

Wairarapa Water (WWL)FAQ

- 1. Q.** What is water security?
A. This means that as a community we make sure we have water stored somewhere to be available for when water runs out.
- 2. Q.** How do we get water security?
A. By harvesting and storing water when it is plentiful, so that it is available when we need it most.
- 3. Q.** Why does the Wairarapa need water security?
A. The Wairarapa is at the extreme end of climate change predictions, with significantly hotter temperatures and increase in drought expected in the future, according to the National Institute of Water and Atmospheric Research (NIWA).
- 4. Q.** How will water storage help the Wairarapa community?
A. If we have stored water, we can use it when the dry weather hits us each year. It can provide for Tangata Whenua, kaitiakitanga and cultural activities, will help the rivers, support towns and businesses, and provide water to farmers so they can grow our food.
- 5. Q.** Will this water storage lead to more dairy cows in the Wairarapa?
A. No. WWL has a loan from the Government and as part of the loan conditions water cannot be used for further dairy intensification.
- 6. Q.** What does land-use change mean?
A. This is when landowners opt to change how they use their land. Many farmers are choosing to do this because of expectations around better land and water management. Wairarapa Water has funded research on how water reliability can help farmers change the way they farm to better meet environmental targets.
- 7. Q.** Is water storage the only way to get water security?
A. Ensuring the Wairarapa's resilience as we face climate change challenges is complex and several options, including possible nature-based ones, are being explored. That is why a Wairarapa Water Resilience Committee for the region has been established, Wairarapa Water is working closely with it. See FAQ below: 36
- 8. Q.** What are nature-based solutions?
A. Nature-based solutions refers to the sustainable management and use of nature for tackling socio-environmental challenges. The challenges include issues such as climate change, water security, water pollution, food security, human health, and disaster risk management.
- 9. Q.** Who is Wairarapa Water?
A. WWL is a simple limited liability company that was set up in 2018 following eight years of GWRC-led investigations on water storage initiatives. It has a single shareholder (the Wairarapa Regional Water Trust); The final structure of the company that will construct the Reservoir and operate / maintain the Scheme has not yet been determined, and consultation with water users on the most suitable structure has commenced and will be ongoing whilst this is finalised. The structure may be a co-operative in which case, funds will be re-invested into the Scheme, or it may be a commercial model in which case cornerstone investors will receive a return on their investment.
- There is no profit component to WWL. Whilst the project is being investigated all funds have been allocated to project development and all will be expended in the effort to take this project through development to Scheme Financial Close.
- 10. Q.** What is the Wakamoekau Water Community Storage Scheme?
A. The Wakamoekau Water Storage Scheme (WCWSS) involves construction of a reservoir in the hills north west of Masterton, with a storage capacity equivalent to 7,600 olympic swimming pools (20 million cubic metres of stored water). It is being investigated in detail and is supported by the Government through the Provincial Development Unit. WCWSS is about doing water storage in a different way. By different, we mean sustainable water storage that delivers positive outcomes to the whole community. It is about helping build a vibrant and resilient Wairarapa community for generations to come. In doing so carefully balancing the cultural, social, environmental, and economic needs of our region.
- 11. Q.** Who will pay for it?
A. Whilst the ownership structure has yet to be proposed and agreed other water storage schemes in New Zealand have been based on a cooperative model whereby water users purchase shares or water rights, and this determines how much water they are allocated. The final ownership structure will need to ensure that the scheme is fully funded and that ongoing operational costs are met by the water users. Councils (and ratepayers) would not be expected to contribute to the cost of the scheme unless the council is purchasing water for its own use, unless the benefits were clear to the ratepayers, or unless there was an arrangement based on commercial arrangements such as a loan.
- 12. Q.** What will it cost to build the reservoir? How much will people have to pay to get water from the reservoir?
A. We are not at the point in our project development

to confirm the cost of the water and the infrastructure. We understand it has to be affordable and must show a positive benefit to the 'do nothing alternative'. We have a prototype design, and we are now in the process of optimising the design, understanding operational requirements, and hence ultimate cost.

