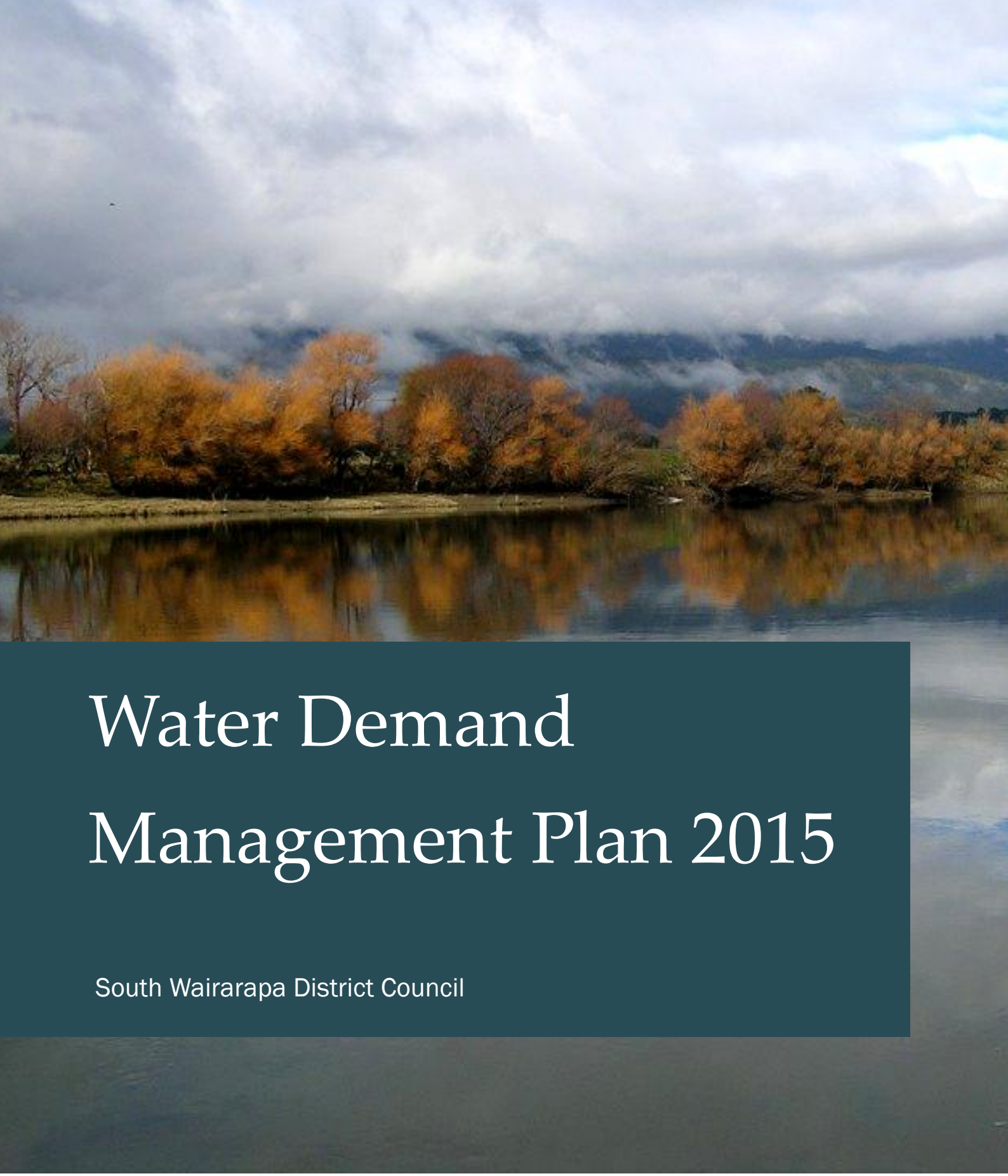


Water Demand Management Plan 2015

South Wairarapa District Council

Contents

Introduction

water conservation strategy in action

The South Wairarapa District Council's Water Conservation Management Strategy 2015 contains a number of actions for the period 2015-2018 and lists possible actions for the period beyond 2018.

This Water Demand Management Plan 2015 provides further detail on those actions, and when they are proposed to be implemented. If you need information beyond what this Management Plan provides, please email the infrastructure department on enquiries@swdc.govt.nz or ring 06 306 9611.

This Plan also sets out details to satisfy the conditions of resource consents granted by the Wellington Regional Council. The consents stipulate that the South Wairarapa District Council needs to operate its water supply systems in accordance with Demand Management Plans, to be approved by the regional council by 31 July 2015.

