

NON-REGULATORY INITIATIVES

Horizons has a number of non-regulatory initiatives that work to improve water quality across the Region. This includes Horizons' Sustainable Land Use Initiative (SLUI), and community-led projects such as the Manawātū River Leaders' Accord and the Horowhenua Lake Accord.

SLUI has been recognised in a Landcare Research report which assessed the impact of the programme on sediment levels in the Region's rivers in 2013. The closest scenario to how SLUI currently operates predicted the annual sediment load in rivers will reduce by 27 per cent as a result of SLUI works by 2043.

Under the Manawātū River Leaders' Accord, planting of 110,900 native plants along waterways, erecting 474 km of extra stream fencing, completing 98 environmental farm plans, 12 fish passage enhancements, 19 community-led projects, and the upgrade of six

wastewater treatment plants have contributed to moving 600 km of the Manawātū catchment into a more swimmable category.

For the Lake Horowhenua Accord, actions underway include the implementation of improved water quality monitoring, where lake level sensors, flow recorders and a monitoring buoy collect data automatically every 15 minutes. Water quality of the lake and its tributaries is also sampled every month, and additional monitoring includes fish populations and lake weed distribution.

Stock exclusion and stream fencing is also a key part of water quality improvement and a considerable amount has been done on a voluntary basis in Manawatu-Whanganui. Horizons has grants for fencing available and has helped a number of farmers fence off waterways across the Region.

WHY SHOULD I CARE?

- Fair and equitable water management is critical to ensuring everyone has the water they need for health, well-being and recreation as well as allowing the environment and economy to prosper.
- Over-abstraction at low flow times contributes to poor water quality, proliferation of algae on the river bed and can impact on river depth. This makes rivers visually unappealing, unpleasant or even potentially unsuitable or unsafe for swimming.
- Caring for our waterways is everyone's responsibility. We all benefit from improved water quality when we swim during summer or drink water that takes town supply from the local river.



WHAT CAN I DO?

GET INVOLVED!

- Rustle up a group of friends to join us for our next community planting day, beach or river clean-up! Follow our Facebook page to keep up-to-date with events in your area.
- The Freshwater Improvement Fund commits \$100 million over 10 years to improve the management of New Zealand's lakes, rivers, streams, groundwater and wetlands. It supports projects, with a total value of \$400,000 or more, that help communities manage freshwater within environmental limits.
The fund is now open for applications and information on eligibility and assessment criteria is available at: <http://www.mfe.govt.nz/more/funding/freshwater-improvement-fund>.
Applications close mid-day 13 April 2017.
- On 22 March, Oxfam is encouraging New Zealanders to go a day without turning on our taps – at home or at work. While you can't turn any taps on – you can fill up bottles and containers the day before to use. <https://www.oxfam.org.nz/what-you-can-do/events/taps-off-day>

OTHER TIPS AND HINTS

- To help reduce the impact of abstraction for water supplies, you can reduce the amount of water your community needs by taking small steps to save water at home.

Taking shorter showers, turning off the tap while cleaning your teeth and using a watering-can instead of a hose when watering your garden all contribute to water conservation.
- If you have a resource consent to abstract water for your home, farm or industry, consider installing water saving devices, and adopting water efficiency measures to make sure you don't take more than you really need.

Being efficient with your water take can have flow on effects in reducing pumping and storage costs, and can reduce the size of your waste-water discharge if you have one.

Freshwater in the Horizons Region

Thank you for engaging in the conversations around New Zealand's freshwater. Rightly so, there is and will continue to be public commentary. Unfortunately this information can often be contradictory or blame-gaming, making the complex issues and costly solutions regarding freshwater management sometimes hard to understand. That being said, the issues and solutions are not insurmountable.

Over the past 10 years we have seen measurable improvement in many of the Horizons Region's waterways. Sure, there are areas where we need to do more and we have those in sight.

However, we recognise that we cannot do it alone. With thousands of kilometres of waterways winding across our 2.2 million hectare Manawatu-Whanganui Region, the challenge to improve our waterways is everyone's responsibility. We have created this information sheet to explain some of our regulatory and non-regulatory work, and the science that leads it, along with detail on just some of the community-led projects we are engaged with and ideas on how you can also be actively involved.

OUR ROLE IN FRESHWATER

As your Regional Council our role differs from that of the Territorial Authorities (city and district councils). When it comes to water, Horizons collects a wide range of environmental data, including

its quantity and use, and its quality and health. We have a statutory duty to monitor compliance of the consents we have issued, and to ensure that the provisions of both the Resource Management Act and our regional plans are enforced.

Where possible we seek to work with the individual, organisation or community to effect long-term behaviour change. We also oversee resource consents that the city and district councils have for managing infrastructure such as wastewater treatment plants, bore water, and storm water. Should you wish for more detail on these systems your local council is the best place to start.

WHAT THE DATA SAYS

In the Horizons Region we see encouraging signs of improvement in key water quality indicators. Scientists generally report two key measures for water quality: state and trend. State tells us about the current condition of a waterway; trend tells us how things are changing over time.

