



OURS.
THE MANAWATŪ RIVER
LEADERS' ACCORD

Manawatū River Leaders' Accord

2016-21 Action Plan Progress Report



*Kei te ora te wai, kei te ora te
whenua, kei te ora te tangata.*

If the water is healthy, the
land and the people are
nourished.

The Manawatū River is a beacon for challenges facing freshwater quality in New Zealand. That is why, in August 2010, iwi/hapū, local and central government, farming, and industry leaders, along with Massey University and environmental and recreational advocacy groups from around the Manawatū Catchment formed the Manawatū River Leaders' Forum.

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Foreword

Kia ora. This Progress Report overviews the journey and progress since the launch of the second Manawatū River Leaders' Accord Action Plan and is accompanied by a website release that contains a lot more information.

While this Progress Report has been produced to show what actions have been taken to improve the health of the Manawatū River since the launch of the second Action Plan, it is also important to acknowledge how far we have come.

Following the creation of the Manawatū River Leaders' Forum in 2010, members signed the Manawatū River Leaders' Accord a year later. The Accord document set out a focus, vision, and goals for the river, reflecting Accord members' firm belief that by working together we can achieve more than working alone. We are all kaitiaki (guardians) of the river, so if we step up and protect our taonga, its mauri (lifeforce) will return and thrive for future mātātahi (generations).

The main goal of the Accord is to improve the Manawatū River, such that it sustains fish species, and is suitable for contact recreation, in balance with the social, cultural and economic activities of the catchment community. Specific goals set out in the Accord are:

- The Manawatū River becomes a source of regional pride and mana.
- Waterways in the Manawatū Catchment are safe, accessible, swimmable, and provide good recreation and food resources.
- The Manawatū Catchment and waterways are returned to a healthy condition.
- Sustainable use of the land and water resources of the Manawatū Catchment continues to underpin the economic prosperity of the region.

The first Manawatū River Leaders' Accord Action Plan was also released in 2011, where Accord members committed to improving the river and catchment through six priorities and over 130 tasks. The 2011-2015 Action Plan was reported on in 2012 and 2014 through Progress Reports.

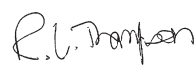
The scale of the Accord project means that although a lot had been accomplished there was still plenty

more work to be done. A second iteration of the Action Plan was launched in March 2016 to incorporate new actions and tasks, and a range of new forum members including DairyNZ, Beef + Lamb NZ, Environment Network Manawatū, and the Save Our River Trust. Within this Action Plan, 34 diverse signatories agreed to 104 tasks to continue progress made to date.

Alongside the two Action Plans, members of the Manawatū River Leaders' Forum have also collaborated to deliver works through joint local and central government, and multi-agency investment for projects through the Fresh Start for Freshwater Clean-Up Fund, Freshwater Improvement Fund, and Te Mana o Te Wai Fund – totalling to over \$54 million. These funding opportunities have allowed the Accord Forum to progress some tasks sooner, as well as adapt others, and add new science-led interventions.

The Manawatū River Leaders' Accord is a source to sea initiative, encompassing sustainable land use, biodiversity, and freshwater interventions, through to improving infrastructure, water allocation and quality. Improving the state of the Manawatū River is very much a long-term project. No single action led to its current state and no single solution will fix it. What we do know is that the Manawatū River and its catchment is one of the most heavily monitored in New Zealand. We have an in-depth understanding of the challenges the awa faces, and Forum members continually combine knowledge and effort to direct action where it is needed most. We also acknowledge there is plenty more that can be done. However, we cannot do it alone. Through collective actions alongside our communities, we will make a lasting difference.

We are all part of this journey and we encourage you to get involved. The following pages highlight a few of the actions completed, ongoing or underway since the launch of the second Action Plan in 2016. More information about the Accord and progress to date can be found on our new website www.manawaturiver.co.nz or get in touch at info@manawaturiver.co.nz



Richard Thompson
Independent Chair
Manawatū River Leaders' Forum
24 November, 2018

Story of the river

SOURCE TO SEA, LEGEND OF THE AWA

He kupu wawata ēnei kupu e whai ake nei mō te āhua o ngā wairere o nehe.

I rere te awa, he wai urutapu, he wairere. Ko te Manawatū he wai puiaki, i ngā wā o mua. He wai tuku iho e Ranginui ki a Papatūānuku ki a tātou, hei waiū, hei pātaka kai nā reira i kaha tiaki. Kia mataara tonu tātou kia tiaki ngātahi, kia whakaaro nui ki tō tātou awa e ora tonu ai tōna mauri hei āpōpō, hei ngā rā o ngā mokopuna, ā, haere ake nei.

The following poetical narrative describes how our rivers once were.

The river flowed in its healthy pristine state. Manawatū was a waterway used extensively historically. A gift from the sky to mother earth as sustenance and a source of food and as such was cherished and respected. We should be ever vigilant in the collective care and consideration towards our river to ensure the life force remains intact tomorrow, in the days of our grandchildren, and into the future.