Water demand management plans need to include the following:

- *Description of the network*
- *Existing and future demand*
- *Methods for water savings*
- *Levels of service and key performance indicators*
- *Low flow management planning*

This document, in conjunction with the Council's Water Asset Management Plan, will help satisfy the consent conditions.

Water is a fundamental need.

It also allows us to live the lifestyles we choose. We need to conserve water together to ensure there is enough for everyone.

The network

water supply description

The South Wairarapa District Council supplies reticulated water to its three urban communities in Featherston, Greytown and Martinborough.

The Council's Water Supply Asset Management Plan September 2014 (the Plan), sets out the detail of Council assets which include water treatment and reticulation assets within the serviced rural and urban communities of Featherston, Greytown and Martinborough. The total population served is 5,925 (2013).

The Plan notes that the Featherston scheme was initially installed in 1965 and serves a population of 2,253 (2013) with 36 kilometres of water mains. Its estimated replacement cost is $12,433,000. The Greytown scheme was initially installed in 1940. It serves a population of 2,202 (2013) with 30 kilometres of water mains. Its estimated replacement cost is $17,136,000. The Martinborough scheme was initially installed in 1960. The population served is 1,470 (2013) and has a replacement cost of $12,485.000.

The water supply systems serve residential, commercial, industrial and community uses in the three towns. In Martinborough five percent of the water use is for agricultural production, wine making and vineyards.

More details about the network are available in the Water Supply Asset Management Plan September 2014 (dated 17/02/2015).

There are six water sources for urban Featherston, Greytown and Martinborough:

Featherston - Boar Bush Gully Catchment

A catchment area of approximately 3km^2 supplies runoff to an earth dam. The reservoir behind the earth dam contains approximately 40 days' storage and includes a settling pond immediately upstream. Water flows by gravity from the reservoir to the Boar Bush Holding Tanks. This source is currently operated as an emergency supply only.

Wellington Regional Council has granted a resource consent for this take (WAR 120050), which expires in 2030.

Featherston - Taits Creek Intake Weir

A concrete intake weir is located across Taits Creek to the north of Featherston. The weir is designed to divert water from the creek into a 300mm gravity trunk main which supplies water to the holding tanks. This source is currently operated as an emergency supply only.

Wellington Regional Council has granted a resource consent for this take (WAR 120050), which expires in 2030.

Featherston - Waiohine River

Water is abstracted from the Waiohine River into a diversion channel (water race) on the river berm and pumped to storage ponds, each having a gross capacity of 18,250,000 litres. There is a proposal to upgrade supply here through three new wells. An application to the Wellington Regional Council to take that water will be required.

Wellington Regional Council has granted a resource consent for the current take (WAR 990142), which expires in 2019. The take must not exceed 900,000 m^3 per year, and no more than 5,184 m^3 per day from September to May and up to 3,000 m^3 per day between June and August.

Greytown - Supplementary Well

This was a supplementary source of water for Greytown but due to production limitations at the Waiohine UF plant it is currently the source for Greytown. The groundwater is abstracted from a single well along Kuratawhiti Street outside the Memorial Baths. Water is pumped directly into the existing mains. This well will be for emergency use only once the current water supply upgrades have been completed.

Wellington Regional Council has granted a resource consent for this take (WAR 120244), which expires in 2037.

Martinborough - Huangarua Intake

A channel intake is located adjacent to the Huangarua River approximately 200m north of Gladstone Road. The diverted water then flows approximately 50m into a well and is then pumped 1km to the four reservoirs. This source is currently operated as an emergency supply only.

Wellington Regional Council has granted a resource consent for this take (WAR 120051), which expires in 2030.

Martinborough - Herricks Wells

Groundwater is abstracted from three wells approximately 2.5km south east of Martinborough and approximately 650m from the terraces upon which the township is located. Water is pumped directly to the Martinborough urban area and the four town reservoirs.

This is the principal source of water for Martinborough and relies on the groundwater aquifer in the vicinity of the Ruamahanga River. The three wells are the preferred source of water for Martinborough.

These reservoirs supply water to the urban area by gravity flow via a 1.8km length of main. As part of the agreement with the landowner, Council can provide water at 20 litres per second from a fourth well. The aquifer water wells have elevated levels of iron and manganese.

