

Strategy & Planning Committee, 8 July 2020



Meeting will be conducted via electronic audio/visual link and live streamed to YouTube.

Members:

Hon Marian Hobbs, Co-Chairperson	Cr Carmen Hope
Cr Michael Laws, Co-Chairperson	Cr Gary Kelliher
Cr Hilary Calvert	Cr Kevin Malcolm
Dr Lyn Carter	Cr Andrew Noone
Cr Michael Deaker	Cr Gretchen Robertson
Mr Edward Ellison	Cr Bryan Scott
Cr Alexa Forbes	Cr Kate Wilson

Senior Officer: Sarah Gardner, Chief Executive

Meeting Support: Liz Spector, Committee Secretary

08 July 2020 01:00 PM

Agenda Topic

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1. APOLOGIES

No apologies were made prior to publication of the agenda.

2. ATTENDANCE

Staff in attendance will be noted.

3. CONFIRMATION OF AGENDA

Note: Any additions must be approved by resolution with an explanation as to why they cannot be delayed until a future meeting.

4. CONFLICT OF INTEREST

Members are reminded of the need to stand aside from decision-making when a conflict arises between their role as an elected representative and any private or other external interest they might have.

5. PUBLIC FORUM

Requests to speak must be made to the Committee Secretary on 0800 474 082 or liz.spector@orc.govt.nz at least 24 hours before the meeting; however, this requirement may be waived by the Chairperson.

6. CONFIRMATION OF MINUTES

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6.1 [Minutes of the 13 May Strategy and Planning Committee](#)

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6.2 [Corrected Minutes of the 22 January 2020 Strategy and Planning Committee](#)

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8. PRESENTATIONS

8.1	UCLT / WAI Wanaka Briefing	
	Megan Williams (Manager – Wanaka Water Project) and Mandy Bell (Chair - Wanaka Water Project) will provide a general update and discussion on the WAI Wanaka Community Catchment Plan and associated work.	
8.2	Update on Land and Water Regional Plan	
	Councillors Noone and Robertson will update the Committee.	
8.3	Health and Air Quality in Otago	
	Danielle Smith, Health Promotion Advisor, Southern District Health Board, will present information on Health and Air Quality in Otago.	
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	The three papers on air quality discussed at this Committee meeting will be briefly concluded by a presentation on the next steps to develop ORC's air quality programme as part of the preparation of the Long-Term Plan (2021-2031).	
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11. CLOSURE



Minutes of a meeting of the Strategy and Planning Committee held electronically on Wednesday 13 May 2020 at 1 p.m. and livestreamed to the website.

Membership

Hon Marian Hobbs	<i>(Co-Chair)</i>
Cr Michael Laws	<i>(Co-Chair)</i>
Cr Hilary Calvert	
Dr Lyn Carter	
Cr Michael Deaker	
Mr Edward Ellison	
Cr Alexa Forbes	
Cr Carmen Hope	
Cr Gary Kelliher	
Cr Kevin Malcolm	
Cr Andrew Noone	
Cr Gretchen Robertson	
Cr Bryan Scott	
Cr Kate Wilson	

Welcome

Hon Marian Hobbs welcomed Councillors, members of the public and staff to the electronic meeting at 1 p.m.

For our future

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1. APOLOGIES

There were no apologies.

2. ATTENDANCE

Sarah Gardner (Chief Executive)
Nick Donnelly (General Manager Corporate Services and CFO)
Gavin Palmer (General Manager Operations)
Sally Giddens (General Manager People, Culture and Communications)
Gwyneth Elsum (General Manager Policy, Strategy and Science)
Amanda Vercoe (Executive Advisor)
Liz Spector (Committee Secretary)

Also in attendance were Anita Dawe (Manager Policy), Tom De Pelsemaeker (Team Leader Freshwater and Land), Peter Constantine (Consultant), Rachael Brown (Senior Analyst Freshwater and Land) and Alistair Logan (Solicitor).

3. CONFIRMATION OF AGENDA

Note: Any additions must be approved by resolution with an explanation as to why they cannot be delayed until a future meeting.

4. CONFLICT OF INTEREST

No conflicts of interest were advised.

5. PUBLIC FORUM

No public forum was conducted.

6. PRESENTATIONS

6.1. Report from Manuherekia Reference Group

Manuherekia Reference Group (MRG) Chair Alec Neill and Andrew Newman updated the Committee members on activities of the group. The briefing was provided to ensure an understanding of the role and purpose of the group, provide clarity on its approach to the plan development process and to detail progress to date and upcoming future work for the group.

7. CONFIRMATION OF MINUTES

7.1. Minutes of the 22 January 2020 Strategy and Planning Committee Meeting Resolution

That the minutes of the meeting held on 22 January 2020 be received and confirmed as a true and accurate record, with or without corrections.

Moved: Cr Hope
Seconded: Cr Wilson
CARRIED

8. ACTIONS

There are no outstanding actions on resolutions of the Strategy and Planning Committee.

9. MATTERS FOR COUNCIL DECISION

9.1. Proposed approach for developing a new Land and Water Regional Plan

Gwyneth Elsum (GM Strategy, Policy and Science), Anita Dawe (Manager Policy), Tom De Pelsemaeker (Team Leader Freshwater and Land) were available to speak to the report which was provided to outline the proposed approach for development of the proposed new Land and Water Regional Plan.

Several Councillors indicated they weren't certain they wanted the approach to use the word overallocation as it had a negative connotation. Staff explained the word was part of the language used in National Policy Statements and was useful to include in the proposed approach. Cr Deaker moved the staff recommendation and Cr Forbes seconded. The Councillors then moved into discussion around the membership of the proposed Governance Group. At 3:05 p.m. Chairperson Hobbs requested an adjournment and asked that the meeting continue after a short break.

The Meeting returned from adjournment at 3:19 p.m.

The Councillors then moved back into the discussion about the membership of the proposed Governance Group. Councillor Wilson moved an amendment to the staff recommendation which was seconded by Councillor Calvert as follows:

3) The LWRP Governance Group as described in the proposed governance structure, will consist of ORC Councillors (membership to be determined by further report to Council) and rūnaka representatives to ensure a strong link with ORC's governing body through the ORC'S Strategy and Policy Committee, which in turn will provide policy guidance.

Chairperson Hobbs put the amendment to a vote. The amendment carried and was added to the substantive motion. There were no further discussions and Chairperson Hobbs put the motion.

Resolution

That the Council:

- 1) **Receives** this report.
- 2) **Adopts** the proposed approach for developing a new Land and Water Regional Plan
- 3) **Requests** staff to amend paragraph 23 of the staff report to: *The LWRP Governance Group as described in the proposed governance structure, will consist of ORC Councillors (membership to be determined by further report to Council) and rūnaka representatives to ensure a strong link with ORC's governing body through the ORC'S Strategy and Policy Committee, which in turn will provide policy guidance.*

Moved: Cr Deaker

Seconded: Cr Forbes

CARRIED

10. MATTERS FOR NOTING

10.1. Resource Management Amendment Bill and implications for ORC

Rachael Brown (Senior Analyst Freshwater and Land) was present to answer questions on the report which was provided to update the committee on the Government's proposed changes to the RMA through the Resource Management Amendment Bill. She said the bill proposes amendments to the RMA to reduce complexity and increase certainty in decision-making processes and to improve freshwater management and enforcement. She noted the bill was in its second reading at Cabinet. She also indicated there may be a few additional changes proposed under the COVID-19 bill.

Cr Hobbs queried the proposal that a Freshwater Hearings Panel would be created to replace Commissioners. Anita Dawe (Manager Policy) said everything related to freshwater would go to the hearings panel, which meant the ORC Regional Policy Statement and the Land and Water Plan would be heard by the proposed panel.

After further discussion, Cr Hobbs asked for a motion to note the report.

Resolution

That the Council:

1) **Notes this report.**

Moved: Cr Wilson

Seconded: Cr Forbes

CARRIED

10.2. MfE Freshwater 2020

Peter Constantine (consultant planner) was available to speak to the report which was provided to inform the Committee members of the release by the Ministry for the Environment & Stats NZ of the publication titled *Our Freshwater 2020*, and of its key findings. He noted the publication will form part of the suite of publications that will inform ORC policy development and plan making, particularly the revised Regional Policy Statement and the proposed Land and Water Regional Plan.

The Committee members asked questions of Mr Constantine, including whether there were potential gaps in information and science in Otago and what resources might be required to address those gaps. Sarah Gardner (Chief Executive) reminded the Committee that ORC had made extensive increases to its State of the Environment network in the previous financial year and was in a much better position than before. Mrs Gardner said staff is in the process of assessing science needs for each FMU to understand where any additional gaps may be. She also said the Skelton report noted concerns with the science team and lack of resources and this had been addressed in the 2020/2021 Annual Plan. She said ORC is responding and progressing quickly and positively.

There were no further questions. Cr Hobbs thanked staff for the report and comments and asked for a motion.

Resolution

That the Council:

- 1) **Receives** this report.
- 2) **Notes** that the publication *Our Freshwater 2020* will form part of the suite of publications that informs policy development and plan making, particularly in respect of the revised Regional Policy Statement and the proposed Land and Water Regional Plan

Moved: Cr Wilson

Seconded: Cr Forbes

CARRIED

10.3. Otago-Southland Three Waters Investigation: Information for Councils

Gwyneth Elsum (GM Strategy, Policy and Science) was available to answer questions about the paper which had been written for distribution to several Councils. Ms Elsum said a technical working group comprised of staff from local territorial authorities had been put together post the Central Government's introduction of Taumata Arowai - the Water Services Regulator Bill, which proposed a new water regulator as a Crown agent and outlined its objectives, functions, operating principles and governance arrangements. Ms Elsum noted she is ORC's representative on the working group that is investigating ways to collaborate on Three Waters work.

Cr Wilson asked who had oversight of the technical group. Ms Elsum said the working group reports to the Otago Mayoral Forum, which is comprised of mayors of Dunedin, Central Otago, Clutha, Queenstown, Waitaki and the ORC chair. Ms Elsum noted that Southland would be participating in the investigation as well.

After conclusion of the questions and discussion, Cr Hobbs asked for a motion.

Resolution

That the Council:

- 1) **Notes** that Chief Executives from Otago and Southland councils have applied for Crown funding to investigate the current state of water services in Otago and Southland and whether a collaborative approach to water services delivery could benefit Otago and Southland communities and the environment;
- 2) **Notes** that the Otago Regional Council's contribution to the investigation is estimated to be \$18,750;
- 3) **Notes** that the proposed investigation is in the form of an Indicative Business Case; and
- 4) **Notes** that once the Indicative Business Case is completed, it will be brought back to Councils for information and to consider potential next steps.

Moved: Cr Wilson

Seconded: Cr Scott

CARRIED

11. CLOSURE

There was no further business and Chairperson Hobbs declared the meeting closed.

Chairperson Marian Hobbs

Dated

DRAFT



Minutes of a meeting of the Strategy and Planning Committee
held in the Council Chamber on Wednesday, 22 January 2020 at
1:00 pm

Membership

Hon Marian Hobbs	<i>(Co-Chairperson)</i>
Cr Michael Laws	<i>(Co-Chairperson)</i>
Cr Hilary Calvert	
Dr Lyn Carter	
Cr Michael Deaker	
Mr Edward Ellison	
Cr Alexa Forbes	
Cr Carmen Hope	
Cr Gary Kelliher	
Cr Kevin Malcolm	
Cr Andrew Noone	
Cr Gretchen Robertson	
Cr Bryan Scott	
Cr Kate Wilson	

Welcome

Cr Hobbs welcomed Councillors, members of the public and staff to the meeting at 01:11 pm.

For our future

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1. APOLOGIES

Resolution

That the apologies for Edward Ellison be accepted.

Moved: Cr Kelliher

Seconded: Cr Hope

CARRIED

Cr Scott was attending the meeting remotely via telephone.

Cr Laws joined the meeting at 1:20 p.m.

2. ATTENDANCE

Sarah Gardner *(Chief Executive)*

Nick Donnelly *(General Manager Corporate Services and CFO)*

Gavin Palmer *(General Manager Operations)*

Sally Giddens *(General Manager People, Culture and Communications)*

Richard Saunders *(General Manager Regulatory)*

Gwyneth Elsum *(General Manager Policy, Strategy and Science)*

Amanda Vercoe *(Executive Advisor)*

Liz Spector *(Committee Secretary)*

Also in attendance were: Anita Dawe (Acting Manager Policy), Tom de Pelsemaeker (Team Leader Freshwater), Lisa Hawkins (Team Leader RPS, Air and Coast), Joanna Gilroy (Manager Consents), Simon Wilson (Manager Consent Systems and Administration), Ryan Tippet (Media Communications Lead), Eleanor Ross (Manager Communications Channels) and Andrea Howard (Manager Good Water Programme). Neale Hudson, Manager Freshwater & Estuaries NIWA was also present.

3. CONFIRMATION OF AGENDA

The agenda was confirmed as circulated.

4. CONFLICT OF INTEREST

No conflicts of interest were advised.

5. PUBLIC FORUM

No public forum was held.

6. CONFIRMATION OF MINUTES

Resolution

That the public portion of the minutes of the Strategy and Planning Committee meeting held on 27 November 2019 be received and confirmed as a true and accurate record.

Moved: Cr Hope

Seconded: Cr Noone

CARRIED

Resolution

That the public-excluded portion of the minutes of the Strategy and Planning Committee meeting held on 27 November 2019 be received and confirmed as a true and accurate record.

Moved: Cr Deaker

Seconded: Cr Hope

CARRIED

7. ACTIONS

Status report on the resolutions of the Strategy and Planning Committee

There are no outstanding actions.

8. MATTERS FOR NOTING

8.1. Manuherehia River Resource Assessment report

Gwyneth Elsum (GM Strategy, Policy and Science), Julie Everett-Hinks (Manager Science), Rachel Ozanne (Environmental Resource Scientist) and Dr Neale Hudson (NIWA Manager Freshwater and Estuaries) were present to answer questions about the Manuherehia River Resource Assessment staff report and NIWA water quality review. Cr Hobbs noted the report had been presented to Council as part of a previous agenda but was withdrawn prior to consideration due to some concerns over possible errors in the report. Mr Hudson said the errors were not scientific in nature and involved transposing two columns of information in a table in the report. He noted the errors had been corrected and the study resubmitted to the ORC.

Cr Laws noted elevated levels of *e. coli* reported at some of the sites and asked what was going to be done with the results of the study. Chief Executive Sarah Gardner said when dealing with catchments that provide drinking water, ORC would respond immediately to work with the community to find the source of the contamination. She noted in this particular case, the *e. coli* contamination is taking place over time. She said assumptions as to the source of the contamination can be made based on the activities occurring in particular catchments, notably animal effluent and birds. Cr Laws said if a particular issue had been identified, ORC should determine remedial actions to be taken on clear breaches of consent conditions. Cr Malcolm said the ORC should have a consistent approach to consent breaches and continue discussions with the community to inform and educate. Cr Hobbs moved the report be accepted.

Resolution

That the Council:

1) **Notes** this report.

Moved: Cr Hobbs

Seconded: Cr Robertson

CARRIED

Cr Laws then moved the following:

Resolution

That the Council:

- 1) **Notes** significant diversions or risks revealed in the current report and seeks options for potential remedial actions from the Chief Executive, e.g. Thomsons Creek (*e.coli*), where appropriate.

Moved: Cr Laws

Seconded: Cr Calvert

CARRIED

8.2. Regional Policy Statement Review - Programme for 2020

Gwyneth Elsum (GM Strategy, Policy and Science) and Anita Dawe (Acting Manager Policy) were present to answer questions about the proposed RPS Review Programme for 2020. After a general discussion, the Councillors noted the Communications and Engagement Plan was comprehensive and workable but requested staff to include information in newspapers other than the Dunedin papers to reach more of the wider Otago community. Cr Forbes stressed that a full range of communications channels be used, including print, online consultation, and in person. After further discussions, Cr Hobbs made a motion.

Resolution

That the Council:

- 1) **Receives** this report.
- 2) **Notes** the attached work programme for 2020.
- 3) **Notes** the attached Communications and Engagement Plan.

Moved: Cr Hobbs

Seconded: Cr Forbes

CARRIED

Cr Laws moved a secondary motion.

Resolution

That the Council:

- 1) **Requests** staff to present a revised communications and engagement plan to the 29 January 2020 Council Meeting for approval.

Moved: Cr Laws

Seconded: Cr Kelliher

CARRIED

9. CLOSURE

There was no further business and Cr Hobbs declared the meeting closed at 02:53 pm.

Chairperson

Date

Status report on the resolutions of the Strategy and Planning Committee

REPORT TITLE	MEETING DATE	RESOLUTION	STATUS	UPDATES
Manuherekia River Resource Assessment Report	22 January 2020	Notes significant diversions or risks revealed in the current report and seeks options for potential remedial actions from the Chief Executive, e.g. Thomsons Creek (e.coli), where appropriate.	IN PROGRESS	

9.1. Air Quality Overview

Prepared for:	Strategy and Planning Committee
Report No.	P&S1858
Activity:	Environmental: Air
Author:	Sylvie Leduc, Senior Strategic Analyst; Sarah Harrison, Air Quality Scientist
Endorsed by:	Gwyneth Elsum, General Manager Strategy, Policy and Science
Date:	8 July 2020

Following the presentation from Ms Danielle Smith of the SDHB, Sylvie Leduc, ORC Senior Strategic Analyst, will provide an overview of:

- The air quality issues in Otago, and the challenges in addressing them.
- ORC's Air Quality Strategy, adopted in June 2018 (<https://www.orc.govt.nz/plans-policies-reports/strategies/air-quality-strategy-for-otago>).
- How the strategy has been implemented so far, and what activities are proposed for this financial year.

No recommendation is made to Committee as part of these presentations.

The three following agenda items focus on air quality and its management:

- Proposed Amendments to the National Environmental Standards for Air Quality;
- Annual Air Quality Report 2019; and
- Arrowtown Air Quality Implementation.

9.2. Proposed amendments to the National Environmental Standards for Air Quality

Prepared for:	Strategy and Planning Committee
Report No.	P&S1849
Activity:	Regulatory: Policy Development
Author:	Lisa Hawkins, Team Leader RPS, Air & Coast; Sarah Harrison, Air Quality Scientist
Endorsed by:	Gwyneth Elsum, General Manager Strategy, Policy and Science
Date:	27 June 2020

PURPOSE

- [1] To summarise the revised National Environmental Standard for Air Quality (NESAQ), identify areas of concern that have formed the basis of the submission to the Ministry for the Environment, and to seek Committee endorsement on the submission, prior to final approval at the July Council meeting.

EXECUTIVE SUMMARY

- [2] The Government is consulting on proposed amendments to the NESAQ – specifically around improving management of particulate matter and prohibiting mercury emissions from listed industrial processes.
- [3] The NESAQ currently regulates the management of particulate matter as it has significant impacts on human health. The NESAQ’s current focus is the management of larger, coarse PM₁₀¹.
- [4] The amendment proposes to shift this focus to PM_{2.5} due to concerns about the health impacts of particulate matter, especially from long term exposure. PM₁₀ will continue as the standard but be required to be monitored over a transitional period while Councils upgrade monitoring equipment.
- [5] ORC’s particular interests are in the following proposed amendments:
- Reducing the emission standard for new solid-fuel burners to no more than 1.0g/kg² (down from 1.5g/kg);
 - All types of new, domestic solid-fuel burners will be included under the wood-burner regulations for emission limits and thermal efficiency;
 - Retaining the existing 65% thermal efficiency standard of solid-fuel burners;
 - PM_{2.5} as the primary regulatory tool to manage ambient particulate matter;
 - Establishing a daily and annual standard for PM_{2.5}; and
 - Determining polluted air sheds by comparing against daily and annual PM_{2.5} standards.
- [6] The Government extended the consultation period to 31 July 2020 due to Covid-19 restrictions. ORC staff will lodge the submission, once Council endorsement is received.

¹ PM10 has a diameter of 10 micrometres (µm) or less

² “g/kg” refers to a gram of particulate matter released per kilogram of fuel source burned

RECOMMENDATION

That the Committee:

- 1) **Receives this report.**
- 2) **Make a recommendation to Council to approve the attached submission be submitted to Ministry for the Environment prior to 31 July 2020.**

BACKGROUND

- [7] Particulate matter (PM) is a collective term for solid and liquid particles suspended in the air and small enough to be inhaled. PM comes from human activities and natural sources. It is often classified according to its size because size determines how PM interacts with the environment and human body. PM₁₀ has a diameter of 10 micrometres (µm) or less, PM_{2.5} has a diameter of less than 2.5µm and is a subset of the PM₁₀ range, and ultrafine particles are even smaller (less than 0.1µm or 25 times smaller than PM_{2.5}).

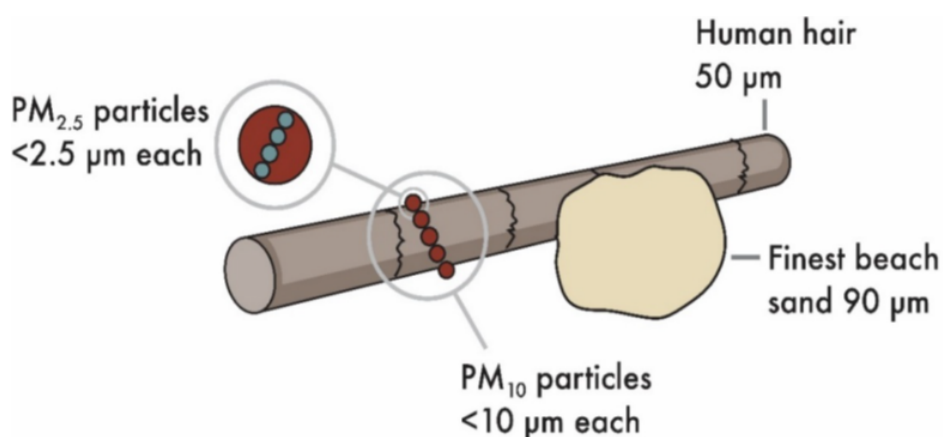


Figure 1 Relative sizes of particulate matter

- [8] Current science shows that PM₁₀ is not the best indicator of health impacts, but rather reducing exposure to PM_{2.5} is found to be of greatest benefit in terms of human health impacts.
- [9] The main source of PM_{2.5} from human activities is from burning of wood and coal for home heating during winter. In 2015 it was reported³ energy related activities accounted for approximately 25,000 tonnes/per year of PM_{2.5}, and of this approximately 12,000 tonnes/year was from residential home heating. In Otago our main source of PM is from home heating.
- [10] ORC's primary regulatory tools for managing air quality in Otago are the partially operative Regional Policy Statement 2019 and the operative Regional Plan: Air (RPA). The RPA must give effect to the NES.
- [11] The NESAQ uses air sheds to identify and manage urban areas and air quality. In Otago there are 22 air sheds across Otago's urban areas, with the balance of Otago effectively semi-rural and rural areas comprising the twenty third air shed. To simplify their

³ Source: Ministry for the Environment and Stats NZ (2018), p24

management, the RPA categorises the current twenty-three airsheds into Air Zones 1, 2 or 3. Air Zone 1 represents the areas at most risk of ambient air quality standards set by the NESAQ being breached, and 3 the lowest. As such different controls apply through the RPA which reflect the sensitivity to air quality issues.

- [12] Air Zone 1 comprises Alexandra, Arrowtown, Clyde, and Cromwell. Air Zone 2 includes Balclutha, Dunedin, Green Island, Hāwea, Kingston, Milton, Mosgiel, Naseby, Oamaru, Palmerston, Port Chalmers, Queenstown, Ranfurly, Roxburgh, Waikouaiti and Wanaka, and Air Zone 3 is everywhere not listed in Air Zones 1 and 2.
- [13] Although in Air Zone 2, Milton and Mosgiel have air quality issues that are more aligned with Air Zone 1, consequently, ORC's monitoring programme also covers these towns. Dunedin is also included in the monitoring programme, although it doesn't experience air quality issues reflective of Air Zone 1 towns, or Milton or Mosgiel.

ISSUE

- [14] In seeking to improve air quality, the proposed amendments to NESAQ will have implications for Council to address in areas of policy, monitoring and communications.

DISCUSSION

Introducing PM_{2.5} as the primary regulatory tool to manage ambient particulate matter

- [15] The NESAQ sets the maximum daily concentration of PM₁₀ at 50 micrograms per cubic metre of air ($\mu\text{g}/\text{m}^3$), with only one exceedance per year allowed. ORC's monitoring of PM₁₀ levels of centres in Air zones 1 and 2, particularly during winter, confirm multiple breaches of the daily PM₁₀ limit. These breaches are being recorded in all Air Zone 1 areas, and in Mosgiel and Milton as Air Zone 2 areas.⁴
- [16] The proposed NESAQ set the daily average PM_{2.5} limit at 25 $\mu\text{g}/\text{m}^3$, with three or few exceedances allowed in a 12-month period. The attached submission includes an assessment of data comparing PM₁₀ and synthetic PM_{2.5} during 2019 for the Air Zone 1 and 2 towns that are monitored. This assessment shows that in 2019 a total of 68 exceedances of PM₁₀ were recorded. Applying the proposed new standard of PM_{2.5} the number of exceedances would increase to 232. Therefore, although the air quality itself has not degraded, Council will need to report a higher number of exceedances each year.
- [17] Whilst the change to PM_{2.5} is supported by staff as it aligns with the World Health Organisations' limits and reflects current understanding and evidence about the health impacts of particulate matter, the changes to NESAQ will have implications for Council. These implications include:
- The increased number of breaches under PM_{2.5} must be reported to the Minister. The increase may alarm community and perception may be that ORC are not doing enough, although air quality itself hasn't worsened. It will be incumbent on ORC to educate the community about these changes. Such work is outside the scope of ORC current work programme.

⁴ As of 28 June 2020, so far this Winter, Otago have recorded 49 exceedances in Air Zone 1 and 2 towns.

- ORC has already commenced a programme to begin monitoring for PM_{2.5}. This programme focusses on the existing towns monitored for PM₁₀. The programme will be rolled out over the next couple of years, as set out in Table 1 below. Whilst the monitoring programme will be in place by the end of 2021, it will take time to build a suitable dataset from which to see long term trends and effects. Further this programme doesn't account for towns currently not on the programme that might require investigative monitoring to determine any exceedances of PM_{2.5}. This means there is potential for the monitoring programme to be expanded.

Table 1: ORC Implementation Programme for Monitoring PM_{2.5}

Town	Installation year
Arrowtown	2020 (but due to Covid19 restrictions it was unable to be installed in time for Winter, to do so would have interrupted the existing monitoring of PM ₁₀)
Clyde	2021
Cromwell	2021
Dunedin (Air Zone 2)	2019
Mosgiel (Air Zone 2)	2021
Milton (Air Zone 2)	2021
Wanaka	2020
Queenstown	2021

- There may be policy implications to come out of monitoring for PM_{2.5} linked with a review to determine whether the existing air zone classifications are appropriate. Future monitoring of PM_{2.5} will identify whether some of Air Zone 2 towns should be classified as Air Zone 1, although as this is only one factor considered in air zone classification it is difficult to say what the likely outcome would be at this point. Other considerations include population change and location of growth. Any changes to Air Zones would form part of the review of the RAP which will be programmed to start once the RPS is sufficiently through its review process.

