

**Meeting:** Rangitāiki River Forum

**Meeting Date:** 2 September 2022

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## Presentations and Tabled Document

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<b>Agenda Item 8.1</b>	<b>Nova Energy - Solar Power Plant at Otamatea River</b>	
<b>Presentation:</b>	<b>Rangitaiki Solar Power Plant - Chris Pye, Nova Energy</b>	<b>2</b>
<b>Agenda Item 8.3</b>	<b>Ngāti Manawa - Te Mana o Te Wai Project</b>	
<b>Presentation:</b>	<b>Te Mana o Te Wai Project</b>	<b>18</b>
<b>Agenda Item 8.4</b>	<b>Rangitāiki Wetlands Project update</b>	
<b>Presentation:</b>	<b>Rangitaiki Wetlands Murupara Update - Mieke Kapa</b>	<b>30</b>
<b>Agenda Item 10.3</b>	<b>Essential Freshwater Policy Programme Update</b>	
<b>Presentation:</b>	<b>Essential Freshwater Policy Programme Update - Gemma Moleta</b>	<b>46</b>
<b>Tabled Document 1 - Rangitaiki values, visions and environmental outcomes</b>		<b>53</b>



# Rangitāiki Solar

**Rangitāiki River Forum - September 2022**

## Introducing Todd Corporation



The family owned Todd Corporation is one of New Zealand's largest and most successful companies.

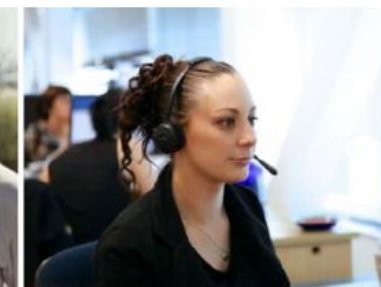
With a family and business history dating back to 1884, the Company has interests in hydrocarbon exploration and production, electricity generation, energy retailing, property development, minerals, healthcare and technology.

Through enterprise, professionalism and by caring for its employees, the community and the environment, the Todd Corporation continues to grow and prosper.

Todd Corporation is 100% New Zealand owned and is dedicated to expanding its resource and developing renewable energy capacity.

