



# **HOROWHENUA FMU WATER QUALITY INTERVENTIONS JOBS FOR NATURE UPDATE**

# INTRODUCTION

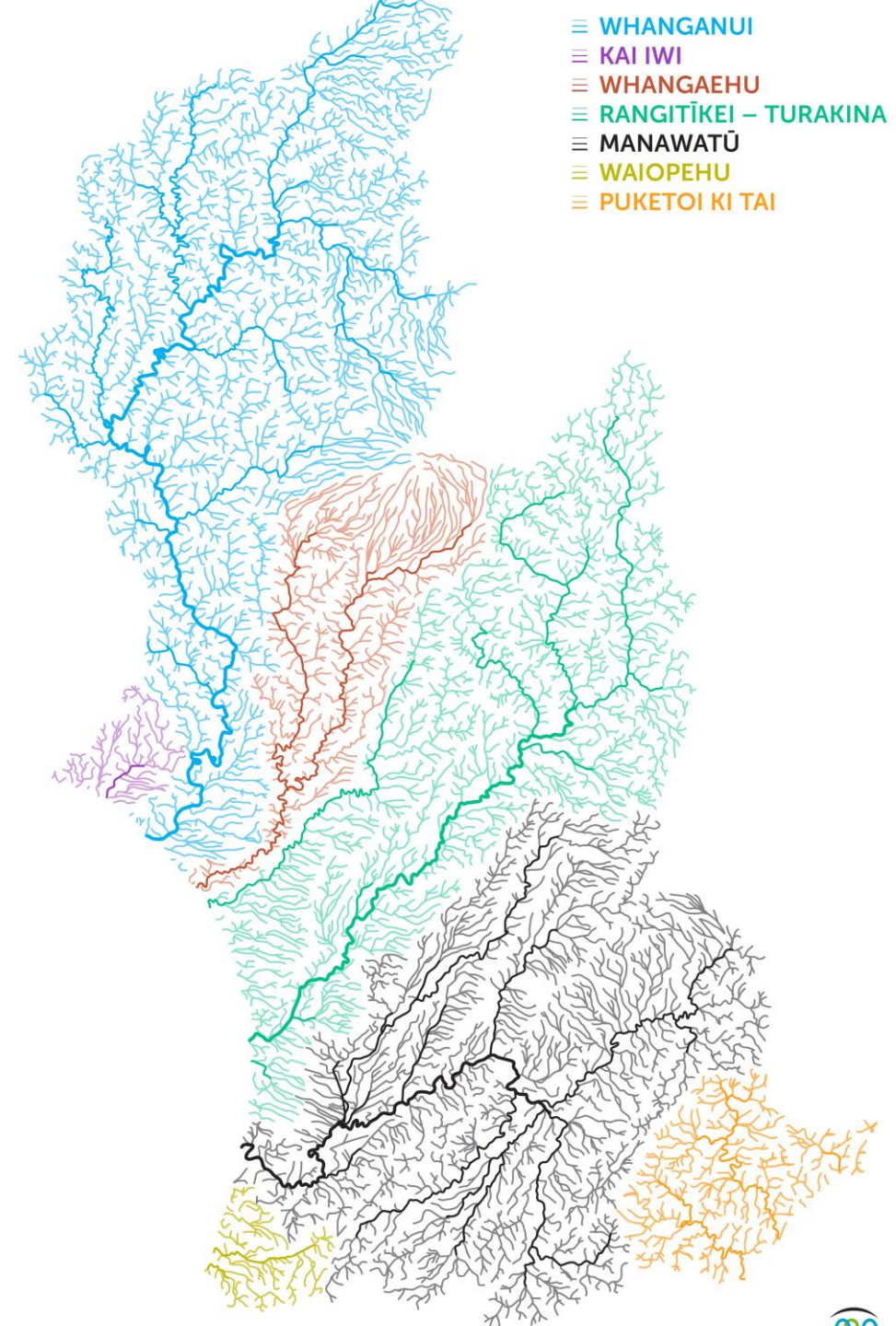
- Opening/welcome;
- House keeping;
- Horizons team;
- Background;
- Other work streams;
- The wetland complex proposal
  - Journey so far; and
  - The continuing journey.
- Oranga wai
  - Journey so far;
  - The science; and
  - The continuing journey.



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# WHY WAITARERE?

- Freshwater Management Units (FMU);
- Jobs for Nature was for a programme of works across the Waioupehu FMU;
- Provide an update on the overall Jobs for Nature work programme, the proposed wetland complex, and Oranga Wai.



# BACKGROUND

- Initial wetland complex concept idea was developed by the Horowhenua wetland alliance;
- March 2020 - Covid lockdown;
- Jobs for Nature funding announced and application rounds opened;
- Horizons submitted a number of applications;
- Application was successful;
- Deed of Funding signed 24<sup>th</sup> February 2021.



