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National Policy Statement for Freshwater Management Implementation Review

Canterbury – Waitaha

New Zealand Government

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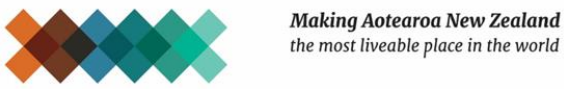

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Regional overview

New Zealand's largest region, Canterbury, covers more than 45,000 square kilometres. It includes large areas of productive farmland, more than 4700 lakes and over 78,000 kilometres of rivers and streams. The region slopes down from the Southern Alps and foothills in the west to the wide Canterbury plains to the east. Its boundaries encompass all or part of 10 district and city councils, including part of the Waitaki District.[1] Around 600,000 people live in Canterbury with 80 per cent of those concentrated in Christchurch and the surrounding area.

Around half of Canterbury land is pasture, a third is native forest and vegetation, and the remainder is divided among horticulture, exotic forestry, urban area and other land uses (figure 1).[2] In recent years, the region has undergone widespread dairy conversion and intensification. Between 2006 and 2016, the estimated number of dairy cattle in Canterbury nearly doubled from 656,000 to 1,271,000 while numbers of sheep and beef have fallen.[3] Much of the hill country is covered in light loess soils that are highly vulnerable to erosion.

The region's largest rivers (the Clarence, Hurunui, Rākaia, Rangitata, Waitaki, Waimakariri and Waiau) have their headwaters in the mountains and are fed by high levels of alpine precipitation. Because much of this is stored as ice and snow, summer melts help maintain flows through summer. Combined, these alpine rivers represent 88 per cent of the total river flow in the region.[4] The smaller rivers in the foothills come from predominantly rain-fed catchments and are more seasonally variable. Their flows are high in winter but can be severely reduced or even run dry in summers. Lowland streams are predominantly spring-fed.

As noted, Canterbury has more than 4700 glacial, riverine and lagoon lakes and reservoirs. The largest of these are lakes Te Waihora/Ellesmere, Pūkaki, Tekapō and Ōhau. Te Waihora/Lake Ellesmere and Wairewa/Lake Forsyth are shallow and intermittently opened to the sea and, therefore, have unique ecosystems and widely ranging salinity.

Groundwater in the region is complex and often closely interconnected with surface water, meaning that water quantity or quality pressures in one will impact on the other. Groundwater abstraction probably contributes to reduced flows in the spring-fed lowland streams and wetlands, particularly around the Christchurch and Selwyn area. Additionally, abstraction from rivers limits aquifer recharge, reducing groundwater levels. Contaminants flow easily between surface and groundwater. Multiple layers of aquifers are found in the coastal area around Christchurch and Te Waihora/Lake Ellesmere.

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1 These are: Kaikōura District, Hurunui District, Selwyn District, Waimakariri District, Christchurch City, Ashburton District, Mackenzie District, Timaru District, Waimate District and part of Waitaki District.

2 Ministry for the Environment. No date. *Environmental Reporting: Area of land cover 1996–2012*. Retrieved from https://data.mfe.govt.nz/table/2478-land-cover-area-of-land-cover-1996-2001-2008-and-2012/data/ (10 July 2017).

3 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 (10 July 2017).

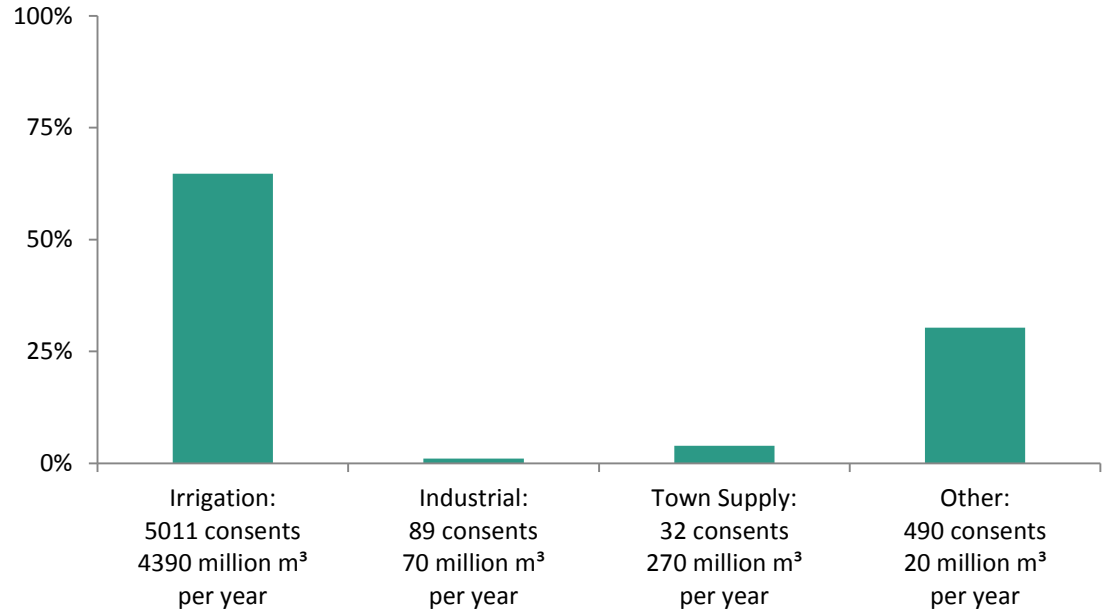
4 Environment Canterbury. 2010. *Canterbury Water Management Strategy: Strategic Framework – November 2009*. Retrieved from www.ecan.govt.nz/document/download/?uri=2105939 (10 July 2017).

