Māori values and perspectives to inform collaborative processes and planning for freshwater management

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Prepared by the MBIE-funded Values, Monitoring and Outcomes Programme for the Regional Council Forum and other stakeholder groups.

The MBIE funded science programme *Integrated Valuation and Monitoring Framework for Improved Freshwater Outcomes* (VMO) (C09X1003) runs a number of regional council forums as part the work programme each year, discussing relevant and pertinent issues to freshwater management in New Zealand. Participants in this VMO Forum consist of regional councils, MfE, and research staff, including: Environment Canterbury, Horizons Regional Council, Bay of Plenty Regional Council, Hawke's Bay Regional Council, Tasman District Council, Greater Wellington Regional Council, Auckland Council, Environment Southland, Waikato Regional Council, and Northland Regional Council. Research partners include: Landcare Research, Cawthron Institute, NIWA, Lincoln University, Geoff Kaine Research, and University of British Columbia.

Objectives

This report was written in response to the new freshwater reforms and VMO research objectives. The initial research question to be answered was: What is the role of cultural monitoring to inform the collaborative process? This research question was broadened to "provide Māori values and perspectives that inform collaborative processes and planning for freshwater management", and includes a section on the role of cultural monitoring in collaborative processes. Key objectives were:

- Document the Māori historical and legislative context for the collaborative process, including the role of the Treaty of Waitangi

- Collate case study information from around New Zealand, on co-governance, co-management and co-planning and define these terms

- Provide a range of useful tools to support successful collaboration by Māori and councils in collaborative freshwater management

- Identify future challenges.

Methods

Information, based on collaborative work with both Māori and Crown/regional council agencies, was obtained and summarised from a large number of hui and workshops between 2011 and 2014. A literature review was carried out from both web and library sources, and relevant information condensed and summarised. Results from several case studies and examples across New Zealand have been summarised and collated and have been used to examine and evaluate the meaning of collaboration and collaborative process from a Māori perspective.

Results

This research identified a number of useful tools that are helpful for informing the collaborative process towards achieving agreed or desired freshwater outcomes. The information collated in this study has confirmed that the terms 'co-governance', 'co-management', and 'co-planning' are often used interchangeably and are not well defined. There are many existing and emerging models of co-governance and co-management around New Zealand, and several modern examples are given. It is proposed in this report that, from a Māori perspective, **co-governance, co-management and co-planning are stages in a process or collaborative cycle.** In the proposed framework co-planning is actually an advanced stage of this process and requires excellent relationships to be formed and recognition, understanding, and incorporation of mātauranga Māori and tikanga Māori as a basis for bi-cultural planning under the Treaty of Waitangi. Clear definitions for each of these three main stages are given in this report.

The work has reiterated both the importance of the Treaty of Waitangi in forming meaningful relationships and partnerships from the start, and the role of Treaty principles to guide a collaborative process.

Conclusions

A number of challenges have been identified. Many of these highlight the issue of power sharing in arrangements between Māori and Government, the role of the Treaty of Waitangi in local government, and the need to clarify the role of iwi/hapū in future collaborative processes. There is also disagreement with the way Māori view regional councils as representatives of the Crown; this requires legal opinion and discussion through citation and case law. For collaborative processes to advance smoothly, the report also identifies an ongoing need to discuss and clarify indigenous rights and ownership of freshwater resources.

1 Introduction and Background

In response to increasing demands and pressures on New Zealand's freshwater resources, and widespread and worsening degradation of freshwater ecosystems, new policy and planning processes were introduced in 2009–2014 (i.e. Resource Management Act (1991) reforms, National Policy Statement for Freshwater Management (NPS-FM) 2011 and its 2014 amendment, including the National Objectives Framework – NOF). Work on further amendments is ongoing. The intention is to provide an effective policy and planning framework to incorporate multiple values and improved processes for collaboration, management, and decision-making, to ensure the long-term sustainability and viability of our freshwater resources. New Zealand's freshwater habitats and the species that live in them are intimately linked to our national identity and ways of life, whether it is through recreation, industry, tourism, energy production, biodiversity, ecological function or cultural and social values. Freshwater ecosystems are significant to Māori, and are integral to Māori cultural identity.

