

Introduction

Information to consider in your freshwater farm plan for the Waipā Freshwater Management Unit.

Catchment context, challenges and values (CCCV) is about linking your farming or growing operation to your wider catchment.

The information supplied here will help you to understand the unique environmental features, current environmental health status, cultural values and practices, and important recreational sites of your catchment, when developing your freshwater farm plan (FWFP).

You will need this information to consider how your farm's natural landscape and farming and growing activities impact the health of fresh water and freshwater ecosystems in your catchment. You will also need this information to help identify how best you will manage or reduce those impacts to protect the health of your catchment for future generations.

Context is the key information about your catchment.

This includes:

- soil data
- land
- freshwater data
- freshwater bodies
- climate data.

Challenges are the threats and issues facing fresh water and the identified values in your catchment.

They could include:

- contaminants
- freshwater habitat loss
- degradation of sites and/or species of cultural or community significance.

Values are the things about your catchment that are important to the community.

They could include:

- catchment freshwater objectives, priorities, or outcomes identified in policies, regional and/or iwi plans
- cultural significance and matters of importance to tangata whenua
- sites and/or species of cultural or community significance.

It is important to consider this whole-of-catchment information in your FWFP because individual actions contribute to the overall state of the Waipā freshwater management unit or catchment.

Why do I need this information?

You will need to demonstrate in your Fresh Water Farm Plan that you have had regard to relevant CCCV information when identifying and assessing risks, identifying actions, and considering your action implementation timeframes.

In the risk identification and assessment this could be done by:

- including written identification of any CCCV information (factors) you considered when identifying and assessing each risk
- including a written summary of any identified risks that relate specifically to CCCV factors.

When selecting actions and action timeframes this could be done by:

- writing clear and measurable actions that describe how the selected action will manage the full scope of the identified risk, including CCCV factors, i.e., how the action will manage the impacts of the risk on the receiving environment
- setting implementation timeframes that consider the significance of the risk.

Considering CCCV helps ensure freshwater farm planning reflects Te Mana o te Wai, the fundamental concept of the Essential Freshwater regulations, and the wider objectives and values for freshwater management in the Waipā and Waikato catchments as set out by the Vision and Strategy – Te Ture Whaimana, for the Waikato and Waipā Rivers.

How to use CCCV

Having regard to catchment context, challenges and values is necessary in order to meet the requirements for your freshwater farm plan to be successfully certified.

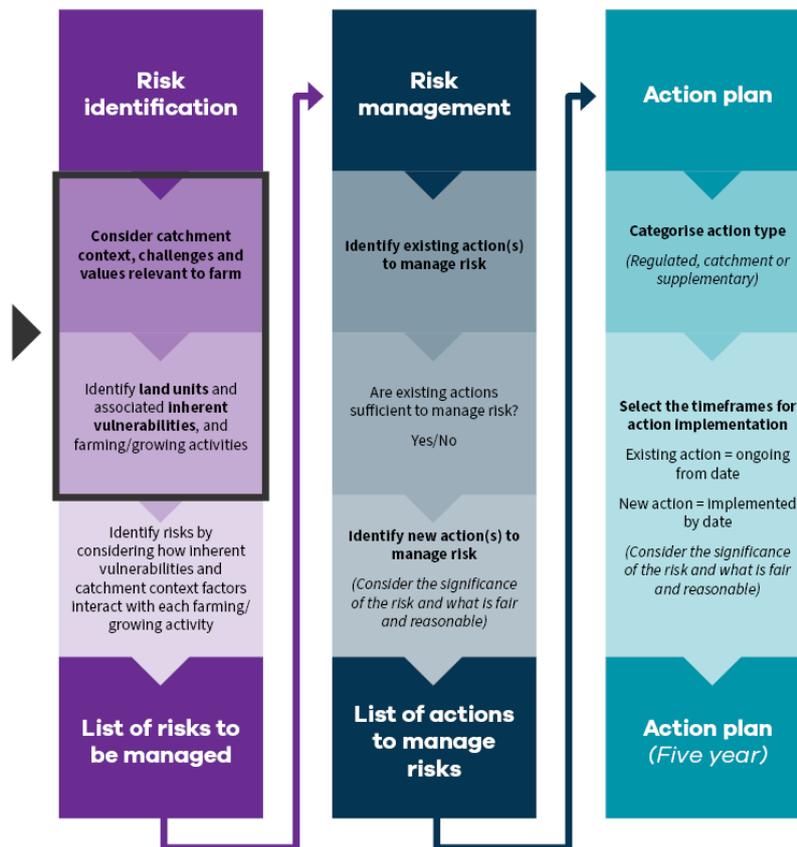
If you're developing your own freshwater farm plan, please ensure you have read and understood the Ministry for the Environment's guidance document on developing a freshwater farm plan before starting to work through this CCCV information.

The MfE guidance explains how CCCV should be used, particularly under the following sections:

- 3.2 Catchment context challenges and values
- 3.3 Land units
- 3.4 Inherent vulnerabilities

You should be considering CCCV as part of the risk identification stage of the freshwater farm planning process (as shown below), and this information will also end up informing how you prioritise actions in your action plan.

Specifically, you'll be using CCCV to help define the different **land units** on your farm and to identify the **inherent vulnerabilities** related to them that pose risks to fresh water.



As you read through the CCCV, you'll see the following icons to help you identify which sections you'll need to pay particular attention to for these purposes.

Land units	Inherent vulnerabilities
	

Overview

The Waipā freshwater management unit (FMU), or catchment, covers 306,569 hectares and is dominated by the Waipā River and associated tributaries. The Waipā River is the single largest tributary of the Waikato River. The awa (river) starts at the Pekepeke wetland close to the Rangitoto Range in the southern King Country, southeast of Te Kūiti. From there, it flows through land that was once native bush, wetlands and peat bogs, but is now mostly farmland and steep hill country. Steep, erosion-prone hillsides in several sub-catchments and soils with areas of instability deliver high loads of sediment to some tributaries and the main channel of the Waipā River, making it murky brown in colour. It flows northwards through rolling lowland areas to the towns and villages of Ōtorohanga, Pirongia and Whatawhata, before meeting the Waikato River at its confluence in Ngāruawāhia, 115 kilometres from its headwaters in Pekepeke.

Since the 1840s, most of the native vegetation in the catchment's low-lying valleys and flood plains have been converted to pasture for agricultural purposes. This includes almost all the significant wetland areas, which have been drained, leaving behind only remnant pockets of wetlands and shallow peat lakes. Much of the catchment's steeper hill country has also been converted to pasture to support drystock farming.

The catchment's boundaries are flanked on the western, eastern and southern sides by high rolling and steep hills. As a result, a basin has formed, consisting of lower rolling to flat land which is drained by/drains into the Waipā River.

The Waipā FMU covers 28 per cent of the total Waikato River catchment and is divided into 20 sub-catchments. It contains 4825 kilometres of mapped stream and river channels, about 11 per cent of the total length of waterways within the Waikato region. Almost three-quarters of this stream length consists of small first and second order channels draining primarily pastoral land used for dairy, beef, and sheep farming.