Trends from January 2006 to December 2015 show efforts being made throughout the Region by many landowners, organisations, iwi, and councils are making a marked improvement in water quality throughout the Region.

This has been achieved through regulatory and non-regulatory means such as the Sustainable Land Use Initiative, the Manawātū River Leaders' Accord and the Horowhenua Lake Accord. Improving trends are particularly notable in the Manawātū River catchment, where significant effort has been made to improve the health and mana of the awa.

10 YEARS OF WATER QUALITY TRENDS JANUARY 2006 - DECEMBER 2015

| | MANAWATU - 16 SITES | | REGIONAL - 36 SITES (including Manawātū) | |
|----------------------------------|---------------------|-----------|---|-----------|
| | IMPROVING | DECLINING | IMPROVING | DECLINING |
| E-coli* | 31% | 0% | 22% | 0% |
| Total oxidised nitrogen ** | 75% | 0% | 55% | 0% |
| Dissolved reactive phosphorus ** | 50% | 0% | 28% | 3% |
| Turbidity *** | 37% | 0% | 16% | 8% |

* E-coli is a swimmability indicator ** TON and DRP are both nutrient indicators *** Turbidity is a sediment indicator



Private Bag 11025
Manawatu Mail Centre
Palmerston North 4442

T 0508 800 800
E help@horizons.govt.nz
W www.horizons.govt.nz

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WATER QUANTITY SCIENCE

KEY ISSUES

1. Demand for water is high and the amount of available water is limited

In some parts of the Horizons Region, the demand for surface water is greater than the amount available. Much of the water allocated in high demand areas was consented before there was comprehensive knowledge about the Region's water resource. This has resulted in the surface water resource in some areas becoming over-allocated.

2. Taking water at some times causes issues

Generally there is more groundwater available than is currently being used in the Region. However, abstracting groundwater can impact wetlands, rivers, and lakes. It can also affect the ability of other users' ability to get groundwater, or in extreme cases, has potential to draw salt water from the sea into freshwater aquifers.

WHAT WE DO

Dealing with the competing demands for water and balancing them with the needs of the environment is a high priority for Horizons. We have put a comprehensive water allocation framework in place, setting out core allocation limits for the surface and groundwater resources, and minimum flows for surface water takes. The framework is implemented through the consenting process.

We also work with consent holders to reduce the impact of water use in over-allocated catchments by promoting water use efficiency, compliance with consent conditions and monitoring actual water use through the water metering programme.

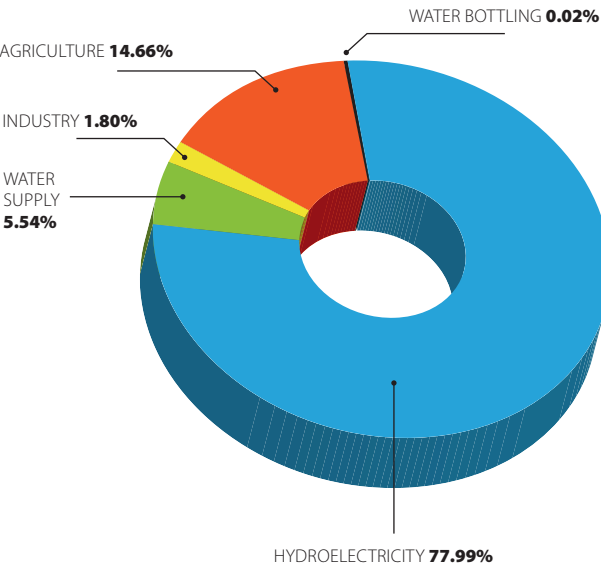
WATER TAKES AND WATER BOTTLING

Water take consents exist for a number of reasons in our Region. One of these is for bottling and Horizons has eight of this type granted currently. Five come from surface water and one from ground water supply. Of total water allocation in the Region, water

bottling claims 0.02 per cent at 1,478.4 m³ a day, which is the equivalent to one small irrigation take. Like any other resource consent there are a number of conditions which control the way in which the consent can operate including minimum flow conditions where appropriate, limits on daily rates and volumes, and water use measurement.

This is to ensure there are no adverse environmental affects on neighbouring waterways and aquatic life. These consents are assessed in relation to our water allocation framework prior to granting and are subject to the same tests as any other application to take water. They can also be re-visited to ensure the conditions remain relevant.

Water allocation for the Region is as follows:



WATER QUALITY SCIENCE

The main way river health can be measured is through monitoring ecosystem health and the recreational suitability of our rivers. To better understand and manage freshwater, Horizons collects information about climate such as air temperature, rainfall, river flows and groundwater levels to understand the effects of changing climatic conditions and the impacts of water use on our freshwater systems.

We monitor water both above and below ground to better understand the changes that water undergoes as part of its natural cycle and the impacts that people have on it. Horizons is also mindful of considering cultural values of our waterways, and as much as possible, maintaining or restoring their mana.