[18] Based on the implications above, the submission identifies the following points:

- Councils be given at least 2 years to implement a monitoring programme for PM_{2.5} in their Air Zone 1 towns.
- MfE provide community education material when the NESAQ is gazetted, to support Councils in engaging and educating their community on the changes.

Reducing emission standard for new solid-fuel burners to no more than 1.0g/kg

[19] The revised NESAQ intends to reduce the emission standard for new solid fuel burners from the current standard of 1.5g/kg to no more than 1.0g/kg, ORC's RPA already requires that new solid-fuel burners in Air Zone 1 have an emission rate of 0.7g/kg which is more stringent than the proposed NESAQ⁵. The proposed NESAQ retains the ability for Councils to be more stringent which is supported by ORC staff. Air Zones 2 and 3 currently require emission rates to be less than 1.5g/kg, in line with existing NESAQ standards. The new standards will apply to these Air Zones as well, which will require a change to the RAP.

⁵ The NESAQ enables Councils to set more stringent provisions, which is already reflected in the RPA being more restrictive to better address PM levels in Air Zone 1 towns.

- [20] While ORC supports the reduction in emissions standards, the 2018 Air Quality Strategy for Otago⁶, identified that improving air quality in Otago is a complex matter that cannot be solved by regulation alone. However, regulation should still encourage meaningful change. The current projections for air quality in Otago indicate that continuing with replacement of burners with burners that meet the emissions standards in the NESAQ is not enough and won't result in meaningful change. As a minimum, Ultra Low Emission Burners (ULEB) need to be encouraged. By lowering to at least 0.7g/kg this will result in ULEBs being taken up. ULEBs are the cleanest solid fuel burners and are readily available in the market. Environment Canterbury, who has made some significant advances in air quality, require ULEBs (which have an emission standard of 0.3 – 0.7g/kg) in some towns and provide a list of authorised burners which meet this standard⁷. If ORC is setting the expectation that a move to clean heat is necessary, as has been set out in our Air Quality Strategy, it is reasonable to question whether the NESAQ amendments go far enough in the case of Otago.
- [21] To address the issue that the current NESAQ standards do not equitably target all household PM emissions, the proposed NESAQ amendments extend these regulations to include discharges from all types of domestic, solid-fuel burners, including wood, coal, multi-fuel and pellet burners, as well as burners used for space heating, cooking, water heating and open fires. While this is an increase in the types of burners covered, the RPA definition of 'domestic heating appliances' is already closely aligned with the revisions and as such, staff anticipate minimal change to how we administer our RPA.
- [22] The proposed change to the definition, along with the updated emissions standards will have an impact on the compliance of the types of burners currently available on the market. For example, no coal burners available or houses with open fires would meet the new emissions standard. The change to the definition and emission standards will only apply to burners installed after the amended regulations come into effect. Once in effect, they will apply to new, used and refurbished burners being installed. Existing burners could continue to be operated, until their end of life, if they were installed legally.
- [23] Burners that do not meet current standards or those that have not been installed legally contribute to the air quality issues in Otago. The NESAQ does not provide direction to replace old, inefficient domestic burners. The lifespan, or continued maintenance rather than upgrade, of these burners continues to exacerbate the problem and prolongs the action of replacement to cleaner options. Improvements to address this issue in Otago will need to be managed by the RPA via future plan changes. A range of measures beyond regulation will need to be considered to address this issue, which may include consideration of subsidies for clean heat or home insulation.
- [24] There will be a cost to consumers associated with the amendments to NESAQ. The cost occurs when burners reach their end of life, with the cleaner heating appliances having a slightly higher price than their counterparts. For most people this will be a one-off cost for the lifespan of a new burner. There will also be a cost to Council with regard to upgrading equipment to monitor PM_{2.5} and enforce compliance. The MfE has calculated

⁶ Air Quality Strategy for Otago - <https://www.orc.govt.nz/media/5876/air-quality-strategy-new.pdf>

⁷ Environment Canterbury – ULEB information and link to Canterbury Air Plan <https://www.ecan.govt.nz/your-region/your-environment/air-quality/home-heating/burner-manufacturers-and-suppliers/>

these costs to households and Councils to be approximately 8 to 9% of the overall benefit gained in avoided health to New Zealand from improved air quality.

- [25] Implications of the proposed NESAQ on Council include:
- Administrative changes to the RPA that will be required to ensure the document reflects the emission standards, and the definition applying to all solid fuel burners.
 - Issues to be addressed as part of the future review of the RAP in relation to non-compliant burners, as NESAQ doesn't address this issue.
- [26] Based on the analysis above, the submission identifies the following points:
- Implement a lower emission standard than 1.0g/kg to encourage ULEB installation.
 - Set expectations around 'end of life' for existing burners to assist Councils to achieve better air quality and replacing non-compliant burners.
 - Provide support to Councils and local communities to replace non-compliant burners and improve insulation through the provision of funding or subsidy streams.
 - Support the engagement and education programmes of Councils to inform the community of the obligations associated with the new standards.

Polluted Airsheds and Resource consents

- [27] The NESAQ amendments will impact how airsheds/air zones are determined to be polluted and in turn how Councils respond to exceedances of daily standards and annual limits. Currently an airshed is classified as polluted under the NESAQ if the airsheds average exceedance of the PM₁₀ standard over the previous five years was more than one per year. The NESAQ proposes to transition this provision to the PM_{2.5} regime but with the same standards of 1 exceedance per year measured over the previous 5 years. ORC supports this change.
- [28] Currently, ORC must decline any application for a discharge of more than 2.5 µg/m³ of PM₁₀ (5% of the of the standard) in a polluted airshed/air zone, unless the applicant can offset that discharge within the same airshed. This provision applies to discharges that require consent under the Plan but does not apply to permitted discharges. Domestic heating emissions, provided they meet emission standards in the RPA, are considered a permitted activity. This provision does not therefore apply to emissions from domestic heating but will capture any large scale or commercial activities applying for discharge consents.
- [29] The NESAQ amendments propose the same approach of 5% of the standard to determine the discharge limit that will apply these controls. This equates to a minimum PM_{2.5} discharge of 1.25mg/m³. While proposed, the consultation documentation states that 'this may not be practical to implement'. ORC staff don't have a position as to what an acceptable discharge limit may be as research in this area has not been undertaken, however any new proposal will need to ensure it is practical and able to be measured, implemented and forms a robust measure for compliance action.
- [30] MfE have specifically requested feedback on these offset provisions. ORC staff are mindful that offsetting of PM may not always be appropriate, and to date there are no examples of such off-setting occurring in Otago. Most activities that would trigger these provisions in Otago involve investment in the necessary technology to ensure a discharge is as clean as possible. Any application proposing an offset of PM would need to meet a high test involving provision of a very thorough assessment of how that

approach might work. While in principle, we support the use of offsets, anecdotally evidence from other Councils indicate that these processes are complex and often onerous on both Council and applicant resources.

- [31] Therefore, it is proposed to include the following in the submission to MfE:
- It is not clear what the process or expectations are from a consenting and compliance perspective to review existing consents under the PM₁₀ regime where they would now exceed the PM_{2.5} discharge limits. Depending on the approach, this could have implications for resourcing in consents and compliance to ensure implementation of NESAQ is achieved. It also has implications for current permit holders.
 - With regard to allowing sufficient time for PM_{2.5} datasets to be built, staff support the approach to continue to define polluted airsheds by PM₁₀ standards until a robust dataset using PM_{2.5} is available to enable the move across. The MfE may wish to consider how this would work in practice across the country to ensure the implementation of the standard and the transition to PM_{2.5} occurs in a relatively consistent timeframe.

65% thermal efficiency standard

- [32] The existing NESAQ requires domestic solid fuel burners to achieve at least 65% thermal efficiency. The proposed amendments will retain this standard. With current technology, thermal efficiency is a trade off against a burner's emission rate. Anecdotal reports suggest that a reduction in emission of PM results may result in a small decrease in thermal efficiency. ORC staff have no reason not to support this retention. However, opportunities for improved technologies to be developed that may result in a reasonable trade-off between emission rates and thermal efficiency are supported. ORC would support MfE investigating ways for the NESAQ amendments to encourage technologies that may result in a small reduction in thermal efficiency whilst providing for significant emission reduction.

Mercury emissions

- [33] Amendments to NESAQ propose to control emissions to air and prohibit certain industrial processes to ratify the Minamata Convention on Mercury. This incorporates the following two changes:
- The introduction of new standards that prohibit the use of mercury in facilities being used in listed manufacturing processes to reduce the possibility of emitting mercury to air. Manufacturing processes including chlor-alkali production, acetaldehyde production where mercury is used as a catalyst; vinyl chloride monomer production; sodium or potassium methylate or ethylate and production of polyurethane using mercury catalysts; and
 - Incorporating international best practice guidance as a mandatory consideration for Councils when making planning or consenting decisions about the discharges of mercury from listed sources including coal-fired power plants; coal-fired industrial boilers; smelting and roasting processes used in the production of non-ferrous metals; waste incineration facilities and cement clinker production. Small boilers under 2MW will not be affected.
- [34] Otago has no identified issues of mercury emissions; therefore, staff have no reason to not support the proposal to prohibit mercury from listed sources and incorporate best practice guidelines when considering such applications.

OPTIONS

Recommendations for an ORC submission:

- [35] Attached to this report is a draft submission on the NESAQ amendments. It covers the following elements:
- ORC supports the introduction of PM_{2.5} as the primary regulatory tool to manage ambient particulate matter.
 - ORC supports the transition to polluted airsheds being classified through PM_{2.5} standards.
 - ORC supports the change in definition for domestic solid fuel burners.
 - ORC supports the proposed amendment of the NESAQ to reduce the emission rate for new solid-fuel burners to no more than 1.0g/kg, while noting that for our most polluted air sheds, ORC has already introduced stringency.
 - ORC notes in its submission that the amendments will not result in significant improvements to air quality in Otago without implementing non-regulatory methods and addressing existing non-compliant burners. The change to PM_{2.5} as the regulatory tool will result in a significant increase in exceedances of the standards in many Otago towns.
 - ORC supports retaining the 65% thermal efficiency standard of solid-fuel burners.
 - Otago has no identified issues from industrial mercury emissions; therefore, ORC supports the proposal to prohibit mercury from listed sources.
- [36] Changes or further considerations are also requested of MfE, and reflect the following:
- Request for a lower emission standard for solid fuel burners to be considered in order to encourage the installation of ULEB.
 - Set expectations about 'end of life' of non-compliant burners.
 - That a transition period of at least two years is implemented to allow Councils to set up a monitoring programme of PM_{2.5} and to begin to build an appropriate dataset.
 - Support from MfE to provide appropriate information that will support community education of the NESAQ amendments, particularly around the likely increase in exceedances once PM_{2.5} is being measured.
 - An acknowledgement of the significant RMA policy work programme currently underway at ORC and to consider this when setting timelines for when changes need to be implemented by Councils.

CONSIDERATIONS

Policy Considerations

- [37] The creation of, and any subsequent changes to, a National Environmental Standard will have immediate effect. Therefore, when an updated NESAQ is gazetted ORC must, without unnecessary delay, make any necessary changes to its relevant plans. We are still in the consultation process and the latest information from MfE indicates any changes are likely to be gazetted in the first quarter of 2021.
- [38] The changes to the NESAQ may require an update to the RPA or can simply sit over the top of the RPA. If they are required to be introduced to the RPA, this is done via an administrative process, with no community consultation required to be undertaken.

- [39] The proposed amendments to NESAQ raise several issues which ORC will need to consider moving forward as part of the Air Plan review. It is proposed that these issues will form part of future workshops with Council on air quality issues for the region. The issues to consider include, but are not limited to:
- Review of the existing Air Zone classifications, which may result in some towns currently in Air Zone 2 being moved into the more stringent Air Zone 1.
 - More stringent emission standards if the NESAQ amendments retain the 1.0g/kg in order to encourage the installation of ULEB;
 - Consider an approach to define and enforce 'end of life' timeframe for non-compliant burners.
 - More broadly the role of domestic solid fuel burners in relation to other forms of clean heating.

Financial Considerations

- [40] Changes to the RPA to implement the NESAQ are outside of the current policy budgets however the process will be relatively low cost. The latest indication from MfE is the updated standards are likely to be gazetted in the first quarter of 2021. Any required changes to the air plan are not budgeted nor in the policy work programme for 2020/21.
- [41] A full air plan review is identified in ORC's Long Term Plan 2018-2028. Any further work that is required to address issues not directed by the NESAQ will need to be provided for in the full review.
- [42] Implications for compliance resourcing and processes will need to be considered further due to the implementation of more stringent standards.
- [43] The consultation document identifies that Regional Councils may require a transitional timeframe to allow time for compliance, such as purchasing additional monitoring equipment. In 2019 ORC started a 3-year plan to add to/replace the PM10 network with PM2.5 monitoring. Staff have identified that ORC will need to purchase an additional 2 instruments. If so, installation work will be completed in 2021. The current timeline being worked to for installations is set out earlier in this report.

Significance and Engagement

- [44] While a plan change process would usually trigger the Significance and Engagement Policy, this will be administrative only, with no opportunity for public input. The changes may affect a wide section of the community.

Legislative Considerations

- [45] Any plan change process will be undertaken in accordance with all relevant regulations.

Risk Considerations

- [46] Any risks from options and decisions to manage issues outside those directed by the NESAQ will be assessed as part of any full plan review of the Regional Plan: Air.
- [47] The lack of requirement under the NESAQ for a householder to be compelled to replace appliances that are non-compliant will hinder ORC's compliance with the NESAQ and as a result the NESAQ purpose to make a positive change for air quality.

[48] While the number of non-compliant household burners will not increase, the new standard will increase the frequency in which exceedances are recorded. The compliance risk will need to be managed in both a regulatory response and how ORC manages its communication on why this is happening and what it is doing to improve the situation. Compliance and enforcement powers and workability of the standard may leave ORC looking like it is failing when it is the limitations of the NESAQ causing the issue.

NEXT STEPS

[49] The next steps include:

- a. Upon comments received on the draft submission by Committee, staff will update the submission and bring it back for Council endorsement at the next Council meeting 24 July 2020.
- b. Commence discussions with Council on the strategic approach and key drivers to addressing Air Quality for Otago, which will begin to form the basis of a future Air Plan Review.

ATTACHMENTS

1. NESAQ Submission [9.2.1 - 6 pages]

Date: 26 June 2020

Ministry for the Environment
PO Box 103623
Wellington 6143

Emailed: AirQualityNESsubmissions@mfe.govt.nz

Dear Sir / Madam,

Submission on the revised National Environmental Standard for Air Quality (NESAQ)

Thank-you for providing the Otago Regional Council the opportunity to consider the proposed NESAQ revisions.

Managing and improving air quality is an important outcome for the Otago Regional Council. Good air quality is critical to community health and wellbeing. And whilst it may be true that air quality is good in most places in Aotearoa, some towns in Otago experience very poor air quality, particularly in winter.

The combined factors of the Otago climate, geography and population growth means that improving air quality for our communities is a complex problem. It requires a more holistic approach rather than just relying on regulation and education in order to reduce the frequency of breaches of the standards, and ultimately improve human health and well-being. So, whilst ORC welcomes the release of a revised NESAQ and supports the aim to improve air quality, the ORC is very aware that regulation alone will not result in improved air quality for Otago.

Otago Air Quality Challenges

Achieving good air quality in Otago is complex. Air quality in Otago is very good most of the year. However, Air Zone 1 towns, and the Air Zone 2 towns of Milton and Mosgiel experience high levels of PM₁₀ (and likely PM_{2.5}) in winter when home heating needs peak. The extreme cold of Otago's winters, access to free or cheap fuel, rising energy prices and poor quality insulation in many homes results in a reliance on wood and coal burning for home heating. These impacts are further exacerbated by the frequency of inversion layers in Central Otago and the rapid growth of these towns situated in areas affected by temperature inversions.

In addition to the climate, geographical and population challenges listed above, non-compliant burners are also a contributing factor to air quality issues in Otago. It is suspected that these are burners which may have been installed prior to the current NESAQ taking affect and have not been replaced, or have been installed illegally. The lifespan, or continued maintenance, of these burners continues to exacerbate the problem and prolongs the action of replacement to cleaner options.

We can achieve clean air throughout Otago if cleaner heating options are widely adopted in our communities. We know that continuing to use solid fuel burners, even those that meet current standards, will not deliver clean enough heating and will take some time to result in improvements in

air quality. Our communities will need to go a step further and choose low-impact heating, which may include ultra-low emission burners (ULEB), electricity or gas heating, pellet fires, emission control devices and other innovative low-emission heating options. Even then, there are wider issues that will result, including problems such as energy poverty.

Until such time that many of the factors above are addressed, and a more holistic approach to managing air quality for health reasons is adopted, the amendments to NESAQ will not be a silver bullet for Otago. Otago will continue to have a reliance on wood burners for home heating and will therefore continue to report exceedances of PM, with PM_{2.5} simply further highlighting an already bad situation.

ORC Support for NESAQ Amendments

ORC is encouraged by, and supportive of, the following features of the proposed NESAQ amendments, and make the following comments on these amendments:

- *Introducing PM_{2.5} as a primary regulatory tool* – ORC acknowledge that this approach will assist in managing the different health effects resulting from short term and long term exposure to particulate matter. This change also reflects best practice and adopts the current recommendations from the World Health Organisation. We also support the requirements to apply both a daily and annual standard for PM_{2.5}.
- *Reduction in the emission design standard for domestic burners to no more than 1.0g/kg* – In principal a move to lowering the emission design standards for domestic burners is supported. However, as set out in following sections of this submission, ORC's position is that it might not go far enough. ORC would support consideration of a more precautionary approach. On this basis, the retention of the ability for Councils to set more stringent requirements is supported.
- *Broadening of the standard to apply to all domestic, solid-fuel burners* – The Regional Plan: Air for Otago (RPA) already contains a definition of 'domestic heating appliances' which is similar to that which is proposed within NESAQ. This will result in the RPA being more closely aligned to the NESAQ, and therefore the implications of this change (on its own) on Otago are minimal.
- *Polluted airshed classification* – classifying airsheds as polluted if they breach either annual or daily PM_{2.5} standards is a logical approach and maintains consistency with the shift to managed to PM_{2.5}. ORC supports this.
- *Mercury emissions* – ORC understand the effects that mercury has on air quality but has no identified issues from industrial mercury emissions. Despite this, ORC supports the proposal to prohibit mercury from listed sources due to the adverse environmental effects
- *Timing, implementation and transitional provisions* - ORC supports a transitional approach to measuring PM_{2.5} to allow Councils the time to set up an appropriate monitoring programme. It would seem reasonable to give Councils at least 2 years from the amendments to NESAQ being gazetted to have a monitoring programme in place, at least in Air Zone 1 towns that experience the poor air quality.

ORC concerns regarding NESAQ amendments

In addition to the points above, ORC has the following comments in relation to other parts of the NESAQ.

- *Retaining PM₁₀ standard with reduced mitigation requirements for breaches* – in principal, retaining the PM₁₀ standard from a monitoring perspective is supported. However, the reasoning for requiring mitigation for both PM₁₀ and PM_{2.5} is unclear. It is Councils position

that if you are focusing on PM_{2.5} and mitigate and enforce compliance to that level, then PM₁₀ will also improve as a natural consequence. Therefore, the addition benefit from requiring mitigation methods, even in a reduced capacity, of PM₁₀ is questioned.

- *Thermal efficiency* - ORC acknowledge that with current technology, thermal efficiency is a trade off against a burner's emission rate. Anecdotal reports suggest that a reduction in emission of PM results in a decrease in thermal efficiency. In some instances, it is understood that a small reduction in thermal efficiency can result in significant reduction in emission rates. Whilst ORC doesn't oppose thermal efficiency remaining at 65%, a blanket approach such as this would appear to reduce the opportunity to support and encourage improved technologies to be developed that may result in a reasonable trade-off between emission rates and thermal efficiency.
- *Polluted airsheds and resource consents* – whilst applying the existing approach (five percent of the proposed standard) to calculate the minimum discharge of PM_{2.5} may provide consistency with the current regulations, ORC are concerned that this may not give due consideration to the implementation of the regulation. Whilst ORC hasn't undertaken any research to determine what an acceptable discharge is, any new proposal will need to ensure it doesn't result in a less robust compliance process that is open to challenge or an increased cost to Council to undertake monitoring with little or no benefit. Further, additional clarity is sought as to the expectations around consenting and compliance processes required to review existing consents under the PM₁₀ regime that would now exceed the PM_{2.5} discharge limits. With regard to offsets within polluted airsheds, ORC is mindful that whilst in principal offsets can be supported, they are not always appropriate. To date there are no examples of such off-setting in Otago for ORC to draw comparison to. However, anecdotally they can be complex and onerous processes for both council and applicant.

Implications of NESAQ amendments for ORC

ORC also wish to draw your attention to the likely impacts of the revised NESAQ, and anticipate all regional councils will be similarly affected.

Compliance with NESAQ:

The main source of PM_{2.5} for Otago is burning wood and coal for home heating during winter. As such many Otago towns are already failing to meet the requirements of the current NESAQ. ORC's monitoring of PM₁₀ levels in Air Zones 1 and some Air Zone 2 towns¹, particularly during winter, confirm they experience poor air quality, with multiple breaches of the daily PM₁₀ limit in all Air Zone 1 areas, and some of Air Zone 2. Based on existing data, a move to PM_{2.5} will result in a higher number of exceedances recorded in Otago. Contained in Appendix 1 is a table comparing monitoring data for PM₁₀ and synthetic PM_{2.5} during 2019 for the Air Zone 1 and 2 towns that are monitored. This table shows that in 2019 a total of 68 exceedances of PM₁₀ were recorded. Applying the proposed new standard of PM_{2.5} the number of exceedances would increase to 232.

Monitoring implications:

ORC has already commenced a programme to begin monitoring for PM_{2.5}, reflecting the expected change which now forms part of the proposed amendment. This programme covers the Air Zone 1 and 2 towns which currently breach PM₁₀ standards and therefore likely to exceed the PM_{2.5} standard. The programme will be fully implemented by the end of 2021. The programme does not include the

¹ Air Zone one towns – Alexandra, Arrowtown, Clyde and Cromwell; Air zone two towns – Dunedin, Mosgiel and Milton.

monitoring of any new towns which may end up breaching PM_{2.5} standards. Therefore, the current monitoring program may need to be expanded in coming years.

Policy implications:

As with any update to regulation, an administrative plan change will need to be undertaken to reflect the changes to NESAQ.

Further policy changes may be required to review and update Air Zone classification pending monitoring results of PM_{2.5}. This would also apply to determining polluted airsheds for the purposes of Regulation 17 of NESAQ. This work would form part of the future Air Plan Review.

ORC requested changes and support

To assist in addressing some of the implications set out above and to have a meaningful impact on the air quality of Otago, the following changes to NESAQ or additional assistance beyond that of regulation from MfE are requested.

- *Lower emission standard* - whilst the change to 1.0g/kg is supported, it is unlikely to have significant effect on improving the air quality of Otago. ORC has already introduced stringency, with the standard in our RPA for domestic heating in Air Zone One set at 0.7g/kg. To have a meaningful impact on air quality in Otago, as a minimum, ultra-low emission burners (ULEB) need to be encouraged. To support this requirement, ORC encourage more stringency in the NESAQ, to set a lower emission standard than proposed.
- *Timing, implementation and transitional provisions* - Whilst the changes to NESAQ will have immediate effect, and changes to the RPA will need to be made without necessary delay, ORC currently has a large policy improvement programme underway. Therefore, ORC request consideration for the changes to be made under section 44A(6) of the Resource Management Act 1991. This would be most efficient.
- *Set expectations around 'end of life' burners and phaseout* – to assist with the replacement of non-compliant burners, it is requested MfE set expectations around the 'end of life' timeline for wood burners and encourage their phase out.
- *Community Education* – the change to PM_{2.5} will result in a higher number of exceedances in towns across Otago, although the air quality itself hasn't actually worsened. It will be incumbent on ORC to educate the community about these changes. Such work is outside of ORC's current work programme. In order to effectively implement these changes, ORC requests MfE make resources available at the same time as the adoption of the revised NESAQ. This will assist local authorities to inform the community about the guidelines and its implications. In addition to community education regarding the change to PM_{2.5}, there will also be a need for education related to the new emission standards for domestic solid-fuel burners.

Summary

In summary ORC provides the following response to the amendments to the NESAQ:

- Support for PM_{2.5} to replace the PM₁₀ standard as the primary standard for managing particulate matter.
- Support for polluted air sheds to be determined by PM_{2.5} standards, however consideration to the discharge threshold needs to give consideration to the consenting and compliance

implications for councils and ensure that the threshold set will have actual benefit to air quality.

- Support for the amendment to reduce emission standard to no more than 1.0g/kg but request the consideration of a lower emission standard to support ULEB take up.
- Support for allowing councils to set more stringent standards with regard to emission standards for domestic burners.
- Support the amendments to the definition of solid-fuel burners.
- Support for retaining the 65% thermal efficiency standard of solid-fuel burners, but look to provide the opportunity for industry improvements which may require a small reduction in thermal efficiency standards to achieve greater reductions in emission rates.
- Support prohibiting mercury emissions from listed sources.

In addition, ORC seeks the following:

- Support to educate the community on changes to monitoring PM_{2.5}
- A 2 year transitional period to allow councils to set up an appropriate monitoring period for PM_{2.5}
- Support in NESAQ and through Government initiatives to help address the impact of existing non-compliant burners and to conversion to more efficient domestic burners.
- Acknowledge the considerable work loads of Regional Councils to update policy frameworks in light of the large amount of new central government direction currently being released.

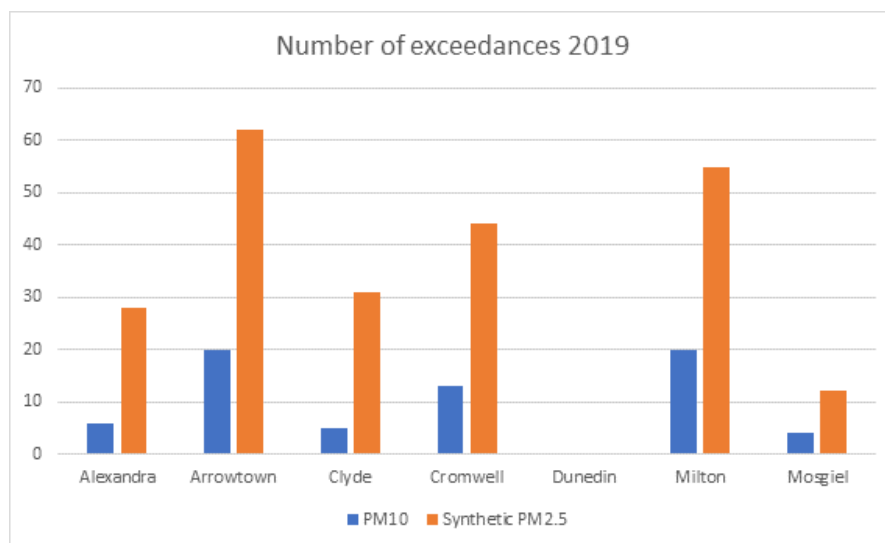
Appendix one: Comparison of PM10 and PM2.5 based on 2019 monitoring

The table below compares monitoring data for PM₁₀ and synthetic PM_{2.5} during 2019 for the Air Zone 1 and 2 towns. This shows the significant increase in exceedances when measuring PM_{2.5}, with an increase from 68 exceedances (PM₁₀) to 232 (PM_{2.5}). Only Dunedin would meet the proposed NESAQ 24-hour standards. In 2019 it is likely that Alexandra and Dunedin would have met the proposed annual average limit for PM_{2.5} of 10µg/m³.