Figure 1: Major water bodies in the Canterbury region

Source: Ministry for the Environment

Most Canterbury streams and rivers are approaching, or have reached, full allocation, and most groundwater is fully or over allocated.[5] By far the largest number and the greatest volume of consumptive water take consents are used for irrigation.[6] Irrigation and stock water combined represent nearly 90 per cent of the total consented volume of water in the region and demand is still increasing (figure 2).

Figure 2: Water take consents by primary use in the Canterbury region



Source: Land, Air, Water Aotearoa

Water quality and ecosystem health vary considerably but are often best in the streams, rivers and lakes draining alpine areas or some hill country catchments with less human impact on the land.[7] The relatively consistent and high levels of flow in these rivers from the unmodified alpine areas mean that what contaminants that do enter these waterways are diluted and flushed through the system.

Most glacial-fed alpine lakes, such as lakes Ōhau, Pūkaki and Tekapō, are excellent for most measures of water quality and ecosystem health, though glacial flour can reduce water clarity.[8] Groundwater quality in the deep aquifers around Christchurch is excellent and meets standards for human drinking water. This is the source of municipal supply for Christchurch and surrounding towns.

Much of the region, however, is experiencing declining water quality and ecosystem health, particularly among lowland streams, rivers and lakes. Water quality is closely linked to the diffuse discharges associated with urban development and intensive agriculture.

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5 Environment Canterbury. 2015. *Canterbury Water Management Strategy Targets: Progress Report June 2015*. Retrieved from www.ecan.govt.nz/document/download/?uri=2354405 (10 July 2017).

6 Land, Air, Water Aotearoa. No date. *Canterbury region: Water Quantity*. Retrieved from www.lawa.org.nz/explore-data/canterbury-region/water-quantity (10 July 2017).

7 Land, Air, Water Aotearoa. No date. *Canterbury region: River quality*. Retrieved from www.lawa.org.nz/explore-data/canterbury-region/river-quality (10 July 2017).

8 Land, Air, Water Aotearoa. No date. *Canterbury region: Lakes*. Retrieved from www.lawa.org.nz/explore-data/canterbury-region/lakes (10 July 2017).

Unconfined aquifers in the hills and plains accumulate high levels of nitrates and other contaminants, resulting in poor water quality in groundwater and spring-fed lowland streams. Moreover, reduced flows in foothill and lowland streams mean there is less water to dilute contaminants and flush algal growth, resulting in further degraded water quality and poor ecological health. The highly erodible hill country soils make clarity and sediment deposition a concern in many foothill streams.

About two-thirds of lowland streams and one-third of lower hill country streams are considered to have poor or very poor ecosystem health.[9] Microbial levels in the lower reaches of many streams and rivers frequently do not meet standards for swimming and other primary contact recreation.[10] Water quality and ecosystem health in lowland and coastal lakes are also often degraded with elevated levels of nutrients, poor water clarity and frequent toxic algal blooms. Te Waihora/Lake Ellesmere and Wairewa/Lake Forsyth are both severely degraded and routinely have blooms of toxic algae.

[9] Environment Canterbury. 2015. *Canterbury Water Management Strategy Targets: Progress Report June 2015*. Retrieved from www.ecan.govt.nz/document/download/?uri=2354405 (10 July 2017).

[10] Environment Canterbury. 2016. *Water Quality Monitoring for Contact Recreation: Summary of the 2015–2016 Season*. Retrieved from www.ecan.govt.nz/document/download?uri=3060272 (10 July 2017).

Review methodology

The information and analysis contained in this report are based on evidence collected from a questionnaire completed by Environment Canterbury (ECan), 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 a certified hearings commissioners with more than 30 years of experience in freshwater management.

The review team conducted a series of panel discussions with ECan executives and appointed commissioners[11] and senior ECan staff. Panel discussions were also held with members of multiple zone committees (see discussion below), including rūnanga and stakeholder representatives as well as some stakeholders who were not committee members. 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.

Stakeholder and tāngata whenua representatives did not necessarily speak with mandate as official representatives of their iwi, rūnanga or organisation nor are they presumed to represent all in their wider communities. They were, however, primary sources with direct experience of ECan'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 ECan, iwi and hapū or stakeholders in this region have been omitted from this chapter.

[11] Note that the review discussions were held before the local government elections in 2016, in which ECan transitioned to a mixed model of governance with seven elected and six appointed councillors.

Regional context for freshwater management

It important to note that ECan has a different governance structure from other councils. A 2010 review identified resource management performance issues with the regional council. The review led to the passing of the Environment Canterbury (Temporary Commissioners and Improved Water Management) Act 2010 (the ECan Act 2010).

The Act made two important changes to regional governance in Canterbury. First, the Act replaced the elected members of ECan with seven commissioners to act as ECan's governing body. Second, the Act provided the commissioners with modified powers to address issues relevant to the efficient, effective and sustainable management of fresh water in the Canterbury region. Notably, the public's right to appeal to the Environment Court against certain resource management decisions was restricted and appeals to the High Court were limited to points of law. ECan staff report this feature of the Act has allowed the Council to maintain momentum from planning into implementation without getting bogged down in years of litigation. They credited strong leadership from the commissioners with driving the rapid pace of work.

The provisions of the Act were extended by an amendment Act in 2013, allowing the commissioners to continue their work until the 2016 local authority elections. The Environment Canterbury (Transitional Governance Arrangements) Act 2016 (2016 Act) established a mixed model governing body comprising seven elected and six appointed councillors, and this arrangement will continue until the 2019 local authority elections.[12]

Existing plans

Developed through an extended process of stakeholder engagement, public consultation and collaboration with sector groups, the Canterbury Water Management Strategy (CWMS) set out a framework for freshwater management based on collaboration. Its principles have been given statutory weight by the Environment Canterbury Act 2010, and, although initiated before the release of the National Policy Statement for Freshwater Management (NPS-FM) 2011, many of its requirements align with those of the NPS-FM. The CWMS sets 10 targets for fresh water and is implemented by ECan through 10 zone committees (facilitated collaborative groups) across the region.[13, 14] The zone committees developed zone implementation plans (ZIPs), which outline the actions, responsibilities and timeframes to achieve the principles and goals set out in the CWMS. The regional council and relevant territorial authorities in each zone are expected to give effect to regulatory aspects of the ZIPs in their plans. Each committee has a set of immediate goals as well as milestones to be met by 2015, 2020 and 2040.

