

## Comments on Matawii Water Storage Reservoir, Kaikohe, a listed project under the COVID-19 Recovery (Fast-track Consenting) Act 2020

<b>Application Name:</b>	<i>Matawii Water Storage Reservoir, Kaikohe</i>
<b>EPA Reference:</b>	FTC000016
<b>Applicant:</b>	<i>Te Tai Tokerau Water Trust</i>
<b>Comments due by:</b>	<b>21 September 2020</b>
<b>Accessing the application:</b>	The Matawii Water Storage Reservoir Fast-track application can be accessed here : <a href="https://www.epa.govt.nz/fast-track-consenting/listed-projects/matawii-water-storage-reservoir/application/">https://www.epa.govt.nz/fast-track-consenting/listed-projects/matawii-water-storage-reservoir/application/</a>

To comment on the Matawii Water Storage Reservoir application using the form below, please fill in the details and:

- **Email** the form to [matawiifasttrack@epa.govt.nz](mailto:matawiifasttrack@epa.govt.nz)  
Please mark in the subject line: “Comments on Matawii Fast Track Application (Your name/ organisation)”; or
- **Post** the form to Matawii Fast-track Application, Environmental Protection Authority, Private Bag 63002, Waterloo Quay, Wellington 6140. Please ensure adequate time is given for the form to be received in time; or
- **Deliver in person** to Environmental Protection Authority, Grant Thornton House, Level 10, 215 Lambton Quay, Wellington. Please note that due to potential changes in COVID-19 Alert Levels our reception may not be open to the public. We suggest phoning ahead to check.

### Comments must be received by the EPA, on behalf of the Panel, on 21 September 2020.

If your comment is not received by the EPA on 21 September 2020 the Panel is not required to consider your comment (although it may decide to). Under the COVID-19 Recovery (Fast-track Consenting) Act 2020 there is no right to seek a waiver of the time limit.

If you are an iwi authority you may share the consent application with hapū whose rohe is in the project area in the application, and choose to include comments from the hapū with any comments you may wish to provide.

## Important information

Your personal information will be held by the EPA and used in relation to the Matawii Water Storage Reservoir application process. You have the right to access and correct personal information held by the EPA. A copy of your comments, including all personal information, will be provided to the Matawii Expert Consenting Panel and the applicant.

All comments received on the application will be available on the EPA website.

If you are a company making comments on this application, your full business contact details will be publicly available. For individuals, your name and any information you provide may be publicly available. Your contact details (phone number, address, and email) will not be publicly available.

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# Comment on the Matawii Water Storage Reservoir, Kaikohe, Fast-track Application

Please complete all parts of this form

The Matawii Water Storage Reservoir, Kaikohe, Fast-track application can be accessed here <https://www.epa.govt.nz/fast-track-consenting/listed-projects/matawii-water-storage-reservoir/application/>

## 1. Contact Details

Please ensure that you have authority to comment on the application on behalf of those named on this form.

<b>Organisation name (if relevant):</b>	Generation Zero		
<b>First name:</b>	Jenny		
<b>Last name:</b>	Coatham		
<b>Postal address:</b>	[REDACTED]		
<b>Home phone / Mobile phone:</b>	[REDACTED]	<b>Work phone:</b>	
<b>Email:</b>	<a href="mailto:jenny@generationzero.org.nz">jenny@generationzero.org.nz</a>		

## 2. We will email you draft conditions of consent for your comment about this application.

- |                          |   |                          |   |
|--------------------------|---|--------------------------|---|
| <input type="checkbox"/> | <b>I can receive emails and my email address is correct</b> | <input type="checkbox"/> | I cannot receive emails and my postal address is correct. |
|--------------------------|---|--------------------------|---|

### 3. Please provide your comments on the Matawii Water Storage Reservoir, Kaikohe Fast-track Application

If you need more space, please attach additional pages. Please include your name, page numbers and Matawii Water Storage Reservoir, Kaikohe, Fast-track Application on the additional pages