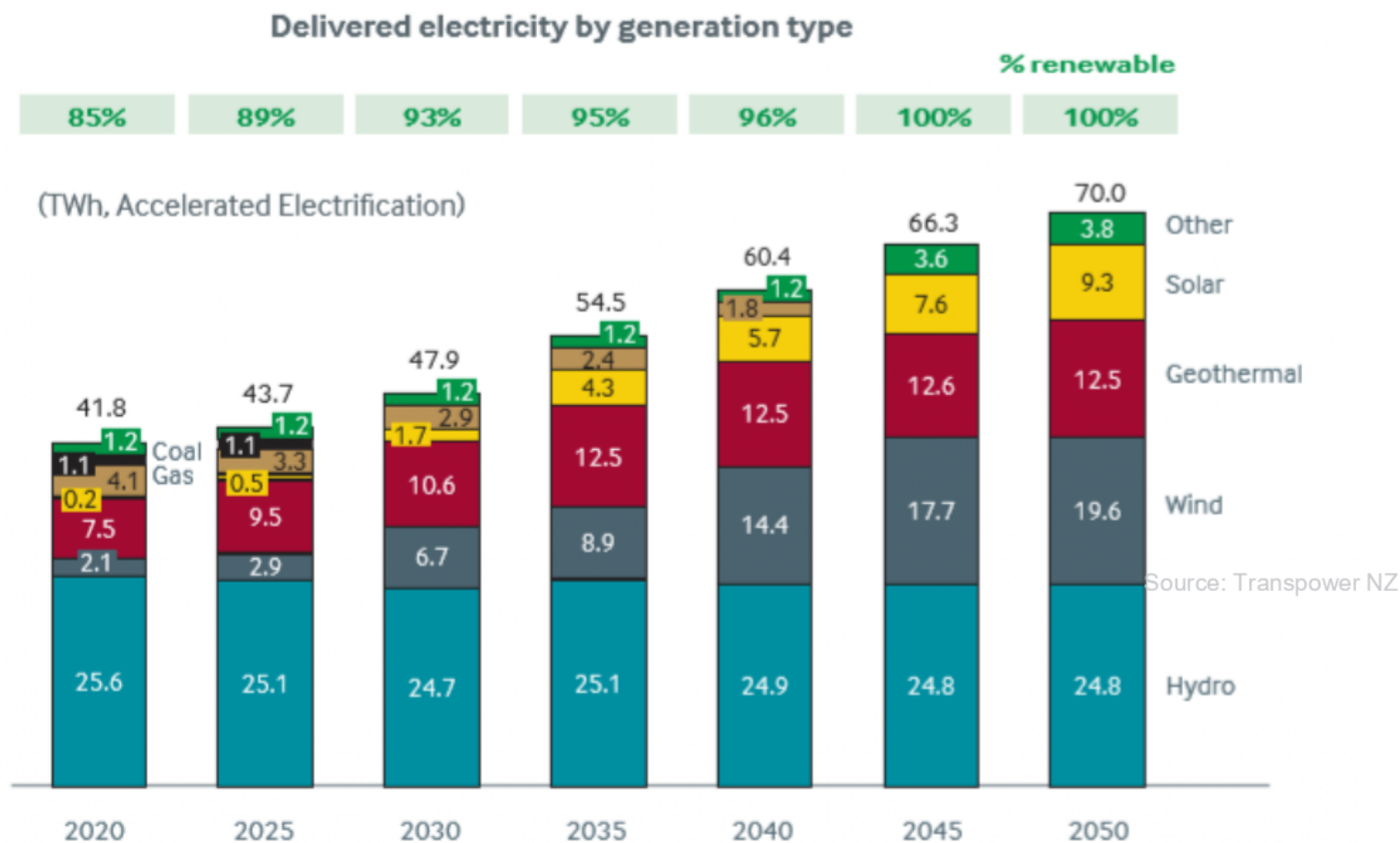
### Our Values

1. Value our people
2. Care for the Environment and Community
3. Maintain high standards of conduct
4. Create value





## New Zealand needs more electricity





## Kapuni Solar Plant – May 2021

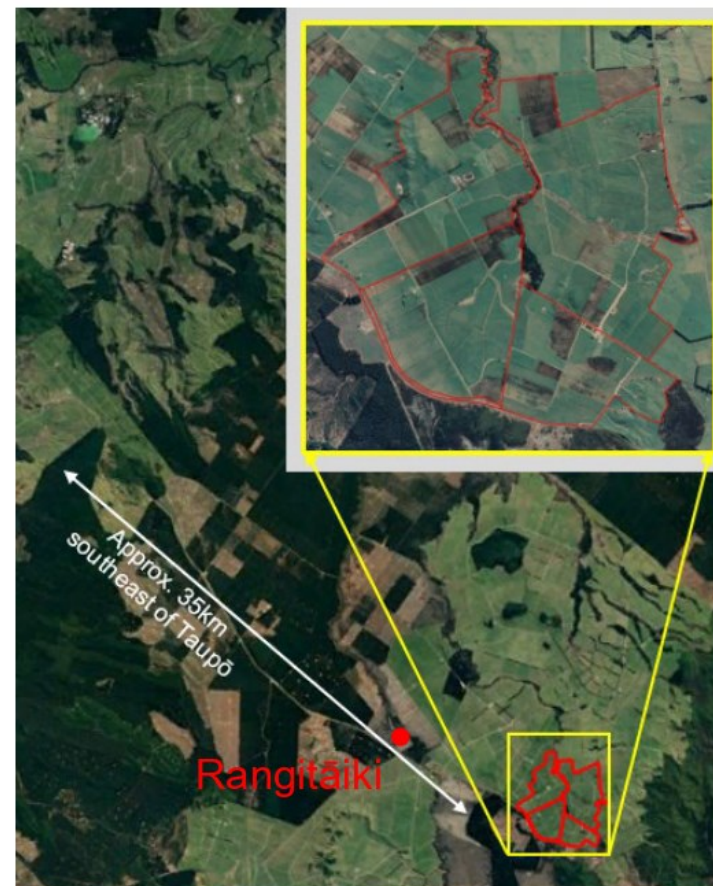
- To make sure we could ‘walk the talk’, Todd designed and built a 2.1 Megawatt (MW) solar plant at Kapuni, in South Taranaki.
- Operating since May 2021, this is still New Zealand’s largest solar power plant providing enough electricity for over 500 kiwi homes.
- Built on three hectares of land, there are 5,800 panels installed and the plant contains over 100,000 individual components.



## The property at Rangitāiki

- Located in Taupō district and Bay of Plenty region
- Meets all of the criteria for solar:
  - Large - 1,022 hectares
  - Suitable solar radiation resource
  - Flat topography
  - Access to high capacity transmission line
  - Proximity to a major centre

Location: <https://goo.gl/maps/GgT2shtqkkCR1wjV6>





## Flat, large and sunny



## The project concept

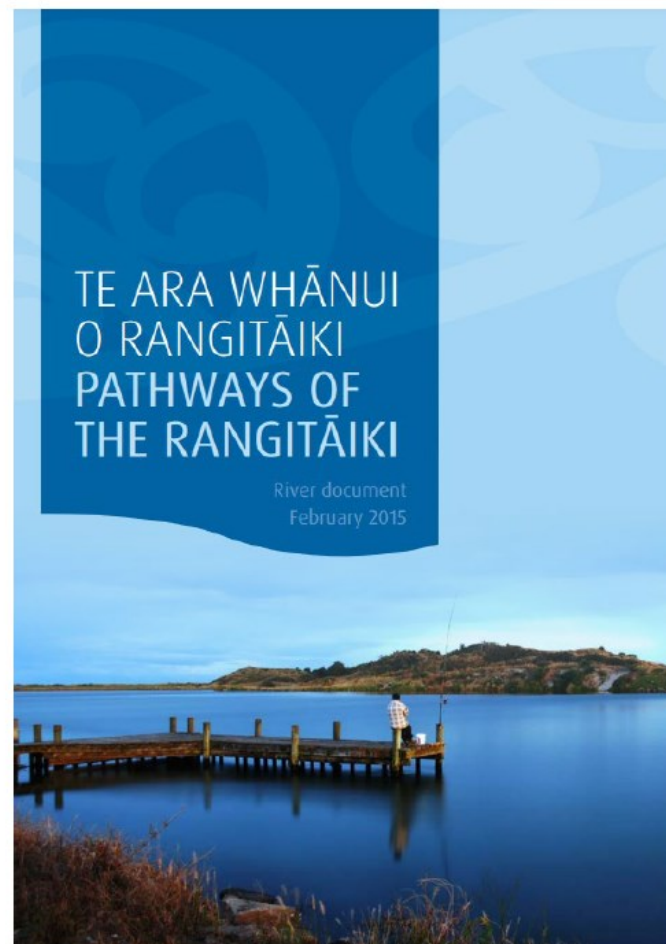
- Total capacity of up to 400 MW, proposed for development in three stages.
- Enough energy for almost 100,000 homes.
- Substation located adjacent to Transpower high voltage line for connection of all stages.
- Panel rows aligned north to south and automatically tilting east to west to track the sun angle.
- Increased spacing between panel rows (compared to the Kapuni plant) will provide future opportunities for mixed land use.
- Project design life is 25-30 years.





## We respect the significance of the awa

- Otamatea Awa and modified tributaries run through the property
- Presently operating as a dairy farm with over 2,000 head of cows
- Intention is for staged removal of cows as project progresses.
- Water courses generally are highly modified by channeling, straightening and over deepening.
- Ecological stream assessments have been undertaken
  - Water samples analysis shows partial degraded water quality, especially nitrate and dissolved reactive phosphorus.
  - eDNA testing failed to detect tuna or koura from separate samples taken this year.

