

## Collaborative Planning in Response to Policy Failure: The Case of Freshwater Management in Canterbury, Aotearoa New Zealand

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**ABSTRACT** This article identifies the factors behind a shift to collaborative planning in regional freshwater management. The Canterbury Regional Council, a local government agency in the South Island of Aotearoa New Zealand, was struggling to exercise authority and autonomy over freshwater management in the region during the 1990s and 2000s. The case study explores the regional council's failure to create authoritative policy, which resulted in policy being rewritten and modified through litigation in the courts. In response, the regional council pursued collaborative planning mechanisms, which co-opted competing pro-development and pro-conservation interest groups, for freshwater management in the region.

### KEY MESSAGE

Students will gain insight into the factors that contribute to the adoption of collaborative planning in natural resource management.

### INTRODUCTION

Collaborative planning is a method of natural resource management that has grown in popularity over the past two decades. Collaborative planning engages people constructively across public agencies, governments, and for-profit and non-profit spheres to solve complex problems [1]. Proponents of collaborative planning argue that it eases tensions that arise during the distribution of scarce natural resources, it more effectively incorporates local or traditional knowledge into decision-making, and it increases dialogue and social learning between collaborators [2,3]. But as collaborative planning has become more popular, it has received greater scrutiny. Critics argue that collaborations risk is captured by powerful interest groups and that the policy created is often no better for the environment [4,5]. This article examines why, considering both the risks and rewards of collaborative planning, local governments are choosing to abandon top-down managerialism for bottom-up collaborative community planning.

This article examines collaborative freshwater planning in the Canterbury region of Aotearoa New Zealand's South Island. In the 1990s and 2000s, Canterbury experienced rapid land-use change that affected freshwater quality and quantity. Canterbury contains 23% of New Zealand's agricultural land [6], and in the previous two decades, thousands of hectares of land were converted from dryland farmland to intensively irrigated farmland. In particular, irrigation expanded to increase production on newly converted dairy farms. In 1995, Canterbury was home to only 5.5% of New Zealand's dairy herd. By 2012, Canterbury was home to 18% of New Zealand's dairy herd. [7].

The Resource Management Act (RMA) 1991 directs freshwater policy and planning in New Zealand, and regional councils use this legislation to exercise authority and autonomy over the resource. The RMA instructs regional councils to sustainably manage freshwater by regulating the effects of freshwater use on the environment [8]. New Zealand's central government establishes national standards and objectives for freshwater use, and then regional councils set local rules for resource use through regional policy statements and plans [9]. Regional councils also issue resource consents for freshwater use (equivalent to resource permits). Regional councils

cannot issue resource consents that contravene national standards and objectives or the regional rules set out in policy statements and plans.

Prior to the RMA, New Zealand's natural resource management legislation sanctioned activities in particular areas [10]. By contrast, under the RMA, property owners determine the use of land, with regional councils obliged to measure the effects of this land use on the environment. During the 1990s and 2000s, regional councils received scant guidance on how to exercise its responsibilities under the RMA. For example, national policy direction for freshwater quality did not exist until the publication of the National Policy Statement for Freshwater Management in 2011. For 20 years, regional councils had no national direction to guide the development of their regional policies and plans. During this time, New Zealand's freshwater policy was a bottom-up exercise driven by regional councils without national or international guidance. This contrasts significantly with European freshwater policy that is led top-down from continental scale to basin scale.

This bottom-up policy approach permitted irrigation to flourish in Canterbury, but the growth of irrigation resulted in environmental effects. Irrigation expansion reduced flows in streams and rivers, and intensified agricultural practices contributed to the pollution of freshwater through nutrient losses and microbial growth [11]. These environmental effects led to conflict between pro-development interest groups who supported expanded irrigation, and pro-conservation interest groups who were concerned about the effect of irrigation on Canterbury's freshwater ecosystems [12]. The Canterbury Regional Council was responsible for managing and regulating competing demands for freshwater use in this context. This case study uses the concepts of authority and autonomy to help explain why the Canterbury Regional Council chose to mediate this conflict through collaborative planning rather than other planning processes.