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12 Following the 2016 Act, both elected and appointed members of council are referred to as councillors.

13 The 10 targets relate to ecosystem health and biodiversity, natural character of braided rivers, kaitiakitanga, drinking water, recreational and amenity opportunities, water-use efficiency, irrigated land area, energy security and efficiency, indicators of regional and national economies, and environmental limits.

14 The 10 zones are: Ashburton, Banks Peninsula, Christchurch–West Melton, Hurunui–Waiau, Kaikōura, Lower Waitaki–South Coastal Canterbury, Ōrarī–Temuka–Ōpihi–Pareora, Selwyn–Waihora, Upper Waitaki, and Waimakariri.

The Canterbury Land and Water Regional Plan (LWRP) established provisions for land and water management at the regional scale. Though notified in 2012 after the original NPS-FM was released, it was largely developed before the NPS-FM.

The LWRP classifies three nutrient allocation zones and sets water quality objectives for each zone.

- Red zones: Water quality objectives are not being met (over allocated). ECan is implementing targets and methods to improve freshwater quality.
- Orange zones: Water quality is 'at risk' (of over allocation). ECan is establishing methods to avoid over allocation and improve freshwater quality.
- Green zones: Water quality objectives are being met (not over allocated). ECan is working to maintain overall freshwater quality.

Water Conservation Orders are in place for Te Waihora/Lake Ellesmere and the Rākaia, Ahuriri and Rangitata rivers.

Iwi and hapū context

Te Rūnanga o Ngāi Tahu (TRONT) is the mandated iwi authority representing tāngata whenua in the region. The Act establishing TRONT also set out the boundaries of the 18 Papatipu Rūnanga of Ngāi Tahu, 10 of which have signed a relationship agreement with ECan.

Co-governance and co-management agreements

Rūnanga are represented on all zone committees and are an essential and valued part of the collaborative planning process. To support the zone committee rūnanga representation, ECan employs two tāngata whenua facilitators to ensure key issues for the rūnanga are robustly discussed in zone meetings and agreed solutions integrated into zone documentation. A TRONT representative sits on the regional water committee.

Iwi management plans

Four iwi management plans are in place under the Resource Management Act 1991 (RMA) in Canterbury:

- North Canterbury – Te Poha o Tohu Raumati
- Mid Canterbury/Mahaanui Kurataiao Ltd
- South Canterbury/Kāi Tahu ki Otago Ltd
- Canterbury wide.

Treaty of Waitangi settlements

In 1997, Ngāi Tahu signed a Deed of Settlement with the Crown that provided compensation valued at $170 million. The settlement also confirmed Ngāi Tahu's ownership of pounamu, granted certain rights to sites of significance and allowed them some role in managing conservation estate resources within their boundaries. In addition, Ngāi Tahu's sacred maunga (mountain), Aoraki/Mount Cook, was symbolically returned to the tribe and later gifted back to the nation. The settlement has enabled Ngāi Tahu to develop capacity and capability for involvement beyond that of many other iwi.

Approach to implementing the NPS-FM

Progressive implementation programme

ECan notified a progressive implementation programme to implement the NPS-FM by the end of 2023/24. Building on the existing framework under the CWMS, the zone committees were also tasked with making recommendations to ECan on objectives and limits required under the NPS-FM. To accomplish this, the zone committees are preparing addendums to their ZIPs that establish limits for quality and quantity, rules for allocation, methods and timelines to phase out over allocation and any other required provisions not already included in the original ZIP.

At the regional scale, ECan introduced Plan Change 4 (Omnibus) to the LWRP to add new provisions to protect drinking water supply, habitats and braided river beds, and to control stormwater discharges. Following a series of appeals, the plan became operative in March 2017.

In addition, Part A of Plan Change 5 (Nutrient Management and Waitaki) to the LWRP, which was notified in February 2016, adds region-wide interim provisions related to the effects of land use and diffuse discharges on water quality. Under these provisions, farmers would be required to register their activities through an online portal, calculate their baseline nutrient losses using OVERSEER®, develop a management plan and follow industry-agreed good management practices. Those farms requiring consents must prepare and implement audited farm environment plans. These provisions apply until superseded by sub-regional plans. The decisions version of the plan change was notified in late June 2017. At the time of writing, the appeals period was still open.

Environment Canterbury's notified programme for implementing the NPS-FM

Stages		Notification by
1	Wairewa/Lake Forsyth catchment	2015
2	Waitaki sub-region (water quality only)	2016
3	Ōrarī–Ōpihi–Pareora sub-region	2017/18
4	Waimakariri–Ashley sub-region	2017/18
5	Hurunui–Waiau sub-region	2018/19
6	Ashburton–Rākaia sub-region	2019/20
7	Kaikōura sub-region	2019/20
8	Christchurch–West Melton sub-region	2020/21
9	Waitaki sub-region (water quantity only)	2023/24
10	All other areas in the region, including areas to which previous plan changes apply but where further amendments are necessary	2023/24

National context

Because the ECan Act 2010 explicitly directed commissioners to focus on improving freshwater management in the region and the CWMS was nearly complete, fresh water was already a priority before the release of the NPS-FM in 2011. Moreover, the approach laid out in the

CWMS largely aligned with NPS-FM requirements. However, a number of ZIPs had already been drafted before the NPS-FM 2011 took effect and all were complete before the NPS-FM 2014, necessitating ZIP addendums to ensure compliance with the new requirements.