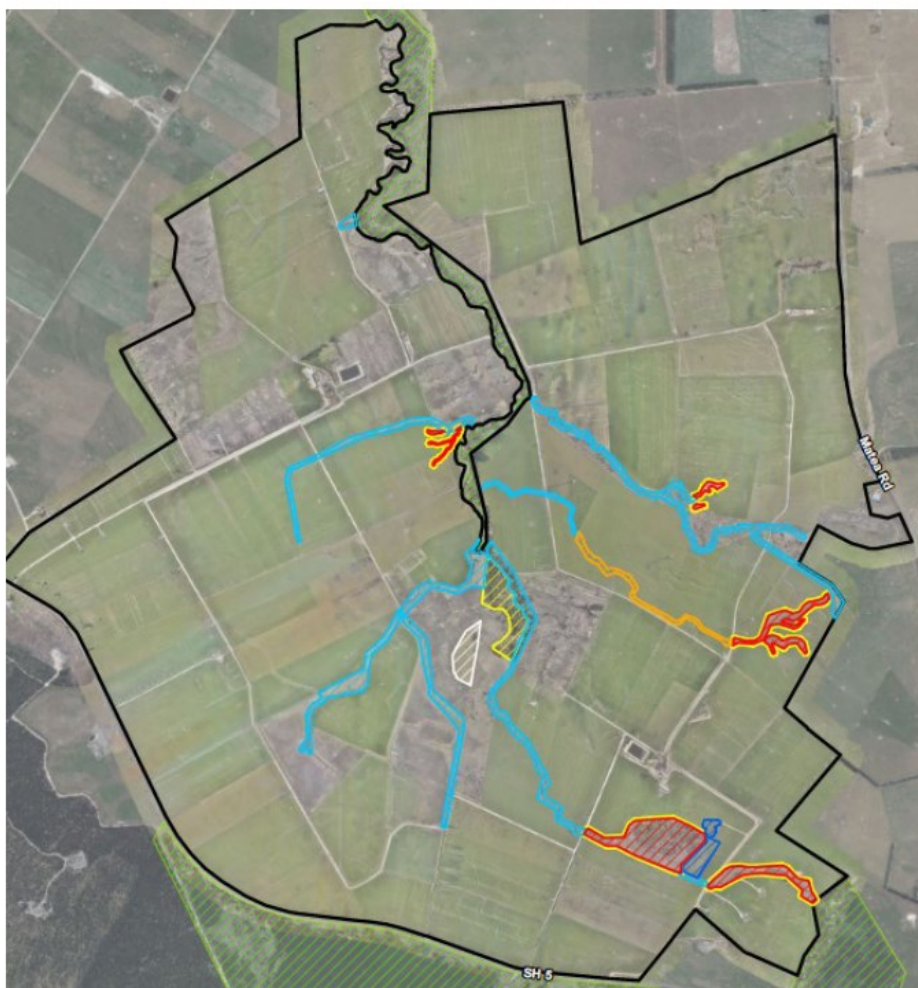


## We feel that there is strong alignment










 <p>... so the tuna (eels) are fat and plentiful in the Rangitāiki River waterways.</p>	 <p>... so it is safe for people to swim in, take food from, and find drinking water in as many places as possible.</p>	 <p>... so the Rangitāiki River and its waterways stay special.</p>
<ul style="list-style-type: none"> <li>Todd welcomes interested Iwi to undertake further monitoring and testing, working towards future reintroduction</li> <li>Biodiversity planning is underway for ~30 ha to be restored, including:             <ul style="list-style-type: none"> <li>Tributary fencing and native revegetation</li> <li>15,000m<sup>2</sup> of wetland habitat next to the Otamatea Swamp retired, fenced and restored.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Improvements in water quality and stream health from change in land use.</li> <li>Improved weed &amp; pest management, such as wilding pine removal and possum trapping.</li> <li>Volunteered offset of any stream disturbance at a 1:10 ratio. E.g. every 1 metre of stream disturbance, 10 metres will be actively enhanced.</li> </ul>	<ul style="list-style-type: none"> <li>Establishing long-term mutually beneficial relationships with mana whenua and community is important to us</li> <li>Iwi consultation for any work or mitigations impacting the awa will be undertaken genuinely.</li> <li>Through consultation, opportunities for access to the awa can be established</li> </ul>