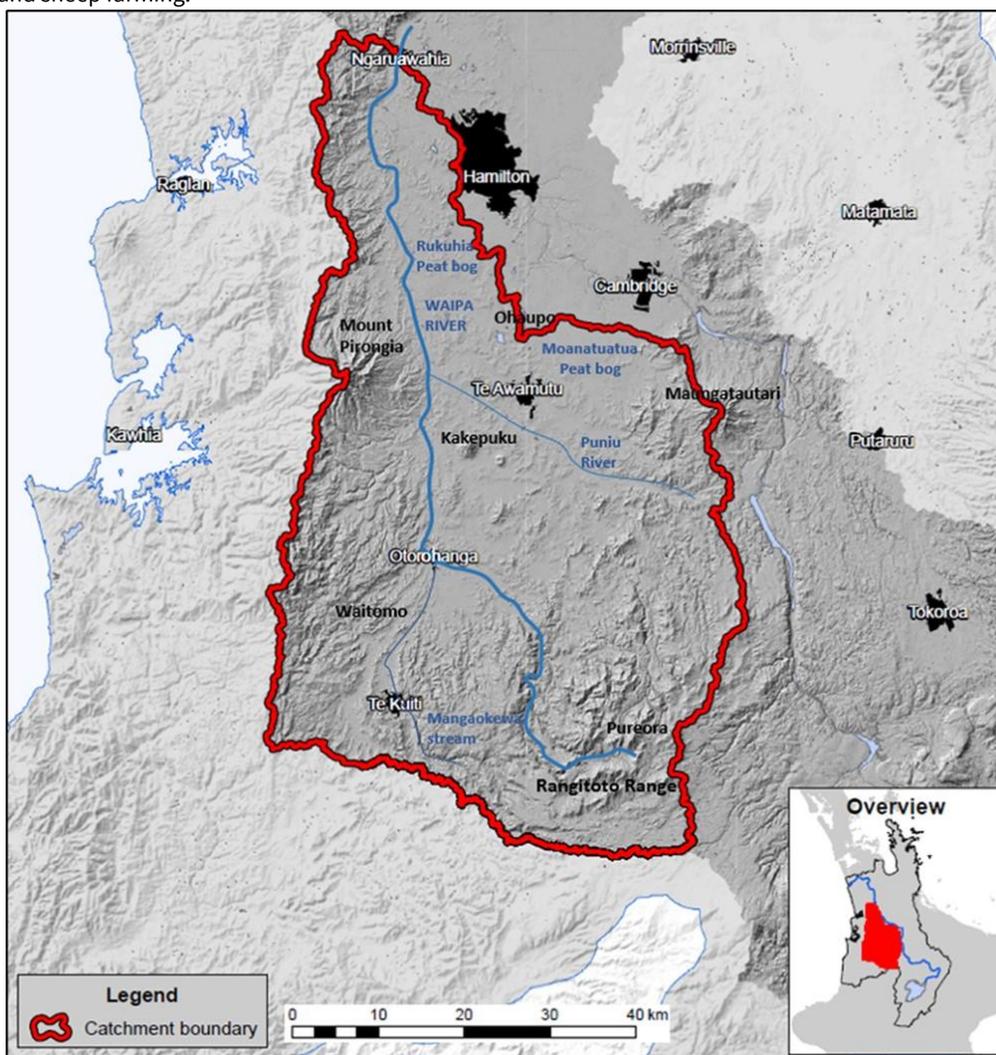


Figure 1. The Waipā catchment/FMU in relationship to the Waikato region.

Fresh water

What do I need to consider?

Water quality – due to nitrogen, phosphorus, E. coli and sediment loading – declines from the upper reaches to the lower reaches of a catchment, so the location of your farm should be the focus of your risk assessment and guide the actions and priorities of your FWFP.

Water quality monitoring results for the Mangapiko catchment

For example, water quality monitoring results for the Mangapiko catchment shows that nitrogen, E. coli and total phosphorus are at unsatisfactory levels for recreational use and for supporting plants and animals that live in water (see data for the Mangapiko Stream). If you are dairy farming in the Mangapiko Stream catchment, your FWFP should focus on your potential contribution of these three contaminants and include targeted actions to reduce them.

Context and challenges

In general, water quality is poor within the Waipā River, and the many shallow peat lakes found in the catchment also present declining water quality.

The water quality of the Waipā River is generally not good enough for swimming and does not support high ecological values. The river has high levels of E. coli bacteria and low clarity, mainly due to sediment. In the upper reaches of the Waipā River, the water quality is good enough for most aquatic plants and animals to be healthy.

The majority of nutrient and sediment inputs into the river are from diffuse sources. Factors such as sedimentation, nutrient runoff and land use intensification (from dry stock to dairy farming) negatively impact water quality. Urban intensification and non-agricultural sources also contribute to poor water quality within the catchment (Singleton 2017).

Water quality monitoring at Whatawhata

Sediment is at high levels and there is a rising trend over the last 20 years. Landslides, surface erosion and stream bank erosion are the dominant process of sediment generation in the Waipā River, with these processes being more dominant on steeper pasture slopes in the upper catchment due to the soft mudstone geology (see Soils section). Sixty-seven per cent of the sediment load in the lower Waikato River comes from the Waipā River and this impacts on the clarity of the Waikato River (Singleton 2017). Sediment is also a major source of phosphorus, as phosphate sticks to particles of soil and is carried into water.

Fecal contamination (measured by E. coli) is high but at stable levels in the Waipā River. Levels of E. coli bacteria (an indicator of health risk) are often above the safe level for swimming. Farm animal dung is the likely dominant source of E. coli bacteria.

There is a rising trend in nitrogen in the Waipā River over the last 20 years. Seventy-three per cent of the nitrogen load comes from land use (Vant 2023).

Phosphorous levels are moderate. Trends vary along the river but are rising in the most downstream monitoring site at Whatawhata (see data for the Waipā River at Whatawhata). Fifty-six per cent of the phosphorus load in the Waipā River has been calculated to come from land use (Vant 2023). Changing land use and intensification from hill country farming to dairy farming is increasing nutrient levels in the catchment (Singleton 2017).



Land

What do I need to consider?

In developing your FWFP, you should be factoring in the physical features of the land with climate and your farming activities in order to assess the potential risk of contaminants impacting fresh water. Understanding the physical limitations of the land, such as soil type, climate and slope, is important. Knowing these limitations ensures land use is matched with LUC and appropriate management practices. For example, grazing of adult cattle on steep slopes with weak soils in winter can negatively impact soil structure and pasture production, or cause loss of topsoil. This can lead to erosion and sediment runoff impacting streams and/or wetlands.

Context

Proportion of different land uses within the Waipā catchment.

Dairy farming across the Waipā catchment is the main land use, followed by drystock farming alongside some forestry. In terms of vegetative cover, 78 per cent of the catchment area is in pasture, 21 per cent is native vegetation, scrub and other land uses, and 1 per cent is production forestry.

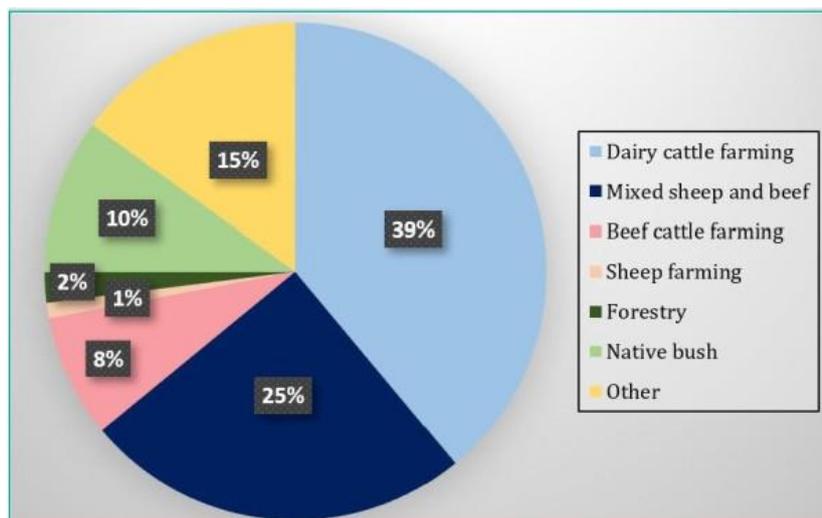


Figure 2. Proportion of different land uses within the Waipā catchment.

Proportion of slope classes for the Waipā catchment

The majority of the catchment, about 39 per cent, is considered as moderately steep or steep hills; about 35 per cent of the area is considered rolling and strongly rolling land; and 23 per cent of the catchment is flat to undulating land cover in the lower and central areas of the catchment.

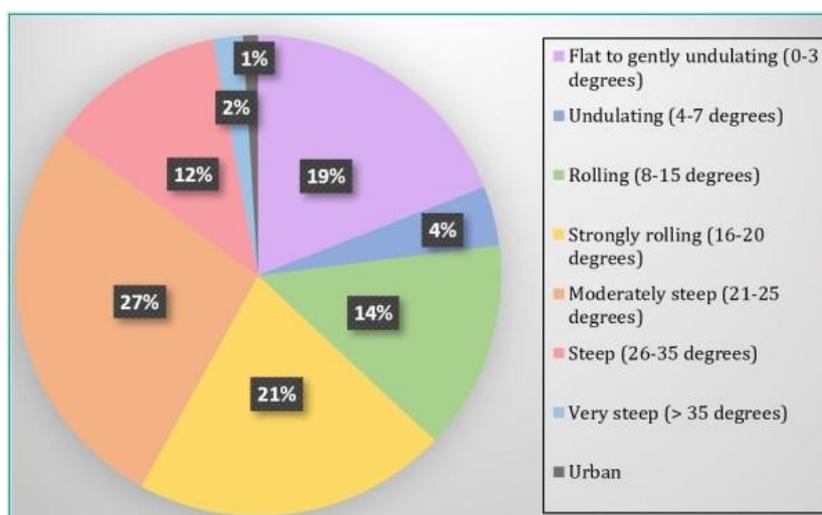


Figure 3. Proportion of slope classes for the Waipā catchment.

Land Use Capability (LUC) proportions for the Waipā catchment.

Land Use Capability (LUC) is a system that helps determine the suitability of productive use types after considering physical land limitations and is measured using five indicators: rock type, slope, soil type, erosion degree and type, and vegetation. LUC Classes 1 to 4 are suitable for arable cropping (including vegetable cropping), horticultural (including vineyards and berry fields), pastoral grazing, tree crop or production forestry use. Classes 5 to 7 are not suitable for arable cropping but are suitable for pastoral grazing, tree crop or production forestry use, and in some cases vineyards and berry fields. Class 8 land is unsuitable for grazing or production forestry and is best managed for catchment protection and/or conservation or biodiversity.

