

Council Agenda - 27 March 2024

Meeting will be held in the Council Chamber, Level 2, Philip Laing House, 144 Rattray Street, Dunedin and live streamed to the [ORC YouTube Channel](#)



Members:

Cr Gretchen Robertson, Chairperson
Cr Lloyd McCall, Deputy Chairperson
Cr Alexa Forbes
Cr Gary Kelliher
Cr Michael Laws
Cr Tim Mepham
Cr Kevin Malcolm
Cr Andrew Noone
Cr Bryan Scott
Cr Alan Somerville
Cr Elliot Weir
Cr Kate Wilson

Senior Officer: Richard Saunders, Chief Executive
Meeting Support: Kylie Darragh, Governance Support Officer

27 March 2024 01:00 PM

Agenda Topic

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1. WELCOME

2. APOLOGIES

No apologies were received at the time of agenda publication

3. PUBLIC FORUM

No requests to speak at Public Forum were received at the time of agenda publication.

4. CONFIRMATION OF AGENDA

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

5. DECLARATIONS 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. The [Register of Pecuniary Interests](#) can be found on the ORC Website

6.	RESOLUTION TO EXCLUDE THE PUBLIC	3
	That the public be excluded from the following items of the proceedings of this meeting under LGOIMA 48(1)(a), namely:	
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	2.1 Recommendations Report of the Independent Hearings Panel following deliberations on the Proposed Otago Regional Policy Statement 2021	
7.	MATTERS FOR CONSIDERATION	5
7.1	Land and Water Regional Plan: options for timing of notification	5
	The purpose of this report is to enable Council to consider options in relation to notification of the proposed Land and Water Regional Plan.	
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7.2	Port Otago Letter of Expectations	
	To be submitted as a late paper.	
8.	CLOSURE	

That the public be excluded from the following parts of the proceedings of this meeting, namely:

- 1.1 Confidential Minutes of Council Meeting 6 December 2023
- 2.1 Recommendations Report of the Independent Hearings Panel following deliberations on the Proposed Otago Regional Policy Statement 2021

The general subject of each matter to be considered while the public is excluded, the reason for passing this resolution in relation to each matter, and the specific grounds under [section 48\(1\)](#) of the Local Government Official Information and Meetings Act 1987 for the passing of this resolution are as follows:

General subject of each matter to be considered	Reason for passing this resolution in relation to each matter	Ground(s) under section 48(1) for the passing of this resolution
Minutes of the PE Council Meeting 2023.12.06	<p>To protect the privacy of natural persons, including that of deceased natural persons – Section 7(2)(a)</p> <p>To enable any local authority holding the information to carry out, without prejudice or disadvantage, commercial activities – Section 7(2)(h)</p> <p>To protect information where the making available of the information—would be likely unreasonably to prejudice the commercial position of the person who supplied or who is the subject of the information – Section 7(2)(b)(ii)</p> <p>To enable any local authority holding the information to carry on without prejudice or disadvantage, negotiations (including commercial and industrial negotiations) – Section 7(2)(i)</p> <p>To protect information which is subject to an obligation of confidence or which any person has been or could be compelled to provide under the authority of any enactment, where the making available of the information— would be likely to prejudice the supply of similar information, or information from the same source, and it is in the public interest that such information should continue to be supplied – Section 7(2)(c)(i)</p> <p>To prevent the disclosure or use of official information for improper gain or improper advantage – Section 7(2)(j)</p>	<p>Section 48(1)(a); Subject to subsection (3), a local authority may by resolution exclude the public from the whole or any part of the proceedings of any meeting only on 1 or more of the following grounds:</p> <p>(a) that the public conduct of the whole or the relevant part of the proceedings of the meeting would be likely to result in the disclosure of information for which good reason for withholding would exist.</p>

<p>2.1 Recommendations Report of the Independent Hearings Panel following deliberations on the Proposed Otago Regional Policy Statement 2021</p>	<p>To enable the local authority to deliberate in private on decisions where a right of appeal lies to the Environment Court or High Court – section 48(1)(d)</p>	<p>Section 48(1)(d); Subject to subsection (3), a local authority may by resolution exclude the public from the whole or any part of the proceedings of any meeting only on 1 or more of the following grounds: (d) that the exclusion of the public from the whole or the relevant part of the proceedings of the meeting is necessary to enable the local authority to deliberate in private on its decision or recommendation in any proceedings to which this paragraph applies.</p>
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This resolution is made in reliance on [section 48\(1\)\(a\) and \(d\)](#) of the Local Government Official Information and Meetings Act 1987 and the particular interest or interests protected by [section 6](#) or [section 7](#) of that Act or [section 6](#) or [section 7](#) or [section 9](#) of the Official Information Act 1982, as the case may require, which would be prejudiced by the holding of the whole or the relevant part of the proceedings of the meeting in public.

7.1. Land and Water Regional Plan: options for timing of notification

Prepared for: Council
Report No. POL2408
Activity: Environmental - Regional Plan: Water Quality
Author: Anita Dawe, General Manager, Policy and Science
Endorsed by: Richard Saunders, Chief Executive
Date: 27th March 2024

PURPOSE

To enable Council to consider options in relation to notification of the proposed Land and Water Regional Plan.

EXECUTIVE SUMMARY

- [1] Council committed to a review of its existing planning framework in 2018, to give effect to the relevant NPSFM at the time. Considerable work has been undertaken since that time to deliver a reviewed planning framework and to also respond to previous Ministerial direction to notify a proposed Land and Water Regional Plan by 30 June 2024.
- [2] The new Government has indicated that some parts of the regulatory framework for managing land and freshwater will change over the next 18 – 24 months. It has also extended the date by which ORC must notify a new plan from 30 June 2024 to 31 December 2027.
- [3] This provides an opportunity for Council to assess previous commitments in relation to the timing for notification of a new Land and Water Regional Plan, and consider the legal, social, environmental and economic impacts of a range of options.

RECOMMENDATION

That the Council:

- 1) **Notes** this report.
- 2) **Notes** the four options outlined by staff
- 3) **Approves an option** for progressing the proposed Land and Water Regional Plan
- 4) **Requests** that staff report back to the May Council meeting with an updated programme of work to reflect the option selected by Council.
- 5) **Notes** that the Minister for the Environment has requested information from Otago Regional Council should Council decide to continue with a notification date ahead of 31 December 2027

BACKGROUND

- [4] Regional Councils have been working to give effect to a variety of national direction in relation to freshwater and land for a number of years. As a result, Council Regional Plans are in various states and ages – some, like Environment Southlands, had decisions notified in 2018 and they are currently working through appeals while staff are developing a plan change to give effect to the NPSFM 2020, and others like Taranaki have a freshwater framework that is 22 years old.
- [5] During this time, the NPSFM also changed – from its original 2011 version to a new 2014 version, an amended 2014 version in 2017 and the most recent NPSFM 2020.
- [6] In 2018, ORC commenced its plan to give effect to the NPSFM 2014(amended 2017), and in 2019, it accepted recommendations from the Minister for the Environment to deliver a work programme that included notifying a new Land and Water Regional Plan by June 2024.
- [7] In December 2023, Parliament passed the Resource Management (Natural and Built Environment and Spatial Planning Repeal and Interim Fast-track Consenting) Act 2023. Among other things, this Act changed the deadline for notifying plan changes that give effect to the National Policy Statement for Freshwater Management 2020 (NPSFM) from 31 December 2024 to 31 December 2027 (Schedule 2, Part 4 of this Act amended section 80A of the Resource Management Act 1991). The choice of when to notify plan changes prior to that date sits with regional councils.
- [8] Accompanying this, the Government has stated that the NPSFM will be replaced, and National Freshwater Regulations will be amended in 18 to 24 months. A letter from the Minister Responsible for RMA Reform to councils (13 December 2023) states:
- *the Government will amend the RMA to make it easier to consent new infrastructure including renewable energy, allow farmers to farm, build more houses, and enable aquaculture and other primary industries; and*
 - *We have also decided to review and replace the National Policy Statement for Freshwater Management 2020 (NPS-FM) in this term of Government, following normal RMA processes for national direction.*
- [9] More recently (31 January 2024), the Minister has stated¹:
- In the interim we intend to progress changes to how the hierarchy of obligations contained in Te Mana o te Wai provisions of the NPS-FM apply to consent applications and consent decisions. Our intention is that these changes will be made through a separate RMA amendment bill this year.*
- [10] While the timeline may have changed, the fundamental premise of improving water quality remains. The Minister for the Environment (14 December 2023) stated:

¹ [Letter-from-Hon-Chris-Bishop.pdf \(gw.govt.nz\)](#)

The coalition Government is committed to improving freshwater quality for the benefit of all New Zealanders by ensuring a sustainable and balanced approach, that works towards improving the environmental outcomes for our waterways.

- [11] On Friday 15 March, ORC received correspondence from the Minister for the Environment in relation to the section 24 direction ORC has been operating under. That correspondence extended ORC's timeframe deadline from 30 June 2024 to 31 December 2027 to align with changes to the RMA for all other Regional Councils. It also asked for information to be provided to the Minister should ORC consider earlier notification was appropriate. The letter is attached as Appendix 1.
- [12] The need for a new framework to manage land and freshwater is in response to a number of issues including the outdated existing Regional Plan: Water² and Regional Plan: Waste, the time pressures and challenges if Plan Change 6AA and Plan Change 7 are not replaced with a new framework, and challenges managing freshwater quality and quantity under the existing framework. It also responds to a range of national direction, including, but not limited to, the National Policy Statement for Freshwater Management 2020.
- [13] When the Regional Plan: Water review commenced in 2019, the plan was to respond to the NPSFM 2014(amended 2017). As commonly occurs through a plan development process, the NPSFM 2014 (amended 2017) was superseded by the NPSFM 2020.
- [14] In terms of plan development, consultation on the Manuherekia minimum flow setting process started in 2016 and for the Arrow and Cardrona catchments in 2017. Consultation on the wider plan commenced in November 2021, and there have been three region wide consultations since then, as well as additional consultations in the three Manuherekia, Arrow and Cardrona catchments. In addition, there has been detailed stakeholder engagement across that time. A more fulsome summary is appended as Appendix 2.