## Otamatea Awa and restoration plans



### Legend

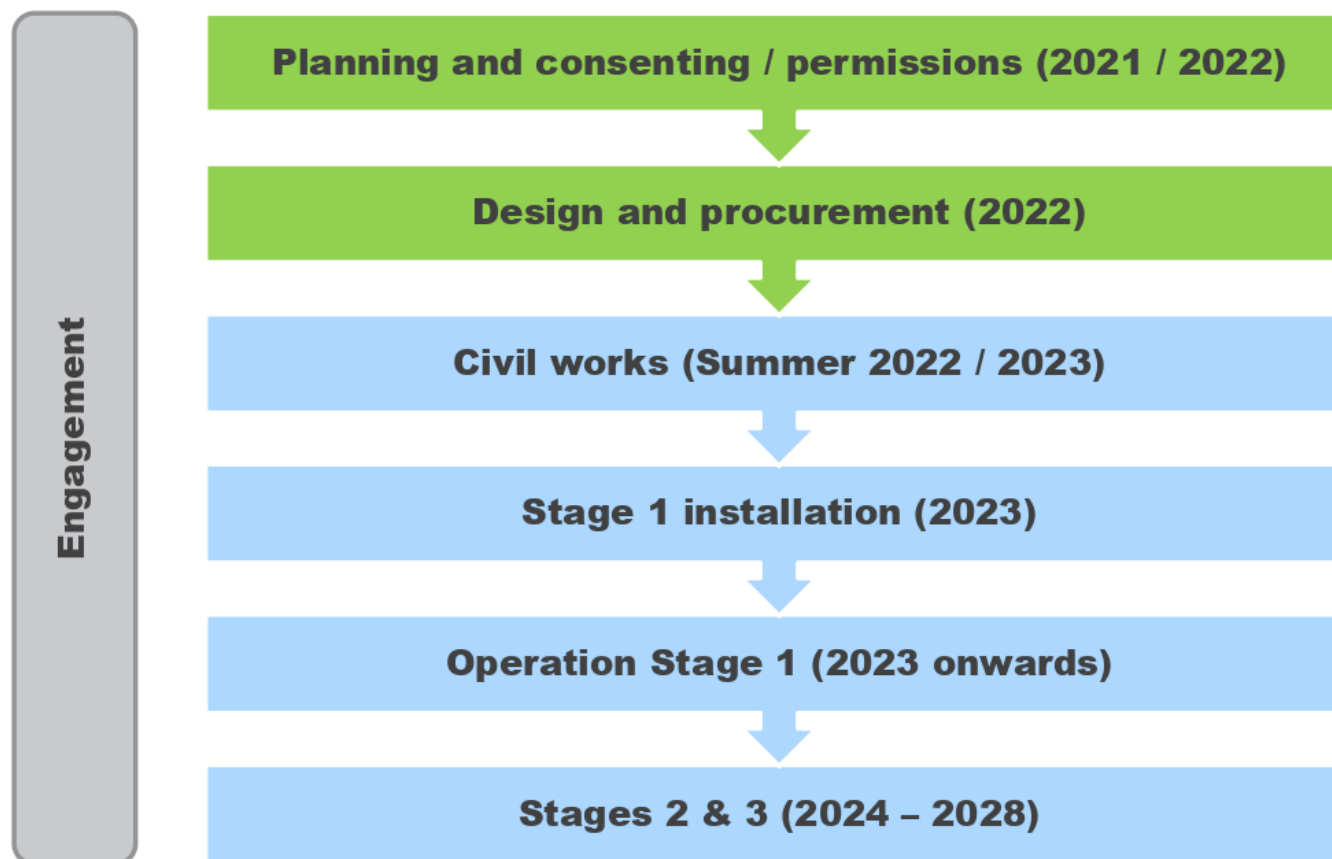
-  Logged Hillside - Actions TBA
-  Proposed Otamatea Wetland Extension
-  Wetland
-  Tributaries to be Fenced
-  Waterway Buffer
-  Wilding Pines to be Removed
-  10m Wetland Buffer
-  Site Extent
-  DOC Conservation Areas



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## Project stages and engagement

We meaningfully engage with our stakeholders openly and honestly from the beginning, and continue this through the entire project lifecycle.



## Progress update

- Consent applications made to Taupō and Bay of Plenty Councils in April 2022
- District consent applications were publicly notified, with a hearing scheduled for September.
- Regional consent applications have been notified to hapū / Iwi.
- Working with local partners to develop a work readiness / career pathway in solar energy
- Initiating environmental improvement programme
  - Environmental manager contracted for project
  - First plant order made from Minginui Nursery, with one hectare to be restored in 2022.





## Contact details

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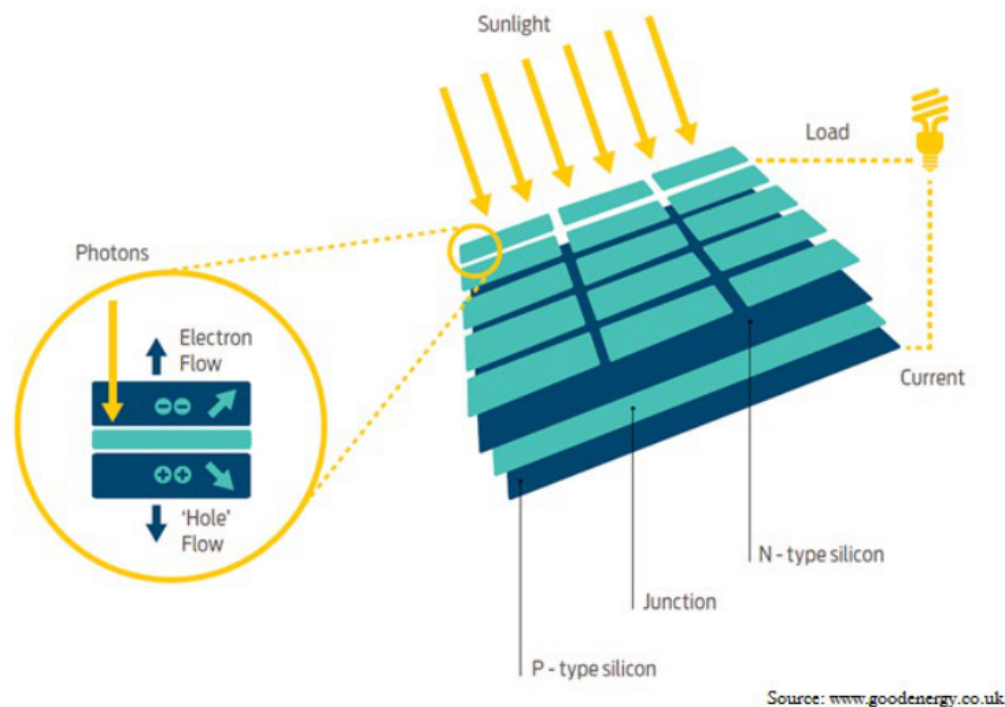


