



**Report To:** Strategy and Policy Committee

**Meeting Date:** 4 August 2021

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**Purpose:** To review the recent water shortage events in the Bay of Plenty, and to approve delegation for issuing future Water Shortage Directions

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## **Water Shortage Events: Review of the last two seasons and renewing delegation for future events**

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### **Executive Summary**

The Resource Management Act 1991 provides a specific statutory tool for Regional Council to use when there is a serious drought situation and where stream water flows are much lower than normal, or groundwater levels are in decline. Section 329 enables Councils to issue a water shortage direction to water users, stopping or restricting the abstraction of water regardless of whether they are operating under a consent or utilising the Council's Permitted Activity rules.

A Standard Operating Procedure for managing a water shortage event and issuing a water shortage direction was prepared and approved by Council on 10 March 2020. At the time of adoption, delegation was given to the Chief Executive for issuing water shortage directions for a period of 15 months (i.e. June 2021).

Given that the March 2020 meeting was the first time Council had adopted a process for managing water shortage events, a resolution was included requesting that prior to extending the delegation a report be prepared reviewing the impacts and effects of the Standard Operating Procedure.

This report reviews the last two drought seasons, proposes a revised Standard Operating Procedure which includes learnings gained over the last 15 months, and seeks ongoing approval for delegation to the Chief Executive for issuing Water Shortage Directions.

### **Recommendations**

**That the Strategy and Policy Committee:**

- 1 Receives the report, Water Shortage Events: Review of the last two seasons and renewing delegation for future events.**

- 2 Approves the revised Standard Operating Procedure (July 2021) that has been developed to manage and respond to water shortage events in the Bay of Plenty.**
- 3 Delegates the responsibility for issuing a Water Shortage Direction under Section 329 of the Resource Management Act 1991 to the Chief Executive.**

## 1. Introduction

The Bay of Plenty, along with many other regions in New Zealand, has recently been experiencing drier than normal conditions. The extended dry period has placed considerable natural pressure on many of our region's waterways.

A Standard Operating Procedure (SOP) for managing Water Shortage Events (WSE) was adopted by Council on 10 March 2020. The SOP has been a very useful tool in determining and managing our response to the low flow events of the last two years.

The full March 2020 report, which explains the background to what a water shortage event is and details what the three level SOP is, can be accessed here: [Managing and responding to water shortage events: 10 March 2020](#)

When Council adopted the SOP, they also gave delegation for issuing a Water Shortage Direction to the Chief Executive. However, this delegation was to be reviewed after 15 months.

This report recommends several amendments to the SOP based on learnings of the last 18 months, and suggests ongoing delegation to the Chief Executive.

It also acknowledges that more robust policy will be developed through the current National Policy Statement for Freshwater Management (NPSFM) process, so it is expected that further refinement, or complete replacement, of the SOP will likely occur prior to 2025.

### 1.1 Legislative Framework

Section 329 of the Resource Management provides the ability to issue a Water Shortage Direction (WSD) relating to the taking, use, damming or diversion of water, as well as to the discharge of any contaminant into water. The section allows for a WSD to apportion, restrict, or suspend an activity to the extent set out on the direction.

A WSD may not last for more than 14 days but can be amended, revoked or renewed by a subsequent direction. A WSD can relate to any specified water, in any specified area or to any water body.

The conditions of a WSD override all consent conditions, even the more recent consents that contain low flow management conditions i.e. in layman's terms, a WSD trumps all consent conditions.

### 1.2 Alignment with Strategic Framework

<b>A Healthy Environment</b>	We manage our natural resources effectively through regulation, education and action.
<b>Freshwater for Life</b>	We deliver solutions to local problems to improve water quality and manage quantity.
<b>The Way We Work</b>	We use robust information, science and technology.

### 1.2.1 Community Well-beings Assessment

Dominant Well-Beings Affected			
<input checked="" type="checkbox"/> Environmental	<input checked="" type="checkbox"/> Cultural	<input type="checkbox"/> Social	<input checked="" type="checkbox"/> Economic
High - Positive	Medium - Positive	Low - Positive	Low - Negative

## 2. Background

The Bay of Plenty, along with many other regions in New Zealand, has recently been experiencing drier than normal conditions. In fact, during the last two water years, parts of the Bay have had rainfall of less than 50% of their average summer rainfall and less than 75% of their annual normal rainfall.

