

Meeting: Rangitāiki River Forum

Meeting Date: 4 June 2021

Presentations

Agenda Item 8.1 Fish Barrier Remediation work in the Rangitaiki Catchment

Presentation - Rangitaiki Fish Passage 2021 **2**

Agenda Item 8.2 Rangitaiki River Reconnection Proposal Update

Presentation - Rangitaiki River Reconnection Proposal **13**

Agenda Item 9.1 Trustpower Limited Update

Presentation - Matahina Elver Passage Update - June 2021 **19**

Presentation - Wheao Resconsent Update - June 2021 **29**

**Item 8.1, Presentation - Rangitaiki Fish
Passage 2021**

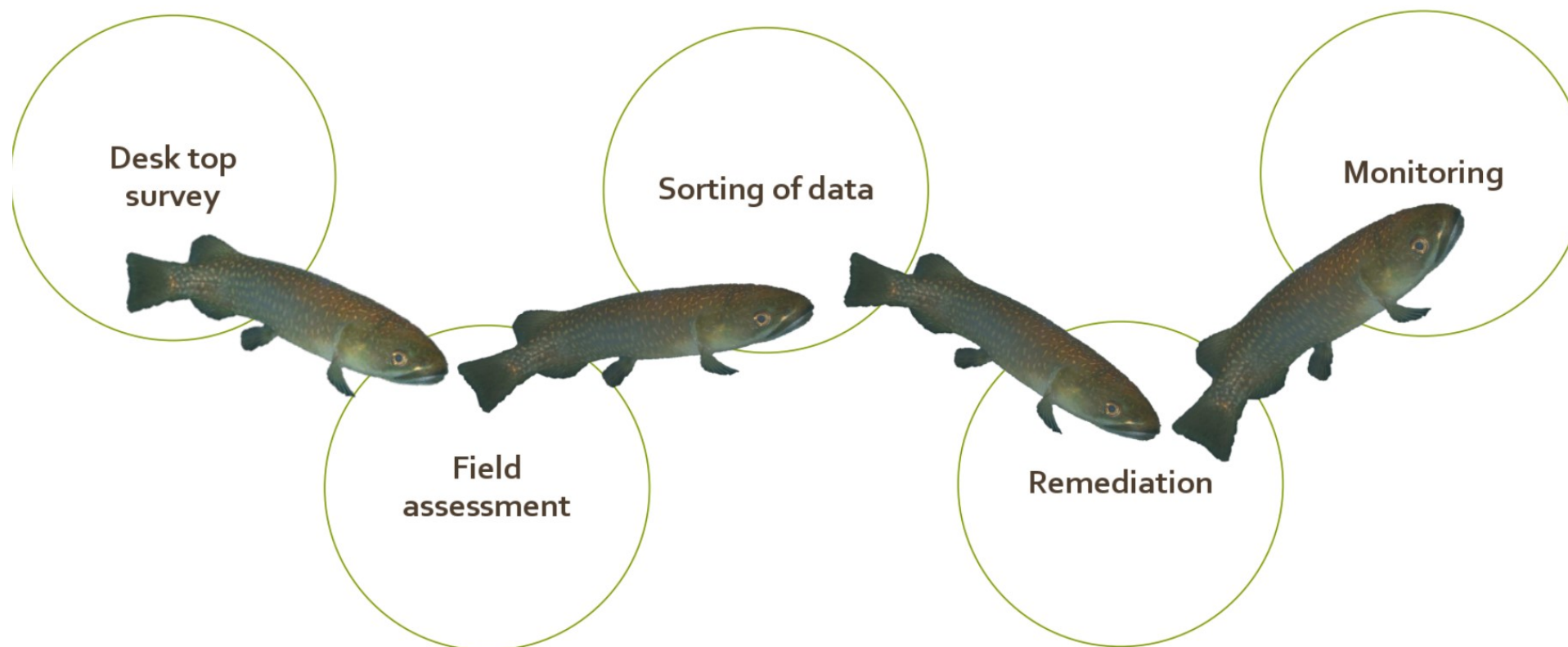


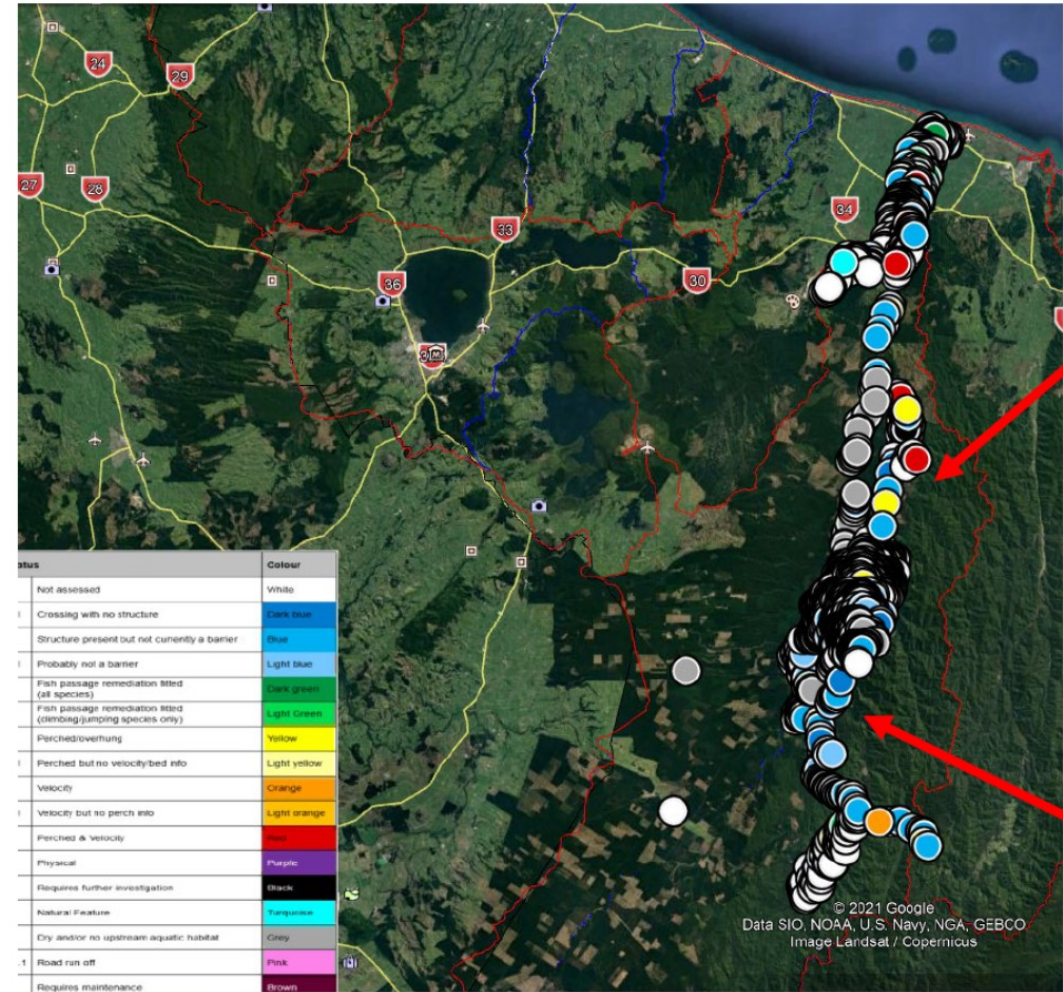
Rangitaiki Fish Passage

2021

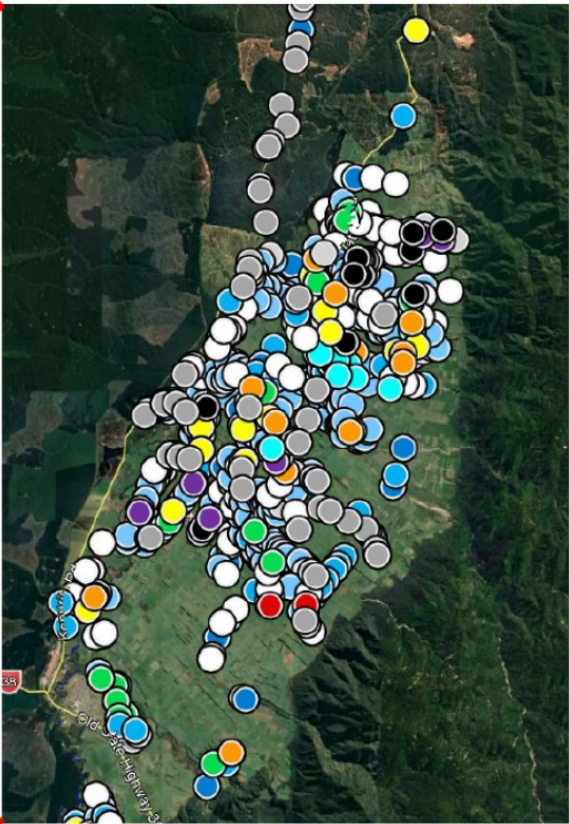


Managing crossing points in the Rangitaiki Catchment

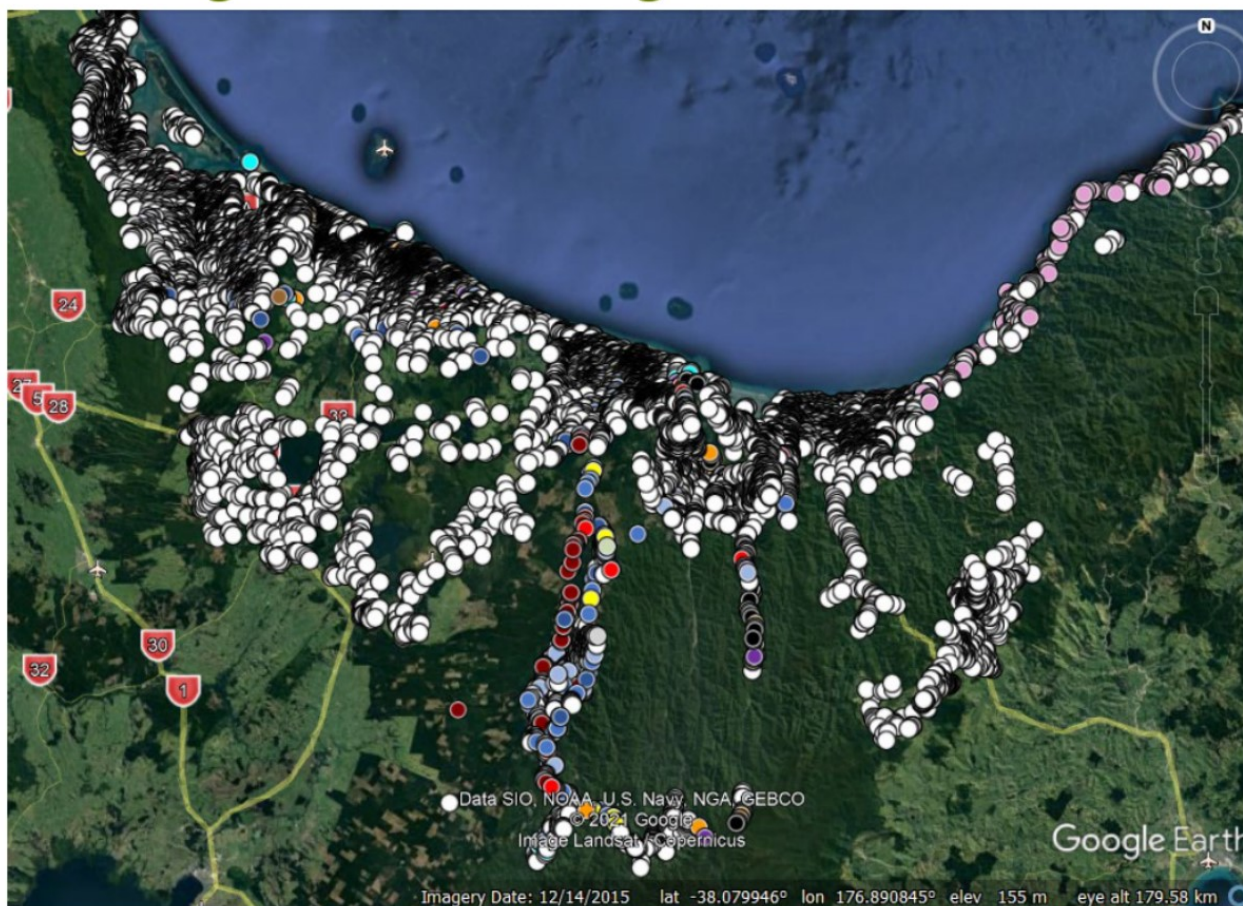




The Small Picture

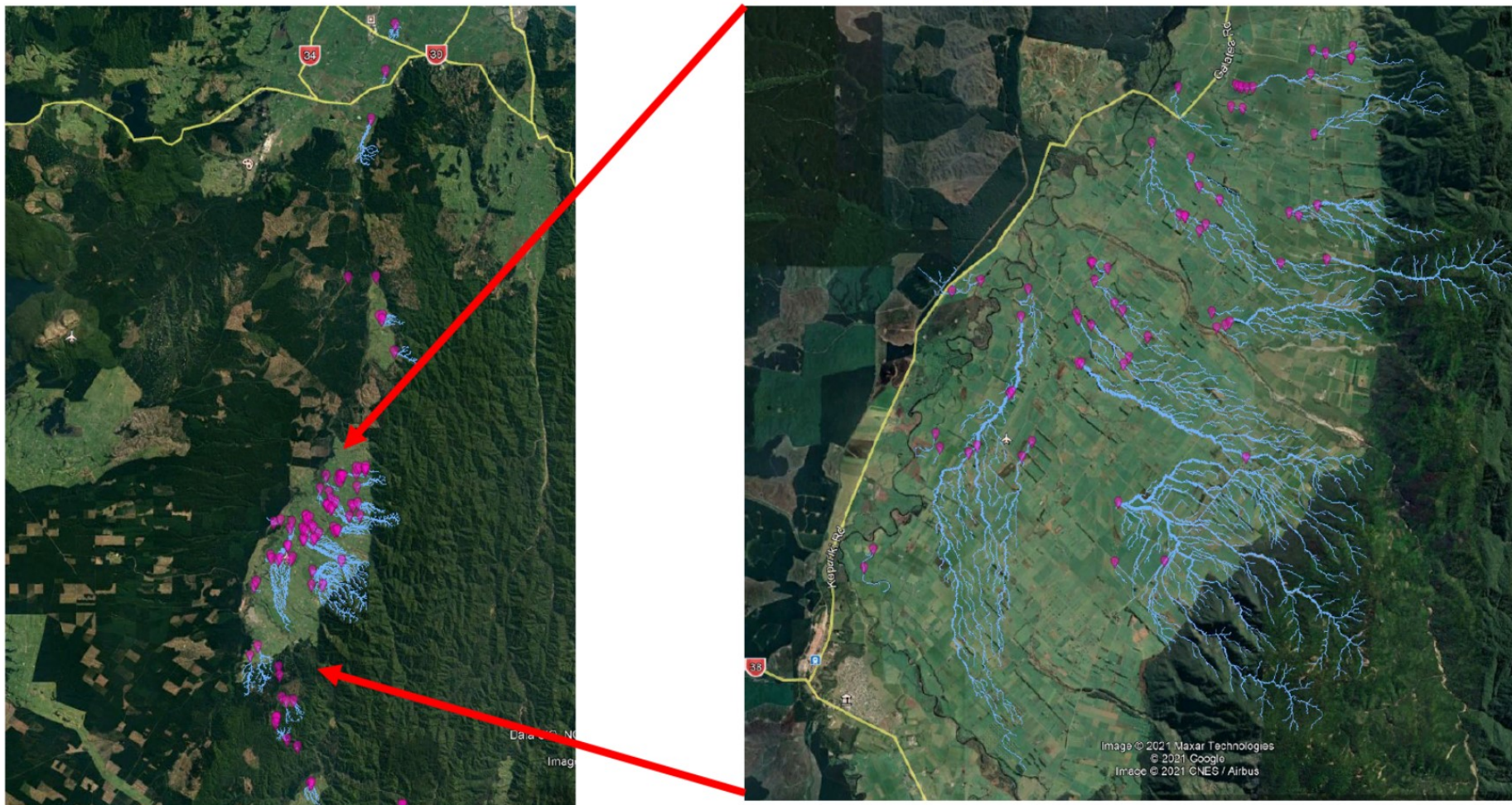