ECan staff note that what seem to the Ministry to be small changes to the NPS-FM have sometimes meant the Council and zone committees have had to redo work, sometimes simply to align terminology, and many feel this realignment has made little practical difference to water management. This can exhaust people, frustrate the community and undermine buy-in.

ECan questioned how to innovate and adapt in the current regulatory framework. It questioned whether writing plans was the most effective way to make changes and argued that planning can distract and draw resources away from other, more effective options. It would prefer to focus on outcomes and then determine the best means to reach those outcomes rather than being forced to focus on setting limits or rules in plans. ECan raised the example of Kaikōura, which it reports is making practical progress, without yet having a plan, by using tools such as farm plans and nutrient budgeting. Some zone committee members agreed, with one speculating that, had the time and resource costs of the plan change and process been spent on riparian planting, sediment mitigation or other practical projects, environmental outcomes may have been better overall.

Progress in sub-regional zones

In addition to changes made at the regional scale, a number of changes have been made to the LWRP to give effect to ZIPS.

ASHBURTON

The Ashburton Zone Committee completed a ZIP in November 2011 and a ZIP addendum in 2014.

ECan developed Plan Change 2 (Hinds/Hekeao Plains Area) to the LWRP based on the ZIP recommendations, and it was notified in 2014 (as Proposed Variation 2). Plan Change 2 proposes a variety of provisions for water quality and quantity including nutrient limits and minimum flows.

Three High Court appeals were lodged on Plan Change 2, two of which are still in progress. The plan change will become fully operative once these have been resolved.

BANKS PENINSULA

The Banks Peninsula Zone Committee completed a ZIP in 2012 and a ZIP addendum in 2014. ECan developed the recommendations into Plan Change 6 (Wairewa/Lake Forsyth) to the LWRP. Plan Change 6 was made operative in February 2017 and is now being implemented.

CHRISTCHURCH–WEST MELTON

The Christchurch–West Melton Zone Committee completed a ZIP in 2013 but has not yet completed an addendum.

HURUNUI–WAIAU

The Hurunui–Waiau Zone Committee completed a ZIP in 2011 and is currently developing a ZIP addendum. It intends to complete the addendum by the end of 2018, and ECan intends to notify a plan change to the Hurunui Waiau River Regional Plan in mid-2019.

KAIKŌURA

The Kaikōura Zone Committee completed a ZIP in 2012. It has not yet completed a ZIP addendum.

LOWER WAITAKI–SOUTH COASTAL CANTERBURY

The Waitaki Catchment Water Allocation Regional Plan addresses water quantity allocation in the upper and lower Waitaki areas. Changes to the plan are fully operative and ECan has begun implementation.

Plan Change 5 (Nutrient Management and Waitaki) to the LWRP includes both regional rules for nutrient management and specific water quality provisions for the upper and lower Waitaki. Plan Change 5 was notified in February 2016. The plan change became operative in June 2017.

Plan Change 3 (South Coastal Canterbury) to the LWRP was notified in 2015 (as Plan Variation 3) and decisions announced in October 2016.

ŌRARĪ–TEMUKA–ŌPIHI–PAREORA

The Ōrarī–Temuka–Ōpihi–Pareora Zone Committee completed a ZIP in 2012 and is currently developing a ZIP addendum. The Committee is holding public workshops to get feedback on different management scenarios with the community. The Zone Committee intends to complete the addendum by the end of 2017 and a plan change is scheduled for 2018.

SELWYN–TE WAIHORA

The Selwyn–Te Waihora Zone Committee completed a ZIP in 2011 and an addendum to the ZIP in 2013.

ECan developed Plan Change 1 (Selwyn–Te Waihora) to the LWRP to address the Te Waihora/ Lake Ellesmere catchment, including parts of the Banks Peninsula and Christchurch–West Melton zones but not including the entire Selwyn–Te Waihora zone. It established new policies, limits and rules for both water quantity and quality. Under the new rules, most farms have required consents from the start of 2017 and will be required to reduce nitrogen losses by 2020.

The Selwyn–Te Waihora Plan change was made operative in February 2016 and is now being implemented.

UPPER WAITAKI

The Waitaki Catchment Water Allocation Regional Plan addresses water quantity allocation in the upper and lower Waitaki areas. Changes to the plan are fully operative and ECan has begun implementation.

Plan Change 5 (Nutrient Management and Waitaki) to the LWRP includes both regional rules for nutrient management and water quality provisions for the upper and lower Waitaki. Plan Change 5 was notified in February 2016. Hearings have been completed and a decision is expected mid-2017.

WAIMAKARIRI

The Waimakariri Zone Committee completed a ZIP in 2011 and is currently developing a ZIP addendum. The Committee is holding public workshops to get feedback on different management scenarios with the community. The Zone Committee intends to complete the addendum by the end of 2017 and a plan change is scheduled for 2018.

Achieving the objectives of the NPS-FM

Setting freshwater management units

Although not explicitly identified as Freshwater Management Units (FMUs), the 10 zones manage fresh water at a scale that is roughly equivalent to requirements in the NPS-FM. ECan chose each zone to be large enough to enable the management of abstraction from surface and groundwater systems to be integrated with the management of the irrigated areas where the water is used. The zone areas are also small enough to avoid becoming remote from local catchment issues or allowing people from outside the relevant area to have a say in matters that are not directly related to their interests.

In addition to the 10 zones identified above, ECan has also identified FMUs covering all freshwater bodies in:

- the Upper Waitaki zone (one FMU) through Plan Change 5 to the Land and Water Regional Plan and the part of the Lower Waitaki zone that Plan Change 5 applies to. There are three FMUs in that part of the Lower Waitaki zone.
- the Wairewa/Lake Forsyth catchment, which is the part of the Banks Peninsula zone to which Plan Change 6 applies (one FMU).