The extended dry period placed considerable natural pressure on many of our region's waterways. For example, low stream flows across the Bay of Plenty (particularly in the west) were common during the summer of 2019/20, while during 2021 several streams between Rotorua and Tauranga recorded their lowest flows in decades.

The warm and dry conditions experienced over the last two years also meant that there was increased demand for water from commercial, agricultural, horticultural and municipal abstractors. Combined with the natural effects of lower stream flows, increased water use can place additional pressure on our freshwater resources.

It must be noted that the event of 2019/20 coincided with the arrival of the COVID-19 pandemic. This added a degree of complexity to both our response and also to our ability to gain a clear understanding of the impacts of the drought - we simply couldn't spend much time in the field.

The COVID-19 event also added a layer of complexity when thinking about potential restrictions, as we were conscious of both the wellbeing of the community and our own staff if restrictions were put in place.

Throughout the last two dry seasons the Standard Operating Procedure (summarised in the graphic below) was very useful in determining our response to the low flow events of the last two years.

Over the last 18 months we moved between Level 1 (Normal water) and Level 2 (Impending water shortage). However we have not moved into Level 3 (Water shortage event - issue direction) since adoption of the SOP.



## 2.1 What's happened over the last 18 months?

As stated above, the SOP has been helpful in navigating through the dry conditions over the last 18 months. Discussion on how we operated in line with the SOP is detailed in section 2.3 of this report. Several internal processes have been developed over that time that have helped with our response.

An example is the development of the Adverse Event Situation Reports that have been regularly issued over the last 18 months. They combine information from our Council's network of monitoring stations (rainfall, flow, groundwater level and soil moisture) combined with climate and meteorological information from MetService and NIWA. Not only have these been vital in keeping an eye on flow and rainfall trends, they have also been very useful in forecasting what may happen over coming days/weeks/months. The Situation Reports were very positively received by our various stakeholders, and helped them inform their decision making and messaging with their members.

Another example of a new internal process was the creation of a Water Shortage Decision Group (WSDG) during last year's 2019/20 event. The group, made up of senior management, was formed to consider recommendations from the Water Shortage Event Manager when proposing to move into a Level 3 situation. It provided a robustness to the decision making and worked very well. The group was not required to convene for the 2020/21 event.

In addition there are tools that are still being developed/refined which have been informed from the experience of the last 18 months. An example of this is the creation of a draft decision risk matrix. This not only looks at the environmental aspects of the event, but also attempts to balance this with the potential impact of

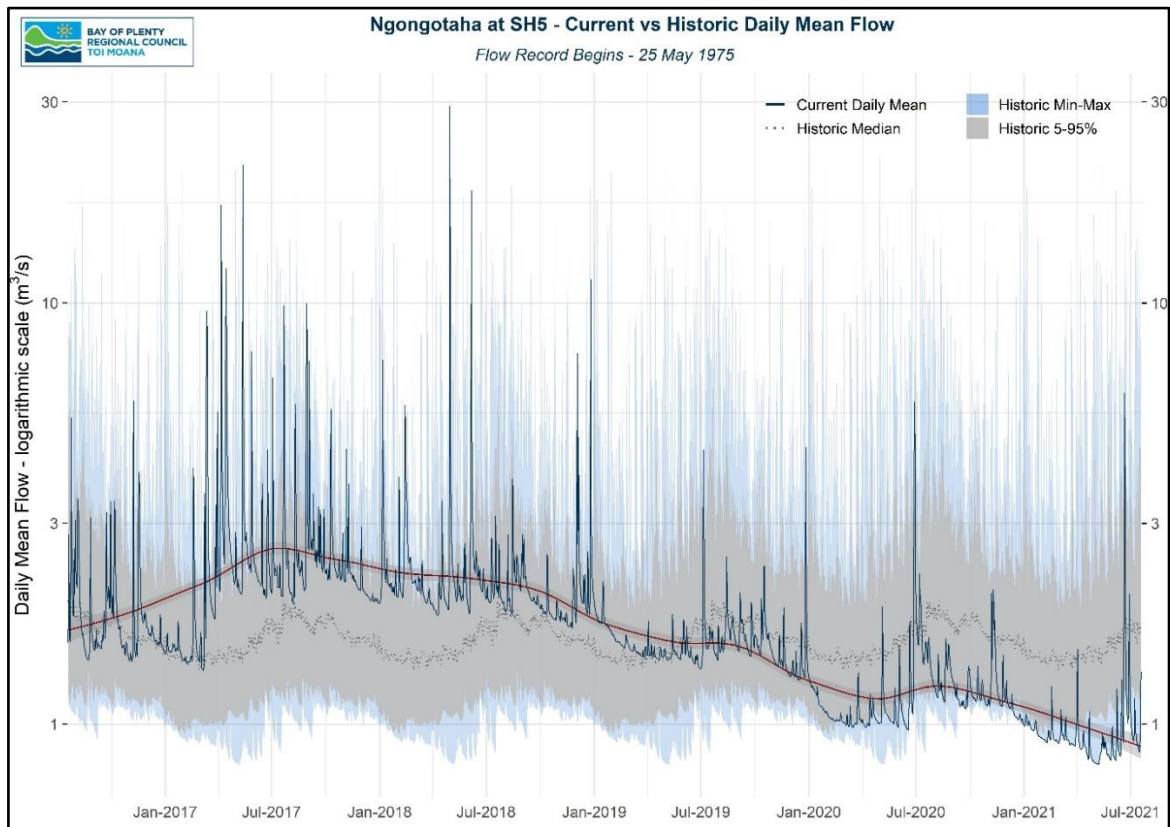
any restrictions on users. The tool is also being developed to take into account cultural flow information that will be developed through the NPSFM process.

