

Understanding How Farm Practices Can Help Water Quality

Freshwater Consultation Document

June 2024



The purpose of this document is to begin discussions about some of the proposed high-level changes to the regional rules for farming in Taranaki. We (the Council) will use your feedback to prepare targets, limits and actions to manage and protect freshwater.

This fact sheet is one of a suite of documents (listed below) that explore the specific water quality challenges facing Taranaki. They include analysis of the current state of play for each issue in the context of national standards as well as examining trends. They also discuss potential actions and responses to address the identified issues:

- Understanding Water Quantity and Water Allocation
- Understanding *E. Coli*
- Understanding Sediment
- Understanding Nutrients
- Understanding Earthworks and Land Disturbance
- Understanding Stormwater and Wastewater Discharges
- Understanding How Farm Practices can help Water Quality
- Understanding Animal Effluent
- Understanding the Taranaki Economy

Throughout these documents we pose specific questions that we would like your feedback on. Look for the question mark to guide your responses.

What we have heard so far

The information and options in this document reflect previous conversations with the community where we heard not only what people value about freshwater, but also what outcomes they want to see. The results of those conversations can be found on our website:

Working with iwi

Through the development of the proposed Land and Freshwater Plan (Proposed Plan), work has been ongoing with Ngā iwi o Taranaki Pou Taiao to understand and develop our knowledge of tangata whenua freshwater values. In developing these fact sheets, we have had regard to the information shared and discussed with us, and this is reflected in the management options presented. We will continue work with tangata whenua to refine approaches as development of the proposed Plan continues.

We want to hear from you

Have your say via our online survey at <https://trc.govt.nz/helpshapetherules> or by getting along to one of 16 community drop-in sessions around the region. Meeting dates and locations are available online. You can also respond in writing to the Council at 47 Cloten Road, Stratford or email policy@trc.govt.nz.



This phase of community consultation begins on Monday, 10 June and ends on Friday, 2 August.

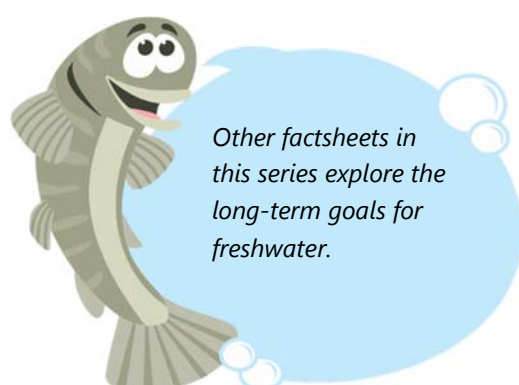
There will be additional opportunities to engage on the proposed Plan as we move toward Plan notification in mid-2025. See the timeline in the next steps section for further details.

Want to know more?

This fact sheet is informed by the Council's scientific investigations into environmental issues affecting the region's freshwater including sedimentation, *E. coli*, nutrients, effluent and water allocation. The technical memorandums are available at <https://haveyoursay.trc.govt.nz/>.

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Overview

We last updated our regional rules for farming activities in 2001. Since that time, industry requirements and farming practices have continued to evolve. It is now time to look at how we manage these activities and where we can continue to make improvements.

Why might we need to change our rules?

- To align with national direction. Since 2001, a large number of national requirements have been released. We have heard from farmers that it's not always clear if they need to comply with national directions, regional rules, or both
- To keep up with industry requirements and best practice
- To make environmental improvements
- To integrate with other systems, eg. Freshwater Farm Plans
- To streamline resource consenting processes, where possible



State of the Environment monitoring tells us waterways across the region are under pressure.

We are thinking carefully about how to support the community's long-term aspirations for freshwater. In particular, improvements to water quality to support ecosystem health and people's



The size and scale of the challenge in front of us means we need everyone, including industry, on-board and working towards the same goals.

ability to connect with water through activities like swimming, fishing, mahinga kai and boating.