ECan noted that while the process used to develop the plan change programme was intended to achieve specified economic, social, environmental and cultural outcomes, it occurred before the NPS-FM 2014 and, therefore, did not explicitly give consideration to the list of national values that were added in that version of the NPS-FM.

Value and objectives

As noted above, each of the nutrient management zones designated in the LWRP has specific water quality objectives. In addition, the zone committees establish values and objectives specific to their catchments and communities in the ZIPs, including the designation of outstanding freshwater bodies for protection. When made operative in plans, these sub-regional values and objectives supersede the regional defaults.

ECan staff noted that the ongoing programme of sub-region plan changes provides communities with opportunities to review which water bodies have significant values requiring protection and what those protections might look like. This means decisions are supported by information about the positive or negative impact of such protections on development opportunities in the zone.

ECan has also protected wetlands at the catchment level in areas known to have significant biodiversity, cultural or other values. Further tailored solutions may be proposed to protect specific wetlands through upcoming sub-region processes. Staff consider that ECan has achieved the intent of the NPS-FM by identifying values and objectives for fresh water in the first three sub-region plan changes to the LWRP. However, it has included a stage in its progressive implementation programme enabling it to revisit the areas covered by the first three sub-region plan changes, to ensure full effect is given to this and other NPS-FM policies in those areas.

Limit setting and allocation

Plan Change 5 to the LWRP establishes regional default water quality provisions, including limits on point-source discharges, instream concentrations and rules for a range of activities and land uses to avoid over allocation. These include rules that restrict nitrogen losses from farming activities and that require farm environment plans to control losses of other contaminants. The plan change also sets default minimum flows and allocation limits to manage water quantity.

As with values and objectives, limits and rules in sub-regional sections of the LWRP or specific sub-regional plans supersede the regional defaults. At the time of the review, five sub-regional plan changes have established instream concentration limits. The Selwyn–Te Waihora, South Coastal Canterbury and Waitaki Sub-region Plan Changes also set nitrogen load limits. Four of the five sub-region plan changes to date also established locally specific environmental flows and/or levels (the exception being the Waitaki sub-region where water quantity is managed under the Waitaki Catchment Water Allocation Regional Plan).

Groundwater allocation limits have been established for all the major aquifers in Canterbury through sub-region sections of the LWRP. A number of catchment level plans set environmental flow and/or level limits and allocation limits, and provide rules to manage to those limits.

Integrated management

The CWMS was intended as a guiding document for water management in the region. It established an integrated planning approach through the LWRP that recognises and manages the relationship between land use and water quality. Integration between regional and territorial planning is achieved through the zone committees and the direction of the ZIPs.

Committee views

Stakeholders we spoke to were largely positive about the approach that ECan had taken through the CWMS and zone committees. However, some zone committee members felt that ECan's interpretation of the NPS-FM and approach to limits was predetermined. Planners had already made a philosophical decision about how to interpret nitrogen allocation, which they believed shaped the entire process. They believe that, had ECan approached the committee with a blank slate, the result may have been quite different.

Some stakeholders were concerned that recommendations for allocation and limit setting made four-to-five years ago now seem imperfect given current knowledge. They felt that their recommendations generally addressed the right issues but would likely look different if written today, given the better understanding of the implementation process and the availability of improved scientific data.

Committee members noted that it was relatively easy to agree on values because they were widely shared. The difficulty came when trying to understand and debate rules and limits. They considered that limits dominated the conversations rather than focusing on the best means to reach outcomes.

Stakeholders from primary sector organisations felt that the RMA and NPS-FM drive the focus on plan changes and regulation, which are long and expensive processes. They felt that the discussion should be about good management practices for farms and improving quality

overall rather than focusing narrowly on nitrogen loss numbers. It was felt that, before the NPS-FM, people were getting on with riparian planting and fencing but are now just focused on limit numbers and nothing else. There was also concern that a narrow focus on limit numbers would create additional costs in terms of farm plans and monitoring.

Generators felt that physical infrastructure was being undervalued in zone committee discussions, compared with ecological values and environmental enhancement.

Community engagement

Engagement strategy

ECan's engagement with the Canterbury region community is based on the use of the collaborative zone committees as described above. The planning structure approach chosen reflects ECan's stated emphasis on collaborating with the community.

Zone committee collaboration

The zone committees are joint collaborative committees of ECan and relevant territorial authorities (TAs). They are each composed of one ECan councillor,[15] one elected councillor from each TA in the zone, and rūnanga and community representatives. Members are appointed for three years and meet every few weeks to gather information about water in their zone and to reach a consensus on a water management programme. The zone committees are supported by a regional freshwater committee that considers regional issues of environmental restoration and repair; land use impacts on water quality; as well as water storage, distribution and efficiency options. ECan reports that its staff work closely with zone committees and provide the scientific information required to enable them to make informed recommendations. Zone committees are required to seek feedback and opinions from stakeholders and the community to ensure all interests are represented.

The zone committees make recommendations via the ZIPs but have no direct decision-making power. ECan and the relevant TAs are expected to give effect to the ZIPs in their plans. The ZIPs also recommend significant non-regulatory work programmes and goals to be accomplished by industry, community groups, the Department of Conservation or others. For example, the Banks Peninsula ZIP comprises 10 chapters, each with up to 20 recommendations.

Committee member views

The zone committee members we spoke with were largely positive about the process and ECan's willingness to reflect their recommendations. Stakeholders felt that collaboration has benefits in terms of working through issues before plan development, but there were concerns about substituting a plan development process decided by collaborative groups with a good statutory process where people can represent themselves. The concern applies particularly to zones where sector participation is limited to public meetings. One industry stakeholder was concerned that they cannot participate formally in the collaborative groups because they do not live in the zone; however, they were able to attend public meetings and speak without being a member.