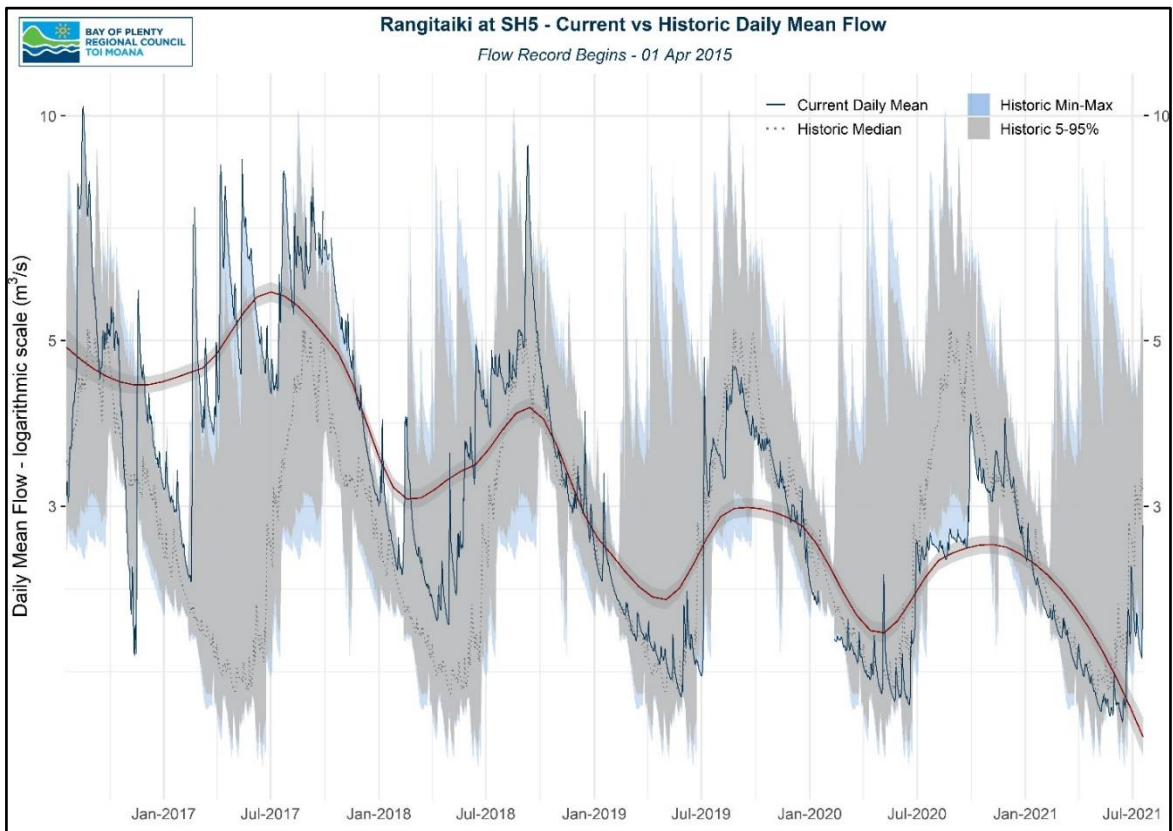
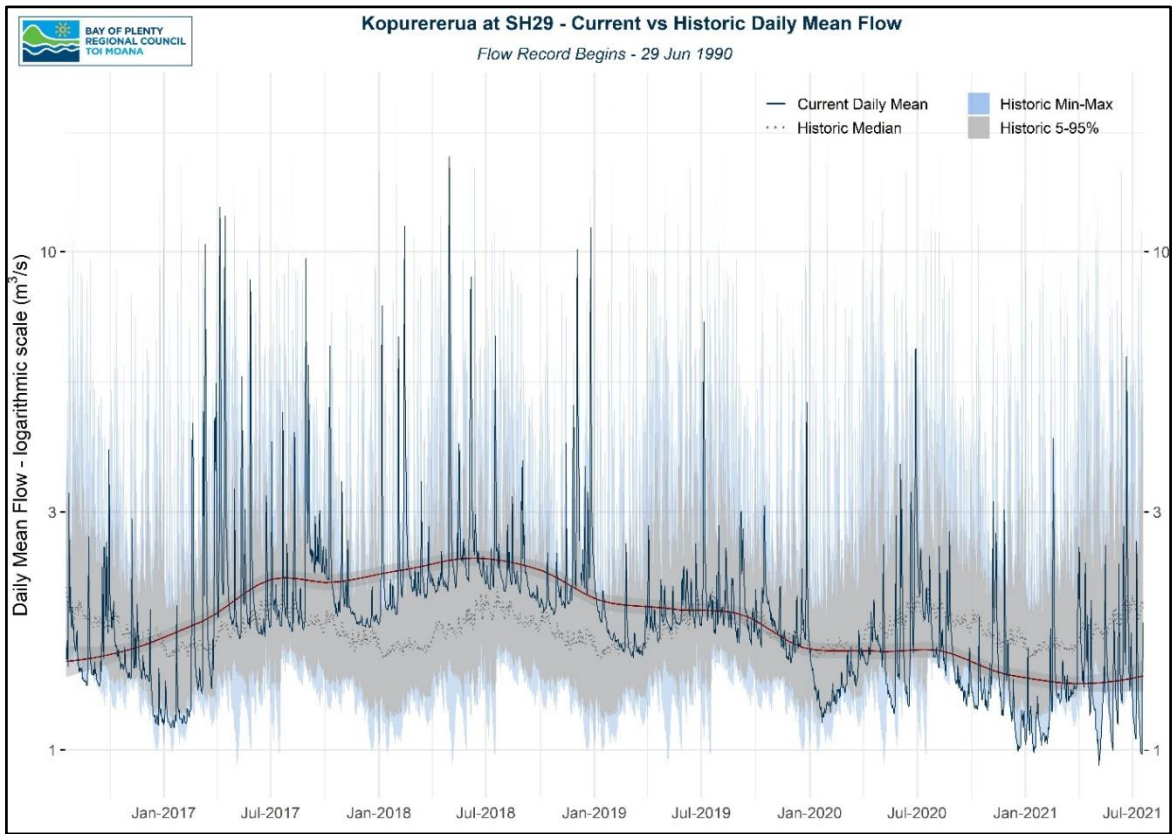
It should be noted that given the current fast-paced nature of change within the water management space, it may be that additional tools, or modification of existing processes, will need to occur over the coming years.