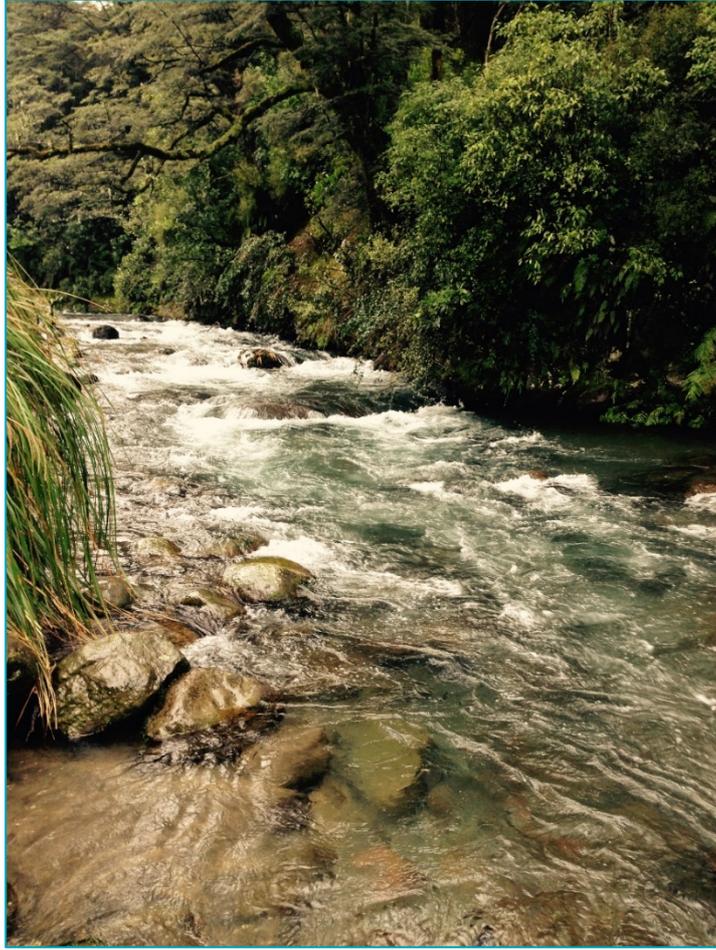
To the Expert Consenting Panel,

Generation Zero has concerns regarding whether the Matawii Water Storage project will adequately be able to mitigate greenhouse gas emissions. There does not seem to be clear and sound evidence that the project will contribute to New Zealand's efforts to mitigate climate change and transition more quickly to a low-emissions economy.<sup>1</sup> In addition to this we have believe that significant conditions should be put on this project in order to reduce the greenhouse gas emissions produced both in construction and over the lifetime of this water storage facility. Emissions produced from construction materials, transportation of materials and energy consumption during construction should be strictly capped in accordance with international best practice and the 1.5 degree warming goal contained in the Zero Carbon Bill.

Generation Zero did not feel we had the requisite knowledge within our organisation to comment on specific aspects of this project. We have partnered with Chose Clean Water in order to better represent the public interest in our submission regarding the Matawii Water Storage Reservoir. Copied below is the outcome of our partnership - a joint submission. Generation Zero agrees with the points made and is thankful to Chose Clean Water for guiding us through this project.

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<sup>1</sup> Section 19 RMA Fast Track Consenting Act



# Choose Clean Water Submission on consent application for Matawii Water Storage Reservoir

TO ENVIRONMENT PROTECTION AGENCY

19 September 2020



Choose Clean Water

Contact: Marnie Prickett

Phone: 022 161 2634 | Email: [marnie@chooscleanwater.org.nz](mailto:marnie@chooscleanwater.org.nz)

## 1. EXECUTIVE SUMMARY

1. Choose Clean Water welcomes the opportunity to make a submission on '*consent*' application for Matawii Water Storage Reservoir by Te Tai Tokerau Water Trust (LP16) under the COVID-19 Recovery (Fast-track Consenting) Act 2020.
  