# OTHER WORK STREAMS

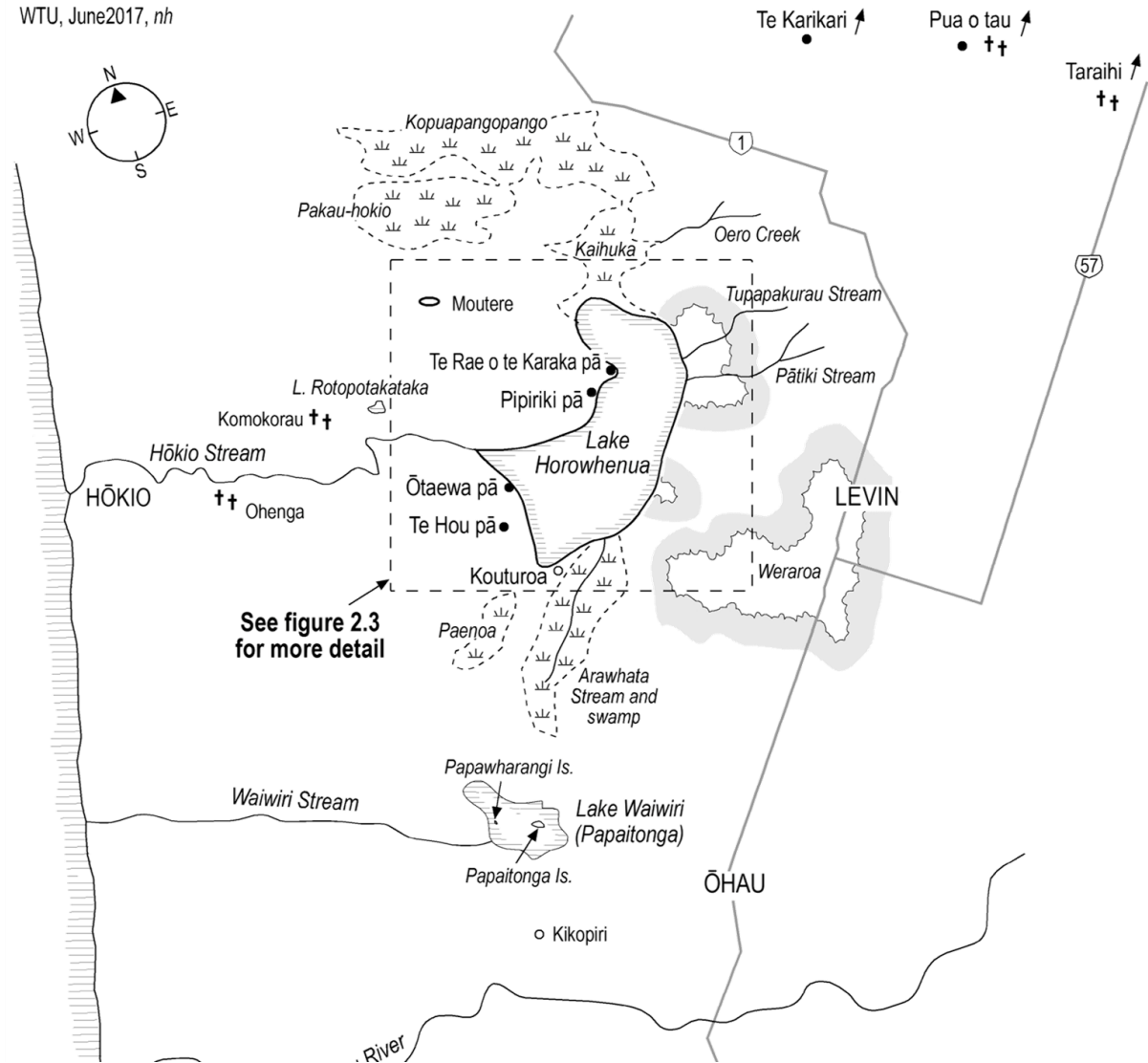
- Expansion of targeted monitoring of the Waikawa and Ōhau catchments;
- Groundwater model for the Waiopēhu FMU;
- Lake Horowhenua nutrient budget;
- Ōhau and Waikawa estuary nutrient threshold work;
- Nutrient accounting framework within the Waiopēhu FMU.
- Reports can be found here <https://www.horizons.govt.nz/managing-natural-resources/horowhenua-water-quality-interventions>



# PROCESS TO DATE

- Establishment of a Governance Group for the project;
- Representatives from MTA, LHT, Raukawa, HDC, HRC.
- Land take over occurred June 2021 (142 hectares);
- Establishment of the Horowhenua Wetland Complex Community Stakeholder Group;
- WECA, HEKA, Fish and Game, Forest and Bird, DOC, DairyNZ, HortNZ, Woodhaven, Federated Farmers, Tararua Growers Association, Hōkio Community.

WTU, June2017, nh



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# PROCESS TO DATE

- Wetland Design Group
  - Jacobs, Tonkin and Taylor, NIWA, and mātauranga input from the Lake Horowhenua Trust and Muaūpoko.
- Monitoring programme developed around the farm streams/drains;
  - Flows;
  - Contaminants;
  - Soil profile;
  - Groundwater direction.
- Multi Criteria Analysis completed;
- Bush fragment fenced and further planting;
- Draft conceptual design



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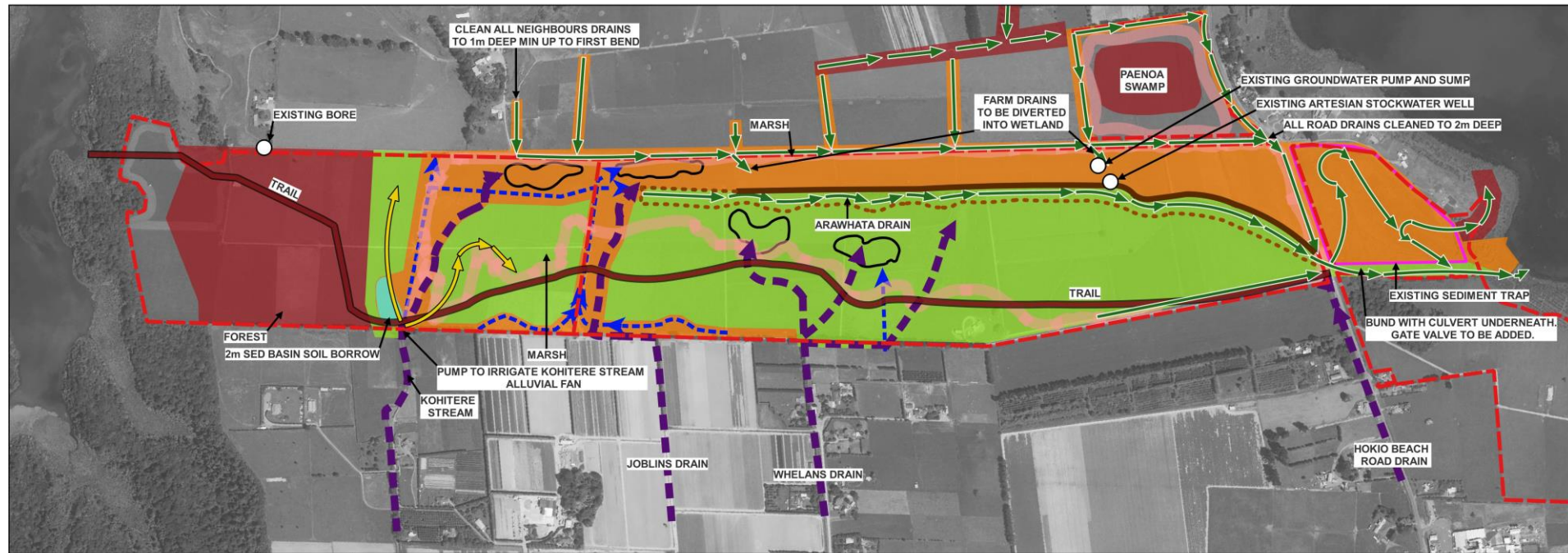
# LAND AREA



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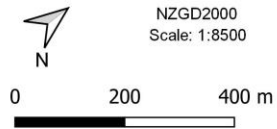