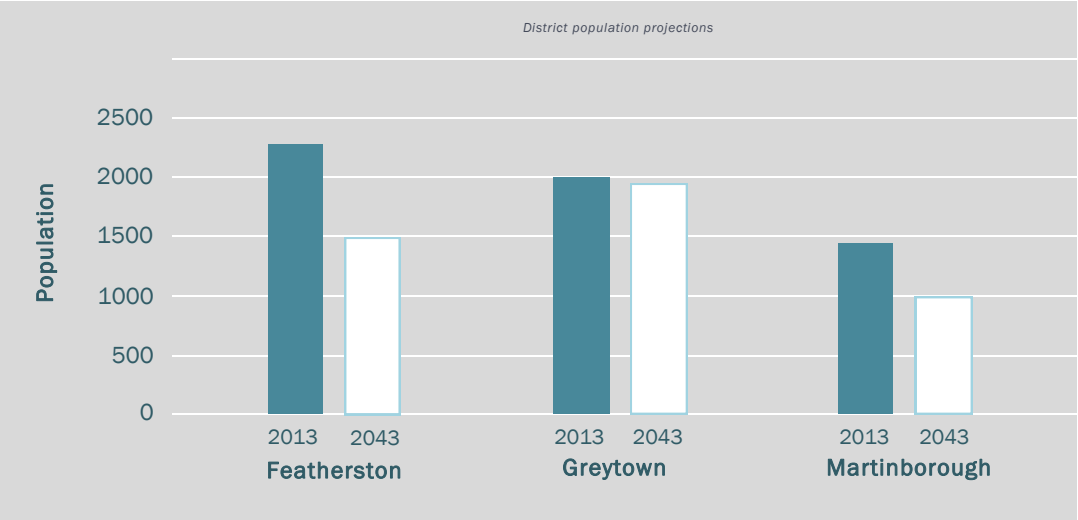
Wellington Regional Council has granted a resource consent for this take (WAR 120245), which expires in 2037. The take must not exceed 900,000 m^3 per year, and no more than 7,776 m^3 per day from October to April and up to 4,000 m^3 per day between May and September.

Demand

existing and future water needs

Future demand for water is related to population growth, number of future connections, water demand patterns, and leak detection and repair activities. Council's Water Supply Asset Management Plan (the Plan) contains a summary of population projections for the next 30 years:

- Featherston will continue to have negative population growth, from 2,253 in 2013 to about 1,500 in 2045.
- Greytown will have marginally negative population growth from 2,202 in 2013.
- Martinborough will continue to have negative population growth, from 1,470 in 2013 to about 1,000 in 2045.



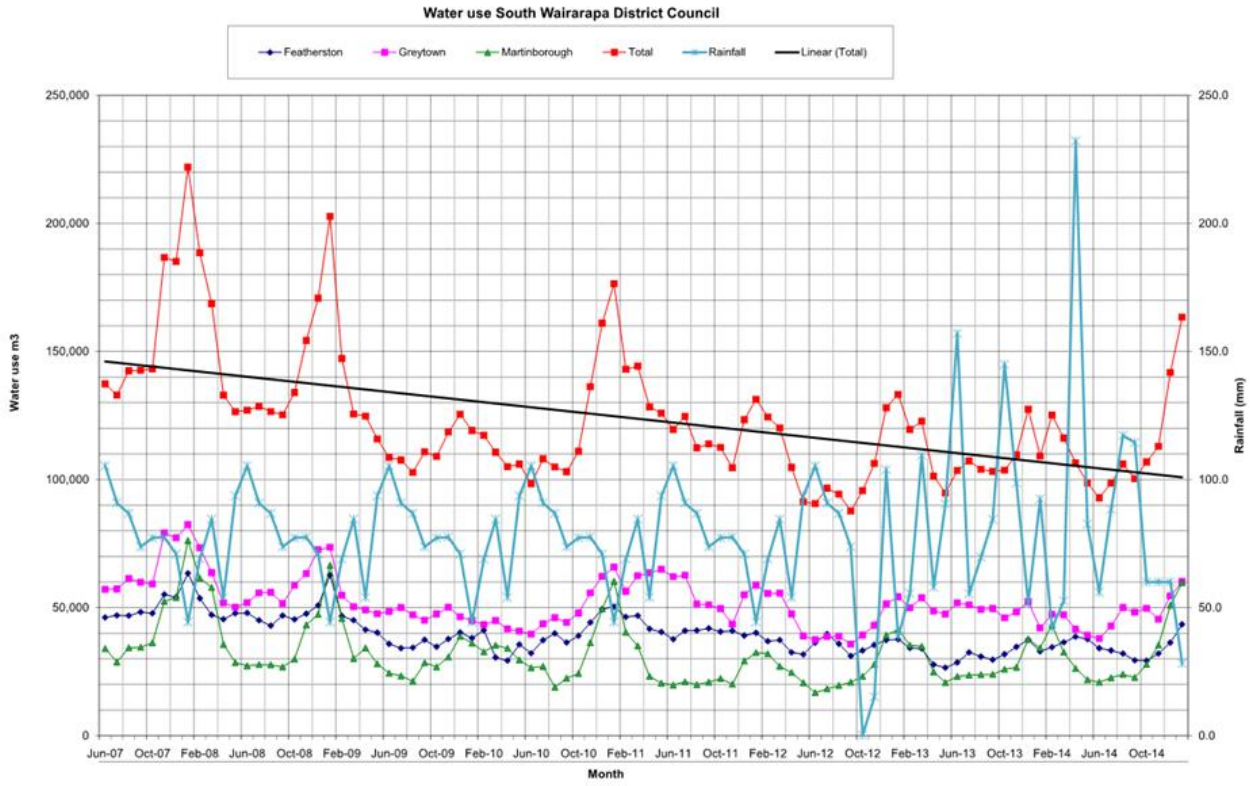
The Plan notes the following number of urban sections that have been created since 2006 due to new subdivision or infill development, and have since been serviced with reticulated water supply:

Town	New Serviceable Lots (2006-2011)	New Serviceable Lots (2012-2014)	Total
Featherston	61	26	87
Greytown	95	64	159
Martinborough	38	116	154
Total	194	206	400

Overall water consumption

The Plan states that the current level of activity indicates a slowing of growth as indicated by new subdivision. Significant growth or take up of water services is not anticipated during the term of the Plan, which considers asset management activities until 2025. The average daily water use for the period 2007 to 2014 indicates that water consumption over all three towns has shown a downward trend.

The adoption of universal metering has reduced the magnitude of peak demand and overall water consumption. These outcomes are consistent with Council's objectives of encouraging sustainable usage of the resource. Water metering will continue as a key means to promote responsible water use.



Leak Repair Programmes

Council will continue with its leak detection programme. Significant levels of Unaccounted for Water (UFW) or leakage were detected in Greytown and Featherston during 2011 and 2012. This loss was addressed by undertaking a programme of repair work within the public network and on private land in each town. The programme is ongoing with leakage surveys carried out for each of the three serviced communities on a regular basis.

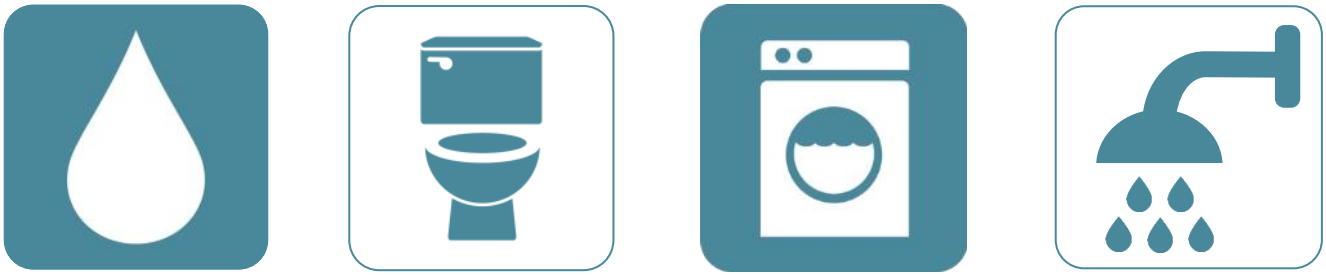
More details about future demand are available in the Water Supply Asset Management Plan.

Methods

our approach to water savings

In line with the Water Conservation Strategy, the Council will take the following steps to promote sustainable use of reticulated water in the District:

1. **Foster a community water conservation culture.**
2. **Put in place regulatory measures to help reduce demand for water, particularly when river flows are low, and environmental impact of water takes is high.**
3. **Have a robust asset management plan in place so that the Council's water supply system is efficient.**
4. **Create clarity about where reticulated water will be supplied and when not.**



Step 1: Foster a community water conservation culture

Establishing a community culture that delivers sustainable water conservation practices requires a consistent approach from the Council with clear and enduring messaging, and engaging relevant community agents to reinforce the messaging.