According to Rangitāne tradition, the Manawatū River gorge was formed by a giant tōtara tree known as Okatia who once stood on the Puketoi ranges to the east. Okatia became incensed with a desire to reach the sea and so headed west from its Puketoi home, encountering the great Ruahine and Tararua mountain range. This it overcame creating in its wake a great mountain pass which become known as Te Āpiti (a cleft or gorge) and its waters

Te au-rere-a-te-tonga (the flowing current of the south).

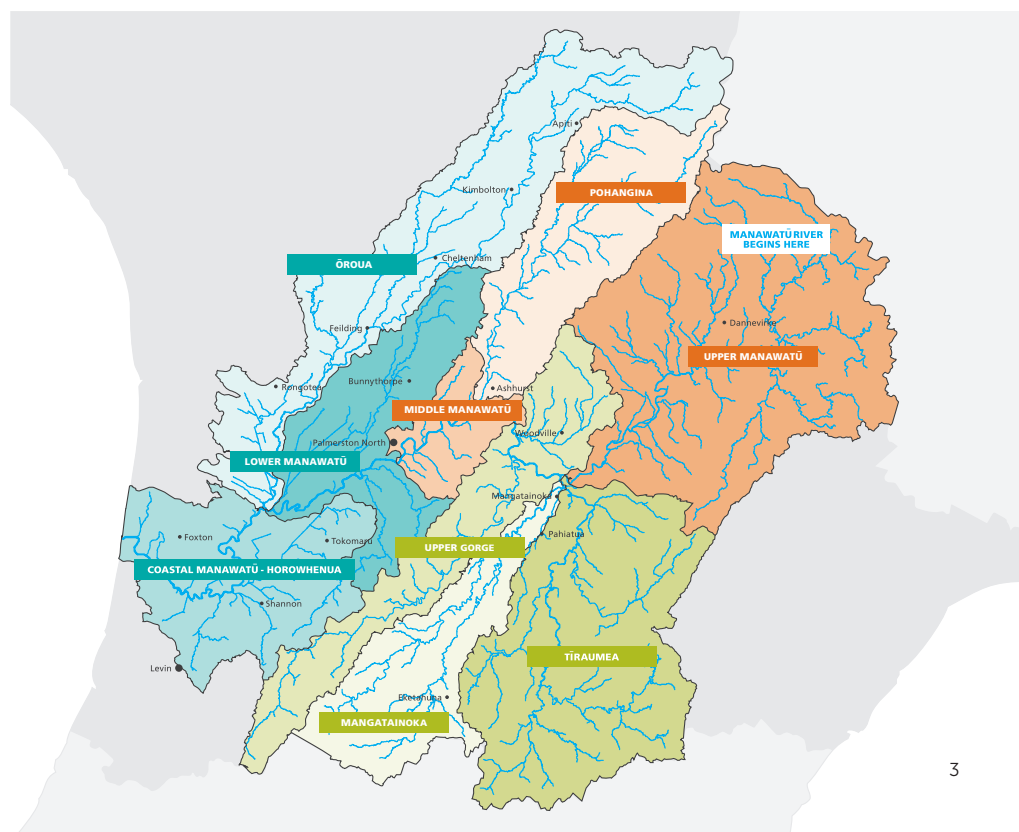
The naming of the river is attributed to Haunui-a-Nanaia, a man who travelled down the west coast in pursuit of his wife Wairaka, crossing the numerous river mouths as he went. When Haunui-a-Nanaia reached what is now known as the Manawatū River, it was so wide, deep and cold that it made his breath stand still. Therefore the river's name comes from the Māori words *manawa* (heart) and *tū* (stand still); 'Manawatū...still breath/breath stood still'.

The source of the Manawatū River is located on the eastern side of the Ruahine Ranges up in behind the present day settlement of Norsewood in the Tamaki nui a Rua area (Tararua District). The river winds its way south-east of its source skirting wide

of Norsewood, swings south to flow near the Ormondville settlement and continues south meandering east of Dannevirke until it is joined by the Mangatainoka River south-east of Woodville. Here the river turns and heads west and is joined yet again by another tributary, the Mangahao, before entering Te Āpiti (the Manawatū Gorge) at a place known as Te Waha o te Kurī (Ferry Reserve).

At the Ashhurst end of the Gorge, the Pohangina River joins the Manawatū River which continues its journey through Palmerston North and onto Rangiotū near where it is joined by the Ōroua River. Carrying on south, the Manawatū River then cuts through the plains of Ōpiki and Shannon before heading west, making its release at Foxton Beach and into the Tasman Sea.