The synthetic PM_{2.5} data was calculated using PM_{2.5} to PM₁₀ ratios, which vary depending on the source of particulate matter; in many places in Otago this is seasonal. The ratios used were developed based on information from New Zealand studies where PM_{2.5} and PM₁₀ were monitored concurrently, with adjustments made for Otago locations.

Site	PM _{2.5} /10 ratio		Number of Exceedances		Annual average	
	May-Aug (winter)	Sep-Apr (summer)	PM ₁₀	Synthetic PM _{2.5}	PM ₁₀	Synthetic PM _{2.5}
Alexandra	0.9	0.55	6	28	13.6	9.9
Arrowtown			20	62	16.3	13.1
Clyde			5	31		
Cromwell			13	44		
Dunedin	0.48		0	0	12.1	5.5
Milton	0.9	0.55	20	55		
Mosgiel	0.68		4	12	16.8	11.3
Total number of exceedances			68	232		
Limit			50 µg/m ³ 1 per year	25 µg/m ³ 3 per year		10

The number of 2019 exceedances for PM₁₀ and synthetic PM_{2.5} is also shown in the graph below.



9.3. Annual Air Quality Report 2019

Prepared for:	Council
Report No.	P&S1852
Activity:	Environmental: Air
Author:	Sarah Harrison, Air Quality Scientist
Endorsed by:	Gwyneth Elsum, General Manager Strategy, Policy and Science
Date:	29 June 2020

PURPOSE

- [1] This is the annual report for the Air Quality Programme. The report provides a summary of State of the Environment (SOE) air quality monitoring, SOE network upgrades, implementation of ORC's Air Quality Strategy and compliance of the ORC Air Plan.

RECOMMENDATION

That the Council:

- 1) **Receives** this report.

EXECUTIVE SUMMARY

- [2] Otago has several towns – Alexandra, Arrowtown, Cromwell, Clyde and Milton - where air quality is considered degraded during winter. Under the Resource Management Act (RMA, 1991) and the National Environmental Standards for Air Quality (NESAQ, 2004, revised 2011) regional councils are required to monitor and improve air quality where necessary.
- [3] The main pollutant of concern in Otago is particulate matter, a product of combustion. In some Otago towns in excess of 90% of PM₁₀ (particulate matter with a diameter of less than 10 microns) is produced by home heating emissions from solid fuel burners (Environet, 2019). Long term exposure to PM₁₀ and PM_{2.5} (particulate matter with a diameter of less than 2.5 microns), contribute to the risks of developing, and exacerbate existing, cardiovascular and respiratory conditions, which makes them a serious threat to human health (WHO, 2006).
- [4] ORC has a State of the Environment (SOE) monitoring network to monitor PM₁₀, to report exceedances of the NESAQ (50 µg/m³, 24-hour average), and provide direction for the development of implementation of air quality improvements. This network is currently being upgraded to include the monitoring of PM_{2.5}, in preparation for the updated NESAQ which will include limits for PM_{2.5}. Accordingly, a spatial study was conducted in Wanaka to prepare for a new PM_{2.5} monitor. Additionally, the monitoring site in Dunedin is running the existing and new instruments concurrently for comparison.

- [5] In 2018 the ORC Air Quality Strategy was reviewed, and an Implementation Plan was made to continue the wood-burner replacement programme that was begun in 2008. In 2019 a pilot study for community engagement and the replacement of wood burners was undertaken in Arrowtown. Monitoring methods for compliance/enforcement of the ORC Air Plan rules were also trialled during this project, to help inform future enforcement plans. During 2019, an emissions inventory was conducted in Wanaka, Cromwell and Clyde to gather information on types of heating used in these communities, which will aid ORC’s air quality implementation.

STATE OF THE ENVIRONMENT

- [6] Otago has a network of seven monitoring stations in the following locations: Alexandra, Arrowtown, Clyde, Cromwell, Central Dunedin, Mosgiel and Milton. All of these sites monitor PM₁₀, and Central Dunedin also monitors PM_{2.5}.
- [7] Under the RMA, regional councils are required to monitor air quality and work towards meeting the standards of the NESAQ. The NESAQ is currently under review to include PM_{2.5}, however the World Health Organisation have recommended guidelines for PM_{2.5}. The relevant standards and guidelines are given below (Table 1).

[8] *Table 1. Standards and guidelines for PM₁₀ and PM_{2.5}*

Pollutant	Averaging Time	NESAQ Standard		NESAQ Guideline		WHO Guideline	
		Value (µg/m³)	Allowable exceedances	Value (µg/m³)	Allowable exceedances	Value (µg/m³)	Allowable exceedances
PM ₁₀	24-hour	50	1 per year			50	NA
	Annual			20	NA	20	NA
PM _{2.5}	24-hour					25	3
	Annual					10	NA

- [9] A summary of the key SOE monitoring indicators for 2019 are given below (Table 2).

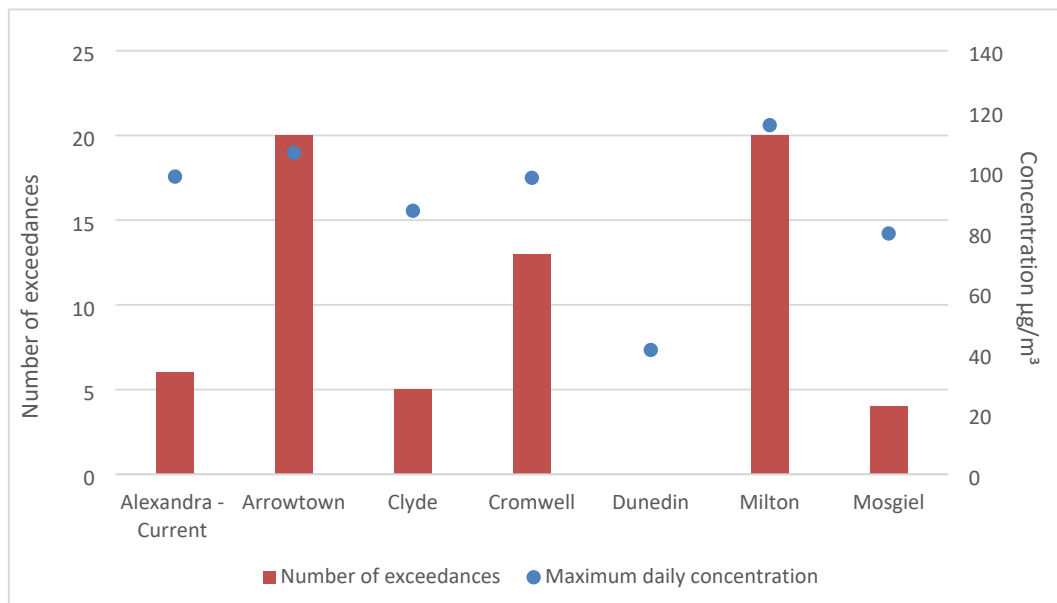
Table 2. Key PM₁₀ indicators for 2019

Site	Maximum daily concentration (µg/m³)	Winter Mean (µg/m³)	Average highest 10 days (µg/m³)	Number of exceedances (n)	Annual average (µg/m³)
Alexandra - Original ¹	185	42	118	35	25
Alexandra - Current	98	23	63	6	14
Arrowtown	106	31	78	20	16
Clyde	87	22	56	5	
Cromwell	98	26	66	13	
Dunedin	41	12	29	0	14
Milton	115	29	75	20	
Mosgiel	80	25	56	4	16

¹ Original site data is calculated using the following equation from the 2016 co-location study:
 $PM_{10} \text{ (original site)} = 1.886 (PM_{10} \text{ (current site)}) - 0.49$

[10] With the exception of the Dunedin site, all sites exceeded the NESAQ limit for PM₁₀ several times during 2019. All monitored sites met the WHO and NESAQ annual guideline for PM₁₀, the estimation is that the original Alexandra site would have exceeded this. Arrowtown and Milton each had 20 exceedances, as well as similar winter means and daily maximum for the winter (Figure 1).

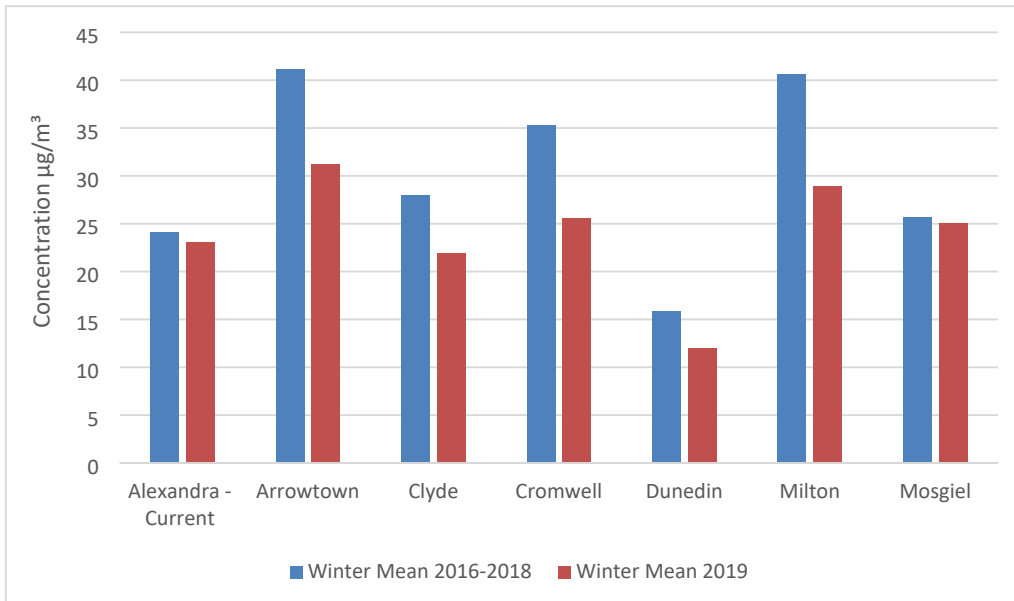
[11] *Figure 1. Number of exceedances and maximum daily concentrations for 2019*



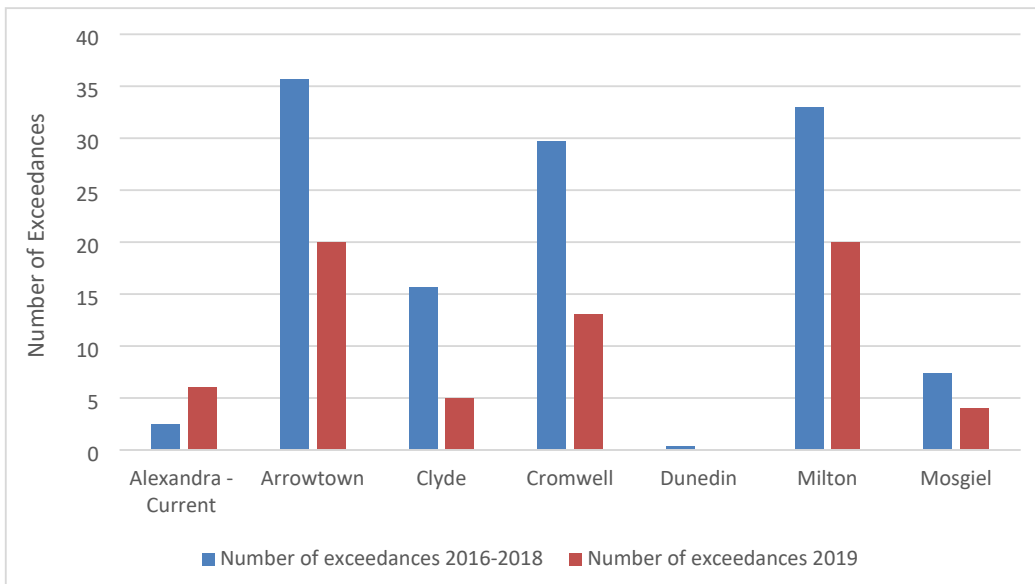
[12] When comparing data to previous years, the winter mean is a more appropriate indicator as exceedances only occur in winter. The below graphs show how 2019 compares with the average of the previous three years (Figures 2 and 3). At all monitored sites, except for Alexandra, the mean winter concentrations and number of exceedances has shown improvement. This improvement may be attributed to the replacement of non-compliant wood burners, but also the climate characteristics for the winter.

[13] The NIWA climate summary for 2019 details the fourth warmest year on record due to El Niño. The year was characterised by warm, drought inducing conditions, interspersed by storms and high rainfall. Outside the storm events, the winter in parts of Otago was relatively mild and dry. The Central Otago sites still experienced several days with average temperatures below 0°C during June 2019, which is a strong predictor of inversion layers and consequently NESAQ PM₁₀ exceedances.

[14] Figure 2. Mean winter concentrations comparison

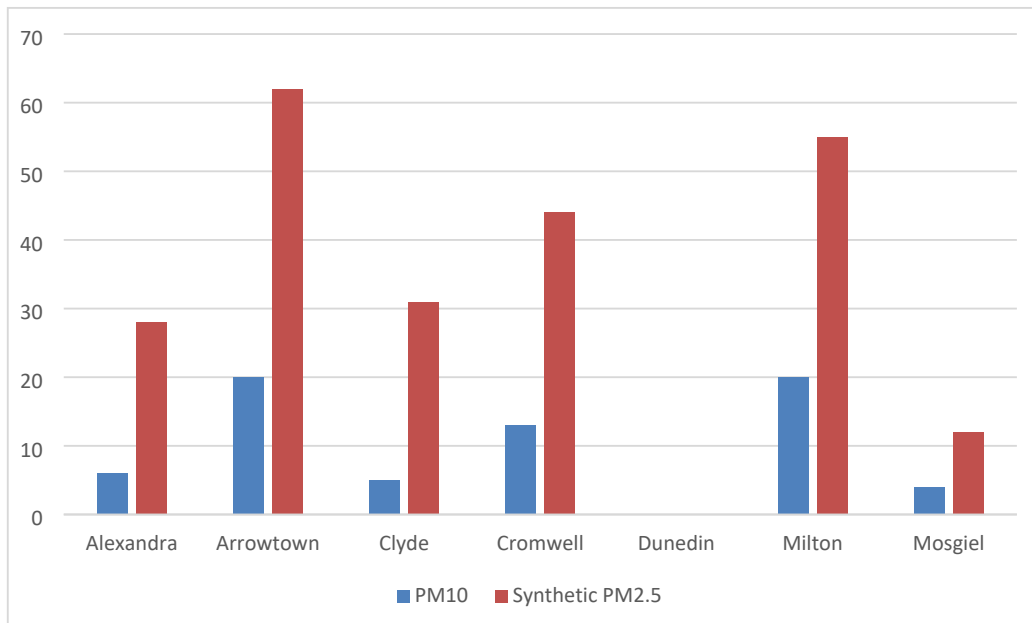


[15] Figure 3. Number of exceedances comparison



[16] The proposal of the NESAQ to include PM_{2.5} has been released, and details annual and 24-hour limits which are the same as the WHO guidelines (10 µg/m³ and 25 µg/m³, respectively). The potential exceedances Otago might experience can be calculated using PM_{2.5} to PM₁₀ ratio estimations. The following graph shows that the number of PM_{2.5} exceedances per year would be at least doubled in all monitored towns (ORC, 2020b).

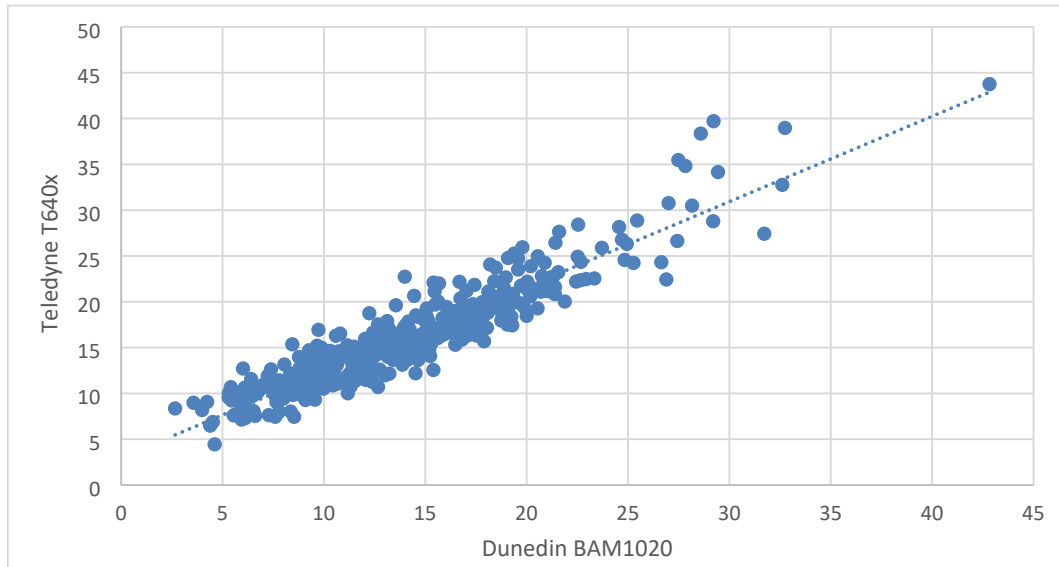
[17] Figure 4: Predicted number of exceedances for the proposed NESAQ for PM_{2.5} compared to PM₁₀ for 2019



MONITORING NETWORK UPDATES

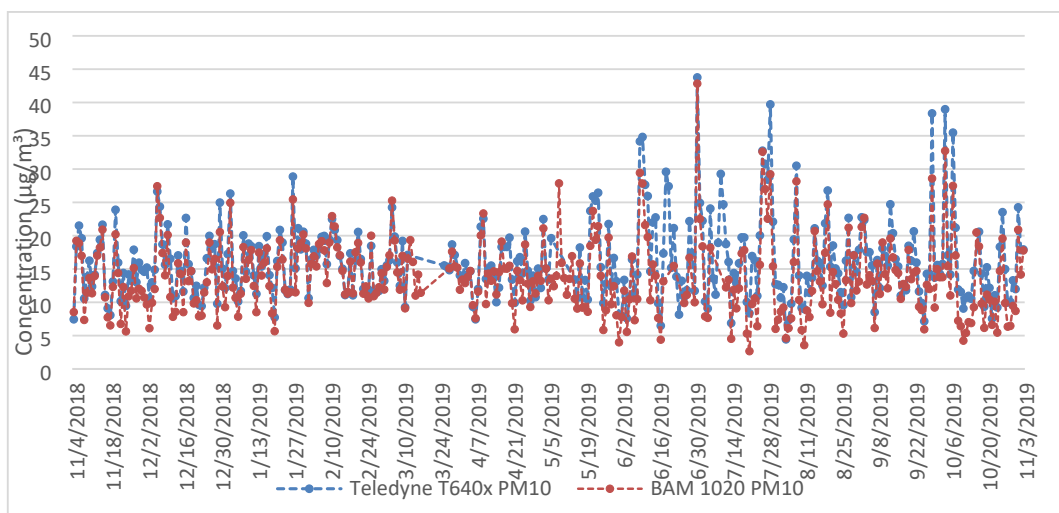
- [18] In anticipation to the NESAQ update to include standards for PM_{2.5}, two new monitors are scheduled to be installed in Arrowtown and Wanaka during 2020. These new monitors are different examples of optical technology (measure particulate matter in real time using light scatter), as opposed to the current method of monitoring using BAMs (beta-attenuation monitor, particles are measured by how much beta radiation is absorbed on a filter tape every hour). Optical technology is not necessarily newer than BAM technology, but the ORC instruments are becoming outdated, and the Teledyne model was chosen because it is able to measure PM₁₀ and PM_{2.5} at the same time.
- [19] The instrument for Wanaka (MetOne ES642) will be the first permanent monitoring to be undertaken in this town, and a spatial study was carried out during August 2019 to confirm the most appropriate monitoring location (ORC, 2020a). The Arrowtown instrument (Teledyne T640x) will be co-located with the existing monitor.
- [20] The first Teledyne T640x was installed in Dunedin in 2018 and we now have a full years' worth of comparison data between it and the existing BAM1020. Figure 5 shows the close relationship between the two instruments' 24-hour average PM₁₀ concentrations.

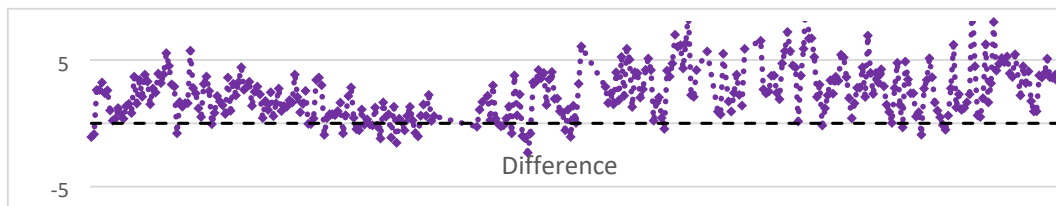
[21] Figure 5. Comparison of daily concentrations ($\mu\text{g}/\text{m}^3$) of two different instruments in Central Dunedin



[22] The average difference between the two sets of daily values is $2.4 \mu\text{g}/\text{m}^3$, with the Teledyne T640x consistently over-reporting compared to the BAM1020 (Figure 6). The annual PM_{10} and $\text{PM}_{2.5}$ values for 2019¹ were 16 and $7 \mu\text{g}/\text{m}^3$ respectively, both of which are compliant with the WHO guidelines. (¹Data after 4 November 2019 was unavailable for collection at time of writing due to COVID-19 levels 3 and 4).

[23] Figure 6. PM_{10} time series at Dunedin for 2018-2019



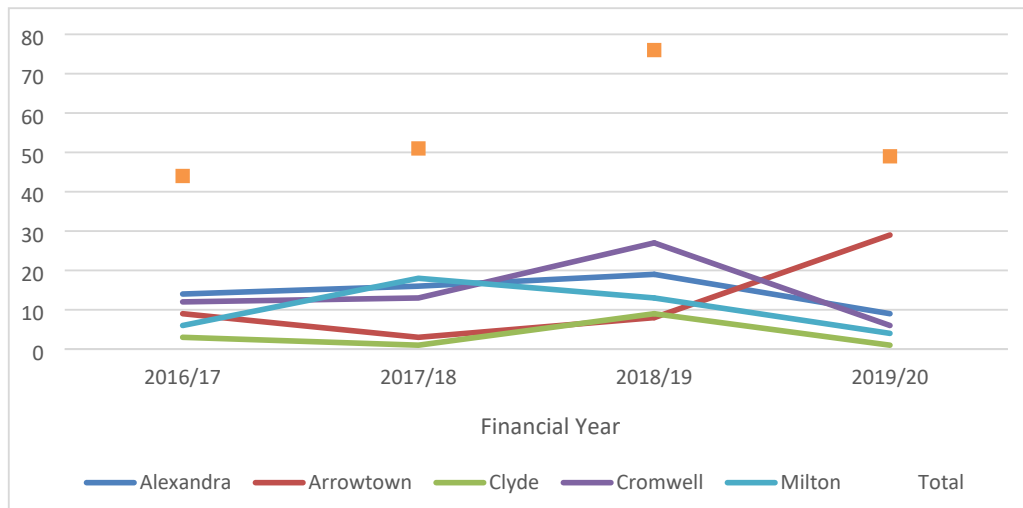


- [24] PM₁₀ at the Dunedin site has not exceeded the NESAQ for two years, and with only the one exceedance over the last five years, this is considered a non-polluted airshed. Central Dunedin is in Air Zone 2, and is characterised by industrial emissions, with coastal and port influences and a proximity to SH1 traffic, these factors set it apart from the other monitored towns that have high residential heating influences. For these reasons, it is expected that the Teledyne T640x may have a different relationship to the BAM1020 data in Arrowtown.
- [25] These instrument replacements have been taking place as part of a three-year plan for the SOE monitoring network. Following years will see this continue until the entire network consists of the two new types of instrument, with expansion of the network into at least two new towns: Queenstown along with Wanaka. Further expansion beyond this will be directed by the future Air Plan review.

AIR QUALITY STRATEGY IMPLEMENTATION

- [26] During 2019 a winter monitoring and communications programme was undertaken in Arrowtown, as a pilot to further work in Air Zone 1 towns. This work was guided by the air quality strategy implementation plan ([ORC, 2018](#)), which recommended collaborative and community inclusive efforts. ORC worked with stakeholders such as the Arrowtown community, Cosy Homes Trust (CHT), Southern DHB and NIWA to establish an educational approach that ORC could contribute to with communications work and attending community events.
- [27] The ORC Clean Heat Clean Air (CHCA) subsidy was promoted throughout this project, as a way for residents to replace their older wood burners at a lower cost, with the view to help reduce overall emissions in Air Zone 1. The CHCA subsidy was available to all Air Zone 1 towns and Milton and could be used for ultra-low emission wood burners, pellet fires or heat pumps.
- [28] Burner replacements using the CHCA subsidy in Arrowtown increased during and after this programme (Figure 7). Of the 49 allocated burner replacements, 29 of these were for Arrowtown properties.
- [29] The start of the COVID-19 pandemic response meant that much of this work could not be replicated this year prior to winter starting, so a plan to continue to conduct communications and monitoring work is being developed for the remainder of 2020.