Local government agency authority is defined as "the right or capacity, or both, to have proposals or prescriptions accepted without recourse to persuasion ... or force" [13]. Autonomy is defined as a local government agency having independence from non-governmental groups to set proposals, prescriptions, and/or instructions [14]. If a local government agency has high authority, it can set rules without recourse to persuasion or force, and if a local government agency has high autonomy, it can set rules

with full independence from interest group's influence. I argue that the failure of the Canterbury Regional Council to establish both authority and autonomy over freshwater in the context of interest group conflict, scientific uncertainty, and a national policy vacuum helps explain the subsequent adoption of collaborative planning.

## CASE EXAMINATION

An early test of the Canterbury Regional Council's authority and autonomy was the proposed damming of the Rangitata River in Mid-Canterbury. In late 1999, two irrigation companies applied to the Canterbury Regional Council for resource consent to build a dam on the Rangitata River to provide farmers south of the river with irrigable water. In response, the New Zealand Fish and Game Council applied for a Water Conservation Order (WCO) to be placed on the river. A WCO is a statutory tool that protects freshwater environments in New Zealand. Fish and Game argued that a WCO on the Rangitata River was necessary to protect an outstanding fishery, which would be threatened by a new dam [15]. The WCO application proposed rules for the river's management that:

- restricted damming the river,
- restricted altering the river's unique braided pattern,
- set a total limit on abstraction,
- set minimum flow rates for summer and winter,
- required the maintenance of fish passages [16].

New Zealand's Ministry for the Environment accepted that there was a case to be heard and established a tribunal to decide if the WCO ought to be implemented. Importantly, the tribunal's decision on the WCO legally superseded the Canterbury Regional Council's right to manage the river, so if the WCO was successful, the council would lose decision-making authority over the river's future.

In response, the Canterbury Regional Council released a competing draft management plan for the Rangitata River. The council's draft plan contained similar recommendations to the WCO, such as a ban on damming the river, but the council's plan differed by not placing a limit on abstraction and by proposing a higher minimum flow rate [17]. The council justified these proposals by arguing that an abstraction limit would affect the ability of new irrigators to use the river, while a higher minimum flow rate would protect the river's ecosystem. All interest groups opposed the council's plan. Environmentalists rejected the council's plan because there was no limit to

abstraction. Farmers rejected the council's plan because it banned damming and the reliability of water supply for existing irrigators was threatened by a higher minimum flow rate.

The WCO tribunal proceeded despite the council's competing draft management plan. Submissions in support of the WCO spoke of how the river's fisheries, birdlife, and Māori's cultural history ought to be protected. Submissions against the WCO focused on the economic opportunities provided by a dam. During the tribunal, farmers, Fish and Game, and regional councillors met to discuss an off-river storage compromise. All parties agreed that when the Rangitata River was at high flow, it becomes unsuitable for fishing. They proposed that irrigators ought to be able to abstract water into off-river storage ponds when the river is in high flow [18].

The tribunal concluded that a WCO ought to be implemented on the river with the addition of the off-river storage pond compromise. The council challenged this decision at the Environment Court by claiming that its plan was more suitable for the river [19]. The Environment Court debate was similar to the WCO tribunal with proponents of the WCO citing the ecological effects of damming and opponents of the WCO citing the economic benefits of damming. On the 4<sup>th</sup> of August 2004, the Environment Court concurred with the WCO tribunal and recommended the establishment of a WCO on the Rangitata River, effectively ending the council's policy authority over the river.

## GROUNDWATER ZONING

By the mid-2000s, the Rangitata, Rakaia, and Ahuriri Rivers in Canterbury were protected by WCOs. Responding to the limited availability of surface water, farmers pursued groundwater abstraction as an alternative source or irrigable water. The Canterbury Regional Council noted an increase in groundwater consent applications in 2003 [20]. The council granted 84% of these consents for the maximum allowable period of 35 years [21]. This assured farmer's irrigable water for a generation, however, the growth of groundwater abstractions resulted in fears of over-allocation. The council responded to these fears by imposing limits on groundwater abstraction, which resulted in litigation between farmers and the council.