Another stakeholder representing primary sector groups was concerned that ECan was doing too much at once, with too many zones and zone committees. They felt that participants cannot sustain this level of involvement for long.

[15] Before the 2016 Act, ECan was represented by a commissioner on each zone committee.

Stakeholders also noted a real need to make sure that there are discussions and collaboration happening between the zone committee and the communities that members are intended to represent – not just within the zone committee. Some representatives were concerned that, without having been present through the process, their communities would not understand how decisions came to be made. They see a risk that their communities will not support the decisions made on their behalf.

Engaging with iwi and hapū

ECan staff reported that, since the inception of the CWMS, considerable efforts have been made to involve iwi better, in particular, the relevant Ngāi Tahu rūnanga, in the management of Canterbury's freshwater and other resources. In 2012, ECan entered into a 'Tuia Relationship Agreement' with 10 Papatipu Rūnanga,[16] which provides for rūnanga appointees on all zone committees and Papatipu Rūnanga and a TRONT appointee on the regional water committee. The agreement also requires kaitiakitanga targets in the CWMS. ECan also recognised the particular cultural significance of Te Waihora/Lake Ellesmere by entering into the 'Te Waihora Co-Governance Agreement' with TRONT and the Selwyn District Council. Having clarity of boundaries, expectations and roles has helped Ngāi Tahu and ECan work together well on many issues in the region. ECan noted that its commitment is reflected in the resourcing of the Tuia team within Council.

For sub-region processes, tāngata whenua values and interests are initially reflected in the package of solutions developed by the zone committee, the ZIP addendum. The package is intended to achieve outcomes across all four CWMS well-beings including cultural outcomes.

The Ngāi Tahu representatives spoken to were supportive of the relationship with ECan and the zone committees, with one zone committee member saying they had no doubts that rūnanga views would be included in the committee's recommendations. Stakeholder members of the zone committees strongly supported rūnanga involvement and affirmed their commitment to reflecting tāngata whenua values.

[16] Rūnanga represented include Ngāi Tūāhuriri (Tuahiwi), Te Taumutu (Taumutu), Ngāti Wheke (Rāpaki), Wairewa (Little River), Koukourārata (Port Levy), Ōnuku (Akaroa), Arowhenua (Temuka), Waihao (Waimate), Kaikōura and Moeraki.

Engaging with territorial authorities

Committee views

TAs we spoke with reported that ECan's involvement with them has been reasonably good. Because there are both TA councillors and an ECan councillor in each committee, they have good communication and understanding at that level. TAs appreciated the fact that ECan representatives on the zone committees often attend and present to TA council meetings. TA staff, however, may only attend meetings as technical advisors or secretarial support. For some TAs, this has meant staff have little involvement in the process. As a result, they do not always know what is expected of them and do not always enact the recommendations.

In some cases, participation in the committees is a low priority for the TAs because natural resource issues are seen as more of a regional council responsibility. For smaller councils, capacity may prevent involvement because they may have only one policy planner. This can be compounded where zone boundaries do not align with territorial boundaries. For example, Christchurch City Council has interests in three zones, requiring greater resources to participate.

Plan Change 4 placed a great burden on TAs in relation to stormwater management, and several TAs submitted in opposition to the change. The issues related not to the zone committees but ECan's effort to implement the NPS-FM.

Decision-making

Council decision-making on plan contents

ECan staff noted that, when making a decision on a plan, the ECan commissioners accept that the ZIP reflects what the community wants. If a zone committee can reach consensus, the commissioners will honour that in the planning process. ECan believes that the commitment from the commissioners has empowered local community members and attracted better participation in the zone committee process because community members can see that they have the power to make a difference. ECan credits the community approach with helping people to see the relevance of, and buy into, the plans.

ECan uses independent hearing commissioners – rather than the ECan commissioners – to judge the resulting statutory RMA plan developed from the ZIP addendum. The zone committee also presents at the plan hearings to show its process. ECan acknowledges that there is a risk at that stage that the hearings commissioners' decisions will not reflect what the community wanted and this has happened, but it has not been a major issue. The hearings panels have shown that they value the level of community involvement when making their decisions.

ECan staff and commissioners believe that collaboration has helped communities to accept that there are problems and something needs to be done where previously they would have denied a problem existed. ECan credits the use of science as part of the collaborative process as a successful way to achieve better community engagement and understanding. Agreeing on the current state issues during collaboration, it hopes to reduce the risk of a litigious hearings process.

Schedule 1 processes

ECan staff noted that, because of the ECan Act 2010, groups that may have waited to contribute to the planning process until the formal Schedule 1 processes began were encouraged to participate earlier through the zone committees so as not to miss out on the early collaborative opportunities. They noted, however, that some groups do still use the Schedule 1 process to argue issues if they are unhappy with the outcomes of the zone committee process.

The limitation of appeal rights in the ECan Act 2010, to points of law only, was seen as a benefit to completing the Schedule 1 process quickly and avoiding issues of fact being re-litigated unhelpfully during the process.

Committee views

Committee members noted that they were chosen for their skills and diversity of views, but some committee members have withdrawn from the committees due to a belief their views were not being heard.

Some committee members felt that ECan's interpretation of the NPS-FM and approach to limits was predetermined and that they had been led to choose certain options by ECan.

Although a range of options were presented initially, ECan educated them primarily about one option and the others fell away over time. The community members felt overburdened by documents and unable to read everything thoroughly enough to make good choices. It was felt to be a decision by default, resulting in rules that did not necessarily fit the community best. Stakeholders believe that, had ECan approached the committee with a blank slate, the result may have been quite different.