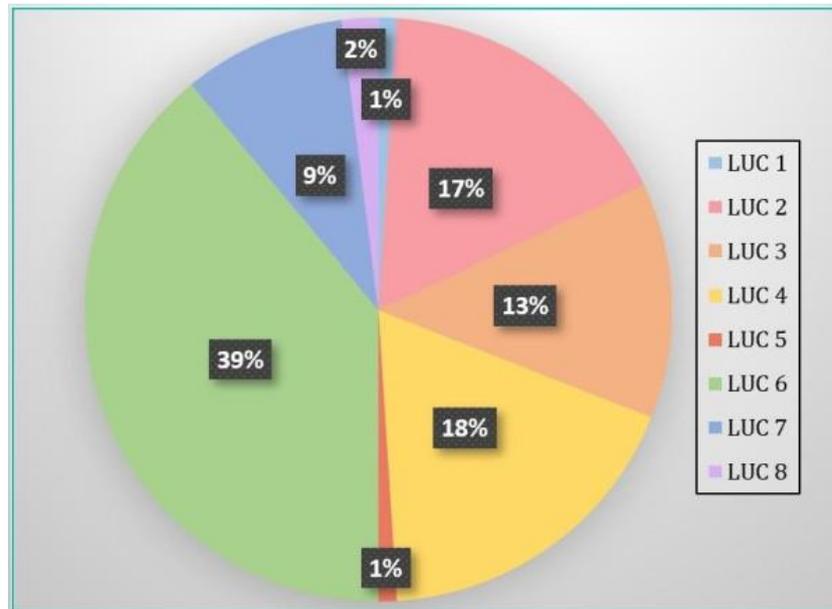


Figure 4. LUC proportions for the Waipā catchment.



Soils

What do I need to consider?

The location, properties and limitations of soils on your property form a significant part of the land unit identification, risk assessment and process of determining appropriate actions. For example, if your dairy effluent irrigation paddocks have very free-draining soils and are located on river flats next to a stream, the risk of nitrogen leaching is higher during times of high ground water. Your risk assessment will identify whether your current irrigation practices address this risk. If your current practices do not, then you would create actions to manage the risk so that impacts on freshwater quality are avoided or minimised as much as is possible.

Context and challenges

Underlying geology

The underlying geology of the Waipā catchment is greywacke basement with much of the catchment covered in sandstone and limestone, forming bluffs and a karst landscape. Volcanic soils cover a large percentage of the rolling hill areas and alluvial deposits in the lower flood plain areas create a fertile catchment. The highly erosive nature of the geology is key to the sediment loss in the upper catchment. Sixty seven per cent of the sediment load in the lower Waikato River comes from the Waipā River basin. Landslide and stream bank erosion are the dominant process of sediment generation in the Waipā freshwater management unit, with these processes more dominant in the pasture landscapes because of the lack of stabilising vegetation (Singleton 2017).

Flat and rolling land soils

These soils generally occur between 50-100 metres in elevation and have formed from weathered pumiceous alluvium from the Karāpiro Formation, which was covered in layers of volcanic ash of various ages. The uppermost ash is silty and thins towards Hamilton. From Hamilton north, the younger ash is absent, or very thin, and underlying older clayey ash layers are at the surface. The younger hills do not tend to have a distinct ash cover and are often more silty or sandy. Towards the western and southern hills of the catchment soil can be more clayey. Across the flat to rolling land drainage varies from well drained to poorly drained. Peaty soils and peats also occur on the flats where historic wetlands have been drained.

Rolling hills have a slight erosion hazard when cultivated and a slight wetness limitation. The strongly rolling hills have a moderate sheet and rill erosion risk when cultivated. Across the flats, soils have negligible erosion hazard when cultivated and a continuing wetness limitation, even after drainage. Deep peats within the catchment need careful water table management as drying out peat results in increased greenhouse gas (GHG) emissions and lowering of soil surface through subsidence and oxidation. Naturally anaerobic, when peatlands are drained, the carbon-rich peat is exposed to oxygen, leading to increased decomposition and production of CO₂. Drainage and cultivation exacerbate these effects and GHG losses will continue so long as the peat is drained. Flat and rolling land on mineral soils tend to be well suited for cropping and some forms of horticulture.

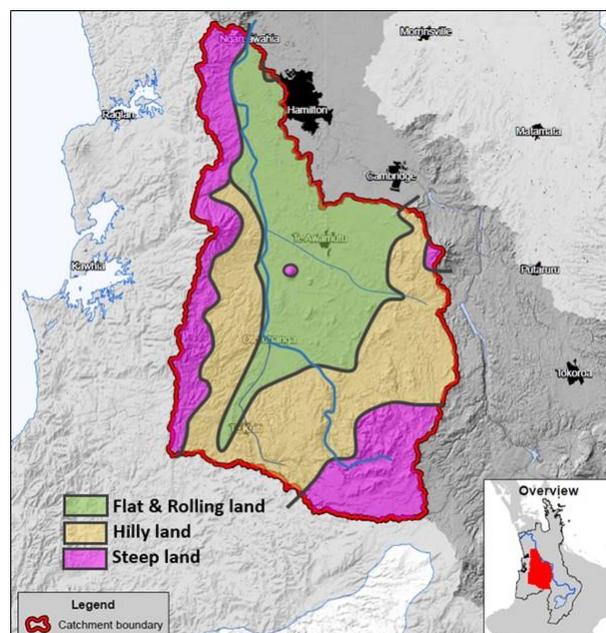


Figure 5. Landform types across the Waipā catchment

Hilly land soils

Elevation is between 100-250 metres, formed mainly sedimentary rock like mudstone and siltstone, or volcanic ignimbrite which has been covered in several metres of volcanic ash. In the east and south of the catchment, ignimbrite can also outcrop at the surface, such as on steep hillsides or as tors.

Ash covered slopes are stable but have moderate to severe sheet and rill erosion risk when cultivated. Steeper slopes have slight gully, slip and sheet erosion hazard. The main land cover across the hilly land is pasture drystock farming, and dairying with some cropping. Maintaining vegetation cover and minimising bare soil is very helpful for reducing erosion on these soils.

Steep land soils

Elevation is often between 250-500 metres with some of the volcanic cones over 700 metres. Across the southern and western hills formation has particularly involved sedimentary sandstone, siltstone, or mudstone with harder limestone which forms the bluffs or rocky outcrops. Volcanic ash soils covers all but the steepest slopes.

Ash-covered slopes have slight to moderate risk of sheet and slip erosion. The steepest areas within the catchment have slight to moderate slip, sheet, and gully erosion risks. Pasture and native bush are the main land cover across the steep land of the catchment. Like with hilly land soils, maintaining vegetation cover and minimising bare soil is very helpful for reducing erosion.

Erosion potential

Potential for erosion of soils is a combination of factors: parent material (underlying rock type), soil type, slope, climate and land use practice. You can access these useful soil maps on our FWFP webpage:

Manaaki Whenua Landcare Research: Soils map viewer

Manaaki Whenua Landcare Research: Digital soil map for New Zealand



Climate

What do I need to consider?

Climate is a major influencer of risks and impacts. When writing your FWPF, climate is one of the factors you should consider when defining your land units (areas of land with similar biosphere features) and their vulnerabilities.

High rainfall in areas dominated by weak bedrock and soils equals a high risk of erosion, slips, stock treading damage and runoff of contaminants to fresh water. Temperature impacts the growing of on farm feed, for example, whether you have good grass cover going into winter and the ability to leave adequate residuals to protect soils; or whether your paddock has been heavily grazed but still has the ability to grow grass and prevent runoff of sediment.

Context and challenges

Waipā catchment rainfall

Average rainfall across the Waipā catchment varies quite a lot, from 1100 millimetres to 2000 millimetres per year. The amount of rain that falls on the land plays a key role in the transport, flushing and dilution of land use derived contaminants. Rainfall after long periods of dryness is most likely to transport a higher amount of contaminant to waterways. Intense and/or prolonged rainfall can also lead to overland flow and flooding.

Helpful climate tools

The online tool LandscapeDNA has climate, soil, hydrology, slope and altitude information for the Waipā catchment. NIWA's National Climate Database provides more detailed information and data from weather stations throughout New Zealand. Registration is required for this website. A report by NIWA, The climate and weather of Waikato, provides some useful information on the climate of the Waikato region. Links to these resources can be found on our FWFP webpage.

Contaminants

What do I need to consider?

Contaminants are the biggest water quality issue facing the Waipā catchment. You should focus on reducing the risk of introducing nitrogen, phosphorus, sediment and E. coli to fresh water through your land management practices.