We are also suggesting draft targets for *E. coli*, nutrients (nitrogen and phosphorus) and sediment, which we will work towards over time. These targets will guide the pace of change, and there are a range of farm practices that can help make this change happen.

State of the environment monitoring tells us waterways across the region are under pressure. Farming is a significant land use and driver of freshwater outcomes in Taranaki, so we need to review our practices to see where improvements can be made. The cost-effectiveness and ability to action any proposed changes are key considerations.

Many Taranaki farmers are already doing the right thing and are working as stewards to contribute towards environmental improvements. However, without a collective, regional response we will be unable to achieve the necessary improvement. The size and scale of the challenge in front of us means we need everyone, including industry, on-board and working towards the same goals.



Wetlands are one of many sensitive receiving environments that Council is seeking to protect with its update to the proposed Land and Freshwater Plan.



What are we already doing?

Riparian Management Programme

Taranaki's Riparian Management Programme is the largest enacted planting scheme on privately owned land in New Zealand, starting as a voluntary programme in 1993. As at 31 March 2024, the Council had prepared more than 2,900 voluntary Riparian Management Plans free of charge for farmers, covering most of the region's most intensively farmed land. Complementing the planting service, native riparian plants are provided at cost to make riparian planting more affordable.



As at 31 March 2024, 5342km of streambank has been protected by planting.

Sustainable Land Management Programme

The Sustainable Land Management Programme addresses both the accelerated erosion and the loss of soil from hill country and coastal sand country, and the effects of intensive farming on water quality on the ring plain. The Riparian Management Programme is a component of the Sustainable Land Management Programme. Similar to the Riparian Management Programme, the Hill Country Programme involves the provision of planning and advisory services to landholders but with a focus on soil conservation by advocating voluntary change towards sustainable land management practices.

Stock exclusion

Government requirements for stock (excluding sheep) to be excluded from waterbodies made it mandatory for some areas to be fenced beyond the Council's voluntary programmes. The completion of stock exclusion can achieve further

water quality improvements. This has been one of our focus areas for modelling improvements and setting target states, discussed in more detail in the Sediment factsheet. The implications of removing non-intensive beef and deer on low-slope terrain from stock exclusion requirements (as set out by the Government's recent Resource Management Amendments Bill) are being assessed.

Taranaki Catchment Communities

Taranaki Catchment Communities is a proactive farmer-led initiative that has resulted in 16 catchment communities being set up across the region. These catchment community groups support the adoption of good farm practices and the meeting of regulatory requirements. Some groups are undertaking monitoring and getting involved in science and research into initiatives and actions to address a range of challenges.

Preparation of Freshwater Farm Plans (FWFPs)

The Government is introducing FWFPs as a way for farmers and growers to address and manage on-farm risks to freshwater. The actions in each FWFP will be tailored to the farm and will work alongside other regulations. FWFPs are expected to become a central tool for farmers and growers to manage all their regulatory and non-regulatory requirements for freshwater.

FWFPs have not been rolled out in Taranaki and are currently under review by central Government. There may be changes to the FWFP system in the near future. However, the Government has indicated that it sees value in them to reduce resource consenting requirements and that they will remain in some form. Read the FWFP section of this document for more information on how FWFPs could integrate with our local regulations.

Industry driven farm plans/requirements

Several industry bodies encourage farmers to develop farm plans addressing a wide range of issues, from environmental degradation to animal wellbeing. Currently, 85% of Fonterra's farms have a Farm Environment Plan and Fonterra aims to achieve 100% coverage by 2025. These plans have a long-term focus and are tailored to each farm's specific needs, addressing key environmental concerns and regulatory

requirements. Additionally, Fonterra assists its farmers in developing nutrient budgets and reports to identify how on-farm changes can affect nutrient loss.