The Big Picture – A regional view



- Switch to Google Earth KM

Barriers affecting waterways



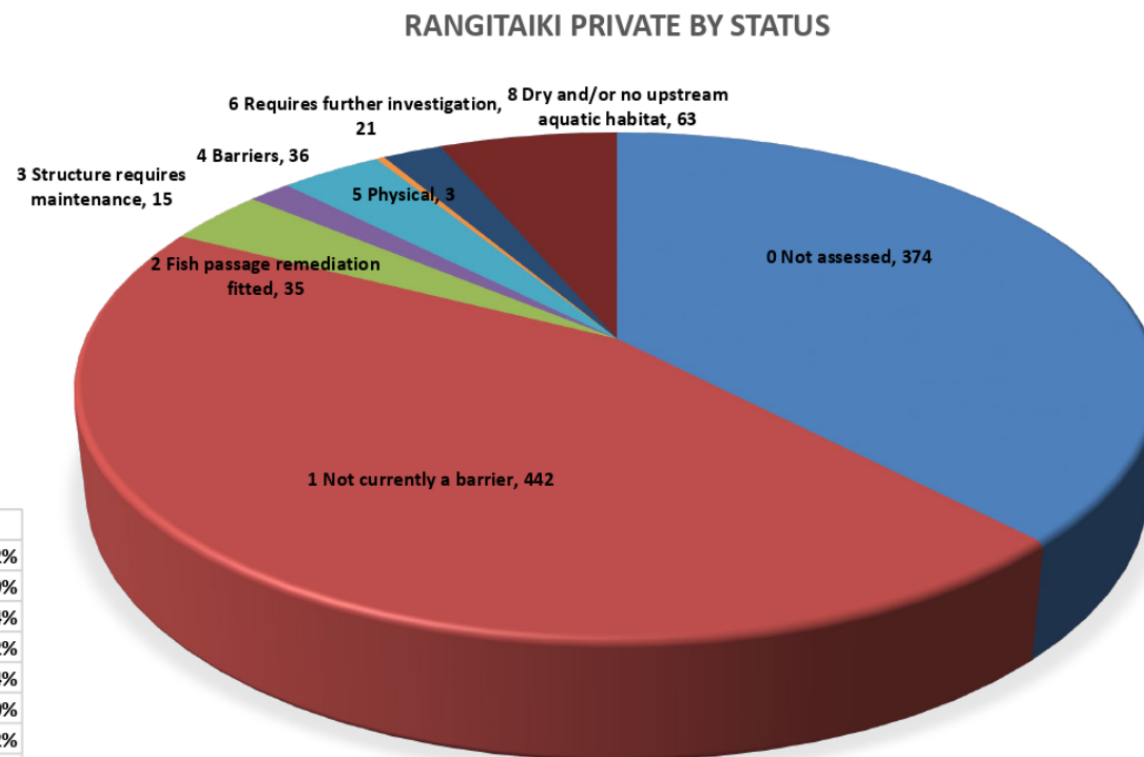
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Rangitāiki Fish Passage 2021

Item 8.1, Presentation - Rangitāiki Fish
Passage 2021

The stats

Status	Count	%
0 Not assessed	374	37.82%
1 Not currently a barrier	442	44.69%
2 Fish passage remediation fitted	35	3.54%
3 Structure requires maintenance	15	1.52%
4 Barriers	36	3.64%
5 Physical	3	0.30%
6 Requires further investigation	21	2.12%
8 Dry and/or no upstream aquatic habitat	63	6.37%
Grand Total	989	100.00%



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Examples of barriers & remediation

Before



After





Treatment - Flexi-Baffles, Rubber Ramp with Rope

Where to from here?

Continue to remediate those structures identified as barriers in the Rangitaiki.