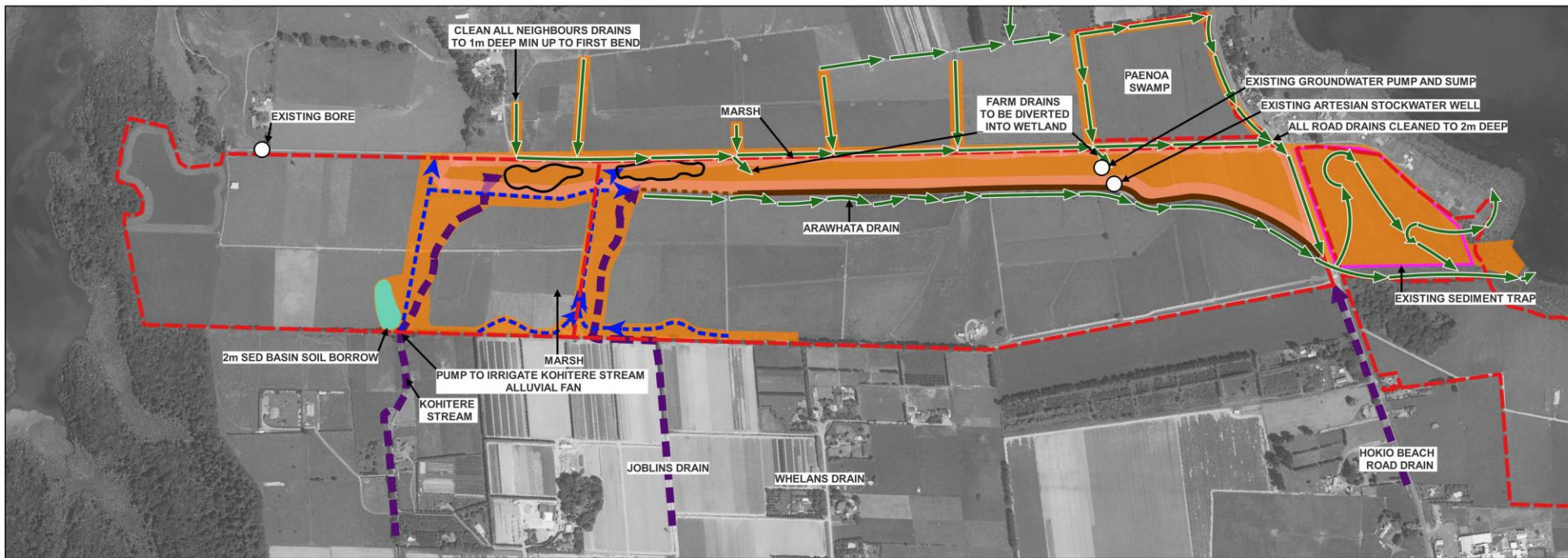
### Legend

- Land Boundary
- Deeper cut wetland areas
- Existing Stopbank
- Proposed Stopbank
  
- ➔ Surface irrigation perforated pipe to irrigate Kohitere stream alluvial fan
- ➔ Subsurface perforated drain pipe laid in invert of existing/new drains then drain backfilled with wood chips, bark and hay
  
- Channel taking flow from drains in vegetable growing area to feed into wetland
- Approximate edge of wetland wetted area
- Sediment Basin
  
- Construction Phases
- Phase 1
- Phase 2
- Phase 3



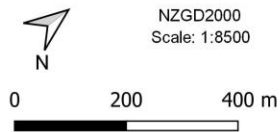
### Phase 3 Components

- Planting in Paenoa Swamp
- Divert – channels in western area into Paenoa swamp
- Planting upland (southern) forest area
- Further fill in wetland areas with more planting
- New dispersed outlet into Lake Horowhenua
- Construction of walking trail



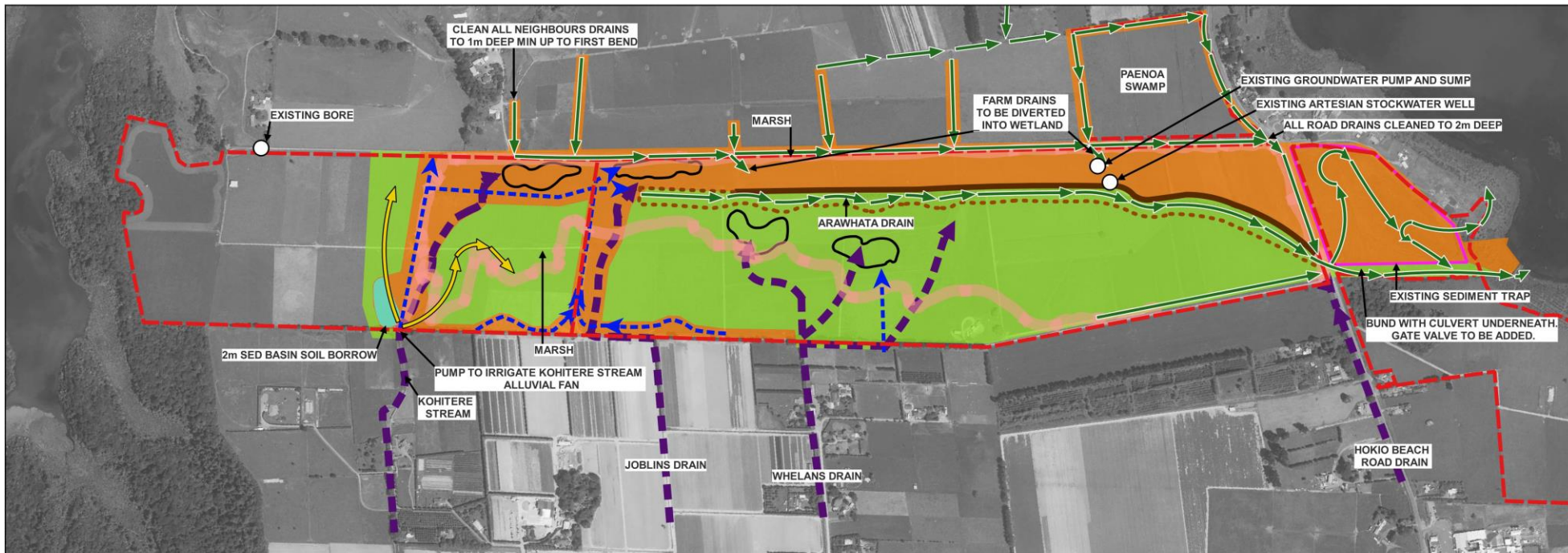
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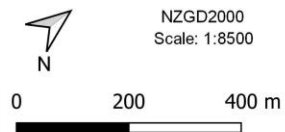
### Phase 1 Components