This will include:

- identifying where these contaminants are being generated
- taking into account exacerbating factors such as slope, soils and climate
- considering the impacts on community and cultural values.

Context and challenges

The four key contaminants identified as problematic to New Zealand waterways are nitrogen, phosphorus, sediment and E. coli (as a proxy for fecal contamination). All four contaminants can be attributed to point source and non-point (diffuse) sources.

The greater risk to water quality today is from non-point source discharges to land (Singleton 2017):

- nitrogen loss via leaching from the root zone of plants
- phosphorus and microbial pathogens via overland flow or artificial drainage
- sediment discharges from a combination of overland flows and riverbank and streambank erosion.

Point source discharges have been the subject of significant regulation and, over time, there has been a significant improvement in the way urban and industrial wastewater has been treated.

Nitrogen

Excess nitrogen is the most widespread water quality issue affecting the waterways throughout the Waipā catchment. Well-drained allophanic soils with high stocking rates are at the highest risk for nitrogen leaching to water. Most of the nitrogen entering water from grazed farmland is from stock urine. The concentration of nitrogen in urine patches is far more than plants can take up, and therefore is prone to leaching from soil. Cropping also releases nitrogen from soil processes, fertiliser and crop residues. In the last 20 years, land use changes and intensification have contributed to the rising trends of nitrogen in the Waipā River (Singleton 2017).

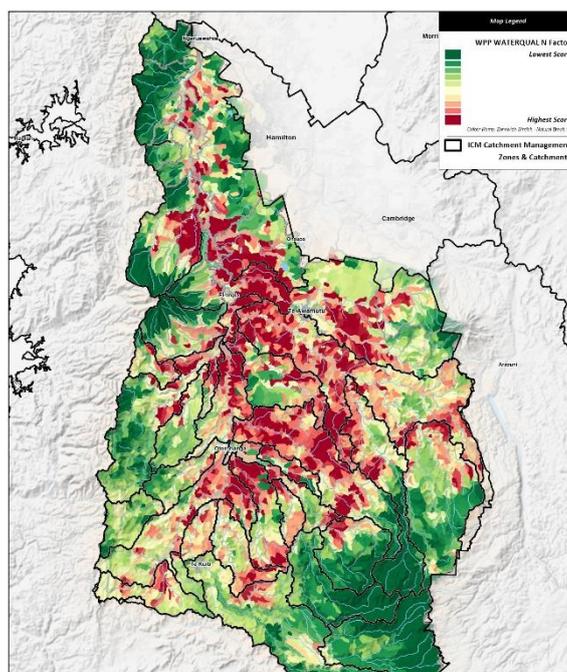


Figure 6. Modelled nitrogen risk to fresh water based primarily on land use and soils. Red represents areas with the highest risk of nitrogen impacting fresh water; dark green represents areas with the lowest.

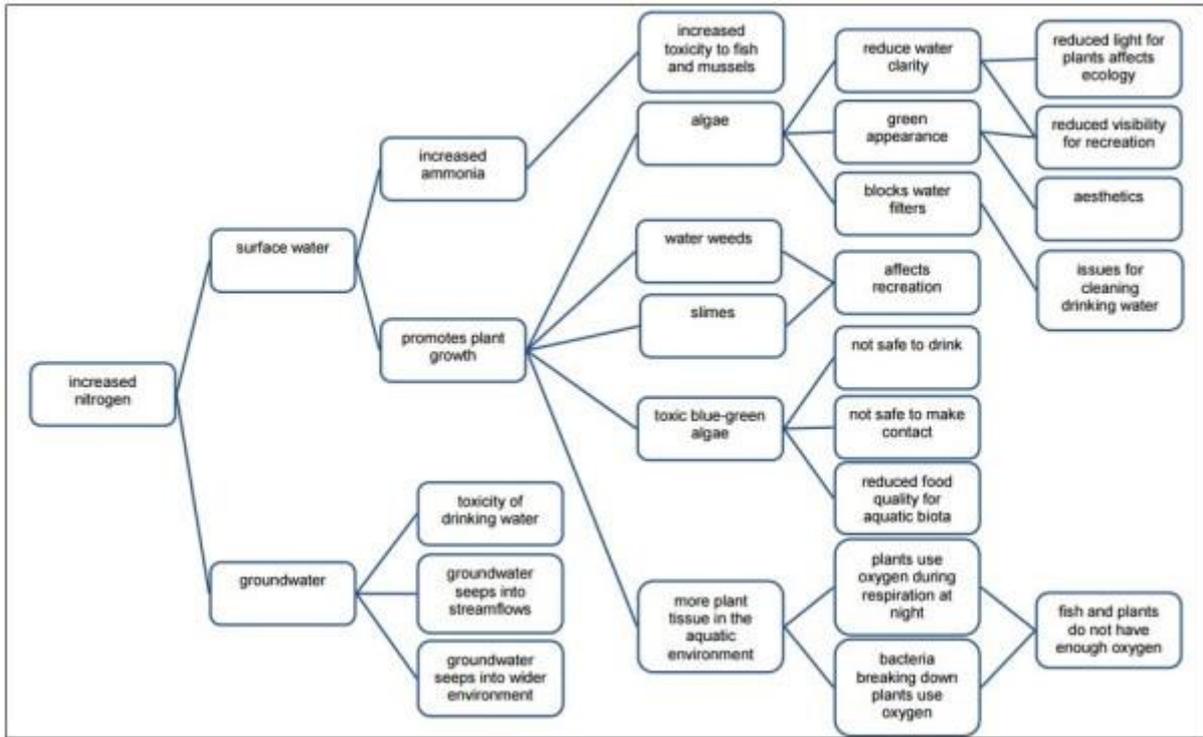


Figure 7. The effects of excess nitrogen on water quality and freshwater ecosystems.

Phosphorus

Phosphorus levels are moderate and have remained unchanged across the upper Waipā catchment. In the Waipā River, phosphorus levels are also moderate and trends vary along the river but rise in the most downstream site. The highest risk of phosphorus throughout the catchment is from topsoil in runoff from cultivated land or steep slopes reaching nearby waterways. Erosion of volcanic soil is a higher risk because these soils retain a lot of phosphorus relative to other soil types. Phosphorus (and E. coli) are attached to soil particles, so soils susceptible to runoff and pugging are the most likely sources.

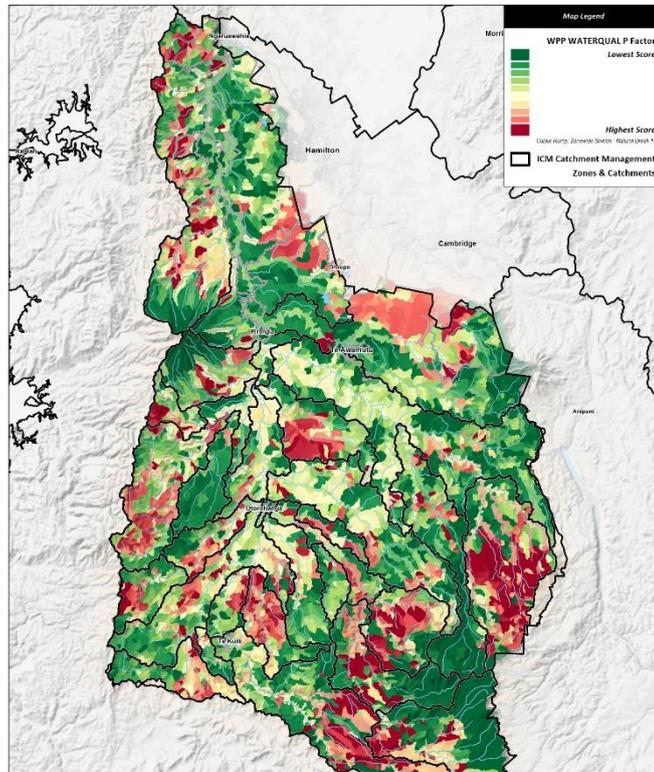


Figure 8. Modelled phosphorus risk to fresh water based primarily on land use, slope and soils. Red represents areas with the highest risk of phosphorus impacting fresh water; dark green represents areas with the lowest risk.