# Appendix



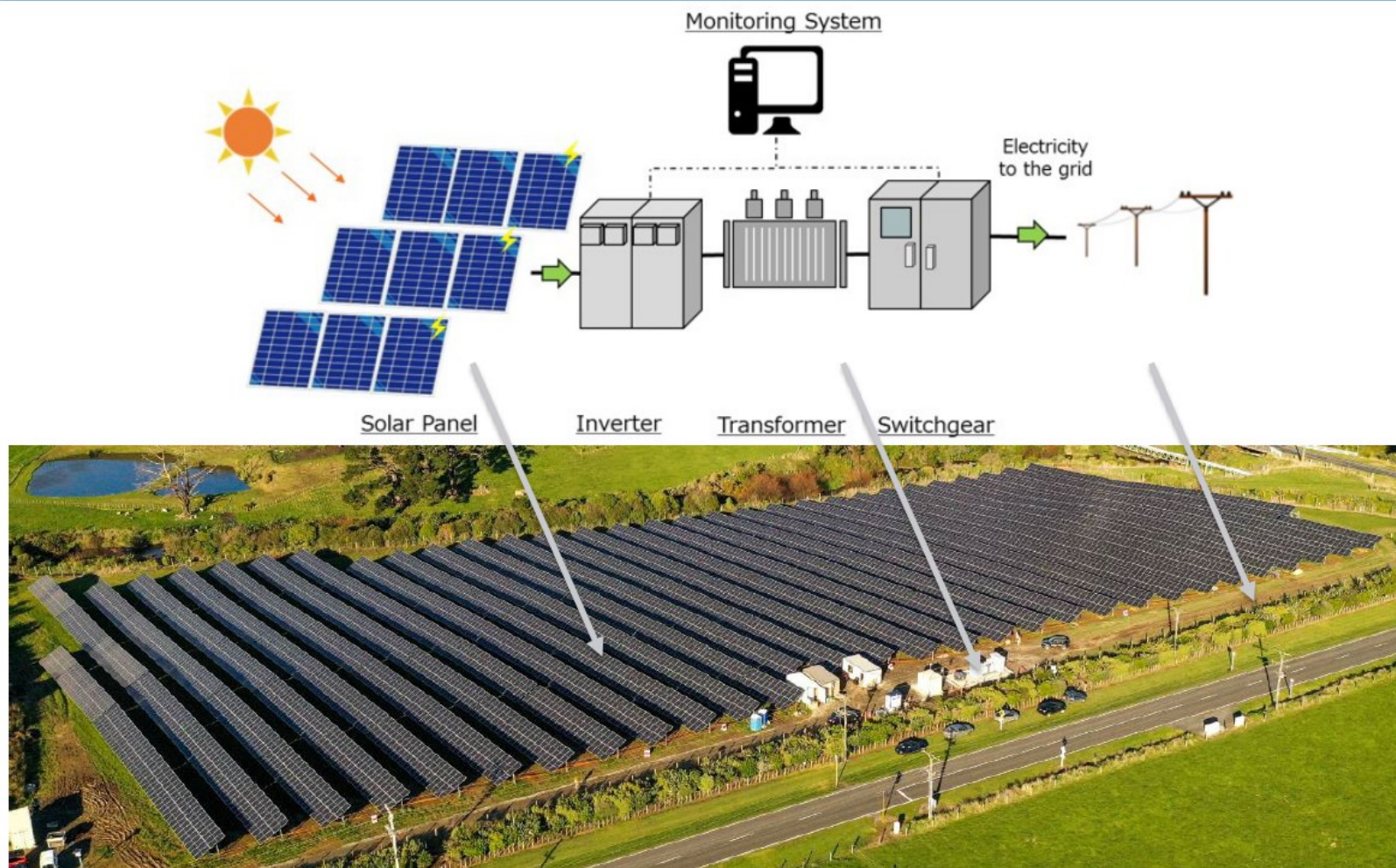
## The solar photovoltaic (“PV”) process

- Photons are emitted by the nuclear fusion process in the sun.
- These travel to earth, and billions of these impact every square meter every second.
- The active part of solar panels are made up primarily of two layers of silicon material.
- When a photon lands on a solar panel, some of them will bump into the electrons within the silicon atoms.
- These ‘bumped’ electrons cross the panel ‘one-way junction’ and cannot get back.
- With a circuit connected between the silicon layers the electron is squeezed back to where it came from.
- This phenomenon is direct current (DC) electricity.





## Components of a solar power plant



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# TE MANA O TE WAI

Presentation

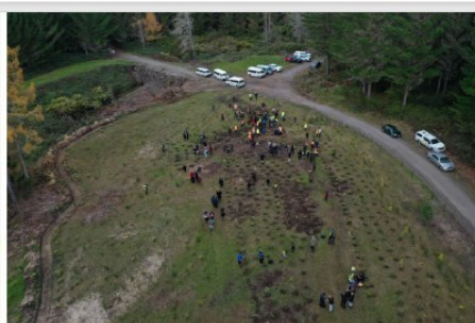




## OUR BACKGROUND



Item 8.3, Presentation: Te Mana o Te Wai Project



Murupara Community Day with Minister Eugenie Sage  
15<sup>th</sup> May 2019

## BACKGROUND MAHI

Presentation



**Te Rūnanga O Ngāti Manawa**  
— Tu! Ohō! Rere! —



## OUR VALUES AND PRINCIPLES

- Mana Whenua
- Kaitiakitanga
- Manaakitanga
- Whanaungatanga
- Kotahitanga





**NGĀTI MANAWA  
HAVE  
IMPORTANT  
KNOWLEDGE  
AND  
MATAURANGA  
MĀORI TO  
BRING TO THE  
MANAGEMENT  
OF NATURAL  
RESOURCES  
AND OUR  
TUPUNA AWA.**





**THE INTERGENERATION  
ASSOCIATION OF NGĀTI  
MANAWA WITH THE  
RANGITĀIKI AWA ENSURES  
THE CONTINUED  
TRANSMISSION OF  
TRADITIONAL KNOWLEDGE.  
THE AWA HAS PROVIDED  
NGĀTI MANAWA WITH MANY  
SOURCES OF MAHINGA KAI  
FOR MANY GENERATIONS.**





## WAI MĀORI

- Wai Māori provides a source of life which we are spiritually connected to.
- Wai Māori is central to our wellbeing and survival of our people.
- As manawhenua we have a responsibility to protect the mauri of our wai.
- Our knowledge and customary practices are fundamental in the future management of wai Māori in our rohe.
- The health of our mahinga kai is essential to our wellbeing as a people.
- Efficient and sustainable use of our resources is a priority for Ngāti Manawa.



## PROJECT KAUPAPA

- Build Ngāti Manawa capacity and capability in freshwater management.
- Develop a freshwater monitoring framework utilising a range of Matauranga tools.
- Develop and implement a tuna restoration plan.
- Inform Regional Council of Ngati Manawa aspirations for OUR waterways and Wai Maori as manawhakahaere.
- Develop an agreed monitoring programme with Regional Council.