DISCUSSION

- [15] Staff consider there are four high level options that Council could select in relation to the proposed LWRP programme. Those options are:
- a. Option 1 - Proceed as planned in the current LWRP work programme and notify the LWRP by 30 June 2024;
 - b. Option 2 - Factor in a short delay to the programme, to allow councillors to further consider the plan content, and any changes that may be required as a result of decisions on the proposed RPS and any subsequent stakeholder discussions;
 - c. Option 3 - Stop progressing the plan and prepare a plan change to manage the outstanding time critical issues in the existing Regional Plan: Water;

² Relevant commentary on the challenge with the existing framework is set out in the Skelton Report, [section-24a-otago-investigation-report-final-october-2019.pdf \(orc.govt.nz\)](https://www.orc.govt.nz/section-24a-otago-investigation-report-final-october-2019.pdf)

- d. Option 4 - Stop work altogether and do nothing until the indicated new draft NPSFM is released.

- [16] Regardless of which option is chosen, the intent of ORC's new freshwater framework going forward is that it will be constantly reviewed and updated as legislation changes, and as new information becomes available. This provides future opportunities, already signalled in the Long-Term Plan, for both the pLWRP and the pRPS to be updated as and when required.
- [17] The Freshwater Planning Process, as it currently stands, provides opportunities for any new national direction to be incorporated into a plan during the hearings process. A Freshwater Hearing Panel can determine its own process during the hearing, which could include calling for submissions and evidence from the parties as to how a plan should be amended to give effect to any new or amended national direction. This occurred recently during the RPS Hearings when the National Policy Statement for Indigenous Biodiversity was released near the end of the scheduled hearings.
- [18] Staff have completed a high level analysis to determine the extent to which the draft LWRP provisions are primarily to implement the Resource Management Act and its core functions and responsibilities, or whether they primarily implement the current NPS FM. This analysis is in Attachment 3. The assessment shows that a large number of provisions in the draft plan are implementing the core functions of the Resource Management Act and a large number give effect to both the RMA and NPS.
- [19] Council has a legal requirement to implement the current National Policy Statement however consideration could be given to taking a risk based approach to reviewing those clauses which specifically implement aspects of the NPS FM, which the current Government have stated will be replaced.

What other regional/unitary authorities are doing

- [20] Staff have contacted other Councils to understand any decisions their Councils have made. At the time of writing there are a wide variety of responses – a group of Councils are continuing with existing work programmes, either with a short delay, or as they were, while some other Councils have paused/delayed their work. We were not able to get information from all Councils, and some Councils are taking decisions later in March or in April. The information provided by other Councils is included in Attachment 4.
- [21] There are a number of reasons for the mixed responses, including the age of existing plans, Councils taking a more regional approach, a desire to retain momentum, and some Councils being keen to take some time to understand when any changes to the NPSFM are likely and what they might be.

Existing Challenges with Regional Plan: Water

- [22] When considering options, it is important to acknowledge there are some functional issues with delaying notification of the pLWRP, especially in relation to how PC6AA³ and PC7⁴ were prepared, on the basis that a new plan would be in place by 2026.

³ [Plan Change 6AA \(orc.govt.nz\)](https://www.orc.govt.nz/plan-change-6aa)

- [23] In relation to PC6AA, regulatory staff have advised that, as traversed at the hearing for PC6AA, provisions such as Policy 7.D.2, and Rules 12.C.1.1(g), 12.C.1.1A and 12.C.1.3 are unenforceable, uncertain and ambiguous. Some challenges include the inability for land users to be able, in practice, to ensure that the discharge contaminant thresholds set out in Schedule 16, are complied with everywhere on their property, at all times, when the flow at the relevant flow sites is below median flows. The intent of PC6AA was for these rules to not take effect, i.e., they would be superseded by enforceable clear rules through the pLWRP. As it stands, these rules will come into effect in 2026 and create practical challenges for both land users and Council.
- [24] In relation to PC 7, the current provisions as a result of decisions of the Environment Court mean that expansion of irrigable areas (Policy 10.A.2.1) is required to be avoided, use is restricted to historic rates and volumes, and water take consents are limited to a maximum of six years. For replacement water permits (excluding groundwater not connected to surface water) that expire on 31 December 2025 and beyond, these will only be able to be assessed under Chapter 12 rules and can only be granted for a maximum of 6 years in line with Chapter 10A duration policies. For new water takes there will be no change to how they are currently processed and would be subject to a maximum term of 6 years.
- [25] The current draft Plan is proposing a 10-year consent duration, with exceptions, and has a pathway for considering intensification, including irrigation expansion.

What is the plan intending to do?

- [26] Staff have been clear at several stages of this plan development, that the proposed LWRP would be the first step in terms of establishing an appropriate freshwater framework. This is evidenced around topics such as achieving Target Attribute states (TAS's) which this plan would not do. The pLWRP would start to move water quality and quantity in the right direction, in terms of improvement, but additional changes – likely a combination of regulation and non-regulatory interventions – were always signalled.
- [27] The proposed LWRP is intending to bring rules in that other regional councils have been operating under for some time – for example, Environment Southland introduced Plan Change 13 in 2012 to manage dairy farming. PC 13 was made operative in 2014, which made dairy farming a discretionary activity. Similarly, Environment Waikato commenced work on its Plan Change 1 in 2012, notified it in 2016 and decisions were adopted in 2020. The focus of PC1 was to manage non-point discharges, including from farming activities. Some of the other activities in the proposed LWRP that are managed by other regional councils include modern rules for onsite wastewater disposal, more appropriate water take limits, modern rules for landfills, controlling earthworks, and managing cemeteries.
- [28] It is also important to understand what might be gained by taking more time. From a science perspective, staff consider that a moderate delay (up to 5 years) would not significantly change the modelling for either water quality or water quantity. Attachments 5 and 6 set out summary memos on the challenges across quality and quantity and the impacts of delays.

⁴ [Plan Change 7 \(Water Permits\) to the Regional Plan: Water \(orc.govt.nz\)](#)

Decisions on proposed Regional Policy Statement

[29] Decisions on the proposed Regional Policy Statement will be considered ahead of this paper. Staff are in the process of undertaking a high-level review of recommended changes to the pRPS but this work is still ongoing in terms of how it might impact on the pLWRP. Factoring in a delay to the pLWRP notification date will enable a more thorough assessment of the RPS decisions to be completed.

OPTIONS

[30] Staff have undertaken analysis of the four options outlined above, and it is set out below.

Option 1: Proceed as per existing work programme with a notification date of 30 June 2024

Option 1	
Pros	Cons
<p>Momentum will be retained.</p> <p>Plan implements RMA direction and Council functions.</p> <p>Some parts of the community / stakeholders will support this option.</p> <p>Capitalises on existing community and ORC investment of time and money.</p> <p>Allows for an improved freshwater planning framework.</p> <p>Reduces the risk of legal challenge due to ORC not implementing the existing NPS as required.</p> <p>Provides best opportunity for PC6AA to not come into effect</p>	<p>Inconsistent with the messages received from Ministers.</p> <p>Some parts of the community / stakeholders will not support this option.</p> <p>Doesn't allow further analysis of plan provisions or provide much time for assessment of decisions on pRPS.</p> <p>Limits time to consider late Clause 3 feedback and complete the Clause 4A process.</p> <p>Will not allow appropriate time for Council staff to respond to the Ministers request for information received on 15 March 2024.</p>

Option 2: Delay notification for a 4-6 month period to allow time for Council to consider the outcome of the RPS process and to provide direction on matters in the Plan that are not 'required' by the RMA / were primarily to implement NPSFM. This option would require staff to present an updated programme to Council for approval.

Option 2	
Pros	Cons
<p>A short delay will mean that momentum will largely be retained.</p>	<p>This decision is inconsistent with the direction provided by Ministers.</p>

<p>Will allow Council to take advantage of the large amount of work undertaken to date.</p> <p>May allow time for staff to see a draft of the revised NPS FM / better understand the likely direction of travel.</p> <p>Would allow more time for considering clause 3 and clause 4A feedback.</p> <p>Allows more time to consider implications of proposed RPS decisions.</p> <p>Allows Council more time to consider the structure of the Plan and which provisions respond directly to the NPSFM.</p> <p>Provides time for staff to provide information as requested by the Minister in her letter dated 15 March.</p> <p>Reduces the risk of legal challenge due to ORC not implementing the existing NPS as required.</p> <p>Largely capitalises on existing investment by community, stakeholders, iwi partners and ORC.</p> <p>Provides an opportunity for new rules to come into effect before PC6AA dates are triggered.</p>	<p>Some parts of the community/stakeholders will not support this option.</p> <p>Will require additional, unbudgeted costs for further analysis.</p>
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Option 3: Immediately commence plan changes to address PC6AA and PC7 issues and any other time-critical issues, stop work on draft LWRP until NPSFM review is complete.

