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New Zealand's Approach to Integrated Freshwater Management with a Focus on Indigenous Interests

Prepared by

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Jackie Dingfelder
Wellington, August 2016

Host Agency: Ministry for the Environment

From top left: Benedict Taylor, Manu Graham, Marcia Murray, Taimania Clark, Nicole McCrossin, Sophie Cossen. From bottom left: author, Tania Gerrard, Tracey Black, Lucy Bolton

Author with Tania Gerrard, Director, Iwi Rights and Interests

Academic Mentor: Victoria University of Wellington, School of Government

Author with Elizabeth Eppel (PhD), Academic Mentor from Victoria University, School of Government, Wellington.

EXECUTIVE SUMMARY

Water is the essence of life and vital to the well-being of every person, economy, and ecosystem. But around the world, water challenges are mounting as climate change, population growth, land use intensification, and other drivers of water stress increase. New Zealand, like many countries around the world, is facing greater pressure to manage water resources in the face of competing demands, declining water quality, and in response to climate change. Water availability is also of concern in some parts of New Zealand where water resources have been over-allocated.

This report provides an overview of New Zealand's freshwater reforms since 2009, including efforts to integrate indigenous Māori perspectives into the freshwater planning process. My research goal was to gain a better understanding of New Zealand's institutional arrangements, at both the national and regional levels, for decision making around integrated water management. My research focused on 1) documenting the collaborative planning process undertaken to date at the central government level, including through the Land and Water Forum; 2) researching how the collaborative governance decision-making process is playing out in New Zealand at the catchment level; and 3) assessing the role of Māori (New Zealand's indigenous people) in the collaborative water planning process, including the challenges and resource needs to effectively engage at the regional level.

In order to meet these research goals, I engaged in a three-part research plan that included: (1) an extensive literature and document review; (2) semi-structured interviews with key actors and stakeholders; and (3) the following case studies of regional freshwater planning processes:

1) Waikato River: region with a statutory co-governance framework
2) Gisborne: region with a voluntary joint management agreement
3) Wellington: region with a voluntary joint committee of council and iwi/hapū responsible for the development of the regional policy statement and regional plans

Following the case studies, I provide an example, from the Columbia River Basin in the Northwestern United States, for building indigenous capacity for co-managing natural resources that may offer relevant lessons for New Zealand. Finally, I share observations and recommendations for enabling greater Māori engagement in the regional freshwater planning process.

Based on my research, the following key themes and lessons learned emerged:

- **Governance arrangements matter.** The underlying governance arrangements (including those provided through Treaty settlements) between iwi and regional governments influence how iwi/hapū values and perspectives are reflected in regional plans.

- **Build and maintain quality relationships.** Building strong relationships between iwi/hapū and local authorities is essential. Trust and mutual respect among partners was identified as a key building block to successful freshwater planning and management. Regions with co-governance arrangements with iwi are more likely to lead to high-quality and durable relationships.

- **Foster understanding of different worldviews.** Worldviews are social constructs, implicitly embedded in a culture with individual interpretations as people make sense of their perception of the world. Developing a greater awareness of these different worldviews is a prerequisite to understanding diversity across cultures and within cultures. This is also an important factor for ensuring that freshwater planning processes can maximise the experience and knowledge of participants.

- **Make a genuine investment in building capacity and expanding resources.** Iwi clearly expressed concerns about the need for greater capacity and expanded capabilities to ensure full and effective participation in the freshwater planning process. Additional resources should be targeted to assist in capacity-building efforts.

- **Value of Partnerships.** Although there is no one size fits all strategy to freshwater planning, co-governance arrangements that utilise an equal number of iwi/hapū and council representatives are a favourable approach. The value of partnerships between iwi/hapū and local authorities is integral to successful freshwater planning processes.

Conclusions and Recommendations

New Zealand has an opportunity to serve as a world leader in reconciling management of freshwater resources with indigenous rights. A partnership-based decision-making approach could result in more efficient and ultimately, more effective freshwater outcomes. Recommendations are highlighted below:

- ✓ **Strengthen central government leadership and direction**. Accelerate development and deployment of guidance, training, and high-quality, accessible data on water quality and quantity to ensure communities have the information they need to make informed decisions.

- ✓ **Invest in building local capacity and national-level infrastructure.** Provide sufficient resourcing to build iwi/hapū capacity and skills around freshwater policy processes, science, matauranga Māori, and resource management. Plan for succession to build skilled volunteers and professionals.

- ✓ **Foster understanding and dialogue about different worldviews.** Offer trainings, host "academies," and promote models to build bi-cultural capability for both councils and iwi/hapū.

- ✓ **Promote support tools for collaborative processes.** Bring experts together to develop a compendium of best practices and share lessons learned to expand knowledge and expertise around collaborative decision making.

- ✓ **Leverage limited resources.** Identify and help fund culturally competent consultants and scientific experts to enable greater iwi participation in the freshwater planning and limit setting process.

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INTRODUCTION

> *"Many of the wars this century were about oil, but those of the next century will be over water."*
>
> World Bank Vice President, Dr Ismail Serageldin, 1995

The management of the world's freshwater resources is one of today's most compelling environmental issues. Competing demands for limited water supplies, including population growth, land use changes, intensification of agriculture, and climate change, have placed mounting pressures on existing water resource governance approaches. Western water resource management is delivered through an outdated governance model that is fragmented and top-down. This governance regime typically focuses on managing either water quantity or water quality, often through separate delivery mechanisms by disparate agencies, thus creating a siloed, ineffective approach that fails to manage water in an integrated manner. This governance structure fails to protect or improve water quality and avoid over-allocation often resulting in political conflicts, inefficient uses, and inequitable distribution and impacts.

In public policy terms, water resources management, where scarcity and competing demands for limited resources increasingly dominate, presents a "wicked" public problem. Wicked problems are problems of such scale, persistency, and complexity as to defy solution by a single scale of governance (e.g., national or local government level) or mode (hierarchies, markets or collaboration).[1] Water governance, due to its complexity, interconnectedness, and fragmented governance systems can be characterised as a wicked problem.

Plentiful water is an essential component of New Zealand's identity; it is one of its greatest natural and economic assets. Geographically, water represents a large part of New Zealand's landscape, with 425,000 km of rivers and streams, almost 4,000 lakes larger than one hectare, and approximately 200 aquifers.[2] Economically, water is a huge economic driver for primary industries, electricity generation, and tourism. New Zealand Tourism lauds its clean rivers as part of its popular motto "100% Pure." Spritually, Māori consider water a 'taonga' or treasured possession.

In recent decades, New Zealand, like many other countries around the world, has faced challenges when it comes to managing its freshwater resources. According to the Parliamentary Commissioner for the Environment (PCE), the declining quality of the country's fresh water has become of great concern to many New Zealanders over the past decade.[3] Water quality has been declining in catchments where there is intensification of land use activities such as agriculture and urban sprawl. Availability is also of concern in some parts of New Zealand where water has been over-allocated to private interests and users. Freshwater resources in the populated and intensely farmed areas of New Zealand will soon be fully 'allocated' with limited ability to transfer water. This is exacerbated by increasingly variable weather patterns that have

[1] Russell, Frame, & Lennox (2011), p.13
[2] MfE: *Environment New Zealand Report* (2007), p. 4
[3] PCE Water Quality Report (2015), p. 3

resulted in increased temperatures and higher rainfalls in the west and less rainfall in the north and east.[4] In response to these growing pressures and concerns, New Zealand's Government recognised a need for a more effective freshwater governance framework. In 2009, the Government initiated a comprehensive reform process to update and improve New Zealand's freshwater management programme. In addition, a number of locally or regionally led collaborative-based water planning initiatives started to emerge in response to local pressures about declining water quality and over-allocation.

This report provides an overview of New Zealand's freshwater reform efforts since 2009. It includes the influential collaborative-based work of the Land and Water Forum, and focuses on three case studies on regional freshwater plans to study how Māori (the indigenous people of New Zealand) values are being incorporated into those regional planning processes. To set the scene, I describe the key institutions, stakeholders, and actors shaping and constraining New Zealand's freshwater reform discussions and provide information about the water framework in the State of Oregon, USA. Following the case studies, I highlight a U.S.-based model for natural resource tribal co-management. Finally, I offer observations for enabling Māori engagement in the regional freshwater planning process.

My interest in this study comes from my own experiences in developing and implementing water management plans and policies at the local, regional, and sub-national levels in the United States. By helping reshape the State of Oregon's integrated water policies, I learned first-hand about the challenges of initiating changes to an outdated water management regime. Through that process, I began exploring integrated water governance models globally and learned about New Zealand's integrated approach to freshwater management, including the reform process currently underway. An additional focus was to gain a better understanding of how New Zealand was incorporating Māori values into the freshwater planning process. Through my research and findings, I aim to provide insights for both policy makers and practitioners seeking tools for meaningful freshwater planning and governance.

[4] Royal Society of NZ: *Climate change implications for NZ* (2016), p. 37

1 INTEGRATED WATER RESOURCES MANAGEMENT (IWRM) IN NEW ZEALAND AND THE UNITED STATES

Water governance refers to the process through which government and non-government actors and citizens interact to produce rules, practices, and behaviours through which water is managed and outcomes are achieved.[5]

More specifically, water governance involves:

- deciding who gets what water, when, and how;
- a range of political, social, economic and administrative systems that are in place to develop and manage water;
- water resources, and the delivery of water services, at different levels of society; or
- decision-making processes we follow rather than the operational approaches adopted.[6]

Governing water resources in a holistic, integrated manner is more the exception than the norm. Under most water governance frameworks, water resources are subject to a top-down, command and control approach administered through bureaucratic government "silos." This often results in a fragmented governance system, ill-equipped to respond to increasing pressures from population growth, land use intensification, over-allocation, and climate change. Traditional Western water governance schemes fall short in protecting water quality and optimising existing supplies, resulting in political conflicts, inefficient uses, and inequitable distribution.

To promote more effective management of limited water resources, policy makers have more recently recognised the strong need for an integrated approach to address challenges created by the "silo" effects of existing management regimes. This approach, known as Integrated Water Resources Management (IWRM), emphasises collaboration and cooperation, instead of command and control, and considers multiple viewpoints on how water should be managed. IWRM considers the interconnectedness of water resources (quality and quantity, surface water and groundwater), the interactions between land and water, and the interrelationships with cultural, environmental, social and economic uses of water.

IWRM is a concept that became prominent in the 1990s, and has been promoted by the Global Water Partnership (GWP).[7] GWP defines IWRM as:

> "a process which promotes the coordinated development and management of water, land and related resources, in order to maximise the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems.''[8]

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[5] Eppel (2016), p. 10

[6] Russell et al., (2011), p. 3

[7] Global Water Partnership is a non-profit global action network founded in 1996 to foster integrated water management. GWP focuses on supporting social change processes that further the sustainable management and development of water resources.

[8] Global Water Partnership website, (undated, accessed 3 May 2016)

The goal of IWRM is to reframe water governance to manage water sustainably and holistically. Recognising that water management must balance multiple objectives of diverse interests, the rationale for the IWRM approach has been accepted internationally as a more efficient, equitable, and sustainable management tool for managing water resources and for coping with conflicting demands. IWRM emphasises:

1) that water is a public good or common pool resource (as articulated by Garret Hardin in "The Tragedy of the Commons," the problem of collectively managing shared resources);[9]

2) the need to create a government process that facilitates agreement among wide-ranging stakeholders; and

3) the creation of the public good (water) involving public, private, and non-profit sectors.

The IWRM approach promotes more coordinated development and management of land and water, surface water and groundwater, the river basin and its adjacent coastal and marine environment, and upstream and downstream interests. It is also about reforming human systems to enable people to obtain sustainable and equitable benefits from those resources. For policy-making and planning, taking an IWRM approach requires that:

- water development and management takes into account the various uses of water and the range of people's water needs;
- stakeholders are given a voice in water planning and management;
- policies and priorities consider water resources implications, including the two-way relationship between macroeconomic policies and water development, management, and use;
- water-related decisions made at local and basin levels are along the lines of, or at least do not conflict with, the achievement of broader national objectives; and
- water planning and strategies are incorporated into broader social, economic, and environmental goals.[10]

IWRM also recognises the value of local knowledge and collaborative learning in influencing decision making.[11] Scientific knowledge plays a large role in IWRM; however, local community and indigenous knowledge can help fill the gaps in scientific knowledge used in freshwater management.[12] Presented below is a comparison of IWRM approaches in New Zealand and the State of Oregon, USA.

[9] Hardin (1968)
[10] Global Water Partnership website, op.cit.
[11] Durette & Barcham (2009), p. 4
[12] Ibid.

1.1 New Zealand's Institutional Framework for Freshwater Management (legislation and government institutions)

New Zealand represents one of a limited number of countries that have organised governance institutions around natural catchment boundaries and IWRM principles. According to Davis and Threlfall (p. 87), New Zealand initiated IWRM to address early erosion and flood control problems in its newly colonised lands. As early as 1868, New Zealand began to organise around river basins with the establishment of river boards.[13] Erosion and flood problems in the 1930s led to the 1941 Soils and Rivers Control Act, one of the first pieces of legislation in the world to link land and water resources.[14] Continuing soil erosion problems and land use intensification created the need for more expansive legislation and promulgation of the 1967 Water and Soils Act.[15] This Act introduced water quality as a water management objective and established 20 catchment boards.[16] By the 1980s, New Zealand had a plethora of laws directed at managing the environment, including fresh water.[17]

The Resource Management Act 1991 (RMA), which repealed over 60 Acts and amended more than 150 others, became New Zealand's primary environmental governing legislation.[18] The RMA provides the legal framework for managing freshwater, both quality and quantity. The intent was to create a more sustainable, integrated and holistic regulatory framework that covers air, land, and water. The RMA's emphasis on holistic resource management constitutes a strong foundation for IWRM.[19] At the time of its adoption, the RMA was considered to be a radical approach to planning and environmental management.[20]

The RMA is effects-based legislation that created a framework for management and mitigation of adverse environmental impacts of activities.[21] The resulting governance structure is highly decentralised – with local planning and implementation at the district and regional level – guided by national-level directives (e.g., national policy statements or national environmental standards) that direct and bind local authorities' actions.[22] The RMA was designed on the principle that decision-making is best carried out at the level closest to the resources affected and better enables public participation in resource management decision-making.[23] Consequently, responsibility for water resource management in New Zealand is shared between central government and local governments. Central government legislation on fresh water includes:

- The National Policy Statement on Freshwater Management (NPS-FM 2011 and 2014) incorporating National Objectives Framework (NOF)
- The proposed National Environmental Statement (NES) on Ecological Flows

[13] Davis and Threlfall (2006), p. 87
[14] Ibid., p. 87
[15] Ibid.
[16] Ibid.
[17] Warnock and Baker-Galloway (2015), p. 1
[18] Davis and Threlfall (2006), p. 87
[19] Ibid.
[20] Warnock and Baker-Galloway (2015), p. 1
[21] Davis and Threlfall (2006), p. 88
[22] Warnock and Baker-Galloway (2015), p. 147
[23] Environment Guide website (accessed 29 April 2016)

- Water Conservation Orders (WCOs)[24]
- The Resource Management (Measurement and Reporting of Water Takes) Regulations 2010[25]

Perhaps tellingly for this central/regional government partnership, central government did not put in place the majority of the above-mentioned policy tools for nearly twenty years following passage of the original RMA that enabled them. Prior to this, each regional council established its own policy to give effect to the RMA, with variable results.

Central government now provides overarching directives through legislation and guidance, whereas regional and local councils are responsible for planning and administering most aspects of freshwater management including water quality and water quantity allocation (See Figure 1). In addition, the RMA requires those with statutory functions to take into account the principles of the Treaty of Waitangi (Te Tiriti O Waitangi) between the Crown and Māori.[26]

[24]Water Conservation Orders (WCOs) are a national-level planning tool for recognising and protecting outstanding amenity and intrinsic characteristics of water bodies. Applications are made to the Minister for the Environment, but decisions on applications are made by special tribunals and may be appealed to the Environment Court and High Court. They can prohibit or restrict a regional council issuing new water and discharge permits, although it cannot affect an existing permit until it expires and the applicant applies for a new permit. Regional policy statements, regional plans and district plans are supposed to be consistent with a WCO.