## MANA WHAKAHAERE

- Ngāti Manawa has a tuna culture which means the health and wellbeing of the tuna and the health and wellbeing of the water within the Rangitāiki catchment and the Ngāti Manawa rohe is of the utmost importance to every aspect of being Ngāti Manawa and to Ngāti Manawatanga.
- Recognition of habitat of tuna
- Clause 125 of the Ngāti Manawa Settlement Act
- All persons exercising functions and powers under the Resource Management Act 1991 that affect the Rangitāiki River must have particular regard to the habitat of tuna (*anguilla dieffenbachia* and *anguilla australis*) in the river.









**DAY IN THE LIFE..**





## ACKNOWLEDGEMENTS

- Funded by M.F.E
- Long Term Planning ( LTP )
- Department of Conservation
- Erena Nuku , Pouwhare Rewi
- JFN Roopu – Frank, Turua, Hogan & Reece
- Jean McCauley
- Regional Council

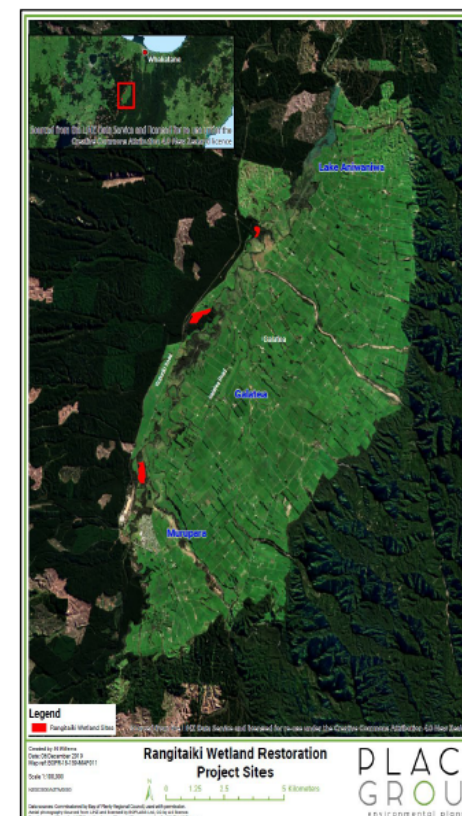
# Rangitāiki River Wetland Project Update





# Freshwater Improvement Fund Initiative

- Five year wetland restoration project (2018 - 2023)
- 50:50 Co-funded by BOPRC and MfE
- Three sites along Rangitāiki River - between Murupara and Aniwaniwa



# Key objectives



Improve indigenous habitat



Reduce pest plant and pest animal numbers



Build capacity and capability



# Rangipō, Te hekenga o nga tuna

- Private owned by Ng family
- Project focussed on 4ha
- Willow and other pest plants controlled
- 10,000 plants planted
- Pest animal management
- Track creation and maintenance



# Rangipō, Te hekenga o nga tuna

## Pest plant control progress



2018

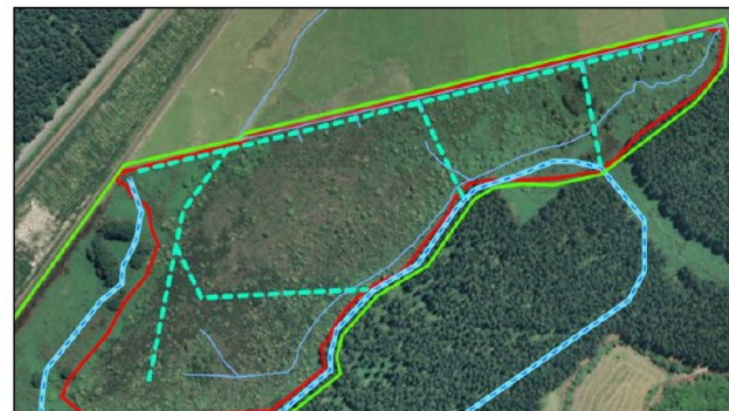


2021



# Karamuramu

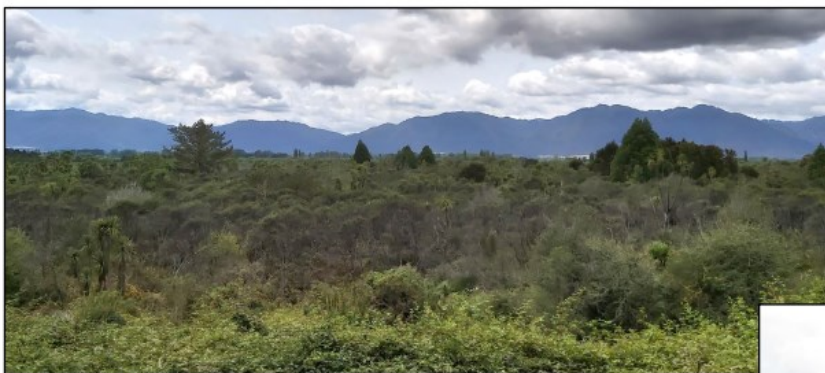
- Owned by Te Rūnanga o Ngāti Manawa
- 17ha area under management
- Ground based weed control of wilding pines, gorse, willows, hawthorn, blackberry, barberry....
- Pest animal management
- Track creation and maintenance





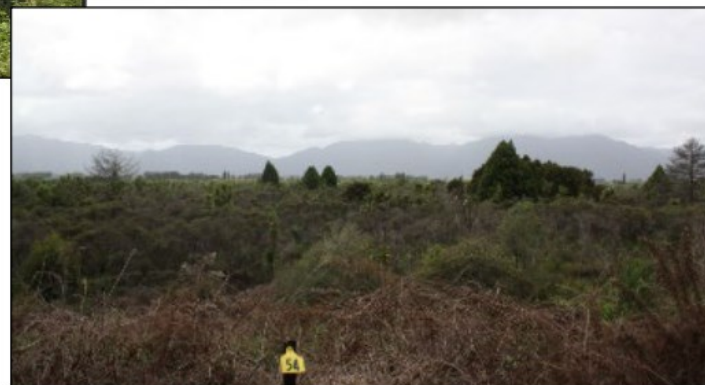
# Karamuramu

## Pest plant control progress



2019

2022





# Te repo o Hinengāwari

- Owned by Ngātimanawa Inc
- Willow control ~18ha aerial and ground based
- Other pest plants controlled
- 11,600 plants planted in 2020
- 1800 plants to go in September 2022
- Pest animal management
- Track creation and maintenance



