



## Waipaoa Catchment Planning Advisory Group – Hui 2

**Date:** 16 August 2023

**Title of report:** Waipaoa catchment values and an introduction to environmental outcomes

**Report no:** **1**

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### Purpose of this report

This report discusses the review of freshwater values and Freshwater Management Units (FMUs) currently identified in the Waipaoa Catchment Plan.

The report also includes information on environmental outcomes, which are closely related to freshwater values. Environmental outcomes will be introduced at this hui and followed up with a workshop at the next hui in September.

### Outcomes sought

We want to protect the things that are important to the Waipaoa Catchment in relation to freshwater. Tangata whenua and community input to the development of the Plan is key to identifying and understanding the values of freshwater in our catchment.

The Group will help us to confirm what values our community and tangata whenua consider important to give effect to Te Mana o te Wai in the Waipaoa catchment.

At this hui the group will identify freshwater values important to each of the sub-catchments.

### Getting ready for the meeting

A freshwater value is what is of importance to you when thinking about freshwater. It can be anything from mahinga kai practices (food gathering) or recreational activities to water quality and habitat health.

Please consider in advance of the hui what your values are for each of the sub-catchments (outlined below) and bring these ideas to the hui to share. There will be an opportunity for discussion at the hui so if you haven't thought of all the values within a specific sub-catchment prior to the meeting, we can capture them then.

Please complete the table (**labelled “Environmental value priorities exercise” in the agenda pack**) with your identified values for the catchment. There are examples to get you started.

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## 1 Introduction

The Advisory Group's focus at this hui is to review the freshwater values of each of the Waipaoa sub-catchments, and to consider how they are important to this catchment.

The current Waipaoa Catchment Plan includes freshwater values that were identified during the development of the current Plan in 2015. We have an opportunity to discuss these values, consider new ones and think about how they might be provided for in a way which gives effect to Te Mana o te Wai.

The information provided in this report will guide the Group through this process by:

- outlining types of freshwater values appropriate to consider as per the requirements of the National Objectives Framework (NOF) in the National Policy Statement for Freshwater Management 2020 (NPS-FM)
- explaining Freshwater Management Units (FMUs), the role they play and how they are currently defined (refer to **Appendix 1**).

This information will enable the Advisory Group to identify freshwater values important to each of the sub-catchments within the Waipaoa catchment.

## 2 Scene setting - the National Objectives Framework

A central part of the NPS-FM is a process called the National Objectives Framework. We have divided these steps into two broad stages:

- 1. Stage 1: Identifying aspirations and goals for freshwater**
  - Identifying freshwater values
  - Defining Freshwater Management Units
  - Setting environmental outcomes
  - Identifying a Long-Term Vision
- 2. Stage 2: Identifying how and when to achieve those goals**
  - Understanding attributes and baseline states
  - Setting targets and timeframes
  - Setting limits, methods and actions
  - Monitoring

Freshwater values are a good starting point for discussion as they provide a useful context for understanding the other three steps (defining FMUs, setting Environmental Outcomes and identifying a Long-Term Vision).

## 3 Freshwater values

Freshwater values reflect what is important about freshwater to mana whenua and communities. The Catchment Plan aims to provide for these values by:

- identifying environmental outcomes for them,
- setting targets and limits for water quality and quantity, and
- creating action plans for improving the state of waterbodies so they are able to achieve the outcomes and support the values identified.

The NPS-FM 2020 identifies compulsory values (*sub-heading 3.1 of this report*) that must be applied and other values that may be applied (*sub-heading 3.2*).

Alongside these, we need to consider whether there are any other specific values that might apply to a sub-catchment – this includes specific values that mana whenua may hold over the wai in that area.

Where the same set of values is identified for multiple freshwater bodies, it may be appropriate for these freshwater bodies to be grouped into a single FMU. Where a particular freshwater body (or part of) has markedly different values than the wider surrounding area, this may mean there is a case for separating it into its own FMU so management decisions can be made that will provide for its specific values.