13. q. Who is backing this project?

A. Our project is supported by the Government via the Provincial Growth Fund (PGF) and Greater Wellington Regional Council (GWRC) and is guided by investment principals to:

- Strengthen regional economies by shifting to higher value sustainable land uses
- Address disparities in Māori access to water for land development
- Support micro to medium-scale water storage projects that strengthen regional partnerships and provide wider public benefits

It is also supported by employers and industry in the Wairarapa as well as landowners. Iwi has indicated support for the process we are going through, and we are working with tangata whenua in partnership, including the sharing and receiving of information. Wairarapa Water continues to engage with a wide group of stakeholders on this project.

14. q. Why co-funding?

A. To receive PGF loan funding we have to demonstrate community support via co funding. Co-funding comes from councils, industry, general supporters and landholders. The benefit of landholders providing a small contribution at this early stage is that it informs the early design decisions around distribution and ensures that project continues to have confidence and support of Government.

15. q. What is the water for?

A. Initial demand for the water has come from:

- Tangata Whenua (Kahungunu ki Wairarapa) who see opportunities for their whanau, hapu, communities and environment.
- Masterton District Council who is interested to understand how they can access municipal water in case their water runs out / increase capacity for growing populations and who wish to maintain the health of waterways in the catchment.
- Carterton District Council who currently delivers to businesses at the Waingawa Industrial Estate.
- Industry such as factories and construction companies who are worried they will run out of water which will impact their commercial sustainability.
- Landowners who are worried that because of climate change and new regional (Whaitua) and national (Freshwater regulation) environmental regulations to keep our rivers healthy they will run out of water which they currently have access to for their farming, horticultural and viticultural operations.

16. q. Do they have to pay for it?

A. Yes. There will be three costs to the water for those who join the scheme: investment in the final stages of the design optimisation process and contractor selection; investment in construction and then meeting the ongoing operational costs of delivering the water. The final ownership structure and hence how costs will be determined has yet to be agreed.

17. q. Will the scheme deliver water to me?

A. At the moment the delivery reach of the scheme is not certain and relies on engineering design work and costings to be completed. WWL aims to make water as widely available as possible within the Wairarapa.

18. q. Will the reservoir mean we do not have water restrictions?

A. Masterton District Council have said that they would like to access water from the reservoir should they need it if they run out. MDC currently has three days worth of stored water, water from the WCWSS can enhance that resilience. The WCWSS will not solve all of the water scarcity issues, we all need to save water and ensure water resilience for the region. See above Q&A on 'What is the water for'.

19. q. What happens if there is an earthquake?

A. As we all know, the Wairarapa does have many fault lines, and as with all earthquakes we cannot fully predict what will happen - in our cities or at the WCWSS, so yes there is risk to the community if there is an earthquake. We have done significant and comprehensive research using numerous experts to simulate what would happen in the worst-case scenario. As a result, the WCWSS will be designed to withhold a seismic event of a magnitude and force calculated on deterministic and probabilistic modeling. The reservoir will be designed to the highest standard and adhere rigorously to New Zealand's Society of Large Dam (NZSoLD) Safety Regulations and the design will be peer reviewed both by WWL and GWRC i.e., three sets of engineers will review the design before approval.

20. q. Is the Wakamoekau damming a river?

A. The scheme relies on taking water during periods of higher flow from the Waingawa River and transporting that water to a reservoir to be created by two dam structures. The Wakamoekau creek will flow into the reservoir and then out the other side of the reservoir so the stream will always continue to flow. As the Wakamoekau is a stream that runs into the Waipoua River it is characterised as a 'river' so the WCWSS is 'in-river' storage.

21. q. How will the Wakamoekau help our Wairarapa rivers?

A. The stored water will be released at the right time and with the right amount to ensure that downstream the Wakamoekau can remain healthy and sustain its ecosystem. This will be particularly important in summer. There is a specific amount of water to be held in the reservoir which has been specifically kept aside for this. This is called 'environmental allocation'. This means we will adhere to Te Mana o Te Wai see more information below.