Stakeholders noted that the limits placed on legal challenges by the ECan Act 2010 place a greater responsibility on ECan to get the plan right.

The Waimate Zone Committee members spoken to felt that there were issues in how their recommendations were translated into Plan Change 3 to the Waitaki Catchment Water Allocation Regional Plan. They have made a formal complaint to the ECan commissioners over the issue. They understand that the recommendations must be expressed in planning language, but they questioned whether plan changes actually reflected their decisions and perceived a lack of transparency. For example, the Waimate Zone Committee focused its recommendations on good management practices rather than nutrient loss numbers modelled through OVERSEER®, but the final rules were based around nitrogen loss. In addition, they were frustrated that the final policy makes consents necessary for nearly all farmers.

The committee members felt that ECan planners stopped collaborating or communicating with the Waimate Zone Committee once the recommendations were delivered. Plan Change 1 and Plan Change 2 were felt to be better processes because the Zone Committee members continued to be involved as the plan changes were written.

Capacity and capability for freshwater planning

Council capacity and capability

ECan staff at the ground level were described as fantastic, however, there was concern that higher level staff may not be aware of the trade-offs made by zone committees to reach a given decision. Zone committees felt that staff turnover created issues for the zone committees and forced the community to rebuild relationships and trust.

Committee members noted that ECan is well resourced and benefits from its governance framework for decision-making, but even its staff are stretched. Group members raised concern about ECan not enforcing rules or processing consent applications quickly enough. An example of this is that, while farmers in Orange zones need consents to operate, few had received consents at the time of review.

TA staff noted that participation requires committing significant resources. One TA representative reportedly spent 15 per cent of his time on work related to the zone committee. For small councils, with few planning staff, this can represent a large proportion of the total workload.

Iwi and hapū capacity and capability

Although Ngāi Tahu is well resourced overall, a relatively small number of people from the rūnanga are expected to manage a large workload extending across a variety of resource management issues. ECan has provided training and support to Ngāi Tahu representatives over the past six years. ECan has been helping people work through Making Good Decisions certification and getting representatives on hearings panels.[17]

Rūnanga representatives on the zone committees especially often felt they lacked the capability to keep up with other members. In one case, ECan altered the timing of the plan to allow time for rūnanga representatives to catch up. However, rūnanga representatives learnt during the process and there have not been significant issues with capability in the past two years.

Stakeholder capacity and capability

Capacity and capability to participate in the zone committees is an issue for nearly all stakeholder sectors and communities. The collaborative process is resource hungry, and a lot of time is spent getting group members upskilled in industry operations and resource management, especially those with no experience in plan writing. Even for industry sector groups with paid professional representatives, covering all catchments they operate in for plan development is demanding and not easily resolved by contracting people for this purpose.

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[17] The Making Good Decisions programme is a training and accreditation programme operated by Opus Environmental Training on behalf of the Ministry for the Environment to improve decision-making under the RMA. Accreditation through the programme is required for appointees to RMA hearings panels and encouraged for elected councillors, committee members and others involved in resource management.

Information

Information to support community engagement

ECan provides the zone committees with a wealth of information to support the collaborative decision-making process. The approach for sub-region plan changes is to provide a comprehensive account of the current state of water resources, both quality and quantity, early in the process. This information is publicly available on the ECan website and presented at public meetings in the area. Additional reports and meetings are held to share information on a range of alternative scenarios and outcomes for water management.

Although ECan has good long-term records for many measures, meeting community expectations and statutory requirements now requires a much better understanding of the region. The costs of science and monitoring have increased dramatically, both to measure the current state and to conduct scenario modelling. Information-related expenses have risen from the hundreds of thousands to the millions of dollars per year. Staff felt that having common standards across New Zealand would be helpful to avoid public confusion.

Modelling

As with most councils, ECan uses modelling to inform planning decisions. The use of OVERSEER® has caused concern among some stakeholders because updates to the programme can result in significant changes to modelled nutrient leaching rates.

ECan worked with industry groups (such as Dairy NZ and Federated Farmers) to establish agreed good management practices and individual farm limits that reflect these agreed practices, accessible through ECan's electronic farm portal. Although there has been some pushback on the use of OVERSEER®, it has been accepted by the Environment Court and ECan sees no viable alternatives. It believes its overall approach to limit setting has potential national significance.

Monitoring

At a region-wide level, ECan's extensive State of the Environment monitoring framework includes sites across the region and monitors for a number of attributes, including those in the appendix 2 of the NPS-FM.

ECan reported that the existing monitoring frameworks are being reviewed. At a catchment level, the Waitaki Integrated Monitoring Framework is being developed as a pilot for the region. The framework seeks to consider all monitoring undertaken in the zone (by ECan and others) and to design a framework for assessing progress against the numeric freshwater objectives in the Waitaki Plan Change (Plan Change 5 to the Land and Water Regional Plan), which are fully aligned with appendix 2 of the NPS-FM.

Staff noted that, as much as possible, they have linked the choice of FMU (and plan monitoring requirements) to existing long-term State of the Environment reporting. With reference to the 'pilot' Waitaki Integrated Monitoring Framework, this specifically addresses the different purposes of monitoring, be it at the small scale and as 'trigger' alerts, or for long-term trend analysis against catchment freshwater objectives.

Mātauranga Māori

ECan's close relationship with Ngāi Tahu allows zone committees to include mātauranga Māori in the work of the committees. Cultural assessment and mapping has been undertaken for the major catchments in the region. This is a new area and is challenging for all councils and many stakeholders. When considering sub-regional plans or plan changes, ECan has commissioned tāngata whenua technical reports and ensured that improved RMA section 32A analysis of tāngata whenua values is included. Plan changes also include a mahinga kai freshwater objective. All plan hearing panels have included a member with expertise in tāngata whenua matters.