### 3.1 Compulsory values

Value	Description
<p><b>Ecosystem health</b></p>	<p>The ability for an FMU or part of an FMU to support an ecosystem appropriate to the type of water body (for example, river, lake, wetland, or aquifer).</p> <p>There are five biophysical components that contribute to freshwater ecosystem health, and it is necessary that all of them are managed. They are:</p> <p><b>Water quality</b> – the physical and chemical measures of the water, such as temperature, dissolved oxygen, pH, suspended sediment, nutrients and toxicants.</p> <p><b>Water quantity</b> – the extent and variability in the level or flow of water.</p> <p><b>Habitat</b> – the physical form, structure, and extent of the water body, its bed, banks and margins; its riparian vegetation; and its connections to the floodplain and to groundwater.</p> <p><b>Aquatic life</b> – the abundance and diversity of biota<sup>1</sup> including microbes, invertebrates, plants, fish and birds.</p> <p><b>Ecological processes</b> – the interactions among biota and their physical and chemical environment such as primary production, decomposition, nutrient cycling and trophic connectivity.</p>
<p><b>Human contact</b></p>	<p>The ability for an FMU, or part of an FMU, to support people being able to connect with the water through a range of activities such as swimming, waka, boating, fishing, mahinga kai, and water skiing, in a range of different flows or levels.</p> <p>Matters to take into account include pathogens, water clarity, deposited sediment, plant growth (from macrophytes to periphyton to phytoplankton), cyanobacteria, other toxicants, and litter.</p>
<p><b>Threatened species</b></p>	<p>The ability for an FMU, or part of an FMU to support a population of threatened species and provide critical habitats and conditions necessary to support the presence, abundance, survival, and recovery of the threatened species.</p> <p>All the components of ecosystem health must be managed, as well as (if appropriate) specialised habitat or conditions needed for only part of the life cycle of the threatened species.</p>

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<sup>1</sup> Bioata refers to plant and animal life specific to a region

Value	Description
<b>Mahinga kai</b>	<p>Mahinga kai generally refers to freshwater species that have traditionally been used as food, tools, or other resources. It also refers to the places those species are found and to the act of catching or harvesting them.</p> <p>Mahinga kai provide food for the people of the rohe and these sites give an indication of the overall health of the water.</p> <p>For this value, kai would be safe to harvest and eat.</p> <p>Transfer of knowledge is able to occur about the preparation, storage and cooking of kai. In FMUs or parts of FMUs that are used for providing mahinga kai, the desired species are plentiful enough for long-term harvest and the range of desired species is present across all life stages.</p> <p>In FMUs, or parts of FMUs that are valued for providing mahinga kai, customary resources are available for use, customary practices are able to be exercised to the extent desired, and tikanga and preferred methods are able to be practised.</p>

Table 1: Compulsory freshwater values

### 3.2 Other values that must be considered

Value	Description
<b>Natural form and character</b>	<p>The FMU, or part of the FMU, has particular natural qualities that people value. Natural qualities may include exceptional, natural, or iconic aesthetic features.</p> <p>Matters contributing to the natural form and character of an FMU are its biological, visual and physical characteristics that are valued by the community, including:</p> <ol style="list-style-type: none"> <li>its biophysical, ecological, geological, geomorphological and morphological aspects</li> <li>the natural movement of water and sediment including hydrological and fluvial processes</li> <li>the natural location of a water body and course of a river</li> <li>the relative dominance of indigenous flora and fauna</li> <li>the presence of culturally significant species</li> <li>the colour of the water</li> <li>the clarity of the water.</li> </ol>
<b>Drinking supply water</b>	<p>The FMU, or part of the FMU, can meet people's drinking water needs. Water quality and quantity is sufficient for water to be taken and used for drinking water supply.</p> <p>Matters affecting the suitability of water for drinking include:</p> <ol style="list-style-type: none"> <li>physical, chemical, and microbiological contamination (for example, bacteria and cyanotoxins, viruses, protozoa and</li> </ol>