CATCHMENT MAP



2016-21 Action Plan

Since the launch of the second Manawatū River Leaders' Accord Action Plan, a number of groups have worked in partnership to improve the health of our river. This work has direct links to the key actions and activities listed in the 2016-21 Action Plan:



Reduce the nutrient and bacteria from point source discharges



Reduce sediment run-off from erosion prone farmland, the rural road network, and areas of major earthworks



Prevent over-use of water



Reduce the impact of flood control and drainage schemes



Reduce the run-off of sediment, nutrients and bacteria from intensive land-use such as dairying and cropping



Protect areas of habitat for native fish, native birds and trout



Increase awareness of the challenges faced by freshwater and the actions community can take

The 2016-21 Action Plan was put in place with the best of intent. It was clear about who was the lead agency for specific tasks and their timeframes for delivery. This Progress Report is one of those tasks. Many of the tasks have been undertaken, some are ongoing, and some have evolved into other programmes, for example the Te Mana o Te Wai project – Tū Te Manawa and the Freshwater Improvement Fund that are both currently underway.

Since its inception, over \$66 million has been invested in Manawatū River Leaders' Accord initiatives. In addition to this funding, further investment and support from councils, iwi and hapū, landowners, industry, and community members have all contributed to improving the health of our awa.

FRESH START FOR FRESHWATER CLEAN-UP FUND

In March 2012 the Manawatū River Leaders' Forum was successful in its bid to the Fresh Start for Freshwater Clean-Up Fund, a Ministry for the Environment funding scheme to improve water quality in New Zealand. The Accord received \$5.2 million in central government funding to help improve the health of the Manawatū River. This involved addressing areas of poor water quality, accelerating enhancement efforts throughout the catchment and enabling community involvement in restoration activities.

The funding was pooled with significant contributions from Tararua, Manawatū and Horowhenua District Councils, Horizons Regional Council, DairyNZ, and landowners, as well as in-kind contributions from iwi,

community groups, and industry partners. The fund amounted to a package of over \$46 million towards a suite of eight projects delivered over four years. Projects were chosen based on the impact they would have on reaching the goals set out in the Accord's 2011-2015 Action Plan, as well as additional science-based interventions that would contribute to improving the overall health of the river.

Projects completed under the Clean-Up Fund include upgrades to Woodville, Dannevirke, Pahiauta, Kimbolton, Feilding and Shannon's wastewater treatment plants; over 208km of stream fencing to exclude sheep and cattle from the catchment's waterways; native fish habitats in Tokomaru, Turitea, Kahuterawa, and Norsewood improved, whitebait habitats at Whirokino, Whitebait Creek, Mangatainoka, and Mangahao restored; 98 environmental farm plans completed; and 19 community-led projects undertaken.



TE MANA O TE WAI

In October 2016, Tū Te Manawa, a project to enhance iwi and hapū involvement in the Manawatū River and its catchment, received a \$534,000 Te Mana o Te Wai central government grant.

In addition to Rangitāne o Tamaki Nui a Rua contributions, Horizons Regional Council, Palmerston North City Council, and Tararua District Council provided additional funding towards the \$814,000 project.

Multiple iwi and hapū within the Manawatū Catchment have collaborated to lead and deliver Tū Te Manawa. The overall purpose of the project is to enhance iwi involvement in the river's restoration, and increasing its mana through communicating stories that reconnect

iwi and hapū with their awa. As part of the project, eight whare are being built at culturally significant sites from source to sea. The whare will house historical, cultural and scientific narratives, and provide a place for people to engage at the river's edge.

With support from Horizons, the Te Mana o Te Wai fund and landowners, Tū Te Manawa project members are also engaging in extensive planting and fencing programmes to physically improve and enhance the quality of the river.

A culturally significant species protection and enhancement programme is also being developed and implemented at each of the whare sites, allowing iwi, hapū, whānau and students from local schools to engage in community science.



Te Waha o te Kuri Whare, Ferry Reserve, Woodville

FRESHWATER IMPROVEMENT FUND

In August 2017, The Manawatū River Leaders' Forum successfully secured \$2.92 million from central government under the Freshwater Improvement Fund. This funding will contribute to works totalling \$7.24 million over five years.

Horizons Regional Council along with Palmerston North City Council, Manawatu, Tararua and Horowhenua District Councils, iwi, and landowners submitted an application for the Freshwater Improvement Fund on behalf of the Manawatū River Leaders' Accord.

Together they have contributed the remaining \$4.32 million as well as significant in-kind support.

The application was successful in over half of its components, with many Accord actions along the Manawatū River now able to proceed in a shorter timeframe. Projects to be completed over the five year period include the upgrade of Tokomaru's wastewater treatment plant which will now discharge to land; 250 kilometres of stream fencing; 200,000 riparian plants; 20 fish pass fixes; 45 community projects; Palmerston North City Council's urban streams project; and matauranga Māori and cultural monitoring.



Tokomaru community planting day

Sustainable Land Use Initiative

Horizons Sustainable Land Use Initiative (SLUI) takes a 'mountains to the sea' approach to protecting valuable hill country soils where they are at risk of moderate to severe erosion. By keeping this soil on our hills and out of the Manawatū River, the catchment is improved through increased flood protection, better water quality, protection of hill country and native habitats.