[25] MfE/MPI Report BN-14-01655 (2014), p. 11

[26] RMA s8 (found at www.legislation.govt.nz)

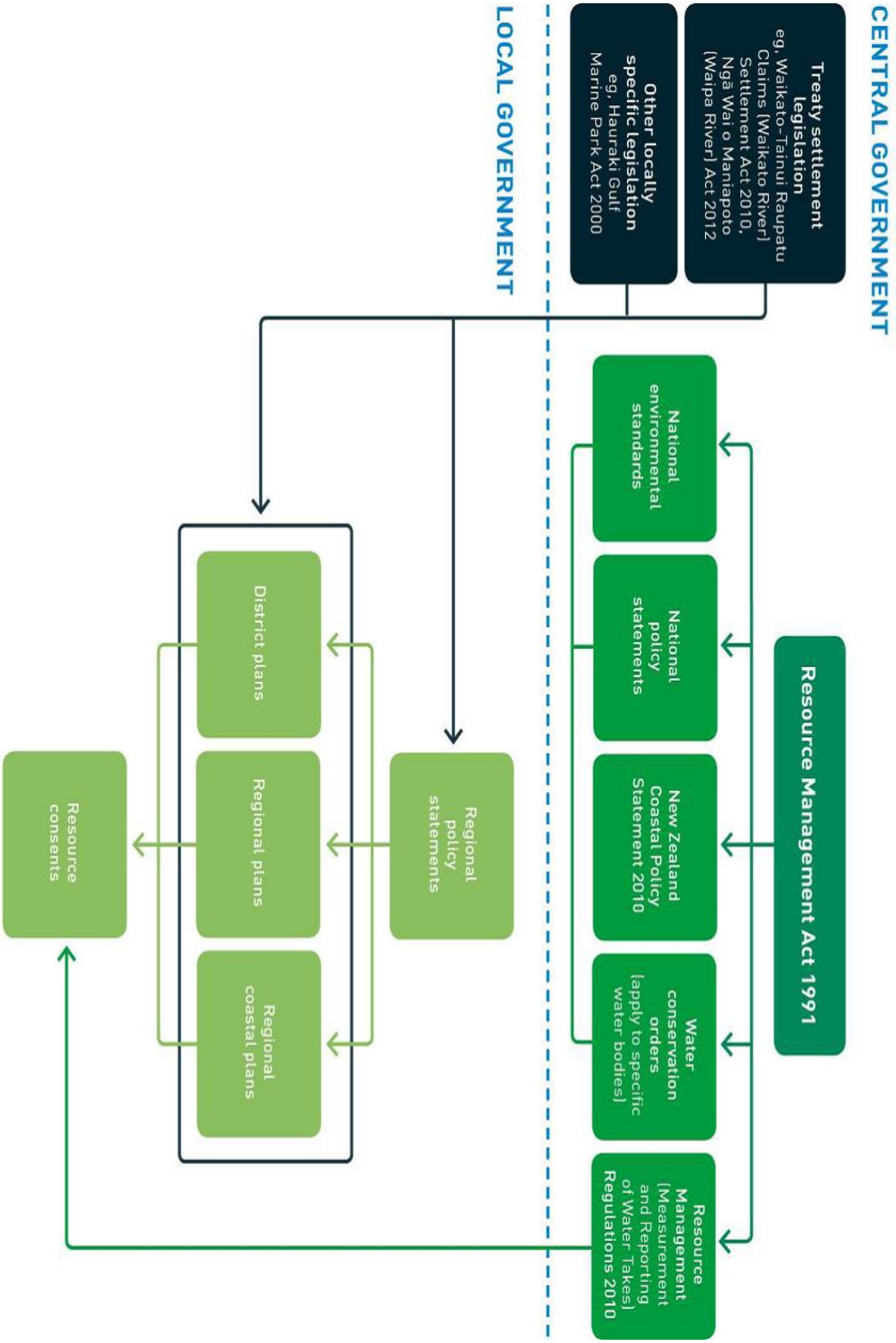

Figure 1. Legislative and regulatory instruments that influence the management of fresh water (*The National Policy Statement for Freshwater Management 2014: A guide for territorial authorities (MfE & MPI 2014)*)

Outlined below are the central and regional government roles in freshwater management.

Central Government Role

Under the RMA, the Minister for the Environment has the authority to promulgate regulations to guide and direct regional councils in their regional freshwater planning process. The Ministry for the Environment (MfE), established under the Environment Act of 1986, serves as the Government's primary adviser on environmental issues and, as the lead agency for freshwater policy development, holds primary responsibility for developing national policy statements and standards.[27] MfE's mission is "*Environmental stewardship for a prosperous New Zealand – tiakina te taiao kia tonui a Aotearoa.*"[28] Since 2009, the Ministry has operated under a collaborative governance model called the Natural Resources Sector (NRS). The NRS serves as a leadership team for central government natural resources policy work, and is led by the Chief Executives of the following government agencies:

- Ministry for the Environment
- Ministry of Business, Innovation and Employment
- Ministry for Primary Industries
- Land Information New Zealand
- Department of Conservation
- Te Puni Kōkiri (Ministry for Māori Development)
- Department of Internal Affairs[29]

The Ministry of Health, although not part of the NRS, holds primary responsibility for setting drinking water standards.

The Parliamentary Commissioner for the Environment (PCE) is an independent officer of parliament, with functions and powers granted by the Environment Act 1986. The PCE's role is to provide members of parliament with independent advice on matters regarding the environment. On freshwater issues, the PCE has issued several reports examining different aspects of the Government's reform process. In November 2013, the PCE issued a report entitled *Water quality in New Zealand: Land use and nutrient pollution* based on extensive research and scientific modelling. In that report, the Commissioner identified a clear link between expanding dairy farming and increasing stress on water quality. Subsequent reports have examined and made recommendations on the Government's 2014 National Policy Statement, and provided updates to the 2013 water quality report.[30]

Another central government player in the freshwater realm is the Environment Court (formally called the Planning Tribunal). Established under the RMA, this special court provides an avenue for citizens to bring an appeal against the local government on environmental decisions.[31] The Environment Court has fairly broad powers as it can make decisions on applications directly referred to it by the applicant (where agreed

[27] MfE website (accessed 29 April 2016)
[28] Ibid.
[29] Ibid.
[30] PCE website (accessed 30 April 2016)
[31] Warnock & Baker-Galloway (2015), p. 50

by the council) and proposals of national significance referred to it by the Minister for the Environment.[32] The Environment Court also involves RMA enforcement and may issue enforcement orders to a citizen or organisation. The Court is made up of environment judges and environment commissioners who possess knowledge and experience in areas such as local government, resource management, environmental science, and the Treaty of Waitangi.[33]

Regional Council Role

As mentioned previously, the RMA created a decentralised planning structure with local plan-making and implementation at the regional and local levels, and legislation and guidance provided nationally. There are 11 regional councils in New Zealand with boundaries broadly coinciding with water catchment areas.[34] In addition, there are six unitary authorities in New Zealand that have combined regional council and district council duties.[35] In regards to water, regional council responsibilities include managing the effects of using freshwater, land, air and coastal waters; developing regional policy statements and the issuing of consents (e.g., for water takes or discharges to water); and managing rivers, mitigating soil erosion and flood control.[36]

Regional Councils must prepare Regional Policy Statements, which set the basic direction for environmental management in the region and 'give effect to'[37] National Policy Statements. Regional and district plans specify which activities are permitted and which activities require a consent. Under the RMA, regional councils and unitary authorities hold jurisdiction to make decisions about consent proposals. They must consider the environmental effects, which as defined in the RMA includes effects on social, economic, and cultural conditions. Decisions are based on policy direction and rules specified in National Policy Statements, National Environmental Standards, Regional Plans, District Plans, and Regional Coastal Plans.

Regional councils and unitary authorities authorise the resource consents[38] for water takes and discharges into water. These consents are processed on a first-in-first-served basis, with the maximum duration of consent being 35 years. Consent-holders can apply to renew their consents on expiry, and currently legislation gives priority to existing consent holders.[39]

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[32] MfE: *An Everyday Guide to the RMA:Guide to Environment Court* (2009), p. 2
[33] Ibid., p. 5
[34] New Zealand Local Government website (accessed 3 May 2016)
[35] Ibid.
[36] New Zealand Local Government *Glossary of Terms* (undated, accessed 28 June 2016)
[37] The words 'give effect to ' are intended to convey that plans should actively implement a higher order plan or policy statement (e.g., a regional policy statement "giving effect' or 'actively implementing a national policy statement). Quality planning website (accessed 16 July 2016)
[38] A resource consent is the authorisation given to certain activities or uses of natural and physical resources required under the RMA s77B(1)
[39] MfE website, *Environment Guide* (accessed 18 July 2016)

1.2 Oregon, USA Institutional Framework for Freshwater Management

Oregon, like many Western states in the USA, has a long history of contention over freshwater management and allocation. By the beginning of the 19th century, allocation of water rights had already created tension among farmers, fishers, ranchers, municipalities, and industry. Due to the arid nature of the region, states in the West were organised under a different water rights framework, called prior appropriation, than the Eastern states riparian approach. Prior appropriation water rights is the legal doctrine that the first person to take a quantity of water from a water source for "beneficial use"— agricultural, industrial or household purposes — has the right to continue to use that quantity of water for that purpose. Prior appropriation functions as a first-in-time, first-in-right priority system in which senior water uses take priority over junior uses. The legendary quote attributed to Mark Twain, "whisky is for drinking; water is for fighting over" rang true.

In 1878, 19th Century explorer John Wesley Powell published a landmark *Report on the Lands of the Arid Region*, which laid out a concrete strategy for settling the West without fighting over scarce water. Unfortunately, the United States government ignored Powell's recommendations to organise the Western states along watershed or catchment boundaries. Powell appears to have been prescient in that he suggested organising settlements around water and watersheds (catchments), which he believed would force water users to conserve scarce water resources. Powell thought this arrangement would also make communities better prepared to deal with attempts to usurp their water. Unfortunately, policy makers ignored Powell's advice and instead, organised Western states by political boundaries that disregarded natural catchment areas. The absence of planning on a catchment scale has posed enormous challenges for managing water resources, especially in the West.

In Oregon, like many Western states, the water resources management framework evolved over time based on a combination of laws, agency policies, administrative rules and regulations, and case law. The complexity of Oregon's current system cannot be overstated, with ten out of thirteen natural resource agencies managing some aspect of water.

In response to fighting over water rights, the Oregon Legislature, in 1909, passed a law declaring water a public resource and requiring a permit for anyone to use it.[40] The Oregon Water Code was established with four general principles that still hold today: (1) water belongs to the public; (2) any right to use it is assigned by the State through a permit system; (3) water use under that permit system follows the "prior appropriation doctrine" -- older water uses are entitled to water before newer uses; and (4) permits may be issued only for beneficial use without waste.[41]

When the Oregon legislature enacted the water code in 1909, the code's provisions pertained only to surface waters, not groundwater. Starting in 1927, the state required permits to use groundwater east of the Cascades (the large mountain range that runs through central Oregon and acts as a precipitation barrier for the eastern part of Oregon), but the Oregon Legislature did not enact a statewide groundwater permitting

[40] Bastasch (2006), p. 54
[41] Ibid., p. 55

code until the Groundwater Act of 1955. In 1975, the Legislature created the Water Policy Review Board and merged the State Engineer's Office with the State Water Resources Board to create the Water Resources Department (OWRD). OWRD, like most institutions, has adapted its mission over time to reflect the changing landscape. Their current mission is to serve the public by practising and promoting responsible water management through two key goals: (1) to directly address Oregon's water supply needs; and (2) restore and protect streamflows and watershed in order to ensure the long-term sustainability of Oregon's ecosystems, economy, and quality of life.

Surface water pollution, especially along the state's major river, the Willamette River, was one of the first environmental issues raised by Oregon's citizens. In 1938, Oregon's first agency focusing on the environment was established: the Oregon State Sanitary Authority. Later, it was charged with cleaning up pollution in the Willamette River, with a focus on point source discharges from industrial and municipal facilities. In 1969, the Oregon Department of Environmental Quality was established and charged with cleaning up and protecting the state's water, land and air. In 1972, the U.S. Congress passed the federal Clean Water Act, stating that public waters should be "fishable and swimmable" by 1985. The law established a water quality permit programme that is managed at the state level. In 1995, DEQ began issuing permits, requiring cities, counties, and sewerage agencies to comply with best management practices to control pollutants in stormwater runoff that ends up in rivers and streams.

A multitude of other state agencies are involved in managing various aspects of Oregon's water resources. Although the DEQ administers the federal and state Clean Water Acts, the Department of Agriculture and Department of Forestry are responsible for managing non-point source water quality from agricultural and forest-related practices, respectively. The Oregon Department of Fish and Wildlife (ODFW) plays a significant role in Oregon's water allocation process, particularly as a commenter on permits and transfer applications when the permits have an impact on fish and wildlife. The Public Health Division of the Oregon Health Authority administers the Safe Drinking Water Act, and the Department of Land Conservation and Development implements the Land Use Programme that is supposed to require that land use policies take into account water availability prior to issuing new development permits. In addition, the Department of State Lands administers the Wetland/fill Programme, and the Parks and Recreation Department administers the state Wild and Scenic Rivers Act.

A very important piece of legislation that affects water resources management in the United States is the Endangered Species Act (ESA), first passed by Congress in 1973. When species are listed as threatened and endangered, government agencies must designate habitat critical for species survival. Because water qualifies as habitat throughout the State of Oregon, the ESA has played an important role in shaping aspects of Oregon's water policies.[42] For example, the ESA has been the main driver for limiting usage of water rights, increasing stream flows, and removing fish passage barriers, which in some cases are major dams. Fish passage must be addressed in locations where fish are currently or were historically present and fish screens are encouraged on all water right diversions. Oregon has been securing water instream to

[42] Bastasch (2006), p. 221

restore stream flows primarily for fish and wildlife and also for recreation and water quality. In these instances, ESA requirements have positively influenced the state government to adopt stronger water management policies to address fisheries requirements.

The ESA also prompted establishment of Oregon's watershed councils previously mentioned. In 1987, the Governor's Watershed Enhancement Board was created to provide lottery-funded state grants for fish habitat-improvement projects. The creation of the Oregon Plan for Salmon and Watersheds, created an entire new community-based, integrated approach to watershed management.

More recently, the State of Oregon developed an Integrated Water Resources Management Strategy (Strategy) based on IWRM principles. The IWRM focuses on four primary objectives:

- understanding Oregon's existing water resources (i.e., water availability, quantity, management (point and non-point sources);
- assessing instream and out-of-stream needs;
- identifying future pressures that affect needs and supplies; and
- meeting Oregon's instream and out-of-stream needs.[43]

A diverse group of stakeholders was convened to assist in development of the Strategy. The Strategy assessed the state of existing water resources management, and the impact of present and future demands on those resources. It recognised that many factors will influence the future availability and use of Oregon's water resources including, but not limited to, climate change, expanding populations, land-use changes, and rising energy costs. Accordingly, the Strategy attempts to address pressures that affect both water quality and quantity needs, and determine how to increase supplies to meet actual instream and out-of-stream demands given the over-appropriation of existing supplies. The Strategy stresses the need to focus on "new" water supplies that can be realised through aggressive water conservation and reuse, along with the more traditional approach of developing water supply storage and development projects. Watershed restoration and fish protection are also recognised as an integral component of Oregon's Strategy. The Strategy is approaching its five-year anniversary with a review and update scheduled for late 2016. Oregon has an opportunity to learn from New Zealand's efforts around cooperative water management policies.

[43] Oregon Water Resources Department website (accessed 29 April 2016)

1.3 Land and Water Forum Collaborative Process in New Zealand

New Zealand's RMA provides the foundation and framework for managing water in a more sustainable and integrated manner. However, the lack of central government involvement and strategic guidance over its first two decades has led to fragmented water policies, with each region producing different water quality regulations and water allocation outcomes. Over those two decades, non-point (diffuse) source pollution from urbanisation, agriculture practices, dairy intensification, and conversion of forest lands has accelerated, thereby degrading freshwater quality in New Zealand's rivers, streams, and lakes. In addition, certain parts of the country face over-allocation of water consents to private users due to competing demands of population growth, irrigation, economic development, and hydropower generation. Politically-charged efforts highlighting non-point source pollution issues (e.g., the "Dirty Dairying" and "Choose Clean Water" campaigns) have raised public awareness and interest about freshwater issues. Litigation challenging resource consents has also become more commonplace, escalating concerns about increasing costs and longer resource consent processing timeframes.

In response to New Zealanders' growing frustration around the lack of progress on freshwater reforms, the Land and Water Forum (LAWF) was formed in 2008 to work collaboratively to improve freshwater management and governance. This collaborative approach was sparked by a small group of influential leaders, concerned about freshwater issues, who had convened at an Environmental Defence Society conference. Guy Salmon, a well-known and widely respected environment advocate, had been observing Scandinavian collaborative approaches to resolve complex and contested environmental issues and suggested that it might be applied in New Zealand in addressing freshwater management.[44] Other NGOs, including the Environmental Defence Society, supported Guy Salmon's suggestion for creating a collaborative forum for developing freshwater policy recommendations. At the same time, the government recognised the need to respond to public demands for action around freshwater management; however, reaching consensus on polarising water issues was challenging. There was a sense that unless a range of interested parties participated actively and directly with each other, conflict and stalemate would persist, with damaging consequences for the environment and economy.[45]

LAWF's structure includes a plenary group of 67 organisations, including five river iwi[46], with a stake in water management. A smaller group consisting of 21 major stakeholders, assisted by central and local government active observers, was established to prepare LAWF reports and to report regularly to the larger plenary

[44] Howard-Williams, Bisley & Taylor (2013), p. 1
[45] Ibid.
[46] Iwi are extended kinship group, tribe, nation, people, nationality, race - often refers to a large group of people descended from a common ancestor and associated with a distinct territory. Hapū are kinship group, clan, tribe, subtribe - section of a large kinship group and the primary political unit in traditional Māori society. It consisted of a number of whānau sharing descent from a common ancestor, usually being named after the ancestor, but sometimes from an important event in the group's history. A number of related hapū usually shared adjacent territories forming a looser tribal federation (iwi). (Maori Dictionary: 16 April 2016)

group on progress.[47] This group includes representatives from agriculture (pastoral and horticulture), iwi, forestry, hydropower, environmental groups, recreationalists, and tourism, and carried out the principle task of formulating consensus.[48] (See Appendix A for the list of member organisations.) LAWF received assistance from New Zealand's academic, scientific, and professional community including scientists, social scientists, economists, and policy specialists. Alastair Bisley, a former foreign trade negotiator with extensive government experience, was selected to chair the Forum.