Value	Description
	<p>other pathogens)</p> <p>b. any other contaminants identified in drinking water standards issued under the Health Act 1956 or any other legislation</p> <p>c. the effects of contamination on drinking water treatment processes and the safety of drinking water, and its aesthetic value (that is, appearance, taste, and smell).</p>
<b>Wai tapu</b>	<p>Wai tapu represent the places in an FMU, or part of an FMU, where rituals and ceremonies are performed, or where there is special significance to tangata whenua.</p> <p>Rituals and ceremonies include, but are not limited to, tohi (baptism), karakia (prayer), waerea (protective incantation), whakatapu (placing of rāhui), whakanoa (removal of rāhui), and tuku iho (gifting of knowledge and resources to future generations).</p> <p>In providing for this value, the wai tapu are free from human and animal waste, contaminants and excess sediment, with valued features and unique properties of the wai protected. Other matters that may be important are that there is no artificial mixing of the wai tapu and identified taonga in the wai are protected.</p>
<b>Transport and tauranga waka</b>	<p>The FMU, or part of the FMU, is navigable for identified means of transport.</p> <p>Transport and tauranga waka generally refer to places to launch waka and watercraft, and appropriate places for waka to land (tauranga waka).</p>
<b>Fishing</b>	<p>The FMU, or part of the FMU, supports fisheries of species allowed to be caught and eaten.</p> <p>For FMUs or parts of FMUs valued for fishing, the numbers of fish are sufficient and suitable for human consumption. In some areas, fish abundance and diversity provide a range in species and size of fish, and algal growth, water clarity and safety are satisfactory for fishers. Attributes will need to be specific to fish species such as salmon, trout, tuna, lamprey, or whitebait.</p>
<b>Hydro-electric power generation</b>	<p>The FMU, or part of the FMU, is suitable for hydro-electric power generation. Water quality and quantity and the physical qualities of the FMU or part of the FMU, including hydraulic gradient and flow rate, can provide hydro-electric power generation.</p>
<b>Animal drinking water</b>	<p>The FMU, or part of the FMU, meets the needs of farmed animals. Water quality and quantity meets the needs of farmed animals, including whether it is palatable and safe.</p>

Value	Description
<b>Irrigation, cultivation, and production of food and beverages</b>	<p>The FMU, or part of the FMU, meets irrigation needs for any purpose.</p> <p>Water quality and quantity is suitable for irrigation needs, including supporting the cultivation of food crops, the production of food from farmed animals, non-food crops such as fibre and timber, pasture, sports fields and recreational areas. Attributes will need to be specific to irrigation and food production requirements.</p>
<b>Commercial and industrial use</b>	<p>The FMU, or part of the FMU, provides economic opportunities for people, businesses and industries.</p> <p>Water quality and quantity can provide for commercial and industrial activities. Attributes will need to be specific to commercial or industrial requirements.</p>

Table 2: Additional freshwater values for consideration

### 3.3 Mana whenua values

Mana whenua may have specific values that they place over a particular waterbody, or all waterbodies within their rohe.

Examples of mana whenua values that have been identified by some iwi groups in Tairāwhiti are outlined in the table below.

<b>Mana</b>	Mana defines the custodian or kaitiakitanga responsibilities of an iwi or hapū, within which mana whenua are charged with protecting the mauri or life force of a waterbody
<b>Kaitiakitanga</b>	Mana whenua are kaitiaki of their waterbodies and there are many traditional practices associated with kaitiakitanga.
<b>Whakapapa</b>	Whakapapa defines the genealogical relationship of whanau to their awa.
<b>Manaakitanga</b>	This is the relationship with abundance and the ability of mana whenua to share resources as well as being sustained by them
<b>Wairua</b>	Water supports the healthier wairua of people when the water is clean, safe and calm.
<b>Mauri</b>	Mauri is a critical element of the spiritual relationship of mana whenua to water. The mauri of water represents the essence that binds the physical and spiritual elements of all things together, generating and upholding all life.
<b>Ahi kaa</b>	The ahi kaa are mana whenua who “keep the home fires burning”. This includes maintaining our marae which typically includes ensuring water supply to the marae and the gathering and/or preparation of kai during occasions such as



	tangihanga.
<b>Waahi tapu</b>	Waahi tapu are areas of cultural, historical, and/or spiritual significance that whanau and hapu have an obligation to protect and share korero tuku iho for future generations.