The key themes and targets for the education campaign are:

- *Spread the message that we are all in the water conservation business together. If the targets from the strategy are not met, it may result in additional community costs such as further water abstraction, adverse environmental effects, water shortages and rates rises to fund additional water storage, increased maintenance and accelerated renewals.*
- *Make water conservation part of everyday life in the District.*
- *Build better relationships with the community and local schools to increase knowledge about water conservation.*
- *Ensure information is effective to enable changes in behaviour.*
- *Increase awareness of the water conservation and efficiency issues facing the district by providing information to businesses, schools, clubs and residents about what technologies are available to meet their individual needs.*

The education campaign will provide information about:

- How to check for leaks around the house
- How to report leaks to the Council
- How to calculate water consumption or see how efficient their shower is
- Where to find information on water conservation and efficiency or purchase water efficient goods and services
- How mulch, water-efficient plants and irrigation tools can reduce the water needs of lawns and gardens
- How water-efficient appliances can reduce water consumption and save money on power
- How bathroom fittings can save water without reducing the enjoyment of a relaxing shower
- How simple actions around the home and business can save water and potentially energy costs
- What options are available for rainwater harvesting, and grey-water recycling and how to install systems
- Water consumption by geographical areas and user groups to provide the ability to target conservation messages by area
- Water consumption patterns and behaviours to help target future water conservation actions

(See the Appendix for further details on conservation education material)

Step 1 will include the following approaches and actions:

A. Council will make relevant and accessible information available to communities on the financial and environmental costs of water use, and will promote the water saving and efficiency practices.

Actions	Timing
Engage the Community Boards	2015
Establish a water conservation web page	2015
Regular reporting of water conservation news in Council publications	2015 - 2018
Issue regular and consistent press releases on water conservation	2015 - 2018
Erect billboards in prominent locations in the three reticulated communities to promote water conservation	2015

(Step 1 continued)

B. Council promoting the introduction of low environmental design practices (e.g. rainwater tanks, dual reticulation of potable/non potable household systems). At this stage, introducing regulatory requirements to install such practices is not considered feasible, economic or necessary. However, voluntary installation is supported and encouraged, and Council will make information available.

Action	Timing
Preparing/adapting information on low environmental design practices. Publish on Council website, and distribute to retailers	2015

C. Council making available education material to schools, community groups and retailers.

Action	Timing
Preparing/adapting of educational material, based on existing information from Wellington Regional Council and other sources. Publish on Council website, and distribute to schools, community groups and retailers	2015

D. Council will be a community leader, establishing sustainable water use practices in its own buildings, parks and reserves. The Council is a major water user and should lead by example and be prudent about its own water use. Set up a project to consider identification and implementation of Council becoming community leader on establishing sustainable water use practices in its own buildings and on its parks and reserves. This may lead to:

- *Applying water saving techniques in Council buildings (water saving nozzles, dual flush toilets) as part of regular maintenance programmes.*
- *Adopting water conservation practices in Council parks and reserves, including increased use of mulch, rain water tanks and acceptance that lawn and sports fields may not always look green in summer.*

Actions	Timing
Establish internal project team	2015
Identify possible actions	2015
Implement low/no cost proposals	2016

E. Council will consider introducing a permissive regulatory framework for rainwater tanks and dual reticulation of potable/non potable household systems, such as waiving or reducing fees on resource consent applications for setback breaches, or a Plan change to enable such activities “as of right”.

Actions	Timing
Council to liaise with other Wairarapa councils on scope of issue and need for review of district plan provisions	2016
Review of fees and charges	2018

F. Council will work co-operatively with the district's largest water users to reduce water use, and communicate the results to the wider community. Set up a project to identify the District's largest water users and to scope possible proposals to reduce water use, particularly at times of low river flows. The Council will be included in this project.

Actions	Timing
Identify largest water users	2015
Establish project team	2016
Develop water saving proposals and implement these	2016 - 2018
Report and celebrate successes	ongoing

G. Council will promote the introduction of low environmental design practices (e.g. rainwater tanks, dual reticulation of potable/non potable household systems).

This is intended to maximise the information available to consumers about technologies and services available and will dovetail with Wellington Regional Council's 'Be the Difference' programme. Replacing older, less-efficient water fittings and appliances will follow a natural course, but an increased level of participation is required to accelerate the process. Dual-flush or low-volume toilets, low-flow showerheads, front-loading washing machines, efficient dishwashers, rainwater harvesting, grey-water recycling and designed irrigation systems possibly make water and energy savings attractive to different users. This work will be advanced by:

- *Providing information to local retailers and service providers to increase awareness of, and access to, water conservation and efficiency appliances, fittings and services.*
- *Increasing knowledge of Water Efficiency Labelling Scheme (WELS) regulations.*
- *In the longer term, possibly adopting pricing structures for water that encourage installing low environmental design devices.*
- *Collect and distribute information on low environmental design practices.*

Actions	Timing
Collect information from Wellington Regional Council and other sources	2015
Publish information on Council website	2016
Distribute leaflets to retailers	2016

Step 2: Put in place regulatory measures to help reduce demand for water, particularly when river flows are low, and the environmental impact of water takes is high.

