Ministry for the Environment
Manatū Mō Te Taiao

Ministry for Primary Industries
Manatū Ahu Matua

National Policy Statement for Freshwater Management Implementation Review

Otago

New Zealand Government

Published in August 2017 by the
Ministry for the Environment
Manatū Mō Te Taiao

This document is available on the Ministry for the Environment website: www.mfe.govt.nz.

Making Aotearoa New Zealand
the most liveable place in the world

Contents

Regional overview 4

Review methodology 6

Regional context for freshwater management 7
- Planning contexts before the NPS-FM 7
- Iwi and hapū context 7

Approach to implementing the NPS-FM 8
- Stakeholder views 8
- Progress in major catchments 8

Achieving the objectives of the NPS-FM 10
- Limit setting and allocation 10
- Stakeholder views 10

Community engagement 11
- Collaborative and consultative groups 11
- Stakeholder views 11

Engaging with iwi and hapū 12
- Stakeholder views 12

Capacity and capability for freshwater planning 13
- Stakeholder views 13

Information 14
- Stakeholder views 14

Plan implementation 15

Conclusions and recommendations 16

Regional overview

New Zealand's second largest region, Otago covers around 32,000 square kilometres from the south-eastern coastland to the iconic dry central areas, and includes alpine landscapes and large lakes. The great majority of the land is used for pastoral farming. Otago has a population of around 219,000 with over half living in Dunedin, the country's seventh largest urban area.[1]

Fresh water is a feature of western Otago, where its many lakes are valued for their recreational uses, including fishing. The region contains almost a quarter of New Zealand's total lake surface area, with the three largest being Lake Wakatipu, Lake Wānaka and Lake Hāwea (figure 1).[2]

Otago's average annual rainfall varies markedly, from less than 400 millimetres per year near Alexandra and Upper Taieri and up to 2400 millimetres in the Clutha/Mata-Au headwaters. These high levels of precipitation give the Clutha River/Mata-Au the greatest volume of flow of any river in the country and make it a valuable resource for hydro-electricity generation. Overall, Otago generates 17 per cent of New Zealand's hydro-electricity,[3] and this represents most of the consented water use.

In terms of consumptive water uses, most catchments are severely over allocated and some rivers in northern and central Otago can run dry in summer.[4] In central Otago, this is often due to water rights attached to historic mining permits, many of which are now being used for irrigation. Excluding non-consumptive takes for hydroelectric power generation, irrigation accounts for about three quarters of the total water take volume, followed by industrial uses and municipal supply.

Water quality and ecosystem health are high in many parts of Otago such as the upper Clutha and Taieri river catchments and Lake Wakatipu, Lake Wānaka and Lake Hāwea.[5] However, stormwater contamination in urban areas and intensive farming are putting pressure on water quality and aquatic ecosystems, particularly in the lower river reaches. The region's dairy herd grew more than seven-fold between 1990 and 2015, from around 50,000 to 385,000.[6]

---

1 Statistics New Zealand. No date. *Subnational population estimates*. Retrieved from http://nzdotstat.stats.govt.nz/wbos/Index.aspx?DataSetCode=TABLECODE7501 (13 July 2017).

2 Land, Air, Water Aotearoa. No date. *Otago region*. Retrieved from www.lawa.org.nz/explore-data/otago-region/ (13 July 2017).

3 Land, Air, Water Aotearoa. No date. *Otago region*. Retrieved from www.lawa.org.nz/explore-data/otago-region/ (13 July 2017).