- Sediment Basin construction at Kohitere Stream/site boundary
- Installation of perforated pipe in existing Kohitere and Joblins Drain channels (within the site boundary) and drains as well as new drains along the property boundary either side of Joblins Drain, backfilled with woodchips/bark/hay for groundwater treatment (Blue dashed arrows).
- Construction of new channels at flatter grade than ground slope such that water can be discharged onto surface of wetlands from Kohitere stream and Joblins Drain. (purple arrows)
- Surface water overflow from sediment trap directed into new channels (purple) under gravity.
- Partial planting through wetland areas.
- Retention of existing groundwater pump + southern well for irrigation
- Plants for phase 1 need to be purchased.
- Collection of groundwater along the boundary either side of Joblins Drain
- Cleaning out/deepening farm drains on neighbour's land such that groundwater is intercepted. Invert to still be sloped and discharged to Arawhata Stream.
- Extension of stopbanks along Arawhata Stream west side.
- Construction of sliding weir gate on culvert in Arawhata Stream alongside the existing sediment trap. This will normally be shut to direct flows through the sediment trap.
- Add rip rap on slope of the existing sediment trap outlet to control water level and protect embankment.
- Sediment trap to be retained as is



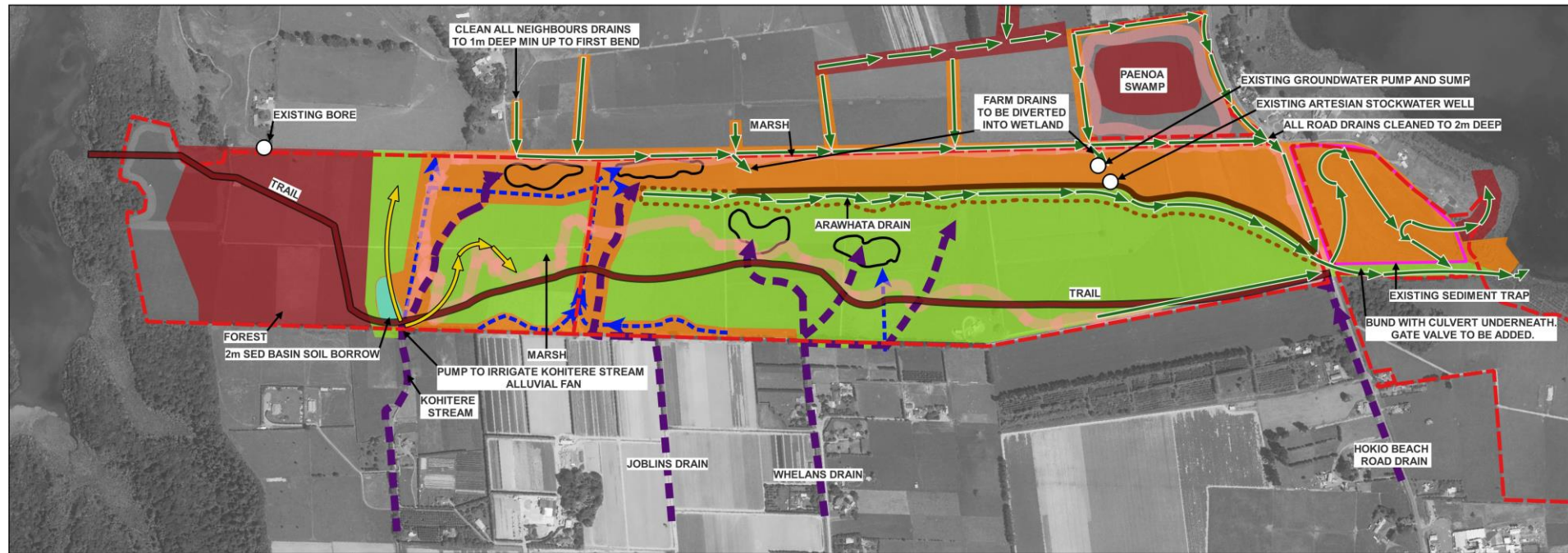
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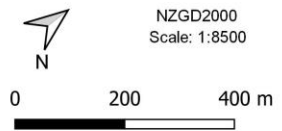
### Phase 2 Components

- Construction of new channels at flatter grade than ground slope such that water can be discharged onto surface of wetlands from Whelans Drains.
- More planting in Phase 1 and Phase 2 areas
- New bund on east side of existing Arawhata Stream to contain Phase 2 wetland.
- A lower section of bund/stopbank will be built at the downstream end alongside Hokio Beach Road to discharge treated wetland flow into the main Arawhata drain.
- New groundwater collection drains along Hokio Beach road and wetland site boundary.
- Installation of small new pump to irrigate sediment pond water into Kohitere Stream alluvial fan in areas where it cannot flow under gravity.



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Arawhata Wetland  
Diagram 1: Construction Phase 3

# FEEDBACK

- The current conceptual design is in draft form;
- General feedback on the proposal is being gathered, to be considered in the next steps;
- This feedback will be used to decide whether changes to the proposal are required.



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# CONTACT US

Email:

[Horowhenua.WetlandComplex@horizons.govt.nz](mailto:Horowhenua.WetlandComplex@horizons.govt.nz)

Freephone: 0508 800 800

Mail: Private Bag 11025,  
Manawatū Mail Centre,  
Palmerston North 4442



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# Oranga Wai | Our Freshwater Future

National Policy Statement for Freshwater Management



# Overview

- What is Oranga Wai | Our Freshwater Future?
- What is the NPS-FM and what does it mean for you?
- Introduction to the National Objectives Framework
- Where are we in the process?
- What's next and why we need your views?
- Where can you find information?