*Table 3: Known mana whenua values*

### 3.4 Values exercise

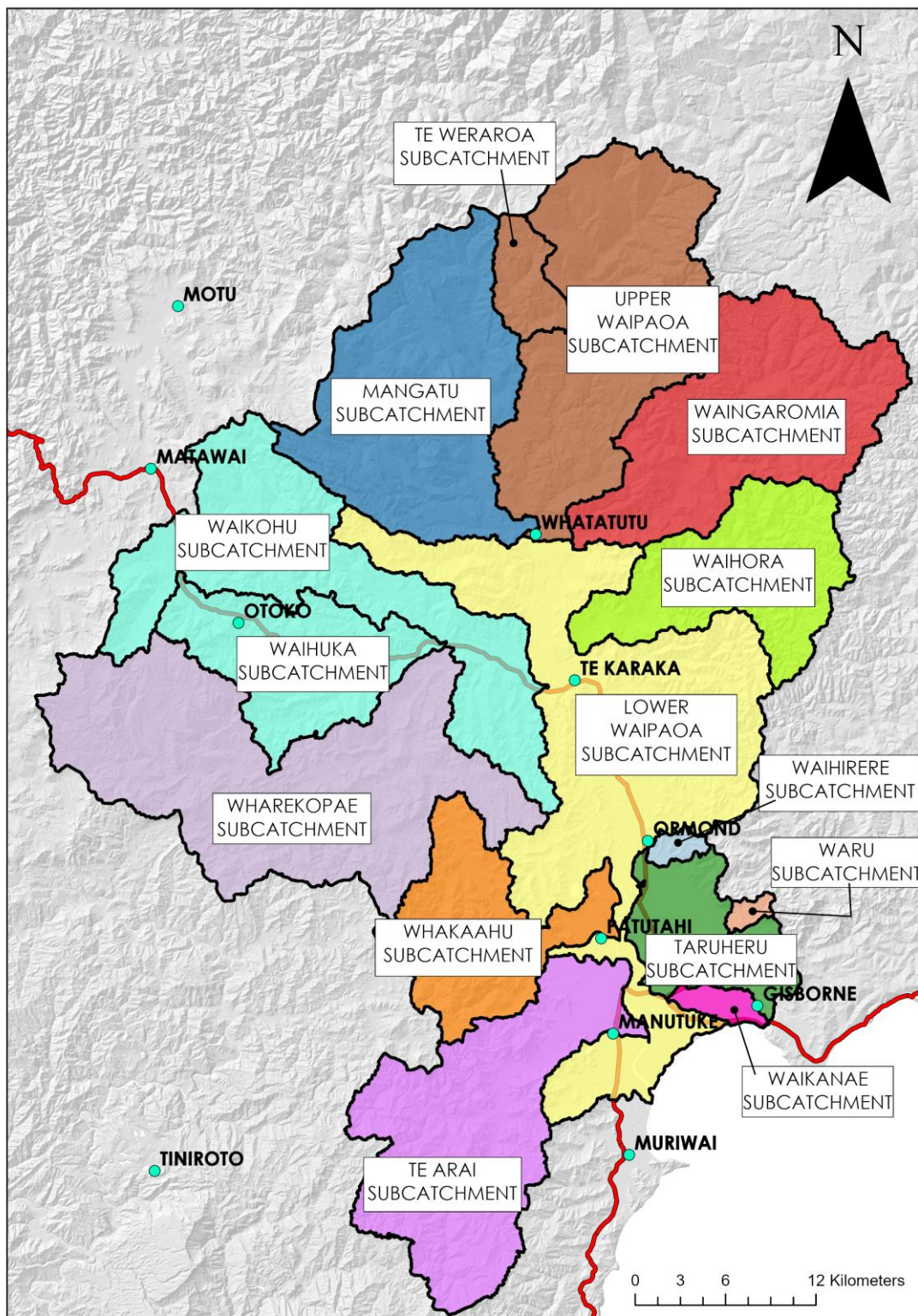
The Group will go through a freshwater value-setting exercise at this hui (hui 2). The table and map below give an overview of the sub-catchments in the Waipaoa catchment. They are the main river systems within the catchment.