2. Choose Clean Water seeks that this application is declined due to;
  - scientifically unsound assumptions forming the basis of the project (meaning project is likely to *increase vulnerability* to drought);
  
  - a lack of certainty and commitment concerning the intended use of the water held by the reservoir, means the reservoir is unlikely to achieve one of its principle proposed purposes, namely to secure Kaikohe's Town Water Supply;
  
  - pre-empting the government's intention to address allocation at a national level in the coming term and the incompatibility with the recommendations of Wai 2358 on the need to address Māori rights and interests with regards to water; and
  
  - the proposal's inconsistency with the National Policy Statement for Freshwater Management 2020, particularly the requirement of councils to maintain and/or improve water quality in all catchments and the priority given to the health of waterbodies before commercial interests by Te Mana o Te Wai.
  
  - the project's erroneous selection under the COVID-19 Recovery (Fast-track Consenting) Act 2020 as it undermines ten of the 13 matters which the Minister is to have regard to in determining if a project will

help achieve the purpose of the Act and, due to this, it is unlikely to help achieve the purpose of the Act.

3. Literature provided in this submission shows that assumptions made by the applicant that the reservoir will provide, “a secure raw water supply for the Kaikohe Town Water Supply scheme, as well as supply for irrigation needs, such that similar consequences of the 2019-2020 drought will be avoided for the foreseeable future” are scientifically unsound.
4. This submission draws the Matawii Expert Consenting Panel’s attention particularly to the ‘reservoir effect’ documented in scientific literature, which means this project is most likely to *increase vulnerability* to drought in the region.
5. The proposal lacks certainty on how and how much water will be provided to Kaikohe to secure the town’s domestic/ drinking water supply. Given this lack of detail and commitment by applicants, along with the intention to intensify land use, the predicted effects of climate change (less rainfall in Northland) and the private nature of the ownership of the reservoir, it seems most likely that in periods of extended drought or dry winters resulting in lower water availability, Kaikohe Town Water Supply is likely to be insecure and subject to commercial pressure.
6. The Government has committed to addressing allocation at a national level in the coming term. The stated objective is to, “Address water allocation **issues** having regard to all interests including Māori and existing and potential new users.”<sup>2</sup> This project would preempt and may be inconsistent with national direction on allocation.
7. Furthermore, this project would certainly undermine the 2019 recommendations of Wai 2358, “Stage 2 Report on the National Freshwater and Geothermal Resources Claims.”<sup>3</sup>

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<sup>2</sup> Ministry for the Environment. 2019. *Action for healthy waterways – A discussion document on national direction for our essential freshwater*. Wellington: Ministry for the Environment.

<sup>3</sup> Retrieved from <https://waitangitribunal.govt.nz/publications-and-resources/waitangi-tribunal-reports/>

8. Additionally, Councils are required to maintain and/or improve all measures of ecosystem health as described by the National Policy Statement for Freshwater Management 2020 (NPS-FM 2020). The NPS-FM 2020 does not allow the further degradation of waterbodies from their state at 2017. Given the ecosystem health impacts of damming flowing water bodies and the proposed increase in intensive land use, the proposal is very unlikely to allow for the Northland Regional Council to be able to give effect to the NPS-FM 2020.
9. We thank the panel for its thorough consideration of this submission and its full engagement with the arguments put forward here.

## 2. CHOOSE CLEAN WATER

- 2.1 Choose Clean Water is a student-established and volunteer run freshwater campaign started in 2015 and aimed at improving New Zealand's freshwater policy and management in order to protect and restore the health of waterways for people and nature.
- 2.2 Choose Clean Water has advised government on freshwater policy since 2018.

## 3. SCIENTIFICALLY UNSOUND ASSUMPTIONS FORM THE BASIS OF THIS PROJECT AND THIS PROJECT IS LIKELY TO INCREASE VULNERABILITY TO DROUGHT

- 3.1. Throughout the proposal documents, applicants make the claim and work on the assumption that the reservoir will provide "a secure raw water supply for the Kaikohe Town Water Supply scheme, as well as supply for irrigation needs, such that similar consequences of the 2019-2020 drought will be avoided for the foreseeable future."
- 3.2. The claim is made that the water storage project provides significant opportunities to mitigate the impacts of climate change. The frequency and severity of droughts are expected to increase with climate change and having a reliable water supply, that takes water during the wet months, will become increasingly important to provide resilience and support small rural economies such as Kaikohe and Dargaville."