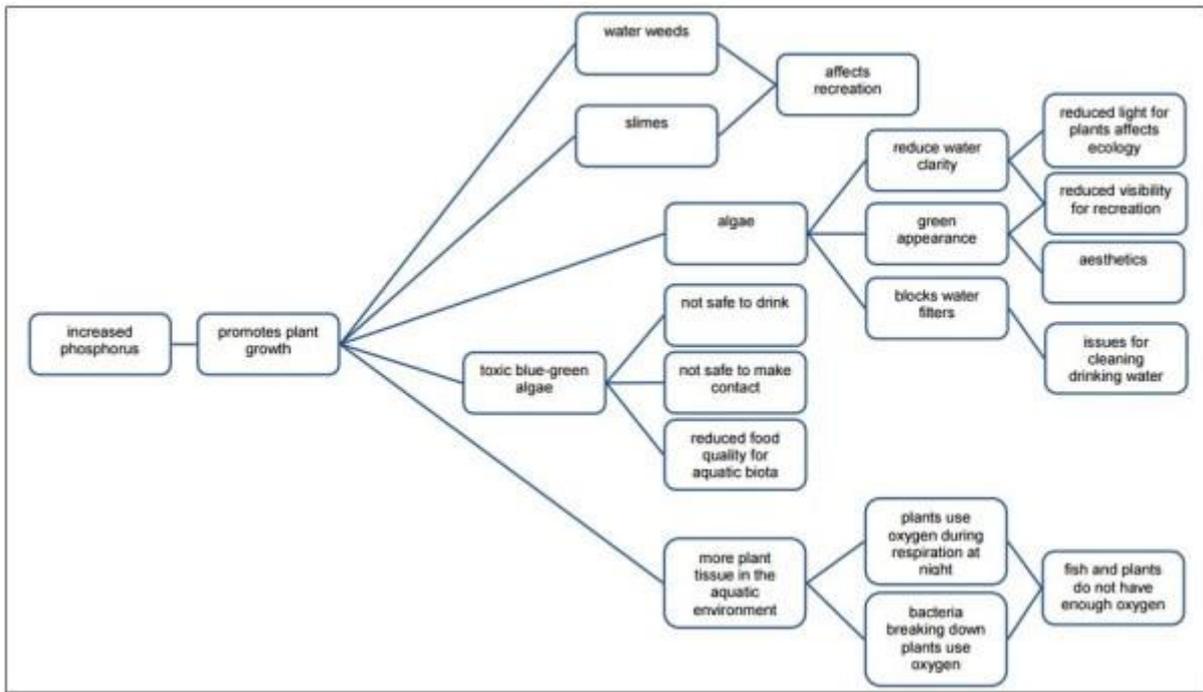


Figure 9. The effects of excess phosphorus on water quality and freshwater ecosystems.

Sediment

There are high levels of sediment in the Waipā River, and this has been a rising trend over the last 20-plus years. Sediment is also a major source of phosphorus as phosphate sticks to particles of soil and is carried into water. Landslides and streambank erosion are the main sources of sediment in the Waipā, with these processes being more dominant on steeper pasture slopes with soft rock geology. Two thirds of the sediment in the lower Waikato River comes from the Waipā River. The Waipā’s turbidity is poorer than the Waikato’s, due to the Waipā catchment’s geology and land use. Also, the Waikato’s hydro lakes trap much of the sediment coming off the upper Waikato catchment.

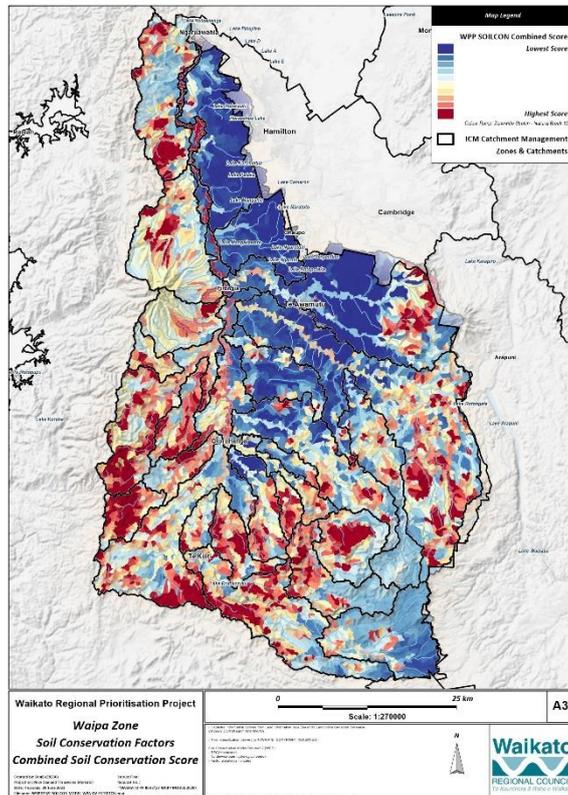


Figure 10. Modelled sediment risk to fresh water based on slope, land use/vegetation cover, streambank erosion, stock pressure and soils. Red represents areas with the highest risk of sediment being produced and impacting fresh water; dark blue represents areas with the lowest risk.

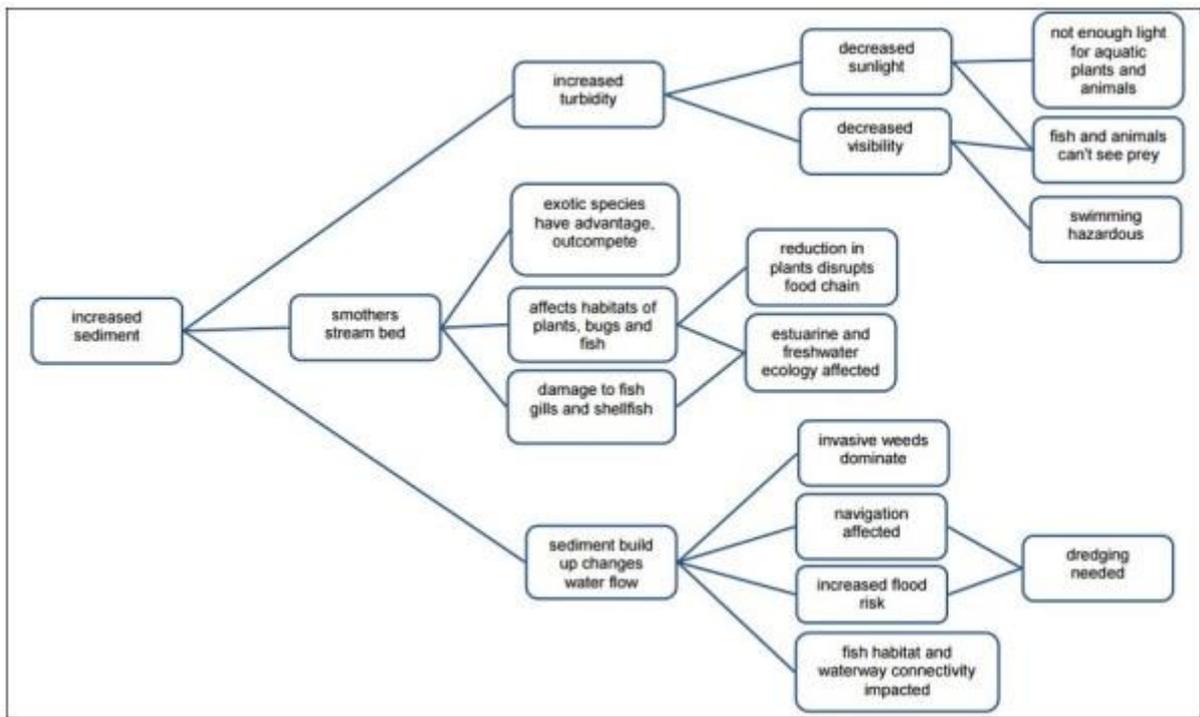


Figure 11. The adverse effects of excess sediment on water quality and freshwater ecosystems.

E. coli

E. coli bacteria has been used as an indicator of human health risk from harmful micro-organisms present in water and can cause illnesses such as ear infections or diarrhoea. *E. coli* comes from the dung of farm animals and wild animals, such as pigs and goats, and from birds such as ducks and swans. Human sources from sewage are a minor proportion of the total impact on the rivers. In the Waipā River, the influence of farm animals is the likely dominant source. *E. coli* risk is high across the catchment.

The Waipā freshwater management unit has high but stable levels of *E. coli*. The highest risk for *E. coli* is from runoff from very wet soils and critical source areas such as pugged land, laneways, standing areas and where stock have access to riparian areas (Singleton 2017).

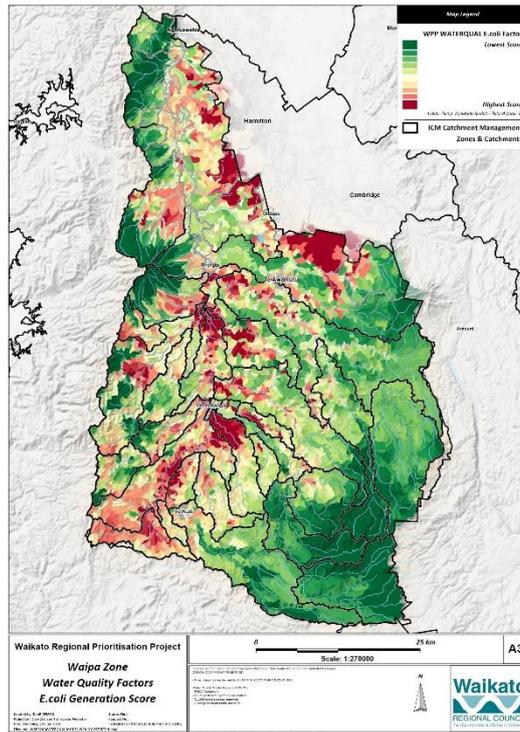


Figure 12. Modelled *E. coli* risk to fresh water based on land use/vegetation cover and stock pressure. Red represents areas with the highest risk of *E. coli* being produced and impacting fresh water; dark green represents areas with the lowest risk.