Option 3	
Pros	Cons
<p>Complies with the intent of the Minister’s direction.</p> <p>Would not require staff time to respond to the request for informaton from the Minister.</p> <p>Will minimise risk of implementing a framework through the LWRP more stringent than a revised NPS FM.</p> <p>Will address the risk of the time-critical issues associated with previous short term plan changes.</p> <p>Will be supported by some parts of the community and some stakeholder groups.</p>	<p>Prolongs the uncertainty for the community as will not be a long-term solution.</p> <p>This option will not be supported by some parts of the community and some stakeholder groups.</p> <p>Protection and enhancement of freshwater unlikely to be achieved without a fit-for-purpose planning framework in place.</p> <p>Will be challenging to deliver the Plan Changes ready for notification in the time available to ensure time critical plan issues are addressed.</p> <p>Council at risk of judicial review for not implementing NPS FM as soon as practicable.</p> <p>Likely to be the most expensive option.</p> <p>Imposes the further cost of additional plan changes on the community, stakeholders and iwi partners.</p> <p>No current budget in the draft LTP for preparing a new plan change.</p> <p>May result in additional interventions required in the future if water quality and quantity continue to deteriorate.</p>

Option 4: Stop all work until a new NPSFM is published with an intent to notify a new plan by 31 December 2027. (Council would need to be clear whether they wanted to see the draft new NPSFM or the final new NPSFM).

Option 4	
Pros	Cons
<p>Complies with the recent direction of Ministers to delay notification of the LWRP.</p> <p>Would not require staff time to respond to the request for information from the Minister.</p> <p>Will be supported by some parts of the community and some stakeholder groups.</p> <p>Will ensure that Council aligns with the minimum requirements of the new NPS FM provided this process is complete in time.</p> <p>No additional short term costs incurred, so will have positive impact on immediate LTP budgets which can be reduced in the short term (Year 1 and potentially Year 2).</p>	<p>Protection and enhancement of freshwater is unlikely to be achieved without a fit-for-purpose planning framework in place.</p> <p>Prolongs the uncertainty for the community operating under the existing framework for an extended period.</p> <p>This option will not be supported by some parts of the community and some stakeholder groups.</p> <p>Will require Council and the community to attempt to implement 'un-implementable' provisions in PC 6AA</p> <p>Council at high risk of judicial review for not implementing NPS FM as soon as practicable.</p> <p>Short term consents would be required for some activities.</p> <p>Does not take advantage of investment by community and ORC in the existing plan development process.</p> <p>May require more interventions at a later date if water quality and quantity issues continue to degrade.</p> <p>Will incur significant additional long term costs in addition to existing investment already made in the plan. (noting there will be some savings in the short term)</p>

[31] Staff do not recommend option 4 - *do nothing*. While it is a viable option, it creates significant legal and operational risk because of its reliance on the existing Regional Plan: Water. Legal risk arises through the possibility of action against ORC for not implementing the current NPS-FM. Operational risk arises through the need for assessments for diffuse discharges for farming activities which are known to be fraught with difficulty. While it would have an immediate short term positive impact on LTP

budgets, it would ultimately result in a protracted planning process that is likely to be more expensive. This also risks further environmental degradation which then may potentially require additional, more stringent interventions above what is currently anticipated.

- [32] Staff do not recommend option 3 - delay pLWRP notification and immediately *prepare a plan change*. Again, while this is a viable option, it creates challenges in terms of scope, timeframes and budget. The scope would need to be tightly managed in order for the plan change to move through the RMA system quickly. Experience with Plan Change 7 indicates this is not always possible. Plan Change 7 was also an interim measure and developing a plan change as a bridging mechanism is not considered to be efficient and may not be effective. This option would incur additional costs that are not budgeted and will impact on the proposed LTP in an adverse way. There will also be significant costs for the community and stakeholders.

While the above risks could be managed, staff do not recommend this option.

- [33] Option 1 - *continue with the existing programme and notify the LWRP by 30 June 2024* can be achieved although it is not the recommended option of staff. The biggest risks with this option is that it does not allow significant time for staff to assess the implications of the RPS decisions, thoroughly undertake the draft plan analysis against the RMA provisions and ensure adequate time for considering clause 3 and 4a feedback. This option also does not provide an appropriate amount of time for staff to prepare the information recently requested by the Minister for the Environment if ORC chooses to notify a new plan ahead of 31 December 2027.

- [34] Option 2 - *factor in a small delay (4-6 months) and enable Council to undertake further analysis*. This is the recommended option. The primary purpose of this option is to allow staff to work through the implications of the decisions on the RPS, to allow staff to present more information on implementing the RMA and the NPSFM, and to provide more time to work through the Clause 3 and 4A feedback. It may also allow additional targeted stakeholder engagement to narrow any areas of dispute. This option would also allow further communication with the Minister, including by responding to their invitation to provide additional information in accordance with the letter received on 15 March 2024. Staff anticipate a delay of between 4 and 6 months and would report back to Council with a new work programme and recommended notification date.

CONSIDERATIONS

Strategic Framework and Policy Considerations

- [35] The development of the pLWRP responds to several of the Strategic Directions. In addition, it has been developed to give effect to the RMA, as well as a suite of higher order documents. The pLWRP has also been developed to respond to known issues with the existing planning framework.

Financial Considerations

- [36] In terms of considering existing investment to date, we have attempted to quantify the expenditure on the development of the LWRP since 2018 (but not including the specific costs incurred through Plan Change 6AA, 7, 8 or Plan Change 1 to the Regional Plan: (Waste). The costs currently allocated across the relevant Policy, Science, Strategy (Economics) and Environmental Monitoring codes from 2018 come to \$17.8 million.

There is a block of those costs, especially in 2018 and 2019 associated with Environmental Monitoring which is likely to be some business-as-usual work, and some work in response to plan development, and around \$100,000 of the total is assigned to PC7 and PC8. Taking that out, the figure is still in the order of \$17.3 million. In total, ORC's contributions of time and money is a portion of the total community commitment to the process.

- [37] It is important to signal that each of the options outlined above will have a financial impact. Any option other than *option 1* will incur unbudgeted costs. These costs are neither in the current years' budget, nor included in the draft Long-Term Plan. There is still budget in the draft LTP and there will be an ability to reprioritise the draft budget.

Significance and Engagement Considerations

- [38] The draft LWRP will trigger the requirements of *He Mahi Rau Rika*. Given the complex public consultation requirements contained in the RMA, and in the NPSFM 2020, the requirements in *He Mahi Rau Rika* are considered to be met. Public notification will also satisfy the requirements.

Legislative and Risk Considerations

- [39] There are legal risks associated with each option, and each decision Council makes. The risks are not uniform and need to be considered as part of decision making.

Climate Change Considerations

- [40] The team preparing ORC's Strategic Climate Action Plan (SCAP) have modelled regional emissions reduction potential based on several assumptions including implementation of the NPSFM. Staff have noted that without implementing the NPSFM in general accordance with the current approach in the draft LWRP, meaningful change on emissions reductions will be more challenging.

Communications Considerations

- [41] Given the significant interests of a large number of stakeholders, and the broader community, it will be important to be as transparent as possible around Council decisions on the plan.
- [42] Staff will be working with the communications teams to ensure all channels are used to get key messages out.
- [43] Staff recommend that any decision made by Council should be communicated to the Minister without delay including an update on any requests for information.

NEXT STEPS

- [44] Next steps are dependent on which option Council chooses to support. Staff will continue to work to implement Councils' direction.

ATTACHMENTS

1. Otago Regional Council extension for notification of freshwater plan - 15 March 24 [7.1.1 - 1 page]
2. Attachment Overview community engagement on LWRP [7.1.2 - 5 pages]
3. Appendix LWRP paper [7.1.3 - 2 pages]
4. Otago summary Waterquantity 07 03 2024 [7.1.4 - 4 pages]
5. Otago summary 29 02 2024 WQuality [7.1.5 - 5 pages]

Hon Penny Simmonds

Minister for Disability Issues
Minister for the Environment
Minister for Tertiary Education and Skills
Associate Minister for Social Development and Employment



15 March 2024

COR0246

Cr Gretchen Robertson
Chairperson
Otago Regional Council
Gretchen.Robertson@orc.govt.nz

Cr Lloyd McCall
Deputy Chair
Otago Regional Council
Lloyd.McCall@orc.govt.nz

Dear Gretchen and Lloyd,

Extension to notification deadline for proposed Land and Water Regional Plan

Thank you for meeting with Hon Chris Bishop, Hon Todd McClay and I on 12 February 2024 to discuss the Otago Regional Council's (ORC) proposed Land and Water Regional Plan and upcoming changes to the National Policy Statement for Freshwater Management 2020 (NPS-FM).

As you are aware, in 2019, the previous Minister for the Environment recommended that the ORC notify a new regional plan to manage freshwater by 31 December 2023. This deadline was then extended to 30 June 2024.

In December 2023, the Government extended the statutory deadline for notifying freshwater planning instruments by three years from 31 December 2024 to 31 December 2027. The extension will enable time to replace the NPS-FM and for all councils to then align and update their plans.

To allow ORC time to align the proposed Land and Water Regional Plan with the new NPS-FM and in accordance with the new 2027 deadline set for all councils, I therefore extend the notification date of your plan to 31 December 2027.

I have considered the implications this extension may have on the Council's ability to achieve the original recommendations. I am confident the remaining recommendations can still be achieved within this extended date.

If notifying your plan ahead of the NPS-FM review and replacement is still a consideration for you, I am interested to further understand the impacts of this. As such, in accordance with section 27 of the Resource Management Act 1991, could you please provide me by 1 May 2024 an outline of the costs, benefits, and implications of notifying your plan before the NPS-FM is replaced.

Yours sincerely

A handwritten signature in blue ink, appearing to read 'P. Simmonds'.

Hon Penny Simmonds
Minister for the Environment

1. Overview community engagement on LWRP

Community engagement on the development of the pLWRP occurred over three different stages that were rolled out between November 2021 and November 2023.

1.1 Stage 1 of community engagement (November 2021 to March 2022)

The first stage of community engagement took place in the period November 2021 - March 2022. This stage was specifically aimed at confirming community values related to freshwater for each FMU and rohe. The consultation was built on the findings from earlier consultation on the Proposed Regional Policy Statement for Otago around FMU boundaries and long-term visions.¹ Stage 1 also provided communities with an opportunity to discuss the attributes associated with these values.²

Stage 1 was initially planned to be run as a series of in-person community meetings (drop-in sessions), with feedback also sought via an online survey. The meetings in the Upper Lakes rohe and Catlins FMU were held in-person during November 2021. However, the presence of COVID-19 in the community in early 2022 led to a change to online meetings for the remaining FMUs and rohe. A total of seven online community meetings, each one focused on one of the remaining FMU and rohe, were held between 28 February 2022 and 16 March 2022.