3.3. However, there appears to have been little investigation of these assumptions and no literature review on whether reservoirs have been found to build resilience.

3.4. There is international recognition that water storage schemes can, in fact, *increase vulnerability*.

3.5. In their 2018 paper, *Water shortages worsened by reservoir effects*, Di Baldassarre, et al. write:

“[T]here are two counterintuitive dynamics that should be considered [...]: supply–demand cycles and reservoir effects. Supply–demand cycles describe instances where increasing water supply enables higher water demand, which can quickly offset the initial benefits of reservoirs. Reservoir effects refer to cases where over-reliance on reservoirs increases vulnerability, and therefore increases the potential damage caused by droughts.<sup>4</sup>”

3.6. Di Baldassarre explains:

“The *supply-demand cycle* describes cases where increasing water supply leads to higher water demand, which can quickly offset the initial benefits of reservoirs. Previous studies showed that water consumption tends to increase when more water is available. This can result into a vicious cycle: a new water shortage can be addressed by a further expansion of reservoir storage to increase (again) water availability, which enables more water consumption, until the next shortage... As such, the supply-demand cycle can trigger an accelerating spiral towards unsustainable exploitation of water resources and environmental degradation.<sup>5</sup>”

3.7. On the ‘reservoir effect’, he writes:

““The *reservoir effect* describes cases where over-reliance on reservoirs increases the potential damage caused by drought and water shortage. The expansion of reservoirs often reduces incentives for preparedness and adaptive actions, thus

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<sup>4</sup> Di Baldassarre, G., Wanders, N., AghaKouchak, A., Kuil, L., Rangelcroft, S., Veldkamp, T.I.E., Garcia, M., van Oel, P.R., Breinl, K., and Van Loon A.F. (2018). Water shortages worsened by reservoir effects. *Nature Sustainability*, 1, 617-622. <https://www.nature.com/articles/s41893-018-0159-0>

<sup>5</sup>Retrieved from <https://sustainabilitycommunity.springernature.com/posts/40154-water-shortage-due-to-storage>

increasing the negative impacts of water shortage. Moreover, extended periods of abundant water supply, supported by reservoirs, can generate higher dependence on water resources, which in turn increases social vulnerability and economic damage when water shortage eventually occurs.

We termed the reservoir effect after a similar safe-development paradox, i.e. Gilbert White's levee effect, which has been widely documented in flood risk studies. The paradox is that levees, which reduce the frequency of flooding, can increase social vulnerability to floods in two ways: by creating a sense of complacency, which can act to reduce preparedness, and by creating incentives for more human settlements in areas prone to flooding. The reservoir effect is arguably even more dangerous than the levee effect. The enhancement of flood vulnerability associated with high reliance on levees is often counterweighed by a reduction of the frequency of flooding. Instead, the enhancement of drought vulnerability associated with increased reliance on reservoirs might not be balanced by a reduced frequency of water shortage, as the supply-demand cycle might offset the initial benefits of reservoirs.<sup>6</sup>

- 3.8. The assumption, therefore, that reservoirs increase resilience for rural communities and that this reservoir will mean the consequences of the 2019-2020 drought will be avoided in future are unsound.

#### 4. A LACK OF CERTAINTY AND COMMITMENT CONCERNING THE INTENDED USE OF THE RESERVOIR WATER, MEANS RESERVOIR UNLIKELY TO SECURE KAIKOHE'S TOWN WATER SUPPLY

- 4.1. The lack of certainty and commitment concerning the use of the reservoirs water establishes a high risk that the claim that the reservoir will not "secure raw water supply for the Kaikohe Town Water Supply scheme."