Data management

ECan has taken steps to improve its consent databases to enable decision-making on applications to avoid over allocation.

ECan already has water quantity accounting systems in place to record consented allocation and actual metered water use data. To account for nutrient discharges, ECan has developed the 'Farm Portal'. Linked to requirements in the Nutrient Management Plan Change (Plan Change 5), farmers will be required to register with the Farm Portal and provide periodic information on their nutrient losses, which will inform future sub-regional plan changes. This has been necessary because the availability of water for allocation has been hotly contested in consenting decisions and because the community needs assurance that ECan is managing within limits.

Committee views

Many stakeholders believed that they were lacking enough economic information for decision-making and that the current section 32 analyses were not satisfactory because staff lack detailed knowledge of farm systems and how they work. There was concern that ECan is not accounting enough for socio-economic impacts.

ECan is seen as having a good understanding of the current environmental state but may have limitations in what it is monitoring. The general consensus is that more information and monitoring will be needed in the future.

Plan implementation

Implementation strategy

ECan has created zone teams to help enable implementation of the sub-regional plans. Rather than having separate centralised offices for engagement, implementation and compliance, staff have been relocated into these integrated zone teams. They accomplish the same roles but are better connected to the community and, therefore, face less pushback. They use staff who can relate to local people, help them get over their fears and educate about what is required. Compliance is considered part of an overall strategy of pushing implementation. Farmers in the community know who is or is not following good practices and pressure their peers directly or push ECan for enforcement.

Staff noted that the zone committees are learning from each other with each ZIP and are building on the experiences of those before. ECan has run internal workshops to share experience in drafting and implementing ZIPs. Committee members and stakeholders are also communicating with each other region to region to share their experiences.

Non-regulatory work programmes

ECan considers that the NPS-FM is only part of its drive for change. Although critical, it sees planning as just one tool that needs to be used alongside others.

ECan sees a misguided expectation among the wider communities that having a plan will bring instant change. Staff felt that communities do not always appreciate the complexity of the issues, the challenge of implementation, the problems of historic long-term consents or the biophysical lag times involved in improving fresh water. Instead, ECan believes that the greatest changes will be made by empowering local communities to act, often through non-regulatory means. It raised examples of irrigation schemes taking up technology to support data and monitoring requirements of scheme consents and for catchment information recording.

Committee views

In some zones, stakeholders felt the management framework may be too complex to implement effectively.

Stakeholders questioned whether efforts were cost effective and correctly prioritised. They noted that the costs of implementing farm plans and monitoring were the same for farms in the Green and Red zones, despite the different levels of risk. Although some farmers may have access to help through irrigation schemes or national bodies, the farm consultants required to develop farm plans cost $5,000 to $6,000. Any money spent on compliance is not going into practical implementation.

Stakeholders also noted that debates about the implementation of plans are causing division within communities. For example, where irrigation schemes manage allocation internally, their directors are often forced to make difficult decisions and get blamed.

Committees report a quantum shift in farming practice over the past three years. They raised examples of farmers engaging in practical implementation work outside of – or in spite of –plan requirements. Farmers embraced the Matrix of Good Management and farm environment plans in theory but were unhappy with the rules being placed on them and the OVERSEER® model. Following the new rules, farmers are only focusing on beating the nitrogen loss numbers.

Stakeholders felt that ECan is taking a relatively high level view of implementation and delegating decisions to the local groups and councils. Some roles and responsibilities are clear, but others are less so. For example, some issues around smaller streams or drains fall into a grey area for implementation.

Conclusions and recommendations

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

- ECan has made great progress towards implementing the NPS-FM and improving freshwater management. Under the direction of the commissioners, ECan has undergone radical changes to become a national leader in many respects. Nonetheless, we believe that areas for improvement remain.
- Although there have been challenges and unintended consequences, ECan's collaborative approach has empowered communities and encouraged better integration between regional and district plans.
- ECan is to be commended for prioritising work in some of the more difficult zones (Selwyn and Te Waihora/Lake Ellesmere). This has thoroughly tested the collaborative process and demonstrated ECan's commitment to its outcomes. It also ensures that progress can be made on those areas with the greatest pressures on water quality and quantity.
- Some TAs noted that they lack the resources to take part in the committee process at a level that allows them to know what is expected of them. TAs and others affected by zone committee decisions need to maintain regular communication to ensure that all affected parties are aware of what is required of them and when decisions need to be implemented.
- Stakeholders expressed concern that their recommendations were not always reflected accurately in plans, or that the trade-offs that had been made to secure a solution were not recognised by hearings commissioners. We recommend that the committees be supported at hearings by all involved so that the hearing commissioners fully appreciate the work underlying recommendations.
- The need to help non-specialist committee members understand complex scientific reports and models has placed ECan's technical staff under a great deal of pressure. The ability to communicate complex scientific concepts to the general public is a new skill for many scientists, and ECan is to be congratulated for training its staff in science communication. The Ministry for the Environment provided workshops on science communication in 2016 and should do so again to reduce the burden on councils.
- Stakeholders we spoke to felt that the Waimate Zone process was lacking sufficient socio-economic analysis and was forced to rely on general lessons from other areas and contexts. We recommend that ECan further develops its ability to model and account for the wider effects of zone committee decisions and recommendations. This will help inform decision-making and avoid unintended consequences.
- The NPS-FM has driven the use of increased scenario modelling and current state measuring. This has contributed to the increase in information-related costs for ECan from hundreds of thousands to millions of dollars per annum. A frequent comment has been that common national standards would help with regional and national conversations.
- ECan's decentralised approach to compliance, monitoring and enforcement is wise, and we believe it will be effective at implementing changes on the ground.