In 2004, the council split Canterbury into groundwater zones in which each zone received a colour rating based on estimated groundwater use against estimated groundwater

recharge. The council adopted a "conservative approach" when making these estimates, calculating groundwater recharge by tallying 50% land-surface recharge and 15% rainfall in each zone [22]. When the council calculated estimated use against estimated recharge, it was discovered that several zones were over allocated. The council decided on the basis of these calculations that no new groundwater consents should be granted in these zones.

These restrictions affected farmers applying for groundwater consents. Lynton and Pine Grove Dairies challenged the council's decision to reject their groundwater consent applications in the Environment Court [23]. The Environment Court considered several issues including local well drawback, nitrification of groundwater, cumulative effects on groundwater, and the efficiency of the proposed abstraction. The effects on local wells had been negotiated among the farms' neighbours and nitrification effects were considered minor by the court. The court then considered cumulative effects on the groundwater supply. The farmers argued that the deep-well abstractions they proposed would only have a minor effect on the flow of lowland streams. To justify this argument, farmers' used an alternative "stratified" groundwater model to the council's "bathtub" groundwater model. The Council's model predicted an impending crisis in lowland streams because of deep-well abstraction, whereas the alternative model did not. The court concluded that the alternative stratified model was the most plausible representation of groundwater in Canterbury. As a result, the court overturned the council's original decision to decline Lynton and Pine Grove Dairies consent to abstract groundwater.

Following this decision, there were several more legal challenges of the council's groundwater zones, all of which ended in favour of the farmer plaintiffs [24]. The council hired an independent hydrologist to analyse the cases. The hydrologist noted that the council's groundwater model was "suitably conservative," but the model preferred by farmers was more aligned with New Zealand's effects-based resource management legislation than the council's competing model [25].

The Rangitata WCO and groundwater zoning debates are just two examples of difficulties the Canterbury Regional Council experienced in exercising authority and autonomy over freshwater in the 2000s. These two examples highlight the value conflicts and scientific uncertainty present, which fomented ongoing ecological and political

crises in the region. Freshwater ecosystem health was in decline as a result of increased groundwater nitrification and reduced flows in lowland streams [11]. In 2009, the council Chairman lost the confidence of the council, while several councillors were investigated by New Zealand's Auditor-General for conflicts of interest in setting water charges [26]. The Canterbury Regional Council was also the worst performing council in New Zealand in terms of processing resource consent applications within statutory timeframes [6]. Within this context, the council, along with territorial mayors, began crafting a non-statutory collaborative plan for Canterbury's freshwater management. The result was the Canterbury Water Management Strategy (CWMS).

### THE CANTERBURY WATER MANAGEMENT STRATEGY

The CWMS began as the Canterbury Strategic Water Study. The first stage of this study, published in 2002, argued that approximately one million hectares of land could be irrigated in Canterbury but that new infrastructure would need to be built to reach this goal [27]. However, it soon became clear to decision-makers that the social and political implications of new irrigation also needed to be considered. Given this realisation, stage 3 of the Canterbury Strategic Water Study included a steering group of diverse stakeholders who debated the social and political implications of irrigation. The group concluded that irrigation development and environmental protection had to occur simultaneously [28].

The success of this collaborative process prompted its replication for the new Canterbury Water Management Strategy. The CWMS was published in 2009 and advocated new priorities, principles, and targets for Canterbury's freshwater management [29]. Creation of the document occurred in five stages:

- An initial stakeholder and community engagement process was undertaken to develop strategic options,
- Strategic options were defined,
- The community were consulted over preferred strategic options,
- An investigation of the potential outcomes of strategic options,
- A sustainability appraisal of all strategic options [30].