- 4.2. There are a number of proposed uses for the water provided by the applicant but no concrete and binding commitment to providing for the needs of the town water supply. Without certainty and commitment to the reservoir providing first for the needs of the town before commercial considerations during periods of drought, the conflict likely during these times is a high risk to the security of Kaikohe Town Water Supply.

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<sup>6</sup> Retrieved from <https://sustainabilitycommunity.springernature.com/posts/40154-water-shortage-due-to-storage>

4.3. The planned increased intensity of land use as a result of the reservoir will lead to the development of agricultural and horticultural systems that are reliant on water availability (and, indeed, vulnerable to collapse when water is not available).

4.4. This is regardless of supposed “efficiency” of new agricultural or horticultural systems. As Grafton, et al. (2018) write:

“[g]iven that crop irrigation constitutes 70% of global water extractions, which contributes up to 40% of globally available calories (1), governments often support increases in irrigation efficiency (IE), promoting advanced technologies to improve the “crop per drop.” This provides private benefits to irrigators and is justified, in part, on the premise that increases in IE “save” water for reallocation to other sectors, including cities and the environment. Yet substantial scientific evidence (2) has long shown that increased IE rarely delivers the presumed public-good benefits of increased water availability. “

“...Advanced irrigation technologies that increase IE may even increase on-farm water consumption, groundwater extractions (6), and water consumption per hectare (5). At a farm scale, this can arise from a switch to more water-intensive crops and, with the same crop, may occur when there is a strong marginal yield response from additional water.”<sup>7</sup>”

## 5. PRE-EMPTING THE GOVERNMENT’S INTENTION TO ADDRESS ALLOCATION AT A NATIONAL LEVEL

5.1. The Government has signalled its intention to address allocation at a national level, stating its objective to, “Address water allocation issues having regard to all interests including Māori and existing and potential new users.”<sup>8</sup>”

5.2. This project assumes its own allocation regime which pre-empts this national direction and may be inconsistent with it.

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<sup>7</sup> Grafton, R. Q., Williams, J., Perry, C. J., Molle, F., Ringler, C., Steduto, P., Udall, B., Wheeler, S.A. Wang, Y., Garrick, D., and Allen, R.G. (2018) The paradox of irrigation efficiency: Higher efficiency rarely reduces water consumption. *Science* 361 (6404), 748-750. DOI: 10.1126/science.aat9314

<sup>8</sup> Ministry for the Environment. 2019. *Action for healthy waterways – A discussion document on national direction for our essential freshwater*. Wellington: Ministry for the Environment.

5.3. Māori interests in freshwater and waterways have yet to be agreed between Māori and the Crown, and Ngāpuhi are still in negotiations with the Crown with regards to the Treaty<sup>9</sup>. It is not clear from the documents provided in support of the application that this project has been agreed to by all relevant iwi/hapū.

## 6. INCOMPATIBILITY WITH THE RECOMMENDATIONS OF WAI 2358

6.1. Wai 2358: The Stage 2 Report on the National Freshwater and Geothermal Resources Claims makes the following recommendations, with regards to the Crown addressing allocation:

- The allocation regime should be reformed so as to recognise and provide for Te Mana o te Wai, and this should be done urgently.
- The first-in, first-served system of allocation should be replaced, and over-allocation phased out.
- The Crown should devise a new allocation regime in partnership with Māori, including through the national co-governance body.
- The Crown should arrange for an allocation of water on a percentage basis to iwi and hapū, according to a regional, catchment-based scheme to be devised by the national co-governance body in consultation with iwi and hapū. If any iwi, hapū, or local authority reports that catchment circumstances do not allow the allocation to be made, the national co-management body should hold an inquiry on that matter, and investigate possibilities for the creation of head room, as well as any alternatives to the allocation (including the possibility of compensation) All allocations to iwi and hapū should be perpetually renewable and inalienable

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<sup>9</sup> “This would extinguish our claims with regard to our landmark stage one finding – that Ngāpuhi hapū did not cede sovereignty – a finding which the Crown has refused to engage with in any meaningful way.” Retrieved from <https://thespinoff.co.nz/atea/13-11-2019/an-insiders-guide-to-the-ngapuhi-settlement/>

other than by lease or some other form of temporary transfer.