## 2.2 How dry has it been?

Annual rainfalls have been in decline for many parts of the region over the last three years. Some areas have had rainfall of less than 50% of their average summer rainfall and less than 75% of their annual normal rainfall.

A primary indicator of how dry it has been is provided by the resulting impact trends on surface water river flows, which are made up of a combination of groundwater base flow (from groundwater or lakes) and near surface quick-flow (surface or interflow drainage). Impact trends are shown below for a range of monitoring sites across the region and demonstrate that while there is some level of recovery over the winter months, and in response to passing storms, the longer term trend since 2018 has been in decline.





The degree of impact across the region has varied over the last two years in terms of how low stream flows dropped and at what time, but lowest ever flows since records began have been experienced in many long term monitoring sites in the western and central parts of the region. As an example the Ngongotahā Stream had the lowest ever flow measured in its 46 year history.

The eastern parts of the region, while demonstrating a similar trend, have seen lesser impact than other parts of the region as rainfalls have been closer to long term normal. This is due to the dominance of weather systems from the north bringing rainfall into eastern catchments.

## 2.3 **Operating in accordance with the Standard Operating Procedure**

The SOP effectively broke down our response into 4 key areas: Assess, Evaluate, Engage and Inform. Performance within these areas is outlined below.

### 2.3.1 **Assess**

A lot of effort was put into the Assessment phase of the kaupapa. In particular, close monitoring of Council's network of automated stream flow sites was undertaken throughout, but particularly at Level 2. Rainfall, soil moisture and some groundwater data was also used to help 'paint a picture' of the state of the environment.

Climate information, including long term forecasting, was taken from both free and paid sources to help inform the decision making. The occasional use of paid regionally-focussed forecasting helped reinforce whether staff assessments were in line with forecasters' predictions.

When Covid restrictions allowed, low flow monitoring of waterways was carried out across the Bay of Plenty, as were instream ecological health assessments. A modified instream assessment technique was used to assess stream health during last year's lock down. While adhering to strict Covid protocols, staff managed to assess four Western Bay streams, at several sites per stream.

In addition to Council's network of monitoring, we also received several anecdotal reports that helped inform our decision making. For example, we received reports of small spring fed creeks running very low, and also heard of shallow farm wells running dry. These reports were received through various channels, including from our Emergency Management personnel (who were arranging temporary water supplies for some rural domestic properties) and via stakeholders e.g. Rural Support Trust meetings.

### 2.3.2 **Evaluate**

Evaluation of the data was largely undertaken by the Data Services Manager who prepared the regular Situation Reports. These Situation Reports were used to inform the decision making of the Water Shortage Manager and communicate current state and future forecasts to stakeholders. Additionally the Science team were also called upon for their technical input – particularly as the situation in the Western Bay was worsening around March and April 2020.

Throughout the last 18 months, development of various reporting tools helped with evaluation and communication of drought. For example, adoption of a 1, 3 and 12 monthly Standard Precipitation Index (SPI) using Council's rainfall data helped paint a graphical picture of the state of "drought" within the Bay of Plenty. This was very useful when informing and engaging with the public.

Through the evaluation process, staff identified "gaps" where available data did not always give 100% certainty. For example, as we know, there are only a small proportion of the Bay of Plenty's streams that have automated stream flow sites on them. And many of these have been historically set up for flood flow management (i.e. top end of a catchment), rather than set up for low flow management (lower down the catchment).

This means that there will always be a certain amount of judgement needed when evaluating the data and determining whether movement between the Levels is required. Quite simply, this is unavoidable without every waterway in the Bay of Plenty having their own permanent recording sites, which is not a feasible option. It is expected that through fresh water policy reform, there will be a freshwater management unit framework developed that will usefully inform future enhancement of Council's monitoring network. As mentioned earlier, the Water Shortage Decision Group provide an extra layer of robustness to the evaluation phase when considering moving into a Level 3 response.

### 2.3.3 Engage

Engagement with stakeholder groups has been undertaken throughout the last 18 months. In particular there was a focus on engaging with key groups who represent the main water users in the region.

Several meetings and workshops were held with the kiwifruit, avocado and dairy industries. During 2020, participation in regular (fortnightly) MPI led, drought focussed virtual meetings was also undertaken. These were run alongside the Rural Support Trust so were a great opportunity to gain an insight into the potential impact possible restrictions could mean to some users.

Meetings with municipal abstractors taking surface water in areas of concern has also occurred. In particular regular contact with Tauranga City Council and Rotorua Lakes Council staff has occurred throughout the last 18 months.