Another example is the Ministry for Primary Industries' Integrated Farm Planning initiative, which aims to address all aspects of a farm's operations, including environmental concerns. This approach adopts principles of Good Farm Planning and takes a holistic view of farm management.



As at 31 March 2024, Council has prepared more than 2,900 voluntary Riparian Management Plans free of charge for farmers, covering most of the region's most intensively farmed land.

Rural landowners have protected 5,342km of streambank with planting, and Council has provided 7,966,504 plants to support this process since the programme began.



Managing cumulative impacts

The Council is required to manage all contaminants that degrade water quality and ecosystem health. The current levels of *E. coli*, sediment and nutrients across the region indicate that the cumulative impacts from farming play a key role in degrading water quality.

Modelling of *E. coli* across the region indicates that, on average, a 50% reduction is required to meet national bottom lines for swimmability and draft regional targets.

The majority of farmers have already made considerable efforts to remove direct discharges of dairy effluent from going to water. Removal of the remaining discharges directed to water will account for around 10% of the reduction needed. On average, a 40% reduction will still be required. Read more about this action in the *E. coli* and Effluent Management factsheets.

There will be two essential elements of this framework:

- Reducing levels of contaminants being generated on-farm; and
- Intercepting contaminants before they enter waterbodies.

Reducing contaminants relates to the overarching farm system, the number of stock being grazed, the type of land that is grazed, the amount of fertiliser that is applied and when. Interception refers to the mitigations that can be applied on-farm to capture and remove contaminants. It is likely that both reducing the levels of contaminants being generated and intercepting

residual contaminants will need to be addressed in the new framework, however, the approach will have to be balanced against certainty of outcome and cost, particularly in the case of reducing levels of inputs.

We are therefore particularly interested in first looking at on-farm mitigations and environmental actions that can be practically implemented, and investigating their positive contribution before progressing to exploring more stringent management approaches.

Intercepting contaminants

Good farm practices can reduce or mitigate the effects of on-farm contaminants. The following table outlines various environmental actions and indicates their positive impact on either sediment, *E. coli*, nitrogen or phosphorus.

These actions not only contribute to environmental improvement but also offer other benefits, such as improvements in herd health, soil quality and reduced fertiliser costs. Over time, some actions can also contribute to wider catchment-scale improvements in biodiversity, fish passage and flood protection. Some of these actions are common practice, others not so common. We are keen to explore the feasibility of these actions and identify both the opportunities and challenges

The table describes a range of environmental actions and their impact on contaminants. We want to know if there is anything missing from our list and which of these you are already doing on your farm.



- *Are you doing any of the following farm practices already and are there challenges that we have not identified?*
- *Are there any other good practices for general farm management that we have not acknowledged?*