At the in-person meetings participants were asked to evaluate the condition of each value characteristic and to identify locations where the values occur. Large scale maps of the FMU/rohe captured participant feedback on locations associated with each value. People who could not attend the in-person events were provided with an opportunity to give feedback via an online survey and mapping tool. Paper copies of the survey were also made available on request.⁶

1.2 Stage 2 of community engagement (October 2022 – December 2022)

The second stage of community engagement, which took place in the period October 2022 to December 22. Stage 2 was designed to help communities understand the current state of their environment as well as existing and emerging pressures in this environment. It also provided them with an opportunity to discuss draft environmental outcomes for identified values and give feedback on options for management interventions (including regulatory controls, and non-regulatory actions).

Stage 2 was run as a series of 20 in-person community meetings across the region, with at least one being organised in each rohe or FMU. During the meetings participants were encouraged to workshop

¹ The NPSFM requires regional councils to identify Freshwater Management Units (FMUs) for the region and to develop long-term visions for freshwater at the FMU, part FMU or catchment level. These long-term visions are to be included as objectives in its Regional Policy Statement. To develop FMUs for Otago, a multidisciplinary team consisting of two iwi representatives and Council staff from across the organisation was formed. The team met weekly over a three-month period at the start of 2019. The team's proposal for setting FMUs and sub-FMUs, called rohe, for the Otago region, was adopted by Council during its meeting on 3 April 2019.

Engagement with communities on FMU and rohe boundaries and on the long-term visions for these FMUs took place in October and November 2020 as part of the consultation process on the proposed Regional Policy Statement and involved the following:

- a) 23 community workshops at 18 locations covering all FMUs and rohe (attended by 237 people);
- b) an online survey (with 216 responses); and
- c) written feedback and face to face meetings with iwi representatives.

² To make the language used during the community engagement less technical and more easily understood by the wider public, ORC staff translated the compulsory values and other values into ^{activities}, while attributes were described as "characteristics". For example, the value "human contact" was the activity of "swimming", while the attribute "E. coli" became the characteristic "risk of getting sick."

(in small groups) the draft environmental outcomes and options for management interventions. Participants were given hardcopies of these draft environmental outcomes and management interventions and asked to record their feedback on a form. To complement the in-person meetings ORC also organised two online meetings.

People were also provided with an opportunity to give feedback via an online survey tool or via email.

Approximately 300 people attended the in-person meetings, while 87 people provided feedback online and another 13 parties provided feedback via email.

1.3 Stage 3 of community engagement (October 2022 – December 2022)

From 9 September until 6 November 2023, a third stage of community engagement on the draft LWRP was undertaken, with ORC staff seeking feedback on the draft provisions.

During Stage 3, 10 drop-in sessions were held across all FMUs and rohe in the region, as well as two public online sessions. Staff from various ORC teams (including policy, science, environmental implementation, consents, communications, and compliance) attended the sessions. To facilitate the discussions ORC staff made the following information available online:

- a) An overview of the strategic policy direction set in the draft LWRP;
- b) A detailed summary of the management approach and draft provisions for each of the draft LWRP topic chapters (chapters);
- c) A detailed summary of the draft provisions for each of the area-specific chapters (FMU chapters), including:
 - d) draft environmental outcomes for identified values;
 - e) draft baseline, target attribute states and, where applicable, interim target attribute states;
 - f) environmental flows and levels and take limits for lakes, river and groundwater;
 - g) draft rules and methods;
 - h) other areas specific matters, such as water bodies that meet the PORPS criteria for identifying outstanding water bodies;
 - i) Draft glossary of terms; and
 - j) Frequently asked questions around interpretation of specific draft LWRP provisions.

Printed copies of this information were also made available for people attending the drop-in sessions. Members of the public were given three options for providing feedback: in person during the drop-in session, via email or via a survey tool on the ORC's website.

1.4 Engagement with the Manuherekia, Cardrona and Arrow Communities

A different process was used to inform the setting of environmental flows and take limits for water bodies in the Manuherekia rohe and in the Arrow and Cardrona catchments

The main reason for relying on different engagement processes for the development of environmental flows and/or levels and take limits for water bodies in these areas is that both the technical work and community engagement processes intended to inform the development of these provisions had commenced well before the start of the development of the proposed LWRP.

1.4.1 Manuherekia

Engagement with the community to develop specific objectives, policies and rules to manage water quantity in the Manuherekia rohe started as early as 2016, with drop-in sessions where community members were asked to share their knowledge and aspirations for the catchment. At a second round of drop-in sessions in April 2017 ORC sought community feedback on a range of options for managing the water quantity in the Manuherekia rohe.

In 2019, ORC changed its approach to engaging with the Manuherehia community and adopted a more collaborative process towards finding specific solutions for managing freshwater in the catchment. A key aspect of this new approach involved the formation of the Manuherehia Reference Group (MRG), made up of a range of key stakeholders representing the wide ranging interests of the community, and the establishment of a Technical Advisory Group (TAG), a group of technical experts to provide scientific advice on freshwater hydrology and ecology to the ORC.

Building on the 2016 values identification process, the Manuherehia community was asked in September and October 2019, to confirm and validate the values for the Manuherehia River. Following the development of draft objectives by the MRG and the completion of a series of technical studies undertaken to inform a range of minimum flow scenarios, further consultation with the community was undertaken in May and June 2021. During this consultation ORC asked for feedback from the community on five water quantity management scenarios for the Manuherehia. Two public meetings were held in Alexandra and Omakau and over 1,000 submissions supporting a range of flow options for the river were received by ORC.

1.4.2 Arrow and Cardrona Catchments

In 2016, ORC staff commenced work on the development of environmental flows and take limit for the Arrow catchment. As part of this process, community workshops on values were undertaken in June 2017. Technical work including a cultural impact assessment by Aukaha, ecology and hydrology studies, and investigations in water supply reliability and economic impact were all completed in the same year. The recommended take limit and environmental flows that were developed using this information were presented back to the community in December 2017 and July 2018.

Consultation with the communities on the setting of take limits and environmental flows for the Cardrona catchment and Bullock Creek and the setting of take limits the Wanaka Basin-Cardrona Gravel Aquifer started with an initial community workshop in 2010. More workshops were held in 2012 and 2013 presenting technical information and examples of potential water management options for managing surface water and groundwater in the area. Following further hydrological investigations and subsequent updates of the technical information a series of more targeted meetings were held in 2018 to present the latest technical data and discuss revised options for environmental flows and take limits.

Following subsequent shifts in national direction for freshwater management, the recommended take limits and environmental flows that were developed for the Arrow and Cardrona catchment, Bullock Creek and Wanaka Basin-Cardrona Gravel Aquifer were reevaluated in 2019 (against the requirements of the NPS-FM 2014 (amended 2017), and again, in 2020 against the requirements of the NPS-FM 2020. After the 2020 re-evaluation of the recommended take limit and environmental flows for these water bodies found them to be compliant with the requirements of the NPS-FM 2020 and the overarching framework of Te Mana te Wai, the recommended take limit and environmental flows were presented to the Arrow and Cardrona communities in March 2021.

2. Overview key stakeholder engagement

2.1 Key stakeholder engagement on issues & options (November 2022 – December 2022)

To inform the development of the regionwide provisions for the LWRP, topic-based discussions were being planned with key stakeholders, including catchment group representatives, over the months November and December 2022. The topic-based discussions focussed on the identification and

confirmation of issues and options that were then used for developing management approaches for different categories of activities.

The table below sets out the categories of topics and activities that were discussed, and the stakeholders/industry groups that were invited to participate in these discussions.

Topics	activities	Sector groups invited
Environmental flows/levels	<ul style="list-style-type: none"> • Minimum flows • Residual flows • Lake/aquifer levels 	Farming sector, Environmental interest groups, Territorial authorities
Taking and use of water	<ul style="list-style-type: none"> • Allocation framework • Consumptive & Non-consumptive water takes • Efficiency in allocation/water use • Dewatering, drainage, retakes, flow augmentation • Transfers (of point of take) 	Farming sector, Environmental interest groups, Territorial authorities
Damming and diversion	<ul style="list-style-type: none"> • Damming of water • Diversion of water • Establishment, maintenance, operation of dams 	Farming sector, Energy, Mining, Environmental interest groups
Group water management	<ul style="list-style-type: none"> • Irrigation schemes • Catchment groups 	Farming sector, Environmental interest groups
Agricultural discharges	<ul style="list-style-type: none"> • Effluent (liquid and solid) • Pesticides & Herbicides • Fertiliser use, Nutrient discharges 	Farming sector, Environmental interest groups
Activities on the beds or margins of lakes, wetlands or rivers	<ul style="list-style-type: none"> • Loss of river bed values & extent • Construction, maintenance, removal, use structures • Disturbance / deposition on beds of lakes & rivers • Debris clearance, flood protection, alluvium extraction • Vegetation removal, 	Farming sector, Territorial authorities, Energy, Mining, Environmental interest groups
Other discharges	<ul style="list-style-type: none"> • Discharges of hazardous substances • Discharges from contaminated land • Swimming pools/spas, greywater • Discharge of water (e.g. dams, races) • Mixing of waters 	Farming sector, Territorial authorities, Fuel companies, Energy, Mining
Landfills and cemeteries	<ul style="list-style-type: none"> • Landfills, greenfills, cleanfills, farm landfills • Silage & composting • Cemeteries 	Farming sector, Territorial authorities, Environmental interest groups
Stormwater & wastewater discharges	<ul style="list-style-type: none"> • Reticulated/unreticulated stormwater & wastewater • Long drops, composting toilets • Industrial / trade wastes 	Farming sector, Territorial authorities, Environmental interest groups
Land use	<ul style="list-style-type: none"> • Development & intensification • Mining, Earthworks & erosion control • Stock access, Intensive winter grazing • Vegetation burning/clearance • Bore construction, maintenance 	Farming sector, Territorial authorities, Environmental interest groups, Land developers, Forestry

Ahead of each region wide topic discussion, an Issues and Options paper was provided to each of the stakeholders attending these sessions. Approximately 150 people attended either in person or online one or more of the seven sessions that were held over this period.