It became apparent very early on that a high level of engagement with iwi during the course of an event would be challenging, due in part to the number of iwi/hapū potentially affected resulting in resourcing challenges (for both iwi/hapū and for Council). Therefore although not ideal, staff adopted a position of informing iwi of developing issues rather than engagement. It should be noted that, although was not taken up, all correspondence offered the recipients the opportunity to discuss further.

Significant iwi/hapū engagement will be occurring via the Essential Freshwater Policy Programme (EFPP) of work. This work will help inform the future plan changes, and in relation to Water Shortage work, this will be invaluable when considering cultural flow limits.

However given the immediacy of having to make Water Shortage decisions, the more robust EFPP engagement process is not suitable to inform the reactive decision making needed when considering issuing a WSD. In addition, as water shortage focus areas generally cover very large areas of the Bay of Plenty, multiple iwi and hapū are often located within those focus areas.

Therefore it is proposed that we continue to inform iwi and hapū of the Water Shortage event, and leave engagement to the more robust EFPP processes. This change is reflected in the proposed amendments to the SOP.

### 2.3.4 Inform

We have used multiple methods of communication over the last two seasons to inform consent holders, iwi/hapū, stakeholders and general public of the developing water shortage events.

Several media releases have been issued over the last 18 months. These have been used to raise general awareness during dry periods, and reinforce the need for everyone (even domestic users) to conserve water. We also used them to inform the



public of changes to the operating levels. As well as issuing the media releases, we also incorporated the messaging into other Council newsletters, such as the e-Panui and the Freshwater Flash.

Territorial authorities have also issued media releases reinforcing the same messaging. Several have run targeted water conservation campaigns, as well as also putting water restrictions in place. Tauranga City Council have only recently cancelled their sprinkler restrictions, which were the longest restrictions that have ever had in place. Their public messaging reinforced that the restrictions were not due to treatment plant or reticulation capacity issues, but were due to the low flow in the streams that they abstract their source water from. This was unprecedented messaging.

In addition to general public messaging, this year we also undertook direct communication with consent holders where there was a high risk of possible restrictions being imposed (i.e. the Level 2 Rotorua Focus Zone). This allowed for clear advice to be given around what possible restrictions could look like, and offered them opportunities to contact Council to discuss their personal situations.

A key method of communication was via Council's website. In May 2020 a specific webpage was set up as a one stop shop for all of the Water Shortage information. It gives an overview of the Water Shortage process, and is always updated to show the current situation across the Bay of Plenty. The page has all of the 2020/21 Situation Reports on it, has information around drought assistance and wise water use, has a summary of the water use rules and also links through to Council's rainfall, stream and soil moisture monitoring information. It also contains links to the relevant Council media releases. You can view the page here: [BOPRC Water Shortage page](#)

In addition to the methods used above, iwi/hapū were informed using two other forms of communication. For general information sharing, messaging was placed into Council's e-Panui newsletters. This was a valuable way of raising awareness of the developing low flow situation throughout the Bay of Plenty. During Level 2, more targeted awareness raising was undertaken through direct correspondence with relevant iwi/hapū. In April 2020, iwi/hapū in the Mauao rohe were contacted to advise of the developing situation with many of the western Bay of Plenty streams. Likewise, iwi/hapū within the Rotorua Focus Zone were contacted this year advising of the dropping stream flows in several of the waterways in their area.

## 2.4 Proposed changes to the Standard Operating Procedure

It is expected that the current process for managing water shortage events will be further developed as policy is formed through the NPSFM processes. Importantly, factors such as cultural flow requirements will be adopted through the new policy. Therefore the current SOP should be seen as a "stop gap" process ahead of the more formal policy which will be developed by 2024.

Appendix 1 details an amended SOP document. The document condenses the information contained in the March 2020 version ([Managing and responding to water shortage events: 10 March 2020](#)), and incorporates lessons learnt over the last 18 months. The SOP is a high level document, with the detail around the various actions required in the SOP now sitting outside of the document.