The purpose of the current Masterton and South Wairarapa District Council's Consolidated Bylaw 2012 (Part 5 Water Supply) is to:

- Identify, limit and restrict water use activities that are not suitable during high demand or drought periods.
- Set a clear expectation that all reticulated water users must comply with notified water restrictions.
- Pass on a duty of care to reticulated water users to ensure that their connection and plumbing is kept in a good state of repair so that water is not wasted.

The water supply bylaw states that the customer shall comply with any restriction or other conservation measures that may be approved by the Water Supply Authority (i.e. the Council) to manage high seasonal or other demands. Such restrictions shall be advised by public notice.

Step 2 will include the following approaches and actions:

A. Use the Masterton and South Wairarapa District Councils' Consolidated Bylaw 2012 (Part Five Water Supply) to continue requiring responsible water use practices by Council's customers.

Actions	Timing
Promote bylaw provisions through Council's ongoing publicity and enforcement action	ongoing

B. Enforce the bylaw's provisions restricting water use for non-essential purposes during periods of high demand and low river flows. This includes providing additional advice, erecting sign boards and additional enforcement action at such times.

C. Develop and implement a programme of seasonal information distribution which will precede possible bylaw restrictions on water use at periods of low river flows and high water demand.

Actions	Timing
Prepare a clear programme of staged information provision and regulatory interventions based on weather conditions and river flows	2015
Train a number of general staff members to enable them to enforce the bylaw provisions on water use, and provide them with necessary delegations to do so	2015

Step 3: Have a robust asset management plan in place so that the Council's water supply system is efficient.

Step 3 will include the following actions:

A. Continue to use Council's successful water metering and pricing system as a demand control instrument.

Actions	Timing
Ongoing application of current system	ongoing

B. Ensure that Council's water supply is well maintained, renewals are carried out before parts of the system lead to inefficiencies, and leaks are detected and repaired in a timely manner. This will include inviting the community to report suspected leaks, and providing timely responses to such reports.

Actions	Timing
Ongoing activities as per Council's Asset Management Plans	2015 - 2018
Use Council's promotion material to invite the community to report suspected leaks and ensuring timely responses to those reports	2015

C. Increase Council's monitoring and investigation of unaccounted water losses, and take action to reduce such losses. This work will include:

1. **Cyclical leak detection** - For the communities of Greytown, Martinborough and Featherston, the Council aims to undertake a leak detection survey every three years. On-site property leakage matters are passed onto the private owners for remediation and in the public network repair work instructions will be given to Council's contractors.
2. **Establishing real water loss** - Council will establish the extent of real water loss within its reticulated systems. Water loss is defined as the difference between System Input Volume and authorised consumption. It can also be described as a combination of real (leaks) and apparent (unauthorised consumption, meter inaccuracies) losses. This will be undertaken annually using Benchloss Marking Software developed by Water New Zealand. The Council has included a realistic target of less than 25% water losses in its Long Term Plan 2015 - 2025.
3. **Setting a water consumption benchmark** - Council has established a demand management level of service in the Long Term Plan for the average consumption of drinking water per day per resident in the district. This benchmark will become a reference level for future demand planning.

Actions	Timing
Cyclical leak detection Featherston	2015
Cyclical leak detection Martinborough and Greytown	2016
Establish real water loss	2017
Set benchmark water consumption levels	2017 onward

Step 4: Create clarity about when reticulated water will be supplied and when it will not.

Council has a policy that restricts new connections in the rural area, subject to a limited number of exclusions. This policy will continue in the short term.

Step 4 will include the following approaches and actions:

A. Continue Council's urban limits policy, that generally no new connections will be provided outside current urban areas.

Actions	Timing
Ongoing application of current policy	2015 - 2018

B. Review reticulated supply used for vineyard irrigation in Martinborough. Council will work with these vineyards to enable a shift to alternative water sources.