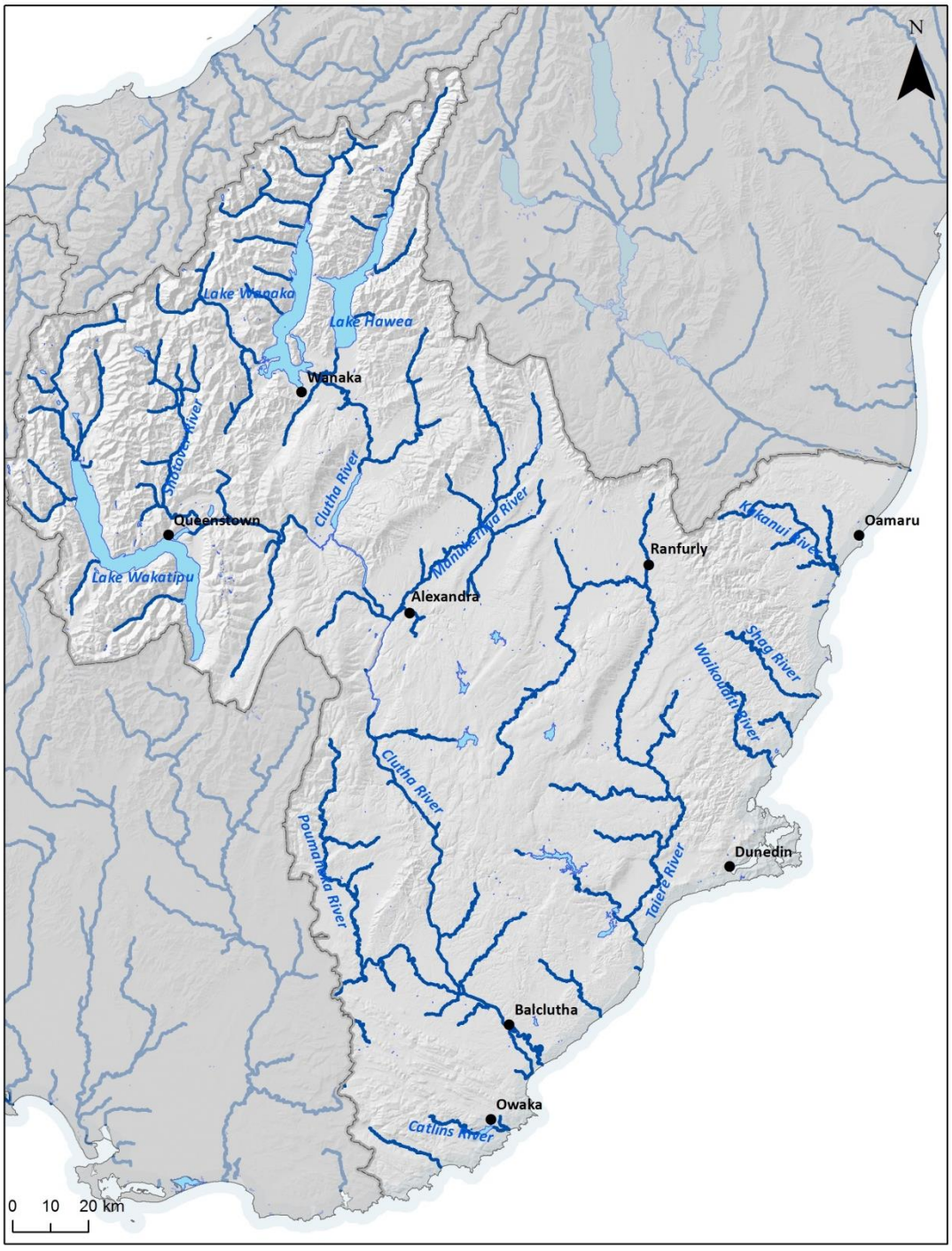
4 Land, Air, Water Aotearoa. No date. *Otago region: Water Quantity*. Retrieved from www.lawa.org.nz/explore-data/otago-region/water-quantity/ (13 July 2017).

5 Otago Regional Council. 2016. *Water Quality and Ecosystem Health in Otago*. Retrieved from www.orc.govt.nz/Documents/Publications/Research%20And%20Technical/surface-water-quality/2016/2016%20SOE%20report%20card.pdf (13 July 2017).

6 Statistics New Zealand. 2017. *Agricultural Production Statistics: June 2016*. Retrieved from www.stats.govt.nz/browse_for_stats/industry_sectors/agriculture-horticulture-forestry/AgriculturalProduction_final_HOTPJun16final.aspx (13 July 2017).