2.2 Key stakeholder engagement during stage 3 of community engagement

During this round of engagement, 4 targeted stakeholder online briefings for were held for specific interest groups: farming sector, forestry sector, territorial authorities, and environmental interest groups.

2.3 Stakeholder involvement in the economic work program

As part of its economic work program, carried out to inform the development of the LWRP, ORC developed a Farmer and Grower Workstream. To Undertake the Farmer and Grower Workstream as robustly as possible, a group of industry-good organisations, known as the Industry Advisory Group, was formed in October 2021. The organisations represented within the IAG were: Beef + Lamb New Zealand, Deer Industry New Zealand, Foundation for Arable Research, DairyNZ, Horticulture New Zealand, Central Otago Wine Growers Association, and Ministry for Primary Industries.

The Industry Advisory Group met online every three weeks from October 2021 until March 2023 with ORC science, and on occasion, the policy team. They also had 16 detailed monthly updates that covered the Economic Work Programme as well as the evolving science and planning context. Although the IAG was primarily focused on the Farmer Grower Workstream they were also consulted on the approach taken for the Regional Economic Profile.

2.4 Additional stakeholder engagement

In addition to the stakeholder engagement described above ORC policy staff have actively engaged with key stakeholders or interest groups on specific matters. Examples are summarised below (note this is a non-exhaustive list):

- Quarterly meetings with DCC's 3 waters regulatory team to discuss issues around wastewater, stormwater, trade and industrial waste, and drinking water.
- Regular meetings with Southland Otago Waste Network (SOWN) to discuss solid waste disposal including farm fills, landfills, cleanfill and composting/greenwaste over the period 2022-2023
- Number of meetings with DoC, Fish and Game (and Iwi) in the period June to October 2023 on specific issues (e.g. threatened species, desired/undesirable species)
- Meetings May and December 2023 with Dairy NZ on farming provisions and target attribute states
- Meeting with Federated Farmers in October 2023 on farming provisions
- Workshop with Fonterra/ORC/Ecan and Env Southland in April 2023 on farming issues, including Freshwater Farm Plans
- Workshop with Central Otago Winegrowers Association in August 2023 on Freshwater Farm Plans
- Workshops with MfE in February, April & June 2023 on Freshwater Farm Plans and nutrient Management Tools

Analysis of draft LWRP provisions against NPSFM 2020

Purpose

The purpose of this document is to set out the extent to which the draft Land and Water Regional Plan provisions rely on the National Policy Statement for Freshwater Management 2020 (NPSFM) and therefore the potential impacts from any amendments to the NPSFM.

Key Points

The Government has indicated that it will replace the National Policy Statement for Freshwater Management 2020 and the National Environmental Standards for Freshwater to 'better reflect the interests of all water users'. Although it is not yet clear what that means in terms of specific changes, it is likely that the hierarchy of obligations in Te Mana o te Wai will be amended.

This analysis sets out the underlying legislative basis for each of the provisions in the draft Land and Water Regional Plan, and an assessment of the extent to which they rely on the NPSFM. In a number of areas where provisions rely on the NPSFM, there is a note that this direction has also been given effect to through the proposed Otago Regional Policy Statement.

The Government's signal to replace the NPSFM does create some opportunities for ORC to reconsider some NPSFM provisions that have difficult to implement where these are primarily included because the NPSFM requires it. For example, this includes the target attribute states, and the requirement to include baseline and targets across a large number of monitoring sites and attributes. There is an opportunity to take a more targeted, Otago-specific approach that better suits the information we currently have. Revising the current approach and re-confirming Council direction is likely to take approximately three to six months, depending on the level of change.

Key

Does not rely on NPSFM
Contains reference to NPSFM but concepts supported by RMA
Relies on NPSFM

Section	Provision	Statutory basis	Comments	Reliance on NPSFM
Part 1 – Introduction and general provisions				
Foreword or mihi	-	Standards 3 and 6, NPSt	Unaffected by NPSFM (excluding NPSFM-based definitions).	
Purpose				
Contents				
Description of region				
How the plan works				
Interpretation (definitions and abbreviations)		s2, RMA Standard 14, NPSt		
National direction instruments		Standards 3 and 6, NPSt		
MW – Mana whenua	All context sections	s8, RMA Standard 6, NPSt		
	MW-O1	ss 6(e) and 8, RMA ss 6(e) and 8, RMA	Some reference to ‘active involvement’ per cl3.4 NPSFM, but primarily underpinned by RMA obligations.	
	MW-P1			
	MW-P2			
Part 2 – Management of resources				
IM – Integrated management	IO-O1 – Te Mana o te Wai	LF-WAI, pORPS	Strongly underpinned by the expression of Te Mana o te Wai in the pORPS, which was based on the concept expressed in the NPSFM 2020.	pORPS
	IO-O2 – Ki uta ki tai / integrated management	s30(1)(a), RMA IM, pORPS	Reflects requirements in cl3.5 NPSFM, which are consistent with s30(1)(a) obligation. IM chapter of pORPS is broader than just water/land and applies to all resource management. Policies/methods to achieve integrated management is the purpose of an RPS under s59.	
	IO-O3 – Manahau āhururangi / climate change	ss7(i) and s66(2)(F) and (g), RMA	Incorporates Policy 4, NPSFM but has a broader statutory mandate in the RMA.	
	IP-P1 – Integrated approach to decision-making	s30(1)(a), RMA IM, pORPS	Reflects requirements in cl3.5 NPSFM, which are consistent with s30(1)(a) obligation. IM chapter of pORPS is broader than just	

Section	Provision	Statutory basis	Comments	Reliance on NPSFM
			water/land and applies to all resource management. Policies/methods to achieve integrated management is the purpose of an RPS under s59.	
	IP-P2 – Managing uncertainty	IM, pORPS	Based on IM chapter of pORPS which is based on cl1.6 NPSFM. While the specific approach to managing uncertainty has been better defined by the NPSFM, this has always been an implicit part of achieving sustainable management as required by s5 of the RMA. It also assists decision-makers and implementation generally.	pORPS
	IP-P3 – Plan implementation	s63(1), RMA	Policy is procedural and sets out the relationship between different parts of the plan – assists ORC to administer its plan per s63.	
	IP-P4 – Facilitating transition	LF-WAI and LF-FW, pORPS	Policy refers to implementation of Te Mana o te Wai, visions, and environmental outcomes but this is really about transition from now to whatever the future is so could be repurposed fairly simply.	
	IP-P5 – Decision-making on all applications	s7(i), RMA LF-WAI and LF-FW, pORPS	Policy requires decision-makers on consents to apply the hierarchy of obligations.	pORPS
LF – Land and freshwater	LF-O1 – Long-term outcomes	Part 2, RMA ss30, 65, RMA	Objective sets the long-term outcomes for the plan, strongly underpinned by long-term visions and environmental outcomes which have their genesis in the NPSFM. Setting objectives is clearly a regional council and plan function, however these may be expressed different if not for the requirements of the NPSFM.	pORPS
	LF-O2 – Kāi Tahu relationship	ss6(e), (7)a, 8	Objective primarily based on RMA direction, but does also give effect to Policy 2 and clause 3.4, NPSFM.	
	LF-O3 – Water and ecosystems	Part 2, RMA ss30, 65, RMA	Objective informed by NPSFM but primary based on RMA direction.	
	LF-O4 – Natural character, form and function	s6(b) and (e), RMA	Objective primarily responds to s6.	

Section	Provision	Statutory basis	Comments	Reliance on NPSFM
	LF-O5 – Fish passage	ss6(c), 7(h), 30	Although informed by the NPSFM, this objective states an outcome that has a statutory basis in the RMA. How to achieve this outcome may differ if the NPSFM is removed.	
	LF-O6 – Indigenous freshwater fish	Part 2, RMA s30 RMA	Although informed by the NPSFM in part, there is a broader statutory base provided in the RMA and in the ECO chapter of the pORPS for protecting the habitats of indigenous species. Without the NPSFM, ORC could still manage these matters but would have more flexibility to adopt a different/amended approach.	
	LF-O7 – Sports fish	s7(h), RMA	Although informed by the NPSFM, this objective primarily responds to s7 and the pORPS.	
	LF-O8 – The habitats of threatened species are protected	Part 2, RMA ss 30 and 65, RMA ECO provisions, pORPS LF provisions, pORPS	The specific requirement to protect the habitats of threatened species arises from Policy 9 and the compulsory value in Appendix 1A of the NPSFM, however there is a broader statutory base provided in the RMA and in the ECO chapter of the pORPS. Without the NPSFM, ORC could still manage these matters but would have more flexibility to adopt a different/amended approach. Removal would likely be difficult to justify given the number of threatened species in Otago and their significance regionally and nationally.	
	LF-O9 – Populations of threatened species recover			
	LF-O10 – Land and soil resources	ss5(2)(a), 7(b) LF-LS provisions, pORPS NPSHPL	Not driven by NPSFM.	
	LF-O11 – Community well-being	s5	Gives effect to Policy 15, NPSFM but primarily responds to s5.	
	LF-O12 – Significant infrastructure	NPSREG NPSET EIT provisions, pORPS	Not driven by NPSFM.	
	LF-O13 – Renewable energy generation	s7(l, (j) NPSREG	Gives effect to Policy 4, NPSFM but primarily responds to s7 and NPSREG.	