1.	<b>Upper Waipaoa sub-catchment</b>	Including the Whatatutu settlement and the catchment area upstream.  Includes Te Weraroa Stream and Tarndale Slip.
2.	<b>Lower Waipaoa sub-catchment</b>	Main Waipaoa River sub-catchment below Whatatutu settlement with smaller tributaries.  Includes Lakes Repongaere, the settlements of Te Karaka, Ormond and Matawhero and the Awapuni Moana area.
3.	<b>Mangatu sub-catchment</b>	An area of high erosion and is mainly hill country farms and forestry.  Includes the Urukokomuka Stream.
4.	<b>Waingaromia sub-catchment</b>	An area of high erosion and is mainly hill country farms and forestry.
5.	<b>Wharekopae sub-catchment</b>	Mainly a hill country farming area.  Includes the settlements of Rere and Wharekopae.
6.	<b>Waihora sub-catchment</b>	Mainly a hill country farming and forestry area.  Includes the settlement of Kanakanaia.
7.	<b>Waihuka sub-catchment</b>	Mainly hill country farming.  Includes the settlement of Otoko.
8.	<b>Waikohu sub-catchment</b>	Mainly hill country farming.  Includes the settlement of Rakauoa.
9.	<b>Whakaahu sub-catchment</b>	Mainly horticulture with some areas of sheep and beef farming.  Includes Waikakariki Stream and the settlements of Patutahi and Ngatapa.
10.	<b>Te Arai sub-catchment</b>	A combination of hill country farming, forestry and horticulture.  Includes Whatatuna and Pipiwhakao Streams.
11.	<b>Waikanae Stream</b>	Includes the airport and racecourse, and a large part of urban Gisborne – Elgin, part of Te Hapara, Awapuni and most of the industrial land in the city.
12.	<b>Upper Taruheru River - Tucker Road and</b>	This drains all the horticultural land on the east of the Waipaoa River and the most productive parts of the

	above	Turanga/ Poverty Bay Flats. Includes the settlement of Waihirere, the Waihirere Stream, Waerenga-a-hika, Makauri, Makaraka and Hexton
<b>13.</b>	<b>Lower Taruheru River</b> – the estuarine area	Includes all the urban area within the catchment – Mangapapa, Whatuopoko, part of Te Hapara as well as part of the CBD
<b>14.</b>	<b>Deep aquifers</b> – Makauri and Matokitoki	These are 30-120m deep and underly the most productive areas of the Poverty Bay Flats.
<b>15.</b>	<b>Shallow aquifers</b> – Te Hapara Sands, Shallow Fluvial Deposits, Waipaoa Gravels	These are less than 30m deep and are primarily near the Waipaoa River. Te Hapara Sands aquifer extends out to the coast and lies under Makaraka and Te Hapara in Gisborne city.

*Table 4: Identified sub-catchments in the Waipaoa*

*Please note that for the hui, the Taruheru, Waru and Waihirere sub-catchments will be split into 'Upper Taruheru' and 'Lower Taruheru' to reflect the land uses that take place in those sub-catchments.*



Map 1: Map of sub-catchments (excluding groundwater sub-catchments).

## 4 Freshwater Management Units

FMUs provide the spatial framework for managing freshwater within a catchment area. The requirement to have FMUs was introduced to the National Policy Statement for Freshwater Management in 2014.