Water quality in these areas has deteriorated over the same period. Lower reaches of rivers towards the coast tend to have higher *Escherichia coli* levels, with many sites exceeding the national bottom line for *E. coli* in the National Policy Statement for Freshwater Management (NPS-FM). Nitrogen and phosphorus levels are also often elevated. Groundwater quality is generally good, but several monitored sites have very high nitrate levels, particularly in the volcanic aquifers south of Ōamaru. High *E. coli* levels are found in many lowland areas.

Figure 1: Major water bodies in the Otago region



Source: Ministry for the Environment

Review methodology

The information and analysis contained in this report are based on evidence collected from a questionnaire completed by Otago Regional Council (ORC), a series of interviews and panel discussions with relevant parties, planning documents and associated reports, and the Ministry for the Environment's ongoing relationships and projects across the region. The overall review team consisted of officials from the joint Ministry for the Environment and Ministry for Primary Industries Water Directorate with the assistance of two independent consultants who are both certified hearings commissioners with more than 30 years of experience in freshwater management.

The review team conducted a series of panel discussions with ORC executives and elected councillors, senior ORC staff and stakeholder representatives. The stakeholder panel represented a range of interests including territorial authorities, environmental organisations and agricultural sectors. Additional interviews and panel discussions were held with representatives from national sector organisations. Following each meeting, attendees were given the opportunity to revise or supplement the meeting notes to ensure their views were recorded accurately.

While the review team has made efforts to confirm information where possible, much of the information included in the review is based on the accounts and perspectives of those involved and often cannot be verified independently.

It is important to note that none of the iwi and hapū representatives invited to our review hui attended. We recognise this as a significant limitation of our review, particularly given the complexity of iwi and hapū relationships and the influence of Treaty of Waitangi settlement arrangements on freshwater management in the region. The following comments are based, therefore, on the Ministry's ongoing conversations and relationships with representatives in the area.

Stakeholder representatives did not necessarily speak with mandate as official representatives of their organisation nor are they presumed to represent all in their wider communities. They were, however, primary sources with direct experience of ORC's work.

Because of varying regional contexts, some issues are considered more or less relevant in different regions. Therefore, some topics that appear in other regional chapters but that were not raised by ORC or stakeholders in this region have been omitted from this chapter.

Regional context for freshwater management

Planning contexts before the NPS-FM

The Regional Plan: Water for Otago (the Water Plan), which drives water management in the Region, was publicly notified in 1998 and made fully operative in 2004. Since then, it has undergone a series of plan changes to incorporate catchment-specific provisions for quantity and region wide water quality rules.

ORC addressed surface water allocation and limits through Plan Change 1C (Water Allocation and Use) to the Water Plan, which was notified in 2008. Plan Change 4A (Groundwater and North Otago Volcanic Aquifer was notified in 2010 to add provisions for managing groundwater quality and quantity. Both plan changes became operative in 2012.

Water quantity remains the most pressing and contentious water issue for the Otago region. A major complicating factor is that water rights issued during the 1880s for gold mining gave holders the absolute right to take water. The quantity of water available was not taken into consideration. Under the Resource Management Act 1991 (RMA), these mining rights became 'deemed permits' with a common expiry date of 2021. Those who wish to continue taking water beyond this date will need to apply for new RMA resource consents. This mining privilege situation is unique to Otago, and ORC has prepared a guide to help the affected consent holders.

The lower Waitaki River also forms the boundary between the Otago and Canterbury regions. Because both of these councils have adopted different approaches for management of the water, this has created challenges for the land owners, water users and the two regional councils.

Iwi and hapū context

Kāi Tahu ki Otago are mana whenua in the region, and the four primary rūnanga are Te Rūnanga o Moeraki, Kāti Huirapa Rūnanga ki Puketeraki, Te Rūnanga o Ōtākou and Hokonui Rūnanga. They are represented by the governing iwi authority, Te Rūnanga o Ngāi Tahu. Te Rūnanga o Ngāi Tahu completed a Treaty of Waitangi claims settlement in 1998. Kāi Tahu ki Otago prepared Natural Resource Management Plans in 1995 and 2005.

A Memorandum of Understanding and Protocol exists between ORC, Te Rūnanga o Ngāi Tahu and Kāi Tahu ki Otago. This was established in August 2015 to strengthen and formalise the working relationship with iwi. The Memorandum identifies important common interests and encourages strong and constructive relationships between councils and iwi. This will help achieve statutory obligations, as well as addressing local and regional resource management issues.