# Te repo o Hinengāwari

## Pest plant control progress



# Te repo o Hinengāwari

Tuna seen regularly  
Koura also seen





# Manu

	Total count		Number of natives	
	2018	2020	2018	2020
Rangipō	235	516	15	18
Karamuramu	285	442	12	13
Hinengāwari	142	392	10	17

Spotless crane detected in 2020 (At Risk – Declining)

Next survey will take place in 2022



# Vegetation monitoring



Vegetation plots (5 x 5m) have been established in Hinengāwari and Rangipō (2020), and Karamuramu (2017 prior to project start).

All sites will be remeasured in 2024



# Pest animal monitoring

	Total percentage (%) of pest animals					
	2020			2021		
	Rangipō	Karamuramu	Hinengāwari	Rangipō	Karamuramu	Hinengāwari
Possum	29	16	10	26	4	2
Mustelids	0	0	0	0	0	0
Rats	6	4	0	4	0	1
Mice	2	4	1	8	0	1
Hedgehogs	1	1	0	0	0	0

- Rangipō - continual reinvasion of possums due to its proximity to pine forests.
- Mice will increase when rats are removed



# Capacity and Capability

Project team makes sure the project contributes to the local economy

- Competitive procurement, including requirements for local contractors/employees
- Provision for providers to mentor and train
- The majority of contracts awarded have been to local Murupara based providers



## The future

- Environmental Programmes (EPs) are finishing June 2023
- EPs are being renegotiated with each landowner to continue from July 2023
- At this stage MfE has indicated that there is no further funding available for this project
- Funding application is underway with Bay Trust
- Likely to be a reduce level of financial resources available
- Continue to have pest plant and pest animal control as core work
- Unless specific funding can be sourced Place Group will have a reduce role as Project Managers once MfE funding is ended and the project management will be undertaken by a BOPRC staff member or nominated landowner representative



# Acknowledgements and contributors



1BT  
Extension  
Fund



Ngātimanawa Inc  
Ng family



# Draft Policy Options

- **RPS**
  - Water Quality and Land Use, and
  - Water Quantity chapters
- **RNRP Chapters**
  - Integrated Management
  - Beds of Water Bodies
  - Wetlands
  - Discharges to Water and Land
  - Land Management



# Coming soon

- Kaitiakitanga chapter review
- Freshwater management unit specific policy
  - Visions and outcomes
  - Water quality targets, limits and options to achieve them
  - Groundwater and surface water quantity limits and management options.
  - Science summaries

# Alternative Long-term Vision

*A healthy Rangitāiki River, valued by the community, protected for future generations. Tihei Mauri Ora.*

*E ora ana te mauri o te awa o Rangitāiki, e manaakitia ana e te iwi, e tiakina ana mō ngā whakatipuranga o muri mai. Tihei Mauri Ora.*

# What we want in the Rangitāiki

- Mauri of the water is protected
- Native habitats
- Customary harvesting sustains people
- Thriving native species (incl. whitebait and tuna)
- Clean water, healthy ecosystems
- Return of some threatened species
- Spiritual, cultural and recreational needs provided for
- Resilient, sustainable and thriving communities



# Te Mana o te Wai - hierarchy of obligations

1. The health and well-being of water bodies and freshwater ecosystems
2. The health needs of people (such as drinking water)
3. The ability of people and communities to provide for their social, economic and cultural well-being, now and in the future.

# Participate

- 2 contributions for Rangitāiki FMU
- Sought improvements to recreational and economic values
- Concerns raised about:
  - **Access to the river and its whitewater**
  - **Water availability and storage**
  - **Erosion control**
  - **Acknowledgement of work landowners had undertaken already**

## 1. Long-term Vision for Freshwater

The vision below was used as an example vision to encourage discussion with iwi in early 2022. This vision is primarily based on Te Ara Whānui o Rangitāiki - Pathways of the Rangitāiki and Change 3 to the Regional Policy Statement (RPS) objectives, with two location-specific goals from other sources - Te Kawa o Te Urewera and from the Rangitāiki Freshwater Futures community group desired state statements.

*A healthy Rangitāiki River, valued by the community, protected for future generations. Tihei Mauri Ora.*

*E ora ana te mauri o te awa o Rangitāiki, e manaakitia ana e te iwi, e tiakina ana mō ngā whakatipuranga o muri mai. Tihei Mauri Ora.*

1. Tuna within the Rangitāiki catchment are protected, through measures including enhancement and restoration of their habitat and migration paths (RPS O32, treaty settlement legislation)
2. Habitats that support indigenous species and linkages between indigenous ecosystems within the Rangitāiki River catchment are created, enhanced where degraded, and protected where significant (RPS O33)
3. Water quality in the Rangitāiki River catchment is maintained and improved where degraded (RPS O34)
4. The social, economic and cultural wellbeing of communities in the Rangitāiki River Catchment is enabled within the limits of the rivers and receiving environment (RPS O35)
5. The relationship between communities and the Rangitāiki River Catchment is recognised and encouraged (RPS O36).
6. The practice of kaitiakitanga in decision-making is recognised and provided for when managing ancestral lands, water, sites, wāhi tapu and other taonga in the Rangitāiki River Catchment (RPS O37).
7. The qualities and characteristics of areas and features that contribute to the amenity values and quality of the Rangitāiki River catchment environment are maintained and enhanced where degraded (RPS O38)
8. Access to the Rangitāiki River and its tributaries is maintained and enhanced (RPS O39)
9. **In Te Urewera:** Wai remains at the centre of life, in its natural state, for the benefit of future generations, and use is enabled only through agreed limits and constraints.
10. **In lower Rangitāiki:** Habitat for indigenous species (particularly whitebait), and natural form and character are restored over time.