22. q. Which rivers will benefit from the WCWSS?

A. The Wakamoekau Creek, downstream of the Reservoir, will benefit from a protected daily environmental flow and flushing flows as required which take precedence over all other water uses; this water will flow into the Waipoua River, a tributary of the Ruamāhanga River. Water users who currently access water from rivers or connected bores will supplement or replace their current water source with this scheme water which will reduce the drawdown on the Ruamāhanga and Waingawa systems. We estimate Scheme water will also seep into the ground augmenting groundwater aquifers. A total of 15% or approx. 3 million cubic metres per year has been allocated to environmental and cultural flows. Water for the Scheme will be captured during periods of higher flow when there is significant rainfall in the high country, i.e., the Tararua Ranges, this will have the impact of removing some of the high flow protecting downstream rivers and residential areas from storm / flood damage.

Capturing water at higher flows will attenuate or slow down the speed at which water will travel down the catchment.

Currently, water users have an allocation under their consent, and they tend to use less than their allocation which makes that water unavailable for others to use. This results in inefficiency of water allocation. In the WCWSS the user will need to order their water and can only take what they order. This increases the efficiency of water use.

New Freshwater National Policy Statement for Freshwater (NPS) and National Environmental Statement (NES) mean that councils and landowners will need to operate within new environmental limits which are designed to improve water quality and encourage more efficient water use. Part of the water supply agreement (the contract) between WWL and the water user will include requirements to prevent negative impacts on the environment through the implementation of Farm Environment Plans (FEPs) which will be audited independently regularly. The template for plans will be developed in collaboration with council and key stakeholder groups, focusing on good practice for key management areas e.g., irrigation management, water use, nutrients, and mahinga kai. WWL will provide a report to the community each year, and WWL will identify any opportunities for users to upskill or education to improve.

23. q. Will the WCWSS make our rivers swimmable?

A. The Wairarapa rivers at times have restrictions placed on them for people to avoid using the rivers for recreational purposes and whilst the scheme will assist it is not in itself large enough to remedy all issues.

24. q. Will the Wakamoekau cause flooding downstream?

A. Releases from the reservoir will be controlled, and will only occur when extra water is required by users. The distribution system will be designed to manage supply for users.

25. q. How is WWL working to the principles of the Treaty of Waitangi?

A. WWL is committed to working in partnership with Iwi. This means an obligation to act reasonably, honourably and in good faith from the principles of reciprocity and mutual benefit. Specifically, a duty to make informed decisions, a commitment to a genuine effort to work out agreements of issues between us, to owe each other cooperation, and a duty to consult.

26. q. How will Iwi benefit from this project?

A. We are endeavouring to work closely with Wairarapa Iwi to ensure they have every opportunity to determine how they benefit from this project. As part of the consent for this project, a Cultural Impact Assessment will be completed which sets out the values of Tangata Whenua in the area, how the project may affect these values and what the opportunities are to achieve maximum benefit on cultural values.

27. q. How will the project give effect to Te Mana o Te Wai?

A. Storage which only utilises water stored in higher flow that aligns with Te Mana o Te Wai and prioritises:

- Protecting the health of the water with a first rank to environmental allocation
- Providing for urban supply
- Providing for Iwi aspirations

28. q. What will the environmental and cultural impacts of the project be?

A. The Wakamoekau consists of a reservoir in a natural valley basin of pastureland located in the hills north-west of Masterton. It will be filled with water harvested from the nearby Waingawa River and upper Wakamoekau Creek only during periods of higher flow and stored to distribute in the dry months when required.

The site of the proposed reservoir was selected following lengthy processes where numerous sites were identified and deliberated by the Greater Wellington Regional Council alongside Iwi, local stakeholder and governance groups. It has been farmland since the 1940s with only a handful small, predominantly man-made wetlands which are heavily modified and generally exotic species dominated.