Approach to implementing the NPS-FM

ORC considers that the current Water Plan meets requirements of both the NPS-FM 2011 and the 2014 NPS-FM amendments. ORC established the region's water quality management regime through Plan Change 6A. This plan change relates to non-point source discharges and has a rural focus. It aims to control discharges from activities, not the activities themselves. It is described by ORC as "an effects based, permitted activity approach to managing water contaminants with minor effects on the quality of a river, lake, wetland or aquifer". Landholders are responsible for choosing their own methods for managing contaminant discharge to waterways to meet the new limits in the Water Plan. They must apply for a resource consent to discharge at a higher rate than that identified in the Plan.

The plan change was notified in 2012, shortly after the first NPS-FM took effect and after Environment Court-ordered mediation between ORC and 21 appellants, including representatives of territorial authorities, industry and environmental groups. Plan Change 6A became operative in 2014.

ORC believes that the requirements brought in by Plan Change 6A meet the requirements for limits under the NPS-FM. However, ORC noted that no plan is perfect. It sees the plan process as iterative and does not expect that Plan Change 6A will solve all issues.

Concerning sediment management, ORC expressed the view that some areas have high naturally occurring inputs (eg, the Shotover River). However, ORC feels that progress around sediment input control is working well.

Stakeholder views

There was concern expressed by the stakeholders we interviewed that ORC feels it has implemented the NPS-FM, when, in reality, it is only part-way through the process. They consider that ORC should better outline how the NPS-FM is being implemented on the ground. They said that it was unclear how ORC will support land owners to be effective in managing contaminant discharges or how compliance will be enforced.

Progress in major catchments

MANUHERIKIA

The Manuherikia Catchment Water Strategy Group was formed in 2011 to investigate the best way to use the Manuherikia Valley's available water, to jointly benefit the environment and land owners who need water for irrigation. The Water Strategy Group has a 10-person executive team that works with a group of nearly 30 people representing a wide range of organisations, including land owners, irrigation companies, environmental groups, the Department of Conservation, iwi as well as district and regional councils. This wider group also contains a special interest group, comprising representatives of environmental and recreational organisations. ORC expressed the view that the community has worked well together and that the best people to manage allocated water are the ones who use it.

WAIWERA

Plan Change 3C (Waiwera catchment minimum flow) introduced a primary and supplementary allocation and minimum flow regime for the Waiwera catchment. ORC notified Proposed Plan Change 3C in late 2014 and released its decisions in August 2015. Following the resolution of appeals on this plan change, it became operative in March 2016.

LINDIS

Plan Change 5A (Lindis: Integrated water management) introduces minimum flows and allocation limits for the Lindis River. The plan change also sets maximum allocation limits for aquifers in the Bendigo–Tarras Basin. ORC notified this plan change in August 2015 and released its decision in August 2016. One appeal on ORC's decisions has been made to the Environment Court.

Between 2009 and 2015, ORC hosted six community workshops to discuss the policy framework for managing surface water and groundwater. This included discussing scientific information about the Lindis River and the aquifers in the Bendigo–Tarras Basin, listening to community views on what people consider to be important values and uses supported by the area's water resources.

Achieving the objectives of the NPS-FM

Limit setting and allocation

The presence of mining privileges creates a challenging environment for allocating and managing water quantity. Some catchments in Otago are over allocated both on paper and in practice. There are expectations from the community of alleviating over allocation and maintaining river flows.

ORC says that it wants water that is available for allocation to be fully used. If an area is fully allocated but not all allocated water is being used, it can be frustrating for others who want to use water but do not have any allocation.

ORC set allocation limits and minimum flows in the Lindis River through Plan Change 5A and maximum allocation limits for aquifers in the Bendigo–Tarras Basin. Plan Changes 3B and 3C address allocation issues in the Pōmahaka and Waiwera catchments, respectively.

For water quality, Plan Change 6A set a nitrogen leaching rate limit across the region of 30 kilograms per hectare per year as a permitted activity. A lower rate is permitted in high country lake catchments (15 kilograms nitrogen per hectare per year) and sensitive groundwater zones (20 kilograms nitrogen per hectare per year).