Key: S = Sediment, E = E.coli, N = Nitrogen, P = Phosphorus

Environmental action	S.	E.	N.	P.	Other benefits	Possible challenges
Poplar planting on medium to moderately steep hills for soil and erosion control	✓				Stock shade and wind breaks Potential for income from the Emissions Trading Scheme	- Expense of resources and labour - Land suitability/availability - Lack of time
Fencing off Critical Source Areas during wet seasons	✓	✓	✓	✓	Stock can be difficult to move out of boggy terrain. Reducing their access to Critical Source Areas can improve efficiency of farming practice	- Expense of resources and labour - Terrain and landscape - Lack of time - Loss of productive land - Long-term maintenance
Use of clover planting as an alternative to nitrogen fertiliser and plantain as a way to decrease nitrate leaching			✓		Clover can reduce the need for fertiliser. Plantain is a dry weather tolerant crop	- Cost of seeds and labour - Site suitability and soil fertility - Weed, pest and disease management - Impacts on milk production
Bridging stock crossing points to avoid erosion, riverbed disturbance	✓	✓	✓	✓	Stock safety and improved access to the farm under extreme weather conditions	- Expense of resources and labour - Site suitability and structure design - Technical knowledge and skill - Resource consenting requirements/costs - Long-term maintenance
Directing discharge of effluent from bridges and races away from into waterbodies	✓	✓	✓	✓	Potential to recover nutrients for use on pasture.	- Structure design and upgrades - Capture methods - Technical knowledge and skill
Sediment traps/ retention ponds/ bunds to enable coarse-sized sediment to settle out and to prevent water flowing onto or from fields	✓	✓		✓	Stock dams/water supply dams can double as sediment traps, retention ponds and bunds	- Cost of materials and labour - Site suitability and design - Technical knowledge and skill - Resource consenting requirements/costs - Long-term maintenance
Retirement of unsuitable grazing land to forest and bush.	✓	✓	✓	✓	Alternative uses can provide another source of income i.e. honey or income from the Emissions Trading Scheme Removing stock from difficult terrain can improve farming efficiency	- Economic considerations - Access to resources - Lack of staff/time - Forestry regulations - Land management and restoration
Use of feed pads , stand-off areas, loafing areas, herd homes and composting barns particularly during winter months.	✓	✓	✓	✓	Can improve farming efficiency Protects stock against harsh weather and may improve condition Paddocks and feed protected from hoof damage	- Cost of initial investment - Site suitability - Technical knowledge and skills - Resource consenting requirements/costs - Waste (effluent) management - Livestock behaviour and welfare
Minimising intensive winter grazing	✓	✓	✓	✓	Reduced risk to soil health May improve stock wellbeing	- Lower milk solids production - Feed availability and cost of import - Pasture/weed control
Effluent storage and deferred effluent irrigation to a time when soil moisture and physical conditions are optimal		✓	✓		Maximises the use of effluent for plant growth by spreading at an appropriate time	- Initial infrastructure investment - Site suitability - Technical knowledge, skill and time - Nutrient and water management - Resource consenting requirements/costs - Ongoing maintenance
Riparian planting and stock exclusion from rivers, lakes, wetlands, open drains and artificial waterways	✓	✓	✓	✓	Improved stock safety Shade improves stock health and wellbeing Biodiversity corridors	- Initial investment - Terrain and location - Lack of time - Maintenance and management - Access to planting material

The future of riparian planting

Well-planned and implemented riparian zones provide a multitude of benefits including:

- shading and cooling waterways, and providing shelter and food for fish and insects;
- reducing erosion by stabilising banks, trapping sediment and slowing run-off;
- keeping stock out of waterways reducing faecal contamination;

- creating connected biodiversity corridors; and
- contributing to the unique visual character of our region.

Over the last 30 years, Taranaki farmers have fenced and planted significant portions of waterways under the Riparian Management Programme.



Improved shading and cooler water temperatures will help reduce risks of periphyton growth. Excess periphyton can clog fish spawning sites and habitat for river insects, and lead to extremes of dissolved oxygen and high pH (alkalinity) which stress fish populations and can lead to fish-kill events.

The benefits of riparian planting were highlighted in the preparation of draft target attribute states for sediment, *E. coli* and nutrients.

To improve water quality we will need to set limits on certain activities that contribute to freshwater degradation. This will account for any naturally occurring processes that may contribute to contaminant loads, the types of waterways we are managing (whether they are cold and fast-flowing or warmer and slow-flowing) and whether mitigating factors can reduce some of the impacts contaminant concentrations may have on freshwater health.

In some situations, establishing and maintaining good riparian zones throughout a significant

proportion of the catchment may soften the limits required to achieve outcomes.

The Council's long-standing intention of making riparian fencing and planting mandatory under the Proposed Land and Freshwater Plan remains a key option. This would mean intensive farms targeted by the Riparian Management Programme that have not yet undertaken riparian fencing and planting works would be required to do so.

A further consideration to this option is the benefits that smaller, less intensive farms may contribute to catchment-wide mitigations if riparian fencing and planting requirements were rolled-out more widely.