- The Crown should also arrange for an allocation of water for the development of Māori land (including land returned in Treaty settlements), where such allocation is sustainable, according to a scheme to be devised by the national co-governance body.
- The national co-governance body should investigate other possible mechanisms for 'proprietary redress', including royalties, as there is insufficient evidence for the Tribunal to make a recommendation to the Crown. We think this should include leading a wider conversation within Māoridom on proprietary rights and how these might be recognised.<sup>10</sup>

6.2 The proposal for the Matawii Water Storage Reservoir appears incompatible with these recommendations.

## 7. INCONSISTENCY WITH THE NATIONAL POLICY STATEMENT FOR FRESHWATER MANAGEMENT 2020: MAINTAIN AND/OR IMPROVE

7.1. The NPS-FM 2020 requires councils to maintain and/or improve the baseline state of waterbodies, where:

“**baseline state**, in relation to an attribute, means the best state out of the following:

1. (a) the state on the date it is first identified by a regional council
2. (b) the state on the date on which a regional council set a freshwater objective for the attribute under the National Policy Statement for Freshwater Management 2014 (as amended in 2017)

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<sup>10</sup> Page 563-564. Retrieved from <https://waitangitribunal.govt.nz/publications-and-resources/waitangi-tribunal-reports/>

3. (c) the state on 7 September 2017<sup>11</sup>”

7.2. Given the intended intensification of land use in the command area, the ability for the council to maintain this ‘baseline state’ is extremely unlikely, if not impossible.

7.3. This is particularly true of the Macroinvertebrate Community Index (MCI) attribute. The MCI is biological indicator of ecosystem health that measures the species of macroinvertebrates present in a river. Macroinvertebrates are susceptible to changes in nutrient concentration, sediment, temperature, and flow regime. Given the known impacts of damming rivers, it is extremely unlikely that the MCI will be maintained.

## 8. INCONSISTENCY WITH THE NATIONAL POLICY STATEMENT FOR FRESHWATER MANAGEMENT 2020: TE MANA O TE WAI

8.1. The NPS-FM 2020 requires councils to give effect to Te Mana o Te Wai.

8.2. “There is a hierarchy of obligations in Te Mana o te Wai that prioritises:

- (a) first, the health and well-being of water bodies and freshwater ecosystems
- (b) second, the health needs of people (such as drinking water)
- (c) third, the ability of people and communities to provide for their social, economic, and cultural well-being, now and in the future.

8.3. This project has applied these priorities in reverse order, putting the third priority first, etc.

## 9. ERRONEOUS SELECTION UNDER THE COVID-19 RECOVERY (FAST-TRACK CONSENTING) ACT 2020

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<sup>11</sup> Page 6. Retrieved from <https://www.mfe.govt.nz/publications/fresh-water/national-policy-statement-freshwater-management-2020>

9.1. Given the above (sections 3 to 8), it appears this project has been erroneously selected under the Covid-19 Recovery Act 2020.

9.2. Of the 13 possible considerations listed in section 19 of the Act, this project is most likely not to fulfil;

- the project's effect on the social and cultural well-being of current and future generations:
- public benefit by, for example,—

contributing to well-functioning urban environments:

providing infrastructure in order to improve economic, employment, and environmental outcomes, and increase productivity:

improving environmental outcomes for coastal or freshwater quality, air quality, or indigenous biodiversity:

contributing to New Zealand's efforts to mitigate climate change and transition more quickly to a low-emissions economy (in terms of reducing New Zealand's net emissions of greenhouse gases):

strengthening environmental, economic, and social resilience, in terms of managing the risks from natural hazards and the effects of climate change:

- whether there is potential for the project to have significant adverse environmental effects, including greenhouse gas emissions:

9.3. Choose Clean Water believes the decision to put forward this project is a political rather than science-based for the public benefit. We are concerned that its primary effect will be to increase the value of privately-owned land, while making Kaikohe's water supply less secure and the environment more degraded.