Gain access to survey structures not yet assessed – farmland & forests.

Plan monitoring cycles – BOPRC & RTAs.

Work with BOPRC – Consents and compliance.

Expand program across the BOP region.

Training personnel to build capacity.

Going the extra mile for fish passage in Aotearoa



Southland 2021

Item 8.1, Presentation - Rangitaiki Fish
Passage 2021



Rangitāiki River Reconnection Proposal

June 2021 update



Proposal recap

- By 1914 Rangitāiki River was straightened so that it directly flowed out to sea
- Previously veered off and emptied west into the Tarawera River
- Old river channel now has a 1 km dry section and a 8.5 km wet section still attached to Tarawera River
- Wet section of the old river channel receives water from Tarawera River and nine pump stations
- Old river channel has very low water quality at the eastern end
- Proposal is to allow some of the water from the Rangitāiki River into the dry channel, so that there is a consistent healthy flow of water along the entire length of the old river channel

Investigations to date

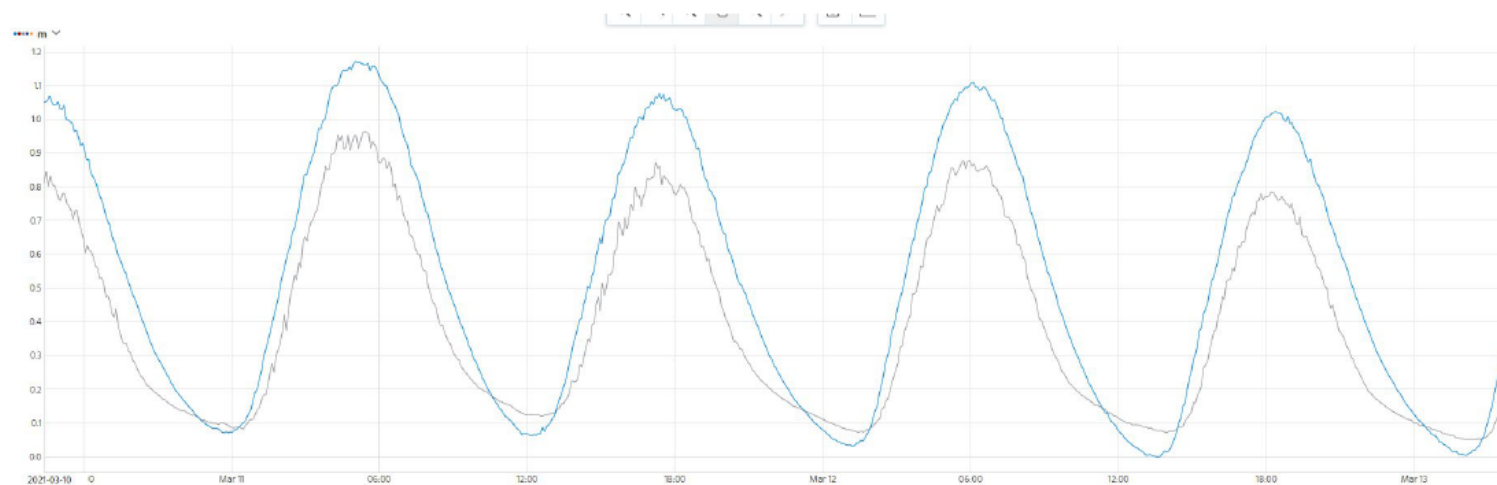
Water levels

Blue = Rangitāiki River

Grey = Tarawera River at ORC pump station

* Time period picked at a random high tide

**A fall of around 0.20 – 0.25 m between Rangitāiki River and Tarawera River on this day



Investigations to date - continued

Hydrological Modelling

- Modelling suggests that it is possible hydrologically - in theory a one way flow could be achieved
- However so far not determined:
 - How much water can enter
 - Best volume of water without any negative effects
 - How long it would take to flow through the channel
 - How the water could get into the dry channel
 - If there would be any ecological improvements under the above constraints