SLUI uses a variety of tools, however the programme is based around the development of Whole Farm Plans with individual farmers. These plans are voluntary and once developed are followed up with a works and incentive programme aimed at reducing erosion.

To date, 70 per cent of highly erodible land in the catchment is captured under the SLUI programme through Whole Farm Plans. Work is underway to

mitigate the erosion areas identified within these plans, with 5,377 hectares of works completed to date including 274km of fencing and 1.8 million trees planted. This has been funded by way of Horizons rates and contribution from the Ministry of Primary Industries, as well as significant financial contributions from SLUI landowners.

Through monitoring Horizons and Landcare Research have tracked the impact of the SLUI programme. It's modelled that even if work stopped in 2018, by 2043 the work already completed will lead to an 11 per cent reduction in annual sediment load in the Manawatū Catchment. The programme continues to grow as more and more landowners get on board, if activity stays at its current rate we will see a reduction of 27 per cent by 2043.



Hill country, Manawatū Catchment

Manawatū River Leaders' Accord Community Grants

Since the formation of the Accord a proportion of the budget has been directed towards community projects. The Manawatū River Leaders' Accord community grants programme aims to assist non-profit organisations such as community groups, schools, catchment care groups and iwi/hapu with projects that will help increase engagement with Manawatū waterways and improve water quality in the catchment.

Horizons Regional Council has a targeted rate for the Manawatū River Leaders' Accord. This rate contributes \$410,000 per year to Accord activities, with 15-20 per cent going towards the community grants programme. The budget has expanded over the years through

central government support via the Fresh Start for Freshwater Clean-up and Freshwater Improvement Funds. To date 46 projects have been supported, with grants totalling over \$435,000.

The Manawatu District Council are also supporting community projects via the Freshwater Improvement Fund and in 2018-19 nine projects received grants from the \$100,000 that was available.

A further \$400,000 will now be available to community groups over the next four years. In addition to funding, the grants provide an opportunity for groups to tap into the support and technical advice available at Horizons.

WOP WOP WETLANDS

In 2016, Kuikui Charitable Trust and local iwi Ngāti Kahungunu ki Tamaki nui-a-rua were successful recipients of a 2016 Manawatū River Leaders' Accord Community Grant worth \$1500. Protection, revitalisation, education and engagement was the project group's focus for Wop Wop wetland improvements close to the river source in Lower Norsewood. The grant contributed towards the costs of fencing a natural spring and native riparian plants.

By cleaning up and enhancing the wetland area the habitat of native species, including the long-fin eel (tuna) whose numbers are declining, has become an improved environment. The protected habitat is vital for tuna as they live for about 100 years in the same place, before migrating to the Pacific Ridge to breed and die. The wetland is open for the general public who can feed the tuna while learning about the site's historical significance and the value of protecting and conserving the wetlands for future generations.



Monitoring water quality

The Manawatū Catchment is one of the most heavily monitored and studied catchments in New Zealand. To evaluate the health of the river and trends over time, Horizons Regional Council monitors water quality at 70 river and stream sites across the catchment on a monthly basis. Water collected from these sites is tested for levels of nutrient (nitrogen and phosphorus), bacteria, sediment, clarity and physico-chemical stressors – for example pH, conductivity, dissolved oxygen and temperature).

Of the 70 monitored sites, 14 are positioned directly downstream of major point source discharges such as treated wastewater from towns or industrial discharges. By monitoring water quality upstream and downstream of discharge points, scientists are better able to determine the impact of each point source discharge on overall water quality and whether these discharges are improving. It also allows them to calculate how much of the nutrient in the river comes from these point sources and how much comes from other sources such as run-off from farms, urban areas or other parts of the landscape, and whether the amount from these other sources is getting better or worse.

To complement monthly and annual sampling, Horizons measures some aspects of water quality in the Manawatū on a continuous basis (every 15 minutes). This captures daily variation in measures like water temperature (31 sites), pH and conductivity (6 sites) dissolved oxygen (4 sites), sediment (8 sites) and nitrate (1 site).

Horizons also measures the amount of algae or periphyton present in rivers and streams. This is measured at 32 sites on a monthly basis and includes monitoring of the potentially toxic algae (phormidium)

or blue-green algae. Bugs and insects are another important indicator of river health and annual monitoring is carried out at 48 sites to look at the number and type of invertebrates present. It is worth noting that some measures that were previously considered an issue in the catchment, such as the amount of oxygen needed to break down organic matter in discharges, are no longer measured on a widespread basis. This is because previous efforts to restore water quality targeted these concerns and several years of monitoring has confirmed biological oxygen demand is no longer an issue other than at a few discrete point source sites in the Manawatū.

Over the Accord period, six point source discharges have been removed from the river. Some have been combined into the Palmerston North wastewater treatment plant (New Zealand Pharmaceuticals Industrial wastewater, Ashhurst, Aokautere and Longburn wastewater treatment plants), others have ceased completely (DB Breweries and PPCS Fellmongery at Shannon). Four wastewater treatment plants now have consent to undertake dual discharge to land and water (Feilding, Shannon, Fonterra Pahiatua and Foxton) and Tokomaru wastewater treatment plant has funding through the Freshwater Improvement Fund to move towards a land discharge.