Actions	Timing
Establish project group of vineyard operators and Council staff	2016
Identify opportunities for alternative water sources, and establish economic and environmental effects to reduce use of reticulated water for vineyard irrigation	2017
Make decisions about future vineyard irrigation	2018

Levels of Service and Performance Indicators

Chapter 8 of the Draft Water Supply Asset Management Plan September 2014 (dated 17/02/2015) lists the levels of service and performance indicators for the water supply network.

Low flow

management planning

Clause 5.7.3 of Council's water bylaw states that the customer shall comply with any restriction or other conservation measures that may be approved by the Water Supply Authority (i.e. the Council) to manage high seasonal or other demands. Such restrictions shall be advised by public notice.

The Council will use a water restriction and status campaign to inform users of the likely and actual status of the water supply and the level of restrictions that may be imposed.

Council will stage information and introduce restrictions and conservation measures in a logical way, so that the need for actual restrictions will be delayed as long as possible, and possibly prevented altogether.

1: Initial phase - general conservation messaging in summer

Council will promote summer water conservation measures in December, January and February each year. The key message will be that water is particularly precious during summer months. Conserving water means that formal restrictions may not be required or could be postponed.

The messages will concentrate on the avoiding water use for activities such as garden watering other than in the evenings, and promoting the use using hand held devices rather than sprinklers. Car and boat washing should be done using buckets, rather than hoses.

Council will also advise that it will be prudent in water use itself. Irrigating Council reserves and parks may be reduced and people may see the effects.

The general conservation message will be spread by:
Information on the Council website
Public notices in local newspapers
Emails to the District's largest water users
Notices to local community board members
Additional billboards in the three reticulated communities
Emails to the District's schools
Instructions to Council staff and contractors

2: Restriction phase - near critical river flows, drought conditions

This phase will start for Featherston and Greytown when the flow levels at the Waiohine Gorge drop below 3,395 litres per second, and for Martinborough when the flow in the Ruamahanga River falls below 8,500 litres per second at the Waihenga monitoring site. The key message will be that river flows are reaching critical levels, and that formal restrictions have been put in place to safeguard essential use and to protect the environment. Council will stop irrigating its reserves and parks and people will see the effects.

The restrictions will be actively enforced by Council staff, which may include staff not normally responsible for water supply asset management or regulatory enforcement. They will have the appropriate delegations and warrants.

3: Severe restriction phase - extreme drought conditions

This phase will start for Featherston and Greytown when the flow levels at the Waiohine Gorge drop below 2,300 litres per second, and for Martinborough when the flow in the Ruamahanga River falls below 8,500 litres per second at the Waihenga monitoring site. The key message will be that river flows have reached critical levels, and that further formal restrictions have been put in place to safeguard essential use and to protect the environment. Council will stop irrigating its reserves and parks and people will see the effects of this.

The restrictions during extreme drought will be actively enforced by Council staff, which will include staff not normally responsible for water supply asset management or regulatory enforcement. They will have the appropriate delegations and warrants in place.

During restriction and severe restriction phases the following activities will be prohibited:

- Washing cars and boats
- Watering lawns and gardens using sprinklers or hoses
- Washing down or water blasting houses
- Filling water tanks, swimming pools and spa pools
- Commercial irrigation during daytime hours (restricted), or completely during severe restrictions.

The restriction messages will be spread by:
Information on the Council website
Public notices in local newspapers
Notices to local community board members
Emails to the district's largest water users
Additional billboards in the three reticulated communities
Emails to the district's schools
Instructions to Council staff and contractors

Appendix : Examples of water conservation information

If every person in the District uses less water everyone will win. By reducing water use you will save money on your water bill. The community will save on water production costs like electricity to run the pumps, treatment plants, pipes and reservoirs. The environment will also win.

There are lots of ways to save water and they all start with you!

General

Check for leaking pipes. Turn off all your taps and check to see if the water meter is still turning. If it is, you probably have a leaking pipe. Call a plumber - a leaking pipe can waste over 400 litres an hour (that's over 3,504,000 litres of water a year).

Fix dripping taps. You can save up to 100 litres a day (that's up to 36,500 litres of water a year) just by replacing a worn washer.

Make sure your hot water system thermostat is not set too high. Adding cold water to cool very hot water is wasteful.

Aerated taps are inexpensive and can reduce water flow by 50%.

A running tap can send 14 litres of water down the drain every minute!

Kitchen

For rinsing dishes or washing fruit and vegetables, half-fill your sink with water rather than leaving the tap running.

Use a compost pile or worm farm for food scraps rather than a waste disposal unit.