Investigations to date - continued

Various

- Initial talks with all landowners that own, occupy, or live adjacent to channel
 - Six landowners own parcels over channel (covering approximately 5 kms)
 - Additional 14 landowners consulted
- Initial talks with iwi
- Surveyed current channel
- Working alongside Engineering team with the old Rangitaiki River channel gates at Tarawera River end (which need repair)
- Talking with Whakatane District Council about Smith Road crossing
- Applied for funding through MfE - declined

Where to from here

- Finish modelling the reconnection BUT the design and development phase is on hold
- Investigate local hydrology (water levels and salinity) to determine channel connectivity to the adjacent groundwater using bores and piezo readers
- Model a new flap gate at the Tarawera River end that will allow better upstream water flow
- Investigate an upgrade of the Smith Road crossing
- Work out other physical, vegetative and sediment pinch points
- Continue communication with landowners, stakeholders and interested parties





Item 9.1, Presentation - Matahina Elver
Passage Update - June 2021

Context

- Ongoing innovation and improvement to Tuna passage at Matahina HEPS.
- Trap & transfer is successful and the current method of providing passage
- Elver elevator – phase one completed – 2020
- Proposal for phase two – underway 2021
- The project goal is to provide unimpeded passage into Lake Matahina
- We are using new techniques and therefore requires an iterative approach to achieving this goal

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Elver Elevator – Phase One

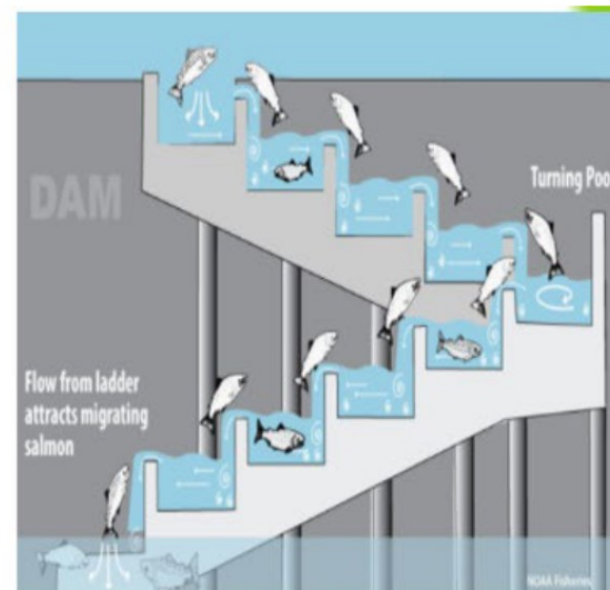
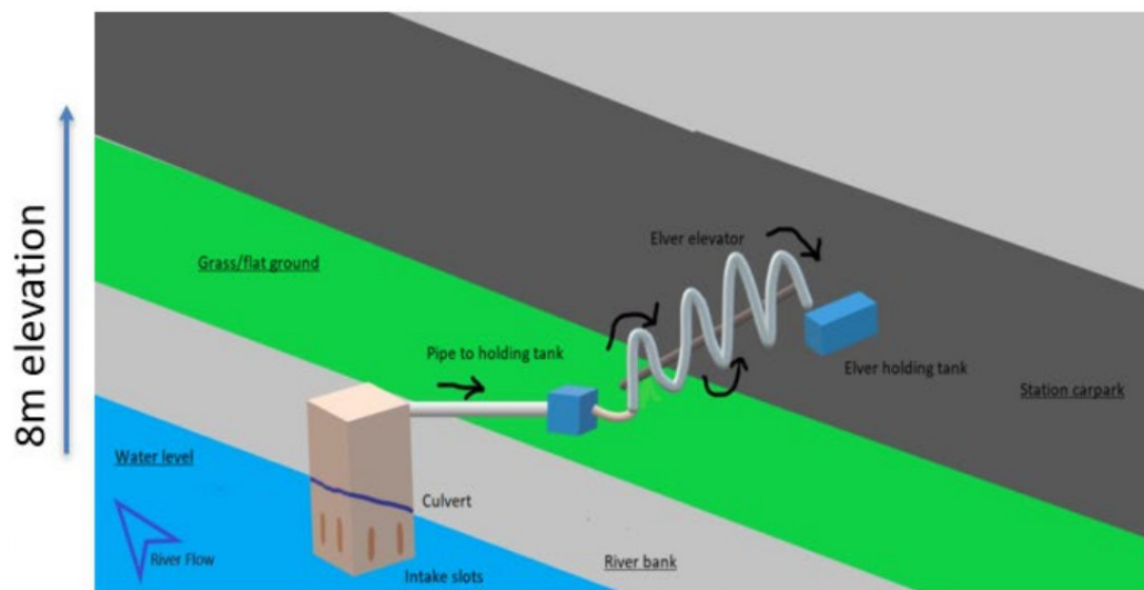


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Elver Elevator – Phase Two 2021



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Elver Elevator – Phase Two 2021



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Elver Elevator – Phase Two 2021