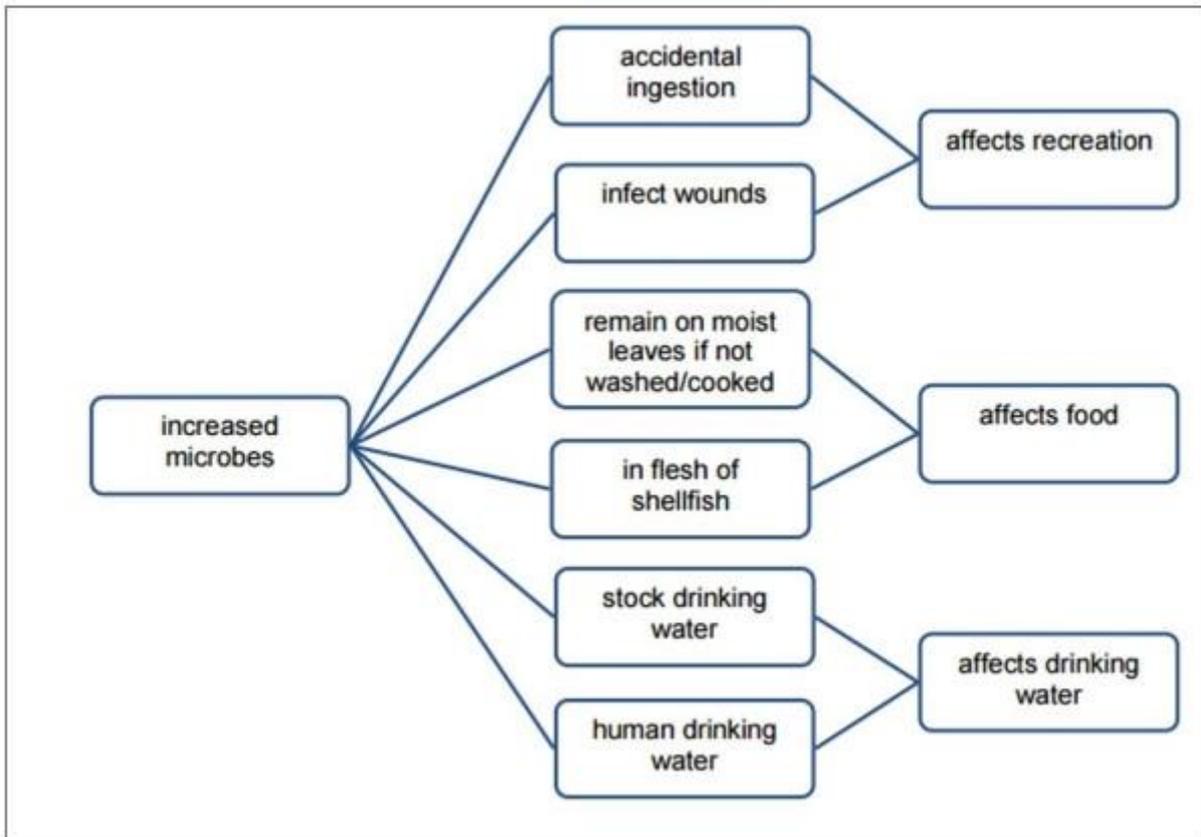


Figure 13. The effects of excessive *E. coli* levels on water quality and freshwater ecosystems.

Other contaminants

Sheep dips, fertiliser bins and dumps all have the potential to have adverse effects on freshwater environments, in particular to drinking supplies. Where these sites are known to exist, landowners should be aware of their risks and plan to manage them appropriately. Management could range from rehabilitation and stabilisation through to isolating them from disturbance. They should be mapped, and appropriate actions designed to manage any risk they pose. Information on the Waikato Regional Council website provides some background information and direction about what you could do if you have contaminated land.



Freshwater habitat

What do I need to consider?

Incorporating consideration of protecting and enhancing freshwater habitat and biodiversity on your farm can lead to better water quality outcomes and falls within the whole-of-farm or integrated farm planning approach.

Actions to consider include:

- fencing off waterways, wetlands and remnants of native bush
- stabilising eroding streambanks
- planting and protection or creation of wetlands
- removing barriers to fish passage.

If your land drains into a peat lake, you should consider any potential impacts on the lake, in particular runoff of sediment and nutrients. Drainage can also be a source of contaminants and contribute to the loss of peat soils and the lowering of water levels within the lake and surrounding wetlands.

Wetlands are very important. They are biodiversity hotspots and highly valued by the community for cultural and recreational reasons. They also offer a lot of potential to improve water quality before water leaves the farm. Even small, boggy seepage areas can reduce nitrogen, phosphorus, sediment and E. coli levels significantly. Protecting and enhancing or creating wetlands large and/or small should be considered a part of your FWFP to manage contaminants, improve habitat and reduce the environmental footprint of your farm or growing operation.

Context, challenges and values

The Waipā freshwater management unit contains a diverse range of indigenous ecosystems, including streams, rivers, lakes, wetlands, karst (limestone caves), forest and shrublands. In a healthy state, these ecosystems provide critical habitats for indigenous fauna, flora and micro-organisms. They also provide a range of fundamental ecological functions, such as acting as buffer zones for other ecosystems, reducing erosion and downstream sedimentation, nutrient storage and recycling, and the breakdown and absorption of pollutants. These ecosystem types (and associated aquatic flora and fauna) are at a very reduced state compared to the past.

A unique aspect of the catchment system is the lack of any major mainstem barriers to migratory fish passage. This, together with a relatively flat gradient, enables non-climbing migratory species such as common smelt and mullet to reach significant distances inland. However, it has also enabled access for numerous non-migratory invasive pest fish species, including koi carp, brown bullhead catfish and gambusia. Recreational, commercial and customary harvest of trout, tuna/eels and kōura/crayfish is common in the wider system.

Waipā peat lakes

The Waikato region's shallow lakes are the largest remaining collection of their type in New Zealand. The Waipā zone contains 14 peat lakes; the largest are Lake Ngā Roto and Lake Rotokauri. All these lakes are located within pastoral catchments and represent some of the few remaining wetland areas associated with formerly extensive peat bogs (Komakorau, Rukuhia and Moanatuatua). The peat lakes within the zone are valued for their unique genetic diversity, scientific interest and recreational opportunities. They are also valued for their cultural and spiritual significance. Peat lakes are a valuable habitat for many unique animals and plants but are under threat due to shrinkage of peat soils, drainage, nutrients and plant and animal pests. Given the way that they work, shallow peat lakes are different to deep lakes, making them more vulnerable to deterioration.

Wetlands

Wetlands and floodplains, much like shallow lakes and native vegetation, have reduced drastically in extent in the Waipā catchment since human settlement, by as much as 85-90 per cent. The remaining isolated remnants in the catchment are degraded and continuing to decline. They are particularly vulnerable to the influences from surrounding land use, from sediment and nutrient loading and the altering of their natural hydrology (mostly by drainage).

Wetlands are now known to contribute significantly to improving water quality by acting as the kidneys of the land and removing contaminants before they enter the wider catchment. They also perform a valuable role in providing habitat for often rare native plants and animals and can be sites of cultural and recreational significance, used for the gathering of kai (for example, tuna/eels and gamebird hunting).



Tangata whenua

What do I need to consider?

Tangata whenua have a deep and spiritual association with water, and these values need to be considered in your FWFP.

You should be looking for ways to protect and/or enhance sites of significance to tangata whenua on your property, such as wāhi tapu (cultural and spiritual) and wāhi tūpuna (landscapes and places) sites and areas of mahinga kai. For example, if there is a watercress gathering area or a community swimming hole in a stream that runs through your farm, then your FWFP must take those into account. It could be that you create actions to reduce sediment runoff from pugged paddocks or prevent the erosion of riverbanks by stock.

The New Zealand Archaeological Association maintains a website which is a good source of recorded sites of significance. District councils also provide information, including maps of recorded sites: Waitomo, Waikato, Waipā.

As not all sites of significance are recorded, you may also want to contact your local marae to enquire about sites relating to fresh water on your property, and for advice to help protect and enhance them. Visit Te Puni Kōkiri (Ministry of Māori Development) for contact information, or Te Kāhui Māngai and Māori Maps to find lists of representative groups for the iwi and hapū in your area.