While these changes have reduced the need to monitor the sites where the point source discharges have been removed, Horizons has added seven more monitoring sites to measure effectiveness of interventions. Six of these sites are located in the lower reaches of tributaries of the Manawatū River. These are the Oroua, Kahuterawa and Kiwitea Rivers and the Koputaroa, Mangatowainui and Turitea Streams. The final addition is a reference site at the top of the Makakahi.



Water quality samples in the lab

State and trends

It has nearly been 10 years since the signing of the Manawatū River Leaders' Accord and in that time a huge amount of work has been carried out by the Accord members alongside community groups and individual landowners. Actions taken to improve water quality are based on a foundation of science. In 2014 a Science and Mātauranga Maori panel was formed to review progress

to date and recommend actions to improve water quality for the 2016-21 Action Plan. Members of this panel were Accord partners and external agencies including Horizons Regional Council, Massey University, National Institute of Water and Atmosphere (NIWA), Cawthron Institute, Fish and Game, Land Water People (LWP), and Landcare Research.

CHANGE WILL TAKE TIME

While it is expected that the impact of this work, in particular around changes in land use or management practices, will make a positive change, in many cases that impact will not be seen for many years. For example, recent research shows the average time between water leaving the root zone of a plant to emerge in the river channel at low flows can take between 12 months and up to 11 years. So in essence, the benefits of land management changes carried out today will take up to 11 years to create a considerable, measurable improvement in the health of our awa. However, these lags are shorter than those within other catchments such as Lake Taupō, which is approximately 60 years.

Improvements in in-stream habitat as a result of shading and reduced run-off from riparian planting will also take time to show. For example, it takes time for riparian plants to grow and provide shading. Similarly, planting to address hill country erosion will take years to mature and produce benefits, and ecological responses will develop as species recover from their current state to a restored habitats. There are some actions that can be expected to produce immediate improvements in water quality, such as fixing or removing point source discharges, and fixes to fish passages. However, it will take time for these improvements in the river to show in the monitoring results due to the inherent variability of the data.

10 YEARS OF WATER QUALITY TRENDS FOR THE MANAWATŪ CATCHMENT, 1 JULY 2007 – 30 JUNE 2017

In 2018, Horizons Regional Council commissioned LWP to analyse the available water quality data in the Manawatū-Whanganui Region. The report is based on a site-by-site basis, relative to targets set in

Horizons' One Plan, as well those specified in the National Objectives Framework of the National Policy Statement- Freshwater Management. The full report can be found at www.horizons.govt.nz

	MANAWATU			REGIONAL		
	PROBABILITY IMPROVING	PROBABILITY DECLINING	NO. OF SITES	PROBABILITY IMPROVING	PROBABILITY DECLINING	NO. OF SITES
<i>E. coli</i> (swimmability indicator)	32.5% (5.5%)	67.5% (5.5%)	40	52.5% (4%)	48.5% (4%)	80
Nitrate (nutrient indicator)	48.8% (6%)	51.2% (6%)	40	48.6% (4.4%)	51.4% (4.4%)	80
Dissolved Reactive Phosphorus (nutrient indicator)	62.8% (6%)	37.2% (6%)	39	37.5% (3.5%)	62.5% (3.5%)	80
Clarity (sediment indicator)	35.1% (5.9%)	64.9% (5.9%)	37	37.5% (4.5%)	62.5% (4.5%)	72
Macroinvertebrate community index (ecosystem health indicator)	34.8% (8.1%)	65.2% (8.1%)	23	35.6% (5.8%)	64.4% (5.8%)	45
Chlorophyll a (ecosystem health indicator)	10.5% (8%)	89.5% (8%)	19	10% (6%)	90% (6%)	30

As mentioned above, it is important to note that changes in land use or management practices will produce a positive outcome, however in many cases the impact will not be seen for many years. Over time, a combination of the many interventions underway or planned will add up to show an improving trend on the health of the Manawatū Catchment.


SINCE THE ACCORD BEGAN:

6 WASTEWATER TREATMENT PLANT **UPGRADES** 


Manawatū River Leaders' Accord signed in 2011


\$8.65 MILLION
of funding secured from Central Government

21km
OF RIVER PATHWAY ESTABLISHED

355 OF FENCING AND


200 THOUSAND TREES PLANTED THROUGH FRESHWATER INITIATIVES


27
SWIM SPOTS MONITORED

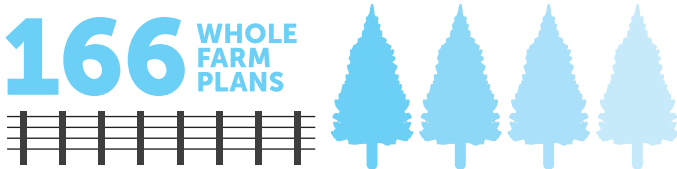
6 WHARE
BUILT BY IWI ALONGSIDE THE
MANAWATŪ RIVER