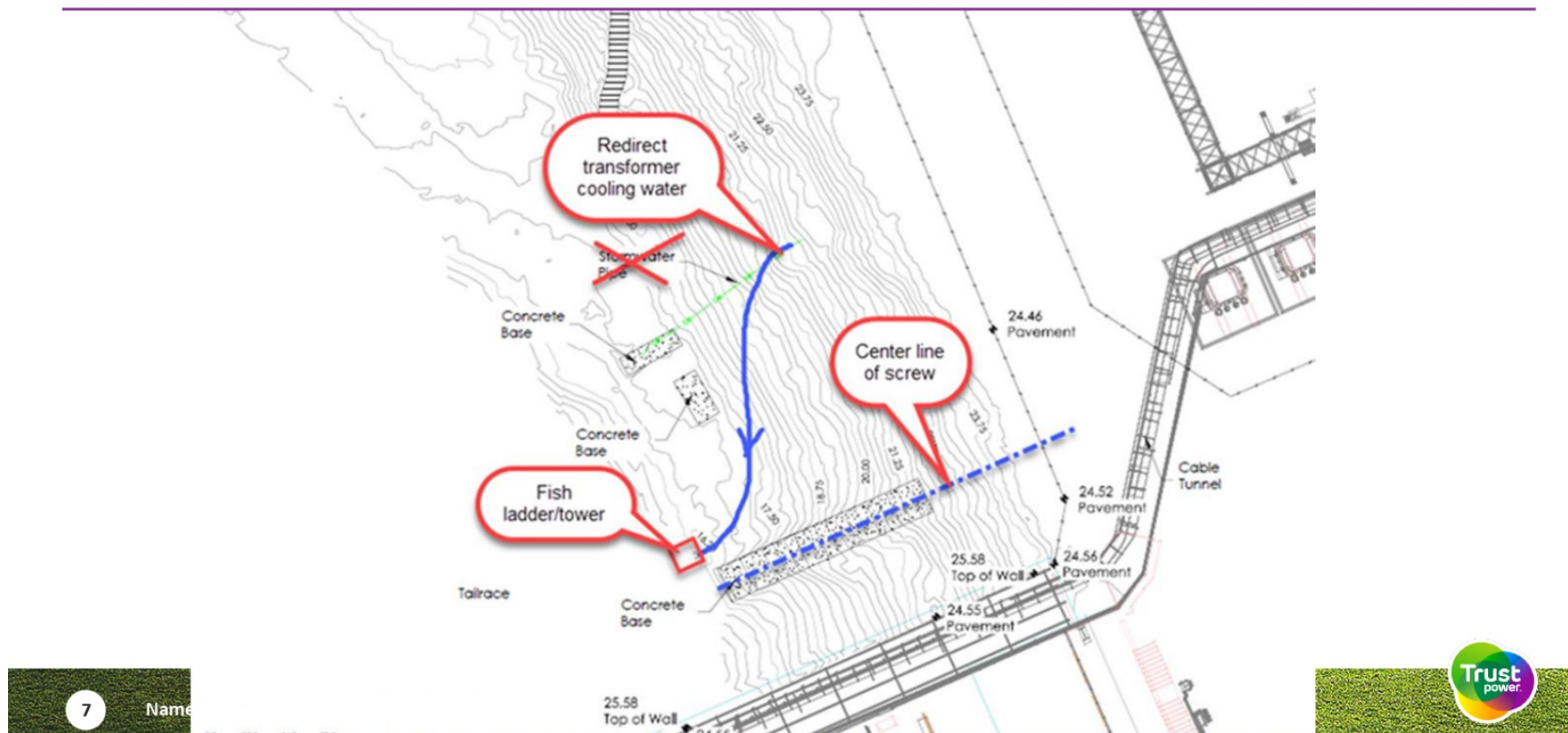


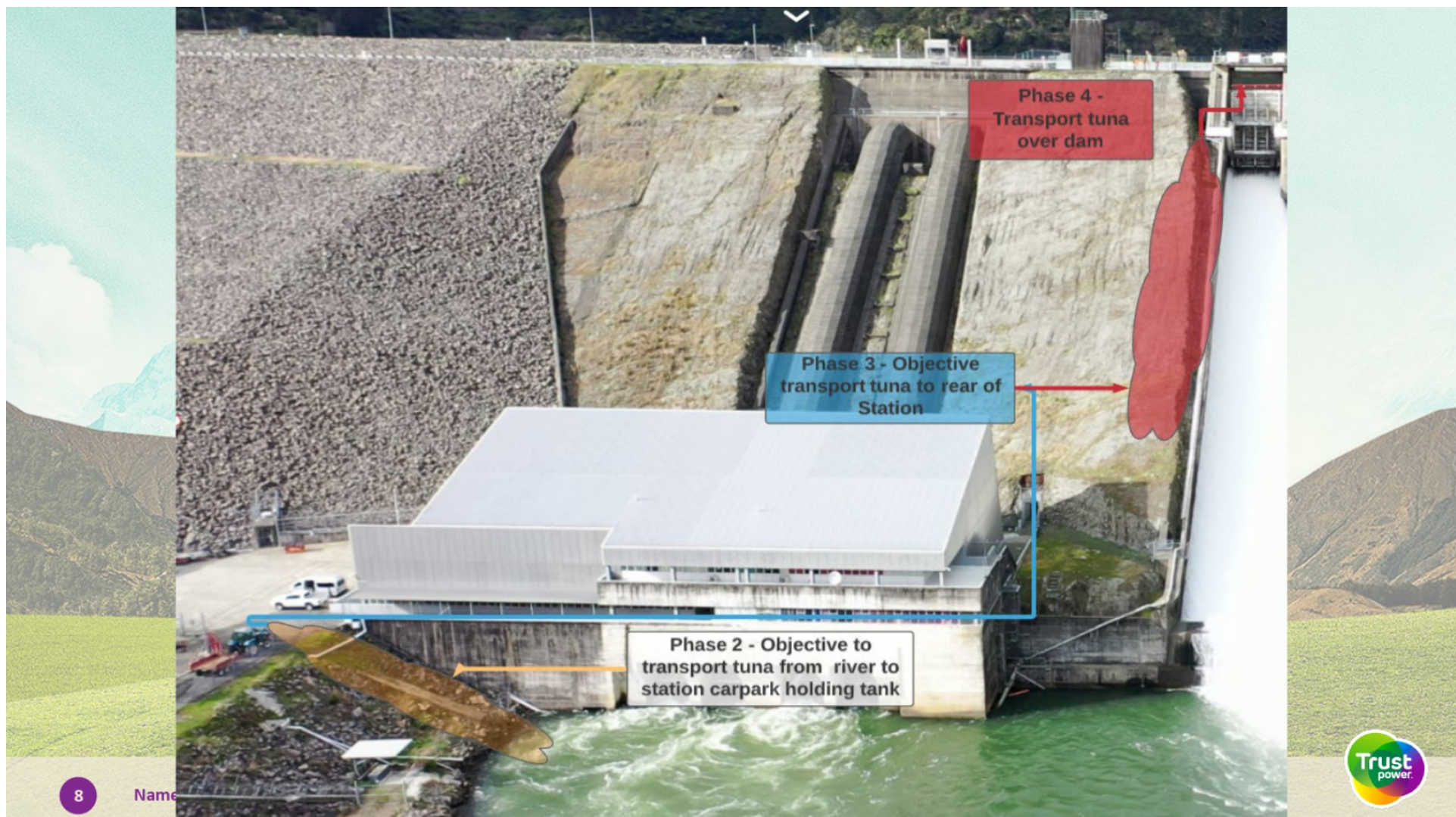
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Elver Elevator – Phase Two 2021