Section	Provision	Statutory basis	Comments	Reliance on NPSFM
	LF-P1 – Kaitiakitaka and rakatirataka	ss6(e), 7(a), 8, RMA	Primarily based on RMA direction, but does also give effect to Policy 2 and clause 3.4, NPSFM.	
	LF-P2 – Natural character, form and function	s6(a), RMA	Primary responds to s6.	
	LF-P3 – Values and extent or rivers and natural lakes	ss6(a), (c), (e), 7(c), RMA	Mandatory provisions directed to be included by the NPSFM. Without the NPSFM, ORC could still manage these matters but would have more flexibility to adopt a different/amended approach.	pORPS
	LF-P4 – Applications relating to values and extent of rivers and natural lakes			
	LF-P5 – Outstanding water bodies	Part 2, RMA LF-FW, pORPS	OWBs originate in the NPSFM rather than RMA. The pORPS sets out the criteria for their identification and management, which expands on the requirements of the NPSFM. However, there is nothing in the RMA that prevents this approach being adopted in the absence of the NPSFM. Without the NPSFM, ORC could still manage these matters but would have more flexibility to adopt a different/amended approach.	pORPS
	LF-P6 – Improved information on outstanding water bodies			
	LF-P7 – Lake Wānaka	Lake Wānaka Preservation Act	Unaffected by NPSFM.	
	LF-P8 – Passage of desired fish species	ss6(c), 7(h), 30, RMA LF-FW, pORPS	Provisions respond directly to cl3.26 of the NPSFM. Without the NPSFM, ORC could still manage these matters but would have more flexibility to adopt a different/amended approach. The provisions in the pORPS regarding fish passage require the LWRP to manage fish passage and species interaction but are less prescriptive than the NPSFM and would not necessarily require amendment if the NPSFM was removed.	
	LF-P9 – Passage of undesirable fish species			
	LF-P10 – Sports fish as desired fish species			
	LF-P11 – Decision-making on instream structures			
	LF-P12 – Remediation of existing structures			

Section	Provision	Statutory basis	Comments	Reliance on NPSFM
	LF-P14 – Discharges to land or water	Part 2, RMA ss15, 30, 65, RMA	Primarily based on RMA functions.	
	LF-P15 – Activities within drinking water protection zones	s30(1)(c), (f), (g)(ii); s65(3)(h), RMA NESDW	Primarily implementing the NESDW rather than the NPSFM.	
	LF-P16 – Good environmental practice	s5, RMA	Based in part on Te Mana o te Wai but also establishes a minimum standard for all activities that is broader.	
	LF-P17 – Consent duration	Part 2, RMA ss30, 65(3)(h), 68, RMA	Incorporated in response to NBEA amendments to the RMA, now repealed. Has a stronger basis when linked to NOF process, but defensible under RMA and particularly important for assisting with meeting long-term vision timeframes.	
	LF-P18 – Over-allocation	Part 2, RMA ss30, 65, 68, RMA	Responds to Policy 11, NPSFM and incorporates reference to Te Mana o te Wai, but has a statutory basis in the RMA.	pORPS
	LF-P19 – Renewable electricity generation	ss6(e), 7(a), 8, RMA	Primarily based on RMA direction, but does also give effect to Policy 2 and clause 3.4, NPSFM.	
	LF-P20 – Natural hazard risk	ss6(h), 30, RMA HAZ-NH, pORPS	Unaffected by NPSFM.	
WET – Wetlands	All	ss 6(a), (6(b), 6(c), 6(e), 30(1)(c), (30(ga) RMA, NES-Freshwater	NES-Freshwater and NPSFM applies to <i>Natural Inland Wetlands</i> only. High reliance on NES-Freshwater for bulk of natural inland wetland protections, particularly stock exclusion, drainage and physical damage. Protections of other wetlands based in other RMA provisions. Risk arises of a ‘gap’ created if the NES-F is amended and the pLWRP is also silent on those elements – can be addressed in drafting.	
EFL – Environmental flows, levels and allocation	General	ss 6(b), 6(c), 30(1)(e), 30(4), 65(3)(f), 68(7)	The functions of regional councils are set out in the RMA and include: <ul style="list-style-type: none"> Controlling the taking, use, damming, and diversion of water and the quantity, level, and flow of water in any water body, including setting minimum/maximum levels or flows and controlling the range or rate of change of levels or flows, (s30(1)(e)) and 	pORPS

Section	Provision	Statutory basis	Comments	Reliance on NPSFM
EFL – Environmental flows, levels and allocation			<ul style="list-style-type: none"> • If appropriate, establishing rules to allocate the taking or use of water (s30(1)(fa)). <p>This has been the case since 1991. The policy and rule framework in the EFL chapter primarily responds to this statutory obligation, though in a way that gives effect to relevant parts of the NPSFM:</p> <ul style="list-style-type: none"> • Objective: resources are managed in a way that prioritises the health and well-being of water bodies and freshwater ecosystems • Policy 7: Loss of river extent and values is avoided • Policy 9: Habitats of indigenous freshwater species are protected. • Policy 11: Freshwater is allocated and used efficiently, all existing over-allocation is phased out, and future over-allocation is avoided. • Clauses 3.16 and 3.17 that require the setting of environmental flows and levels and take limits (aka allocation limits). <p>If the NPS-FM direction were removed, the requirement to set environmental flows/levels and take limits, to avoid and phase out over-allocation, and allocate and use water in a sustainable and efficient manner would remain because the NPS-FM direction described above is adopted in the PORPS, particularly in LF-FW-08, LF-FW-P7 and LF-FW-M6.</p> <p>If both the NPS-FM and PORPS direction were to be removed, this would have different impacts for different subtopics within the EFL chapter of the draft LWRP. This is discussed in greater detail below.</p> <p>Overall, the proposed framework is an exercise of ORC’s functions under the RMA and addresses various issues and concerns that have been voiced over the years around the adequacy of the current planning framework, including:</p>	

Section	Provision	Statutory basis	Comments	Reliance on NPSFM
			<ul style="list-style-type: none"> • Many water bodies currently have no allocation limits or no minimum flows, in other cases the existing take limits or minimum flows do not allow for sustainable management of the resource. • The current planning framework does not adequately address over-allocation and does not require efficient allocation or use, • The current framework is often unclear and allows for inconsistencies in how the planning framework is interpreted and applied in consent decision-making. <p>Therefore, retaining the status quo and not implementing the direction set in the NPS-FM and the PORPS creates the following risks:</p> <ul style="list-style-type: none"> • Risk of further over-allocation of water and increased competition (i.e. reduced water supply/availability) between water users (through ongoing allocation of water) • Uncertainty for water users around availability of water (decided on a case-by-case basis through consent process) • Consent processes may result in inconsistent decision-making and are likely to be complex and costly • Risk of not achieving the purpose of sustainable management (Part II of the Act) 	
	Setting minimum flows, take limits, take limits and minimum flows for taking at higher flows, setting site specific flows (previously referred to a residual flows)	ss 6(b), 6(c), 30(1)(e), 30(4), 65(3)(f), 68(7)	<p>If both the NPS-FM and PORPS direction were to be removed, it is recommended to largely retain this framework subject although the following is considered:</p> <ul style="list-style-type: none"> • Flows and take limits would still be needed to give effect to the overall purpose of the Act (and give effect to the current RPS and Water Plan objectives), but these would be developed against the broader framework of Part II of the RMA and the operative RPS 	

Section	Provision	Statutory basis	Comments	Reliance on NPSFM
			<p>and Water Plan, as opposed to the fundamental concept of Te Mana o Te Wai.</p> <ul style="list-style-type: none"> Catchment expiry dates and vision timeframes that set timeframes for accommodating the transition and implementing the minimum flows and take limits could be removed as the RMA nor the operative RPS or Water Plan require clear timeframes for implementing these flows and take limits. 	
	<p>Amending the framework for efficient allocation and setting guidelines for reasonable and efficient water use</p>	<p>ss 6(b), 6(c), 30(1)(e), 30(4), 65(3)(f), 68(7)</p>	<p>If both the NPS-FM and PORPS direction were to be removed, it is recommended to retain the following aspects of the LWRP framework, for the following reasons:</p> <ul style="list-style-type: none"> This policy direction is currently already set in some form by the operative RPS and Water Plan Retaining the guidelines for reasonable and efficient water use and conveyance largely reflect current consenting practice and including these in the planning framework would streamline the consent process and provide everyone with certainty. 	
	<p>Framework for managing specific takes (e.g. hydro-electricity takes, community water supplies)</p>	<p>ss 6(b), 6(c), 30(1)(e), 30(4), 65(3)(f), 68(7)</p>	<p>If both the NPS-FM and PORPS direction were to be removed, the current framework in the operative Water Plan could continue to be relied upon although it mostly applies a one size fits all approach and does not differentiate between different takes. In doing so it may also fail to give effect to other higher order planning instruments (e.g. NPS Renewable Energy Generation). While retaining the current framework in the operative Water Plan is a possibility, an update to the operative water Plan to address some of the know issues with these provisions would be desirable.</p>	
	<p>Permitted activity takes</p>	<p>ss 6(b), 6(c), 30(1)(e), 30(4), 65(3)(f), 68(7)</p>	<p>If both the NPS-FM and PORPS direction were to be removed, the current framework in the operative Water Plan could continue to be relied upon although there are known issues with the current framework (e.g. ability to exercise multiple takes under different</p>	