A new steering group comprised of farmers, environmentalists, hydroelectricity representatives, academics, and local Māori oversaw the process and ensured that it remained collaborative throughout. The CWMS proposed that freshwater decisions ought to be made at the appropriate scale, and that regional management of freshwater might not be appropriate for all decisions. To achieve this vision, the CWMS envisioned freshwater management responsibilities dispersed across nested national, regional, and catchment scales. The CWMS also promoted the establishment of further collaborative processes in the form of catchment-based zonal committees.

The CWMS was a non-statutory planning document, and as such the council was not bound to accept its recommendations. The recommendation to split freshwater management responsibilities between national, regional, and local scales would weaken the council's already tenuous authority over freshwater management in the region. And by promoting the inclusion of diverse voices through collaborative catchment management, it was possible that adopting the changes would also threaten the council's autonomy over freshwater decision-making.

Nonetheless, within a year of the CWMS' publication, it influenced new legislation for Canterbury's freshwater management. The Environment Canterbury (Temporary Commissioners and Improved Water Management) Act was passed by New Zealand's Parliament in April 2010. Controversially, the new Act replaced elected regional councillors with appointed commissioners [31]. It also gave these commissioners new powers to enforce moratoria over new freshwater consents, to amend or remove WCOs in the region, and to limit appeals to the Environment Court [32]. The Act also instructed newly appointed commissioners to acknowledge the vision and principles of the CWMS. Farming interest groups were broadly in support of the legislative changes whereas environmental interest groups were broadly opposed [33].

The Act, by giving new commissioners the power to amend or remove WCOs and limit Environment Court appeals, significantly strengthened the council's authority over freshwater management. Recall, WCOs and Environment Court appeals were used by interest groups to pursue their own policy outcomes and stripped the council of significant autonomy during the 2000s. The Act restricted these appeal processes in Canterbury.

**BOX 1.** A timeline of key events in Canterbury’s freshwater politics—1999 to 2010 (Source: Kirk N, Brower A, Duncan R. New public management and collaboration in Canterbury, New Zealand’s freshwater management. *Land Use Policy*. 2017; 65(June 2017): 53–61.)

- 1999 **January**—Canterbury’s water supply at critically low levels as a result of a multi-year drought.  
**December**—Plan to dam the Rangitata River revealed.
- 2000 **January**—Fish and Game propose WCO for the Rangitata River to prevent damming.  
**March**—The Minister for the Environment accepts the WCO application for the Rangitata River.
- 2001 **March**—Fish and Game accuse the Minister for Agriculture of unfairly influencing the Rangitata WCO process.  
**April**—Canterbury enters a period of drought.  
**July**—Fish and Game begin “dirty dairying” advertisement campaign.  
**October**—Rangitata WCO Tribunal hearing begins.
- 2002 **October**—The Minister for the Environment approves WCO for the Rangitata River.  
**November**—The Minister for the Environment approves WCO for Te Waihora Lake Ellesmere. The Environment Canterbury Regional Council formally decided to appeal the WCO for the Rangitata River at the Environment Court.
- 2003 **May**—Fonterra announces the Clean Streams Accord, a voluntary accord which suggests ways dairy farmers can limit their environmental impact.  
**October**—Environment Court hearing into the Rangitata WCO commences.
- 2004 **February**—Lynton Dairy submits application to abstract groundwater.  
**May**—ECRC release groundwater zoning plans.  
**July**—ECRC reject Lynton Dairy’s groundwater consent application. Lynton Dairy decides to appeal decision at the Environment Court.  
**August**—Environment Court recommend WCO for the Rangitata River.
- 2005 **August**—Rivers and groundwater plummet to record levels due to lack of rain over winter. Lynton Dairy Environment Court appeal begins. During the Court hearings, Judge Jeff Smith declares Te Waihora Lake Ellesmere “technically dead” and in “serious ecological condition”.  
**September**—Environment Court overrules ECRC’s decision regarding Lynton Dairy, approving the consent with conditions for ten years.  
**November**—ECRC release report into Canterbury’s groundwater, which suggests aquifer levels are at historic lows.
- 2006 **February**—Drought conditions persist in Canterbury.  
**July**—ECRC announce Restorative Programme for Lowland Streams in which they review 600 groundwater consents.
- 2007 **March**—Independent commissioners overturn ECRC’s decision to reject 69 groundwater consents in the Rakaia–Selwyn groundwater zone.  
**October**—ECRC election results in the appointment of new pro-environment councillors.
- 2008 **September**—Record winter rainfall refills lakes and groundwater.  
**November**—The National party form a new minority government following central government elections.
- 2009 **January**—ECRC release the Canterbury Regional Environment Report, which argues that water is over-abstracted in some catchments.  
**March**—Rumours spread of conflicts of interest within the ECRC council.  
**June**—ECRC demand water metering in groundwater “red zones.” The new National-led government outline supports for water storage in Canterbury.  
**September**—The Canterbury Water Management Strategy is published. ECRC chairman Kerry Burke is replaced. Four councillors receive letters from the Auditor-General stating that they are being investigated for conflicts of interest in setting water charges. Canterbury’s Mayors send letter to the Local Government Minister outlining their concerns with the ECRC’s performance.