Mr Bisley characterised LAWF as:

> "*an exercise in collaborative governance – addressing complex and intractable issues by bringing together the principal stakeholders, including from the private sector and civil society, to seek agreement/consensus on a way forward."*[49]

The Ministers for the Environment and for Primary Industries tasked LAWF with conducting a stakeholder-led collaborative process to recommend potential reforms of New Zealand's freshwater management, to identify shared outcomes and goals for fresh water, and develop options to achieve the shared outcomes and goals.[50] It provided them with resources and some staffing to help implement their charge.

To date, LAWF has issued four reports. In its first report, A *Fresh Start for Freshwater,* issued in September 2010, LAWF offered 53 recommendations including setting limits for water quality and quantity; achieving water quality targets; improving water quantity allocation; establishing a National Land and Water Commission on a co-governance basis with iwi/hapū and developing a National Land and Water Strategy; and seeking science and knowledge for water management.[51]

Two subsequent reports, issued in 2012, provided more detailed recommendations on how freshwater objectives and limits should be met, approaches for improving land and water management practices, strategies to address allocation of both water discharges including changes in the resource consenting system and the facilitation of water transfers and trades of both water and discharges, along with detailed recommendations for collaborative processes in freshwater management at the local level.[52]

The Forum's fourth major report, issued in 2015, addressed how to maximise the economic benefits of fresh water while managing within water quality and quantity limits consistent with the National Policy Statement on Freshwater Management 2014. It recommended exclusion of livestock from waterways on plains and lowland hills, and addressed a number of urban water issues.[53] LAWF reached a consensus that market mechanisms could be used both in respect of water transfers and full or over-allocation. In regards to iwi rights and interests in freshwater, LAWF reached

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[47] Communications with LAWF staff
[48] Ibid.
[49] Eppel (2013), p. 4
[50] LAWF, *A Freshstart for Freshwater* (2010), p. 8
[51] Howard-Williams et al., (2013), p. 175
[52] Ibid.
[53] LAWF website (accessed 10 May 2016)

consensus on a suite of recommendations that are discussed in more detail later in this report. The only major issue that LAWF did not reach consensus on was pricing and charging for water.

In regards to shaping New Zealand's national water policy, LAWF has been highly influential in advancing the freshwater reform process. A number of the Government's freshwater reform policies are based on LAWF's recommendations. Through its extensive collaborative process, LAWF, as a group of organisational elites interested in water availability and water quality, has built substantial agreement among national-level stakeholders in crafting recommendations for addressing long-standing fresh water policy issues.

1.4 New Zealand Government's 'Fresh Start' to Water Governance Reform

Soon after the LAWF process started, the Government embarked on a series of reforms known as the 'Fresh Start for Fresh Water' programme.[54] Policy work on the reforms, co-led by the Ministry for the Environment and the Ministry for Primary Industries, is intended to improve the way New Zealand manages its freshwater resources. Although New Zealand's Central Government leads the reforms, it underscores that local communities, through locally-elected councils, are best suited for making decisions about managing fresh water in their region because they take into account local conditions, needs, and aspirations.[55]

As described in the previous section, the Government tasked LAWF in 2009 with developing recommendations for overhauling New Zealand's land and water management scheme. Based on LAWF's recommendations, the Government developed and issued the first National Policy Statement for Freshwater Management in 2011 (NPS-FM 2011). The NPS-FM 2011 identified five matters of national significance: over-allocation of fresh water; contamination of fresh water; loss of wetlands; incomplete integrated management; and protection of wetlands. It directed regional councils to manage water in an integrated manner while providing for economic growth within set water quality and quantity limits.[56]

Specifically, the NPS-FM 2011 mandated that regional councils set freshwater objectives for freshwater bodies that reflect national and local goals, and establish flow, allocation, and water quality limits to ensure those objectives are achieved. It also required councils to ensure that iwi/hapū are involved in freshwater management, and that their values are reflected in decisions about freshwater management.

Prior to the release of the NPS-FM 2011, the Government introduced the Resource Management Regulations (Measurement and Reporting of Water Takes) to collect better information about how much water New Zealanders are using. These regulations apply to about 98 per cent of total national volume of water use authorised through resource consents.[57] Water takes of more than 5 litres per second must have a water meter installed by November 2016.[58]

In 2013, the Government initiated a process to amend the NPS-FM 2011 to improve the freshwater management system, and provide clarity around a number of issues. These reforms are outlined in the March 2013 proposal paper 'Freshwater reform 2013 and beyond.'

The key elements included:

- strengthening national direction through amendments to the National Policy Statement on Freshwater Management to introduce a National Objectives Framework and better water accounting;

[54] MfE (2013), *Freshwater reform 2013 and beyond*, p. 8
[55] Ibid.
[56] Ibid.
[57] MfE (2016), *Next steps for fresh water*, p. 8
[58] Ibid.

- improving scientific and economic information to support community discussions on fresh water; and
- improving the quality of decision-making through collaborative planning.[59]

In 2014, the NPS-FM was amended to adopt the National Objectives Framework (NOF), which established a list of national freshwater values and described attributes associated with them. The NPS amendments were built on recommendations from LAWF, and informed by advice from the Freshwater Iwi Leaders Group[60], the National Objectives Framework Reference Group, and a Science Review Panel.[61]

The NOF sets out numeric values for two national bottom lines (or minimum standards) for ecosystem health and human health and some attributes. It is intended as a decision support tool to assist regional councils on setting freshwater objectives and limits in regional plans.[62] Under the NPS-FM 2014, all councils are required to set quality and quantity objectives and limits for water bodies by 2025 (although some exceptions may apply).

In February 2016, the Government released another consultation document, *Next steps for fresh water*, proposing additional freshwater reforms including the use of a Macroinvertebrate Community Index as a measure for water quality; a phased stock exclusion requirement from waterways; technical efficiencies and development of good management practices for non-point source water pollution; a $100 million freshwater improvement fund; and policies intended to improve iwi/hapū participation in freshwater decision-making. The Minister and MfE consulted at a series of public forums and hui (public meetings hosted by local iwi/hapū) around the country to solicit feedback on the proposed reforms. As of the writing of this report, the Government had not released their proposed amendments; however, it is anticipated that the revised policies will be issued later in 2016.

[59] MfE (2013), *Freshwater reform 2013 and beyond*, p. 8
[60] The Freshwater Iwi Leaders Group was formed in 2007 to advance the interests of all iwi in relation to fresh water through direct engagement with the Crown. The group comprises the leaders of Ngāi Tahu, Whanganui, Waikato-Tainui, Te Arawa and Tūwharetoa and reports regularly to all iwi. (Source: Iwi Chairs Forum: http://iwichairs.maori.nz/our-kaupapa/fresh-water/)
[61] Cabinet Paper: Economic Growth and Infrastructure Committee (28 April 2016)
[62] Ibid., p. 12

1.5 New Zealand Regional Planning and Implementation

As mentioned, New Zealand's regional government framework consists of 11 regional councils and six unitary authorities, who are responsible for planning, implementing, and enforcing policies and programmes around fresh water, land use, soil conservation, air pollution and the coastal marine area. Regarding freshwater management, the RMA gives these regional and unitary authorities the power to assert rules and guidelines for the take, use, damming, and diversion of fresh water.[63]

For the first two decades of the Act's operation, part of the statutory regime that was meant to guide regional councils in freshwater planning and management was absent.[64] This meant that, prior to the promulgation of the first NPS in 2011, each regional council established its own policy to give effect to the RMA with variable results.[65] The NPS-FM was introduced in 2011 to give national direction to regional councils managing freshwater resources. It required that overall water quality must be 'maintained or improved' within a region.[66] It also required that councils adopt water quality and quantity objectives and limits for water bodies by 2025 (or 2030 in certain circumstances) as part of their regional plans.

Before the NPS-FM, almost all regional councils had developed regional plans or proposed plans relating to freshwater. However, it is significant to note that very few councils had established numeric freshwater objectives or limits as part of their plans.[67] Research on reasons for lack of progress revealed that local governments struggled to undertake their water planning functions on account of lack of resources, capacity, and political capability.[68]

The NPS-FM also required councils to involve iwi and hapū in freshwater management. Given that no national direction exists on how this should occur, regions have undertaken varying efforts to address iwi/hapū interests in fresh water. Iwi/hapū role in water governance is still an open question that is being addressed in a variety of ways at the regional and local level. As of the writing of this report, iwi/hapū rights and interests remain in a dynamic state with the Crown, and iwi/hapū leaders are actively involved in deliberations around this issue. The next section provides more information about the role of iwi/hapū in freshwater policy development and the status of Crown/iwi/hapū discussions.

[63] RMA s14(1)
[64] Warnock and Baker-Galloway (2015), p. 147
[65] Eppel (2016), p. 2
[66] MfE (2016), *Next steps for fresh water*, p. 11
[67] MfE/MPI Report BN-14-01655 (2014), p. 12
[68] Memon and Kirk (2011), p. 944

2 IWI AND FRESH WATER

"Ko au te wai, ko te wai ko au… I am the water, the water is me…"
Whakataukī/ Māori Proverb

New Zealand's Resource Management Act created, inter alia, a framework for an integrated approach to freshwater planning. However, the incorporation of Māori perspectives in freshwater planning and implementation poses one of the greatest challenges for effective water management.[69] The Government has publicly acknowledged that iwi and hapū have rights and interests in fresh water; however, the Crown's position is that no-one owns fresh water, and that freshwater resources need to be managed locally on a catchment-by-catchment basis within the national freshwater management framework.

In this section, I set the stage for the following discussion about integration of iwi/hapū values and perspectives in freshwater planning. This includes a brief overview of key statutes and institutions providing a framework in the freshwater space: the Treaty of Waitangi and the Waitangi Tribunal, the Resource Management Act, the Land and Water Forum, and the Crown's engagement with Iwi in the freshwater reform process.

[69] Durette, M. and Barcham, M. (2009), p. 1

2.1 Treaty of Waitangi, Statutory, and Policy Framework

The Treaty of Waitangi (Treaty), signed in 1840 between over 500 Māori rangatira (chiefs) and the British Crown, provides the foundation for the Crown-Māori relationship in New Zealand. The Treaty contains 3 articles that were written in both English and Te Reo Māori. Translation issues have resulted in different interpretations of the two versions of the Treaty,[70] a discrepancy which has underpinned long-lasting conflict between Māori and the Crown. According to the English version, Māori ceded to the Crown absolutely and without reservation all the rights and powers of sovereignty (Article 1) but retained full exclusive and undisturbed possession of their lands and estates, forests, fisheries and other properties (Article 2).[71] Under the Māori language version of the Treaty, Māori ceded only governance to the Crown (Article 1) but confirmed and guaranteed the chiefs 'te tino rangatiratanga' – the exercise of chieftainship – over their lands, villages and 'taonga katoa' – all treasured things.[72] Article 2 granted the Crown a pre-emptive right to deal with Māori over land transactions, and Article 3 granted Māori the same rights and privileges as British citizens living in New Zealand.[73] In regards to fresh water, Māori argue that, under Article 2 of the Treaty, they never ceded ownership or governance rights over water during the process of nineteenth century land sales to settlers; therefore, their customary water rights are still intact.[74]

In the years following the signing of the Treaty, settlers expanded in areas throughout the country, altering New Zealand's landscape by clearing forests and native bush for agriculture production and pastures, draining wetlands, dredging waterways for mining, urban development, and diverting water for drinking water, irrigation, and hydropower schemes. Along with settlement, Māori land was confiscated or purchased, displacing iwi/hapū from their land and nearby rivers, disrupting their sense of place, along with their economic, social, and cultural vitality. After many decades, Māori began organising politically and exerting demands for redress from the Crown for land that was unjustly confiscated or bought without observation of agreed terms of sale.[75] These amends were not fully realised until years later, when in 1975, under the Treaty of Waitangi Act, the New Zealand Government created the Waitangi Tribunal, a legal avenue for Māori to seek redress for Treaty breaches by the Crown.[76] Set up by the Treaty of Waitangi Act 1975, the Waitangi Tribunal is a permanent commission of inquiry that makes recommendations on claims brought by Māori relating to Crown actions which breach the promises made in the Treaty of Waitangi.[77]

The Tribunal's recommendations are mainly non-binding; however, Tribunal reports can assist parties in their settlement negotiations.[78] Rights of individual iwi/hapū vary according to Treaty negotiations that reflect historical, cultural, and geographic

[70] Te Ara: New Zealand Encyclopedia (12 May 2016)
[71] Ruru (2009), p. 49
[72] Ibid.
[73] Ibid.
[74] Memon and Kirk (2011), p. 943
[75] King (2003), p. 325
[76] Te Ara: New Zealand Encyclopedia website (accessed 12 May 2016)
[77] Ministry of Justice, Treaty of Waitangi (accessed 17 May 2006)
[78] Ibid.

features unique to an area.[79] It is important to note that although New Zealand's Treaty settlement process provides redress for grievances, which may include the transfer or returns of land to iwi/hapū within their areas of interest, including the beds of lakes and rivers, water allocation has not been a feature of that process. To date, no iwi/hapū specific water allocation has been promulgated as part of a Treaty settlement; however, over twenty-five co-governance and co-management arrangements have been agreed between the Crown and iwi, including joint committees, statutory boards, regional council committees, and WCOs.[80] The Waikato River settlement, which will be described in more detail later, created a robust co-governance arrangement for freshwater management.

Currently before the Tribunal is the National Freshwater and Geothermal Resources claim (WAI 2358), an important claim in regards to Māori economic rights and interests in fresh water. Under WAI 2358, a claim brought forward by the New Zealand Māori Council in response to the Government's proposal to partially privatise state-owned power-generating enterprises (approximately 75 per cent of New Zealand's energy comes from hydropower and geothermal), the claimants assert that Māori have unrecognised proprietary water rights that should be recognised by the Crown or compensated economically. Māori claim that there is an ongoing breach of their residual proprietary rights, which were guaranteed and protected by the Treaty of Waitangi from 1840 onwards. The inquiry was split into two stages, with the Tribunal finding under stage one:

> "…that the proprietary right guaranteed to hapū and iwi by the Treaty in 1840 was the exclusive right to control access to and use of the water while it was in their rohe[81]. The closest English equivalent in 1840 was ownership; the closest New Zealand law equivalent today is residual property right."[82]

The Tribunal has directed the second stage of WAI 2358 to begin in November 2016. Under stage two, it has stated that it will consider whether the rights found to exist in stage one are adequately recognised and provided for in current and proposed laws and policies (including the freshwater reforms).

To date, the Crown's response to the stage one findings and stage two approach has been to acknowledge that iwi/hapū have rights and interests in freshwater resources[83], albeit not the ownership of the water itself, and to commit to providing appropriate recognition of and developing mechanisms for redress for breaches of those rights and interests. The Crown proposes that the best way forward is to strengthen the role of Māori and their authority in the resource management process, rather than develop a framework for Māori proprietary water rights.