[30] *Figure 7: Allocated CHCA subsidies for recent financial years.*



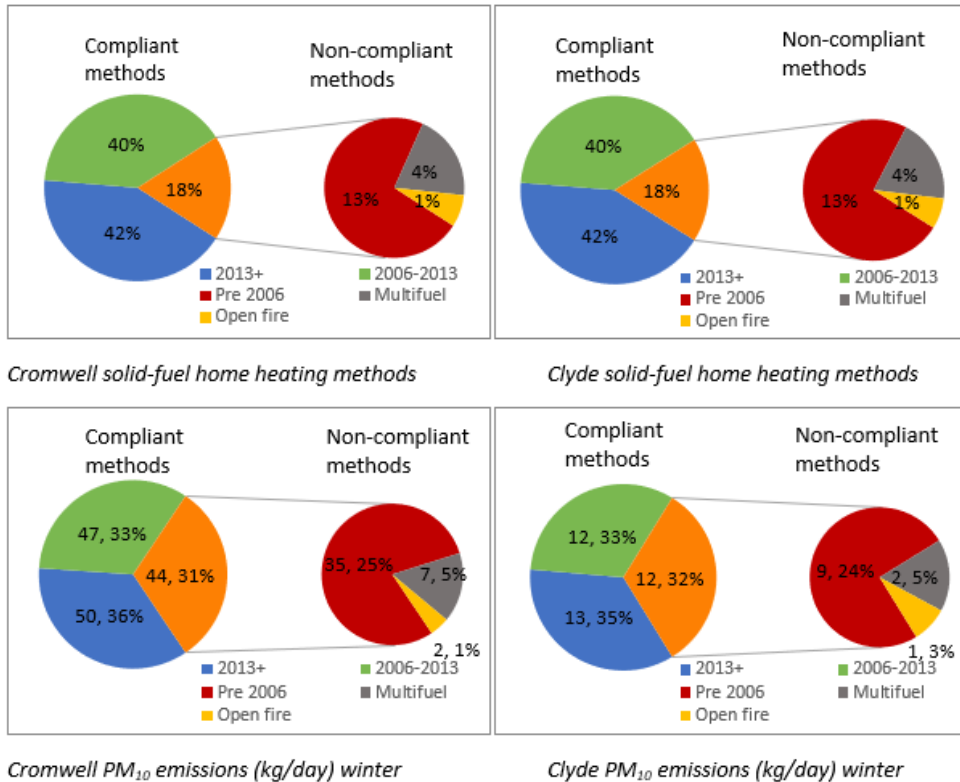
COMPLIANCE AND ENFORCEMENT FOR DOMESTIC BURNERS

- [31] The ORC Air Plan outlines the rules for the three Air Zones in terms of the emissions standards domestic burners must meet (rule 16.3.1), and also states that no domestic burner may discharge offensive or objectionable smoke or odour beyond the boundary of the property in any Air Zone. There are many difficulties associated with enforcing these rules and investigating complaints.
- [32] ORC is technically able to undertake enforcement action where non-compliant burners are being used, however this has not been utilised in the past because it requires a different approach than the existing compliance framework, which is based around resource consents and permitted activities held by and undertaken by individuals or organisations. Domestic burners require a building consent from the local authority and many residents are not aware that ORC has rules for wood burners. Additionally, this is an extremely sensitive topic to broach with the community, as Otago experiences very cold winters and many residents have concerns around the cost and risk of relying solely on electricity. It is difficult to track down the non-compliant burners because the information ORC receives from local council building consents databases is not always complete, especially for older burners. It is also not possible to enter properties to check a burner age/type unless invited.
- [33] In terms of responding to offensive or objectionable smoke, by nature this can change over the course of an evening or morning due to wind dispersion and the characteristics of the smoke changing as the fire heats up or is dampened down. It can be very difficult to prove the source of smoke if many chimneys are contributing to a visible layer of smoke.
- [34] Decisions for the 2020/2021 year will need to be carefully considered due to the financial impacts of COVID-19, which are disproportionately affecting Queenstown-Lakes and Central Otago. The Energy Efficiency and Conservation Authority (EECA) currently have financial incentives for owner-occupied residences only, subject to eligibility criteria. ORC may be able to compliment this by concentrating efforts toward

rental properties with non-compliant burners, which would induce landlords to meet the Healthy Homes Standards (must be met by all rental properties by 2024). This would be undertaken by working more closely with the local authorities to obtain correct building consent data, establishing a database, and following an approach similar to the Arrowtown project pilot study for sending letters. In the meantime, ORC will continue to respond to any complaints as per normal procedures.

EMISSIONS INVENTORY

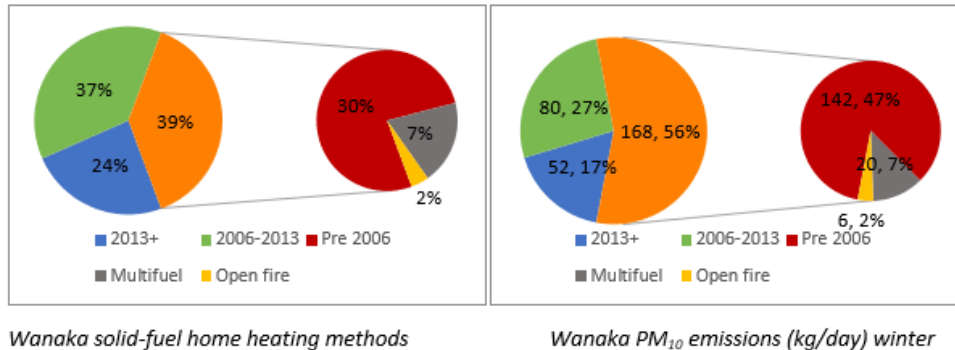
- [35] An emissions inventory was undertaken in Cromwell, Clyde and Wanaka by Environet during winter 2019. Results showed that between 95% and 98% of particulate matter (PM) emissions come from domestic heating in the three towns in winter.
- [36] Cromwell and Clyde have very similar percentages of home heating methods when using solid fuel. The data from both towns suggest 18% of non-compliant heating accounts for 32% of PM₁₀ emissions over a winter’s day (12 kg/day in Clyde and 44 kg/day in Cromwell). Compliant wood-fire burners from 2006 onwards contribute up to 68% of particulate matter, from 82% usage.
- [37] *Figure 8. Cromwell and Clyde heating methods and PM₁₀ emissions*



- [38] Wanaka is an Air Zone 2 town and has not had the same history of CHCA subsidy promotion as Air Zone 1 towns like Cromwell and Clyde. Wanaka has more relaxed rules, and is a slightly newer, rapidly growing town. The emissions inventory shows that Wanaka has a much higher percentage of the types of burners that are non-compliant in Air Zone 1 than Cromwell and Clyde (Figures 8 and 9), 39% compared to 18%. This could

be because not as many burners have been replaced over recent years, and there may have been less concern about air quality in Wanaka due to the lower occurrence of high pollution days.

[39] Figure 9. Wanaka heating methods and PM₁₀ emissions



CONSIDERATIONS

[40] A full air programme review, incorporating an integrated framework to improve air quality in Otago towns in winter months, warrants consideration. The situation is complex, requiring consideration of social, economic, human health and regulatory levers. Improving Otago air quality will likely require significant investment. Provisions have been in the 2020/21 budget to undertake a review of the ORC's air implementation programme.

NEXT STEPS

- [41] The monitoring network will continue to be upgraded and expanded in 2020.
- [42] The air quality implementation will continue during 2020, with the communications campaign and community engagement continued where possible. Cromwell and Clyde are the two remaining towns to receive engagement work. Monitoring will be considered due to the financial impacts of COVID-19.
- [43] The compliance and enforcement will continue in response to complaints for domestic burners.

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ORC, 2020 (b). *Technical Implications of the 2020 NESAQ Proposal*. Internal file note, May 2020. Internal reference A1334295

Wilton, E. 2019. *Wanaka, Cromwell and Clyde Air Emission Inventory – 2019*. Environet Limited, Internal Objective ID A1344874.

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ATTACHMENTS

1. Annual Report 2019 [9.3.1 - 1 page]

APPENDIX

Exceedance Table for 2019

Date	Site						
	Alexandra	Arrowtown	Clyde	Cromwell	Dunedin	Milton	Mosgiel
	PM ₁₀ µg/m ³ (24-hour average)						
21/05/2019		70					
22/05/2019				62			
23/05/2019	57						
24/05/2019		68					
25/05/2019		54		60			
26/05/2019						55	
27/05/2019						57	
28/05/2019				62			
29/05/2019		106		56		60	
30/05/2019		59				58	
31/05/2019		55					
1/06/2019		59					
2/06/2019		80	55	61			
3/06/2019		90					
4/06/2019		88					
5/06/2019						61	
6/06/2019						54	
7/06/2019		51		55		58	
8/06/2019	52	53				96	
9/06/2019	58					115	80
10/06/2019						52	
11/06/2019			51				
12/06/2019		62					
13/06/2019						54	69
14/06/2019				53		64	
15/06/2019				60		65	
16/06/2019						59	
17/06/2019		52				57	
18/06/2019		57					
19/06/2019		69					
20/06/2019		64					
21/06/2019		79		66		64	
22/06/2019		69		59		54	
23/06/2019	98		74	61		87	60
24/06/2019	90		87	98		79	
25/06/2019	91		68	69			59
26/06/2019		53					
27/06/2019						51	
Total	6	20	5	13	0	20	4

9.4. Arrowtown Air Quality Implementation

Prepared for:	Council
Report No.	P&S1851
Activity:	Environmental: Air
Author:	Sarah Harrison, Air Quality Scientist
Endorsed by:	Gwyneth Elsum, General Manager Strategy, Policy and Science
Date:	8 July 2020

PURPOSE

- [1] To provide a summary of the 2019 Arrowtown Air Quality winter programme initiative.

EXECUTIVE SUMMARY

- [2] Air quality in some Otago towns is significantly affected by home heating methods such as wood burning in winter months. During 2019, as part of the Air Quality Strategy Implementation Plan, ORC engaged with the Arrowtown community. Activities included education and monitoring to spread awareness and encourage better burning behaviour and the replacement of older heating appliances. This report discusses the methods used and explores the future options for the programme.

RECOMMENDATION

That the Council:

- 1) **Receives this report.**

BACKGROUND

- [3] Arrowtown is one of the ORC Air Zone 1 towns, that is, it exceeds the National Environmental Standards for Air Quality (NESAQ) for PM₁₀ more than ten times a year. The number of annual exceedances of the NESAQ (24-hour average PM₁₀ concentration of over 50 µg/m³) is between 20 and 40 and depends on the severity of the winter. Due to the landscape and meteorology characteristics of the area, Arrowtown is extremely susceptible to inversion layers in winter, which will trap the particulate matter at ground level (Figure 1). The source of PM₁₀ in Arrowtown is almost solely from home heating appliances - the combustion of wood and other fuel ([Wilton, 2016](#)).

- [4] *Figure 1. Particulates trapped at ground level in Arrowtown on a winter's morning in 2019*



- [5] Between 2008 and 2013, ORC conducted a programme offering Clean Heat Clean Air subsidies for home heating appliances, in order to replace some of the older, inefficient burners. Air quality improved over this time, but has since plateaued, and the uptake of subsidies dwindled ([ORC, June 2018](#)).
- [6] The Arrowtown Village Association approached ORC in 2018 and the Community Engagement Programme was extended to include agencies such as Cosy Homes Trust, the Southern District Health Board, and NIWA. In 2019/2020 the ORC Clean Heat Clean Air subsidy was renewed to foster installation of ultra-low emission burners, pellet burners or heat pumps. A secondary goal of this project was to identify effective engagement methods for use in other Air Zone 1 towns.

ARROWTOWN WINTER PROGRAMME

Policy Framework

- [7] In 2018 the Air Quality Strategy for Otago was reviewed to reassert ORC's commitment to improving air quality for human health outcomes. Following adoption of the Air Quality Strategy, Council approved an implementation plan. The implementation plan emphasises non-regulatory methods and the development of local solutions, in partnership with local and regional stakeholders and communities. The effectiveness of the implementation plan, and its ability to achieve air quality objectives within 10 years, depended on the nature and extent of financial assistance available, and on the allocation of supporting ORC staff hours.

Objectives

- [8] The Arrowtown winter programme objectives were:
- i) Identify houses that have a non-compliant burner, or demonstrate non-compliant burning behaviour
 - ii) Initiate a conversation with the homeowner
 - iii) Facilitate a change in behaviour and/or appliance
 - iv) Follow-up for signs of change/improvement
- [9] To achieve the winter programme objectives, a communications and monitoring programme was implemented between May and October of 2019.

Communications

- [10] The communications plan objectives focussed on education, which was a contrast to previous rules-based interactions with communities (ORC, 2019):
- a) Education for replacing non-compliant burners
 - b) Education on best practice burning
 - c) Information on financial support
- [11] The types of channels employed for the Arrowtown campaign were regular social media posts, a video, regular advertisements in the local newsletter, and a brochure on good burning practices delivered to every house. Moisture meters have also been sold at the community events to promote burning dry wood with <20% moisture content. The campaign's messages were to link behaviour to air quality outcomes, and to promote home energy efficiency. The main messages included:
- "burn dry, breathe easy"
 - "we breathe what you burn"
 - "buy and stack wood before Christmas"
- [12] Communication findings indicated a high level of engagement and awareness. The use of modern (website and social media) and traditional (leaflet and mail) outreach methods ensured the high saturation of the key messages. These messages have been successful in engaging the community, not only about air quality but improving home heating efficiency and saving money on home heating.
- Website visitor count for the Clean Heat Clean Air subsidy page more than doubled over the winter.
 - Video had 20.1k views.
 - There was a series of "I breathe what you burn" advertisements in the local newsletter (The Loop) highlighting key messages of the campaign to compliment the video - The Loop is distributed to 1600 mailboxes, both households and businesses in Arrowtown.

[13] Figure 2. ORC “I breathe what you burn” advertisement



Monitoring Results

[14] Two types of monitoring were conducted for burning behaviour and burner compliance.

Behaviour Monitoring

[15] Monitoring of smoky chimneys was undertaken for three evenings and three mornings on 19-21 June and 07-08 July 2019. Each monitoring morning/evening was cold and calm, and monitoring was carried out by two ORC staff. Monitoring consisted of driving a repeated route through Arrowtown and visually finding addresses with smoky chimneys, and re-checking these at least an hour later to identify the persistently smoky addresses.

[16] Figure 3. Example of a smoky chimney



[17] Table 1 displays the different categories of smoky chimneys identified. There were 176 individual residential addresses recorded and 89 were assigned to the following categories:

[18] *Table 1. Behaviour monitoring results*

Repetitive start-up smoke	54
Persistent smoke	26
Both	9
Total	89

[19] Repetitive start-up smoke properties were reported on more than one monitoring occasion which suggests that they produce start-up smoke regularly. The persistent smoke properties are those that were rechecked after an hour within one or more monitoring round, and still found to have smoky emissions.

[20] These 89 properties were sent a letter, to which there were 26 (29%) responses (Table 2). Of these, two people admitted to either trying to burn wet wood, or banking down the fire for the day, and one responded but did not disclose their burning practices. The other 23 were surprised to receive the letter, and indicated they understood the issues and demonstrated some or most of the good burning practices (Table 3). The one practice not many people carried out was to check the amount or characteristics of smoke emitted during their burning hours.

[21] A common problem that became apparent during monitoring was the high level of start-up smoke. This is observed between lighting of a fire and the period of time taken for combustion to reach optimal temperature. The responses received suggested that this level of smoke may occur in both low and ultra-low emission burners.

[22] *Table 2. Response rates for each type of monitoring letter*

Type of Letter	Sent	Responded	Response Rate
Behaviour	89	26	29%
Burner compliance	108	47	44%

[23] *Table 3. Types of responses to each type of monitoring letter*

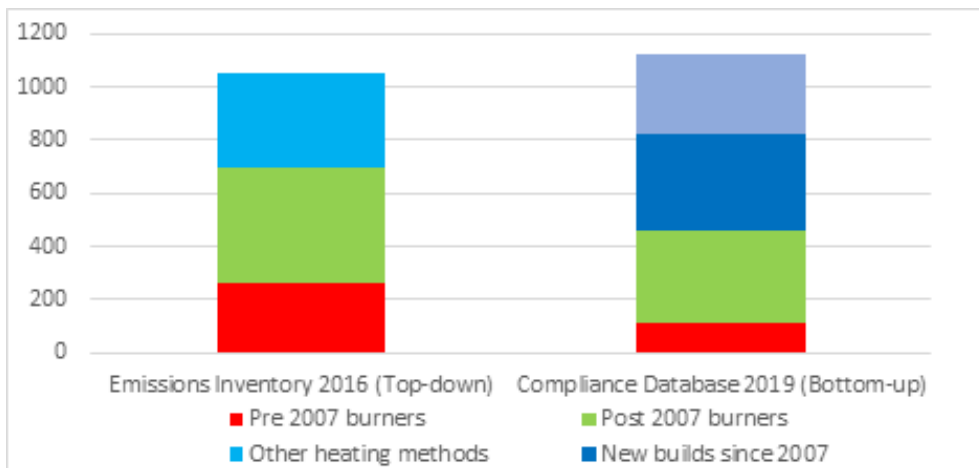
	Responses	n
Behaviour	Mostly best practice behaviour	23
	Non-compliant behaviour	2
	Didn't disclose	1
Burner Compliance	Compliant heating appliance	36
	Non-compliant burner	7
	Unknown or incorrectly identified	4

Burner Compliance

- [24] A database of Arrowtown burners was created using information from a list of QLDC building consents. Figure 4 shows the difference in information available between this and the 2016 emissions inventory. There were 108 non-compliant burner installations identified, based on the year of installation. Anything installed prior to 2007 was assumed to be non-compliant as this was the year the Air Plan was updated to reduce the burner emission rate from 1.5 g/kg to 0.7 g/kg; prior to this very few burners installed were below an emission rate of 1.5 g/kg due to technology and market availability.

- [25] Tables 2 and 3 show that 47 people responded (44%), of these 36 were able to prove they had a compliant burner installed, signifying that the information received from QLDC was not complete. Seven burners were non-compliant, with the owners of these expressing interest in the subsidy.

- [26] *Figure 4: Arrowtown heating methods classifications differ between research approaches. Note that the number of pre-2007 (non-compliant) burners is lower in the 2019 compliance database, however the number of unknown heating methods is very high.*



Trends

- [27] Table 4 shows that the majority (57%) of the behaviour letters were sent to rental properties, and the response rate for these was much lower than for owner occupied properties. Possible reasons for the low response rate could be the transient population, with less choices or knowledge regarding purchasing and burning wood, and what type of burner their home has.

- [28] This pattern is similar for the burner compliance but to a lesser extent. This shows that the heating methods of rental properties may be a bit of a blind spot for property owners who may be unaware of air quality issues if they do not live in the town themselves.

[29] Another factor for these results is the amount of holiday accommodation, which could result in a combination of both lack of knowledge around burner use, and the property owner’s disconnection from the local issues.

[30] *Table 4. Response rate of the different residence types*

	Type of residence	Sent	Responded	Response Rate
Behaviour	Owner-occupied	38	24	63%
	Rental property	51	4	8%
Non-compliant burner	Owner-occupied	43	23	53%
	Rental property	65	24	37%

[31] There were 14 properties that appeared on both lists. Only one of these properties responded. The other 13 should be followed up during future work.

Assessment of the monitoring methodology

[32] Non-compliant behaviour is difficult to monitor, as it can change on a seasonal, daily or hourly basis. This behaviour can occur using compliant and ultra-low emission burners, if incorrect burning techniques are used, or wet wood is burned. Likewise, non-compliant burners can burn cleanly. Another issue is that it is difficult to see the smoke against the sky, so some houses may have been overlooked, and for this reason this work may be more difficult to undertake in other towns. A benefit of this work is that it shows ORC is in the community taking action on air quality issues.

[33] Non-compliant burners can be difficult to find due to limited information of third-party data collection. Solutions to this would be to approach the TLAs to obtain the data directly and ask them to record more information. Forming stronger relationships with the TLAs and working with them in other areas of air quality would be beneficial in future.

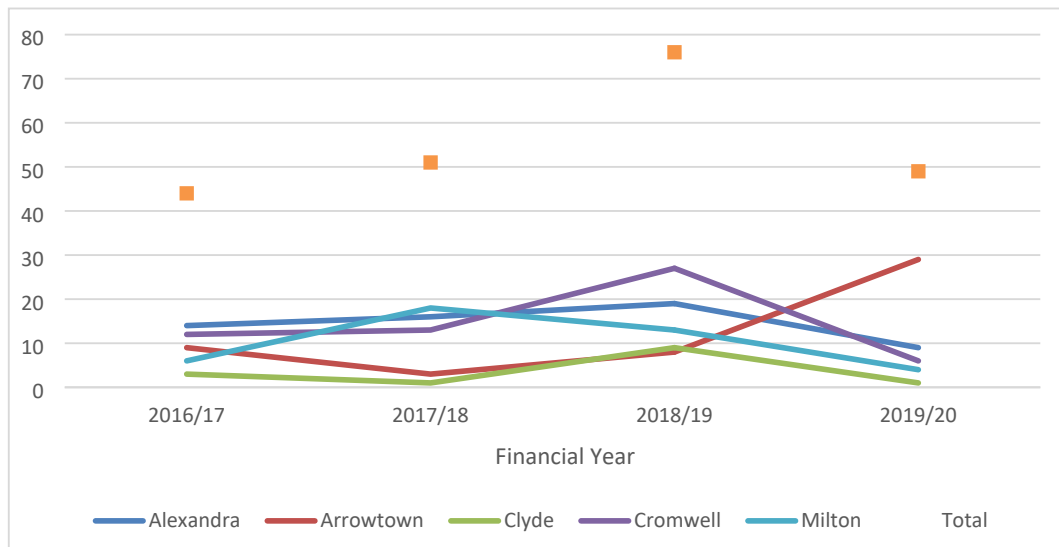
[34] Both types of compliance monitoring have logistical issues and are time intensive, however the bottom-up or one-by-one approach is the only way to identify individual non-compliant installations and behaviour, which is the most direct way of achieving the winter programme objectives ii – iv.

CONCLUSIONS

Response to winter programme

[35] The clean heat clean air subsidy budget was fully allocated by the end of March 2020. The number of subsidies allocated to Arrowtown were higher than previous financial years and higher than other Air Zone 1 towns (Figure 5).

[36] *Figure 5. Allocated CHCA subsidies for the most recent financial years.*



[37] The feedback from the Arrowtown Village Association was generally positive, with the following key points received:

- The community’s interest in NIWA’s project¹ meant people became highly engaged in the problem, with the additional realisation that everyone is responsible for the air quality.
- There is genuine concern for air quality within the town, which will lead to attempts to help make improvements where possible.
- Some of ORC’s methods were more engaging than others. The responses to the letters were very mixed, but the newsletter advertisements, social media posts, and market day stalls were received positively.
- There are still some reservations about the ultra-low emission burners:
 - Subsidy application is viewed as a drawn-out process (there can be a significant wait for the building consent and installation, and final inspection of the new appliance prior to use).
 - Some people are waiting to see if prices come down or for the number of models on the market to increase.

Overall Conclusions

[38] Arrowtown has benefited from the engagement programme in terms of subsidy uptake and knowledge. The collaboration with the other stakeholders enabled consistent messaging. The NIWA project, during the monthly community information/update nights held, helped the community engage with air quality and view it as a shared problem. Additionally, working with the Cosy Homes Trust meant that the community had access to impartial and independent advice.

[39] The goals of the winter programme were partially met. The main final component is part iv – post monitoring follow-up, which will be continued during 2020.

¹ NIWA’s project included a high-density ambient air quality network and recruitment of households for indoor air monitoring for PM_{2.5}.

- [40] Future opportunities for this programme would be to work more closely with Queenstown Lakes District Council (and other TLA's), to obtain detailed building consent data. This would allow ORC to develop a complete and accurate database to use for complaint records as well as burner compliance. There is further work ORC could do to work towards the Implementation Plan such as outdoor burning work programmes and investigation into community heating schemes.

CONSIDERATIONS

- [41] Whilst the implementation and engagement programme worked well for Arrowtown, translating into a significant uptake in clean heat clean air subsidies in 2019/2020, we believe that the implementation plan may not be easily transferrable to other Otago towns.
- [42] A transformative change to ORC's air quality implementation initiatives is likely to be required to enable compliance with the new NESAQ and lead to an improvement in Arrowtown air quality.

NEXT STEPS

- [43] The properties identified and contacted during the monitoring will be followed up with where possible.
- [44] The communications programme can be reused in other towns in Otago for future projects.
- [45] The monitoring and communications methods used in this project can be used to inform future compliance and enforcement of ORC Air Plan rules for domestic home heating.
- [46] Further investigation into non-regulatory initiatives is recommended.

REFERENCES

ORC Committee Paper, 2018. *Air Quality Strategy and Implementation Plan*. Policy Committee Report, 25 September 2018.

ORC Communications Plan, 2019. *Clean Heat Clean Air Communications Plan, Version 4*. Internal Document, March 2019. Internal ID: A1201930.

ORC Technical Report, 2018. *An assessment of the Clean Heat Clean Air program's effectiveness*. Technical Committee Report, 13 June 2018.

ORC Technical Report, 2018. *Implications of a PM_{2.5} standard on air quality management*. Technical Committee Report, 2 May 2018.

Wilton, E. 2016. *Alexandra, Arrowtown, Mosgiel and Milton Air Emission Inventory – 2016*. Environet Limited.

ATTACHMENTS

Nil

9.5. Air Quality - Next Steps

Prepared for: Strategy and Planning Committee
Report No. P&S1859
Activity: Environmental: Air
Author: Sylvie Leduc, Senior Strategic Analyst
Endorsed by: Gwyneth Elsum, General Manager Strategy, Policy and Science
Date: 8 July 2020

The three papers on air quality discussed at this Committee meeting will be briefly concluded by a presentation on the next steps to develop ORC's air quality programme as part of the preparation of the Long-Term Plan (2021-2031).

No recommendation is made to Committee as part of this presentation.

10.1. Water Bottling Issues and Options

Prepared for: Strategy and Planning Committee
Report No. P&S1847
Author: Sylvie Leduc, Senior Strategic Analyst
Endorsed by: Gwyneth Elsum, General Manager Strategy, Policy and Science
Date: 26 June 2020

PURPOSE

- [1] To review issues and options relating to water bottling in Otago.

EXECUTIVE SUMMARY

- [2] There has been growing public concern about foreign companies bottling New Zealand's freshwater and exporting it for commercial gains. Those concerns revolve around:
- a. The environmental effects of water take on catchment hydrology;
 - b. The impact of the take on the security of town water supply;
 - c. The use of single-use plastics for bottling and the impact of their subsequent disposal;
 - d. The water not being paid for and its export overseas.
- [3] ORC's Chief Executive received a letter from the Chief Executive of Queenstown Lakes District Council, requesting that ORC address water bottling specifically, as part of the current review of the Regional Policy Statement (RPS).
- [4] The *Resource Management Act (1991)* (RMA) provides ORC with decision making powers on water bottling activities through general consideration of environmental effects of water takes on catchment values, hydrology, and lawful uses under the current regional plans and consenting processes.
- [5] Water bottling is not currently a significant activity in Otago with allocations composing only 0.1% of the total ground water allocation. Only one of three consents are active, taking 0.16% of the total water taken from that aquifer in 2018-19.
- [6] In relation to consents, while there also appears to be community concerns around the plastic waste generated, a recent Environment Court case has found that the use of plastic bottles was not a matter considered relevant in the consenting of water takes for water bottling.
- [7] Under the RMA framework ORC could develop a specific policy stance on water bottling to guide future decision making as part of the review of the RPS and Regional Plan: Water for Otago (the Regional Water Plan). However, there is currently no clear case for this as water bottling does not meet the threshold to suggest there is an adverse effect requiring management, and neither is there any evidence to suggest that it should be treated as a special circumstance. Any concerns which may arise in the consultation and engagement processes for the RPS and Regional Water Plan will be routinely considered along with any other issues and concerns.
-

- [8] In relation to development of a specific policy outside the RMA, it needs to be noted that the water bottling industry, as a taker of water, is not unique in benefitting from a free resource for commercial gains, and for export (e.g. the much larger agriculture and horticulture sectors). The matter of addressing the issue of developing a “price” for water is complex and is a matter for central government.
- [9] Any broader ORC position, specifically against the water bottling industry outside of the RPS and Regional Water Plan, may create a significant reputational risk and call into question whether ORC is implementing its resource management policies equitably.
- [10] There may be broader options in the region, and which may assist in addressing some or all of community concerns, which could be explored over time in partnership with other regional organisations, e.g. encouraging and promoting sustainable businesses who minimise plastic waste as part of their business strategy.