\$66 MILLION
INVESTED IN Manawatū River Leaders' Accord INITIATIVES


48
sites monitored for macroinvertebrates

46 
COMMUNITY PROJECTS SUPPORTED

NEW 
Manawatū River Leaders' Accord
WEBSITE

166 WHOLE FARM PLANS

274km of fencing and 1.8 million trees planted through SLUI

One over allocated water take area managed back within allocated limits


ZERO
DAIRY SHED EFFLUENT DISCHARGES TO WATER




54 FISH
PASSAGES IMPROVED

70%
of highly erodible land in catchment is now within a SLUI farm plan

45 BUSH REMNANTS  & **26** WETLANDS RECEIVED...
MANAGEMENT INPUT

104 KEY TASKS IDENTIFIED FOR ENHANCING IMPROVING THE THE MANAWATŪ CATCHMENT IN 2016-21 ACTION PLAN

6 point source discharges removed from the Manawatū Catchment and 4 dual discharges to land and water established


1 SCIENCE ADVISORY GROUP
2 SCIENCE REPORTS



Progress on the 2016-21 Action Plan

Within the 2016-21 Manawatu River Leaders' Accord Action Plan, 104 tasks were identified as ways to contribute towards the continual improvement of the river's health. While on the following pages we have highlighted progress on some of these tasks, others are ongoing, and others have evolved thanks to funding opportunities through Te Mana o Te Wai and the Freshwater Improvement Fund, the full 2016-21 Action Plan can be found at www.manawaturiver.co.nz and a more comprehensive progress list is available upon request.

1. REDUCE SEDIMENT INPUT

Total	Completed	Ongoing	Not Started	Evolved
4	0	3	1	0

TASK #1

Horizons Regional Council continues to promote the reduction of sediment run-off from erosion prone land through the Sustainable Land Use Initiative (SLUI). Since the start of the Accord, there have been 166 Whole Farm Plans created which capture 70 per cent of highly erodible land in the catchment. These plans include the planting of 1.8 million trees and 274 kilometres of fencing erected, contributing towards the 5,377 hectares of erosion works that have been completed.

2. REDUCE IMPACT FROM WASTEWATER DISCHARGES

Total	Completed	Ongoing	Not Started	Evolved
14	5	9	0	0

TASK #6

Palmerston North City Council hosted a successful wastewater forum on 21 April 2017, with more than 80 attendees hearing from international and homegrown experts in wastewater treatment.

The forum was a great opportunity for councillors, technical staff, and decision makers from local and regional councils, community groups, iwi representatives, and members of the public to learn about current trends and best practices in wastewater treatment.

The one-day event featured guest speakers from the USA, Australia and New Zealand, as well as two panel discussions with questions from the floor, and provided territorial authorities lots to consider for best wastewater options in the future.

TASK #8

All Palmerston North City Council wastewater discharges have been connected to one discharge point at Tōtara Road Treatment Plant. This includes Linton, Longburn, Ashhurst and Bunnythorpe.

TASK #9

The 2017 wastewater forum led into the process for the Palmerston North City wastewater upgrade that has a budget of \$6 million set aside in Palmerston North City Council's 2018-28 Long-term Plan. Launched in November 2018, Nature Calls is the Council's four-year planning, investigating and engagement project that will result in the delivery of the best practicable wastewater treatment option for the City and the Manawatū River.

TASK #12

Horowhenua District Council's Shannon wastewater treatment upgrade was completed in 2018 thanks to a significant contribution from the Fresh Start for Freshwater Clean-Up Fund. Upgrades include discharging to land at least 80 per cent of the time and only to the Manawatū River when flows are above the 20th FEP (flood flows). This is compared to a 100 per cent discharge to the Otauru Stream under the previous consent. However, the intent is to have the wastewater treatment plant discharge to land 100 per cent of the time.

TASK #13

The Environment Court recently released a decision that will allow for 100 per cent of Horowhenua District Council's Foxton wastewater treatment plant discharge to go to land. This will replace the current arrangement where 100 per cent of the discharge enters the Foxton Loop. This project is to be completed within three years.

TASK #14

Horowhenua District Council has secured funding through the Freshwater Improvement Fund to help progress an application to discharge wastewater 100 per cent to land at Tokomaru.

TASK #16

Tararua District Council has completed upgrade works at the Dannevirke wastewater treatment plant in 2018. This plant was upgraded thanks to a significant contribution from the Fresh Start for Freshwater Clean-Up Fund. Upgrades included lining the treatment ponds, deepening Pond 1 for more storage and also reducing discharge flows during low flows in the Mangatera Stream, and the installation of drum filters and aerators to improve the quality of the effluent. Tephra beds have been installed and are to become operational in summer 2018-19 to reduce dissolved reactive phosphorus concentrations in the discharge.