Resource Management Act

Regarding statutory direction for iwi/hapū involvement in freshwater planning and governance, the RMA recognises the primary role accorded Māori under the Treaty of Waitangi.[84] Section 6(e) of Part 2 of the RMA requires that all persons exercising

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[79] Ibid.
[80] MfE/MPI Report BN-14-01655 (2014), p. 40
[81] Boundary, district, region, territory, area, border (of land) (Maori Dictionary: 18 May 2016)
[82] Ministry of Justice, Waitangi Tribunal (17 May 2016)
[83] Wai 2358, #3.3.15, Crown Closing Submissions for Stage One, 20 July 2012, at [10]
[84] Ruru (2009), p. 11

functions and powers in relation to managing the use, development, and protection of natural and physical resources must recognise and provide for matters of national importance, including "the relationship of Māori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga."[85] In addition, Section 7 of the RMA requires that particular regard be given to the role of existing kaitiakitanga[86] (guardianship) over bodies of water. Finally, Section 8 reads:

> "In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development and protection of natural and physical resources, shall take into account the principles of the Treaty of Waitangi." [87]

Iwi management plans, a resource management plan prepared by an iwi, iwi authority, rūnanga, or hapū, can provide an important mechanism for tangata whenua[88] interests to be considered in regional freshwater planning processes. These plans are generally prepared as an expression of rangatiratanga[89] to help iwi and hapū exercise their kaitiaki[90] roles and responsibilities. The RMA describes an iwi management plan as "…a relevant planning document recognised by an iwi authority and lodged with the council." Iwi management plans are a written statement identifying important issues regarding the use of natural and physical resources in their area[91] and must be taken into account when preparing or changing regional policy statements and regional and district plans. [92]The RMA establishes three criteria to be taken into account when making plans; they must be:

- recognised by an iwi authority
- relevant to the resource management issues of the region/district
- lodged with the relevant council(s).[93]

The contents of an iwi management plan will depend on the priorities and preferences of the iwi/hapū preparing the plan. Some plans will address economic, social, political, and cultural issues and aspirations in addition to environmental and resource management issues, and aspirations. These plans are often used by iwi/hapū to express how the sustainable management of natural resources can be achieved based on cultural and spiritual values. More importantly, iwi management plans describe how iwi/hapū expect to be involved in the management, development and protection of natural resources, and outline expectations for engagement and participation in RMA processes. In addition, iwi management plans provide key information to

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[85] RMA s6(e)
[86] RMA 1991 s2(1) defines kaitiakitanga as "The exercise of guardianship by the tangata whenua of an area in accordance with the tikanga Māori in relation to natural and physical resources; and includes the ethic of stewardship.
[87] Ruru (2009), p. 12
[88] Local people, hosts, indigenous people (Maori dictionary: 30 May 2016)
[89] Chieftainship, right to exercise authority, chiefly autonomy, chiefly authority (Maori dictionary: 30 May 2016)
[90] Trustee, minder, guard, custodian, guardian, caregiver, keeper, steward (Maori dictionary: 30 May 2016)
[91] Quality Planning Website (30 May 2016)
[92] RMA s61(2A)(a), 66(2A)(a), & 74(2A)
[93] Ibid.

councils, consent applicants, and consultants to enhance their understanding before they engage with iwi and hapū.[94]

The Land and Water Forum

In the policy arena, the Land and Water Forum has commented on iwi rights and interests in fresh water. The Forum, in line with the views of all participants, has underscored that iwi rights and interests in fresh water could only be resolved between iwi and the Crown.[95] This understanding has not prevented the Forum from making a series of supportive recommendations around the need to address iwi rights and interests. In its first report, LAWF describes the special relationship between iwi and fresh water and iwi aspirations in relation to fresh water and noted that "the transition to any new system of water allocation should proceed hand in hand with Crown-iwi discussions on iwi rights and interests in water management."[96]

In their second report, LAWF made detailed recommendations on how iwi should be enabled to participate throughout the freshwater objective and limit-setting process both as Treaty Partner and as stakeholders.[97] LAWF also proposed that the NPS-FM should acknowledge tangata whenua relationships with fresh water, and connect these to the formal objectives of the NPS-FM set out in a National Objectives Framework.

Under their third report, LAWF recommended allocation processes that were sufficiently flexible to accommodate outcomes from negotiations between iwi and the Crown.[98] LAWF has concluded that there is a full range of mechanisms that can be used to recognise iwi interests in fresh water and that the most attractive pathway forward also enhances the value of existing rights, and includes investment that may generate "headroom" either in respect of takes or of discharges.[99]

LAWF continues to underscore that the transition to a new system of water allocation should proceed simultaneously with iwi-Crown discussions on iwi rights and interests, and that responsibility for resolving this issue rests with the Crown based on the Treaty context. In an opinion editorial from December 2015, LAWF's chair Alastair Bisley stressed that:

> "*we think it is crucial to an enduring freshwater management system that iwi/hapū rights and interests in fresh water should be resolved*."[100]

In conclusion, LAWF's recommendation is that as Treaty partners, the Crown and iwi should reflect on the Forum's statement on iwi rights and interests in fresh water and seek a resolution that strengthens limits, and ensures that any rights provided to iwi sit within the same management framework as rights of other users.[101]

2.2 Converging Worldviews around Fresh Water

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[94] MfE, *Review of the Effectiveness of Iwi/hapū Management Plans*, (2004), p. 25
[95] LAWF, *The Fourth Report of the Land and Water Forum* (2015), p. 29
[96] LAWF, *A Fresh Start for Freshwater* (2010), p. 17 not in refs
[97] LAWF, *The Fourth Report of the Land and Water Forum* (2015), p. 8
[98] Ibid.
[99] Ibid.
[100] Stuff.co.nz (23 May 2016)
[101] LAWF, *The Fourth Report of the Land and Water Forum* (2015), p. 30

Māori view the environment as an interconnected whole, infused with mauri (life force) and connected by whakapapa – the descent of all living things from the original creators of life, and the genealogical relationships between all lives.[102] The life-giving properties of fresh water are important to Māori culture and values in many ways:

- the role of particular freshwater resources in creation stories;
- the roles of those freshwater resources in historical accounts;
- the proximity of settlements and/or historical sites in or adjacent to fresh water;
- the value of fresh-water resources as a source of tribal identity;
- the use of freshwater resources as an economic base for the community;
- the use of fresh water for access or transport routes; and
- continued capacity for future generations to access, use, and treasure.[103]

Each tribal group in the Māori world maintains its own traditions and has strong ties to the environment, especially water, by virtue of whakapapa[104] which derives from Māori creation stories.[105] Māori emphasise the importance of taking an integrated approach to freshwater planning and management (consistent with IWRM principles), along with the inclusion of cultural, intrinsic, and spiritual values as priorities. The Māori worldview (Te Ao Māori) is holistic and stresses the interconnectedness and interdependence of environment, resources, and people.[106] While IWRM has become prominent in the last few decades, Māori have emphasised for generations the importance of considering a catchment in its entirety, a common expression being "Ki uta ki tai" (from the mountains to the sea).; from its source, the passage of waters through a network of tributaries, onto floodplains, to its interface with saltwater estuaries along the coast.[107]

Indigenous knowledge is intricately bound to a particular community and place as well as a way of life.[108] Māori knowledge builds on the practical know-how of multiple preceding generations who have managed their land and water in a relatively sustainable manner across large expanses of time.[109] Thus, their worldview includes a sense of custodial occupation that the environment, including water bodies, should be maintained for future generations.[110]

Under the Western worldview, creation stories emphasise the creator as separate from the world humans inhabit. With the Enlightenment, the rise of science and modernity, humans claimed a position of mastery over nature rather than a place within and part of nature.[111] Technology can be viewed as one manifestation of humankind's

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[102] MfE Environment Aotearoa website (accessed 23 May 2016)
[103] Selby, Moore & Mulholland (2010), p. 159
[104] Genealogy, genealogical table, lineage, descent - reciting whakapapa was, and is, an important skill and reflected the importance of genealogies in Māori society in terms of leadership, land and fishing rights, kinship and status. It is central to all Māori institutions (Maori dictionary: 15 July 2016)
[105] Selby et al.
[106] Tipa and Severne, (2010), p. 23
[107] Ibid.
[108] Ross et al., (2011), p. 34
[109] Ibid, p. 35
[110] Pawson & Brooking (2013), p. 53
[111] Schiele (2015), p. 175

purported superiority over nature.[112] In the water realm, the advance of Western technology began with the use of water power for grain milling.[113] Technology substituted for nature and the dominant view became that if a resource was not being fully utilised, it was being wasted.

Science and technological advances have enabled individuals, communities and governments to control and manipulate water resources in ever more lasting ways, to meet agricultural, domestic, and industrial needs. Dam building is an example of the subjugation of nature; dams have been built to control flooding, augment river navigation, generate hydropower, and deliver water for irrigation, but at the same time thay have permanently and irreversibly altered the natural ecosystems.

This discussion highlights one of the major challenges of New Zealand's freshwater planning process: how to ensure that a Māori worldview of a sustainable life force is incorporated into regional freshwater plans that reflect the values and interests of tangata whenua (people of the land).[114] In essence, these different aspects of freshwater management are from two ends of a spectrum as outlined in Figure 3.

In her dissertation on 'The Voice(s) of Māori in Integrated Freshwater Management', Heike Schiele makes an attempt to show that while all humans and life forms are dependent on water, they can have quite a different relationship to water. In a Western context one is more likely to see an exploitative/utilitarian attitude in the relationship with water. This is in contrast to an indigenous context where one would expect a more esoteric/spiritual affinity with water. While the Māori world has a strong spiritual connection with water – it also depends on the use of water for economic purposes. And while the Western world might focus on the economic value of water it still has a spiritual connection for example in the ritual of baptism. Schiele makes the point that one is likely to find people from all cultures to be distributed across the whole spectrum[115].

[112] Ibid.
[113] Ibid.
[114] Pawson & Brooking (2013), p. 53
[115] Schiele (2015), p.p. 24, 25

	Water - what humans and all life forms share: All life forms require water There is no substitute for it	
Exploitative/Utilitarian		**Esoteric/Spiritual**
Humankind is master over nature	Worldview	Humankind is part of nature
Physical – ice – water – vapour	Manifestation	Mauri – life force impacting on human well-being
Property rights Public – private rights Human rights to water	Rights	Water is a life form in its own right Obligations and guardianship
Resource Water exploitation Technology solutions such as: Recycling, De-salination	Consumption	Taonga (treasure) Kaitiakitanga (guardianship) Respecting the integrity of water

Figure 3: Approaches to Aspects of Freshwater Management from the Two Ends of an Exploitative/Utilitarian – Esoteric/Spiritual Continuum (*Heike Schiele, p. 24*)

This dichotomy of world views and values creates tension in the freshwater planning arena.[116] How can Māori values be embedded into the freshwater planning process that respects exploitative as well as spiritual values? How can traditional knowledge complement scientific knowledge? Several regions are developing efforts for meaningful iwi/hapū involvement in the freshwater planning processes, and recognise the contribution of indigenous mātauranga,[117] Māori knowledge in achieving better outcomes for water management.

[116] Ruru et al., (2011), p. 157
[117] Knowledge, wisdom, understanding, skill (Maori dictionary: 15 July 2016)

2.3 Iwi participation in the Government-led freshwater reforms

Addressing Māori rights and interests in fresh water is a longstanding issue. Over the years, Māori have engaged through repeated advocacy and legal efforts to force the Government to address this issue. The Government has responded that "no one owns the water" and that the Government has no intention of privatising water. This premise was challenged when the Government initiated a proposal to partially privatise state-owned power-generating enterprises, some of which had rights to hydro-power generation using water from rivers and lakes. As described earlier in this report, the New Zealand Māori Council[118] lodged a claim with the Waitangi Tribunal asserting that Māori have unrecognised proprietary water rights. This action in turn triggered a response by the Government that Māori have some rights to be involved in any new governance structure in fresh water, and discussions with iwi leaders around this issues were initiated.

As noted by the Deputy Prime Minister Hon Bill English in his affidavit before the Supreme Court in June 2009, the incoming National-led Government committed to a programme of reform of New Zealand's freshwater policy, entitled "New Start for Fresh Water," which was renamed "Fresh Start for Fresh Water" in May 2011.[119] Upon announcement of the new programme, the Government identified as one of its primary aims the development of Treaty-based engagement with iwi/Māori on water management options. The Crown's engagement with iwi/Māori has three aspects:

- direct engagement between iwi and the Crown. This is currently occurring through ongoing discussions between the Iwi Leaders Group (ILG) and Ministers;
- the Land and Water Forum, a non-governmental forum composed of stakeholders from all relevant sectors, including iwi; and,
- policy development by Crown officials in concert with the Iwi Advisors Group (IAG), a group that advises the ILG.[120]

Engagement between the Crown and ILG/IAG described above is governed by a Communication and Information Exchange Protocol (Protocol) that reflects the shared interest of the Crown and iwi to develop tenable and long-term solutions for the management of freshwater resources. The Protocol records that 'rights and interests' is among the core issues for discussion at the meetings between the ILG and Government Ministers.

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[118] The New Zealand Maori Council is a body for the representation of and consultation with iwi/hapū and is spearheaded by elected representatives from each Māori District. From within this national body, representatives are elected onto the Executive Team to advance the vision, mission and goals of the NZ Māori Council within the parameters of the Maori Community Development Act 1962. (Source: Maori Council website: accessed 29 June 2016)

[119] New Zealand Māori Council v Attorney-General (2010] NZHC 3338, Affidavit of Simon William English in Opposition to Application for Judicial Review, 7 November 2012, at (33)

[120] New Zealand Māori Council v Attorney-General (2010] NZHC 3338, Affidavit of Simon William English in Opposition to Application for Judicial Review, 7 November 2012, at (34)

The Protocol states that the Treaty of Waitangi is "the underlying foundation of the Crown-Māori relationship with regard to freshwater resources." In 2007, the Iwi Leaders Group (ILG) was formed to advance the interests of all iwi in relation to fresh water through direct engagement with the Crown. The ILG meets regularly with the Crown to ensure Māori involvement in freshwater governance; however, they do not have a mandate to make binding agreements on behalf of other iwi who are not represented in the group. The ILG has informed Government that wider engagement with iwi is necessary in the ongoing development of freshwater policy.

Engagement with the ILG does not preclude the Crown from consulting with other iwi or iwi representative groups. The Crown has acknowledged the importance of engagement with iwi on a wider scale, and other iwi/hapū groups have been included in ongoing public consultation opportunities.

The NPS-2014 included explicit policy objectives regarding iwi and hapū involvement in freshwater management. Specifically, the NPS directed local authorities to work with iwi/hapū and reflect their values and interests in freshwater plans and decision making.

More recently, the ILG has engaged in regular discussions with the Crown on fresh water policy option development that includes the following four priority areas:

1) recognition of iwi/hapū rights and interests in fresh water;
2) the need for stronger tools to improve water quality;
3) strengthening iwi/hapū governance, management and decision-making in fresh water; and
4) economic development including a range of mechanism to enable iwi/hapū to access fresh water in order to realise their economic interests.

In its *Next Steps for Fresh Water* consultation document, the Government proposed to address the first three of these priority areas by:

- strengthening Te Mana O Te Wai (which is included in the NPS-FM 2014 preamble);
- improving iwi/hapū freshwater participation in regional decision-making through Mana Whakahono a Rohe; and
- better integration of WCOs with regional planning and allow for increased iwi/hapū participation and decision-making in the WCO process.[121]

The concept of Te Mana o Te Wai reflects the recognition of fresh water as a natural resource whose health is integral to the social, cultural, economic and environmental well-being of all communities (Māori and non-Māori). The concept was drafted by the ILG through discussions with iwi, the Crown, and the Land and Water Forum. It was developed to help simplify and clearly articulate how to integrate Te Ao Māori concepts relating to freshwater management. Te Mana o Te Wai represents the inherent health of the water body (mauri) and its ability to provide for te hauora o te tangata (the health of the people), te hauora (health of the environment) and te hauora o te wai (health of the waterbody).

[121] MfE (2016) *Next Steps for Freshwater*, pp. 27-31

In its 2014 budget, the Government established a $5 million Te Mana o Te Wai Fund to enable Māori to improve the water quality of freshwater bodies (including lakes, rivers, streams, estuaries and lagoons) that are of importance to them by:

- supporting iwi/hapū to play an active part in improving the water quality of their local freshwater bodies
- enabling iwi/hapū to actively participate in managing their local freshwater bodies
- developing partnerships and working in collaboration with others
- assisting iwi/hapū and the wider community recognise the importance of fresh water in supporting a healthy ecosystem, including supporting human health.[122]

In addition to the above National Policy Statement proposals, the Government, in consultation with ILG, has recommended changes to the RMA to introduce Iwi Participation Agreements (IPAs) and enhanced consultation requirements on the appointment of hearing commissioners. Under IPAs, councils would be required to invite iwi authorities to form an arrangement that would detail how the parties would work together in the preparation, change, or review of a policy statement or plan. The council would be required to allow adequate time and opportunity for the iwi authority to consider and provide advice, and would be required to 'have particular regard' to any advice received from the iwi authority.

Since the introduction of the Resource Legislation Amendment Bill, the *Next Steps for Fresh Water* consultation document, in consultation with ILG, proposed an alternative iwi-council engagement mechanism called Mana Whakahono a Rohe. The key differences between Mana Whakahono a Rohe and IPAs is that the Mana Whakahono a Rohe would be iwi initiated and in addition to plan-making, the scope of Mana Whakahono a Rohe includes consenting, appointment of committees, monitoring and enforcement, bylaws and regulations, and other council statutory responsibilities.

The policy and legislative development processes for both these proposals is ongoing.

