA GAPS

10. The ecological impact assessment information provided was not sufficient and does not consider all other uses of the river and the cumulative impacts from multiple sources in both quality and quantity of take.
11. The applicant has failed to quantify the loss of habitat or potential for increased river temperatures due to the effects of the proposed water take. Data gaps were not identified in in consultation. As a result submitters were not given adequate information to determine the impacts of the proposed water take.
12. Climate change will have considerable impacts on river life increasing river temperatures. These impacts are already impacting stream life and with even more pressure through additional long term water take it is highly likely to be acerbated.