# What is the NPS-FM?

- National Policy Statement for Freshwater Management 2020
- How freshwater is managed in New Zealand
- National direction for regional councils to improve water quality
- Revise the One Plan
- Changes notified by December 2024
- Freshwater Commissioners to finalise regional plans

# Te Mana o te Wai

- Vital importance of water: protecting the health of freshwater protects the health of the wider environment
- Hierarchy of obligations prioritises:
  - First, the health & well-being of water bodies and freshwater ecosystems
  - Second, the health needs of people
  - Third, the ability of people & communities to provide for their social, economic & cultural well-being, now and in the future
- Approach of ki uta ki tai – the mountains to the sea



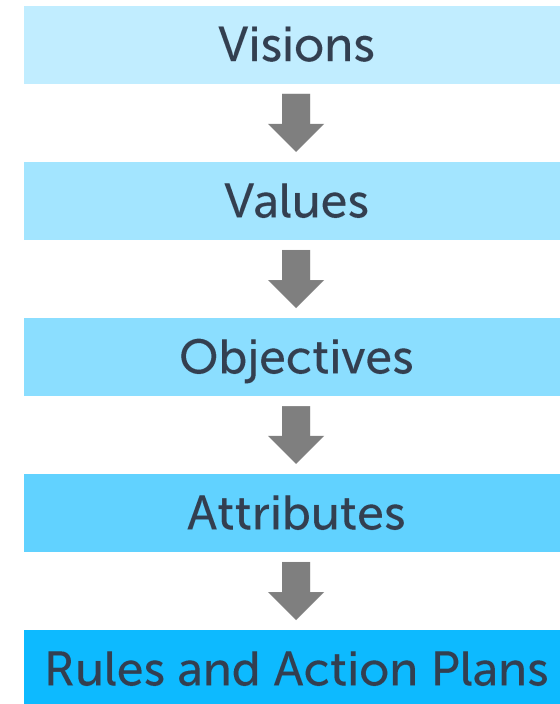
# What does this mean for you?

- Updating the One Plan to reflect the new requirements
- May be stricter rules and limits for certain activities
- Freshwater Farm Plans and non-regulatory methods
- More opportunity for communities to have input

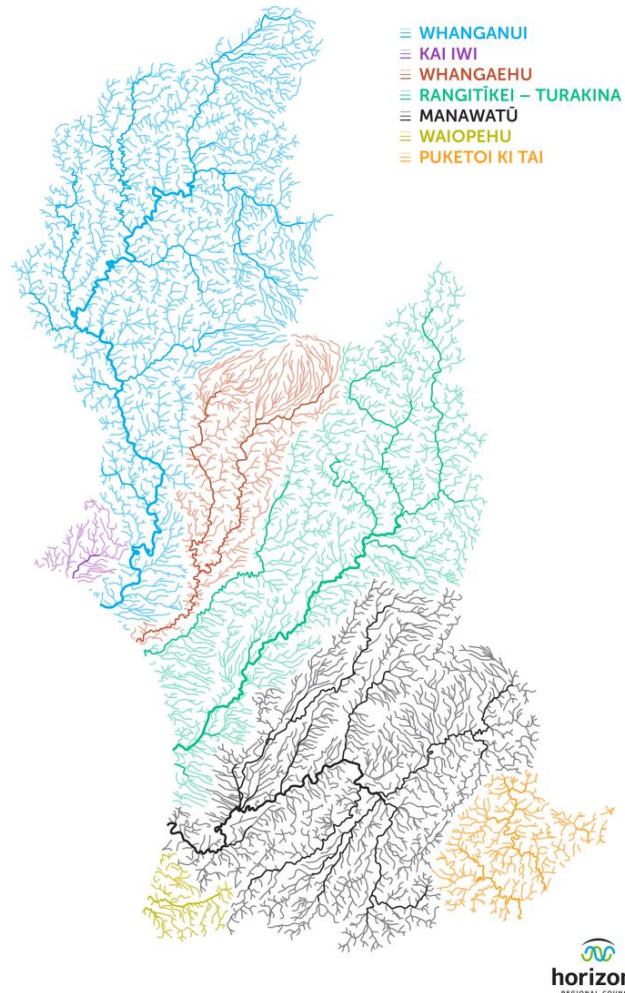


# Introduction to the National Objectives Framework

- What is the NOF? the “engine room” of the NPS-FM
- Steps regional councils must follow
- Collaboration with tangata whenua, communities and stakeholders



# Freshwater Management Units



- The NPS-FM directs councils to identify areas called Freshwater Management Units (FMUs)
- Will be the key scale for managing and reporting on freshwater
- Proposed FMUs are based around river catchments or groups of catchments

Proposed Freshwater Management Units

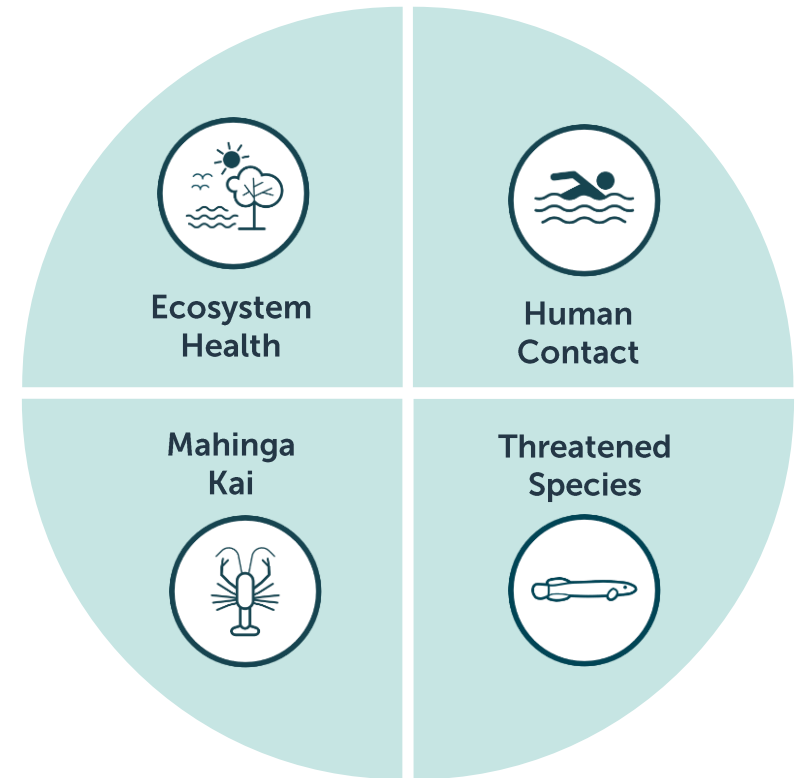
# Visions & Outcomes

- First step of NPS-FM: set long-term visions for freshwater for each FMU
- Based on community and tangata whenua engagement completed May 2022
- Statements that describe what communities and tangata whenua want freshwater environments to be like in the future

How do you  
want your  
catchment to  
be in the  
future?