Iwi environmental management plans are also a good starting point in terms of identifying any particular priorities iwi have for fresh water, particularly for specific catchments.

Links to iwi environmental management plans for Maniapoto, Raukawa, Waikato-Tainui and Ngāti Hauā can be found on our FWFP webpage, along with further information on Māori freshwater values and mahinga kai.

Context and values

There are multiple iwi that have affiliations to the Waipā River. The iwi recognised on Te Kahui Mangai website are Waikato-Tainui, Maniapoto, Ngāti Hauā, Ngāti Korokī Kahukura and Raukawa. This handy mapping tool provided by Te Puni Kōkiri – Ministry of Māori Development provides a range of helpful information, including tribal rohe (areas), their hapū and marae, and representative organisations and contacts.

Iwi play an important part in the cultural, economic and political life of the region, advocating for Māori rights and preserving their rich cultural heritage for future generations. Iwi also play an important partnering and co-management role in the management of natural resources, including land, water and biodiversity. The Kīngitanga (Māori King Movement) is one of New Zealand's most enduring political institutions and has broad support within the Waipā rohe.

In the context of fresh water, tangata whenua have a strong spiritual and cultural connection to rivers, lakes and streams, which are viewed as taonga (treasures) and sources of sustenance. Fresh water is regarded as a finite and precious resource that must be managed sustainably for the benefit of future generations.

Iwi recognise the importance of healthy freshwater ecosystems for the wellbeing of people and the environment, and advocate for the protection of water quality, the restoration of degraded waterways, and the recognition of Māori rights and interests in fresh water. Their freshwater values reflect a deep and holistic understanding of the importance of fresh water to tangata whenua. They recognise the interconnectedness between people, culture and the environment.

Iwi and the Crown have entered into co-management arrangements through three Waikato River Settlement Acts. These relate primarily to working relationships between the Crown, councils and iwi, the setting of policy and regional policy direction, and giving effect to Te Ture Whaimana o Te Awa o Waikato – the Vision and Strategy of the Waikato River.

Iwi within the Waipā

Ngāti Hauā

The Ngāti Hauā rohe is centred around the Hauraki Plains and the Waikato River, with a small portion falling within the Waipā catchment west of Maungatautari.

Fresh water is a critical component of Ngāti Hauā's cultural and environmental values. Ngāti Hauā's freshwater values are based on the principles of kaitiakitanga, or guardianship, and their responsibility to protect and care for the environment, including freshwater resources, for future generations. Ngāti Hauā are kaitiaki of the waterways within their rohe and have a deep spiritual and cultural connection to them. The iwi is actively involved in freshwater management and works with councils to protect and enhance the health of the Waikato River. Te Rautaki Tāmata Ao Turoa o Hauā outlines their goals and strategies for managing and protecting freshwater resources. The plan includes measures for improving water quality, protecting and restoring freshwater ecosystems and promoting sustainable use of water resources. Ngāti Hauā also acknowledge Tai Tumu Tai Pari Tai Ao. The Ngāti Hauā Iwi Trust is the representative organisation.

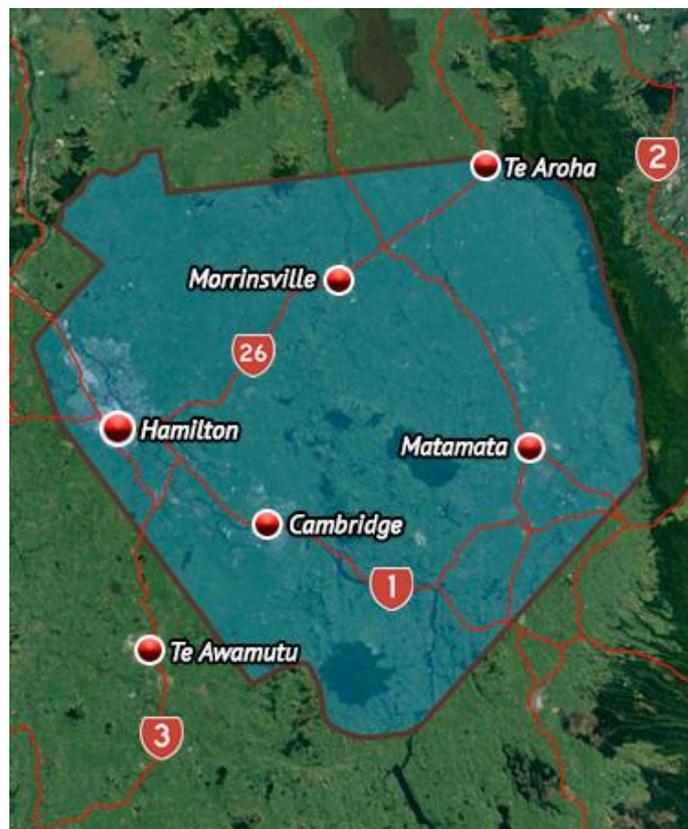


Figure 14. Ngāti Hauā

Ngāti Korokī Kahukura

The Ngāti Korokī Kahukura rohe is located around the Maungatautari area and extends from the eastern shore of Lake Karāpiro, through to the town of Cambridge, and encompasses the lower reaches of the Mangapiko and Waipapa rivers. It also includes the foothills of the Kaimai Range, which is an important area for cultural and spiritual practices.

Ngāti Korokī Kahukura have a strong connection to freshwater resources within its tribal rohe and recognise the importance of their protection and sustainable management for the health and wellbeing of the environment and the people. The Ngāti Korokī Kahukura Trust is the key contact organisation.



Figure 15. Ngāti Korokī Kahukura

Ngāti Maniapoto

Maniapoto occupies the southwestern region of the territory of the Tainui tribes. The Maniapoto rohe covers the northern sector of what is commonly known as Te Rohe Potae or Te Nehenehenui. This rohe is the largest of iwi represented within the Waipā and holds mana whakahaere of Pekepeke springs, the headwaters of the Waipā.

Maniapoto view freshwater resources as taonga and have a deep connection to rivers, lakes and wetlands within their rohe. The Waipā River is a tupuna (ancestor), a taonga (treasure) and the mauri (life force) of Ngāti Maniapoto.

Freshwater values are essential for the wellbeing of Maniapoto and are based on their cultural, ecological and socio-economic significance. Protecting and restoring freshwater resources is critical for the long-term sustainability of these values and for the overall health of freshwater ecosystems.

Maniapoto have developed several environmental management plans that include freshwater components. The first plan, Ko Tā Maniapoto Mahere Taiao, provides a framework for the sustainable management of natural resources within the Maniapoto rohe. The second plan, Maniapoto Priorities for the Restoration of the Waipā River Catchment, specifically targets the restoration of the Waipā River catchment. The third plan, He Mahere Ika, focuses on the management and restoration of the upper Waipā River fisheries. Te Nehenehenui is the name of the iwi authority for Ngāti Maniapoto.



Figure 16. Ngāti Maniapoto

Raukawa

The Raukawa rohe within the Waipā catchment includes the Wharepūhanga and Korakonui Blocks, which largely cover the area to the east of Te Awamutu towards Maungatautari and along the eastern side of the catchment to Waipapa, and down to Maraeroa in the south. There are also four Raukawa marae within the Wharepūhanga block: Aotearoa, Rawhitiroa/Owairaka, Parāwera and Whakamārama.

Rautaki Taiao o Raukawa is the environmental strategy of Raukawa. The strategy provides a framework for the sustainable management and protection of the natural resources and ecosystems within the tribal area. The Raukawa Fisheries Plan is complementary and focuses on the management and restoration of freshwater fisheries within the tribal area. The Raukawa Freshwater Values are an essential component. These values reflect the cultural, spiritual, and environmental significance of fresh water to Raukawa.

Some of the key freshwater values identified include:

- mauri (life force) - fresh water is considered a taonga (treasure) and the source of all life, and the mauri of fresh water is essential for the health and wellbeing of people and the environment
- manaakitanga (hospitality) - fresh water provides a habitat for a diverse range of species and is central to the cultural practices of the Raukawa people.

Raukawa Freshwater Values reflect a deep and holistic understanding of the importance of fresh water to the tribe. The values emphasise the interconnection between people, culture and the environment, and provide a foundation for the sustainable management and protection of freshwater resources within the tribal area. The Raukawa Charitable Trust is the representative organisation.