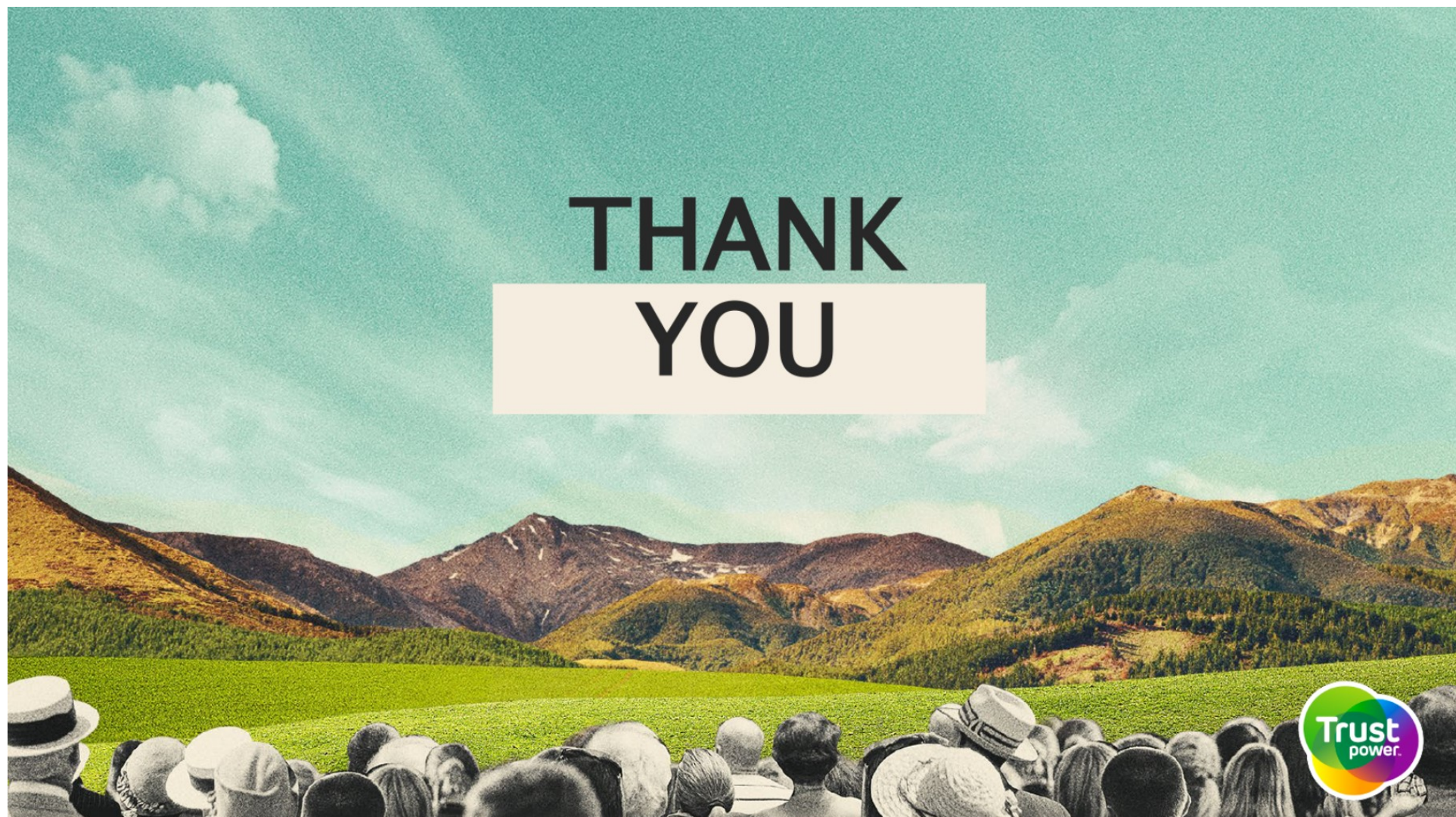


**Item 9.1, Presentation - Matahina Elver
Passage Update - June 2021**



Timeline

- June-September: Finalise design and obtain consents
 - Concept design underway and due end of June
- September-November: Instream works
- November – February: Trial planning and execution