# Values

- Key concept of the NPS-FM
- Four compulsory values
- “other” values from the NPS-FM must be considered, including:
  - Drinking Water
  - Stock Drinking Water
  - Irrigation and Cultivation
- Regional councils may identify more values
- Council to set environmental outcomes based on values

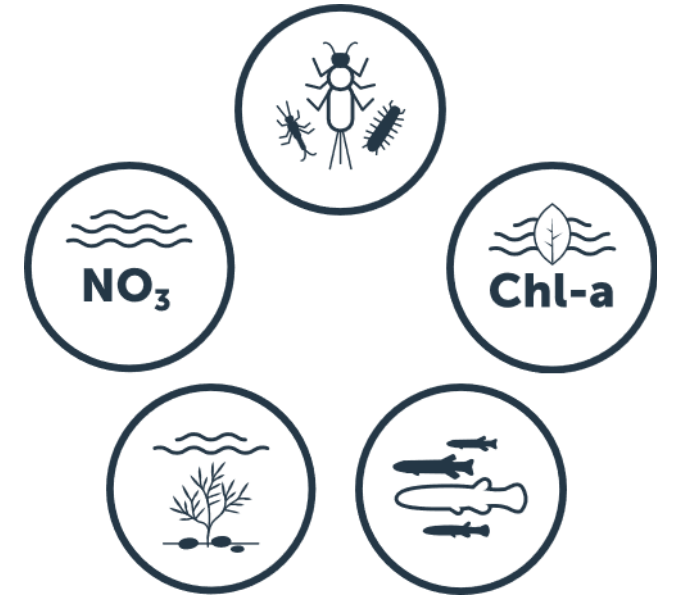


Compulsory Values



# Attributes

- Attributes act as an indicator of freshwater health
- They are usually things we can measure and monitor
- Attributes can be numeric, narrative, or both
- They tell us about the “state” of the waterbody – nutrients, sediment, macroinvertebrates
- Each value (e.g. Ecosystem Health) must have associated attributes



# Ecosystem Health Value

- The Ecosystem Health value is a key part of the NPS-FM
- Requires us to monitor and report on the state of Ecosystem Health using a specific set of measures
- Attributes must be identified for every value