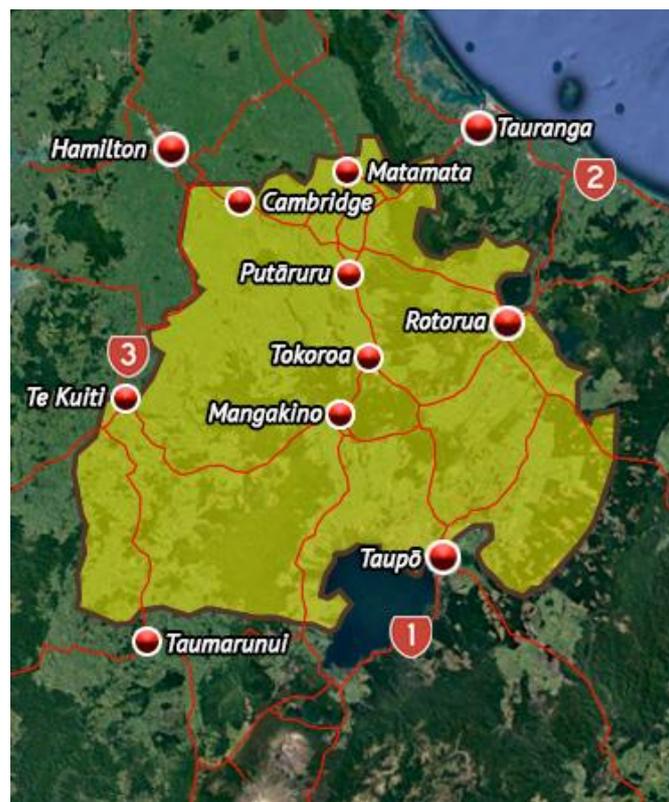


Figure 17. Raukawa

Waikato-Tainui

The rohe of Waikato iwi extends from the mouth of the Waikato River at Port Waikato in the west to the Hauraki Gulf in the east, and from the Bombay Hills in the north to the Kaimai Range in the south. The upper extent of the Waikato-Tainui rohe lies along a line around the junction of the Waipā and Puniu rivers and to the west and southeast of Te Awamutu.

Tai Tumu Tai Pari Tai Ao is the environmental strategy of the Waikato. Waikato have a deep respect for the natural world and view the environment as a living entity that is interconnected with people. Their cultural values are based on the principle of kaitiakitanga, which refers to the responsibility of guardianship and stewardship of the environment. This includes the protection and preservation of natural resources, the maintenance of ecological balance, and the promotion of sustainable use and management of resources.

The Waikato iwi have a strong spiritual and cultural connection to rivers, lakes and streams, which are viewed as taonga (treasures) and sources of sustenance. Fresh water is regarded as a finite and precious resource that must be managed sustainably for the benefit of future generations. Waikato recognise the importance of healthy freshwater ecosystems for the wellbeing of people and the environment, and advocate for the protection of water quality, the restoration of degraded waterways and the recognition of Māori rights and interests in fresh water. The freshwater values of Waikato reflect a deep and holistic understanding of the importance of fresh water to the tribe. The values recognise the interconnectedness between people, culture and the environment, and provide a foundation for the sustainable management and protection of freshwater resources within the tribal area. Waikato-Tainui is the iwi authority.



Figure 18. Waikato Tainui

Key concepts and definitions of tangata whenua

Te Mana o te Wai

Te Mana o te Wai, or mana of the water, is about recognising the vital importance of clean, healthy water for maintaining the health of our waterbodies, freshwater ecosystems and the communities that rely upon them for their sustenance and wellbeing. In essence, by protecting the health and wellbeing of our rivers, lakes, streams and other freshwater bodies, we in turn protect the health and wellbeing of our people and surrounding environments.

The National Policy Statement for Freshwater Management (NPS-FM) has incorporated the concept of Te Mana o te Wai since 2014. But an update to the NPS-FM in 2020 elevated Te Mana o te Wai as the foremost fundamental concept that will determine how New Zealand's freshwater resources will be managed.

Mahinga kai

Mahinga kai is not just about gathering food. It is a much broader concept that is fundamentally grounded in whakapapa (genealogy) and the interconnectedness of the natural world. It means looking after the interconnected system of land and resources that support the growing and harvest of native species across their complete lifespan. It means treating this system with respect and appreciation for the food it produces to nourish people.

Mahinga kai includes things such as species, natural habitats, materials and practices used for harvesting food, and places where food or resources are, or were, gathered. Mahinga kai species largely relate to indigenous plant, bird and fish species and their ecosystems and habitats, for example, for a wetland, that could be tuna/eels, inanga/whitebait and flax for kete/baskets, clothing or other purposes.

Find out more about how the principles of looking after Mahinga kai can be applied on farm in this factsheet and why it's so important to local communities in this video series.

Manaakitanga

The importance of hospitality, kindness and respect for others. It is about caring for people, making them feel welcome and looking after their wellbeing.

Kaitiakitanga

The responsibility to care for the land, sea and environment. It is about protecting and preserving the natural resources for future generations and recognising the interconnectedness between people and the environment.

Whanaungatanga

The importance of relationships and kinship ties. It is about building strong connections with family, friends and community members, and recognising the role of each person in supporting and uplifting others.

Whakapapa

The genealogical link that binds all things. The whakapapa of the natural world – animals, plants, mountains, rivers, lakes, air, coasts – is linked to that of Māori. Māori have an ancestral obligation to ensure that these taonga are protected and managed when passed on to the next generation.

Mana

The inherent power, prestige and authority that comes from being a leader or respected member of the community. It is about using one's influence to benefit the community and upholding the values and traditions of the iwi.

Tikanga

The customs, protocols and practices that guide behaviour and decision-making. It is about upholding the traditions and values of the iwi and respecting the cultural protocols that govern social interactions and relationships.

Mātauranga Māori

The body of knowledge originating from Māori ancestors, including the Māori world view and perspectives, Māori creativity and cultural practices.

Mauri

The life force that generates, regenerates and binds the physical and spiritual elements of resources together. Maintaining and enhancing the mauri of taonga is the focus of environmental management.

Statutory policies and plans

What do I need to consider?

The rules in the Waikato Regional Plan and the national regulations are the main things that you need to be aware of. Waikato Regional Council has developed the Farmers guide to environmental rules in the Waikato region, which is a very good source of information around all of these rules and is regularly kept up to date. If rules are relevant to your farming or growing activities, then you will need to know what they require and develop those requirements into actions in your freshwater farm plan.

You should also be aware of the primary policies and objectives around improving fresh water and freshwater ecosystems. Essentially, to achieve the overall intent and direction of freshwater policy, your FWFP must:

- identify risks to fresh water from your farming or growing activities
- create actions that serve to remove/reduce those risks and contribute to improvements in freshwater quality and ecosystems.

Context and values

Farm planning is a complex and changing space with multiple parts to it, including at regional and national level. At a basic level, it can be divided into policies, objectives and outcomes (i.e., improvements to freshwater quality and aquatic habitats), and rules.

The primary policy instruments for improving water quality in the Waikato and Waipā River catchments are:

- Te Ture Whaimana o Te Awa o Waikato – Vision and Strategy for the Waikato River, established through central government by the three Waikato River Settlement Acts
- National Policy Statement for Freshwater Management 2020 (NPS FM).

The Waikato Regional Plan (including Plan Change 1 for the Waikato River Catchment, including Waipā, and which is not yet fully operative), the National Environmental Standards for Freshwater and the Stock Exclusion Regulations are the regulatory tools that set out the rules for freshwater management.

Te Ture Whaimana o Te Awa o Waikato

Te Ture Whaimana o Te Awa o Waikato is the primary direction-setting document for the Waikato River and its catchments (including the Waipā River). Te Ture Whaimana recognises that the catchments are degraded in their current form, and that collaboration is crucial for a cleaner river. The vision is for a "future where a healthy Waikato River sustains abundant life and prosperous communities who, in turn, are all responsible for restoring and protecting the health and wellbeing of the Waikato River, and all it embraces, for generations to come".

Regional and district plans must give effect to Te Ture Whaimana, and it has been incorporated into the Waikato Regional Policy Statement. Importantly, if there is any inconsistent provision in any Resource Management Act (RMA) planning document, including any national policy statement, then Te Ture Whaimana prevails.

The key principles of Te Ture Whaimana emphasise the spiritual and cultural significance of the Waikato and Waipā rivers to Māori, and the importance of the river's health and wellbeing to the wider community and environment.

Waikato Regional Plan and Plan Change 1

The Waikato Regional Plan is one of two key regulatory documents that set out rules for the use of natural resources in the Waikato region (the other being the National Environmental Standards for Freshwater).

Proposed Waikato Regional Plan Change 1 (PC1) is the proposed new chapter of the existing Waikato Regional Plan. PC1 is not yet fully operative, so will not impact your FWFP in most situations unless you have intensified land use (for example, conversion to dairy or conversion from woody vegetation to any form of farming). However, PC1 is important because it would establish future specific water quality outcomes by seeking to reduce the amount of contaminants entering into the Waikato and Waipā catchments to achieve the Te Ture Whaimana and give effect to the National Policy Statement for Freshwater Management, in particular Te Mana o te Wai.

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Please see the maps supplement for higher quality printable versions of the maps contained in this document.