We plan to regenerate and develop a large wetland and develop much of the reservoir border in natives as part of the project. Similarly, we plan to protect and enhance streams for amenity value and ecological benefits.

In hot dry summer periods, the Wakamoekau Creek flow slows significantly with a resultant detrimental impact on downstream flora and fauna and water users. The WCWSS will ensure that a minimum environmental flow is released consistently from the reservoir even in these dry times helping enhance downstream ecological values.

Regenerating the site area from its near century-long life as pastureland will create ecological and educational benefits and will hopefully link into other native planting corridors being developed in the Wairarapa region.

Unfortunately, the Reservoir will not be suitable for fish due to the change in water levels. There is whitebait upstream of the Reservoir but these are not migratory so the Reservoir will not impact them and will act as protection from predatory migratory species.

29. q. How has WWL been consulting with the community?

A. WWL has a comprehensive stakeholder engagement plan which is regularly reviewed and refreshed to ensure we are responding to community concerns. We have been meeting with directly impacted stakeholders, Iwi and those who have expressed an interest in the Project. We have also met or offered to meet with other community / environmental groups. We meet regularly with the councils and other local decision makers. We have a public website (www.wwl.net.nz) and send out regular newsletters to a database of over 400. We have publicly shared information on the project and encourage people to contact us in the local Wairarapa newspapers. We have and continue to take interested groups on site tours which include Q+A feedback. We have presented and continue to present to interested parties. The resource consent application process is an all-inclusive open process where WWL and council will be seeking interested parties to share their views on the Project and an opportunity to address and incorporate ideas from community groups into the Project.

30. q. How does the Project align with the Whaitua Implementation Plan and the Water Resilience Strategy

A. Ruamāhanga Whaitua Implementation Plan vision is “Wairarapa – where water glistens” and a number of values have been agreed. The WCWSS will help the community meet some of those value expectations, some are described below.

- We are all connected to the water, so we are all equally responsible for creating a more natural state - WWL will enable a greater awareness of how to better value water by allocating water according to Te Mana to Te Wai and by demonstrating the benefits that careful and fair water management can bring. It will connect to water through the implementation of environmental management plans and ensuring waterways and supporting habitats are maintained and enhanced.
- Holistic land and water management creates resilience - This will be done through the establishment of Farm Environment Plans (FEPs), by working with Iwi and other stakeholders to create an integrated catchment management area to focus on this to ensure Te Mana o Te Wai and incorporate other values for water such as mahinga kai.
- Recreational and cultural opportunities are enhanced - WWL is working with Kahungunu ki Wairarapa to establish educational and recreational opportunities for local community groups and Iwi at the site and in the surrounding areas. Through this we can share tangata whenua history, cultures and values, catchment history, conservation and future catchment management will be shared and championed.

- Sustainable economic future - The WCWSS will provide security for local businesses who are at risk of closing due to water restrictions. Secure water supply creates opportunities for new land use or industries to set up in the region.
- Water quality improving - Through the WCWSS freshwater quality will be managed at an individual user level through Farm Environment Plans (FEPs), then at a sub-catchment level through an annual report and assessment, monitoring of water quality and increasing water quantities in catchments.
- Ecological enhancement is sustainable. As part of this project, we will be establishing wetlands, planting indigenous forests and riparian and other native planting.
- Ko wai, mo wai, no wai - waterways connect communities, there is a sense of identity for people and water. We are working to establish educational and recreational opportunities for local community groups and Iwi at the site and in the surrounding areas where tangata whenua history, cultures and values, catchment history, conservation and future catchment management will be shared and championed.
- There is safety and security of drinking water supplies - The WCWSS will bolster council water storage capacity and additional source for drinking water.

31. q. Will the storage reservoir run out of water and how often?