[122] MfE Te Mana o Te Wai Fund website (accessed 19 May 2016)

3 REGIONAL CASE STUDIES

Methodology

The research goals for this project were to gain a better understanding of the institutional arrangements, at both the national and regional levels, for decision making around integrated freshwater management. My research has focused on 1) documenting the collaborative planning process undertaken to date at the national level including through the Land and Water Forum; 2) researching how the collaborative governance decision making process is playing out in New Zealand at the catchment level; and 3) observing the role of iwi/hapū in the collaborative water planning process, including the challenges and resource needs to effectively engage at the regional level.

In order to meet those goals, I engaged in a three part research plan that included: (1) an extensive literature and document review; (2) semi-structured interviews with key actors and stakeholders; and (3) three case studies of regional freshwater planning processes. Taking into account the state of progress and with input from MfE staff, I focused on the following three case studies:

3.1 Waikato River: areas with a statutory co-governance framework

3.2 Gisborne: voluntary joint management agreement relating to fresh water

3.3 Wellington: Te Upoko Taiao – a voluntary joint committee of council and iwi/hapū responsible for the development of the regional policy statement and regional plans

My case study methodology included gathering information from multiple sources including: extensive literature and document reviews, archival records, semi-structured interviews, and direct observation. In addition to books and academic papers, documents reviewed for this project included government reports, legislation, policy papers and memos, and cabinet briefing papers.

Semi-structured (open-ended) interviews of key informants also served as a primary data-gathering method. Although open-ended interviews are more time consuming than structured surveys, they provide richer and more extensive information than surveys.[123] I employed a semi-structured interview format where I started with a list of questions/topics that I want to cover; however, I followed the lead of the interviewee and let the interview veer "off topic" if it seemed to be leading to useful information. (See Appendix B for the survey instrument.) I utilised intentional sampling with input from MfE, rather than random sampling techniques, to select interview participants. Snowball sampling was also employed, where I would ask interviewees for suggestions on additional participants to contact.

During the course of my research, I interviewed approximately seventy individuals from regional and central government, iwi/hapū groups, elected members of parliament and regional councils, primary industry, non-governmental organisations, consultants, scientists, policy analysts, and others involved in the development of freshwater governance and management policies. (See Appendix C for list of

[123] Yin (2009)

interviewees.) These interviews helped augment the information gleaned from the case studies.

My case studies focused on three ongoing regional planning processes to learn how iwi/hapū values are being included into freshwater plans. For each of these case studies, I identified the regional arrangements with iwi (formal settlements, joint management agreements, and voluntary agreements), described levels of engagement for each case study (ranging from give effect to consult with), and identified common themes and regional differences. Finally, I noted what was working well, challenges in current institutional arrangements, and barriers to success.

Before launching into the case study descriptions, it is important to differentiate some terms often used interchangeably. Co-governance refers to a formal arrangement to share decision-making; co-planning is where planning occurs under a co-governance agreement; and co-management is where actions and responsibilities are implemented jointly by the parties.[124] All three regional cases presented here represent a slightly variant form of governance arrangements with iwi/hapū that influence the regional process.

[124] Harmsworth, Awatere, & Robb (2015), p. 1

3.1 Waikato River Regional Case Study

Background

The Waikato River is the longest river in New Zealand. It starts its journey in the central North Island volcanic zone and flows into Lake Taupō. From there it continues its journey north to enter the Tasman Sea at Port Waikato. The catchment area is approximately 14,456 square kilometres. The main stem of the river is 336km long, with about 22,478km of tributaries. (See Figure 4.) The catchment consists of moderately steep to undulating topography, and the river passes through predominantly pasture, with areas of indigenous forest and plantation forest.

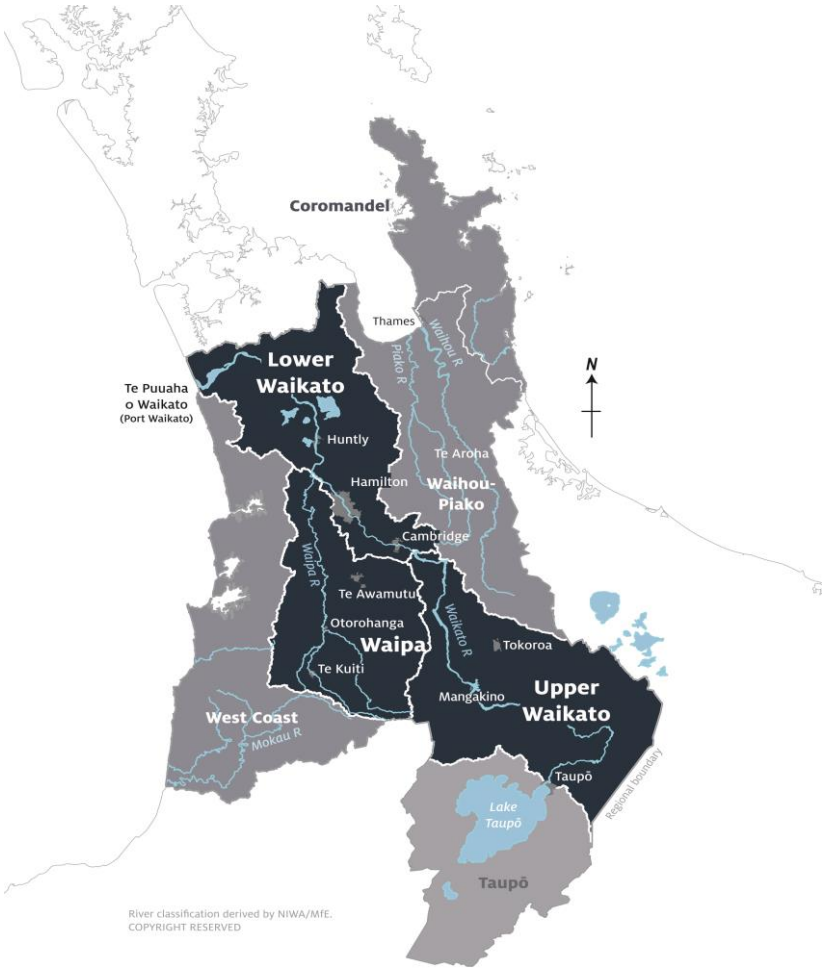

Figure 4. Waikato Region (*Waikato Regional Council*)

Approximately 382,716 people live in the Waikato region – about three quarters of them in urban areas. The region contains:

- the longest river in New Zealand (the Waikato River)
- the largest lake (Lake Taupō)
- internationally significant wetlands
- the country's most important geothermal systems

- extensive native and exotic forests, and
- Tongariro National Park.[125]

Farming and urban settlement along the length of the river from the early days of European settlement took its toll on Waikato River water quality. Urban and industrial wastewater treatment has improved water quality in the Waikato River over the past 20 years. However, during the same time period, concentrations of nitrogen in the river have slowly increased, reflecting the ongoing increases in the many tributaries that drain areas of farmland. The main cause of concern about Waikato River water quality over the next few decades is the prediction that increasing loads of nitrogen and phosphorus entering the river from larger and more intensively-used areas of farmland will increase the risk of harmful algal blooms occurring in the river.[126] With the exception of the Lake Taupō catchment, there were no water quality limits or controls on land use change (e.g. forestry-dairy conversion) in the Waikato region;[127] however, those are currently under discussion as part of the Healthy Rivers Plan change.

Regarding water allocation, an application has been submitted to the Waikato Regional Council for 200,000 cubic metres per day to augment the Auckland municipal water supply. This is in addition to the existing consent for 150,000 cubic metres per day. There is concern that on the current basis of first in, first served, there will be insufficient water available in the Waikato if this additional request is approved.

Governance Arrangements

The Waikato region's co-governance arrangements over the Waikato and Waipa Rivers were established in the wake of Treaty of Waitangi negotiations and settlement legislation. The legislation that established the co-governance arrangements are:

- the Waikato-Tainui Raupatu Claims (Waikato River) Settlement Act 2010
- the Ngāti Tūwharetoa, Raukawa and Te Arawa River Iwi/hapū Waikato River Act 2010
- Ngā Wai o Maniapoto (Waipa River) Act 2012[128]

This co-governance framework represented a new era in Treaty settlements and iwi engagement. This settlement addressed the degradation and future management of the river and opened up new space for iwi and hapū to participate in freshwater decision making and management. Two main pillars of the claim codified in the Act are:

1)Te Mana o Te Awa – recognises that, to Waikato-Tainui, the Waikato River is an ancestor that has mana (spiritual power) and mauri (life force).

[125] MfE briefing document (Te Puna Doc # 7349399)
[126] Ibid.
[127] Ibid.
[128] Controller and Auditor General (2016), p. 24

2) Mana Whakahaere – gives authority to Waikato Tainui and other Iwi/hapū to access and exercise control over the management of the Waikato River and resources in accordance with tikangi (custom) . [129]

The Act includes a vison and strategy for the Waikato River which is the primary direction-setting document for the Waikato and Waipa rivers and their catchments:

> *Our vision is for a future where a healthy Waikato River sustains abundant life and prosperous communities who, in turn, are all responsible for restoring and protecting the health and wellbeing of the Waikato River, and all it embraces, for generations to come.*

The Waikato River Authority (WRA) was created as part of the Waikato River settlement legislation. It is an independent Crown-Iwi organisation focused on helping to restore and protect the Waikato and Waipa Rivers. The purpose of the WRA is to:

- set the primary direction through the Vision and Strategy to achieve the restoration and protection of the health and wellbeing of the Waikato River for future generations;
- promote an integrated, holistic, and co-ordinated approach to the implementation of the Vision and Strategy and the management of the Waikato River; and
- fund rehabilitation initiatives for the Waikato River in its role as trustee for the Waikato River Clean-up Trust.[130]

The WRA is the custodian of the Vision and Strategy for the Waikato River and oversees administration of more than $220m in funding for the restoration of the Waikato River. It has 10 board members – five appointed from each River Iwi (Tainui, Te Arawa River, Tuwharetoa, Raukawa, and Maniapoto) and five Crown-appointed members. The regional council nominates one Crown member and one is nominated by the territorial authorities. The Minister for the Environment appoints one of the two co-chairpersons; iwi choose the other.[131]

<u>Healthy Rivers/Wai Ora collaborative planning process</u>

In line with co-management legislation, Waikato and Waipa River Iwi – Ngāti Maniapoto, Raukawa, Ngāti Tūwharetoa, Te Arawa River Iwi/hapū and Waikato-Tainui – and Waikato Regional Council are partners on Healthy Rivers: Plan for Change/Wai Ora: He Rautaki. The Vision and Strategy for the Waikato River/Te Ture Whaimana o Te Awa o Waikato is the primary direction-setting document for the Waikato and Waipa rivers and their catchments. It reflects community aspirations and expectations. The Vision and Strategy document must be 'given effect to' by regional and district plans within the rivers' catchments. Waikato Regional Council assessed whether the Waikato Regional Plan gave effect to it; the results supported the need for a regional plan change, and this plays a part in achieving the Vision and Strategy.

The Vision and Strategy applies to the rivers and to activities in the rivers' catchments, and focuses on restoring and protecting the health and wellbeing of the

[129] Ruru et al. (2011), p. 147
[130] Waikato River Authority (undated, accessed 28 June 2016)
[131] Ibid.

rivers for current and future generations. It prevails over the NPS-FM 2014 and requires more stringent water quality conditions to be met. It requires the Waikato and Waipa rivers and their tributaries to be swimmable and safe for food collection.

The Waikato Region is in the process of updating their regional plan through a process called the Healthy Rivers: Plan for Change/Wai Ora: He Rautaki Whakapaipai. The process is intended to engage collaboratively with stakeholders to develop changes to the regional plan to help restore and protect the health of the Waikato and Waipa rivers. The plan change is intended to achieve reductions, over time, of sediment, bacteria and nutrients (nitrogen and phosphorus) entering water bodies (including groundwater) in the Waikato and Waipa River catchments. Waikato and Waipa River Iwi and Waikato Regional Council are partners on this project, as set out in settlement and co-management legislation for the Waikato and Waipa rivers.

The Healthy Rivers Wai Ora committee, comprised of River Iwi governors and regional councillors, is the means by which the six project partners can make decisions on the proposed plan change. They will recommend a proposed plan change to the Waikato Regional Council who will make the final decision at a council meeting. If the Council disagrees with the decision forwarded by the Healthy Rivers Wai Ora committee, it will be remanded back to the committee to reconsider.

A Collaborative Stakeholder Group (CSG) was established in 2013 to develop policy recommendations for consideration by the Healthy Rivers Wai Ora committee. The CSG has been meeting regularly since 2014 and includes representatives from agriculture, Māori interests, energy, industry, environmental NGOs, forestry, tourism, water users, and rural interests. A Technical Alliance provides technical information to the CSG and to project steering group. The final result of the project, a notified change to the Waikato Regional Plan, is due in July 2016.[132]

Observations and Key Points

The Waikato-Tainui settlement approach is the strongest co-governance arrangement in New Zealand. It recognises the values in both Māori and Western science systems and is responsive to shifting social and cultural expectations.[133] As one person noted, it represented a "high tide mark" of Treaty settlements by setting a Vision and Strategy for the Waikato River in statute.

A key feature of the settlement is that it focuses not on ownership, but on shared governance, with an overarching purpose to restore and protect the health and well-being of the Waikato River. Participants reflected that the strong co-governance arrangement between iwi and elected officials has resulted in a greater integration of iwi/hapū values and perspectives in all aspects of freshwater planning and management. The council has moved well beyond consultation to "give effect" to iwi/hapū values. Iwi/hapū are now involved proactively in the freshwater plan change where previously they would have been consulted.

[132] Healthy Rivers Plan for Change website (accessed 21 June 2016)
[133] Ruru et al (2011), p. 147

In addition to this unique co-governance arrangement around policy direction, strong leadership by the Council Chair and Chief Executive along with excellent pre-existing relationships were repeatedly identified as a key to success. Waikato Regional Council's approach to freshwater management has fostered good working relationships between iwi/hapū and council staff. This has resulted in a beneficial sharing of ideas and knowledge that ultimately will be reflected in the freshwater plan. Building trust and confidence around the freshwater planning table is essential to a successful process. Regular meetings between iwi/hapū and council members, along with staff, have helped facilitate this good working relationship. Also, the existence of Joint Management Agreements as a formal mechanism for engagement was identified as an important factor in good working relationships.

Even with the strong co-governance framework, however, iwi/hapū participants expressed concerns about the resource-intensive nature of the collaborative freshwater planning process, and the need for increased capacity to close the knowledge gap. The lack of institutional knowledge and a succession plan to retain experienced iwi/hapū staff was also identified as a challenge. Iwi/hapū suggested that additional tools are needed to effectively engage with the regional council in the co-governance process. Competing demands for limited staff and volunteers was cited as a concern and potential barrier to longer-term success.

To provide additional technical assistance to iwi/hapū throughout the CSG process, the council and iwi/hapū are co-funding an iwi/hapū technical advisor. This is a positive step. However, additional technical training for iwi/hapū members would assist iwi/hapū in having confidence to fully participate in scientific and technical discussions. One participant noted that having a Māori chief executive working for the Waikato Council has provided an important Māori voice in the freshwater planning process. Another participant commented that in order for true co-governance to be realised, more Māori members would need to be on the council as, ultimately, the council makes the final decisions.

Waikato, similar to Wellington, is a region that is well resourced. The Council funded a trained facilitator and culturally competent, independent chair to support the CSG process to help ensure the integrity of the process. A separate technical advisory committee was established to advise the CSG process. Overall the feedback on the CSG process was positive; however, there was a concern that Māori economic interests were represented but not cultural interests by River Iwi. Several participants observed that iwi or hapū bring varied perspectives and cautioned there is not one Māori voice in the freshwater space. Tension between Māori economic interests and cultural/environmental concerns were also noted. Finally, the issue of allocation was raised as an unresolved issue. Even with a strong co-governance arrangement, some iwi participants commented that until the issue of freshwater ownership is resolved at a national level, this presents a challenge for resolving other issues at the regional level.