To support this approach, we are looking into quantifying the benefits that broader application of riparian fencing and planting could offer beyond the conventional target areas of the Riparian Management Programme. In all instances, we will prioritise a "right place, right plant" approach that looks at the whole farm landscape to ensure planting is effective and appropriate.

In moving to a regulated approach, there would be a need to apply standards. We will need to do more work to determine those standards and the timeframes for implementation.



Diffuse discharge refers to pollutants sourced from widespread or dispersed sources such as from pasture runoff of animal wastes, fertiliser and sediments. Compared to point-source (or single source) discharges, diffuse source pollutants are much more difficult to manage as they often come from a large number of small sources.



To what extent do you support the approach of extending riparian planting to small farms/lifestyle blocks?

*Learn more about the benefits of riparian planting in other fact sheets on *E. Coli* and nutrients.*



Integrating Freshwater Farm Plans (FWFPs) with regional rules

The Council is required to manage all contaminants that degrade our water quality, even diffuse discharges that typically occur on land and eventually reach freshwater through surface run-off or groundwater infiltration.

The impact of on-farm diffuse discharges will differ from farm to farm depending on factors such as the type of farming (dairy, beef, sheep, deer or other), degree of intensification, the catchment characteristics (including hydrological character, geology, slope, soil and climate) and the types of on-farm management practices being implemented.



Freshwater Farm Plans can be used to “front load” some of our regulatory requirements to offer pathways so that certain activities do not require resource consent.

Typically, diffuse discharges originate from animal waste including dung, urine or decomposing carcasses in offal pits, losses from over-application of fertilisers, or from bank or hillside erosion. Depending on the farm type and management practices, other diffuse discharges may also be at play.

As the regulations currently state, FWFPs require a holistic assessment of each land unit within a farm, including the climate, soil type, geology and slope. This information, combined with an understanding of on-farm practices, can help to identify and manage risks to freshwater and ensure farmers are compliant with relevant rules.

FWFPs can also be used to “front load” some of our regulatory requirements to offer pathways so that certain activities do not require resource

consent. To enable the Council to use a FWFP in this way, we will need to explicitly integrate them into the Proposed Plan. This requires specifying the kinds of assessments and considerations that the FWFP needs to address if it is to replace a resource consent.

Some activities on farms can be managed in different ways to achieve good outcomes, but regional plans often cannot provide enough flexibility for this to happen.

Traditionally the Council would impose conditions such as setback distances from waterbodies or limits on discharges when providing permitted rules. As these rules are applied to whole landscapes, it is not possible to tailor them to an individual farm. As a result, despite adhering to the same set of conditions, farms where landscape characteristics present a lower level of risk may be unnecessarily restricted. Conversely, farms where landscape characteristics present a higher level of risk may be contributing to further degradation of freshwater. FWFPs provide the flexibility to address this.

Integrating FWFPs with permitted rule conditions could introduce flexibility and necessary nuance to our management framework. However, the contents of FWFPs and the assessments required to prepare them could become more complex.



To what extent do you agree with the approach of using Freshwater Farm Plans to relieve resource consenting burdens where possible?

Managing intensification

The aim of land use intensification is to increase the production of meat, milk, crops or other products from a specific area of land.

Intensification can happen through changing one land use type for another or the intensity of the farm system can be increased with higher stocking rates and application of fertilisers, irrigation and/or buying in stock feeds.



Scientific modelling underpinning the target setting process for *E. coli*, sediment and nutrients assumes that no further intensification will occur within the region.

Conversion of forestry to pasture can also raise similar concerns, particularly where land may be unsuitable for certain types of stock such as heavy beef breeds on erosion prone land.

Because intensification can exacerbate existing degradation, limiting future intensification is important. Scientific modelling underpinning the target setting process for *E. coli*, sediment and nutrients assumes that no further intensification will occur within the region. It also considers a range of existing actions (such as completion of riparian planting and stock exclusion) and future actions (discussed above) to address degradation. We are concerned that further intensification could undermine the existing and future actions that seek to improve water quality.