A. The aim of the project is to deliver reliable water to users. Extensive work is currently taking place which will look to reinforce the initial work done which indicates the reservoir will fill and be able to deliver water to a reliability of greater than 90% on a volumetric basis. The additional work will involve modeling around rainfall patterns and infill data. It is estimated the reservoir will be filled through pumping from the Waingawa River during periods of higher flow (75%) and collecting flows from the Wakamoekau Creek (25%) as it flows through the reservoir area.

32. q. What happens if the scheme does not proceed?

A. WWL is committed to thoroughly exploring this scheme to determine firstly if it can be engineered and built, secondly if it can be fully consented and thirdly if it can be constructed and operated in an economic manner which adds value to the community, landholders and other water users. If one or more of the above objectives cannot be satisfied then WWL would advise the government, councils and landholders of this decision. Any loans or contributions at that point would not be refunded as it would have been expended to co-fund the investigations.

33. q. Catchments in the Wairarapa are already compromised, over allocated and strained, will the WCWSS only increase land intensification and lead to further decline in water quality?

A. WWL acknowledges that catchments in the Wairarapa need more care and believes that the WCWSS will assist with better management and controls.

The WCWSS will only be taking water to fill the reservoir from allocations awarded under the proposed Natural Resource Plan rules by consent. These allocations will be for water during periods of higher flow not when water is in short supply.

In terms of intensification, WWL has invested considerable resources in the development of an alternative land use strategy in association with Leftfield Innovation, where the soils and topography of the Wairarapa are matched to the environmental requirements, available water, and the market to identify near term opportunities as an alternative to traditional commodity intensification. This series of reports and case studies is available. This is not 'new intensification' and those getting water from the WCWSS will be under close management and efficient use of water will improve through the implementation of environmental management plans.

In hot dry summer periods, the Wakamoekau creek flow slows significantly with a resultant detrimental impact on downstream flora and fauna. The WCWSS will ensure that a minimum environmental flow is released consistently from the reservoir even in these dry times helping downstream.

Some water will be used to plug the reliability gap that the raising of minimum flows as recommended by the Ruamāhanga Whaitua Committee will create.

To adhere to funding requirements, the project must adhere to PGF water principles.

34. Q. The area that the reservoir will supply water to is limited. Yet you say this is about making us resilient. There are limits to what you can do.

A. This scheme is not a solution to water resilience. This scheme is one part of the wider water resilience strategy needed to protect the Wairarapa region. We have consistently and publicly stated that a range of initiatives are required to better value water, to conserve it, store it and protect it.

The WCWSS is part of a wider journey - that of water resilience for our region, and WWL would like to assure everyone that we recognise that the reservoir is not the only solution to creating water security to the Wairarapa. The region will need a balance of solutions to ensure its long and short-term resilience. Development of water consciousness and nature-based solutions are also critical - and we fully support this.

The reservoir will deliver up to 20 million m³ of water into the catchment in the dry season each year. Current allocations from surface and groundwater are 190 million and 76 million m³ respectively, so the WCWSS will contribute roughly 8%

Whilst water can theoretically be delivered across a wide area within the Wairarapa realistically the WCWSS will only supply within a distribution area which will be limited by transmission methods and affordability of delivery,

35. Q. Don't we need to save water first before we create cost by building new reservoirs?

A. Yes. Water needs to be valued and more needs to be done to encourage and to enforce the more efficient use of water. We are seeing many examples of this in industry and on-farm. We all need to do our part to protect the community from the risks of climate change. We need to save water, but we can also be strategic and use creative and efficient solutions to prepare for the future. There are always multiple solutions to a problem, some of which are being explored by the Wairarapa Water Resilience Committee.

36. Q. Is there the right kind of rock on the site area to build a dam?

A. GHD and their nominated sub-contractors have been investigating the proposed reservoir site to ensure that the site is suitable for the WCWSS reservoir. These investigations have included drilling test bore holes and test pits to allow the subsurface soil and rock to be analysed. A variety of soil and rock types are required for construction of the dams. Investigations are ongoing and GHD in conjunction with WWL are investigating sources both on site and in close proximity. It is prudent that more than one source for each type of required material is identified. At this time GHD believes that suitable material for all construction purposes is available either on site or in close proximity.