Schedule 16 of the Water Plan lists the threshold for contaminants, such as *E. coli*, dissolved reactive phosphorus, ammoniacal nitrogen (NH4) and nitrate-nitrite nitrogen (NNN), which are allowed to leave an open or tile drain, or a paddock. Monitoring of discharges leaving their properties is to be carried out by the farmer. It is also the responsibility of the farmer to determine which land use practices and mitigations they use meet these limits. Farmers have until 2020 to comply with these rules. Sediment is similarly managed in all catchments.

Stakeholder views

Stakeholders felt that not all community values were being taken into account by ORC, particularly concerning the availability of fresh water due to over allocation. According to stakeholders, ORC is not addressing ecosystem health and human health for recreation – the two compulsory values in appendix 1 of the NPS-FM.

Residual flow setting is not working as well as expected, say some stakeholders. They believe that technical information to inform decisions is lacking, cumulative effects have been forgotten and a wider, holistic view is not being taken in this respect. They are unsure if ORC fully understands how it will implement multi-layered policy involving community values and science.

Stakeholders felt that there had been mixed messages from ORC about the requirements for water users. They say that monitoring of loads and catchment limits (eg, for nitrogen and phosphorus) is being used for research purposes, rather than informing compliance. They considered there had been mixed messages around discharge limits and what types of breaches would be enforced by ORC.

Community engagement

Collaborative and consultative groups

ORC has chosen to use a consultative rather than collaborative process for policy development and planning. It feels that this approach has worked efficiently, avoiding the time and expense that collaborative planning processes have required in other regions.

Increased community involvement has been seen as a positive step in freshwater planning. Some members of the community are getting involved in science at a local level. ORC believes this is encouraging and shows that the community cares about the state of its freshwater bodies. ORC also reports that landholders' attitudes are starting to align with what is required under the NPS-FM and there has been an improvement in water use efficiency on farms.

ORC is encouraging communities to form catchment-based water user groups to allocate water amongst themselves. This allows group members greater flexibility, enabling them to access water according to actual need and reducing the constraints of paper over allocation. This could also free up currently allocated but unused water for new users.

Two of these groups are the Kakanui Catchment Community Group and the Manuherikia Catchment Water Strategy Group. The Kakanui group has diverse membership, including Forest and Bird, Fish and Game New Zealand, Fonterra and Federated Farmers. Understanding issues around water quality is a main focus for this group.

Stakeholder views

Stakeholders felt that ORC was initially reluctant to engage with the community beyond the minimum Schedule 1 requirements in the RMA.

Stakeholders thought that early engagement was a good approach for working out how to meet limits, but it may not be the best approach for setting them. They felt that properly engaging with the community and iwi is essential, particularly around discussing options for limits. It was noted that Schedule 1 of the RMA was probably a fairer method of decision-making.

Stakeholders think that ORC needs to be the conduit between catchment groups to share what works and what does not. They believe that these groups should be the driver of the good management processes around freshwater management.

Stakeholders felt that ORC has the capability to discuss freshwater matters but not the capacity (ie, time and resources). Stakeholders felt that communication could be improved and an overarching communication plan is required for ORC to implement the NPS-FM efficiently.

It was noted by stakeholders that ORC tends to come up with ideas around freshwater management but little happens following initial discussions or feedback. As a result, some stakeholders are reluctant to engage further with ORC.

Engaging with iwi and hapū

The Memorandum of Understanding between ORC and local iwi – Te Rūnanga o Ngāi Tahu and Kāi Tahu ki Otago outlines how ORC engages with these groups for consultation purposes. The rūnanga have expressed an interest in developing closer relationships with ORC for involvement in the development and implementation of resource management policy.

ORC says that the rūnanga in the region are well engaged but could be better resourced. As a result, ORC intends to provide rūnanga with additional support and resourcing.

ORC does not have dedicated iwi liaison staff. In previous engagement, tāngata whenua representatives have noted the benefits of having specific liaison staff who are able to engage on iwi issues effectively.