WHAT WE DO

Horizons collects water quality samples each month from rivers and streams around the Region and test for a wide range of parameters including sediment, nutrients and bacteria. Groundwater and coastal lakes are sampled every three months to assess seasonal changes.

Increasingly, more of this information is collected on a continuous basis, with permanent sensors automatically collecting data at regular intervals and sending it via our telemetry system back to Horizons. Data is processed by our catchment data analysts and made available for both reporting and research purposes.

We also monitor ecosystem health by observing macroinvertebrates during summer. Algae (periphyton) is monitored monthly. Cyanobacteria is monitored at the same time, and this summer is also monitored at 80 popular swim spots around the Region.

When the results from water quality, ecosystem health and recreational suitability are combined they tell us about the overall health of our waterways from the mountains to the sea.



RECREATIONAL USE

Recreational suitability refers to how safe and pleasant rivers are for swimming and playing in. High sediment loads and the presence of pathogens from human or animal inputs can make us sick. This includes bacteria from sewage treatment plant discharges, leaking septic tanks, animal effluent via run-off from farmland, and direct access of stock into waterways.

Recreational suitability can also be impacted by excessive growth of periphyton (algae) and cyanobacteria on the river bed. While algae and cyanobacteria occur naturally in our waterways, at certain times the rocks become green and slimy making swimming unpleasant. Cyanobacteria on the rocks can also sometimes release toxins that can make you and your dog sick.

WHAT WE DO

Swim spot monitoring

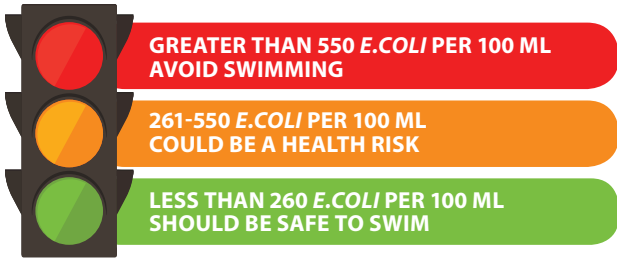
Horizons has been monitoring popular swim spots in our Region for over 10 years. In the past this has involved testing 17 sites (that we know to be problematic) on a weekly basis during summer. However, we identified that a small sample does not portray the full picture of our numerous and swimmable spots available for recreational activities.

We recognise the importance of our communities being well informed, and that is why every week this summer we have monitored the health of over 80 swim spots to provide reliable information on the potential health risks in our waterways.

Our expanded monitoring programme commenced in early December and will continue until the end of April. The results of our monitoring are displayed using the traffic light system on the Safe Swim Spots page on our website www.horizons.govt.nz.

What is the traffic light system?

Each site is graded according to a handy traffic light system that is part of the Ministry of Health and Ministry for the Environment guidelines. The system provides guidance to Councils and District Health Boards on how they should act when certain levels of indicator bacteria or algae are detected. For our lakes and rivers:



If a site falls into the red category, signs may be erected with information provided to the public that the site is considered unsuitable for recreational use.

LAWA

Ensuring everyone has access to the information Horizons and other regional councils collects is key. Land, Air, Water Aotearoa (LAWA) is New Zealand's website for environmental information, providing open access to regional council monitoring data, along with information about how this data is collected, analysed and reported.

The LAWA website www.lawa.org.nz also has information about water quantity, and a new 'Can I Swim Here?' module which reports our summer swim spot monitoring data.



REGULATORY INITIATIVES

THE ONE PLAN

The One Plan is our 'one stop shop' resource management planning document for the Horizons Region. It defines how the natural and physical resources of the Region, including freshwater, air, productive land and natural ecosystems, will be cared for and managed by the Regional Council in partnership with Territorial Authorities and the community.

The values framework that underpins the One Plan is based on extensive community and stakeholder consultation. Community values for streams and rivers have been translated into numerical water quality standards to represent the environmental bottom line beyond which the value should not be compromised.

The One Plan approach for nutrient management aims to improve areas of the Region where nutrient issues were identified or where catchments are particularly vulnerable to nutrient enrichment. The aim is to reduce nutrients and sediment inputs and improve the health of our waterways. This is achieved through a range of regulatory and non-regulatory work programmes that Horizons undertakes in partnership with iwi, community and environmental groups, industry, government agencies and research institutes.

NATIONAL POLICY

The Ministry for the Environment have recently proposed amendments to the National Policy Statement for Freshwater Management (NPS-FM). The intention is to maintain or enhance water quality.

While the NPS-FM sets a minimum standard, or bottom line, for some parameters, this does not prevent communities from setting their own targets or limits – as long as they are not set below the national bottom line. In the Horizons Region we already have targets set for a range of water quality indicators that are more stringent than those set out in the National Objectives Framework (NOF).

WHAT WE DO

- Fence and plant streams and bush/wetland areas, and control pests;
- Remove fish barriers (unless there are likely to be negative effects on native fish populations); and
- Support consent holders to meet resource consent conditions, compliance monitoring and enforcement.