**Item 9.1, Presentation - Matahina Elver
Passage Update - June 2021**



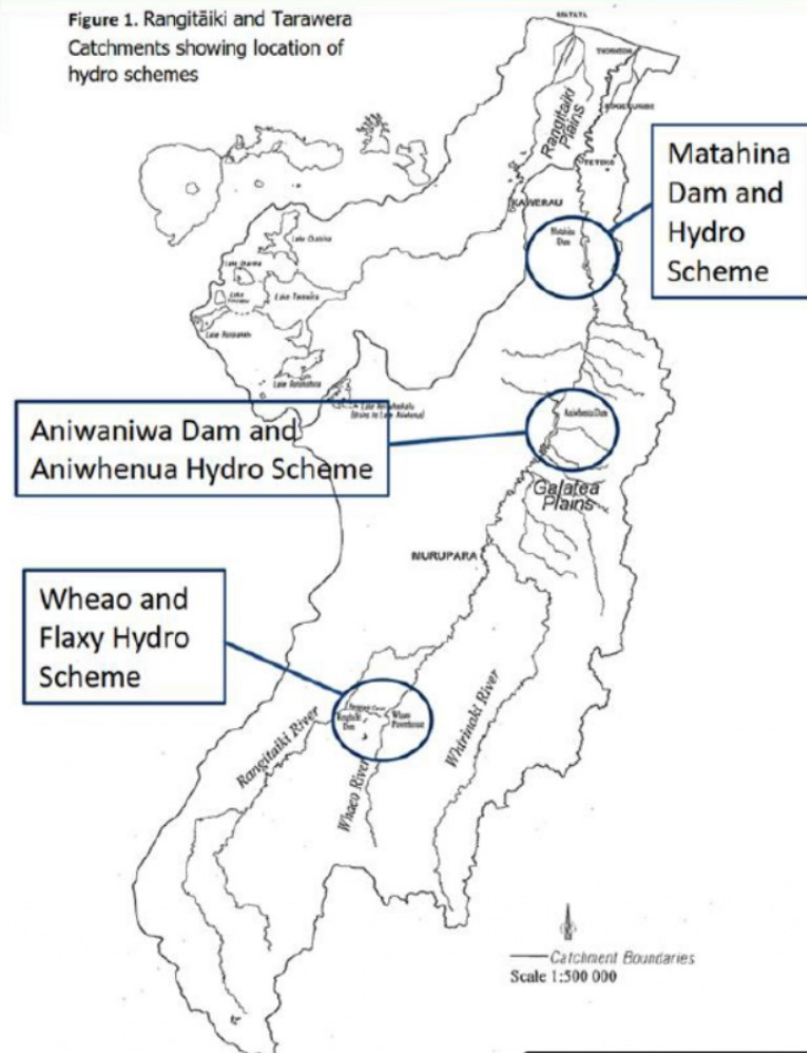
Item 9.1, Presentation - Wheao Resconsent
Update - June 2021



Rangitāiki River Hydro Schemes

Rangitāiki and Tarawera Catchments

Figure 1. Rangitāiki and Tarawera Catchments showing location of hydro schemes



Item 9.1, Presentation - Wheao Resconsent Update - June 2021

Map Key

- Roads
- Tunnel
- Canals
- Hydro Scheme Water Flow
- Emergency Spillway
- Operational Spillway
- Dam
- Earth Dam
- Tunnel Intake

Residual Flow = 15 cumecs

Divert 21 cumecs from Rangitāiki River

Discharge 24 cumecs into Wheao River

Divert 12 cumecs from Wheao River

Wheao/Flaxy

xy

Overview of Wheao Hydro Scheme

- Consents granted in 1977 to Rotorua Area Electricity Authority
- Commissioned 1982 – nearly 40 years old. Considered “younger” scheme with mature assets
- Transferred to Trustpower in 1996
- Located in Kaingaroa Forest 82km SW of Rotorua
- Generates 26MW – average annual is 111 Gwh – **14,500 households** (Size of Whakatane)
 - Matahina generates 80MW (260 Gwh annually)
- Land is owned by CNI – an Iwi Collective; Trustpower has operational easements only
- Mana Whenua over scheme are Ngāti Manawa and Ngāti Whare
- Consents expire 2026

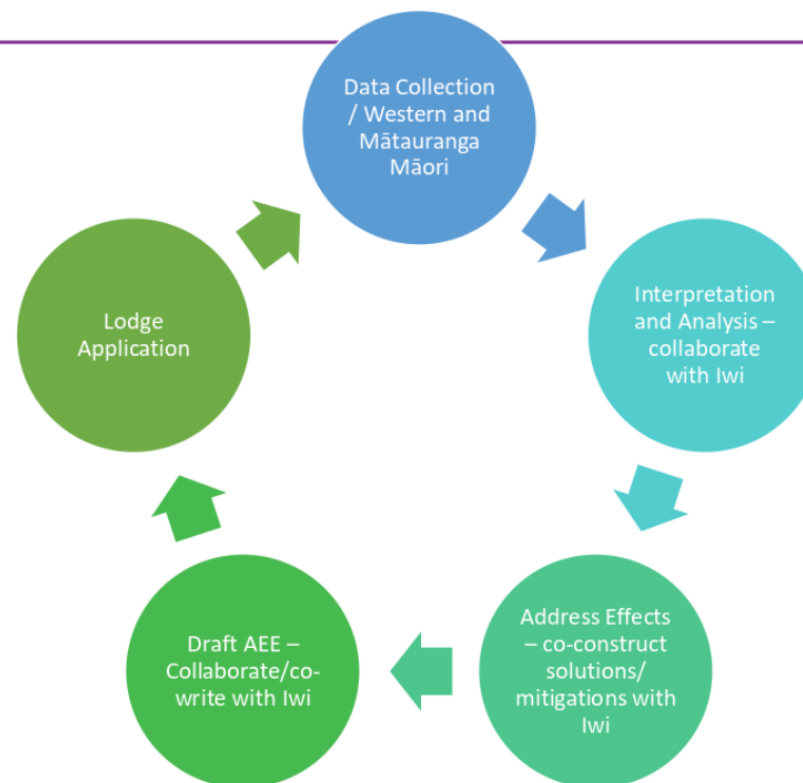
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Reconsent Strategy for Wheao HEPS

- No enhancements – not planning to take more water or build new infrastructure
- Wheao has not been through RMA consenting process
- **Approach**
 - Collaborate at every stage with Mana Whenua and Council
 - Bring other stakeholders along the journey
 - Co-construct and incorporate “one-catchment” solutions(s) where applicable (e.g. tuna)
 - Does not replace a Cultural Values piece





Environmental Assessments

- Aquatic Ecology
- Terrestrial Ecology
- Hydrology
- Hydrogeology
- Landscape/Natural Character
- Recreation