37. Q. Some people say there are better and more natural ways to store water. Why do we need to spend all this money and take all this risk if there are less expensive and more natural ways?

A. As reflected in the United Nations world water development report of 2018, there are two types of infrastructure – green (natural) and grey (built). It makes the point that there are real opportunities for optimization when grey and green infrastructure operate together. "Green versus grey is not a narrative about heroes and villains, but about building natural resilience with resources at our disposal."

There are multiple solutions to providing water security, and all need to be looked at. The idea of a reservoir was initiated 20 years ago, and over the last six years as the weather in the Region has become more extreme (see NIWA's climate change reports) was investigated in earnest by numerous experts with support from local and central government as one of a number of options to protect the region's GDP, its people and environment.

WWL has been set up to explore the option of built (grey) infrastructure initially as an option to provide water security to leverage and complete the quality work initiated by GWRC. WWL supports nature-based solutions and our shareholders, the Wairarapa Water Regional Trust have the development of nature-based systems as one of their objectives.

The aim is to develop a balance of water infrastructure and nature-based climate change solutions that contribute to a growing and resilient future for the Wairarapa.

The Wakamoekau is part of a wider journey - that of water resilience for our region, and WWL recognises that the reservoir is not the only solution to creating water security to the Wairarapa. The region will need a balance of solutions to ensure its long and short-term resilience. Development of water consciousness and nature-based solutions are also critical – and we fully support this.

38. Q: Will construction and operation of the WCWSS increase the Region's carbon footprint?

A: Under the current design the Reservoir and Distribution Network will generate a small amount of hydroelectricity as part of the Scheme and water will be delivered to users almost entirely under gravity limiting the need to pump water.

Being able to supply farmers with a secure water source to grow food and fibre will also reduce the reliance on sourcing feed and raw materials from other regions cutting down on transportation emissions.

Many of the land use changes proposed will also reduce the GHG footprint of the water users when implemented fully.

39. Q: What stage is the project at?

A: A draft resource consent has been submitted to the Greater Wellington Regional Council. Engagement and design continues.

This project is progressing following debate and investigations over twenty years with the last six years funded in more earnest by local and central government. The culmination of this work - the Wakamoekau - is supported by many in the community. Significant time has been spent engaging with a wide range of interested or impacted parties, growing the project team of experts, engaging, and working closely with ecological, engineering, and other experts, and liaising with landowners at the proposed site all which culminated with lodging of a draft resource consent application package for the WCWSS at the end of 2020.

While much work has been done and we are pleased that the draft consent is available to provide a focus to our discussions, we ask that you remain patient with us as this is a journey and there is more to add. We will continue to engage, seek your views, concerns and ideas leading up to our formal application this year. At that point, the resource consent application process is an all-inclusive open process where WWL and the council will be seeking interested parties to share their stance on the project and provide a further opportunity to address and incorporate ideas.

Even without predicted population growth, according to the Wairarapa Economic Development Strategy (WEDS), water demand will increase 15% by mid-century, and 30% by end-century, simply due to climate change. Higher summer temperatures and less frequent rain will result in increasing water loss from evapo-transpiration with limited replacement.

At the same time as this predicted pressure on water availability from both climate change and population growth, new regional freshwater plans mean less water

can be taken from the rivers to adhere to new higher minimum flow requirements. While this is absolutely necessary for river health, it will further exacerbate water supply issues.

The Wakamoekau Community Water Storage Scheme (WCWSS) is an infrastructure-based solution to help ease this pressure, and provide reliability and relief to the environment, our communities, and our regional economy.

The project is being guided by Te Mana o te Wai, now a Government requirement. This means that the water will be prioritised to maintain the health of the water, then provide water for the community, and then for consumptive uses.

Further information can be found here: <https://wwl.net.nz/reports> and here https://niwa.co.nz/sites/niwa.co.nz/files/Well_NCC_projections_impacts2017.pdf