Little Impact



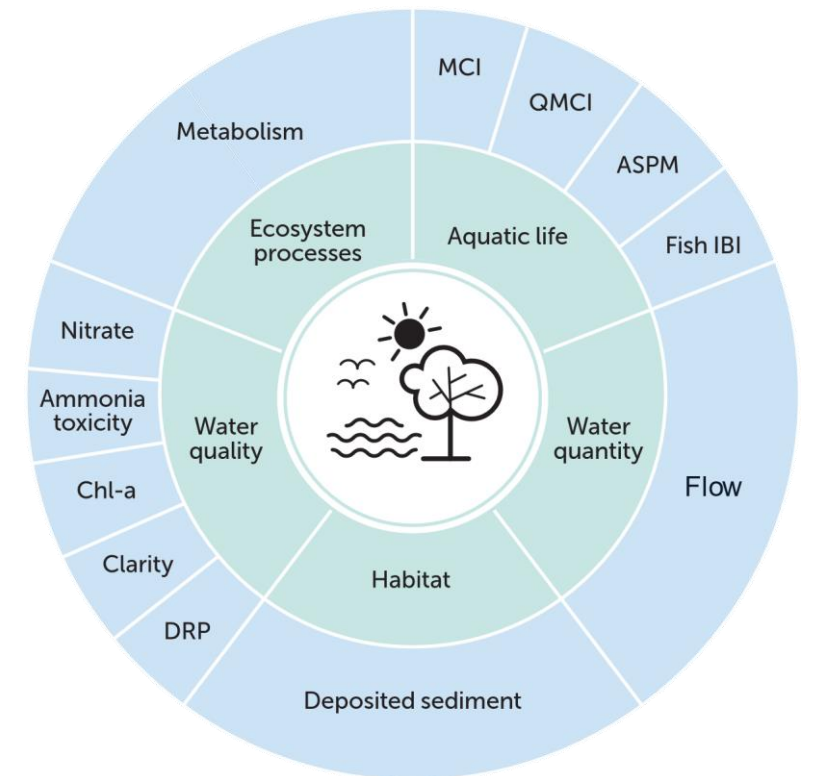
Slight Impact



Moderate Impact

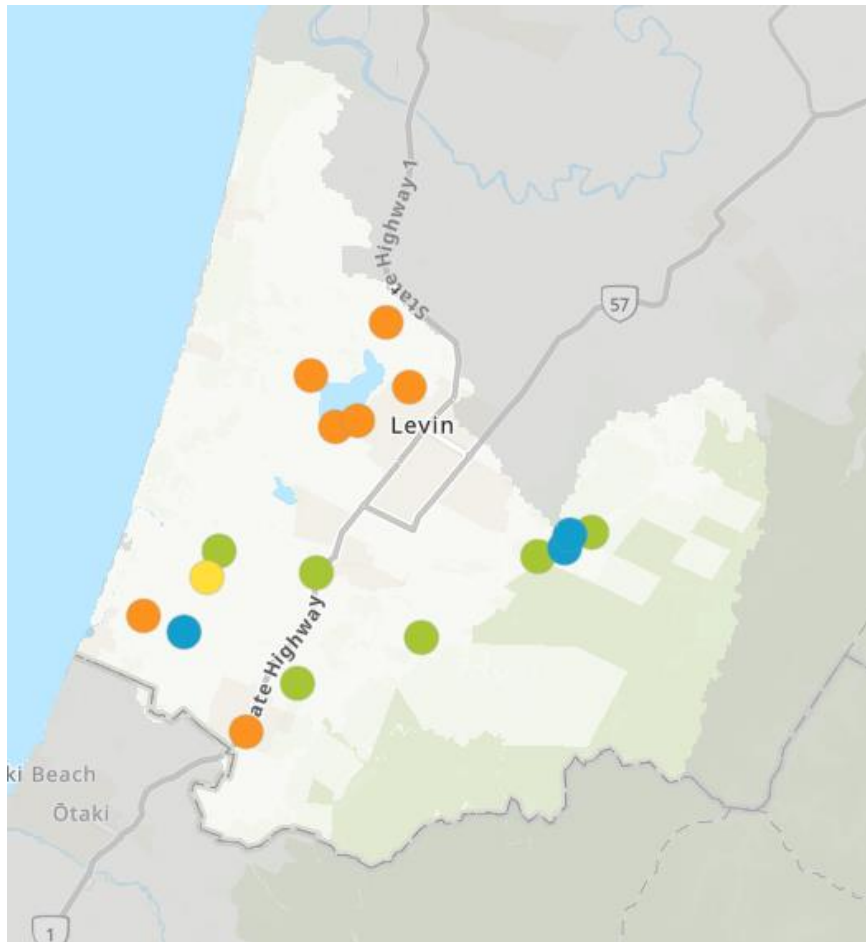


Significant Impact



Components of Ecosystem Health  
Attributes of Ecosystem Health

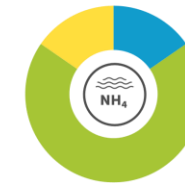
# Water Quality | Waiopehu FMU



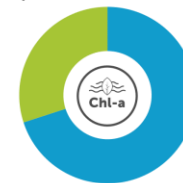
Nitrate Toxicity



Dissolved Reactive Phosphorus



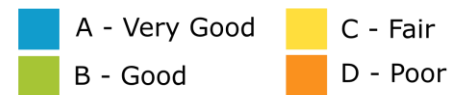
Ammonia Toxicity



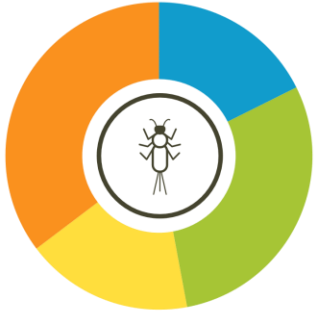
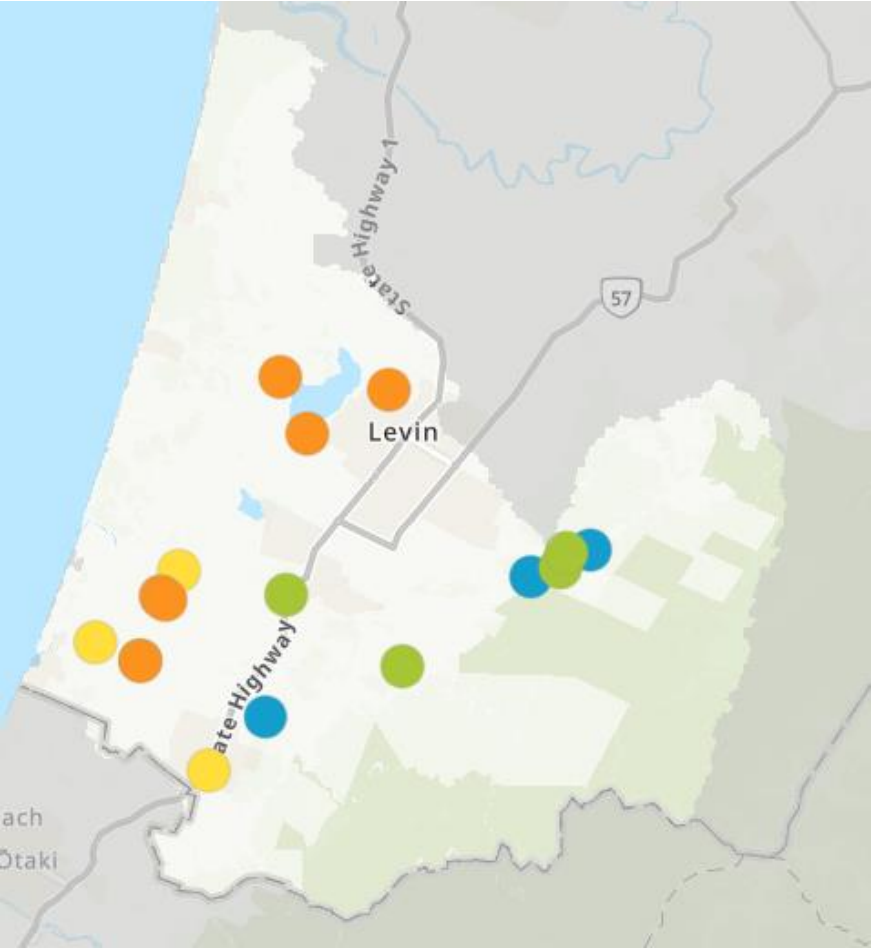
Chlorophyll a