FMUs provide a way to:

- encourage a pragmatic approach to freshwater management by allowing water bodies to be grouped together where appropriate;
- allow a single objective to apply to freshwater bodies that are not connected; and
- establish a spatial scale at which management activities are undertaken, including freshwater accounting and setting freshwater objectives and limits.

A FMU is defined as,

*“A water body, multiple water bodies or any part of a water body determined by the regional council as the appropriate spatial scale for setting freshwater objectives and limits and for freshwater accounting and management”.*

The definition of FMUs is intentionally flexible so councils and their communities can determine the spatial scale best suited to managing freshwater in the specific circumstances of their region.

A FMU is the level at which environmental outcomes, limits and targets are set. FMUs should therefore have similar values so that the environmental outcomes, limits and targets make sense and the required outcomes are achievable.

Factors to consider when determining boundaries may include:

- intensive pastoral development
- prominent geophysical features, such as being prone to erosion
- location of aquifers and connection to groundwater and surface water
- urban issues affecting water quality
- a current or historic mahinga kai site or other cultural areas of significance
- degraded freshwater bodies that may need specific management methods
- hapū or iwi rohe boundaries, which reflect relationships between mana whenua and place.

The Group will workshop whether the current Waipaoa Catchment Plan FMUs are still appropriate (see table of current FMUs in **Appendix 1**) or need amendment (to be discussed at hui 4).

## 5 Next step: setting environmental outcomes

Once we have identified the values for each sub-catchment we will need to set an environmental outcome for each value. Environmental outcomes are the desired state for the value – and might not represent how things are now. To do this we need

to look at the “baseline state” of our rivers and aquifers and begin the conversations about our “target state”.

Every value must have one or more environmental outcomes linked to it. Where a value describes a particular thing our community cares about, the environmental outcome articulates what success looks like in providing for that value. The environmental outcomes also link to the visions for the catchment, so when the outcomes are achieved, the vision is achieved.

An example of an environmental outcome relating to ‘Aquatic Life and Ecological Processes’ from Horizons Regional Council is as follows:

*“Ecological processes and the abundance and diversity of indigenous aquatic life are protected and, where impacted by human activity, are enhanced including the interactions between populations and communities, and interactions between populations and communities and their physical and chemical environments.”*

Environmental outcomes become the objectives of the catchment plan and will determine what water quality and quantity limits are put in place, any targets (where we are trying to get to a better environmental outcome) and what rules and actions might be needed to get there.

***The focus of the next hui in September (hui #3) will be around brainstorming and workshopping possible environmental outcomes for the Waipaoa Catchment Plan.***