3.2 Gisborne Regional Case Study

Background

Located on the East Coast of the North Island, Gisborne District Council (see Figure 5) covers 8355 square kilometres and the region hosts a population of approximately 43,653.[134] Gisborne is known as the city of rivers, and the Taruheru and Waimata Rivers join to form the 1200 metre Turanganui River, the shortest river in the country. The region hosts two major river catchments: the Waipaoa, which feeds the Poverty Bay Flats where Gisborne is located; and the Waiapu, which travels northeast from the Ruakumara Range and enters the Pacific Ocean north of Ruatoria near the northern tip of the East Cape. There is also an extensive groundwater system under the Poverty Bay Flats. Gisborne District Council is a unitary authority.[135]

Figure 4. Gisborne Region

The Waipaoa River catchment is extensively farmed. It covers 216,484 ha and has formed the fertile and highly productive Poverty Bay flats on the edge of Gisborne city. It is an important source of water for irrigation, a back-up source of water for Gisborne city, and the major recharge source for extensively used aquifers.[136]

Key subcatchments of the Waipaoa include the Waikohu, Mangatu, Waingaromia, Wharekopae, and Te Arai. Some of the subcatchments are particularly susceptible to soil erosion, notably in the Waingaromia and Mangatu areas. As a result, the bed in

[134] Statistics New Zealand (2013 Census, accessed 24 June 2016)
[135] MfE briefing document (Te Puna # 7388026)
[136] LAWA (undated, accessed 20 June 2016)

the lower reaches of the catchment is building up due to sediment and gravel deposition. The Poverty Bay flats and the city are protected by the stop banks of the Waipaoa River Flood Control Scheme but, since their construction 60 years ago, flood capacity has been lost and the scheme is about to be upgraded again at substantial cost. [137]

Erosion is a major issue in the Gisborne region, causing significant sediment deposits in its water bodies. The government has provided funding to landowners for tree planting since 1992. Land owners are currently able to apply for $1,500 per hectare of land they plant with trees to control erosion. Over-allocation of water is an issue in the Waiapoa catchment. Despite the high sediment loads of the lower reaches of the Waipaoa catchment many of the tributaries in the headwaters provide habitat for a range of indigenous fish species. These species rely on migration up the river system as juveniles and return to the sea as adults. Eels are one example in the fishery that requires this ability to migrate. Trout are present in the Wharekopae tributary. They have been introduced and are not known to migrate.[138]

The Waimata is one of Gisborne city's three rivers that flow through the inner city area. The catchment size is 226 sq km and land use is mainly sheep and cattle farming with large areas of exotic forest on the steeper inland areas. Water quality in the Waimata is often poor due to high sediment loads caused by the erosion-prone nature of soils in the headwaters.[139]

The Waiapu River is formed with the joining of the Mata River, which flows north-east from the Raukumara Ranges, with the Tapuaeroa River near Ruatoria township. The Waiapu River has a catchment of 173,400 ha, much of which is also very prone to erosion. Much progress has been made over the past 40 years in afforesting the eroding areas and encouraging areas to return to indigenous scrub, but the Waiapu remains the most sediment laden river in the Gisborne District.[140]

Governance Arrangements

In November 2015, the Gisborne District Council signed a joint management agreement (JMA) with Ngāti Porou relating to the Waiapu catchment. The JMA means that all decisions pertaining to natural resource use in the Waiapu catchment will be made jointly by Ngāti Porou and the Council, including the development of a catchment management plan.[141]

The JMA was intended to enable iwi and the Council to join staff resources for research and development of a catchment plan for the Waiapu River and its tributaries, as well as joint decision-making on how water is used within the catchment.[142] The catchment plans contain water quality and quantity objectives, limits and targets for individual waterways and wetlands

The Treaty settlements of Rongowhakaata, Ngāi Tāmanuhiri and Te Aitanga a Māhaki provide for the establishment of a local leadership board with the Gisborne

[137] Ibid.
[138] MfE briefing document (Te Puna # 7388026)
[139] Ibid.
[140] Ibid.
[141] Gisborne District Council Website (accessed 16 May 2015)
[142] Ibid.

District Council. The board will be a permanent joint committee under the Local Government Act and will be focused on the sustainable management of the natural and physical resources within the area it covers. The board is not yet operational as Te Aitanga a Māhaki are still in the process of finalising their Treaty settlement.[143]

Freshwater resources within the Gisborne District are currently managed under relevant provisions in the Regional Policy Statement for the Gisborne District, Transitional Regional Plan for the Gisborne District, Regional Discharges Plan and the Combined Regional Land and District Plan.[144] Gisborne is the only region not to have adopted a separate freshwater plan and the District Council is currently working on finalising their plan.

To guide the Council through the freshwater plan development and identify District-wide freshwater objectives, the District Council established a Fresh Water Advisory Group. The group first met in December 2010 and continues to meet on a regular basis. The purpose of the group is to provide:

- for a collaborative approach to the development of a freshwater plan;
- a forum for discussion on freshwater management issues; and
- for information sharing between group members, their respective organisations, and the community.[145]

The group represents a range of freshwater interests including water users, farming interests, iwi representatives (Ngāti Porou, Rongowhakaata, Ngāi Tāmanuhiri, Te Aitanga a Māhaki, Te Whanau a Kai and Nga Ariki Kaiputahi), governmental departments, recreational and environmental users, and council staff. The group operates in an advisory capacity and makes recommendations to the Council's environmental planning and regulations committee and full Council.[146]

The Gisborne District Council notified the freshwater plan in late 2015 and the submission period ended in May 2016. The plan sets in-stream limits for all the attributes in the NPS-FM and requires that all levels relating to all attributes are either maintained or enhanced. The plan includes a catchment plan for the Waiapoa catchment, which is where the majority of Gisborne's residents live and work. Catchment plans for the remainder of the region (Waiapu, Turanganui/Waimata and Uawa) will be developed and notified as plan changes over the next decade.[147]

Recently, the Hikurangi Takiwa Trust received support from the Ministry for Business Innovation & Employment to host a two-year placement of a freshwater scientist to assist the hapū collective to design and implement a cultural monitoring framework for freshwater resources. Following the ratification of the Joint Management Agreement between Te Runanganui o Ngāti Porou and Gisborne District Council in 2015, the Trust have been identifying ways to actively engage in the co-management of environmental resources in the Waiapu catchment.

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[143] Ibid.
[144] Gisborne District Council Freshwater Management Implementation Programme (2012), p. 2
[145] Ibid.
[146] Gisborne District Council website (accessed16 May 2015)
[147] MfE internal briefing document (Te Puna Doc. # 7388026)

Observations and Key Points

Gisborne operates under a voluntary joint management agreement with iwi relating to fresh water. Council staff and iwi both commented that having a JMA in place prior to the planning process has proven beneficial; however, relationships continue to evolve. It was noted that the JMA focuses on iwi with Treaty settlements, thus not all iwi share the same governance arrangements.

Similar to the other regions, building relationships and trust were identified as an important factor in the freshwater planning process. Iwi/hapū relationships with council members and staff were overall very positive. The District Council elected to use a collaborative freshwater planning approach and established a Fresh Water Advisory Group. The Group was chaired by the Gisborne mayor and compensation was provided to meeting participants. Participants commented that the collaborative planning process enabled council and community members to gain a better appreciation and understanding of iwi/hapū relationships with water bodies. However, a dichotomy of views between Māori interests in economic development of fresh water and hapū focus on freshwater restoration and ecological health was noted as a source of tension in the planning process.

Several challenges were identified including lack of adequate resources and staffing, and timing of the freshwater planning process. Iwi participants consistently remarked on the need for additional training and technical support. Building capacity is essential for creating a level playing field to facilitate iwi/hapū member's ability to engage effectively and better inform the policy development process. They also observed that it is challenging to achieve an equal partnership when other parties at the table are paid experts and trained staff. Topics suggested for training included a primer on the RMA and the resource consent process, writing submissions, local decision making process, the planning process and jargon.

It was also noted that statutory and council time frames do not necessarily align with iwi/hapū ones, thus creating tension. Some iwi participants expressed frustration with their limited scientific knowledge and policy experience, which can present a barrier to full participation in the freshwater planning process. Also, concerns were raised that historical, cultural, and Mātauranga Māori [148] perspectives were not given equal weight to scientific and technical information. Another suggestion raised was that employing an experienced, independent facilitator with cultural understanding and competency could improve the advisory group process. Convening a separate technical committee to advise the Fresh Water Group was also recommended.

Finally, addressing water quality and reducing sediment inputs from erosion is one of the biggest challenges facing the Gisborne region. Participants commented on the lack of high quality and readily available data on water quality. Iwi participants expressed an interest in obtaining resources and training to conducting additional water testing and monitoring to augment the Council's process. This would help them to be better informed and engage in technical discussions about water on an equal basis. Funding

[148] The body of knowledge originating from Māori ancestors, including the Māori worldview and perspectives, Māori creativity and cultural practices (Māori Dictionary: accessed 24 June 2016)

such as the recent government grant awarded to the Hikurangi Takiwa Trust, serve as a good model for building iwi/hapū capabilities in freshwater monitoring.

3.3 Greater Wellington Regional Case Study

Background

The Wellington Region encompasses a total area of 8,150 square kilometres, and stretches the whole of the lower part of the North Island from Ōtaki in the west across to Owahanga in the east. Over a third of the region is native forest or scrubland, and approximately half of the land area is in agricultural use, mainly for sheep and beef farming. Dairying is undertaken in about 5 percent of the region, and forestry covers 8 percent.[149]

In regards to water, the Greater Wellington Regional Council (GWRC) manages 12,300 kilometres of rivers and streams, 500 kilometres of coastline, and 14 lakes throughout the region.[150] Many of these waterbodies provide areas of significant recreational, ecological and economical value. Ninety eight percent of groundwater bodies have allocation limits in place, and the majority of surface water bodies have limits. There are no catchments with a significant over-allocation of water, but some areas at full allocation.[151]

Māori who originally settled the Wellington area knew it as Te Upoko o te Ika a Maui, meaning "the head of Maui's fish."[152] The area was settled by Europeans in the early 1800s and the cities, coastal towns, rural centres, and farming districts are now home to around 490,000 people.[153]

The region incorporates nine territorial authority areas including: Wellington City, Hutt City, Porirua City, Upper Hutt City, Kāpiti Coast District, South Wairarapa District, Carterton District, Masterton District and part of Tararua District, and is home to the nation's capital. (See figure 6.)

GWRC has adopted five regional plans - air quality management, freshwater, discharges to land, soil and coastal to manage physical and natural resources in the region. In July 2015, the GWRC notified (released for public consultation) a proposed natural resources plan, which replaces these existing regional plans. The natural resource plan includes objectives, policies, and methods (including rules) to manage freshwater and establishes water quality limits for the first time.[154]

[149] Land Air and Water Aotearoa (LAWA) website (accessed 28 May 2016)
[150] LAWA website (accessed 28 May 2016)
[151] Ibid.
[152] GWRC, *Proposed Natural Resources Plan for the Wellington Region*, (2015), p. 2
[153] Ibid.
[154] Ibid.

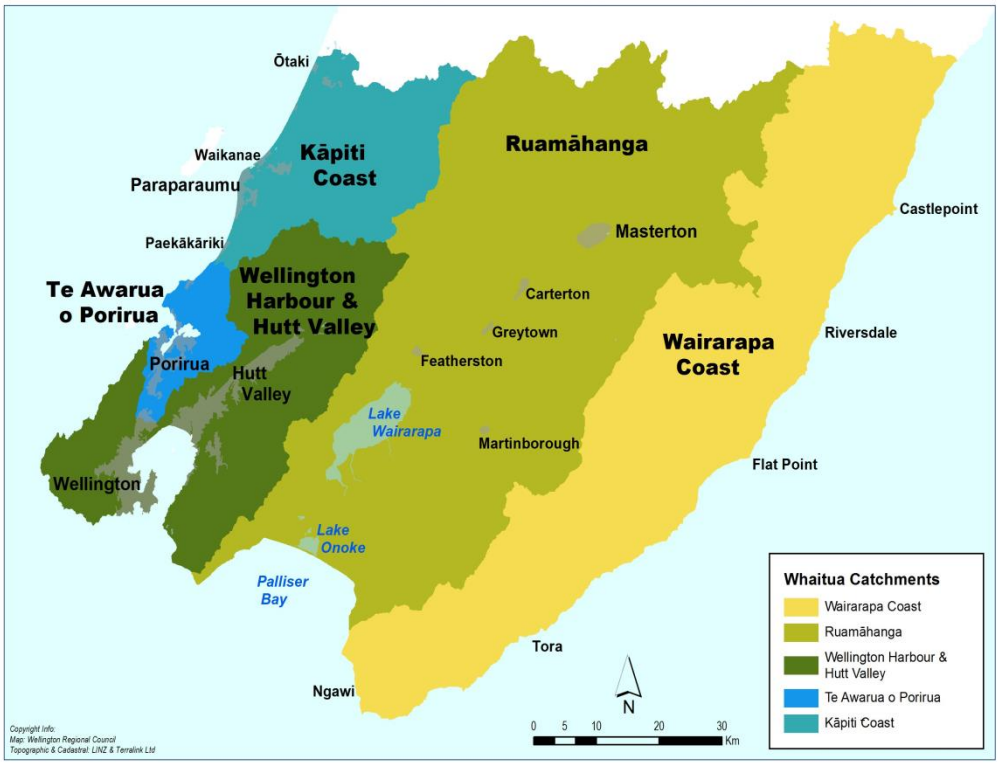

Figure 6. Greater Wellington Region

Governance Arrangements

A memorandum of partnership sets out how the Greater Wellington Council works with iwi/hapū in the region. The memorandum is built on and replaces the Charter of Understanding (1993, revised 2000) and establishes a structural and operational relationship between the Council and iwi/hapū of the region, in the context of the Treaty of Waitangi, and legislation which gives functions, duties and powers to the Council.

A unique feature of GWRC's planning approach is formation of a co-governance natural resources management committee called Te Upoko Taiao. This voluntary joint board, consisting of equal representation of iwi and elected officials, is responsible for the development of the regional policy statement and regional plans. This statement is based on a commitment to active engagement, good faith, and a commonality of purpose and is one of the guiding principles of the Te Upoko Taiao. GWRC's iwi partners are:

- Ngāti Kahungunu ki Wairarapa – represented by Ngāti Kahungunu ki Wairarapa Trust
- Rangitane o Wairarapa – represented by Rangitāne ō Wairarapa Inc.
- Ngāti Raukawa ki te Tonga – represented by Ngā Hapū ō Ōtaki
- Te Atiawa ki Whakarongotai – represented by Ati Awa ki Whakarongotai Charitable Trust
- Ngāti Toa Rangatira – represented by Te Rūnanga o Toa Rangātira Inc.
- Taranaki Whanui ki te Upoko o te Ika a Maui – represented by Port Nicholson Block Settlement Trust.

- Ngati Kahungunu and Rangitane are part of a joint independent statutory board with Council and DoC regarding the Wairarapa Moana. This board comes under the Reserves Act.[155]

Created in 2009, Te Upoko Taiao was formed by seven councillors and seven iwi representatives as an expression of the Treaty of Waitangi relationship to enable a Māori perspective in resource management policy direction. Te Upoko Taiao grew from a partnership committee formed between iwi leaders and Wellington Regional councillors more than two decades ago. This Treaty-based planning framework relies on strong relationships between iwi and the Council and recognition of Māori principles in all planning frameworks.[156]

Te Upoko Taiao – Natural Resource Management Committee intends that the Plan will be achievable, practical and affordable for the region. The committee established a set of guiding principles (shown in Figure 7) that underpin the overall management approach of the Plan. These are:

- *Ki uta ki tai (connectedness)* – managing natural and physical resources in a holistic manner, recognising they are interconnected and reliant upon one another.

- *Wairuatanga (identity)* – recognition and respect for mauri and the intrinsic values of natural and physical features, and including the connections between natural processes and human cultures.

- *Kaitiakitanga (guardianship)* – recognition that we all have a part to play as guardians to maintain and enhance our natural and physical resources for current and future generations.

- *Tō mātou whakapono (judgement based on knowledge)* – recognition that our actions will be considered and justified by using the best available information and good judgement.