The Current Freshwater Plan does not contain any rules relating to intensification or conversion. The National Environmental Standards for Freshwater (NES-F) sets a national framework, which constrains intensification including the conversion of land to dairy or dairy support, irrigated sheep and beef, and cropping and commercial vegetable growing. Converting from plantation forestry to pasture or increasing the irrigation of existing dairy farm land is also considered

intensification. While the NES-F permits some small-scale intensification (less than 10 ha), it sets a high bar for obtaining a resource consent in most circumstances.

Intensification in Taranaki

As one of New Zealand's traditional dairying regions, dairy farming occupies around 236,000 ha of our most productive land (Land Use Capability classes 1-5). The economic assessment of dairy farming in Taranaki indicates that, while the total amount of milk solids per year has increased over the last 30 years, the total effective area in use for dairy farming has remained relatively stable.

Regional increases in milk production in recent years are attributed to factors such as animal performance and industry practices rather than changes in land use. The introduction of intensification rules under the NES-F were therefore unlikely to significantly affect the mature status of the industry in Taranaki. As at May 2024, the Council has received only one application for intensification under the NES-F. However, with the intensification rules in the NES-F being removed in January 2025, there is an opportunity to explore a Taranaki specific way of addressing risks from further intensification. Our management framework needs to manage intensification in a way that works alongside other environmental actions to improve water quality across the range of degraded attributes.

Management approaches

A future management framework will aim to ensure that intensification controls avoid further increases of contaminant loads within the catchment, or on other receiving environments. A number of approaches or tools can be used to build a framework that works for Taranaki. We are keen to understand what is important to our communities when managing intensification.

Over page are a series of questions we are interested in your feedback on.



To what extent do you agree with using these as triggers for a consent being needed?

- *Increases to the effective land area being intensively farmed*
- *Increases to the irrigated land area*
- *Changes to higher intensity land use (e.g. sheep and beef to dairy)*
- *Increases to stocking rates as a proxy for intensification e.g. any increase from a specified date*
- *Other*



To what extent do you agree with these requirements being applied in a resource consent process?

- *Evidence to show that intensification will not increase contaminant loads.*
- *A good record of compliance with rules and consent conditions.*
- *Catchments that show improvements in contaminants*
- *Offsetting the impacts of intensification to decrease impacts elsewhere in the catchment (such as constructing a wetland).*
- *Use of adaptive management plans to ensure practice can adjust to on the ground conditions.*



Do you have any additional comments on managing intensification?



Diversification

Land use diversification involves rethinking how farmland is utilised. It can mean adapting part of a farm to accommodate different land uses, or modifying systems within the existing farm.

Diversification has the opportunity to optimise the use of land, meet regulations, mitigate risks or provide for other environmental, economic or social benefits, particularly where those land uses are less intensive.

If parts of our region are moving towards other land uses, we need to ensure that appropriate activities are enabled in the right locations.

There are many options for diversification in Taranaki, however, climate, soils and supporting services play a key role in what opportunities may be commercially viable. The following are a shortlist of some of the feasible, high potential, commercially viable opportunities for Taranaki. Some of these are evaluated in Venture Taranaki's Branching Out study, which assesses the viability of new and emerging land uses to the region.

Forestry

Forestry already forms an important part of the Taranaki economy, with established commercial production and processing of Radiata pine and raw log exports. There are opportunities to expand the forestry industry, especially in utilising land not suited for agriculture. Plantation forests, whether large standalone blocks or smaller blocks integrated with farming operations offer multiple benefits such as CO² sequestration, carbon credits, erosion control, biodiversity enhancement and livestock shelter. However, forestry is not suitable in some areas, and certain impacts do need to be managed, particularly during and post harvest.