### BOX 1. *Continued*

**October**—Review of ECRC ordered by the Local Government and Environment Ministers. The review is led by former Parliamentarian Wyatt Creech.

**December**—Auditor-General clears ECRC councillors of conflict of interest charges.

2010 **February**—Rumours emerge of a new Canterbury Water Authority to replace the ECRC.

**March**—Central government replaces elected ECRC councillors with commissioners given the recommendations of the Creech Report.

**April**—Commissioners given new powers to manage Canterbury's freshwater through the Environment Canterbury (Temporary Commissioners and Improved Water Management) Act. The Act also suspended elections due to take place in 2010.

**June**—Central Government moot funding Central Plains Water Scheme.

**September**—A large earthquake strikes mid-Canterbury damaging local irrigation systems and pipes.

### CONCLUSION

Several factors explain why the Canterbury Regional Council pursued collaborative planning for freshwater in the region. Critically, the council struggled to gain authority and autonomy using a top-down managerial style of policy making whereupon it dictates rules and regulations to its constituents. Examples of this failure include the Rangitata River draft management plan and the groundwater zone restrictions. The failure of these policies encouraged the council to pursue alternative collaborative planning processes.

Second, the council failed to successfully defend policy at the Environment Court, which affected its authority. Policy was determined through litigation in the courts, which proved to be more expensive, disjointed, and antagonistic than collaborative processes. Third, the above mentioned failures occurred within a context of scientific uncertainty and value conflict that allowed political and ecological crises to flourish. These factors, combined with New Zealand's resource consent system struggling to address cumulative environmental effects [34], help explain why the Canterbury Regional Council adopted collaborative planning.

Those involved with creating the CWMS reported enhanced social learning and understanding from working and negotiating with people who hold opposing points of view [35]. As a social process, collaborative planning is an improvement on the litigious and antagonistic process that preceded it. But the ecological and economic success of the collaborative CWMS process is yet to be confirmed.

A recent amendment to the RMA allows councils to use collaborative planning processes to forgo some of the

process requirements of traditional planning mechanisms [36]. These legislative amendments recognise that collaborative planning suits some natural resource contexts better than others. As this case study illustrates, collaborative planning can enhance social learning and understanding in contexts where value conflicts and scientific uncertainty are present.

### CASE STUDY QUESTIONS

1. Why did the Canterbury Regional Council struggle to exercise authority over freshwater management in the 2000s?
2. In your opinion, what are the benefits and drawbacks of collaborative planning?
3. Are the factors that led to the adoption of collaborative planning in this case study applicable to other contexts? For example, collaborative urban planning, or collaborative planning in fisheries management?
4. Should local government agencies include or exclude interest groups in the policy process? Give reasons for your answer.
5. How does the case study change or inform your thinking about water management and collaborative planning in your country, state, or province?

### AUTHOR CONTRIBUTION

The author collected all the data and wrote the entire article.

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## COMPETING INTERESTS

The authors have declared that no competing interests exist.

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