- *Mahitahi (partnership)* – partnership between Greater Wellington (Wellington Regional Council), iwi/hapū (mana whenua) and the community, based on a commitment to active engagement, good faith and a commonality of purpose.[157]

[155] GRWC website (accessed 5 June 2016)
[156] Harmsworth et al. (2013), p. 1
[157] GWRC website (accessed 5 June 2016)

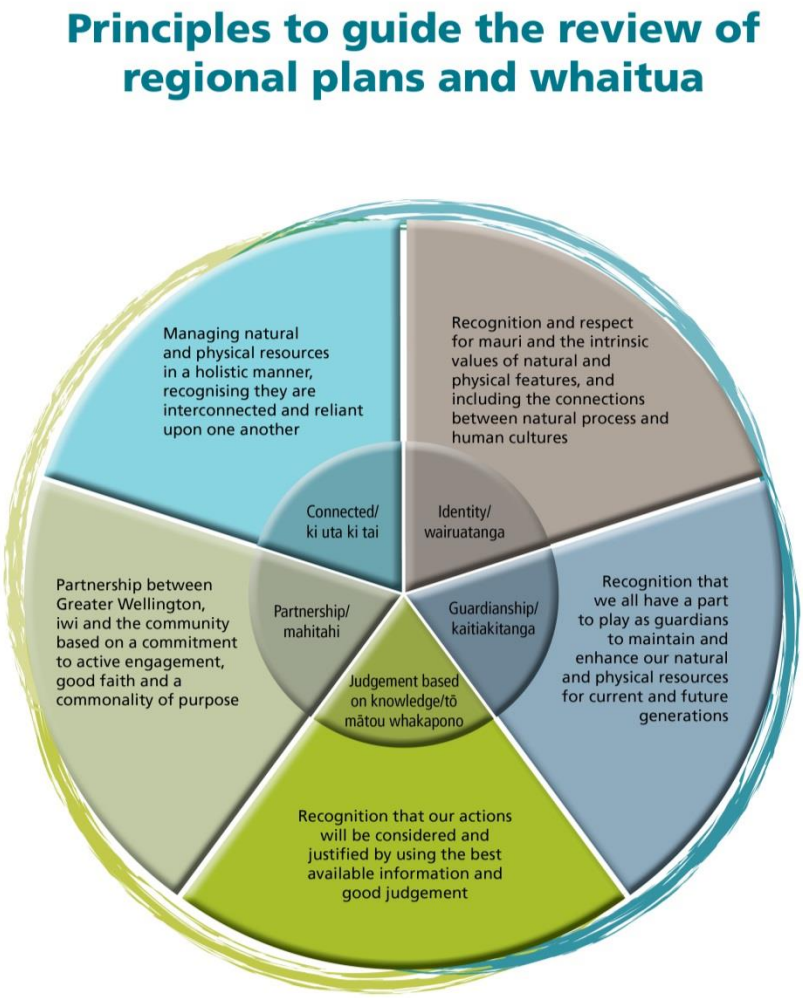

Figure 7. Te Upoko Taiao's principles to guide the review of the regional plans (*Greater Wellington Regional Council*)

The GWRC delegated the responsibility to oversee the development of the Natural Resources Plan to Te Upoko Taiao and, as a result, the objectives, policies and methods contained in the Plan recognise shared values of both the Council and iwi/hapū. This is most clearly emphasised in new, shared objectives for regional water quality in this plan. The Plan requires that all water quality is maintained or is improved in order to provide for aquatic ecosystem health and mahinga kai[158], and for contact recreation and Māori customary use. The committee will also have an active role in implementing the Plan at a local and community level, ensuring an ongoing management partnership between the Council and mana whenua.[159]

[158] Indigenous freshwater species traditionally used as food.
[159] GWRC website (accessed 5 June 2016)

Whaitua Processes to Implement Freshwater Reforms

GWRC has initiated a community-based collaborative planning process to address a number of land and water management issues and to carry out its obligations under the NPS-FM. This process is catchment-based, with the region divided into five whaitua or catchments. Membership of the committees includes representation from Te Upoko Taiao – the Natural Resource Committee, iwi and local authorities, and people from the community who have an interest in land and water management issues.

Whaitua committees will make recommendations to the Council through a Whaitua Implementation Programme (WIP) report. The WIP will develop freshwater strategies and actions, forming a programme of work in a Whaitua committee catchment area. These will include recommendations for both statutory and non-statutory actions. Proposed regulatory provisions in the WIP will be incorporated into the Regional Plan through a plan change process. Non-regulatory programmes will also be developed and implemented in conjunction with whaitua partners. Two whaitua committees have been established to date: Porirua Harbour and Ruamāhanga Valley.[160]

The committee will use information and their understanding of agriculture, biodiversity, tangata whenua, recreation and urban and economic interests to create a vision and to prioritise objectives for land and water management in the catchment area. This might include providing recommendations on how to manage and allocate land and water resources. An important aspect of their work will be to see how other management initiatives and programmes work towards that vision.

Regulatory recommendations will go to Council and Te Upoko Taiao for approval before being incorporated into the Natural Resources Plan for the Wellington region through a plan change process. Non-regulatory approaches may be implemented by agencies, groups or the community through a range of mechanisms.

Ultimately the Regional Plan will incorporate the regulatory recommendations of each WIP into whaitua chapters containing policies and rules that have been created by local people to suit local needs. These sections will be read alongside the regional policies and regulations and will control how resources are managed in the area.[161]

Observations and Key Points

The GWRC has adopted a voluntary partnership approach to freshwater management with iwi through Te Upoko Taiao – Natural Resource Management Committee. By including iwi directly in the decision-making process, there is a higher likelihood that iwi/hapū values and perspectives will be effectively integrated into freshwater plans and policies. This approach is likely to be more successful than alternatives which simply require decision-makers (usually non- Māori) to have regard for or take into account or recognise Māori values, relationships, and management plans. GWRC's approach has evolved beyond consultation to a shared decision-making model that aims to give effect to and enable iwi in freshwater planning and management.

Participants interviewed for this report attribute the success of Wellington's power-sharing approach to committed leadership and strong political will. Establishing a

[160] GWRC website (accessed 13 May 2016)
[161] Ibid.

joint decision-making process in advance of developing freshwater plans has proven beneficial. Another important attribute of GWRC's power-sharing approach is a commitment to build iwi/hapū and staff capacity. In addition to participating on the joint natural resource committee, iwi/hapū staff are included as part of the freshwater project team. This has helped foster relationships based on trust and mutual understanding. As one GWRC staff member observed, "iwi/hapū need to have a place at all levels of decision making" and including iwi/hapū at the project team level has been a "game changer." Working on a day-to-day basis has added an iwi/hapū -lens to freshwater planning. The staff and councillors recognise that Māori values and concepts bring an important holistic perspective to freshwater management that fosters a dual competency of cultural and scientific knowledge.

The Council has committed significant resources to the whaitua planning process. Culturally- competent, experienced facilitators and independent consultants have been hired to support these committees. Whaitua members praised the process, noting that it is striving to ensure that all voices are heard and interests included. The whaitua provides a structure and process that enables authentic dialogue that helps build relationships, foster mutual understanding, and strives for better freshwater and community outcomes. One challenge of the whaitua process is that it demands high levels of resourcing, is time consuming, and labour intensive.

In summary, GWRC's voluntary co-governance framework represents an important step towards a true power-sharing arrangement with iwi/hapū. The Greater Wellington region provides an exemplar of a collaborative approach that honours the intent of the Treaty of Waitangi, enabling iwi/hapū in the decision-making process, and fosters a sense of mutual trust and understanding. As one interviewee reflected, "Māori values are values all Kiwis want; it's just about terminology." By providing an avenue for integrating Māori values and perspectives into freshwater plans and policies, GWRC aims to achieve a beneficial outcome for all parties involved.

3.4 Case Study Common Themes and Lessons Learned

While each of these three case studies utilise different governance arrangements, several insights and common themes have emerged regarding how iwi/hapū are engaging in freshwater management. Presented below are key themes and lessons learned gleaned from the case study analysis.

Governance arrangements matter

Not unexpectedly, the underlying governance arrangements between iwi and regional governments influence how iwi/hapū values and perspectives are reflected in regional plans. In general, individual iwi/hapū members interviewed for these three case studies commented positively on the improved working relationships with regional governments, but some points of tension points still remain. Each region has moved beyond post-facto consultation with iwi/hapū to meaningful proactive engagement in the freshwater planning process. Recognising the special relationship between iwi/hapū and the Crown, it appears that governments have begun to recognise that their iwi/hapū are not just another stakeholder in a multi-stakeholder process but rather a partner in the stewardship of freshwater resources and therefore also partners in the planning process. As one iwi/hapū representative interviewed for this research project commented, "fortunately we are living in a post-consultative world when it comes to freshwater planning." This partnership relationship is especially strong where co-governance arrangements have been institutionalised early on and iwi/hapū play a more active role in freshwater decision making. It appears that regions with co-governance arrangements with iwi are more likely to lead to high-quality and durable relationships.

Another factor affecting successful engagement is the status of iwi/hapū settlements with the Crown. Typically, local authorities control the creation, membership, and establishment of joint committees. In instances where committee membership is part of Treaty redress, the creation and membership of these committees are agreed between councils and iwi/hapū and outlined in Treaty legislation. This was clearly the case in the Waikato. Interestingly, Wellington emulated this co-governance arrangement through the creation of a joint natural resource committee as a precursor to developing its natural resource plan. In addition, in regions where iwi/hapū have settlement arrangements, iwi/hapū tend to have access to greater resources and stronger council relationships. However, it is too early to determine if greater access and legitimacy will result in better outcomes, especially around water allocation decisions. Iwi/hapū participants indicated that they want their "fair share of allocation" and tensions still exist regarding how water allocation issues will be resolved in the absence of national direction.

Build and maintain quality relationships

Another consistent theme is the importance of building strong relationships between iwi/hapū and local authorities. Many people spoken with identified trust and mutual respect among partners as a key building block to successful freshwater planning and management. Participants emphasised that establishing these relationships prior to initiating freshwater planning was essential. Most importantly, developing a shared learning process among iwi/hapū, community members, council members, primary industries, landowners, and local government staff enable the parties to engage in honest conversations and gain a better understanding and appreciation of each other's perspectives. A strong consensus emerged that good relationships and open

information sharing will lead to a more active role for iwi/hapū in freshwater decision making.

Foster understanding of different worldviews

Worldviews are social constructs, implicitly embedded in a culture with individual interpretations as people make sense of their perception of the world.[162] Developing a greater awareness of these different worldviews is a prerequisite to understanding diversity across cultures and within cultures.[163] The importance of facilitating a cross-understanding of Māori and Western worldviews was a recurring theme heard throughout the case studies. Some noted that it is not easy to reconcile these two worldviews and value systems in the freshwater planning process.

In addition, another contributing factor in diverging worldviews is differing time frames. Adequate time must be afforded in the freshwater planning process to develop a better understanding of each worldview. Councils are under pressure to meet statutory NPS-FM requirements for freshwater plans adoption by 2025. Māori operate under a different time frame that focuses on long-term intergenerational stewardship. Tensions were noted between these short-term statutory and governance cycles and long-term iwi/hapū planning horizons. Concerns were raised by some participants about the collaborative processes being time consuming and resource intensive. Others commented that the additional upfront investments will hopefully result in a more durable freshwater planning process due to the inclusion of shared iwi/hapū and community goals and objectives.

The three regions researched for this report are making progress towards recognising and incorporating Māori perspectives at various levels of planning and implementation. One participant observed that the key is to draw on a range of knowledge systems to inform the freshwater planning process, where one worldview does not dominate another. They noted that Te Mana o Te Wai is a good model for ensuring inclusion of a holistic and cultural lens in addition to a scientific one in freshwater plans.

Need to continue building capacity and resourcing

A consistent theme from iwi/hapū, community members, and council staff is the need to build capacity to ensure full participation in the freshwater planning process and avoid power imbalances. The sheer volume and technical nature of the freshwater-related information presents a significant burden on both councils and on iwi/hapū. Concerns about lack of infrastructure and resources to fully and effectively participate in freshwater decision making and management were especially prevalent among iwi/hapū participants where a small group of iwi/hapū members are expected to deal with a multitude of other issues as well. Additional capacity and capability is needed to allow iwi/hapū to develop freshwater expertise. Even in the Waikato Region, where iwi/hapū have access to funding of $1 million a year to build capacity, frustrations were expressed about being spread too thin and the amount of work in the natural resource arena.

Compensation of committee members is helpful. So too is funding technical experts to assist and train iwi/hapū staff; however, adequate resourcing and the heavy workload

[162] Schiele (2015), p. 175
[163] Ibid.

continues to be a challenge. In particular, there is an interest in developing stronger technical expertise and scientific skills, especially around water quality monitoring, to complement traditional Māori knowledge. This will allow iwi/hapū to play a more active role in attribute setting and allocation discussions. Many participants noted challenges with disseminating and presenting complex scientific information in plain language that is accessible to their iwi/hapū communities. There is a need to provide greater access and understanding of scientific information that is accessible to broader communities.

Value of Partnerships

Although there is no one size fits all scheme to freshwater planning, co-governance arrangements that utilize an equal number of iwi/hapū and council representatives appeared to be a favourable approach. A consistent theme throughout the interviews was that given their status as Treaty partner with the Crown, Māori expect to be treated as partners in the freshwater planning space rather than a stakeholder. The value of partnerships between iwi/hapū and local authorities is integral to successful freshwater planning processes.

Also, participants noted that there is not one voice of iwi and economic/cultural tension exists in freshwater planning space. Some iwi/hapū expressed concerns regarding the need to balance cultural/ecological values with commercial/economic interests of Māori.

4 COLUMBIA RIVER INTER-TRIBAL FISH COMMISSION: AN EXAMPLE FROM THE UNITED STATES FOR BUILDING INDIGENOUS CAPACITY FOR CO-MANAGEMENT

A recurring theme from the regional case studies is the need for building iwi/hapū capacity in freshwater planning and management. Several interviewees suggested developing iwi/hapū technical hubs or resource centres to pool resources and advance iwi/hapū ecological knowledge through the development of traditional knowledge and science programmes and professional training for their members. Described below is an example, derived from the Pacific Northwest in the United States, for building indigenous capacity for co-management of natural resources that might offer relevant lessons for New Zealand.

The Columbia River Basin, on the West Coast of North America, drains into the Pacific Ocean (see Figure 8). Approximately 85% of the Basin lies within the United States, primarily in the states of Oregon, Washington, Idaho, and Montana, with the remainder in British Columbia, Canada. The river system consists of two major rivers: the Columbia and Snake. Columbia Lake and the adjoining Columbia Wetlands form the headwaters of the Columbia River in British Columbia. The headwaters of the Snake River are in Yellowstone National Park in Wyoming.[164]

Figure 8. Columbia River Basin (*U.S. Army Corps of Engineers*)

[164] Lumley, FiveCrows, Gephart, Hefferman, & Jordan (2015), p. 1

The Columbia River system is the lifeblood of all the tribes and First Nations that are found along its entire length. Since time immemorial, the water, salmon, game, roots, and berries of their homeland—their sacred first foods—have sustained their health, spirit, and cultures. So fundamental was this connection that when the Yakama, Umatilla, Warm Springs, and Nez Perce tribes entered into treaties with the United States in 1855, they specifically included language to ensure that they could continue to fish, hunt, and gather their first foods.[165] They understood that the connection of their people to these resources must be maintained if there was any hope in preserving their unique cultures and values. When they entered into these treaties, their primary concern was access to these plentiful natural resources.[166] In their treaties, these four tribes ceded a collective 172,470 km^2 of their lands to the United States, agreeing to live on reservations. The current tribal reservation lands make up a small percentage of the tribes' traditional homelands. However, they all retained limited rights to these ceded lands, including reserving the right to fish, hunt, and gather at all their historical usual and accustomed areas.[167]

Even though the United States government tried to divorce Native American tribes from their native culture through assimilation policies, forced education, separating Indian children from their families and forbidding them to speak their native languages, Columbia River Indians still continued to live a traditional lifestyle, including utilising their native fishing grounds along the Columbia River.[168] In addition to the aforementioned policies by the U.S. government, Columbia River Indians faced major friction in commercialisation of fisheries in the latter part of the 19th century and the development of a hydropower system in the 20th century. Native fishers had to compete against commercial fishers who were employing fish wheels along the Columbia River, a destructive fishing technique that is now outlawed.

A series of legal challenges culminated in the *U.S. v. Oregon* and *U.S. v. Washington* court decisions, both instrumental in ensuring "fair and equitable share" or 50% of the harvestable fish destined to pass the tribes' usual and accustomed fishing places. These court decisions reaffirmed tribal fisheries management powers and shifted the status quo of federal and state management to co-management with the tribes. To answer this demand for co-management, the four Treaty tribes joined forces to create the Columbia River Inter-tribal Fish Commission (CRITFC) to provide coordination and technical assistance to the tribes to ensure that Treaty fishing rights issues are resolved in a way that guarantees the continuation and restoration of tribal fisheries into perpetuity.[169] It also served to coordinate fishery management policies and provide technical services to the four Treaty tribes.

To gain a better understanding of the interest, culture, organisational identity, and underlying values of CRITFC, it is important to review CRITFC's mission and goals. Their mission is "to ensure a unified voice in the overall management of the fishery resources, and as managers, to protect reserved Treaty rights through the exercise of

[165] Ibid.
[166] Ibid.
[167] Ibid.
[168] Fisher (2010), p. 151
[169] Lumley et al., p. 3.

the inherent sovereign powers of the tribes."[170] According to CRITFC's website, this mission is accomplished through the following goals:

- **Put Fish Back in the Rivers and Protect Watersheds Where Fish Live.** CRITFC provides the four member tribes and the region with biological research, fisheries management, hydrology, and other science to support the protection and restoration of Columbia River Basin salmon, lamprey, and sturgeon.
- **Protect Tribal Treaty Fishing Rights.** CRITFC employs lawyers, policy analysts, and fisheries enforcement officers who work to ensure that tribal Treaty rights are protected. The commission works closely with state and federal agencies to ensure fair harvest sharing between tribal and non-tribal fisheries.
- **Share Salmon Culture.** CRITFC shares news, information, and the tribal perspective on a variety of issues with policy makers to school children.
- **Provide Fisher Services.** CRITFC provides a variety of services directly to fishers from its member tribes including a salmon marketing programme. The organisation also operates and maintains 31 fishing access sites along the Columbia River for the exclusive or near-exclusive use of the fishers from all the member tribes.[171]

According to interviews with CRITFC leaders and staff, prior to the formation of CRITFC, the tribes had relied on federal and state agencies to manage the Columbia River fisheries. As one person stated during the interviews for this paper, after federal policies changed from "termination to self-determination,"[172] the Treaty tribes were finally able to manage their own fisheries management processes instead of relying on others for support. When CRITFC first started, tribal expertise on fisheries management was limited. They hired outside staff to help develop in-house biological and technical expertise. However, now with over one hundred employees and thirty years of experience and shared mission and goals, CRITFC has developed its own culture and identity that is separate from, but complementary to, its member tribes.