RECOMMENDATION

That the Council:

- 1) **Receives** this report.
- 2) **Notes** that the effects of taking water for commercial water bottling on freshwater values, on catchment hydrology, and on existing lawful uses, are actively managed under the operative resource management framework.
- 3) **Notes** that, with the current state of knowledge and understanding, the review of the Regional Policy Statement and Regional Plan: Water for Otago is unlikely to set a specific management regime for commercial water bottling in the region given the lack of evidence of any particular adverse direct effect resulting from the activity.
- 4) **Notes** that, as stated by the Environment Court in *Te Rūnanga o Ngāti Awa v Bay of Plenty Regional Council*¹, the use of plastic bottles by water bottling companies is not a matter for consideration in the consenting of water permits for water bottling.
- 5) **Notes** that there are reputational risks in diverging from the general approach of the RMA framework, and by targeting a specific industry for reasons which also apply to other industries (Options 1 and 3).
- 6) **Notes** that community concerns identified in the normal process of development of the RPS and Water Plan will be documented and considered by ORC (Option 2).
- 7) **Notes** that Councillors may have opportunity to discuss community concerns about water pricing at a national level (Option 4).
- 8) **Supports** ORC in exploration of other opportunities to address community concerns about plastic waste as time and resources permit (Option 5).

BACKGROUND

- [11] There is growing public concern and debate about companies (often foreign-owned) exporting New Zealand’s freshwater for commercial gain, without having to pay for the right to take that water. In addition to the perceived inequity of such a use, the public have expressed concerns about:

¹ Te Runanga O Ngati Awa v Bay of Plenty Regional Council [2019] NZEnvC 196

- a. The environmental effects of water take on catchment hydrology;
 - b. The impact of the take on the security of town water supply;
 - c. The use of single-use plastics for bottling and the impact of their subsequent disposal;
 - d. The water not being paid for and its export overseas.
- [12] In addition, local iwi have opposed commercial water bottling in the Bay of Plenty claiming that the activity would “result in the un-restorable loss of the mauri of that water” (Te Rūnanga o Ngāti Awa v Bay of Plenty Regional Council). In Canterbury, Ngāi Tūāhuriri Rūnanga joined the court proceedings mentioned above on the basis that they had not been adequately involved in the consenting processes for the two consent applications.
- [13] On 30 January 2020, the Queenstown Lakes District Council (QLDC) adopted the following resolution:
- “7. Requests the Chief Executive to engage with the Otago Regional Council to explore any options to mitigate the impact of commercial water bottling based on the potential social and environmental impacts and concerns in relation to bottling operations; and*
- 8. Requests Mayor Boulton to write to the Honourable David Parker to express support for the position promoted by Upper Hutt City and to endorse its call for a national moratorium on commercial water bottling.”*
- [14] This resolution followed from a formal request from Wayne Guppy, Mayor of Upper Hutt City Council, seeking that QLDC support their bid to the Government to place a moratorium on bottled water consents.
- [15] Following QLDC’s resolution, Mike Theelen, QLDC’s Chief Executive, sent a letter to ORC’s Chief Executive, in which he requests that water bottling be addressed as part of the review of the RPS. (See Attachment 1).
- [16] In his letter, Mr Theelen refers to Court proceedings underway against Environment Canterbury (ECan) in respect of this issue. In this case, Aotearoa Water Action has been challenging ECan’s decision to separate consideration of the purpose of use of water from consideration of the taking of water, when considering two applications for changing the purpose of use of two existing water permits, to commercial water bottling. The High Court’s final judgment will focus on whether consideration of the use of water can be isolated from its taking; it is unlikely to comment on the merits of water bottling.

ISSUE

- [17] Following the letter received from QLDC, ORC needs to examine:
- a. Whether ORC should have a policy position under the RMA framework specifically on water bottling activities;
 - b. What other options ORC has in terms of managing water bottling activities in the region.

DISCUSSION

Water bottling is currently a marginal activity in Otago

- [18] The three current water permits associated with bottling water account for 0.1% of the total annual volume of ground water allocated in the region; none of those consents account for more than 4% of the volume allocated from their source aquifer.
- [19] Of three consents, only one is being exercised for water bottling. For the year ending July 2019, the take associated with that permit represented 0.16% of the total volume taken from the Cromwell Terrace Aquifer.
- [20] No new consent applications to take water for water bottling have been received since August 2017.
- [21] The water bottling industry as a “taker” of water is not unique in benefitting from a free resource for commercial gains, and for export (e.g. in the context of Otago, the much larger agriculture and horticulture sectors).
- [22] The matter of addressing the issue of developing a “price” for water is complex and is a matter for central Government.

ORC’s role in authorising water bottling is directed by the *Resource Management Act (1991)*

- [23] QLDC have requested that the RPS and Regional Water Plan under development specifically address commercial water bottling in the region.
- [24] ORC is the consenting authority for the taking of water under the RMA, and thus makes decisions about water for commercial water bottling, along with all other water takes. They do this through the Regional Policy Statement, development of regional plans, and the consenting process. It is therefore necessary to examine all aspects of the RMA framework to assess any ORC options (if any) for addressing water bottling.
- [25] All Regional Councils must have regard to “*any relevant provisions of:*
 - (i) *a national environmental standard;*
 - (ii) *other regulations;*
 - (iii) *a national policy statement;*
 - (iv) *a New Zealand coastal policy statement;*
 - (v) *a regional policy statement or proposed regional policy statement;*
 - (vi) *a plan or proposed plan*”when assessing a resource consent application (s104 RMA(b)).
- [26] In the context of managing the taking of water for the purpose of water bottling in Otago, the most relevant resource management documents are:
 - a. The National Policy Statement for Freshwater Management 2014 (amended 2017) (NPSFM);
 - b. The National Environmental Standard for Sources of Human Drinking Water (2007)
 - c. The operative and proposed provisions of the RPS;
 - d. The Regional Plan: Water for Otago (Regional Water Plan).

- [27] Without providing a detailed analysis of each of those documents, it is important to note that:
- a. There are no provisions specific to commercial water bottling in any of the documents stated above – there is no distinction between water bottling and any other type of water take;
 - b. These documents provide the framework and guidance for managing the adverse effects of proposed water takes on the values and hydrology of Otago’s aquifers and surface water bodies, and on existing lawful uses, including on the supply of human drinking water. No adverse impacts have been identified to date.
- [28] Under s104 of the RMA, when considering an application for a resource consent, a consent authority must, subject to Part 2 of the Act (Purpose and Principles), have regard to “any actual and potential effects on the environment of allowing the activity”, among other matters.
- [29] In *Te Rūnanga o Ngāti Awa v Bay of Plenty Regional Council*, the Environment Court determined that “the end uses of putting the water in plastic bottles and exporting the bottled water are matters which go beyond the scope of consideration of an application for resource consent to take water from the aquifer under s104(1)(a) RMA”.
- [30] It is important to note that the RMA does not open any avenue for Regional Councils to charge directly for the water they allocate. The RMA provisions which deal with charges (s36) only allow the imposition of administrative charges to recover the costs of ORC achieving its function under the Act, such as monitoring and reporting.
- [31] As previously acknowledged by Council, the policies and rules of the current Regional Water Plan, and those of the partially operative RPS, do not set up an adequate framework for overall water allocation in the region. A full review of both the RPS and Regional Water Plan have been initiated to strengthen Otago’s freshwater management framework, and to align it more closely to national directions.

Under the RMA framework Regional Plans could set a specific regime for commercial water bottling if justified.

- [32] Regional Councils can set objectives, policies and rules to discourage or prevent the taking of water for bottling as long as it is justified under the framework.
- [33] Justifying a set of policies and rules specific to water bottling would be facilitated by:
- a. Alignment with a national policy statement;
 - b. The water bottling industry having unique effects or characteristics that set it apart from any other uses of water in a way which is relevant to the purpose of the RMA.

National Policy Statement on Freshwater Management (NPSFM)

- [34] The NPSFM does not require a specific regime for water bottling activities. It only sets one criterion which is to be applied to individual water permits: that of promoting the efficiency of water allocation and the efficiency of use (Objective B3 and Policies B2 and B4).

- [35] The efficient allocation of water is defined in the NPSFM as including “economic, technical and dynamic efficiency”. In a guidance document² those terms are further defined as follows:
- a. Economic efficiency (also known as allocative efficiency): allocating water to enable optimum economic outcomes (e.g. allocating water to the uses which have the highest value to society and create headroom);
 - b. Technical efficiency: maximising the proportion of water beneficially used in relation to that taken. It relates to the performance of a water use system, including avoiding water wastage;
 - c. Dynamic efficiency: adjusting the use of water over time to maintain or achieve allocative efficiency (e.g. enabling movement of allocated water and minimising the transaction costs for doing so).
- [36] Dynamic efficiency relates to the agility of water allocation; it is therefore not relevant in the context of water bottling.
- [37] Water bottling operations rate very highly in technical efficiency: every litre that is being taken is beneficially used. That is not necessarily the case for other uses such as irrigation or municipal water supplies.
- [38] Economic efficiency is more challenging to consider. Firstly, it requires defining “highest value to society” in practice and what indicator encompasses it best (ROI, staff numbers, etc.). Secondly, the RMA’s “first in first served” allocation principle and the inability for Regional Councils to “market” water limit the range of methods by which economic efficiency can be achieved.
- [39] Together, the new RPS and/or Land and Water Regional Plan will have to address the economic efficiency of water allocation. The merits of water bottling and other purposes of use could be assessed in this context. However, the economic benefits of water use can vary over time. For example, the spread of robotic technologies in farming could reduce the number of farm workers in the region. Similarly, changes to market conditions are bound to change returns on investments. A policy framework that seeks to achieve economic efficiency through industry-specific provisions will not facilitate adaptation in a changing economic landscape.
- [40] The NPSFM also directs Regional Councils to involve iwi and hapu in the management of freshwater and to ensure that their values and interests are reflected in freshwater management. This is in line with RMA s6 and s8, which require Councils to recognise and provide for “the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga” (s6); and to take into account the principles of the Treaty of Waitangi (s8).
- [41] As mentioned above, local rūnanga have opposed the consenting of water bottling operations for various reasons. However, the matter of water bottling is not specifically addressed in the Kāi Tahu Ki Otago Natural Resource Management Plan 2005. There is at present no firm ground to set a specific regime for water bottling for cultural reasons.

² Ministry for the Environment. 2017. A Guide to the National Policy Statement for Freshwater Management 2014 (as amended 2017). Wellington: Ministry for the Environment

That view may be revisited as ORC engages with Kāi Tahu on how their interests and values should be reflected in the new generation RPS and Regional Water Plan.

Unique effects or characteristics of water bottling

[42] It is unclear what other characteristics of water bottling may warrant a specific set of policies and rules under the RMA:

- a. Taking water as a free resource for export and commercial gain is not unique to that industry. Irrigated land in Otago is used for products exported to overseas markets;
- b. Most water takes enable land uses or activities which give rise to various adverse environmental effects that are beyond the scope of what can be considered in consenting the water take.

[43] The production or use of plastic bottles is not currently regulated by law in New Zealand. Arguably, this could set apart water bottling from other uses (assuming only water bottling uses plastics products). However, the Environment Court findings in the case of *Te Rūnanga o Ngāti Awa v Bay of Plenty Regional Council*, which separates the impact of plastic bottles from consent of water take, may serve to weaken the argument.

OPTIONS

Within the RMA framework

Option 1. Develop a specific policy on water bottling

[44] As discussed above:

- a. The national legislation does not require ORC to have a separate or specific management framework for water bottling operations;
- b. With our current understanding, the water bottling industry's characteristics do not stand out from other industries in the context of the RMA.

[45] On this basis there seems to be currently little evidence to seek to set a specific allocation regime for commercial water bottling in Otago.

[46] Taking this option would result in reputational risks by diverging from the general approach of the RMA framework, and by targeting a specific industry for reasons which also apply to other industries (e.g. use of a free resource for export and commercial gains).

[47] In addition, allocation of staff resources to this would have an impact on ORC's ability to undertake existing tasks and functions associated with development of the RPS and Regional Water Plan.

Option 2. Continue with the RPS and Regional Water plan review process (status quo)

[48] As the development of the new RPS and Regional Water Plan proceeds, any community concerns or issues raised with respect to water bottling can be identified and considered, without any impact on resources. This means the ORC position remains consistent with its resource management framework.

Outside the RMA framework

Option 3. Advocate central government to discourage, or put a stop to, water bottling in New Zealand

[49] As for Option 1 - this may have reputational risks and resource implications.

Option 4. Raise awareness of central government about concerns being expressed about lack of payment for water by businesses

[50] This could be undertaken by Councillors on an ad hoc basis in national forums, without focus on the water bottling industry.

Option 5. Consider community concerns re plastic waste in the broader context of regional sustainability, and in a longer time frame

[51] There may be other opportunities in the region which may assist in addressing community concerns re plastic waste, and which could be explored in partnership with other regional organisations, e.g. encouraging and promoting sustainable businesses who minimise plastic waste as part of their business strategy, noting that waste is currently a priority of the Mayoral Forum. While this would have resource implications for ORC, it may also have reputational building opportunities and would not impact directly on the RPS and Regional Water Planning processes. Further consideration of this could take place as part of ORC business planning and work priority development.

CONSIDERATIONS

Policy Considerations

[52] All policy considerations are stated above.

Financial Considerations

[53] There are no specific financial considerations at this stage.

Significance and Engagement

[54] This issue is not considered to be a significant issue as defined in the Significance and Engagement Policy. However, any approach adopted under an RMA regime would satisfy the requirements in the Policy in terms of notification.

Legislative Considerations



[55] All legislative considerations are stated above.

Risk Considerations

[56] All risk considerations are stated above.

ATTACHMENTS

1. ECM 6433797 v 2 Letter to Sarah Gardner Otago Regional Council (OR C) - water bottling - February 2 [10.1.1 - 2 pages]

 <p>Private Bag 50072, Queenstown 9348, New Zealand QUEENSTOWN, 10 Gorge Road, Phone +64 3 441 0499, Fax +64 3 450 2223 WANAKA, 47 Ardmore Street, Phone +64 3 443 0024, Fax +64 3 450 2223</p>	 <p>QUEENSTOWN LAKES DISTRICT COUNCIL</p>
	<p>www.qldc.govt.nz</p>

20 February 2020

Sarah Gardner
Chief Executive Officer
Otago Regional Council

By email: Sarah.Gardner@orc.govt.nz

File: ECM-6433797

Dear Sarah

WATER BOTTLING

The Queenstown Lakes District Council (QLDC) recently passed a resolution calling on the government to investigate a moratorium on consents for water abstraction for the purpose of water bottling. In doing this Council has supported the actions of Upper Hutt City and others who have chosen to champion this.

The Council has also requested that I write to you to draw your attention to the direct and indirect concerns that many in our community feel regarding abstraction, bottling, transport and export of bottled water and all the direct and indirect environmental costs associated with the industry.

ORC is due to commence a review of its Regional Policy Statement this year, following the review undertaken in 2019. This provides a perfect opportunity to address the issue, and the QLDC urges ORC to ensure that it includes water bottling as a key issue topic to be discussed with its community. You will undoubtedly be aware of the court proceedings underway against ECan in respect of this issue, which depending on the court's decision will provide you and the Council with some direction on how this potential resource use should be used.

QLDC has not established a firm policy position on this matter but does desire that the issue and some policy response be raised with the public and tabled through the process, and we look forward to participating in this with you. A copy of the relevant Council resolution is attached for your information.

Yours sincerely



Mike Theelen
Chief Executive

Enclosure

RESOLUTION FROM THE CHIEF EXECUTIVE'S REPORT FROM THE COUNCIL MEETING HELD ON 30 JANUARY 2020:

On the motion of the Mayor and Councillor Clark it was resolved that the Council:

1. Note the contents of this report;
2. Note and adopt the amended 2020 meeting schedule;
3. Confirm the appointment of Councillor Smith as the Council's representative on the Otago Regional Transport Committee, with Councillor Lewers as alternate;
4. Adopt the amended Terms of Reference for the Traffic and Parking Subcommittee;
5. Support the Otago Mayoral Forum's proposal to support healthy and energy efficient homes in Otago by reinvesting any compliance penalties handed down to Aurora Energy in current proceedings under the Commerce Act;
6. Agrees to express concern over the practice of commercial water bottling from both a local and national perspective;
7. Requests the Chief Executive to engage with the Otago Regional Council to explore any options to mitigate the impact of commercial water bottling based on the potential social and environmental impacts and concerns in relation to bottling operations; and
8. Requests Mayor Boulton to write to the Honourable David Parker to express support for the position promoted by Upper Hutt City and to endorse its call for a national moratorium on commercial water bottling.

10.2. Action for healthy waterways – Decisions on national direction and regulations for freshwater management

Prepared for:	Strategy and Planning Committee
Report No.	P&S1856
Activity:	Governance Report
Author:	Dolina Lee, Policy Analyst; Tom De Pelsemaeker, Team Leader Freshwater and Land
Endorsed by:	Gwyneth Elsum, General Manager Strategy, Policy and Science
Date:	24 June 2020

PURPOSE

- [1] This report informs the Committee on the recent decisions released by Government on the freshwater policy initiatives that were proposed in September 2019 under the heading “Essential Freshwater – Action for Healthy Waterways”.

EXECUTIVE SUMMARY

- [2] On 28 May 2020, the Hon. David Parker, Minister for the Environment and Hon. Damien O’Connor, Minister for Agriculture announced the ‘Action for Healthy Waterways’ regulatory reform package, with new policy requirements and funding to support changes. The regulatory reform package involves:
- A new National Policy Statement for Freshwater Management (NPS-FM 2020), replacing the current NPS-FM 2014 (amended 2017),
 - New National Environmental Standards for Freshwater (NESFW),
 - New regulations under section 360 of the Resource Management Act 1991 (RMA);
 - An amendment to the Resource Management (Measurement and Reporting of Water Takes) Regulations 2010; and
 - A Supplementary Order Paper (SOP) to the Resource Management Amendment Bill 2019 (RM Bill).
- [3] The proposed changes were outlined and consulted on last year. As a result of more than 17,500 submissions, and in light of COVID 19, the Government has made some changes to the original proposals. The new regulations are currently being drafted and no firm date is provided when they will be passed into law other than ‘later this year’, potentially sometime in July 2020.
- [4] The NPS-FM 2020 retains the central focus on Te Mana o te Wai, an expanded national objectives framework which includes 13 new attributes to focus on broader components of ecosystem health, new requirements for primary contact site (swimability), and a suite of new requirements to protect streams and wetlands and provide for fish passage.
- [5] The new NESFW will directly regulate a number of activities that have the potential to impact on freshwater, by setting out standards to be met and when resource consents will be required under the RMA. These include requirements to provide for fish passage, restrictions on ‘high risk farming activities’ such as feedlots, sacrifice paddocks and
-

intensive winter grazing, and restrictions on further intensification of farming and horticulture activities.

- [6] The process for developing mandatory and enforceable freshwater modules for Farm Plan (FW-FP) regimes has been further developed and their introduction will be phased in with a focus on early and targeted rollout to catchments considered to be highly impacted by nitrogen.¹ Regional councils will be responsible for ensuring compliance. This will now be provided for through a legislative change to the RMA (through a Supplementary Order Paper) instead of through the NESFW as previously proposed.
- [7] The stock exclusion regulations will be phased in almost as proposed but there are some significant changes in response to submissions. Key changes are that:
- Existing permanent fences will not have to be moved,
 - The setbacks have been reduced, and
 - Hill country exclusion requirements have been made more lenient for beef cattle and deer (but these will need to be addressed in the FW-FPs).
- [8] In addition to requiring regional councils to notify new or updated regional policy statements and regional freshwater plans to implement the NPSFM and NESFW, there are also requirements for consenting, recording data, monitoring, developing action plans for improving water quality and ensuring compliance. An implementation plan to ensure ORC gives effect to the requisite documents is appended as Attachment 1.
- [9] ORC's work programme to implement the 'Action for Healthy Waterways' regulatory reform package includes:
- Regional Policy Statement (RPS) review and development of a new RPS to be notified by November 2020;
 - Notification of three plan changes by the EPA (expected early July): Plan Change 7 to the Regional Plan: Water for Otago (Proposed Water Permits Plan Change) and Plan Change 8 to the Regional Plan: Water for Otago (Water Quality) and Plan Change 1 to the Regional Plan: Waste for Otago (Dust Suppressants and landfills);
 - Design of a new research programme for Otago's lakes, rivers, streams, aquifers, wetlands and estuaries and review of the State of the Environment (SoE) monitoring network;
 - Roll out of initiatives aimed at informing landholders on the regulations introduced as part of the 'Action for Healthy Waterways' reform package and proposed under Plan Changes 7 and 8 to the Regional Plan: Water for Otago and Plan Change 1 to the Regional Plan: Waste for Otago;
 - Development of freshwater accounting systems and update of data management systems to enable the collection of baseline information required for setting target attribute states and limits (e.g. allocation limits and environmental flows/levels) and to track over time the cumulative impacts of activities; and
 - Development of a proposed new Land and Water Regional Plan (LWRP), which is due to be notified in December 2023.
- [10] It is also proposed to initiate a workstream to facilitate the implementation of the requirement for farmers in Otago to develop Farm Plans with mandatory Freshwater

¹ Freshwater modules of farm plans are the first anticipated component of what could be a multi-module farm planning system for environmental outcomes.

modules (FW-FP). As part of this work, discussions with various stakeholders will be undertaken to establish how ORC can best add value in the implementation of mandatory Farm Plans in Otago.

- [11] The provisions in Plan Change 8 (PC8) are of particular relevance as they cover issues that are likely to impact on water quality such as animal waste storage and application, intensive grazing, stock access to water, sediment traps, and sediment from earthworks. Overall there is good alignment between the new regulations and PC8. A table which compares the provisions with the new regulations (as understood from the cabinet paper) is appended as Attachment 4.

RECOMMENDATION

That the Council:

- 1) **Receives** this report.
- 2) **Notes** this report.
- 3) **Notes** the updated implementation plan for Plan Changes 8 to the Regional Plan: Water for Otago and Plan Change 1 to the Regional Plan: Waste for Otago.
- 4) **Notes** the implementation plan for the 'Action for Healthy Waterways' reform package.

BACKGROUND

Action for Healthy Waterways, September 2019

- [12] On 5 September 2019, the Government announced an action plan to stop the degradation of waterways and clean up New Zealand's rivers and lakes within a generation. Consultation on the 'Action for Healthy Waterways' package closed on 31 October 2019.
- [13] ORC submitted on the proposal, with the submission supporting the overall intent of the reform package to improve the health and wellbeing of the region's freshwater resources and associated ecosystems, and welcomed the clarity in direction and expectations provided in the proposal. However, in the submission, which can be seen at <https://www.orc.govt.nz/media/7504/submission-to-mfes-action-for-healthy-waterways.pdf>, ORC also pointed out that:
- the hierarchy of obligations proposed under the new NPS-FM marked a substantial departure from the 'four wellbeings' approach (ecological, social, cultural economic) and asked for the reform package to introduce practical and effective environmental management practices and implementation timeframes that seek to avoid long term harm to the economic resilience and social fabric of New Zealand's communities;
 - noted that the cost for ORC and its communities to fully meet the proposed new requirements in terms of plan development, monitoring and reporting is likely to be significant; and
 - indicated that there are currently capacity constraints to ORC's ability to respond to the changes introduced under the proposal and that ORC also believes that the proposed changes and implementation timeframes will result in significant capacity constraints across New Zealand.

[14] The legislative and regulatory changes announced in the freshwater reform package were:

- Amendments to the Resource Management Act 1991 (the Act) to provide an accelerated freshwater plan-making process, whereby regional freshwater plans would be determined by expert panels chaired by Freshwater Commissioners. Councils would make the final decisions, with restricted avenues for appeal.
- New stock exclusion regulations under section 360 of the Act which will set out the requirements for excluding stock from waterways.
- A draft (replacement) NPS-FM, which:
 - Strengthened the status of Te Mana o te Wai (the mana of the water), putting the health and wellbeing of the water first in decision making, providing for essential human needs second and then other uses;
 - Strengthened requirements to involve iwi and hapū in freshwater management, and to reflect tangata whenua values in decisions relating to water bodies and freshwater ecosystems;
 - Added "threatened species" as a new compulsory value to be considered, and potentially also mahinga kai (i.e. kai are safe to harvest and eat, and freshwater resources are available for customary use);
 - Broadened the focus of the NPS-FM from physical and chemical water quality to include more holistic aspects of ecosystem health such as aquatic life, habitat, and ecological processes, in addition to water quality and quantity;
 - Added new attributes (indicators of ecosystem health) to be monitored and maintained or improved such as nutrients (nitrogen and phosphorus), sediment, fish and macroinvertebrate numbers, lake macrophytes (amount of native or invasive plants) and dissolved oxygen;
 - Included requirements for better monitoring and reporting;
 - Strengthened requirements to protect of wetlands and estuaries (this includes no further draining or development of wetlands and protection of remaining streams in urban and rural areas).
 - Required a higher standard for swimming in the places people swim in summer.
- A new National Environmental Standard for Wastewater Discharges and Overflows to provide for the improved management of stormwater and wastewater (to date there has not been any further public announcements in relation to the NES for Wastewater).
- Amendment to the National Environmental Standard for Sources of Human Drinking Water to better support the delivery of safe drinking water (to date there has not been any further public announcements in relation to the NES for Sources of Human Drinking Water).
- A draft National Environmental Standard for Freshwater (NESFW) which would directly regulate several activities that have the potential to impact on freshwater, by setting out standards to be met and identify when resource consents will be required. The key requirements in this draft NESFW are:
 - Ensuring that all farmers and growers have a Farm Plan by 2025 in order to manage the environmental impact of agriculture and horticulture. Farm Plans would be required to have a mandatory freshwater module (FW-FP) that includes ways to manage risks to freshwater;
 - Restrictions on any further intensification of land use as a short-term measure until the NPSFM 2020 has been fully implemented;

- Standards for wetlands, including standard wetland monitoring obligations to be imposed on resource consents, specific provision for nationally significant infrastructure (such as the National Grid and state highways), and requirements for resource consents for vegetation destruction, earth disturbance, and drainage activities. The wetlands provisions also include a prohibited activity for any wetland drainage;
- Restrictions on "riverbed infilling", which will generally be a non-complying activity, or a discretionary activity if specific circumstances apply (e.g. the activity relates to nationally significant infrastructure or is for the purpose of flood prevention or erosion control);
- Requirements to provide for fish passage, and standards for culverts, weirs and dams;
- Livestock control requirements for farming activities such as feedlots, sacrifice paddocks, and intensive winter grazing; and
- Reduction in nitrogen loss in catchments with high nitrate/nitrogen levels through interim measures.