Section	Provision	Statutory basis	Comments	Reliance on NPSFM
			permitted activity rules at the same time, no visibility on the extent to which these takes are being exercised, permitted activity takes from larger waterbodies are overly generous). While retaining the current framework in the operative Water Plan is a possibility, an update to the operative water Plan to address some of the know issues with these provisions would be desirable.	
	Collective management	ss 6(b), 6(c), 30(1)(e), 30(4), 65(3)(f), 68(7)	If both the NPS-FM and PORPS direction were to be removed, the current framework in the operative Water Plan could continue to be relied upon in the interim.	
	Transfers	ss 6(b), 6(c), 30(1)(e), 30(4), 65(3)(f), 68(7)	If both the NPS-FM and PORPS direction were to be removed, the current framework in the operative Water Plan could continue to be relied upon, although there are known issues with the current framework (e.g. there is policy that guides decision-making around transfers, but no clear rule framework).	
DAM – Damming and diversion	All	s6(a), (d), (e), RMA s14 and 30(1)(c)(iii) and (e), RMA ss65(3)(e), RMA NPSREG	For damming and diversion, the policy framework has been founded (in large part) on direction in cl3.24 of the NPSFM to avoid the loss of river extent and values (except in limited circumstances listed in that clause) and the significant impact of in-stream damming and diversion on mana whenua values. In the pORPS, the NPS direction is expressed as the primary method for preserving the natural character of rivers and lakes as required by s6(a). If the NPS direction was removed, the outcome would remain (i.e. preserving natural character and mana whenua values under s6) but the method(s) for achieving that may differ.	pORPS
PP – Primary production	All	ss 6(a), 7(f), 7(h), 30(1)(c), 30(1)(f), 70, Parts 9A and 9B RMA, NES-Freshwater	The farming provisions are largely about supporting the maintenance of existing water quality (not allowing water quality to further degrade), collecting information and requiring good management practices. There are all supported by the underlying legislation. There is a limited amount of improvement required and timeframes set out,	pORPS

Section	Provision	Statutory basis	Comments	Reliance on NPSFM
			<p>which are largely driven by the FMU sections, so any changes would be a result of changes to outcomes sought in those sections and in the pORPS. Risk arises of a 'gap' or inconsistency created if the NES-F in relation to intensive winter grazing, the Stock Exclusion Regulations or the Freshwater Farm Plan regulations are significantly amended and the pLWRP is reliant on those elements – can likely be addressed in drafting.</p> <p>The forestry provisions are seeking to protect the health of waterbodies from poor management and location. The NES-CF could be a fall-back if healthy waterbodies was not the long-term direction.</p>	
WW – Wastewater	All	Part 2, RMA ss9, 15, 30 and 70(1), RMA LF-FW-P15, pORPS	<p>These chapters all address topics that are already managed by the Water Plan. Primarily, their purpose is to improve management of these activities to reflect current practice and achieve better outcomes as sought by communities. While the NPSFM has informed their development, they are more directly an exercise of ORC's functions under ss15 and 30 than a response to the NPSFM specifically. There is policy direction in the pORPS for managing some of these activities (WW, SW, EARTH) which generally reflects best practice, rather than a direct connection with the NPSFM.</p>	
SW – Stormwater				
EARTH – Earthworks and land disturbance				
WASTE – Waste and landfills				
OTH – Other discharges				
BED – Beds of lakes and rivers		Part 2, RMA ss13 and 30(1)(c) and (g), RMA	<p>This chapter addresses topics that are already managed by the Water Plan and its primary purpose is to improve management to reflect current practice. The policy framework is informed by the approach to managing loss of river extent and values, and providing for fish passage, set out in the NPSFM. There is a statutory basis for managing river extent and values – see DAM assessment above. There is also a general statutory basis in the RMA for managing fish passage. Without the NPSFM, ORC could still manage these matters but would have more flexibility to adopt a different/amended approach.</p>	pORPS

Section	Provision	Statutory basis	Comments	Reliance on NPSFM
FMUs/rohe		Part 2, RMA ss68(7), 69,	Almost all of the provisions in these chapters are based solely on the requirements of the NPSFM. Some rules and flow regimes are in the FMU sections as that is required by the National Planning Standards. There is a statutory basis for the general concept of setting objectives and managing within limits. Without the NPSFM, ORC could still manage these matters but would have more flexibility to adopt a different/amended approach. Given the state of the environment reporting on water quality, complete removal of a framework for managing water quality would likely be difficult to justify.	pORPS

Appendix 4 - Regional Council Freshwater Programmes

Council	Comment
Northland Regional Council	Continuing with consultation on regional plan and now working to 2027 timeframe; Staff recommendation that no changes to RPS required to give effect to NPSFM for 12 months awaiting new draft NPSFM at 27 th February Council meeting approved;
Auckland Council	Workshop in March/April to discuss timeframes;
Waikato Regional Council	Project ongoing, presently reassessing project components for delivery, being mindful of existing statutory requirements and likely future change. Focussing more on the freshwater management issues of the region rather than on the heavily prescribed approach in the NPSFM2020. Looking to have a draft plan for 4A pre-notification distribution by November 2025 to coincide with review of Te Ture Whaimana o Te Awa o Waikato and to align with new NPS.
Bay of Plenty Regional Council	Strategy and Policy Committee approval on 21 st February to continue, with a short delay, resulting in notification September 2025
Hawkes Bay Regional Council	Noting paper on 13 March outlining changes in the resource management system currently foreshadowed or actioned by Central Government;
Gisborne District Council	Extension to GDC provided in response to Cyclone Gabrielle. Still working on Motu catchment plan to be developed by September this year, and the remaining catchment plans & updates to regional provisions currently programmed for 2026.
Taranaki Regional Council	On 19 March, Committee endorsed maintaining momentum to a mid year 2025 notification. Additional resolution that staff will report back to Committee when they have visibility over any NPSFM changes.
Horizons Regional Council	Paper going to Council in April to consider
Greater Wellington Regional Council	Retaining current timeframes – two plan changes out for consultation. Further plan changes will continue.
Nelson City Council	No information available;
Tasman District Council	Council workshop on 29 th February; aiming for notification 2025
Marlborough District Council	Adjusted work programme; noting paper only on 14 th March ; 2 nd generation provisions that give effect to the NPSFM 2017

Environment Canterbury	Working toward late 2024 for notifying RPS changes to give effect to NPSFM 2020.
West Coast Regional Council	Quarterly reporting at 5 March Council meeting notes the regional plans that implement the NPSFM 2020 [sic] to be notified by December 2024 is <i>on hold</i> .
Environment Southland	Strategy Committee approval on 21 st February for a reframed approach, for notification in next 12 months ; Southland driven solution using objectives and policies from the Southland Water and Land Plan which is a 2 nd generation plan.



Document Id:

MEMORANDUM

To: Anita Dawe
From: Jason Augspurger, Dean Olsen, and Tom Dyer
Date: 04/03/2024
Re: LWRP surface water quantity programme summary

Purpose

The purpose of this memo is to summarize the surface water quantity programme completed for the Otago Land and Water Regional Plan (LWRP).

Context

Otago Regional Council's (ORC) current report suite developed to inform the new LWRP provides information for setting environmental flows in Otago's rivers.

Regional analysis

To provide an initial assessment of ecological effects as a result of altered flow regimes across Otago, results from a regional hydrological model were compared to guidance on precautionary environmental flow limits (Hayes et al. 2021; Friedel et al. 2023). This comparison highlighted that the majority of Otago's catchments have low allocation levels which comply with the precautionary guidance (Ravenscroft and Stewart 2023). This means current allocation pressure is unlikely to have a measurable environmental effect. Likewise, implementing a precautionary flow regime in such catchments is likely to have little impact on current users.

However, under the Regional Plan: Water (ORC 2004), allocation in these catchments could increase beyond such precautionary environmental flow limits which may result in environmental effects and these catchments being considered as over allocated in the future. Further, if allocation was to increase in these catchments, there may be negative impacts on other ecosystem health components such as water quality. While it may be acceptable to have an allocation limit beyond the default guidelines in some catchments, measures which prevent allocation from exceeding the guidelines without appropriate consideration are required.

Bespoke catchment modelling

Bespoke modelling for catchments which exceed the precautionary guidance indicates existing flow regimes in some catchments, including the Manuherekia (Allibone 2021; Dyer 2023),

Cardrona (Ravenscroft et al. 2017), Kakanui (Olsen 2023a), Low burn (Olsen 2023b), Waianakarua (Olsen 2024a), Shag (Olsen 2024b), Luggate (Olsen 2024c) and Waikouaiti (Olsen 2024d), pose medium or high risk to ecological values. In these catchments, abstraction currently results in lower flow for longer periods. This reduces habitat availability for some fish and aquatic invertebrate species and may result in a risk of reduced flow variability at low flows. As a result, increases in minimum flow and/or decreases in allocation may be required in these catchments to decrease ecological risk. These changes would be expected to decrease reliability of supply for irrigators.

In other catchments, including the Pomahaka (Olsen 2024e), Mill Creek (Olsen 2023c), and Waiwera (Olsen 2024f), the existing flow regime poses low risk to ecological values.

In both low and high-risk catchments, the existing planning framework often allows additional abstraction beyond that currently observed. Consented abstraction rates and volumes may exceed those currently exercised. This can allow consent holders to increase abstraction before expiry of the consent. Therefore, while the realized risk from abstraction may currently be low in some catchments, there is potential for the risk to increase if no measures are put in place to restrict further abstraction (Olsen 2023c). In catchments with high risk, allocation may also increase resulting in further risk.

Mis-allocation and resolving over-allocation

The historic and current planning framework also fail to effectively manage legacy issues present in Otago's water allocation. In many cases, stored water is consented, and metered as if it were primary allocation (Augspurger 2023). Generally, large dams are filled during winter or large rainfall events which would be considered as high flow water thus falling in a supplementary block(s). This water has already been "taken" and therefore should not be considered as primary, or low flow, allocation. Failing to split stored water out of the primary allocation block results in the primary allocation block being overly large.