3. REDUCE THE IMPACT FROM STORMWATER DISCHARGES

Total	Completed	Ongoing	Not Started	Evolved
5	1	4	0	0

TASK #20

Palmerston North City Council completed the installation of the Norton Park stormwater treatment wetland in 2017, with final planting and remedial works completed in 2018.

TASK #22

Manawatu District Council approved \$11.6 million in their 2018-28 Long-term Plan to initiate a sediment and stormwater management programme, with a focus on growth related stormwater infrastructure in Feilding.

4. REDUCE THE NUTRIENT RUNOFF FROM LAND

Total	Completed	Ongoing	Not Started	Evolved
4	0	4	0	0

TASK #26

In 2017, industry bodies including DairyNZ, Beef + Lamb New Zealand, and Federated Farmers constructed a wetland in Hiwinui to help promote wetlands as a tool for landowners to improve nutrient and sediment management, as well as potential water storage.

TASK #27

Fonterra recorded nitrogen information from 99.57 per cent of dairy farms in the Manawatū Catchment during the 2016-17 season. One on one assistance was also provided to at risk farmers on ways to reduce nitrogen leaching.

5. IMPROVE WATER ALLOCATION

Total	Completed	Ongoing	Not Started	Evolved
3	0	3	0	0

TASK #28

Manawatu District Council has completed an investigation report for a new groundwater take and storage system and committed \$8.2 million in their 2018-28 Long-term Plan to construct within the next five years.

TASK #29

Fonterra has worked with farmers to increase their understanding around the management and recording of water use to increase efficiency. 53 per cent of dairy farms have installed a water meter. 85 per cent are to be completed by 2019.

6. REDUCE THE IMPACT OF FLOOD CONTROL AND DRAINAGE NETWORKS

Total	Completed	Ongoing	Not Started	Evolved
7	0	6	1	0

TASK #31

Horizons Regional Council has a best practice approach for river works that includes consent conditions to protect water quality and habitat. Compliance with these conditions is reported on annually. Five yearly aerial surveys are conducted to ensure pools and riffles are maintained and river lengths are not shortened. The last survey was completed in 2016. Horizons also has an ongoing initiative around fish passage, with a particular focus at present on the potential impediments associated with pump stations, focussing our efforts on low cost, high value improvements.

TASK #35

Massey University presented to the Horizons Regional Council Catchment Operations Committee an overview of the Habitat Quality Index (previously referred to as the Natural Character Index) concept, applications to date of the tool on Lower North Island rivers, and further development and application of the tool to rivers within the Horizons Region. Massey and Horizons have been discussing funding options to progress this work. From a Horizons' river management perspective the application of the tool will reinforce sustainable management practices and is particularly relevant for the section of the Manawatū River corridor between Ashhurst and Palmerston North, consistent with the vision for the river corridor as articulated through Palmerston North City Council's 10 Year Plan.

7. INCREASE RIPARIAN FENCING AND PLANTING

Total	Completed	Ongoing	Not Started	Evolved
13	3	7	1	2

TASK #40

Iwi and hapū have led riparian plant projects in conjunction with schools and community groups including 1500 trees planted at the confluence of Tiraumea and Manawatu in partnership with KiwiRail. A fencing and planting project was completed in June 2018 at Otamaraho Highway realignment in Dannevirke with support from iwi, hapū, NZ Transport Agency, Horizons Regional Council, Kaitoke Kōhanga Reo, and Dannevirke South, Dannevirke High and Weber Schools. Numerous planting events have also been held through the Tū Te Manawa project.

TASK #41

Industry workshops and field days to promote fencing and planting by Beef + Lamb, DairyNZ and NZ Landcare Trust have included Central Districts Field Days, and the region's Ballance Farm Environmental Awards.

TASK #42

Green Corridors, through Palmerston North City Council's assistance, have planted approximately 37,400 plants in the Summerhill sub-catchment since 2016.



TASK #44

Ngāti Parakiore – Ruahuihui Trust have established a harakeke nursery which can be harvested from 2019, to support the creation of buffers for nutrient run off in vulnerable areas.

TASK #45

In 2017-18 the Oroua Catchment Care Group received a Manawatu River Leaders' Accord Community Grant for four sub projects including riparian planting along the Otoku Stream near AFFCO and Makino Stream near Kitchener Park. The Care Group has been successful in receiving Community Grants since they were first made available in 2012, helping to support their work in Feilding. The Group have been working their way through a number of farms fencing off the Oroua and its tributaries. They also often hold community planting days to plant up the riparian margins which has benefits by slowing down run off to absorb nutrients and increased habitat for the birds, bees, bugs and fish.