Waste disposal units use about 30 litres of water per day and send a lot of extra material into the sewers. This places an additional load on sewerage treatment plants.

Use economy settings for small loads in your dishwasher, or only do full loads.

Each time you use a dishwasher you use on average 40 litres of water, or 14,000 litres a year.

When buying a new dishwasher, choose one that is water efficient.

Keep a container of chilled water in the fridge, rather than running the cold water tap until the water is cold.

Bathroom

Turn the tap off when you're brushing your teeth or shaving. If you brush your teeth twice a day, for two minutes each time, and leave the tap running, you waste approximately 56 litres per day – that's over 20,000 litres a year per person.

An average shower head with mains pressure uses at least 12 litres of water per minute. If you have an 8 minute shower that is 96 litres per day or 35,040 litres per year.

A water efficient/low flow shower head can reduce your water usage to between 5 and 7 litres per minute. They can cost as little as $50 and can save up to 50 litres of water for each six minute shower, or up to 20,000 litres of water per person per year. An efficient shower will also reduce your power bill, as you use less hot water.

Showers use much less water than baths. The average bath uses over 150 litres. Only fill the tub with as much water as is required, for example you don't need so much when bathing children.

Take shorter showers - it will save you time and hot water costs.

Washing cars

Use a bucket to wash cars, then rinse off with the hose.

Wash your car on your lawn if possible to avoid detergent and other residues from entering the stormwater system. This has the added benefit of watering your lawn.

Alternatively, wash your car at a car-wash that drains into the wastewater network.

Toilet

The average single flush toilet uses 11 litres per full flush. A house with 3 occupants flushes, on average, 15 times per day which is 165 litres per day or over 60,000 litres per year.

Modern dual flush toilets use only 3 or 6 litres of water per flush. This is 30% less than older dual flush cisterns and up to 8 litres less than single flush toilets.

A flush control device, such as a gizmo, will save significant amounts of water on most types of toilet cistern. It can save up to 30,000 litres per year.

If you can't install a gizmo a brick or zip-lock plastic bag filled with water can be placed in the cistern to reduce the amount of water used for each flush.

It is common for toilet cisterns to leak or overflow. A leaking toilet wastes litres of water each day. Check for leaks by putting a few drops of food dye into the cistern. If you have a leak, coloured water will appear in the bowl before the toilet has been flushed. If you have a leak either adjust the water level in the cistern or you may have to get it repaired.

Check your toilet and hot water overflow pipes are not leaking.

Laundry

20% of your water is used in the Laundry.

Ensure you have a full load, use economy settings or adjust the water level to suit the size of the load.

Top loaders use 200 litres of water on average.

Save water by reducing the rinse cycle.

When buying a new washing machine, choose one that is water efficient. Front loaders use about half the water that top loaders use.

New washing machines use between 45 & 165 litres per load.

Save your 'grey water' from your washing machine rinse and use it to water the garden.

Rainwater tanks

Install a rainwater tank or barrel to reduce your water bills. Rainwater is free!

A rainwater tank can be a useful water source for watering the garden or washing the car.

Rainwater tanks reduce the load on stormwater systems, as roof runoff is not flushed into the drains.

Outside

Water the garden early in the morning when the air is calm. Watering in the evening is the next best option. Heat and wind cause water to evaporate quickly.

Use a timer to remind you to turn off the sprinkler.

Don't leave hoses running. A running hose can waste up to 1000 litres of water per hour.

Check for leaks on hoses and taps.

Use mulch to minimise evaporation, inhibit weed growth, and prevent erosion.

Use a broom instead of the hose to clean paths and driveways.

Over 80% of the water used in your home ends up as wastewater (sewage). If you reduce your water usage you produce less wastewater. That means that less treated wastewater is discharged into the environment.

Adjust sprinklers so they do not spray on paths, driveways and buildings.

When you clean your fish tank, use the 'old' nitrogen and phosphorous-rich water on your plants.

Group plants with similar water requirements together so that you can tend to them without overwatering other plants. Native plants require less water.

More information

http://www.gw.govt.nz/water-conservation/

http://www.waimakariri.govt.nz/Libraries/Fact_Sheets/Water_Conservation_brochure.sflb.ashx

https://www.healthed.govt.nz/system/files/resource-files/HE4604-SaveWaterA4-WEB.pdf

http://www.trc.govt.nz/assets/Publications/information-sheets-and-newsletters/recycling-and-waste-information-sheets/watersaving.pdf

https://www.tauranga.govt.nz/sustainable-living/water.aspx