Stakeholder views

Stakeholders say that involving iwi and hapū in the plan development process is essential, especially when setting limits. However, they raised practical questions about how iwi views are best taken into account with respect to the NPS-FM.

Capacity and capability for freshwater planning

ORC says that the capacity of stakeholders involved in NPS-FM matters is limited. Significant time and effort is required for engagement, and smaller stakeholder groups are feeling the effect of this more than most.

ORC considers that territorial authorities have a challenging job balancing diverse freshwater management issues, such as infrastructure, tourism, lifestyle blocks, farming and urban issues. It has been noted that some local councils are waiting on better guidance from ORC before addressing freshwater issues. Water consents are becoming an issue around towns with increasing populations, particularly with existing over-allocation issues. ORC described territorial authority resourcing in the region as adequate.

Stakeholder views

Stakeholders felt that ORC does not have the capacity to do all that it is required around freshwater management. Stakeholders report that resourcing has been an issue for ORC, particularly with staff turnover. They feel that funding and resourcing need to increase and that, overall, there is a lack of guidance and governance from ORC.

Stakeholders also expressed the view that central government could partner more with regional councils. Funding and resources should be provided to implement central government directives like the NPS-FM.

Some stakeholders have been giving up significant time as a part of the NPS-FM process. More financial support is needed for these stakeholder groups to ensure they can continue to participate and be involved in freshwater discussions. For example, water groups have been funding various analyses and testing themselves, with no financial help from ORC. Stakeholder groups felt that they must address staffing and resource demands with respect to the NPS-FM. Some stakeholders noted their resources for fresh water are thin on the ground in Otago, especially around negative effects on biodiversity.

Information

ORC monitors river flows at key locations throughout the region and a reliable long-term water quality network is largely in place for a variety of attribute measures. However, ORC feels that the monitoring and data-collection work in some parts of the region, particularly around Wānaka, Wakatipu and Hāwea, is not sufficient for current needs. In particular, ORC considers that long-term data on periphyton is not robust.

Stakeholder views

Stakeholders are concerned that ORC is not yet monitoring effects adequately to manage within limits. Stakeholders are feeling burdened with the reporting requirements and feel that more ORC support is required. Property owners are hesitant to share information with ORC, because they fear it may be used against them or lead to enforcement action.

Plan implementation

Some stakeholders felt that Plan Change 6A is not being implemented properly, because not all information is reaching farmers to enable them to make any necessary changes to comply with the plan change. Stakeholders are unsure how ORC will approach compliance. Farmers feel that they should receive more guidance from ORC around what their responsibilities are concerning the environment and water management.

Stakeholders consider the ultimate goal of freshwater planning is to improve water quality and increase economic viability. Stakeholders noted that freshwater outcomes can best be achieved by embracing local solutions. Stakeholders felt that, while there is plenty of goodwill, the change management process from ORC requires leadership and a clear strategy, which is sometimes absent.

Conclusions and recommendations

The following are the views of government officials about the approach to NPS-FM implementation in the region.

- ORC has put in place various plan changes to give effect to water quality and quantity issues in the region. Although ORC considers it has largely implemented requirements of the original NPS-FM, further work is required to ensure compliance with the significant changes that were made in 2014, including the process specified in Part CA of the 2014 NPS-FM (the National Objectives Framework).
- The unique situation around mining privileges complicates water allocation in the region. ORC is anticipating an increased workload around consents when mining privileges expire in 2021. This may affect implementation of the NPS-FM, adding further strain to hard-pressed ORC resources. ORC could consider encouraging early uptake of new resource consents to reduce the 2021 workload.
- It is unclear what effect region-wide default property allocation limits will have on outcomes for individual water bodies, and whether these will be sufficient to meet Water Plan and NPS-FM objectives. Stakeholders we spoke to were concerned the cumulative load from catchments will continue to degrade waterways.
- Stakeholders we spoke to were unsure how ORC will approach implementation and compliance of managing within the new limits regime. We recommend that ORC increases its engagement with the community about the implementation of Plan Change 6A.
- A shift to greater consultation and the establishment of water user groups in catchments, such as Manuherikia and Kakanui, have been positive outcomes.