8. INCREASE NATIVE FISH, NATIVE BIRD AND TROUT POPULATIONS

Total	Completed	Ongoing	Not Started	Evolved
14	2	10	1	1

TASK #49

In the 2016-2018 period of the current Action Plan, Horizons Regional Council completed 86.2km of riparian fencing, planted 125,918 plants, installed eight fish passes, and supported and funded seven community-led projects to help enhance and increase native fish and bird populations. These works were funded as part of Council's annual \$410,000 targeted rate and topped up by contributions from the Te Mana o Te Wai project and landowners.



TASK #56

The Manawatū Estuary provides a significant area of habitat to wintering, passage, and breeding waterbirds including wrybill/ngutupare, fernbird/mātātā, less knot/huahou, banded dotterel/pohowera, and godwits/kuaka. Every year the Department of Conservation, Horizons Regional Council, Horowhenua District Council, iwi and community groups undertake predator control, pest plant control and other actions, including maintaining waterbird roosting sites by removing sedge.

TASK #61

In 2018, a wetland was established and enhanced in Ōtamaraho by Te Kāuru.

9. INCREASE COMMUNICATION BETWEEN ACCORD PARTNERS

Total	Completed	Ongoing	Not Started	Evolved
12	0	10	1	1

TASK #63

Led by an independent Chair, the Manawatū River Leaders' Forum meets at least twice a year. Regular reporting is also conducted through the Land Air Water Aotearoa (LAWA) website, which shows up to date water quality state and trends, and progress reports such as this one to provide our communities with progress against actions.

TASK #65

Horizons Regional Council are currently supporting iwi to get the advisory governance board established. In the meantime, the Forum meetings and hui-a-iwi are helping to advance work, including the Te Mana o Te Wai project.

TASK #66

While a formal Science and Mātauranga report has not been produced in 2018, an Accord subgroup prioritised projects and developed a successful application to the Freshwater Improvement Fund in 2017. This included a cultural monitoring and Mātauranga Māori project that will produce iwi/hapū management plans and assist with some funding towards implementing them.

10. INCREASE PUBLIC ACCESS, AWARENESS AND EDUCATION

Total	Completed	Ongoing	Not Started	Evolved
19	2	10	1	6

TASK #74

In conjunction with this progress report, a new Manawatū River Leaders' Accord website was launched. The new site includes a dynamic map to highlight key sites actions progressed throughout the catchment, the science behind the Accord, dedicated pages for the Tū Te Manawa project, educational resources, ways for our community to see what is being done and how to get involved, as well as links to the Manawatū River social media accounts.

TASK #76

Over the last two years, Horizons Regional Council has delivered more than 50 Waiora Stream Studies to schools and community groups.

TASK #79

The He Ara Kotahi Pathway in Palmerston North is well underway, with the completion of the bridge at Dittmer Drive and all sections of the pathway scheduled for completion in April 2019. Further work in these areas will be funded through the Accord's Freshwater Improvement Fund.



TASK #80

Six of the eight Te Mana o Te Wai Tū Te Manawa whare have been completed. Each includes signage to reconnect iwi and hapū with their awa through historical, cultural and scientific narratives, as well as providing a place for people to engage at the river's edge.

TASK #85

Ngāti Kauwhata have held regular hui-a-hapū a iwi in Feilding. They have also conducted wananga korero – special schools of learning for tuna, and sites of importance and significance to upper Ōroua at Apiti, Rangiwahia, and an Awahuri Forest – Kitchener Park Open Day in January 2018.

11. CONTINUE AND ENHANCE MONITORING OF THE CATCHMENT

Total	Completed	Ongoing	Not Started	Evolved
16	0	11	1	4

TASK #89

The Manawatū Catchment is one of the most monitored catchments in the country. Monitoring is completed and reported on by Horizons Regional Council for water quality upstream and downstream of major point source discharges. These results are displayed on the LAWA website, Horizons' website and will also be available in Horizons 2018 State of Environment Report.

TASK #90

From 1 November until 30 April every year, Horizons Regional Council samples for bacteria at 27 recreational sites within the catchment. In 2016 these sites increased from three. Monitoring results are displayed on Horizons and LAWA's websites so that members of the public can make an informed decision about when and where to swim. A wider communication plan also coincides with the monitoring period.



TASK #92

Palmerston North City Council's River Monitoring Plan for increased monitoring of periphyton cover, biomass, and aquatic macroinvertebrates upstream and downstream of the PNCC Tōtara Road wastewater discharge was reported on in September 2018. Horizons Regional Council also continues to monitor upstream and downstream of this site on a monthly basis.

TASK #98

This task has evolved through the Tū Te Manawa project which includes Cultural Health Index monitoring of each of the eight whare sites. Reporting of these can be found on the new manawaturiver.co.nz website.

12. EXPAND THE MANAWATŪ RIVER LEADERS' ACCORD

Total	Completed	Ongoing	Not Started	Evolved
3	0	3	0	0

TASK #102

Horizons Regional Council submitted to the Ministry for Primary Industries Hill Country Erosion fund in October 2018. The application sought to increase input of central government's contribution to the SLUI programme to build on work already underway, including the recent Provincial Growth Fund allocation awarded in June for further forestry in the region.

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