*The vision is to be achieved within the following timeframes: XXXX*

### Alternative Vision Option

A simpler high-level vision with the goals carried through to the environmental outcomes is provided below:

*A healthy Rangitāiki River, valued by the community, protected for future generations. Tihei Mauri Ora.*

*E ora ana te mauri o te awa o Rangitāiki, e manaakitia ana e te iwi, e tiakina ana mō ngā whakatipuranga o muri mai. Tihei Mauri Ora.*



This vision is based on the vision in Te Ara Whānui o Rangitāiki - Pathways of the Rangitāiki. It is recommended that the English vision be reworded to encapsulate all parts of the te reo vision as requested by Rangitāiki iwi in the combined iwi hui. A timeframe needs to be added and potentially some key goals for the FMU.

## 2. Freshwater Values

The value assessment below is a high level summary of values within the FMU as a whole and is primarily based on the [Values - Public Webmap \(arcgis.com\)](#). More detail on each value and where it occurs is being gathered, mapped and described.

Ecosystem health	Human contact	Threatened species	Mahinga kai	Natural form and character	Drinking water supply	Wai tapu	Transport and tauranga waka	Fishing	Hydro-electric power generation	Animal drinking water	Irrigation, cultivation, and production of food and beverages	Commercial and industrial use	Geothermal (warm) water
H	H	H	H	H	H	H	H	H	H	H	H	H	L

## 3. Environmental Outcomes

TMotW	Value	Environmental Outcome	Commentary
Ecosystem Health *	Water quality	Water quality in the Rangitāiki River catchment is maintained and improved where degraded	RPS O34 (Rangitāiki River)
	Water quantity	The flow within the Rangitāiki River catchment provides for the habitats and spawning areas of mahinga kai, native and/or fishing species.	From Rangitāiki Freshwater Futures Community Group feedback
	Habitat	Habitats that support indigenous species and linkages between ecosystems within the Rangitāiki River catchment are created, enhanced where degraded, and protected where significant	RPS O33 (Rangitāiki River)
	Aquatic life	Native species, including whitebait and tuna, abound.	From Te Ara Whānui o Rangitāiki desired outcomes.
	Ecological processes	The natural state of ecosystem health in Te Urewera is maintained.	Te Kawa o Te Urewera
**	Human contact	Water quality and quantity is maintained or improved to be suitable for swimming and for gathering kai without risk of getting sick.	Being safe for contact recreation is already in the RPS for the Rangitāiki River. Rangitāiki community group

## Item 10.3, Tabled Document 1

			feedback was water quality and quantity needed to be suitable for swimming
*	Threatened species	Return of some threatened species.  Generic: Protect the critical habitats and conditions required to support the presence, abundance, survival and recovery of threatened species.	From Te Ara Whānui o Rangitāiki desired outcomes. Whio, piharau (lamprey) and Dwarf Galaxias are some of the well know threatened species in the Rangitāiki
Mahinga kai **/**	Safe to harvest and eat	Tuna within the Rangitāiki catchment are protected, through measures including enhancement and restoration of their habitat and migration paths.	RPS O32 (Rangitāiki River)
	Mauri	The Mauri of the water is protected	Te Ara Whānui desired outcomes. There are already region wide objectives (RPS Obj. 17 and RNR Obj. KT O6) to safeguard mauri so this outcome may not need to be FMU specific
**/**/**	Natural form and character	The qualities and characteristics of areas and features that contribute to the amenity values and quality of the Rangitāiki River catchment environment are maintained and enhanced where degraded  Natural form and character is restored over time in lowlands reaches, maintained and improved above Matahina Dam, and protected in the forested upper catchments.	RPS O38 (Rangitāiki River)  From Rangitāiki Freshwater Futures Community Group feedback
**	Drinking water supply	Water quality and quantity provides for safe drinking water sources, where the water is used for that purpose, wherever practicable, to the extent possible without compromising the outcomes of first priority TMotW values.	Based on RPS Policy RR 3B(d)
***	Wai tapu	Water is suitable for cultural ceremonies at traditional wai tapu sites.	Based on RPS Policy RR 3B(b)). Tangata whenua direction/clarification needed around any specific water quality or quantity issues that affect wai tapu sites.
***	Transport and tauranga waka	Access to the Rangitāiki River and its tributaries is maintained and enhanced.	RPS O39 (Rangitāiki River)
**/**/**	Fishing	Water quality and quantity provide for commonly fished species that are abundant and safe to eat.	From Rangitāiki Freshwater Futures Community Group
***	Hydro-electric power generation	Generic: Water quality and quantity is sufficient to provide for hydro-electric power generation to be maintained, to the extent possible and subject to providing for the first and second priorities of TMotW outcomes.	
***	Animal drinking water	Generic: Farmed animals have sufficient, reliable, safe and palatable drinking water, to the extent possible and subject to providing for the first and second priorities of TMotW outcomes.	

***	Irrigation, cultivation, and production of food and beverages	Generic: Reasonable and efficient irrigation and food processing freshwater needs are provided for with an adequate level of reliability, to the extent possible and subject to providing for the first and second priorities of TMotW outcomes.	
***	Commercial and industrial use	Generic: Reasonable and efficient commercial and industrial freshwater needs are provided for with an adequate level of reliability , to the extent possible and subject to providing for the first and second priorities of TMotW outcomes.	
***	Geothermal warm water	Generic: Significant geothermal warm water resources are protected from the cooling effects of activities and made available for efficient uses that require heat and/or heated water.	

#### 4. Te Mana o te Wai (TMotW)

A first cut at identifying what priority a value may have under the hierarchy of obligations in TMotW (cl 1.3(5) of the NPSFM) is included in the table above for you to consider. The outcomes of those use values identified as the third priority \*\*\* would be subject to the outcomes of higher priority values (\* and \*\*) being met.

There will be an opportunity to consider which values sit in which priority under the hierarchy of obligations in a future TMotW discussion.