An overly large primary block, consisting of stored water and run of river water, poses significant challenges for policies aimed at reducing allocation. To re-apportion stored water into appropriate allocation blocks, future plans must provide appropriate measures which distinguishes stored water from run of river takes such as separate metering. This re-apportioning would form the part of any allocation "reduction" in catchments with stored water.

Potential to reduce uncertainty

In the short to medium term (5-10 years), it is unlikely that uncertainties associated with these studies can be significantly reduced. These types of assessments require long-term monitoring data. To reduce uncertainty, more sites with long records would be required, particularly in locations of natural flow. Therefore, while additional nuance may be added, the overall conclusions from the suite of studies are unlikely to change.

Conclusion

From the suite of reports related to surface water quantity for the LWRP, we can conclude:

1. Many catchments in Otago have a medium to high ecological risk as a result of water abstraction. These catchments require higher minimum flows and/or lower allocation to decrease their risk level.

2. The current water plan allows for an allocation of up to 50% of MALF. This means that in catchments which do not currently exceed default guidance, or in catchments with natural flow regimes, allocation can exceed the precautionary guidance without any further assessment. This could result in additional catchments being over allocated.
3. Historical consenting of stored water has resulted in poor structuring of water allocation. The current plan does not have a mechanism that will allow for re-apportioning of allocation. A planning framework which differentiates between stored water that is later released to be taken by water users from true primary allocation is required to clarify the abstractive pressure on some waterways and to resolve the potential over-allocation in some catchments in the future. Such catchments include the Taieri and Manuherekia.
4. Water allocation can interact with other anthropogenic pressures (e.g. climate change, land use changes, degrading water quality). Changes in the state and trends of water quality and ecological state in many Otago catchments shows that these have changed since the development of the RPW (Augspurger and Dyer 2024). In addition, there has been significant progress in our understanding of the projected effects on climate change on Otago's water resources and environmental outcomes, by extension. Observed degradation in water quality and ecological state along with future changes expected under a warming climate justify a cautious approach to water allocation.

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MEMORANDUM

To: Anita Dawe
From: Jason Augspurger and Tom Dyer
Date: 26/02/2024
Re: LWRP surface water quality programme regional summary

Purpose

The purpose of this memo is to summarize the surface water quality programme completed for the Otago Land and water regional plan (LWRP).

Context

Otago Regional Council's (ORC) current report suite developed to inform the new LWRP provides information for setting baseline, and target, attribute states (Whitehead 2018; Snelder and Fraser 2021; Neverman and Smith 2022a; Neverman and Smith 2023; Snelder and Fraser 2023; Augspurger 2024a; Augspurger 2024b). This reports suite also provides information on current state (Ozanne et al. 2023) and the magnitude of change that may be possible through good management practice (GMP) type scenarios on pastoral land uses (Sise et al. 2022; Neverman and Smith 2022b; Neverman and Smith 2023; Augspurger 2024b; Augspurger 2024c).

These reports contain a large amount of information, at various spatial scales, for multiple attributes. This memo aggregates results from the differing information sources and spatial scales to present a summary assessment of regional state and change potential under a mitigation type plan. This summary does not override results from other reports; it is provided as a brief overview of patterns present in underlying technical reports.

Comparison to the National Objective Framework (NOF) Tables

When compared to the attribute tables in the NPSFM (Ministry for the Environment 2020), headwater catchments tend to achieve higher grades (i.e. A-band) than lowland reaches. However, all FMUs have monitoring sites (Ozanne et al. 2023; Augspurger 2024a) and modelled segments (Whitehead 2018; Snelder and Fraser 2021; Snelder and Fraser 2023) which fail to meet the national bottom line for at least one attribute. When considering the major four contaminants (nitrogen, phosphorus, *E.coli* and sediment), *E.coli* is the attribute for which sites and segments fail to comply with the national bottom line most often. However, many FMUs have sites which also fail to comply with clarity bottom lines and the total nitrogen

and total phosphorus nutrient criteria which provide for the periphyton bottom lines. This indicates measures which reduce loads of these contaminants are required (Augsburger 2024a).

Trends

While national bottom lines may be altered in future policy statements, trend analyses provide an assessment of long-term patterns present in each water quality attribute. Trend analysis is the preferred methods for investigating patterns, tracking whether sites are progressing toward meeting desired outcomes (Milne et al. 2023), and have well established standard procedures (Snelder et al. 2021). Trend analysis was included in the report suite to provide context on whether sites are improving or degrading across a 10- and 20- year period irrespective of bottom lines. Trend results determined for individual sites are presented in two reports (Ozanne et al. 2023; Augspurger 2024a).

Assessments of trends across spatial scales larger than a monitoring site are useful for evaluating pressures and patterns over broad areas (Snelder et al. 2022). To provide a broadscale picture on water quality trends in Otago, the site-based trends were statistically aggregated to both regional and river class levels (Snelder 2024).

The regional aggregation of trend results indicates that, over the 20-year trend period, both phosphorus and ammoniacal nitrogen levels are improving (i.e. decreasing). However, dissolved inorganic nitrogen, total nitrogen, *E.coli*, and turbidity are degrading (increasing). Over the 10-year trend period, the regional results indicate improving phosphorus, ammoniacal nitrogen, and turbidity. *E.coli* is likely to be degrading across the region and the outcomes from total nitrogen and dissolved inorganic nitrogen are uncertain. An uncertain regional trend result does not mean strong trends are not present as finer spatial scales. Instead, they mean there are sites, or areas, which have improving trends but there are also areas which have degrading trends.

While trend attribution is difficult (T.H. Snelder et al. 2022)¹, these patterns are consistent with national patterns indicating intensification. In the context of the current Regional Plan: Water (ORC 2004), increasing nitrogen and *E.coli* levels across the 20-year period indicate the plan has allowed water quality degradation and land use intensification. The 10-year results for nitrogen indicate that while some areas are likely improving others are likely to be degrading (Ozanne et al. 2023).

When split by management class, hill class rivers (including those in the Dunstan and Manuherekia Rohe, and Taieri FMU) have nitrogen levels which are likely to be degrading over the 10-year period. This indicates that, in some areas of Otago, intensification is still likely occurring. Further, these patterns indicate the current water plan will not stop similar intensification in the Upper Clutha and other headwater catchments where less intensification has occurred to date.

Improvement through mitigation scenarios

Under clause 3.13, the NPSFM states “to achieve the target attribute state of any nutrient attribute, and any attribute affected by nutrients, regional councils must also set, at a

¹ 10-year trend period are particularly difficult to interpret as climate variation can over-ride the signals from land use

minimum, appropriate instream concentrations or exceedance criteria for nitrogen and phosphorus". To determine suitable nutrient levels in Otago, the nitrogen and phosphorus reductions required to comply with potential attribute bands in lakes, estuaries, nitrate toxicity and nutrients to periphyton biomass were modelled (Snelder and Fraser 2023). In general², periphyton biomass in river environments is the most limiting receiving environment modelled.

To aid in understanding the magnitude of change required to achieve different periphyton target attribute states, reductions in nitrogen and phosphorus achieved through a good management and good management plus scenario were compared to the required reductions (Sise et al. 2022; Augspurger 2024b; Augspurger 2024c). These scenarios comprise a range of relatable hypothetical land use or behavioural scenarios intended to reduce the impacts of land use on water quality.

Results indicate reductions of nitrogen and phosphorus achieved through mitigation-based scenarios can appear large "on-land" (i.e. >20%), but are unlikely to result in multi-band changes (Augspurger 2024b). Instead, mitigation-based scenarios lead to within band improvements. For sites where trends are degrading, the within band improvement may be realised as reversing or halting a degrading trend. For sites which are currently improving, within band or between band improvements are more likely. A mitigation-based plan is therefore unlikely to "overshoot" if large improvements (i.e. multi-band improvements) in water quality are desired.

Sediment results are more varied with some areas improving one to two bands whereas others improve within band (Neverman and Smith 2022a; Neverman and Smith 2022b; Neverman and Smith 2023). Notably, ORC has previously monitored turbidity. Turbidity generally correlates with the attribute in the NPSFM, visual clarity. However, this relationship varies among sites and is often site specific. As there is insufficient overlap in monitoring data, turbidity is converted to clarity using a nationally derived equation introducing which may lead to errors in estimation of both baseline and mitigated load required to achieve the bands.

Improvement scenarios were not modelled for E.coli as load (Snelder and Fraser 2021), loss estimate and mitigation potential uncertainty is very high.

While modelling indicates a mitigation-based scenario is unlikely to result in multi-band improvements, recent studies in areas where mitigations have already been applied indicate rivers are now showing improving trends (Ozanne et al. 2023; McDowell et al. 2023).

Potential to reduce uncertainty

In the short to medium term (5-10 years), it is unlikely that uncertainties associated with these studies can be significantly reduced (Snelder and Fraser 2023). These types of assessments require long-term monitoring data. To reduce uncertainty, more sites with long records would be required. Therefore, while additional nuance may be added, the overall conclusions from the suite of studies are unlikely to change.

² In some catchments, estuaries or lakes may be a more limiting receiving environment. However, the modelling for estuaries and lakes carries large uncertainty in load reduction required (Snelder and Fraser 2023; Augspurger 2024b).

Conclusion

From the suite of reports related to surface water quality for the LWRP, we can conclude:

1. The current water plan has not stopped intensification in Otago. While some areas may be improving over the most recent 10-year period, others are degrading and there is potential for further degradation to occur. Therefore, to improve water quality, measures which stop further degradation are required regardless of whether sites fall below national bottom lines.
2. On-farm reductions achieved through a mitigation-based actions can lead to improvement in water quality. This improvement is expected to be realized as improvement in trend or within band improvement for nutrients and, in many locations, sediment.
3. In the short to medium term (5-10 years), it is unlikely that uncertainties associated with these studies can be significantly reduced. While additional nuance may be added, the overall conclusions from the suite of studies are unlikely to change.

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