The main proposed amendments are:

1. Simplify the whole SOP to make it easier to read. Limit to main action points, with detail sitting outside the SOP.

2. Inclusion of a **Level 0: No Water Shortage concerns**. This new level effectively allows an event to end.
3. **Level 1: Reducing water availability** - proposed changes:
  - a. Add: Appoint Water Shortage Event Manager: This was previously discussed as happening at L2.
  - b. Simplify by removing references to actions that are undertaken as BAU i.e. Data Services maintenance and routine low flow gauging, database of consent holders, etc.
  - c. Replace “Develop” with “Review” in relation to the Communications Plan.
  - d. Replace “Engagement with iwi/hapū” with “Inform iwi/hapū” of potential water shortage event.
  - e. Situation Reports: Prepare regular SitReps (usually 1 – 2 monthly) for WSE Manager, place on website and send to stakeholders.
4. **Level 2: Impending water shortage** - proposed changes:
  - a. Convene subject matter expert meetings to evaluate all available data.
  - b. Define catchments/waterbodies of interest (known as Focus Zones).
  - c. Inform iwi/hapū within Focus Zones of elevated risk of water shortage event.
  - d. Develop a list of affected consent holders within Focus Zones. Ensure contact details are accurate.
  - e. Situation Reports: Increase frequency of SitReps (at least monthly, or more frequently as directed by WSE Manager), place on website and update stakeholders.
5. **Level 3: Water shortage event** - proposed changes:
  - a. Convene Water Shortage Decision Group. The WSDG shall be made up of GM Regulatory Services, GM Integrated Catchments, Environmental Data Services Manager, Science Manager and a Regulatory Compliance Manager (or a senior/experienced delegate e.g. Team Leader).
  - b. The WSDG shall review any proposal to issue a Water Shortage Direction before any recommendation is forwarded to the CE for approval.
  - c. During a Level 3 event, SitReps covering the Focus Zones shall be produced every two weeks.
  - d. Inform affected consent holders, iwi/hapū, and stakeholders of status on at least a two weekly basis.

## 2.5 Ongoing Chief Executive delegation

Staff recommend that permanent delegation for issuing Water Shortage Directions under section 329 of the Resource Management Act is given to the Chief Executive.

Including the Water Shortage Decision Group into the process when considering moving into, or out of, Level 3 i.e. issuing a Water Shortage Direction, should provide Council with confidence. Staff would continue to inform Councillors of any move into/out of Level 3 of the SOP.

## 3. Considerations

### 3.1 Risks and Mitigations

Water shortage events can impact on waterway health, cultural flows, community wellbeing, and can result in financial impacts for those relying on access to water. With the expected climate change predictions, there is a risk that the frequency of water shortage events could rise in the future.

The risks can be split into a) risks associated with not restricting takes, b) risks associated with restricting takes unnecessarily and perhaps c) restricting takes arbitrarily (without considering the needs of different water users).

Therefore strong policy supported by robust processes, and frequent and clear communication, are important for helping mitigate the risks associated with water shortage events.

Staff believe that there are no significant risks associated with the proposed SOP and delegation of decision making to the CE (fast, well-informed, decision-making may be required).

### 3.2 Climate Change

Predicted climate change patterns may increase the risk of drought occurring, even though annual rainfall figures may not alter significantly for some areas of the Bay of Plenty. Increased drought will likely have impacts of stream and groundwater resources, both through reduced flows/ground levels, and through increased demand.

The matters addressed in this report are of a procedural nature and there is no need to consider climate change impacts as part of considering the recommendations.

Mitigation			Adaptation	
Reduce GHG emissions	Produce GHG emissions	Sequester carbon	Anticipate climate change impacts	Respond to climate change impacts
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

### 3.3 Implications for Māori

Māori may be impacted by decisions made during water shortage events, both as users and Kaitiaki of water. As outlined in sections 2.3 and 2.4 staff consider it appropriate to inform iwi/hapū of conditions and decisions rather than engaging. This is because of the short timeframes during which decisions need to be made and because of the extensive engagement planned in the near future as part of the EFPP.

### 3.4 Community Engagement



#### **INFORM** **Whakamōhio**

To provide affected communities with balanced and objective information to assist them in understanding the problems, alternatives and/or solutions.

This report outlines the engagement with the community as part of the improved SOP.

### 3.5 Financial Implications

There are no material unbudgeted financial implications and this fits within the allocated budget.

## 4. Next Steps

Development of a more robust water shortage response will be undertaken over the coming years through the NPSFM and subsequent plan reviews. However the amended SOP and Delegation will enable staff to respond to any future water shortage events in the interim.

## Attachments

Attachment 1 - Water Shortage Standard Operating Procedure - July 2021