DISCUSSION

- [15] The policy intent of the new NPSFM 2020, the NESFW and the Stock Regulations has generally been retained, from that originally consulted on in 2019. Some changes have been made to address feedback provided during the consultation and input from an Independent Advisory Panel, as well as in response to COVID-19. Much of the final detail will not be available until 'mid 2020'. However, it is expected that this will not differ significantly from what was in the Cabinet paper "Action for healthy waterways – Decisions on national direction and regulations for freshwater management". The cabinet paper and Appendix 1 to that paper contain much of the detail, which is summarised in this report (the full Cabinet paper can be found at <https://www.mfe.govt.nz/cabinet-papers/action-healthy-waterways>).
- [16] In terms of implementation of the freshwater package, different parts are to take effect at different times. Once the new regulations are gazetted, regional councils will have to ensure that their regional policy statements and plans give effect to them, while reflecting their communities' values. More guidance is expected once the regulations are gazetted but a high level overview of the requirements for regional councils is available on the Ministry for the Environment website and summarised further below (Further reading can be found at <https://www.mfe.govt.nz/action-for-healthy-waterways>).
- [17] The NPS-FM 2020 sets out what regional councils must do to manage freshwater when they prepare regional policy statements and regional water plans under the RMA. Councils will be required to complete plans and policy statements that give effect to the NPS-FM 2020 by the end of 2026 (or 2027 if they are granted an extension). The timeframe for action to achieve attribute targets is set by councils in consultation with their communities, although the NPS-FM 2020 requires regional councils to put the country on a path to restoring New Zealand's waterways in a generation.
- [18] The NESFW, which is likely to be gazetted in mid-2020, will primarily deliver on shorter-term freshwater objectives.

Immediate actions to stop declines in freshwater

- [19] Regional councils are responsible for implementing the new NESFW, making decisions on resource consents and setting clearly defined conditions on permitted activities. The new NESFW will include the following immediate measures:

Prevent further loss and degradation of natural wetlands and streams

- [20] The new NESFW will include a consenting regime and conditions on activities such as reclamation and diversions that lead to the loss of rivers and streams and activities such as vegetation clearance, earthworks and changes to water levels that lead to the loss of natural wetlands. Provision is made to provide for significant and essential infrastructure, approved by councils where the works cannot reasonable avoid impacts on the wetlands.

Preserve connectivity of fish habitat

- [21] In order to protect fish habitat, the NPS-FM 2020 will require councils to gain information on current instream structures and establish a work programme to address barriers to fish migrations where it is needed. The NESFW will contain rules that permit construction of weirs and culverts provided they meet design requirements which can provide for fish passage.

Controls on winter grazing, intensification and nitrogen use

- [22] The new NESFW will require action to limit some 'high risk' farming practices, such as feedlots, intensive winter grazing and restrictions on further intensification of land use, that have the potential to impact on freshwater by setting out standards to be met and when resource consents will be required.
- [23] Restrictions on farming intensification refers to increases of agricultural inputs such as fertiliser, higher stocking rates, or irrigation². Resource consent will be required for intensification of land use. However, councils will have more flexibility than previously proposed to look at the impact across a catchment when considering applications. The restrictions on intensification will apply until a Freshwater Plan which complies with the new NPS-FM 2020 is notified or 31 December 2024³. These restrictions will no longer apply to commercial vegetable production.
- [24] A key change to the 2019 regulations is a new national cap on synthetic nitrogen fertiliser of 190 kg N/ha/year. This will apply from 2021 and a resource consent will be required to exceed this limit. Government will review the cap in 2023. Regional councils will need to work with Central Government to inform farmers of new obligations for synthetic nitrogen fertiliser use. Councils are also required to set up a system to record and monitor synthetic nitrogen fertiliser use reported by farmers.

² Resource consent will be required for any of the following:

- increase the area under irrigation on an existing dairy farm by more than 10 hectares
- change land use (above 10 hectares) from any other use to dairy
- change land use (above 10 hectares) from forestry or woody vegetation to pastoral farming
- increase forage cropping above the highest annual amount in the previous 5 farm years
- increase dairy support activities above the highest annual amount in the previous 5 farm years

³ Which is when it is expected that all freshwater plans will be notified.

Stock exclusion from waterways

- [25] The Government is also setting requirements for excluding stock from waterways through regulations under section 360(1)(hn) of the Act. These regulations will require:
- All dairy cattle (except dairy support cattle) and pigs to be excluded from lakes and rivers more than a metre wide (bank to bank) by 1 July 2013, regardless of land slope;
 - All dairy support cattle to be excluded from lakes and rivers more than a metre wide by 1 July 2025, regardless of slope;
 - All cattle and deer to be excluded from lakes and rivers more than a metre wide where land is used for fodder-cropping break-feeding or grazing on irrigated pasture by 1 July 2023 regardless of land slope;
 - All beef cattle and deer to be excluded from lakes and rivers more than a metre wide on land less than 10 degrees slope by 1 July 2025;
 - All cattle, deer and pigs to be excluded from wetlands already identified in a regional or district plan by 1 July 2023; and
 - All stock to be excluded from additional wetlands identified by councils under the new NPS-FM by 2025.
- [26] Three key changes were made to the original proposals for stock exclusion. Existing fences that do not comply with the setback are no longer required to be moved, the setback is now 3 metres rather than an average of 5 metres across the property and the hill country exclusions have been reduced for beef cattle and deer but are expected to be dealt with in Farm Plans. The regulations include infringement fees and a timeframe for phasing in the regulations depending on stock type, activity and area.

Medium-term changes – farm planning

- [27] Freshwater modules of Farm Plans (FW-FPs) were originally proposed to be required under the NESFW. While the policy intent has not substantially changed, it is now proposed to provide for FW-FPs through a legislative change to the RMA itself. Farmers will be required to prepare a FW-FP in accordance with the new regulations, have it certified as appropriate by an independent certifier and have their farm audited for compliance. Regional councils will be responsible for ensuring compliance.

Making ongoing Improvements for future generations

- [28] Regional councils have to ensure that their regional policy statements and plans give effect to the NPS-FM 2020, while reflecting their communities' values and then put those plans into action. The NPS-FM 2020 sets out requirements for councils for managing freshwater and requires them to plan now for changes across the next 30 years and beyond. The key actions for regional councils are outlined below.

Te Mana o te Wai

- [29] The concept of Te Mana o te Wai has been strengthened and clarified as the basis for the new NPS-FM. It establishes a set of guiding principles and a hierarchy of obligations and refers to the essential value of water and the importance of sustaining the health and wellbeing of water before providing for essential human needs and then to other uses. Regional councils are required to set a long-term vision for waterbodies, report on progress towards the long-term vision and investigate options for tangata whenua involvement.

Maori values in freshwater

- [30] In order to give greater recognition to values that Maori hold for freshwater, mahinga kai has been elevated to a compulsory value. This requires regional councils to work with and enable tangata whenua to identify measures of freshwater in their local context and reflect on the values they place on water.

Ecosystem health

- [31] The new NPS-FM clarifies that all components of ecosystem health must be managed (not just water quality and quantity as well as human health). It outlines five components⁴ of ecosystem health that councils will be required to monitor and report on, along with overall ecosystem health.
- [32] A key change since consultation is specifying a date (7 September 2017, when the current NPS-FM took effect) at which current state is assessed and must be maintained from. This means that water quality is no longer able to decline within a band (i.e. if water quality was at the top of band B, current NPS has been interpreted to allow water quality to 'decline' to the bottom of band B -- this will no longer be allowed, the requirement will be to maintain water quality based on current state.) Regional councils will be required to assess regularly and report on whether freshwater has been maintained and specify matters that must be considered as well as achievement of desired outcomes. Regional councils can maintain attributes below national bottom lines if necessary, to maintain the benefits of identified hydro-electricity generation schemes (includes Clutha/Mata-Au).

Other Compulsory values

- [33] Human contact is also a compulsory value that must be considered. A new attribute and bottom line has been introduced for *E.coli* that will set the bar higher at places where people want to swim during the bathing season.
- [34] Another new compulsory national value is for threatened species, to ensure regional planning identifies and manages threatened species in a way that helps indigenous species thrive.

National Objectives Framework

- [35] The NPS-FM 2020 requires regional councils to set and work towards more specific outcomes for measures of ecosystem health and other values. It sets out 22 attributes, or indicators of freshwater health, 13 of which are new. Some attributes can be managed through an adaptive action plan and others are managed through setting limits. Many of these attributes have a minimum standard, or national bottom

⁴ The five components are:

- Water quality (chemical, physical, and biological parameters of water)
- Water quantity (water flows and levels)
- Physical habitat (availability of habitat for plants and animals)
- Aquatic life (presence of animals, plants and algae), and
- Ecosystem functioning (interactions between aquatic plants and animals and the physical and chemical conditions of their environment)

line. Councils can choose to set limits that are higher than the national bottom lines and also to add additional attributes.

- [36] Regional councils will have to monitor these ecosystem health attributes, and with their communities, set desired outcomes for them at or above the bottom lines along with flows and levels. Councils must then develop interventions, (limits specified in rules or actions plans) to achieve the target attribute states, flows and levels monitor waterbodies and freshwater ecosystems and take steps if deterioration is detected.

Measuring and reporting data on water use

- [37] The Resource Management (Measurement and Reporting of water Takes) Regulations 2010 is to be amended to require consent holders with water takes of more than 5 litres per second to install a device on their water meters to electronically record and transmit the data to councils every 15 minutes. This feeds into the requirement in the new NPS-FM for councils to account for all takes and all sources of contaminants. Regional councils will need to ensure their systems can accommodate daily electronic records of water permit information that will be required two years after the regulations come into force. Requirements for real-time measuring and reporting of data on water use enter into force in two (more than 20 l/s), four (10 - 20 l/s) and six years (5 - 10 l/s).

What does it mean for ORC?

- [38] The final NPS-FM framework has extended the deadline for councils to notify compliant plans by a year from what was proposed from 2023 to 2024. However, ORC has already agreed with Minister Parker to a work programme that includes notification of a new RPS by November 2020 and a new Land and Water Regional Plan by 2023.
- [39] The NESFW is expected to be gazetted in July 2020, with provisions taking effect 28 days after gazettal. Current regional plans and policies will have to be reviewed and revised to ensure they meet the new requirements. Further interim plan changes to our existing Water Plan may be required to address some of the requirements of the new NESFW or NPS-FM 2020.
- [40] A draft implementation plan to manage the regulatory reforms is appended as Attachment 1. A more detailed timeline of tasks required for the next six months that illustrates how ORC will give effect to the Action for Healthy Waterways reforms package while implementing current plan changes to the Regional Plan: Water for Otago is also appended as Attachment 2.

Plan Changes 7 and 8 to the Regional Plan: Water for Otago and Plan Change 1 to the Regional Plan : Waste for Otago

- [41] ORC has three Plan Changes currently being progressed. These plan changes are intended to ensure both water quantity and quality issues are addressed in the interim period before a new regional planning framework (RPS and regional plan) is in place. They were all drafted under the current NPS-FM with consideration to the proposed NPS-FM.

- [42] Plan Change 8 to the Regional Plan: Water for Otago (PC8) and Plan Change 1 to the Regional Plan: Waste for Otago (PC1) contained interim provisions managing specific issues or activities known to be contributing to water quality issues in parts of Otago. PC1 is not impacted by the new regulations.
- [43] Overall there is really good alignment between the new regulations and PC8. PC8 includes exclusion of stock from regionally significant wetlands. The permitted activity standards for intensive winter grazing in the NESFW are largely consistent with proposed PC8.
- [44] The stock exclusion requirements to be implemented by 2023 mirror those proposed in PC8, except that ORC's requires such exclusions by 2022 and PC8 includes a 5-metre setback for grazing from streams, compared to 3 metres in this package.
- [45] PC7 specifically deals with interim management of replacing deemed permits with water permits and the replacement of expiring water permits. It appears that none of the proposed provisions under plan change 7 are affected by what is likely to be stated in the NPS-FM 2020, NESFW or s360 Regulations.
- [46] These plan changes have been called in by the Minister for the Environment and will be notified by the Environmental Protection Authority (EPA). When that happens, ORC will have an opportunity to align the proposed rules with the direction that Action for Healthy Waterways has taken in respect to stock exclusion, intensive winter grazing, and setbacks by submitting to the EPA.
- [47] A comprehensive implementation plan for PC8 and PC1 was presented to the Otago Regional Council at its meeting on 9 April 2020 (the implementation plan can be found at <https://www.orc.govt.nz/media/8376/council-agenda-20200409.pdf>). Following the Minister for the Environment's decision to call in PC8 and PC1 this draft implementation plan has been updated. The updated implementation plan for PC8 and PC1 is attached to this report as Attachment 3. A full Comms Plan has been written, with specific actions noted in the implementation plan. It was developed prior to the plan change being called in by the EPA and is now being revised to reflect the change in process.
- [48] In addition, further discussions to inform the LTP are required to determine the non-regulatory support and investment ORC may wish to make to help farmers comply with the new framework.

CONSIDERATIONS

Policy Considerations

- [49] Regional councils are responsible for implementing the new regulations. Councils are required to notify new or updated regional policy statements and plans by 2024 that set out how the region will implement the new NPS-FM 2020 over the coming decades. ORC has committed to a work programme with the Minister for the Environment which will adapt to any requirements imposed, including notifying a new RPS by November 2020, and a new LWRP by December 2023.

Financial Considerations

- [50] Successfully implementing the new requirements will require substantial investments by a range of stakeholders including ORC. The Ministry for the Environment and Ministry for Primary Industries are working closely with regional councils, iwi and stakeholder groups to scope and prioritise support initiative and development and implementation plan. Costs for councils have been estimated at \$76 million a year, although some portion of these costs is required to meet existing freshwater requirements. The highest proportion of these costs is expected to fall on Canterbury, Waikato and Otago⁵.
- [51] Resourcing will be needed for staff training, new templates and information factsheets for external education. There will be ongoing costs associated with this package. The Good Water programme has implementation funding available, however Council will need to consider how it might best support farmers to comply and this will have potential funding and resource implications.
- [52] Since the initial announcement of the regulatory reforms in September 2019 and committing to a full review of its RPS and Water Plan, ORC has taken steps towards building greater capacity and capability to give effect to the NPS-FM and various other aspects of the regulatory reforms. These steps have involved the recruitment of skilled and experienced staff and initiation of projects, such as the review of our data management systems and scoping of a technical work programme underpinning the development of a new LWRP. However, additional staff and resources may be required across some areas of the organisation. Full resourcing needs and financial implications of implementing the new regulations is likely to become clearer over the next couple of months as the new NESFW, NPS-FM 2020 and other regulations are gazetted. More clarity should also arise around the support that central government will provide to implement these regulations. Once all these details are clear, ORC will be in better position to fully consider the financial implications of these regulations.

Significance and Engagement

- [53] This consideration is not relevant to this report.

Legislative Considerations

- [54] Once these regulations become law, ORC will be required to give effect to them.

Risk Considerations

- [55] There are legal risks associated with not giving effect to the regulations.
- [56] Failure to giving effect to the new NPS-FM 2020 and to implementing and enforcing the requirements of the NESFW and regulations under section 360(1)(hn) of the Act is also likely to result in further decline of the health of our waterways and the region not being able to achieve the NZ government's goal of getting on track to restoring our waterways in a generation.

⁵ Ministry for the Environment and Ministry for Primary Industries Action for healthy waterways 2020 – information for regional councils. Regional council elected members can contact the Regional Sector Water Subgroup or the implementation team at the Ministry for the Environment. Email freshwater@mfe.govt.nz

- [57] Finally, there are risks associated with the implementation of the new central government regulations for the region's rural communities. Implementing these regulations will often require significant effort and financial investment from rural land holders. To ensure that these efforts and investments are both adequate and cost-effective, ORC will roll out initiatives aimed at providing rural landholders with guidance and meaningful information as they are preparing to adapt and change their operations in order to meet the new requirements. These actions are outlined in the Implementation Plans attached to this report as Attachments 1 and 2.

NEXT STEPS

- [58] The next step is to wait for the Government to gazette the final documents. The Ministry for the Environment and Ministry for Primary Industries are working with regional councils, iwi and stakeholder groups to scope and prioritise support initiative and develop and implementation plan. Initial policy guidance will be available at gazetta. Further support, such as detailed guidance and other support tools to help with consistency will follow.⁶

ATTACHMENTS

1. Attachment 1 Implementation Plan Action for Healthy Waterways [**10.2.1** - 9 pages]
2. Attachment 2 Timeline Implementation of ORC Plan Changes and Action for Healthy Waterw [**10.2.2** - 1 page]
3. Attachment 3 Updated Implementation Omnibus Plan Change PC8 and PC1 [**10.2.3** - 6 pages]
4. Attachment 4 Comparison of Plan Change 8 with Action for Healthy Waterways Regulations [**10.2.4** - 10 pages]

⁶ Ministry for the Environment and Ministry for Primary Industries Action for healthy waterways 2020 – information for regional councils

Attachment 1

Implementation Plan – Action for Healthy Water Ways

On 28 May David Parker Minister for the Environment and Damien O’Connor Minister for Agriculture announced the ‘Action for Healthy Waterways’ regulatory reform package, with new policy requirements and funding to support changes. The proposed changes were outlined and consulted on in 2019. The package includes:

- a new National Policy Statement for Freshwater Management (NPS-FM)
- a National Environmental Standards for Freshwater (NES-Freshwater)
- new regulations under section 360 of the Resource Management Act 1991 (RMA) for stock exclusion; and
- a Supplementary Order Paper (SOP) to the Resource Management Amendment Bill 2019 (RM Bill) to make changes to the RMA.

While some of the detail around the future national directions and standards were released to the public at the time of the announcement (28 May 2020), the new regulations are currently being drafted and no firm date is provided when they will be passed into law. Initial information from the MfE indicates it may be August this year. Consequently, this Implementation Plan is based on the information that is available now, and the plan will be reviewed upon gazettal of the new legislation, and then reviewed regularly to check for any changes or updating required.

This Implementation Plan considers the following:

- **The Policy work programme agreed with the Minister for the Environment in December 2019**
While the new NPS-FM will require councils to amend or notify regional plans to implement the NPS-FM by 31 December 2024, this Implementation Plan takes into account the work programme developed following the 2019 review of ORC’s functions and planning framework and agreed with the Minister for the Environment, David Parker. In doing so the Implementation Plan provides for the notification of a new Regional Policy Statement by November 2020 and the notification of a new Land and Water Regional Plan by 31 December 2023.
- **The Omnibus Plan Change (Plan Change 8 to the Regional Plan: Water for Otago & Plan Change 1 to the Regional Plan: Waste for Otago)**
Various practices and activities that ORC seeks to better manage through the Omnibus Plan Change will also be regulated through the requirements introduced by the ‘Action for Healthy Waterways’ regulatory reform package. For example, Plan Change 8 seeks to set standards on stock access to water and intensive winter grazing. These activities are also addressed in the new s360 regulations and the NES-FW.

Please note that this implementation plan does not consider the resourcing requirements needed for delivery. ORC has many competing priorities including the RPS, deemed permit replacement and the Land and Water Regional Plan.

Implementation Plan – Chronological overview of actions by Team

	2020-21	2021-22	2022-23	2023	2024	2025 and beyond	Implementation Risk	Risk mitigation	
Policy									
Working with tangata whenua (TW) and communities	<ul style="list-style-type: none"> Engage/work with and enable TW to <ul style="list-style-type: none"> implement NPS-FM in relation to Māori values identify measures of freshwater health in local context Investigate options for TW involvement (e.g. joint management agreements) and publicly report on decisions around whether to use these options 		<ul style="list-style-type: none"> Report on progress towards achieving the long-term vision 					<ul style="list-style-type: none"> TW not sufficiently resourced to engage in these processes 	<ul style="list-style-type: none"> ORC to assist with resourcing Aukaha
Plan review (Regional Policy Statement and Regional Plans)	<ul style="list-style-type: none"> Notify by November 2020 new RPS that sets out how Otago will implement the NPS-FM Review existing Water Plan and revise if needed to ensure consistency with NES-FW Review and merge Waste Plan to ensure consistency with Water Plan and NESFW. 			<ul style="list-style-type: none"> Notify by December 2023 new LWRP that: <ul style="list-style-type: none"> gives effect to NPS-FM (e.g. set attribute states, and develop actions plans to achieve target attribute states) is consistent with NES-FW outlines regulatory and non-regulatory methods to achieve FW objectives within one generation 	<ul style="list-style-type: none"> Review management approach for synthetic N fertiliser following the planned 2023 government review of the interim synthetic N fertiliser cap (could become part of FW modules in Farm Plans) 	<ul style="list-style-type: none"> Final decisions on plans are due in 2026, or 2027 at the latest, if an extension is granted. 	<ul style="list-style-type: none"> Insufficient resourcing for RPS and Water Plan review processes and developing new RPS and new LWRP. Insufficient existing datasets to meet communities' expectations for objective setting and scenario evaluation New RPS and LWRP are not being delivered within agreed timeframes and do not deliver on expected outcomes. 	<ul style="list-style-type: none"> Apply sound project management principles and a robust governance structure to ensure that deliverables (RPS and LWRP) are produced within the agreed timeframes, are fit for purpose, deliver real value and are closely aligned with the strategic goals of ORC. 	

	2020-21	2021-22	2022-23	2023	2024	2025 and beyond	Implementation Risk	Risk mitigation
Resource Science								
Wetlands	<ul style="list-style-type: none"> Identify and delineate wetlands using satellite imagery and existing protocols. Site visits to ground truth. Monitor wetland health, maintain condition and promote restoration 						<ul style="list-style-type: none"> Access restricted to private land. Monitoring requires, testing, standardisation across regions and validation. Shortage of skilled staff. Shortage of resources to promote protection and restoration 	<ul style="list-style-type: none"> Use satellite imagery to identify wetlands. Incorporate identified wetlands into FW-FPs. Nationwide programme in collaboration with other RCs. Collaborate with stakeholders.
Fish passage	<ul style="list-style-type: none"> Monitor the abundance, diversity and passage of desired fish species. Identify and work towards target outcomes for fish abundance, diversity and passage of desired species over time. Collect, maintain and publish records of new and existing instream structures. Monitor the structure's ability to provide for fish passage to the same degree over the life of the structure. Assess the impact of new and existing stream structures on fish passage and river connectivity. Engage with statutory fisheries managers regarding fish habitat and population management, including for threatened species. 						<ul style="list-style-type: none"> No comprehensive inventory of instream structures. Time and expertise needed to develop remediation plans for new and existing structures 	<ul style="list-style-type: none"> Collaborate and partner with iwi, DOC, Fish and Game to monitor desired fish species'
Ecosystem health, threatened species	<ul style="list-style-type: none"> Identify measures of 'ecosystem health' and develop a monitoring programme: <ul style="list-style-type: none"> For lakes, rivers, aquifers, wetlands, estuaries; to maintain or improve freshwater from its current state (State = assessed as at September 2017), to assess regularly and report on whether freshwater has been maintained to address identified and predicted catchment issues and environmental pressures. Readily identify issues and report on these. 						<ul style="list-style-type: none"> Ensure SoE network designed to monitor ecosystem health SoE network not revised until 2017 ("state" unavailable for many sites.) 	<ul style="list-style-type: none"> Review SoE network.
	<ul style="list-style-type: none"> With ORC's Rural Liaison team, work with Catchment Groups to integrate programmes, data, finding and recommendations where possible. 				<ul style="list-style-type: none"> Provide annual reports for the proposed NPS FM attributes for Otago's lakes, rivers, aquifers, wetlands and estuaries. Implement an ORC wide adaptive management programme (including issue identification) 		<ul style="list-style-type: none"> 'Citizen science' and data collected substandard. Limited resourcing to provide internal expertise to catchment groups 	<ul style="list-style-type: none"> Train samplers and validate testing, data collection and recording.
	<ul style="list-style-type: none"> Identify and work towards target states for different mandatory and other attributes (including fish abundance, diversity and passage of desired species over time) 					<ul style="list-style-type: none"> Monitor progress towards achieving attribute states. 		