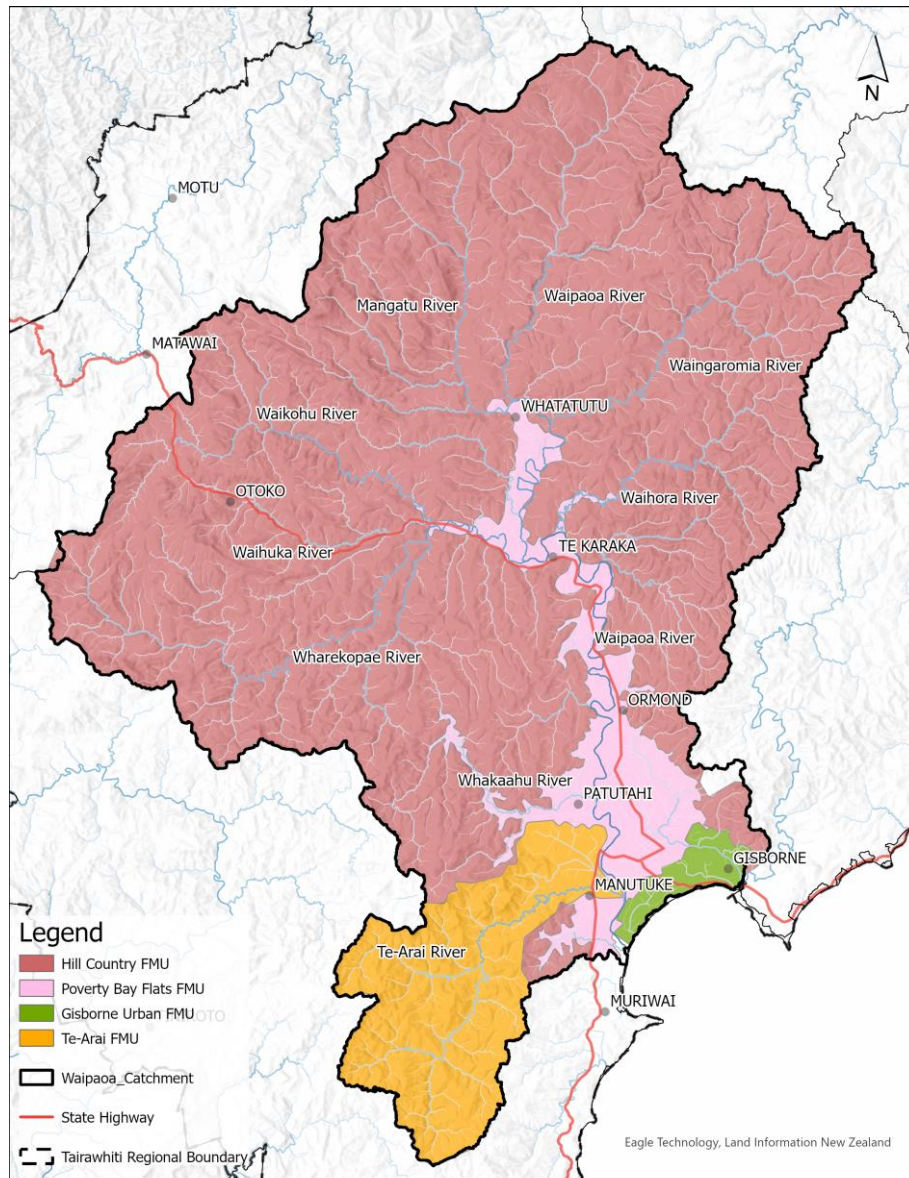
## 6 Appendices

### Appendix 1: Current Waipaoa Catchment Plan FMUs

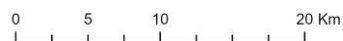
The current Waipaoa Catchment Plan has four FMUs shown on Map 1 below:

1. Waipaoa Hill Country FMU
2. Poverty Bay Flats FMU
3. Gisborne Urban FMU
4. Te Arai FMU.

These FMUs were identified based on the NPS-FM 2011 values that were identified for each of the sub-catchments at the time the current Plan was developed.



### Waipaoa Catchment Fresh Water Management Units



Map 2: Map of the Waipaoa Catchment Plan area showing the current Plan FMUs

The values of each FMU in the current Plan are identified below in Table 5:

Value	Te Arai FMU	Waipaoa Hill Country FMU	Poverty Bay Flats FMU	Gisborne Urban FMU
Ecosystem Health	✓ Prominent value	✓ Prominent value	✓	✓ Prominent value
Human health for recreation	✓	✓ Prominent value (secondary contact)	✓	✓ Prominent value (swimming)
Mauri	✓ Prominent value	✓	✓	✓
Natural form and character	✓ Prominent value	✓ Prominent value	✓	✓
Mahinga kai	✓ Prominent value	✓	✓	✓
Fishing				✓ Prominent value
Irrigation and food production	✓		✓ Prominent value	
Animal drinking water	✓ Prominent value	✓ Prominent value	✓	
Wai tapu	✓	✓		✓
Water supply	✓ Prominent value	✓ Prominent value	✓ Prominent value	
Transport and tauranga waka			✓	✓ Prominent value

Table 1: Values of each FMU in the current Waipaoa Catchment Plan