CRITFC's unique collaborative governance structure reflects their shared Columbia River identity and culture. Governed by the Fish and Wildlife Committees of its four member tribes, each tribe determines how its Fish and Wildlife Committee is elected or selected, as well as the number of representatives comprising their committee. This ranges from five to fifteen representatives, although each tribe has only one vote at the Commission table. The four committees are very actively involved in governance and must reach consensus in order for the Commission to act. The Commissioners meet monthly. Meetings begin and end with a prayer and song which reflects their tribal customs. Officers are elected to a one-year term, and the chairman is selected by the Commission from the Commissioners representing the tribe whose turn it is to hold the chairmanship. CRITFC's unique governance structure reflects a deliberative style

[170] Ibid.
[171] CRITFC website (accessed 26 May 2016)
[172] Interview with Roy Sampsel (26 November 2012)

of decision making which tends to result in a collaborative and consensus-based effort among the four Treaty tribes. Although each tribe may have a separate tribal identity, they share an intrinsic connection with the Columbia River salmon fishery. CRITFC reflects this shared salmon culture by co-managing fishery resources and ensuring access for all tribal members to traditional salmon fishing grounds.

Initially, CRITFC focused on two key functions: coordination of Columbia River resource management policies and law enforcement. Eventually, CRITFC acquired important technical and biological expertise to develop recommendations for tribal fishery programmes for the protection and enhancement of fisheries in the ceded tribal areas. As the individual tribes developed greater in-house fisheries management expertise, CRITFC focused towards river management issues and a view towards ocean conditions and impacts of climate change on the Columbia River salmon fisheries. Also, one interviewee commented that prior to the Columbia River Accords, CRITFC relationship with state and federal agencies were more adversarial. Now, CRITFC is working more cooperatively on a partnership basis with these agencies on water quality issues, fisheries management, and reauthorisation of the Columbia River Treaty.

In conclusion, the CRITFC model where four tribes came together to pool resources, collaborate, and advance tribal ecological knowledge through the development of science programmes and professional training for their members, represents an example of how iwi/hapū could pool resources to build capacity and capability in fresh water management at a regional level. Tribal involvement in salmon management following the creation of CRITFC had a catalytic effect on shaping Columbia River fishery policies and programmes. The Columbia River tribes recognised the importance of unity for the protection and management of salmon resources, and for enduring contributions by indigenous communities to the natural resource decision-making process.

5 CONCLUSION AND RECOMMENDATIONS

New Zealand's freshwater future is at a critical watershed. The Government is working towards a policy framework for effectively managing freshwater resources that meets national objectives while improving implementation at the regional and catchment level. While the Crown and the Iwi Leaders Group are still in discussions about a national policy for addressing iwi rights and interests, regions are moving ahead and developing individually tailored approaches for addressing iwi rights and interests in fresh water. Both central and local governments are making greater efforts to include iwi/hapū in meaningful engagement and collaboration in the freshwater space.[173] Some regions have implemented co-governance arrangements established as part of Treaty settlements, whereas other regions are experimenting with different power-sharing approaches on a voluntary basis. However, it is important to note that Treaty settlements (or the anticipation of it) are a very important driver in these voluntary arrangements.

Under the latest freshwater reform proposal, the Government is in the process of considering additional reforms for strengthening iwi/hapū involvement in regional collaborative processes. Enhancing iwi voice in these freshwater discussions brings unique and important perspectives, as waterways are not just resources to be managed and developed, but places full of meaning for past, current, and future generations.

In conclusion, New Zealand has an opportunity to serve as a world leader in reconciling management of freshwater resources with indigenous rights. The government can provide policy leadership and support of this bi-cultural approach to integrated water management. As one LAWF member explained "addressing iwi/hapū rights and interests is a challenging task, but one too important not to do well." A partnership-based decision-making approach could result in more efficient and ultimately, more effective freshwater outcomes.

Recommendations

Listed below are some suggestions to enhance progress towards strengthening the inclusion of Māori values in freshwater planning and implementation.

Strengthen central government leadership and direction

A consistent theme heard throughout research for this report was the need for stronger leadership from central government. Central government is well placed to highlight how integrating Māori into freshwater planning offers multiple benefits for Māori, for communities throughout New Zealand, and for the environment.

Although past work has focused on developing national policies and tools to support freshwater plan development, more attention towards supporting regional planning and implementation processes is needed to ensure that Māori perspectives are being fully integrated. With a patchwork of governance arrangements across regions, the freshwater planning process must be buttressed by central government support. MfE should consider providing additional guidance, advice, and resources especially targeted towards regions that need assistance. In particular, MfE can provide critical

[173] Harmsworth et al. (2015), p. 1

assistance by conducting research, identifying best practices, and developing metrics for determining success. Regional governments will benefit if they are supported by high-quality information especially as they move into the freshwater implementation phase.

Invest in building local capacity and national-level infrastructure

Investing in adequate resourcing and capacity building in all regions is another important and strategic role that central government can play. It is challenging to recruit people with relevant experience, skill sets, and availability to consistently participate in the freshwater planning and decision-making process. Parties interviewed for this report shared that experienced people, especially iwi/hapū members with natural resources or governance experience, are in short supply and frequently overcommitted. The same people are often tapped for multiple committees and advisory boards, which often lead to high levels of burnout. My findings coincide with the Auditor-General's report (2016) where succession planning, especially among iwi/hapū participants, was identified as a key concern.

Planning for succession is essential as good freshwater outcomes can take a long time to achieve. Some local authorities provide compensation to iwi/hapū and community members participating in collaborative planning processes as an effort to level the playing field among paid elected officials and primary industry representatives. Central government could also provide funding to offset costs incurred by regional councils to support participation by community members and iwi/hapū.

Foster understanding and dialogue about different worldviews

Fostering and maintaining a mutual understanding of Māori and Western worldviews is beneficial for developing an effective freshwater management framework. MfE could assist by organising and hosting "academies" with iwi and participants of the freshwater planning process. This would promote a greater understanding of both mātauranga Māori and scientific knowledge used to inform freshwater decision-making. Training opportunities for iwi/hapū and community members on collaborative processes, the RMA and resource consent process, freshwater ecology, and related scientific concepts were mentioned as needs by case study participants.

Sharing of guidelines, protocols, and tools can also foster a deeper understanding of Māori values, perspectives and knowledge systems, and help build bicultural capacity for both councils and iwi/hapū.[174] Presentations and training sessions about Māori freshwater concepts would be helpful, particularly for those with limited experience working with iwi/hapū. Tools developed from the premise of a different worldview would be useful additions to the freshwater management repertoire.

Promote support tools for collaborative processes

Significant research around developing a Treaty-based planning framework and integrating Māori values into freshwater management is already underway (e.g. Harmsworth, Awatere, Robb). MfE could form relationships with iwi, academic experts, and research organisations engaged in this area and host regular training sessions highlighting available tools for developing freshwater plans through

[174] Harmsworth et al., (2015), p. 4

collaborative processes. Although each region is unique, sharing insights and lessons learned about existing collaborative co-governance and co-management processes could be helpful especially in regions with limited resourcing. Communities, including iwi/hapū, need access to information, tools, and processes that allow them to be effective partners in the freshwater decision-making processes.

For example, as described in the case study section, the Greater Wellington Regional Council has established catchment-based whaitua committees to foster a collaborative, locally-based process for developing catchment plans. These joint committees allow representatives from the council, iwi/hapū, and the local community to engage in a collaborative process and foster partnerships for freshwater management. Other regions could benefit from GWRC's collaborative learning process. MfE could provide connections to GWRC protocol and guidelines to assist other regions as they embark on their catchment plans.

Provide guidance on allocation

Central government leadership is also needed to address water allocation issues. There is a view that some resource consents affecting water quality and quantity have not protected Māori cultural or economic values pertaining to water.[175] In addition, tensions are playing out among iwi/hapū regarding the need to balance cultural/ecological values with commercial/economic interests. These are politically sensitive decisions facing regions.

While recognising that central government work in the allocation space is ongoing, providing information and guidance to regional councils in a timely manner is crucial. Providing support to councils as they work through the allocation setting process should be a priority. Although each region needs to work with iwi/hapū to tailor an effective approach, MfE could develop a compendium of tools and guidelines for setting water quality and quantity allocation limits.

Explore pooling of resources

In order to fully participate in freshwater planning and management, iwi/hapū need greater assistance in developing expertise especially regarding technical information. Central government could identify consultants that are trained in facilitation and culturally competent to assist iwi/hapū and councils in freshwater planning and management. These contacts could be made available through a central database that regional governments and iwi/hapū can readily access. In addition, MfE could hire consultants to train iwi/hapū members about water quality monitoring and restoration techniques. Several iwi/hapū participants interviewed for this research expressed a desire to expand their scientific expertise to be able to support their own water quality monitoring systems to allow greater participation in limit-setting processes.

Referencing the Columbia River Inter-tribal Fish Commission model presented in this report, one of the reasons that the four Columbia River Tribes were able to engage successfully with the federal government in fisheries and river management was their ability to build their capacity in a collaborative manner. This enabled the tribes to effectively incorporate indigenous knowledge into the natural resource planning and management process. By collaborating and pooling resources, they were able to

[175] Grace (2010), p. 6

develop in-house expertise, over time, and advance tribal ecological knowledge through the development of science programmes and professional training for their members. A similar model for iwi/hapū collaboration and pooling of resources to build capacity and capability in freshwater management would be worth considering.

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APPENDICES

Appendix A: Land and Water Forum Membership

Plenary Organisations

Aqualinc Research Ltd
Ballance Agri-Nutrients
Beef + Lamb New Zealand
Business NZ
Contact Energy
DairyNZ
ECO
Ecologic
Environmental Defence Society
Federated Farmers
Federated Mountain Clubs of NZ
FertResearch
Fonterra
Forest and Bird
Foundation for Arable Research
Genesis Energy
Horticulture New Zealand
Ihutai Trust
Institute of Public Works Engineering Australasia
Institution of Professional Engineers New Zealand
Irrigation New Zealand
King Country Energy
Landcare Trust
Lincoln University
Massey University
Meridian Energy
Mighty River Power
MWH
National Institute of Water and Atmospheric Research
Newmont Waihi Gold
Ngati Kahungunu
NZ Farm Forestry Association
NZ Forest Owners Association
NZ Institute of Forestry
NZ Winegrowers
Oji Fibre Solutions
Opus International Consultants Ltd
Pioneer Generation
Rural Women New Zealand
Spiire
Straterra Inc
Sustainable Business Council
Te Arawa Lakes Trust
Te Runanga o Ngai Tahu

Tourism Industry Association
TrustPower
Tuwharetoa Māori Trust Board
Waikato River Authority
Waikato-Tainui
Water New Zealand
Watercare Services Limited
Whitewater New Zealand
Wood Processors and Manufacturers Association of New Zealand
Zespri

Small Group Organisations
Beef + Lamb New Zealand
Contact Energy
DairyNZ
Ecologic
Environmental Defence Society
Federated Farmers
Fonterra
Forest and Bird
Horticulture New Zealand
Irrigation New Zealand
Meridian Energy
National Institute of Water and Atmospheric Research
Ngati Kahungunu
NZ Forest Owners Association
Te Arawa Lakes Trust
Te Runanga o Ngai Tahu
Tuwharetoa Māori Trust Board
Waikato-Tainui
Water New Zealand
Whitewater New Zealand

Central and Local Government Active Partners
Auckland Council
New Zealand Conservation Authority
Department of Conservation
Department of Internal Affairs
Environment Canterbury
Environment Southland
Ministry for the Environment
Ministry for Primary Industries
Otago Regional Council
Tasman District Council
Treasury
Waikato Regional Council
Wellington City Council

Appendix B: Axford Report Survey Instrument

New Zealand Integrated Water Management Regional Case Studies Addressing Iwi Rights and Interests in Water Interview Questions

Name of Interviewee: Date:

1. What is your role in the regional water planning process?
2. Please describe your regional water planning process.
3. What is your iwi/hapū relationship or involvement with your Regional Council?
4. How are iwi/hapū directly or indirectly involved in freshwater planning and management in your region?
5. How are iwi/hapū values incorporated in the current regional water planning process? How do you capture iwi/hapū values?
6. Could you describe how the process to incorporate iwi/hapū values has worked thus far from your perspective?
7. In your view, what have been the successes and challenges with developing and implementing your region's water management plan?
8. Do you think your region's approach for addressing iwi/hapū interests and rights in water could serve as a model for other regions? If so, why/why not?
9. Are there particular lessons/ learning that has happened along the way that you think might be beneficial for others embarking on this process?
10. What resources or additional support are needed for iwi/hapū to effectively participate in regional process?
11. Is there anything you would like to add to what we have discussed thus far?
12. Who else do you recommend I reach out to?

Appendix C: Axford Report Interview Participants

Name	Affiliation
Regional Councils	
Gisborne	
Lois Easton	Gisborne Council
Robyn Rauna, Chief Ex.	Tāmanuhiri Tūtū Poroporo Trust
Murray Palmer	Freshwater Advisory Member: Iwi Science Consultant
Stan Pardoe	Freshwater Advisory Member
Keriana Wilcox-Taylor	Gisborne Regional Council
Greater Wellington Council	
Mike Grace	GWRC Resource Planner
Rawiri Faulkner	Te Pou Whakarae
Chris Laidlaw	Regional Council Chair
Alastair Smail	GWRC Whaitua Coordinator
Jennie Smeaton	Te Awarua-o-Porirua Whaitua
Ra Smith	Ruamāhanga Whaitua
Waikato	
John Luxton	Waikato River Authority
Bill Wasley	CSG Facilitator
Stephen Colson	Mighty River Power
Paula Southgate	Waikato Council Chair
Vaughan Payne	Waikato Council CE
Bob Penter	Waikato River Authority, CE
Jo Kukutai	Maniapoto (senior policy advisor)
Grant Kettle	Raukawa Charitable Trust
Tracey May	Waikato Regional Council: Science and Strategy Director
John Quinn	NIWA
Simon Bendall	Tuwharetoa Trust Board
Helen Ritchie	Community Stakeholder Group Facilitator
Billy Brough	Iwi Resource Management Consultant
Land and Water Forum	
Alastair Bisley	Chair
Marie Brown	Environmental Defence Society
Stephen Colson	Mighty River Power
Russell Death	Massey University
Clive Howard-Williams	National Institute of Water and Atmospheric Research
Bryce Johnson	Fish and Game
Chris Keenan	Horticulture New Zealand

Corina Jordan	Fish and Game
William McGimpsey	LAWF Staff
Charlotte Rutherford	Fonterra
Guy Salmon	Ecologic
Ra Smith	Ngati Kahungunu
Gary Taylor	Environmental Defense Society

Other Organizations

Sir Geoffrey Palmer	Former Prime Minister
Dr Nick Smith	MP, Minster for the Environment
Eugenie Sage	Member of Parliament
David Parker	Member of Parliament
Catherine Delahaunty	Member of Parliament
Mark Hickford	Vice Chancellor and Dean of Victoria University Law
John Bright	Director Research and Development: Aqualinc
Jim Sinner	Cawthron Institute
Heike Schiele	PhD Massey University
Garth Harmsworth	Landcare Research
Dr Grant Blackwell	Office of the Parliamentary Commissioner for the Environment
Dr Carl Walrond	Office of the Parliamentary Commissioner for the Environment

Ministry for the Environment

Tania Gerrard	Director, Iwi Rights and Interests
Nicole McCrossin	Senior Analyst, Kāhui Taiao
Marcia Murray	Analyst, Rights and Interests
Roger Bannister	Freshwater Management/Implementation
Tracey Black	Freshwater Allocation
Sarah Boone	Water Policy & Strategy
Peter Brunt	Acting Deputy Secretary, MfE
Neal Deans	Private Secretary, Minister Smith
Kevin Guerin	Principle Analyst
Kirsten Forsyth	Resource Management Tools
Lillian Fougere	Water Policy & Strategy
Catherine Knight	Senior Policy Analyst
Robert McClean	Resource Management Consenting
Torrey McDonnell	Implementation
Tim Sharp	Freshwater Management/Implementation
Mereana Wilson	Freshwater Reforms

Appendix D: Chronology of key milestones in New Zealand's freshwater reform programme

2008 Iwi Leaders Group formed

2009 Land and Water Forum established

2010 National water metering regulations passed

2011 National Policy Statement for Freshwater Management (NPS-FM) adopted

2013 Freshwater reform 2013 and beyond consultation

2014 Land Air Water Aotearoa website initiated

2014 NPS-FM amended; National Objectives Framework and National Bottom Lines added to NPS

2015 New Environmental Reporting Act passed

2016 Next steps for fresh water – public consultation