	2020-21	2021-22	2022-23	2023	2024	2025 and beyond	Implementation Risk	Risk mitigation
Protection of connectivity of fish habitat	Collect, maintain, and publish records of new and existing instream structures and assess their likely impacts on fish passage and river connectivity and establish a work programme to address barriers to fish migration where it is needed.							
Review of Monitoring Network (SoE)	<ul style="list-style-type: none"> Design and implement core skeleton network plus adaptable network fit for wider ORC purposes (includes design and monitoring programme for receiving environments, i.e. coastal areas and estuaries): Introduce attributes with national bottom lines (e.g macroinvertebrates, submerged plants in lakes and dissolved oxygen, suspended sediment and deposited sediment, E.coli for swimming sites) and attributes without national bottom lines for fish species & ecosystem metabolism. 		<ul style="list-style-type: none"> Review monitoring network. Ensure the network delivers the requirements of multiple NPSD and regional plans. 			<ul style="list-style-type: none"> Current SoE network does not cover NPSFM 2020 requirements. More resources required to meet immediate requirements and monitor proactively 		
Land use	<ul style="list-style-type: none"> Design and implement systems to map and manage info on land use (i.e. soil type, farm type/activity, stock type/stocking rate, crop type/cropping area, soil type, land cover, land slope). Develop a practice standard for soil pugging and re-sowing bare land. 						<ul style="list-style-type: none"> Significant resourcing required. Lack of data availability or access to data. 	<ul style="list-style-type: none"> Investigate accessing data from farm accountants.
Groundwater Protection zones	<ul style="list-style-type: none"> Delineation of Groundwater Protection Zones for drinking water supplies 						<ul style="list-style-type: none"> Insufficient info on groundwater use & land use Insufficient resourcing to maintain accurate bores database Uncertainty regarding 3 waters review 	<ul style="list-style-type: none"> Ground truthing of bore locations and supply bores; Collaboration with TLAs.
Groundwater quantity	<ul style="list-style-type: none"> Consolidation of groundwater takes vs. Allocation; review allocation in relation to climate change 						<ul style="list-style-type: none"> Uncertainty regarding climate change predictions Uncertainty regarding water metering data & permitted takes 	<ul style="list-style-type: none"> Update recharge modelling; consider climate projections Work with compliance to update take data
Groundwater-Surface water interaction	<ul style="list-style-type: none"> Improve understanding of groundwater/surface water interaction in Upper Taieri & North Otago; complete reporting and models from existing projects 						<ul style="list-style-type: none"> Limited time for study Modelling challenges 	

	2020-21	2021-22	2022-23	2023	2024	2025 and beyond	Implementation Risk	Risk mitigation
Augmentation of SoE network and hydrogeological knowledge of aquifer properties	<ul style="list-style-type: none"> Install new monitoring bores; conduct aquifer pumping tests; consolidate/analyse existing aquifer test data 						<ul style="list-style-type: none"> Limited resources (budget, logistics, staff) for data collection and management 	
Consents team								
Synthetic N fertiliser	<ul style="list-style-type: none"> Consent required for synthetic N fertiliser use of more than 190 kg N/ha/yr. 				<ul style="list-style-type: none"> Consent requirements may change pending government review of the Synthetic N fertiliser cap 		<ul style="list-style-type: none"> Consents not processed within timeframes Customers not satisfied that consents are being processed quickly. Insufficient resourcing for consents processing. Part of community not familiar with process or has preconceived views. Work developed to implement the plan is not practical or does not meet expectations of the community or interest groups. Insufficient resourcing within ORC teams to support technical work needed on consent applications. This work may fall to consultants or may delay the process. 	<ul style="list-style-type: none"> Ensure templates are easy to use and concise (enables efficient processing). Look at resourcing needs across Consents Team to ensure sufficient staff are in place at right levels and with right skills Provide clear and user-friendly communication about the plan/ consent process. When finalising any application forms or conditions then run these past the RL, Science, Data and Compliance Teams to ensure they are fit for purpose.
Interim restrictions on agricultural intensification	<ul style="list-style-type: none"> Consent required for the following: <ul style="list-style-type: none"> land-use change > than 10 ha from: <ul style="list-style-type: none"> any form of farming to dairy farming woody vegetation or forestry to pastoral farming increases in <ul style="list-style-type: none"> irrigated pasture for dairy farming > than 10 ha winter forage cropping area above annual highest amount in 2014/15–2018/19 dairy support activities above highest annual amount in 2014/15–2018/19. 				<ul style="list-style-type: none"> Interim national restrictions removed on 31 December 2024 at the latest (New provisions in notified LWRP will apply). 			
Intensive winter grazing	<ul style="list-style-type: none"> Consents required from 1 May 2021 for intensive winter grazing that does not meet the permitted activity standards related to separation from rivers and contaminant losses. 				<ul style="list-style-type: none"> Consent requirements may change pending on Water Plan review and development of new LWRP 			
Feedlots	<ul style="list-style-type: none"> Consents required for feedlots that do not meet the permitted activity standards related to contaminant losses 							
Stockholding areas (e.g. feed/winter/stand off pads)	<ul style="list-style-type: none"> Consents required from winter 2021 for stockholding areas that does not meet the permitted activity standards related to contaminant losses 							
River and wetlands protection and maintenance	<ul style="list-style-type: none"> From when the NES-FW comes into force resource consents are required for: <ul style="list-style-type: none"> reclaiming rivers (applications must demonstrate there is no other option). earthworks in wetlands & rivers (consents need conditions to minimise/offset damage). vegetation clearance, earthworks, drainage, taking, damming or diverting in/around wetlands (consents need conditions to minimise/offset damage). From when the NES-FW comes into force the following activities are only permitted subject to conditions that the effects are no more than minor: <ul style="list-style-type: none"> Current sustainable sphagnum harvesting Cultural and restoration activities in wetlands Maintenance of existing structures in accordance with a management plan 							

	2020-21	2021-22	2022-23	2023	2024	2025 and beyond	Implementation Risk	Risk mitigation
Protection of connectivity of fish habitat	<ul style="list-style-type: none"> From when the NES-FW comes into force <ul style="list-style-type: none"> resource consents are required for passive flap gates construction of new weirs (except customary weirs) and culverts are only permitted provided that: <ul style="list-style-type: none"> they meet minimum design standards based on NZ Fish Passage Guidelines the structure's ability to provide for fish passage to the same degree over its life is monitored regard must be given to principles of good fish passage design when considering consent applications requirement to provide councils with info related to in-stream structure's ability to provide for fish passage. 						<ul style="list-style-type: none"> Lack of skilled technical experts. (Those who can do work may have COIs) Not possible to predict no of consents required or when they will be lodged. Strain on the workload of key stakeholders (delays in process if they are affected parties. Some landholders unaware of need to prepare application Applications may not meet RMA requirements (will be returned). External resource is required to update consent database systems to accommodate changes. May prove difficult given the work volume and tight timeframes 	<ul style="list-style-type: none"> Where possible work in with industry groups. Provide feedback to other teams on resourcing needs as part of the next annual plan and LTP. Follow the procurement process (ensure consultants used are appropriate and are in line with cost expectations. Continue to meet with key stakeholders. (ensure strong relationships, change process if needed and work together on key issues) Software vendors have been notified
Stock access		<ul style="list-style-type: none"> From 2022: exclude dairy cattle & pigs from: <ul style="list-style-type: none"> Lakes Continually flowing rivers > than 1 m Regionally significant wetlands 	<ul style="list-style-type: none"> From 1 July 2023: exclude cattle & deer from <ul style="list-style-type: none"> wetland identified in plan; waterways > than 1 metre wide where land is used for fodder-cropping, break-feeding or grazing on irrigated pasture. 	<ul style="list-style-type: none"> From 1 July 2025: exclude beef cattle and deer from: <ul style="list-style-type: none"> waterways more than a metre wide on land less than 10-degrees slope by 1 July 2025. wetlands identified in line with new NPS-FM. Additional consent requirements may apply depending on Water Plan review and development of new LWRP. 				
Rural liaison team								
Synthetic N fertiliser	<ul style="list-style-type: none"> Engage and advise farmers on new NES- FW regulations 			<ul style="list-style-type: none"> Restrictions may change pending government review of the Synthetic N fertiliser cap 		<ul style="list-style-type: none"> Information provided does not cover all community questions or does 	<ul style="list-style-type: none"> Regularly review information. Provide info tailored to the 	
Interim restrictions on agricultural intensification				<ul style="list-style-type: none"> Engage and advise farmers on new standards and requirements proposed in the notified LWRP. 				

	2020-21	2021-22	2022-23	2023	2024	2025 and beyond	Implementation Risk	Risk mitigation
Intensive winter grazing	<ul style="list-style-type: none"> Engage and advise famers on new NES- FW regulations and standards proposed under Plan Change 8 						not meet needs of rural landholders	needs of rural landholders
Feedlots	<ul style="list-style-type: none"> Engage and advise farmers on new NES- FW regulations 							
Stockholding areas (e.g. feed/winter/stand off pads)								
River and wetlands protection and maintenance								
Protection of connectivity of fish habitat								
Stock access	<ul style="list-style-type: none"> Engage and advise farmers on new stock access restrictions for dairy cattle and pigs proposed under Plan Change 8 Engage and advise farmers on NES stock access restrictions for cattle & deer from <ul style="list-style-type: none"> wetland identified in plan; waterways > than 1 metre wide where land is used for fodder-cropping, break-feeding, grazing on irrigated pasture. 			<ul style="list-style-type: none"> Engage and advise farmers on new stock access restrictions for cattle & deer from <ul style="list-style-type: none"> waterways more than a metre wide on land less than 10-degrees slope by 1 July 2025. wetlands identified in line with the new NPS-FM. 				
Freshwater modules of farm plans	<ul style="list-style-type: none"> Engage and advise landholders on the new mandatory Freshwater Modules of Farm Plans (land uses that trigger requirement to have a FW-FP, content, environmental outcomes, timeframes for certification and auditing, etc.) (With science, compliance and consents team) 							
Consent Systems and Administration								
Freshwater accounting	<ul style="list-style-type: none"> Develop freshwater accounting systems (water quality and quantity) for ORC (with consents, science, compliance and policy) 				<ul style="list-style-type: none"> operate and maintain 		<ul style="list-style-type: none"> Significant database “sorting” required to allow accounting of actual use. No methods to determine accounting for water quality and permitted uses 	<ul style="list-style-type: none"> Develop new methods to determine water quality accounting and accounting for permitted uses (takes and discharges)
Measurement and reporting on consented water	<ul style="list-style-type: none"> Ensure council can accommodate daily electronic records of water permit info that will be required two years after the regulations come into force. Advise consent holders and installers of new requirements. 			<ul style="list-style-type: none"> Store electronic records of water takes more than 20 litres per second provided by permit holders 		Capacity of the industry to complete additional Telemetry installations.	Communication with Service Providers.	

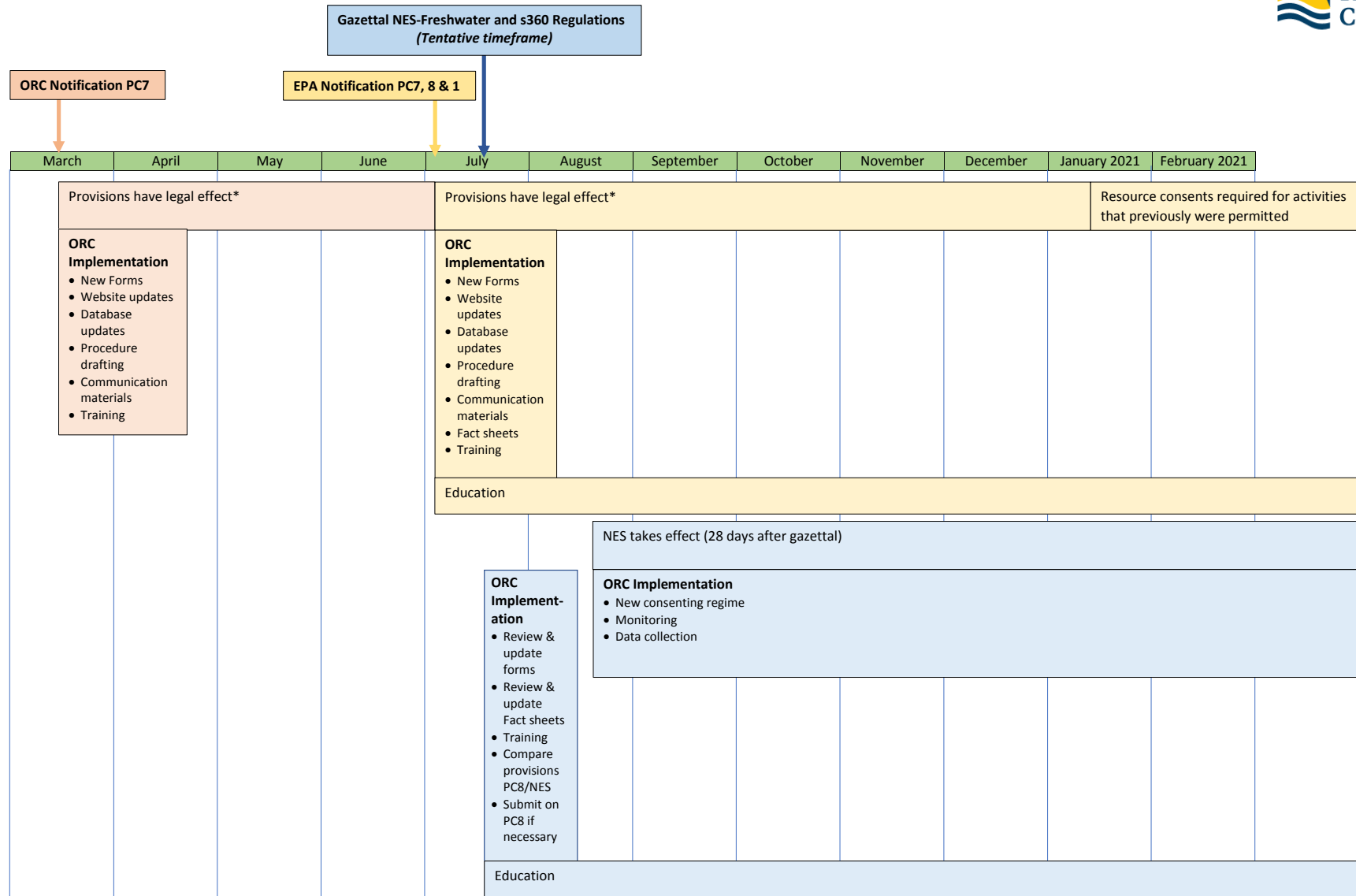
	2020-21	2021-22	2022-23	2023	2024	2025 and beyond	Implementation Risk	Risk mitigation
takes over 5 litres per second					<ul style="list-style-type: none"> Store electronic records of water takes more than 20 litres per second provided by permit holders 	<ul style="list-style-type: none"> By 2026, store electronic records of water takes between 5–10 litres per second. 	<p>Additional costs for water users.</p> <p>A significant increase in the number records and plans received and assessed by ORC.</p>	<p>Review resourcing across the Consent Systems and Administration Team.</p>
Synthetic N fertiliser	<ul style="list-style-type: none"> Develop systems to store records of synthetic N fertiliser supplied by farmers. <i>(Note: From 31 July 2022 farmers are to report on synthetic fertiliser use)</i> 	<ul style="list-style-type: none"> Store records of synthetic N fertiliser supplied by farmers. 		<ul style="list-style-type: none"> From 31 July 2022 - Ongoing (compliance) monitoring for synthetic N fertiliser use 	<ul style="list-style-type: none"> Ongoing (compliance) monitoring for synthetic N fertiliser use (pending outcome of 2023 review) 			
Freshwater modules of farm plans	<ul style="list-style-type: none"> Develop systems to store FW-FPs and <i>(Note: The date at which FW-FPs will become mandatory is not known at this stage)</i> 	<ul style="list-style-type: none"> Store FW-FP(s) and ensure compliance with relevant requirements regarding content, certification, auditing 						
Compliance								
Interim restrictions on agricultural intensification	<ul style="list-style-type: none"> Monitoring of consents granted under the new rules. Engagement with catchment, community and industry groups to educate landowners on the new rules and shift them towards compliance (note: this is in conjunction with the rural liaison programme) 				<ul style="list-style-type: none"> Interim national restrictions removed on 31 December 2024 at the latest (New provisions in notified LWRP will apply). 		<ul style="list-style-type: none"> Landholders are unaware of new requirements and regulations Insufficient resources Significant resources required to monitor 	<ul style="list-style-type: none"> Risk mitigation through engagement with landholders and raising awareness about new
Intensive winter grazing	<ul style="list-style-type: none"> Investigate complaints concerning breaches of the new rules 				<ul style="list-style-type: none"> Consent requirements may change pending on Water Plan review and development of new LWRP 			
Feedlots								

	2020-21	2021-22	2022-23	2023	2024	2025 and beyond	Implementation Risk	Risk mitigation
Stockholding areas (e.g. feed/winter/stand off pads)	<ul style="list-style-type: none"> Determine an appropriate permitted activity monitoring regime and agree on funding 						compliance with and enforce new regulations	requirements and regulations
River and wetlands protection and maintenance						<ul style="list-style-type: none"> From 1 July 2025: exclude beef cattle and deer from: <ul style="list-style-type: none"> waterways more than a metre wide on land less than 10-degrees slope by 1 July 2025. wetlands identified in line with new NPS-FM. Additional consent requirements may apply depending on Water Plan review and development of new LWRP. 		
Protection of connectivity of fish habitat								
Stock access								
Communications 2020-ongoing								
Factsheets (replace the current ones)	<ul style="list-style-type: none"> Outline new provisions and what they mean for people in Otago Available digitally and in print Regularly reviewed and updated 						<ul style="list-style-type: none"> Consultation fatigue Information provided does not cover all community questions or does not meet needs of stakeholders Info materials do not reach target audience Messaging is difficult to understand 	<ul style="list-style-type: none"> Provide meaningful info on ongoing basis Provide info that is accessible and easy to digest Use a range of info channels Provide a range of info materials tailored to the needs of specific stakeholders
Web page – ORC and Good Water in Otago	<ul style="list-style-type: none"> Information and links to factsheets 							
On-Stream	<ul style="list-style-type: none"> Regular updates and articles 							
Media releases	<ul style="list-style-type: none"> At gazettal and when it takes effect 							
Social media	<ul style="list-style-type: none"> Share MfE media releases and announcements 							
Waterlines	<ul style="list-style-type: none"> Article in 2020 spring edition 							
Direct emails	<ul style="list-style-type: none"> Key stakeholders, e.g. catchment and industry groups 							
Live Facebook information sessions (and face-to-face?)	<ul style="list-style-type: none"> Panel of relevant staff 							
Advertising	<ul style="list-style-type: none"> Look at potential targeted advertising (print and digital) 							



Attachment 2

Timeline for implementing Plan Changes and Action for Healthy Waterways Regulations



* As plan changes 7, 8 and 1 relate to water, the amendments to rules will take immediate legal effect from the date of notification pursuant to section 86B(1)(a) and (3) of the RMA. This means that, from the date of notification, when considering an activity to which any of the rules proposed under PC8 and PC7 to the Water Plan and PC1 to the Waste Plan, a consents planner will be required to consider both the rules that are in the Operative Plans and any rules notified in the proposed plan changes.

Attachment 3:

Implementation Plan- updated 25 June 2020

Proposed Plan Change 8 (Discharge management) to the Regional Plan: Water for Otago

Proposed Plan Change 1 (Dust suppressants and landfills) to the Regional Plan: Waste for Otago

AREA	PROPOSAL	IMPLICATIONS	IMPLEMENTATION ACTION – WHO IS RESPONSIBLE	IMPLEMENTATION ACTION – TARGET AUDIENCE	OUTPUTS	WHEN	RESOURCES	IMPORTANCE	IMPLEMENTATION RISK	RISK MITIGATION	STATUS *
Overall	Both Plan Changes	Frontline staff and staff administering/enforcing ORC's Plan need to be informed about proposed changes to the Plans	Policy	INTERNAL STAFF <ul style="list-style-type: none"> • Consents • Compliance • Field staff • Rural Liaison • Customer services • Comms 	<ul style="list-style-type: none"> • Provide staff training on new rules; when rules take effect; technical basis for the rules • Create Factsheets for all staff who may be involved in implementation • Create FAQ sheet for Customer Services 	Prior to notification	Consultant support	Critical	Not all relevant staff may be available for training sessions Risk of confusion with the NES provisions covering same topics	<ul style="list-style-type: none"> • Staff attending the training to disperse the info among team members • Record training and make recording available to all staff • Second training session if needed 	<ul style="list-style-type: none"> • Training Completed • Fact sheet content final; currently being designed.
Overall	Both Plan Changes	External stakeholders need to be informed about: <ul style="list-style-type: none"> • The likely impacts of the proposals on their operation • The benefits and costs of the proposed Plan Change • How they can participate in the call-in process (submissions, hearings, appeals) 	Policy, Comms, Rural Liaison, and Customer Services Provide advice and information to community and customers	EXTERNAL <ul style="list-style-type: none"> • Relevant agencies • Landholders • Affected infrastructure providers and landholders • Interest groups • Members of the wider community 	<ul style="list-style-type: none"> • Public notice of Ministerial Direction in the Press, the ODT, The Southland Times, The Star, The Clutha Leader, The (Central Otago) News, The Oamaru Mail. • Public Notice on the EPA and ORC websites with a link between the two websites; • Plan changes are made in all ORC offices, the offices of district councils within Otago; and all libraries in Otago. • Public Notice is posted to all landowners and occupiers in rural areas in Otago, key stakeholder and statutory parties. • Share EPA's media release on social media. • Share any industry group (e.g. B+LNZ or Fed Farmers) information sessions on Facebook • News article on ORC & GWIO websites linking to EPA site • Article in On-Stream 	At notification	Documents from Policy Consultant support for FAQ and Factsheets	Critical	<ul style="list-style-type: none"> • Information materials or messaging does not reach target groups or relevant stakeholders • Messaging is difficult to understand • Information provided does not meet the information needs of different stakeholder groups (consultants, landholders, applicants, wider public) 	<ul style="list-style-type: none"> • Use a range of information channels • Provide a range of information materials tailored to the needs of specific stakeholder groups 	<ul style="list-style-type: none"> • Comms material underway • Fact sheet content final; currently being designed • Notification process underway

Strategy & Planning Committee, 8 July 2020 - MATTERS FOR NOTING

AREA	PROPOSAL	IMPLICATIONS	IMPLEMENTATION ACTION – WHO IS RESPONSIBLE	IMPLEMENTATION ACTION – TARGET AUDIENCE	OUTPUTS	WHEN	RESOURCES	IMPORTANCE	IMPLEMENTATION RISK	RISK MITIGATION	STATUS *
					<ul style="list-style-type: none"> New factsheets (printed and available on website to download) covering proposed rules. Friend of the Submitter appointed to provide independent advice to external parties (landholders, interest groups) on how to submit. 						
Overall	Both Plan Changes	External stakeholders need to be kept informed about the proposal as it moves through the different stages of the call-in process	Comms Provide ongoing information	EXTERNAL <ul style="list-style-type: none"> Relevant agencies Landholders Interest groups Members of the wider community 	<ul style="list-style-type: none"> Article in July On-Stream with link to factsheets and encouraging submissions to EPA Regular ORC website updates Share any industry group (eg. B+LNZ or Fed Farmers) information sessions on Facebook 	During submission period	Consultant support for FAQ and Factsheets	High	<ul style="list-style-type: none"> Consultation fatigue Stakeholders unfamiliar with the status of the proposal within call-in process 	<ul style="list-style-type: none"> Provide meaningful info on ongoing basis Explain how to take part in the call-in process Provide info that is accessible and easy to digest 	<ul style="list-style-type: none"> Comms drafted and sign-off underway Factsheet content signed off and now being designed.
Overall	Both Plan Changes	Those that are most affected by the proposed changes may have very specific information requirements	Policy, Comms, Consents & Rural Liaison Provide info to those most affected by the Plan Changes	EXTERNAL <ul style="list-style-type: none"> Rural banking sector Rural professionals Infrastructure providers Industry groups (e.g. Beef + Lamb NZ, Dairy NZ, Deer Industry NZ, Federated Farmers, Fertiliser Companies, Dairy Companies) 	<ul style="list-style-type: none"> Factsheets (available in print and digitally) July On-Stream newsletter article Facebook posts Targeted emails Share any industry group (eg. B+LNZ or Fed Farmers) information sessions on Facebook 	During submission period	Consultant support for FAQ and Factsheets Support from IT	High	<ul style="list-style-type: none"> Information provided does not cover all community questions 		
Discharges Rural	<ul style="list-style-type: none"> Amended Policy to provide greater consistency in decision making on applications for rural discharges New Policy relating to decision making on applications for nitrogen discharges (matters to consider when assessing applications under Rule 12.C.3.2.) 	<ul style="list-style-type: none"> New policy for consents officers Information about new policy to go to potential applicants 	Comms & Rural Liaison Provide external stakeholders with information on new provisions	<ul style="list-style-type: none"> Rural banking sector Rural professionals Infrastructure providers Industry groups (e.g. Beef + Lamb NZ, Dairy NZ, Deer Industry NZ, Federated Farmers, Fertiliser Companies, Dairy Companies) 	<ul style="list-style-type: none"> Factsheets (available in print and digitally) July On-Stream newsletter article Facebook posts Targeted emails Share any industry group (eg. B+LNZ or Fed Farmers) information sessions on Facebook 	From notification date	Consultant support for FAQ and Factsheets	High	<ul style="list-style-type: none"> Info materials do not reach target audience Messaging is difficult to understand Info provided does not meet needs of stakeholders May be increased costs to farmers to improve practices 	<ul style="list-style-type: none"> Use a range of info channels Provide a range of info materials tailored to the needs of specific stakeholders Provide info on benefits of best practice and improved water quality 	<ul style="list-style-type: none"> Comms drafted and sign-off underway Factsheet content signed off and now being designed.