Suspended Sediment



# Aquatic Life | Waiopehu FMU



Overall Aquatic Life



ASPM



MCI

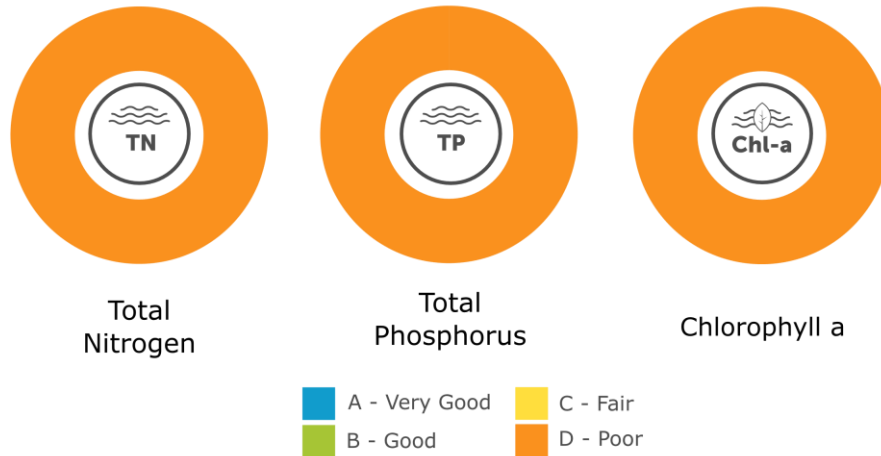


QMCI

- A - Very Good
- B - Good
- C - Fair
- D - Poor

# Water Quality | Lakes

- Lake water quality is measured in Punahau | Lake Horowhenua every month

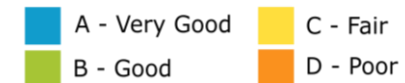


Punahau | Lake Horowhenua

- Lake SPI examines the amount of native and invasive plants growing in them



Lake SPI



Lake Papaitonga &  
Lake Kopureherehere

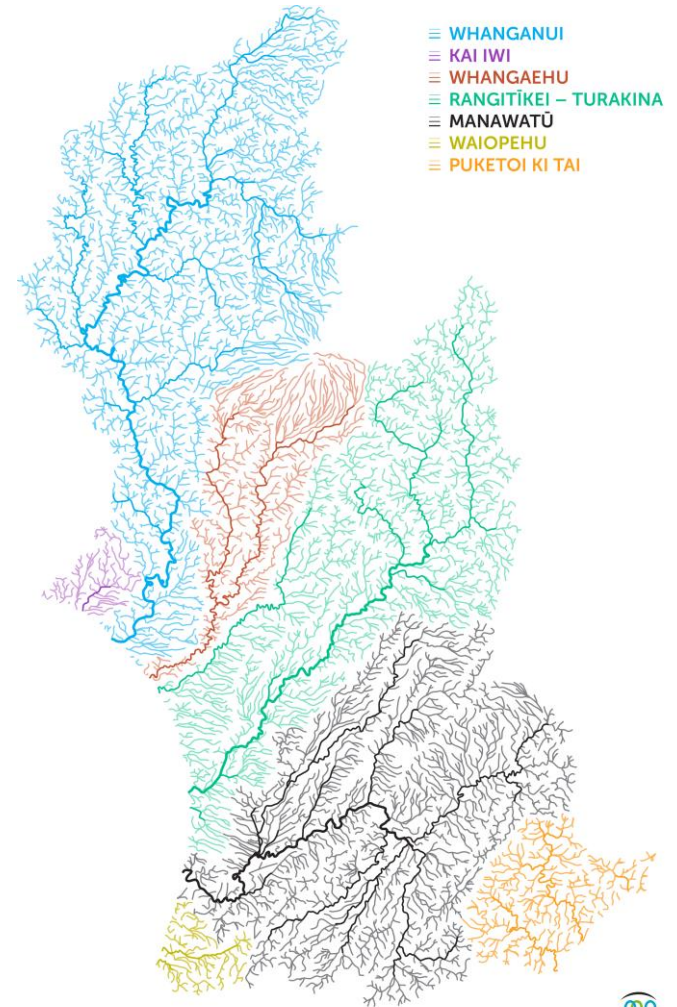
# Targets & Policy Options

- Current One Plan has specified targets for a range of water quality attributes
- Other targets from NPS-FM
- Targets must now include a timeframe to achieve them
- Review and revise the One Plan where for ways to achieve the targets
- Regulatory and non-regulatory methods



# Where are we in the process?

- **Progress:**
  - Proposed FMUs identified
  - Identified regional Te Mana o te Wai application
  - Engaged on values and visions
  - Engaging with industry bodies and advocacy groups e.g., catchment groups
  - Writing objectives and visions for the region



# What's coming next?

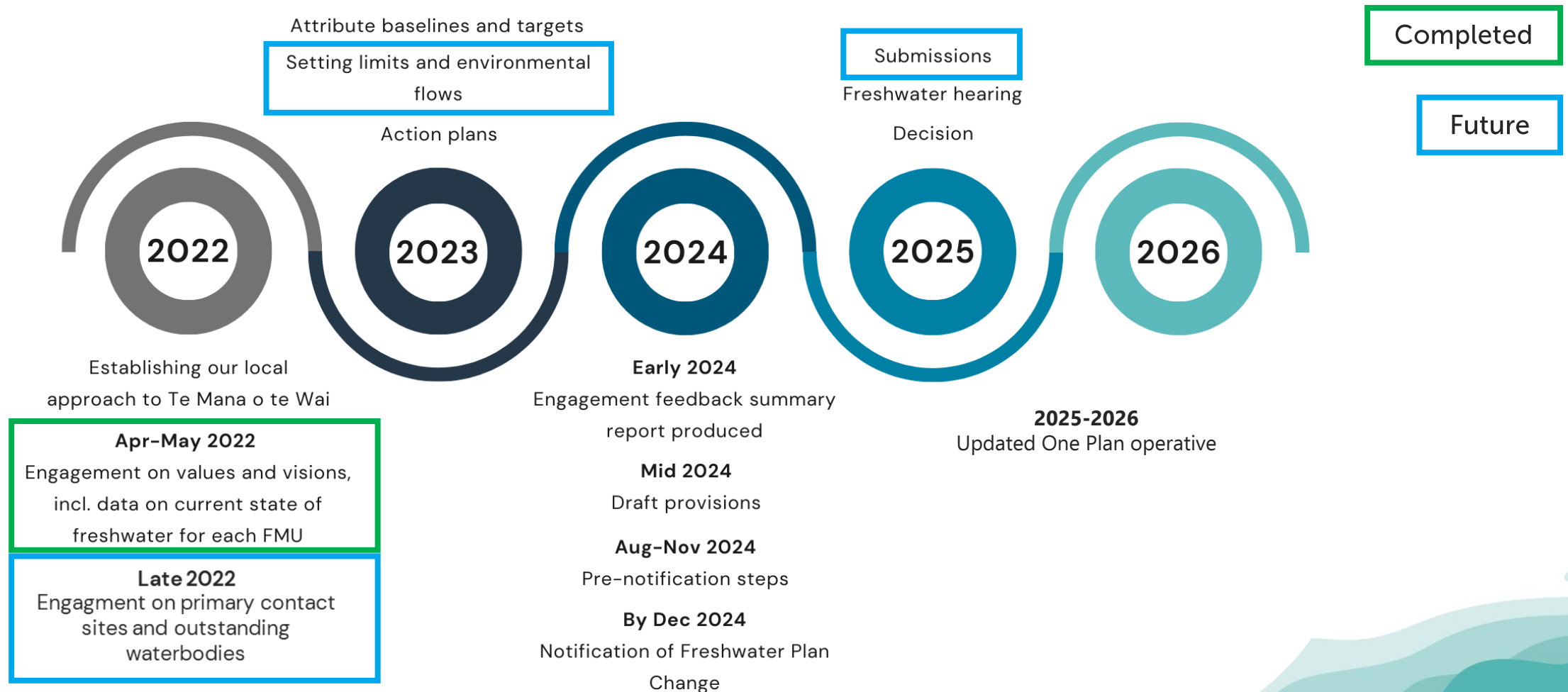
- Report on previous engagement
- Engagement on:
  - Freshwater recreation sites and outstanding water bodies – Nov 2022 to Feb 2023
  - Allocation framework – April 2023
- Identify water quality targets
- Investigate how these targets can be reached



Coming  
soon...



# How to be involved?



# Where can you find more information?

- Oranga Wai website – [www.freshwater.horizons.govt.nz](http://www.freshwater.horizons.govt.nz)
- E-newsletter – [www.horizons.govt.nz/managing-natural-resources/our-freshwater-future](http://www.horizons.govt.nz/managing-natural-resources/our-freshwater-future)
- Across the Region newsletter
- Facebook – Horizons Regional Council

Oranga Wai website



E-newsletter



# Contact Us

Email: [info@ourfreshwaterfuture.nz](mailto:info@ourfreshwaterfuture.nz)

Freephone: 0508 800 800

Mail: Private Bag 11025,  
Manawatū Mail Centre,  
Palmerston North 4442



# horizons

REGIONAL COUNCIL



For more information visit [www.horizons.govt.nz](http://www.horizons.govt.nz)  
or freephone Horizons on **0508 800 800**