Horticulture

Although not a significant industry at present, there is potential for horticulture to diversify the Taranaki economy. The 2020 *Land Climate Report* for Venture Taranaki identified that around 207,000 ha of land is potentially suitable for generic horticulture.

Favourable climatic conditions could support growing conditions for hazelnuts, walnuts, kiwifruit, apples, gin botanicals, blueberries, hops, hemp, CBD cannabis and avocados. Likewise, Taranaki is well suited for cultivating a range of crops, including annual perennial crop varieties, vegetables, cereals, legumes, mānuka and bioenergy crops. Summer crops include sorghum, wheat, grain maize, faba beans, sweetcorn, kumara, garlic, miscanthus, potatoes and other root vegetables, while winter crops typically focus on grazing or forage production. There is opportunity to integrate these crops into existing farming systems, rotating with grazing paddocks. Effects from horticulture, in particular with regard to nutrient loads, must be managed in the Proposed Plan.

Sheep dairying

Favourable climates and pastures could provide opportunities for sheep dairy farming, including options for expansion or conversion. Although this sector is emerging in New Zealand, strong industry growth is expected in the next five to 10 years due to demand for value-added products (cheese, yoghurt and infant formula) from Asian markets. However, there are challenges to sheep dairying such as access to supporting services, requiring a range of goods and skilled services for conversion, development and operation, milk needing to be transported out of the region to be processed and the possibility of biosecurity breaches.



Deer farming

Hill country pasture could provide opportunities for farmers to diversify into venison production. In 2019, there were about 3,000 deer in Taranaki. Changing the ratio of beef, sheep and deer on-farm can spread the demand for pasture across the spring and give farmers more levers to pull through economic fluctuations.

Poultry

The poultry industry is a key strength in Taranaki, ranking third in food production subsectors by GDP in the region. Poultry plays an integral role

in the Taranaki food story, supplying the domestic markets and increasingly the international markets with a diverse range of chicken products. With a mix of small operations and larger scale commercial enterprises, the industry significantly contributes to the local economy and is well positioned for future growth and opportunities.

Regulation can sometimes block the path of new and innovative practices, particularly if those practices were not around or not particularly prominent when regulations were drafted. We are eager to ensure that our Proposed Plan does not unintentionally present a barrier for emerging industries or diversification opportunities.



- *What types of diversification have you considered? Are there any that you have implemented? What where there challenges in diversifying? (Please be specific)*

Fish passage

Freshwater fish in Taranaki

During community consultation last year, feedback emphasised the importance of safeguarding fishery values, particularly the protection of trout, indigenous and at-risk species. Taranaki boasts a rich biodiversity, with 20 species of native fish and three sports fish, many of which are threatened or are at risk. Ensuring effective fish passage is crucial for preserving these cherished and vulnerable species for future generations.

What is fish passage and why is it important?

Fish passage refers to the ability of fish and other aquatic species to move through different aquatic habitats throughout their life cycle. When rivers are fragmented by dams, culverts or other diversions, fish become separated from their breeding grounds, are cut off from food sources or get trapped in unsafe waters.

Dams, weirs, culverts and other structures can create physical barriers that prevent/reduce fish mobility in the following ways:

- **Perched:** If the outlet of a culvert is perched above the level of the stream, fish may be unable to pass through.
- **Velocity:** Poorly designed structures can change the speed of water flow. If water flows too fast, fish may struggle to swim against the flow.
- **Water level:** Structures can affect water levels, particularly immediately up and downstream from a structure.
- **Blockages:** Poorly maintained structures may become clogged with debris making it difficult for fish to navigate through



Did you know?

We estimate there may be as many as 30,000 in-stream structures in our waterways, of which, at least 15,000 are culverts located on farmland.

.How can we remediate fish passage?

We expect that thousands of structures across the region hinder fish passage. Some may require minor upgrades, while others will need complete removal and replacement. Some past remediation efforts like spat ropes are generally ineffective due to their:

- quick degradation
- need for regular maintenance or replacement, and
- limited effectiveness in specific locations and conditions.