Strategy & Planning Committee, 8 July 2020 - MATTERS FOR NOTING

AREA	PROPOSAL	IMPLICATIONS	IMPLEMENTATION ACTION – WHO IS RESPONSIBLE	IMPLEMENTATION ACTION – TARGET AUDIENCE	OUTPUTS	WHEN	RESOURCES	IMPORTANCE	IMPLEMENTATION RISK	RISK MITIGATION	STATUS *
Effluent management Animal Waste Storage	<p>New design requirements for effluent systems</p> <ul style="list-style-type: none"> Establish minimum standards for management & operation of animal waste systems Provide for upgrading of existing animal waste systems that do not meet performance standards For systems constructed prior to 25 March 2020, not complying with Rule 14.7.1.1 is permitted until the application date in Appendix 19: <ul style="list-style-type: none"> 0 – 10 days of storage: six months after PC8 becomes operative 11 – 40 days of storage: two years after PC8 becomes operative 41+ days of storage: three years after PC8 becomes operative 	<ul style="list-style-type: none"> New consent requirements for new effluent management rules New requirements for compliance officers New communication and information activities 	<p>Comms & Rural Liaison</p> <ul style="list-style-type: none"> Provide external stakeholders with information on new provisions <p>Consents</p> <ul style="list-style-type: none"> Provide applicants with information on new provisions Implement new provision <p>Compliance</p> <ul style="list-style-type: none"> Enforce/Check compliance with new provisions 	EXTERNAL (AS ABOVE)	<p>EXTERNAL</p> <ul style="list-style-type: none"> Factsheets (available in print and digitally) July On-Stream newsletter article Facebook posts Targeted emails Information about <ul style="list-style-type: none"> Design standards Process for certification Requirements relating to preparation of effluent management plans Rule framework Consent requirements Transition timeframes Flow chart on effluent storage requirements Good Management Practice <p>INTERNAL</p> <ul style="list-style-type: none"> New Application forms New Report Templates and conditions 	From notification date	Consultant support for FAQ and Factsheets and other documents	High	<ul style="list-style-type: none"> Info materials do not reach target audience Messaging is difficult to understand Info provided does not meet needs of stakeholders May be increased costs to farmers to improve practices Lack of suitably certified engineers to design and audit effluent systems Costs to land holders for new systems, consent applications and monitoring Increase in volumes of consent applications Increased workload and training requirements for compliance team 	<ul style="list-style-type: none"> Use a range of info channels Provide a range of info materials tailored to the needs of specific stakeholders Engage with service providers (qualified certifiers and contractors) to encourage the provision of suitable services for the design A staged approach to implementation to assist with spreading of costs, giving farmers flexibility in planning and carrying out necessary work Training for Compliance team Compliance team may need more resources 	<ul style="list-style-type: none"> Comms drafted and sign-off underway Factsheet content signed off and now being designed.
Effluent Management Discharge of animal waste or water containing animal waste	<p>Transition towards a full consenting regime for discharges: All discharges will (eventually) require consent as a restricted discretionary activity</p> <ul style="list-style-type: none"> The date by which an application must be received by ORC is the same as the date in Schedule 19 (as above) for the use of land for the system: For discharges from a system that is permitted under Rule 14.7.1.1 or a 	<ul style="list-style-type: none"> New requirements for consents officers New requirements for compliance officers New communication and information activities 	<p>Comms & Rural Liaison</p> <ul style="list-style-type: none"> Provide external stakeholders with information on new provisions <p>Consents</p> <ul style="list-style-type: none"> Provide applicants with information on new provisions Implement new provision <p>Compliance</p> <ul style="list-style-type: none"> Enforce/Check compliance with new provisions 	EXTERNAL (AS ABOVE)	As above	From notification date	Consultant support for FAQ and Factsheets and other documents	High	As above	As above	As above

Strategy & Planning Committee, 8 July 2020 - MATTERS FOR NOTING

AREA	PROPOSAL	IMPLICATIONS	IMPLEMENTATION ACTION – WHO IS RESPONSIBLE	IMPLEMENTATION ACTION – TARGET AUDIENCE	OUTPUTS	WHEN	RESOURCES	IMPORTANCE	IMPLEMENTATION RISK	RISK MITIGATION	STATUS *
	new system under Rule 14.7.2.1, resource consent applications must be received by ORC within six months after PC8 becomes operative										
Good Farming practices: • <i>Intensive grazing</i> • <i>Stock exclusion</i> • <i>Sediment traps</i>	<p>New Policy which seeks to enable farming activities while reducing adverse effects through a range of actions, including:</p> <ul style="list-style-type: none"> Promoting implementation of Good farming practices (or better) to reduce contaminant loss; Managing stock access to water; Introducing minimum standards for intensive grazing; Managing sediment run-off; and Promoting identification and management of critical source areas to reduce the risk of contaminant loss <p>New land use rules for farming</p> <ul style="list-style-type: none"> Introducing minimum standards for intensive grazing Stronger requirements on stock access Permission over the installation of sediment traps 	<ul style="list-style-type: none"> New requirements for consents officers New requirements for compliance officers New communication and information activities 	<p>Comms & Rural Liaison Provide external stakeholders with information on new provisions</p> <p>Consents</p> <ul style="list-style-type: none"> Provide applicants with information on new provisions Implement new provision <p>Compliance Enforce/Check compliance with new provisions</p>	<p>EXTERNAL</p> <ul style="list-style-type: none"> Farmers Rural landholders Rural professionals industry groups e.g. <ul style="list-style-type: none"> Beef + Lamb NZ Dairy NZ Deer Industry NZ Federated Farmers Fertiliser Companies Dairy Companies Catchment groups to disseminate information on new rules on sediment traps 	As above	From notification date	Consultant support for FAQ and Factsheets and other documents	High	<ul style="list-style-type: none"> Information materials or messaging does not reach target groups or relevant stakeholders Messaging is difficult to understand Information provided does not meet the information needs of different stakeholder groups Significant change from the effects-based approach May be increased costs to farmers to implement and where necessary apply for resource consents Restricting stock access to water may also prevent the public from accessing water if fences are constructed Compliance team will require training for new requirements Increased workload for Compliance team 	<ul style="list-style-type: none"> Use a range of information channels Provide a range of information materials tailored to the needs of specific stakeholders or stakeholder groups Ensure information covers the benefits of good practice for the environment and the direction Government is taking Not expected to trigger many consent applications Training for Compliance team Compliance team may need more resources 	• As above
Discharges: Stormwater	Amended policies to provide a clear direction for infrastructure providers over what action should be prioritised to reduce environmental effects and clearer direction regarding expectations for discharge permits,	<ul style="list-style-type: none"> New communication and information activities New requirements for consents officers 	<p>Comms Targeted information/emails</p> <p>Consents</p> <ul style="list-style-type: none"> Provide applicants with advice relating to new provision 	<p>EXTERNAL</p> <ul style="list-style-type: none"> Territorial Authorities – implications for infrastructure Other Infrastructure providers (e.g. Developers) 	<p>EXTERNAL Factsheet on new Stormwater provisions (available in print and digitally)</p> <p>Meeting with Territorial Authorities</p> <p>INTERNAL</p>	From notification date	Consultant support for FAQ and Factsheets and other documents	High	<ul style="list-style-type: none"> Costs to infrastructure providers authorities in progressively reducing sewage overflows and upgrading wastewater systems 	<ul style="list-style-type: none"> The provisions are not timebound, allowing costs to be spread over time PC8 represents an improvement on the status quo 	<ul style="list-style-type: none"> Comms drafted and sign-off underway Factsheet content signed off and now being designed.

Strategy & Planning Committee, 8 July 2020 - MATTERS FOR NOTING

AREA	PROPOSAL	IMPLICATIONS	IMPLEMENTATION ACTION – WHO IS RESPONSIBLE	IMPLEMENTATION ACTION – TARGET AUDIENCE	OUTPUTS	WHEN	RESOURCES	IMPORTANCE	IMPLEMENTATION RISK	RISK MITIGATION	STATUS *
	both for applicants and ORC <ul style="list-style-type: none"> Progressive reduction in sewage overflows to stormwater Requiring the progressive upgrade of existing stormwater systems in order to improve the quality of discharges 		<ul style="list-style-type: none"> Implement new provisions 		<ul style="list-style-type: none"> New Application forms New Report Templates and Conditions 				<ul style="list-style-type: none"> The long timeframes associated with infrastructure upgrades may result in continued negative impacts on the environment until infrastructure is upgraded in line with the policy direction 		<ul style="list-style-type: none"> Application forms and Report Templates completed
Discharges Wastewater	New policy guidance <ul style="list-style-type: none"> Providing clear direction for infrastructure providers over what action should be prioritised to reduce environmental effects Providing clearer direction regarding expectations for discharge permits, both for applicants and ORC Requiring progressive improvements in the design and operation of wastewater systems in order to reduce the adverse effects of the discharges Outlining a preference for discharges of wastewater to land over water 	<ul style="list-style-type: none"> New communication and information activities New requirements for consents officers 	Comms Targeted information/emails Consents <ul style="list-style-type: none"> Provide applicants with advice relating to new provision Implement new provisions 	EXTERNAL <ul style="list-style-type: none"> Territorial Authorities – implications for infrastructure 	EXTERNAL Factsheet on new Wastewater provisions (available in print and digitally) INTERNAL <ul style="list-style-type: none"> New Application forms New Report Templates and Conditions 	From notification date	Consultant support for FAQ and Factsheets and other documents	High	As above	As above	<ul style="list-style-type: none"> Comms drafted and sign-off underway Factsheet content signed off and now being designed.
Earthworks	New earthworks rules <ul style="list-style-type: none"> To permit smaller scale earthworks where on-site practices are implemented to prevent or reduce the adverse effects of sediment discharges and Require resource consent for larger scale earthworks 	<ul style="list-style-type: none"> New requirements for consents officers New requirements for compliance officers 	Comms Targeted information/emails Rural Liaison Education/awareness campaign for land managers on implications for farm tracks and dairy lanes Consents <ul style="list-style-type: none"> Provide applicants with advice 	EXTERNAL Education/awareness campaign on new processes and rules for: <ul style="list-style-type: none"> Developers, Surveyors, Contractors, Construction companies Farmers Land managers 	EXTERNAL Factsheet on new Earthworks provisions (available in print and digitally) INTERNAL <ul style="list-style-type: none"> New Application forms New Report Templates and Conditions 	From notification date	Consultant support for FAQ and Factsheets and other documents	High	<ul style="list-style-type: none"> Will possibly result in consenting at the district and regional levels, with consideration of the same effects Additional consent applications to process and compliance activities No science expertise to assess consent 	Liaise with city and district councils to: <ul style="list-style-type: none"> Develop a joint consenting process Share information / data on earthworks Discuss any future change to district plans Training for Compliance team 	<ul style="list-style-type: none"> Comms drafted and sign-off underway Factsheet content signed off and now being designed. Application forms and Report

Strategy & Planning Committee, 8 July 2020 - MATTERS FOR NOTING

AREA	PROPOSAL	IMPLICATIONS	IMPLEMENTATION ACTION – WHO IS RESPONSIBLE	IMPLEMENTATION ACTION – TARGET AUDIENCE	OUTPUTS	WHEN	RESOURCES	IMPORTANCE	IMPLEMENTATION RISK	RISK MITIGATION	STATUS *
	where the adverse effects of any discharges are likely to be more significant		<ul style="list-style-type: none"> relating to new provision Implement new provisions <p>Compliance Enforce/Check compliance with new provisions</p>						<ul style="list-style-type: none"> applications: will require input from external experts – may increase consenting costs Compliance team will require training for new requirements Increased workload for Compliance team 	<ul style="list-style-type: none"> Compliance team may need more resources 	<ul style="list-style-type: none"> Templates completed
Dust Suppressant	<p>New Rule</p> <ul style="list-style-type: none"> Prohibiting the use of waste oil on roads Permitting discharge of dust suppressant on roads providing the suppressant is approved under the HSNO Act 	<ul style="list-style-type: none"> Liaison and communication activities needed Compliance and enforcement approach to be defined 	<p>Policy Provide guidance on alternatives to waste oil</p> <p>Comms Targeted information/emails</p> <p>Consents</p> <ul style="list-style-type: none"> Provide applicants with information on new provisions Implement new provision <p>Compliance Enforce/Check compliance with new provisions</p>	<p>EXTERNAL</p> <ul style="list-style-type: none"> Territorial Authorities Rural community 	<p>EXTERNAL Fact Sheet on the use of waste oil (available in print and digitally)</p> <p>INTERNAL</p> <ul style="list-style-type: none"> New Application Forms New Report Templates and Conditions 	From notification date	Consultant support for FAQ and Factsheets and other documents	High	<ul style="list-style-type: none"> Lack of knowledge of alternatives to waste oil Potential increase in air pollution if people choose not to apply alternatives to waste oil Compliance team will require training for new requirements Increased workload for Compliance team 	<ul style="list-style-type: none"> Meeting with TAs to understand how the process work Good education/information required Training for Compliance team Compliance team may need more resources 	<ul style="list-style-type: none"> Comms drafted and sign-off underway Factsheet content signed off and now being designed. Application forms and Report Templates completed
Landfills	<ul style="list-style-type: none"> New Policy providing a clear direction for Landfills Amended Rules requiring the design and operation of landfills to be in accordance with industry best practice 	<ul style="list-style-type: none"> Liaison and communication activities needed Compliance and enforcement approach to be defined 	<p>Comms Targeted information/emails</p> <p>Consents</p> <ul style="list-style-type: none"> Provide applicants with information on new provisions Implement new provision <p>Compliance Enforce/Check compliance with new provisions</p>	<p>EXTERNAL Territorial Authorities</p>	<p>EXTERNAL Fact Sheet on the new provisions for landfills (available in print and digitally)</p> <p>INTERNAL</p> <ul style="list-style-type: none"> New Application Forms New Report Templates and Conditions 	From notification date	Consultant support for FAQ and Factsheets and other documents	High	<ul style="list-style-type: none"> Compliance team will require training for new requirements Increased workload for Compliance team 	<ul style="list-style-type: none"> Training for Compliance team Compliance team may need more resources 	<ul style="list-style-type: none"> Comms drafted and sign-off underway Factsheet content signed off and now being designed. Application forms and Report Templates completed

* While implementation work has commenced for efficiency purposes, final content may be subject to change due to changing circumstances (i.e. the release of the Public Notice of the Ministerial Direction by the Environmental Protection Agency, the Gazzettal of new National Environmental Standards for Freshwater and the RMA Section 360 regulations).

Attachment 4

Comparison of provisions in Plan Change 8 with Action for Healthy Waterways Regulations.

Table 1 compares the provisions in Plan Change 8 to the Regional Plan: Water for Otago with the requirements that will be set by:

- The National Environmental Standards for Freshwater
- The RMA s360 regulations (stock exclusion)
- The Supplementary Order Paper (SOP) to the RM Bill¹

Table 2 provides an overview of other key requirements likely to be set by the soon to be gazetted new central government regulations.

Table 1: Comparison Plan Change 8 and Central Government Regulations

Topic	Plan Change 8	Action for Healthy Water	Comments
Discharge policy framework – Stormwater and wastewater	Amended Policy 7.C.5 to minimise adverse environmental effects from new and upgraded stormwater reticulation systems. Amended Policy 7.C.6 to reduce adverse environmental effects from reticulated wastewater systems. New policy 7.C.12 to reduce adverse environmental effects from existing stormwater reticulation systems.	NES for Wastewater Discharges and Overflows: Was proposed in 2019 to better manage stormwater and wastewater.	NES for Wastewater Discharges and Overflows: To date there has not been any further public announcements in relation to this NES.
Discharge policy framework – Rural discharges	Amended to Policy 7.D.5 providing additional policy guidance for considering resource consents for rural discharges.	NES-Freshwater: A new national cap on the use of synthetic nitrogen (N) fertiliser of 190 kg	NES-Freshwater: The proposed cap on N introduces a modest input control on N rather than

¹ The table is based on the detail contained in the Cabinet papers and Communications Material released by the Minister. This table will be reviewed, and updated if necessary, when the final provisions are released.

Topic	Plan Change 8	Action for Healthy Water	Comments
	<p>New policy 7.D.6 providing additional policy guidance for considering resource consent applications for nitrogen discharges (under Rule 12.C.3.2) which provides for the discharge of water or any contaminant to water, or onto land in circumstances which may result in a contaminant entering water, as a discretionary activity. The policy provides for restricting the duration of resource consents to a term of no more than 10 years.</p>	<p>N/ha/ year which would apply from 1 July 2021. Farmers will have to record, and report use of synthetic N fertiliser to regional councils (RC) once a year from 31 July 2022. RC has requirement for ongoing monitoring and compliance.</p> <p>NPS-FM: Regional Councils' required to:</p> <ul style="list-style-type: none"> • set more specific desired outcomes for measures of ecosystem health and other values, • maintain or improve freshwater from its current state (assessed as at 7 September 2017), • assess and report on whether freshwater has been maintained. 	<p>the outputs-based regulations that are more common.</p> <p>NPS-FM: Plans will be required to set limits and desired outcomes at or above the bottom lines. Councils must then develop interventions (limits specified in rules or actions plans) to achieve the target attribute states, monitor waterbodies and freshwater ecosystems and take steps if deterioration is detected.</p> <p>PC8: Restricting the duration of consents granted for rural discharges will assist with the transition to a new regional plan that is compliant with the NPSFM.</p> <p>Giving consideration to the amended policies should lead to reduced environmental impacts, particularly by improving water quality through managing nitrogen discharges.</p>
<p>Stock effluent management – Storage</p>	<p>New policy 7.D.7 managing the operation of animal waste systems</p> <p>New policy 7.D.8 to provide for the upgrade of existing animal waste systems that fail to meet permitted activity standards in Rule 14.7.1.1</p>	<p>NES-Freshwater: Not directly addressed.</p> <p>NPS-FM: Not directly addressed.</p>	<p>NPS-FM: Plans will be required to set limits and desired outcomes at or above the bottom lines. Councils must then develop interventions, (limits specified in rules or actions plans) to achieve the target attribute states, monitor waterbodies</p>

Topic	Plan Change 8	Action for Healthy Water	Comments
	<p>New rule 14.7.1.1 New Permitted Activity Rule for the use and maintenance of animal waste systems constructed prior to 25 March 2020</p> <p>New rule 14.7.1.2 New Interim Permitted Activity Rule for the use and maintenance of animal waste systems constructed prior to 25 March 2020 and fail to comply with the permitted activity conditions in Rule 14.7.1.1</p> <p>New rule 14.7.2.1 New Controlled Activity Rule for the construction, use and maintenance of animal waste systems constructed after 25 March 2020</p> <p>New rule 14.7.3.1 New Discretionary Activity Rule for the construction, upgrade use and maintenance of animal waste systems that do not meet the permitted activity conditions in Rules 14.7.1.1 and 14.7.1.2 or the entry conditions In Controlled Activity Rule 14.7.2.1</p> <p>New schedules 18 and 19 to manage the use of land for storage of animal waste</p>		<p>and freshwater ecosystems and take steps if deterioration is detected.</p> <p>PC8: Minimum standards for animal waste systems will reduce the risk of unmanaged discharges of animal waste, for example through leaks or spills from storage ponds.</p> <p>The proposed new provisions are more effective at achieving the outcomes sought by the NPSFM.</p>
Stock effluent management – Discharge	Amended rule 12.C.0.2 to remove animal waste systems from the prohibited activity rule for discharges of	NES-Freshwater: Not directly addressed.	NPS-FM: Plans will be required to set limits and desired outcomes at or above the bottom

Topic	Plan Change 8	Action for Healthy Water	Comments
	<p>contaminants from silage storage or composting processes.</p> <p>To manage the discharge of animal waste, or water containing animal waste: New rule 12.C.0.4 (Prohibited Activity Rule),</p> <p>New rule 12.C.1.4 (Permitted Activity Rule)</p> <p>New rule 12.C.2.5, (Restricted Discretionary Activity Rule)</p>	<p>NPS-FM: Not directly addressed.</p>	<p>lines. Councils must then develop interventions, (limits specified in rules or actions plans) to achieve the target attribute states, monitor waterbodies and freshwater ecosystems and take steps if deterioration is detected.</p> <p>PC8: Adoption of these provisions should lead to reduced adverse effects from poor practices, for example ponding or overland flow from over-application of animal waste.</p> <p>The proposed new and amended provisions are more effective at achieving the outcomes sought by the NPSFM.</p>
Intensive grazing	<p>New policy 7.D.9 promoting the implementation of good farming management practices, including managing stock access to waterways and setting minimum standards for intensive grazing.</p> <p>New rule 14.6.1.1 Permitted activity</p> <ul style="list-style-type: none"> • restrict the total area of intensive grazing to 100ha or 10% of the total landholding whichever is lesser. 	<p>NES-Freshwater: For winter grazing on forage crops³ from winter 2021 the following applies: The use of land for intensive winter grazing of livestock on forage crops is permitted activity provided that:</p> <ul style="list-style-type: none"> • Pugging is no deeper than 20cm and covers less than 50% of the paddock • Bare ground in paddocks subject to winter grazing must be re-sown as soon as practicable, but in any event no later than within one month 	<p>PC8: ORC will review the requirement to further align the proposed rules with the new NES-Freshwater as soon as the latter is gazetted.</p> <p>The provisions are largely aligned and seek the same outcomes.</p>

³ PC8 defines forage crops as including brassica, beet and root vegetable crops and excluding pasture and cereal crops.

Topic	Plan Change 8	Action for Healthy Water	Comments
	<ul style="list-style-type: none"> • Not in any critical source area² • Requiring progressive grazing from the top of a slope to the bottom • requiring a vegetated strip of 10 metres from any waterbody from which stock are excluded. <p>New rule 14.6.2.1 discretionary activity rule for the use of land for intensive grazing that does not comply with rule 14.6.1.1.</p> <p>New definition for Intensive Grazing.</p>	<ul style="list-style-type: none"> • Practice occurs: <ul style="list-style-type: none"> ○ in accordance with a FW-FP that addresses the risks of this activity ○ On an area less than 50ha or 10% whichever is greater of a farm in forage crops ○ on land with no more than a 10 degree slope • Restricted discretionary resource consent required if the permitted activity conditions are not met. 	
Sediment control from earthworks activities	<p>New policy 7.D.10 avoiding sediment loss from earthworks or requiring the use of best practice guidelines</p> <p>New rule 14.5.1.1 New Permitted Activity Rule for the discharge of sediment from earthworks for residential development</p> <p>New rule 14.5.2.1 Restricted discretionary activity rule for the discharge of sediment from earthworks for residential development where the permitted activity conditions cannot be met</p> <p>New definition for earthworks</p>	<p>NES-Freshwater: Not directly addressed.</p> <p>NPS-FM: Not directly addressed.</p>	<p>NPS-FM: Introduces new attributes with national bottom lines, including the following measures of sedimentation:</p> <ul style="list-style-type: none"> • suspended sediment as measured by visual clarity, or as converted from turbidity, which will require regional councils to limit resource use to achieve desired outcomes, and • deposited sediment as measured by proportional coverage, which will allow regional councils to work towards desired outcomes through non-statutory action plans (not necessarily limiting resource use).

² A critical source area is a gully, swale, or depression that accumulates runoff from adjacent land and delivers it to surface water body.

Topic	Plan Change 8	Action for Healthy Water	Comments
Sediment traps	New rule 13.5.1.10 permitting the installation and maintenance of a sediment trap in ephemeral or intermittently flowing river, with conditions restricting the types of effects generated and the purpose of the work undertaken	<p>NES-Freshwater: Not directly addressed.</p> <p>NPS-FM: Not directly addressed.</p>	<p>NPS-FM: Introduces new attributes with national bottom lines, including the following measures of sedimentation:</p> <ul style="list-style-type: none"> • suspended sediment as measured by visual clarity, or as converted from turbidity, which will require regional councils to limit resource use to achieve desired outcomes, and • deposited sediment as measured by proportional coverage, which will allow regional councils to work towards desired outcomes through non-statutory action plans (not necessarily limiting resource use)
Stock exclusion from waterbodies	Amendment to Rule 13.5.1.8A: From 2022, the exclusion of dairy cattle and pigs from lakes, continually flowing rivers more than 1m wide and Regionally Significant Wetlands with a five metre setback from the water body.	<p>S360 (RMA) Regulations: From 1 July 2023</p> <ul style="list-style-type: none"> • All dairy cattle (except dairy support cattle) and pigs excluded from lakes and rivers more than 1 m regardless of land slope • All cattle and deer must be excluded from lakes and rivers more than 1 m wide, on land used for fodder-cropping, break-feeding, or grazing, and on irrigated pasture regardless of land slope • All cattle, deer and pigs must be excluded from wetlands identified in a regional or district plan when the regulations are gazetted. <p>By 1 July 2025,</p>	<p>PC8: ORC will review the requirement to further align the proposed rule with the new NES-Freshwater as soon as the latter is gazetted.</p>

Topic	Plan Change 8	Action for Healthy Water	Comments
		<ul style="list-style-type: none"> • All beef cattle and deer must be excluded from lakes and rivers more than 1 m wide when the land is less than or equal to 10 degrees. • All dairy support cattle must be excluded from lakes and rivers more than 1 m wide regardless of land slope. • All cattle, deer and pigs must be excluded from wetlands identified in a regional plan that gives effect to the new NPS-FM <p>Regulations do not apply where stock exclusion is impractical, or stock are effectively excluded from water bodies Three metre minimum setback applies, except where existing fencing or riparian planting is effective in excluding stock permanent fences to be moved to comply with setback</p> <p>Regional plans and Freshwater Module of Farm Plans (FW-FP) are able to contain more stringent requirements</p>	

Table 2: Overview of key requirements announced by Central Government and not included in the Plan Change 8 or not covered by the operative Regional Plan: Water for Otago

Topic	Specific requirements	Comment
Farm Plans	Amendment to RMA by a Supplementary Order Paper (SOP) to the RM Bill, requiring farms over a prescribed size to have a FW-FP, and that farm operators must comply with four primary duties, namely:	Many rural users are already adopting Farm Plans through industry bodies,

Topic	Specific requirements	Comment
	<ul style="list-style-type: none"> • To prepare a FW-FP that manages the adverse effects of their farm on freshwater, in accordance with regulations • To have the FW-FP certified by an independent certifier • To operate the farm in accordance with the FW-FP • To have the farm audited for compliance with the requirements of the FW-FP <p>Information must be reported to, and kept by, regional councils. Regional councils will be responsible for ensuring farmers comply with these primary duties.</p> <p>FW-FP will be rolled out over time across New Zealand, allowing the Government to focus on the areas of most need first.</p>	<p>including Beef + Lambs' FEP II, and Dairy NZ's Sustainable Milk Plans.</p> <p>Staff will review the FP requirements when they come out to check alignment with existing industry standards, to avoid as much duplication as possible.</p>
Feedlots and stockholding areas	<p>NES-Freshwater: The use of land for stockholding areas is permitted activity provided that:</p> <ul style="list-style-type: none"> • The base area is sealed to a minimum of permeability of 10⁻⁸ metres per second • Effluent is collected, stored and disposed in accordance with regional council regulations or a current discharge permit • These are situated at least 50 metres away from waterbodies, water abstraction bores, drainage ditches and coastal marine areas. <p>The stockholding areas are allowed if it occurs in accordance with a FW-FP that addresses the risks of this activity.</p> <p>Discretionary resource consents are required for:</p> <ul style="list-style-type: none"> • Stockholding areas that don't meet the permitted activity conditions or are not in accordance with a FW-FP, • All feedlots, • The standards for feedlots and stock-holding areas only apply to cattle older than 4 months and above 120kg. • Stockholding areas are a permitted activity if they meet the minimum standards. 	<p>PC8 rules for effluent storage and disposal will be relevant.</p>
Agricultural Intensification	<p>NES-Freshwater: Interim restrictions - Discretionary resource consent required for:</p> <ul style="list-style-type: none"> • land use change greater than 10ha from any form of farming to dairy farming, 	<p>Interim restrictions on major agricultural intensification until councils notify a freshwater plan complying the new NPS-</p>

Topic	Specific requirements	Comment
	<ul style="list-style-type: none"> • land use change greater than 10 ha from woody vegetation or plantation forestry to pastoral farming, • expansion of irrigated pasture by more than 10ha on dairy farms, • expansion of the area of intensive winter forage cropping above a historical baseline, and • expansion of dairy support above a historical baseline. 	<p>FM or until 31 December 2024 (when Regional Plans should have been notified).</p>
<p>Real time measuring and reporting data on water use</p>	<p>Resource Management (measurement and Reporting of water takes) Regulations 2010: Amendment to increase the measuring and reporting frequencies to support councils' ability to use data effectively for planning, compliance, monitoring, and enforcement.</p> <ul style="list-style-type: none"> • Consent holders to measure their water use every 15 minutes • Consent holders to provide electronic records to councils daily • Requirements phased in over 6 years. 	<p>To inform regional planning and limit setting.</p>
<p>Protection of streams and wetlands</p>	<p>NES-Freshwater: Restrictions on activities leading to the loss of natural inland and coastal wetlands, rivers and streams, while promoting restoration.</p> <p>Vegetation clearance, earthworks (including for drainage), and changes to water levels in wetlands, and in their surrounding vicinity, are:</p> <ul style="list-style-type: none"> • Permitted if: <ul style="list-style-type: none"> ○ the effects will be no more than minor, and are for the purpose of restoration, cultural purposes (including scientific and research), sustainable harvest of sphagnum moss or maintaining existing structures, and ○ activity is in accordance with a wetland management plan • Restricted discretionary if: <ul style="list-style-type: none"> ○ Effects will be more than minor, or ○ If it is for the purpose of creating new essential structures for restoration, or existing flood control or soil conservation programmes • Discretionary if: <ul style="list-style-type: none"> ○ for the purpose of new nationally or nominated regionally significant infrastructure; or flood control or soil conservation programmes; 	

Topic	Specific requirements	Comment
	<ul style="list-style-type: none"> • Otherwise activities are non-complying or prohibited 	
Preserve connectivity of fish habitat	<p>NES-Freshwater:</p> <ul style="list-style-type: none"> • Permit the construction of new weirs and culverts that meet minimum design standards provided the structure’s ability to provide for fish passage to the same degree over its life is monitored • Make constructing passive flap gates a non-complying activity • Impose requirements to monitor whether structures continue to provide for fish passage to the same degree over the life of any consented structure • Require all persons constructing weirs, culverts, flap gates (whether passive or not), dams and fords to supply regional councils with information on their physical characteristics and design in relation to fish passage • exempt customary weirs from these standards 	