Where to from here?

Government direction requires the Council to:

1. Identify and map structures that are fish passage barriers and categorise those most in need of remediation including removal, repair or replacement.
2. Encourage, enable and monitor remediation progress.

We propose that the Proposed Plan be a vehicle for encouraging the remediation of fish passage by providing:

1. easier activity pathways for the removal of in-stream structures, particularly those that are fish passage barriers;
2. easier activity pathways for the instalment of new or replacement in-stream structures that meet specific criteria to ensure the facilitation of fish passage; and
3. clear prerequisites for the use of existing in-stream structures to ensure they provide for fish passage, including:

- (a) the absence of perching;
- (b) regular debris clearance from the structure; and
- (c) the maintenance of natural bed material throughout the length of the structure.

Some existing in-stream structures fail to provide for fish passage and these will eventually need upgrading or replacement. Flexible time frames could allow structure owners sufficient time and resources to complete these works



How long will you need to undertake remediation works such as upgrading or replacing all the unsuitable in-stream structures on your property?

- 1-3 years
- 3-7 years
- 7-10 years
- 10+ years



How can the Council help you restore fish passage on your property?

- Assist assessing the in-stream structures
- Guidance documents that advise best practice when remediating or maintaining the fish passage
- Guidance to help structure owners self-monitor the provision of fish passage
- Streamline resource consenting pathways for the repair, replacement and removal of structures (e.g. fewer resource consent conditions and notification requirements);
- Appropriate permitted activity pathways to ensure the removal and remediation of structures is cheaper and easier;
- Funding assistance
- Other ideas?

Next steps

Feedback you provide through this process ultimately helps shape the rules the Council will put in place to protect and manage freshwater. The rules will appear in the proposed Land and Freshwater Plan that will replace the region's Current Freshwater Plan, which is more than 20 years old.

Next steps for the Council are to:

- Continue to develop the science on sediment, nutrients, *E. coli*, effluent and a range of other measures of water health as well as the potential options to manage these challenges
- Use your feedback to help shape rules that apply to various water quality measures in the proposed Land and Freshwater Plan.
- Work toward further community engagement on refined policy options and additional science.



We want to hear from you

There are many ways that you can share your views with us:

Join us at one of 16 **community meetings** around the region. Meeting dates and locations are available online.

You can also **write to us**: Policy Manager, Freshwater Consultation, Taranaki Regional Council, 47 Cloten Road, Stratford

Email us at policy@trc.govt.nz

Take our **online survey** at <https://trc.govt.nz/helpshapetherules>

Timeline



Jan 2021–Sept 2022

Understanding the story so far
Collating the story of what's happening with Taranaki freshwater to inform conversation with the community, special interest groups and iwi.



Apr 2021–Dec 2022

Vision, values and FMUs
A chance for people across Taranaki to give their feedback on the region's draft FMUs, the visions that will establish the long-term goals for those units and the values which apply to them.



2023

Te Mana o te Wai
Exploring how Te Mana o te Wai can be applied in Taranaki and how our planning framework can improve the way that tangata whenua and communities are involved in freshwater management decisions.



Sept–Oct 2023

Freshwater outcomes and change drivers
Closing the loop on what we learned with our engagement so far and what it will mean for how we go forward with improving the quality of our water, the timelines and where the pinch points might be.



June–July 2024

Setting targets
Exploring potential targets for key areas linked to improving water quality.



Nov–Dec 2024

Limits
Exploring the potential rules that may be introduced through the proposed Land and Freshwater Plan to drive the change to achieve the targets we set for freshwater.



Feb–April 2025

Feedback on Draft Plan
Iwi, special interest groups and stakeholder engagement and feedback on the draft Land and Freshwater Plan.



Mid 2025

Plans notification
The Land and Freshwater Plan will be publicly notified prior to a formal submissions and hearing process.



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