With increasing demands on finite freshwater resources and pressures on water quality and habitats there is potential for increased resource conflict and the need for trade-offs as a part of decision-making and management. This raises many questions when using freshwater resources locally and regionally, namely: What values are important and which take priority? Who decides this? How are indigenous rights taken into account? Who has the final say over how freshwater is managed and used? Who are the major stakeholders? And how are community, societal, and cultural values recognised and incorporated into decision-making processes and management? These issues further raise questions about the dimensions of power between various user groups and stakeholders, including local and central government, and iwi/hapū, about the need to understand the complex processes and dynamics between stakeholders – often with various agendas – before finding and determining long-term equitable solutions and implementing effective management strategies to sustain freshwater resources.

Efforts at setting allocation and water quality limits in catchments throughout the country have become a contentious and often litigious process, in which polarizing and 'positions-based' bargaining is the norm. The costs associated with this are not only involve time, money, and resources but can have detrimental social and cultural effects within communities. Collaborative processes are an opportunity for multiple parties to come together to develop options and solutions jointly (Bryson 2013, Ministry for the Environment 2013). Collaboration is increasingly being recommended internationally and locally as a way to understand and manage complex resource management issues (Ministry for the Environment 2013). In keeping with the recommendations of the Land and Water Forum (2010, 2012a) and as part a wider suite of freshwater reforms, collaboration in decision-making processes is now being widely promoted as promising a constructive alternative to resolving conflict over the management of water resources in New Zealand (Ministry for the Environment 2013). As resource management becomes more complex, we require "participation at all levels to achieve agreed environmental, social, cultural and economic goals and outcomes" (Harmsworth 2005).

In 2009 the New Zealand government initiated changes to how freshwater is managed in New Zealand by setting its strategic direction under the Fresh Start for Fresh Water programme, a process initiated in the same year by the formation of the Land and Water Forum (LAWF). The LAWF group was made up of a range of representatives with interests in freshwater,

including industry, electricity generators, environmental and recreational NGO's, iwi representatives, scientists, and other organisations with an interest or stake in freshwater resources. This resulted in the release of the first report 'A Fresh Start for Fresh Water' in 2010 and the 'National Policy Statement for Freshwater Management' in 2011 (updated in August 2014), and 'Freshwater Reforms 2013 and beyond' released in 2013, and updated in July 2014.

1.1   A new direction: collaboration and freshwater management

1.1.1   A fresh start for freshwater

A path for freshwater reform was initiated in 2009, when the NZ Government set a strategic direction for freshwater reform and initiated the 'Fresh Start for Freshwater programme'. The first phase of strategy work led by LAWF 2009–2010 identified a number of key goals and set out a blueprint for freshwater management that resulted in the report 'Fresh Start for Fresh Water' (Land and Water Forum 2010). The second report, released in April 2012, provided details on key elements of the blueprint and outlined a framework for national objectives in which freshwater limits within catchments could be set, and a collaborative process for policy and planning (Land and Water Forum 2012a). The second report introduced tangata whenua values and the relationship with freshwater and the Mana Atua Mana Tangata framework. The third report described the present tools and approaches required to manage freshwater, and made a large number of recommendations to achieve freshwater objectives (Land and Water Forum 2012b). Many but not all the LAWF recommendations were picked up in the Freshwater reforms (Ministry for the Environment 2013). There was extensive stakeholder engagement through the LAWF process, including input from the iwi/hapū and the Māori iwi leaders group. This on-going consultation resulted in the acknowledgement of the concerns Māori have about water management, the 'undefined and unresolved' rights and interests of Māori in freshwater, and the need for continuing engagement between the Ministers and iwi/hapū, especially through the Iwi Leaders Group (Land and Water Forum 2010). This continuing engagement with Māori relies on the use of a robust Treaty-based framework within the proposed collaborative freshwater policy and planning process.

Engagement with iwi should happen from the outset of any collaborative process to build positive working relationships for the entirety of the broader work programme. The Iwi Leaders Group has clearly stated in writing to the Prime Minister and other Ministers (Office of the Minister for the Environment 2009) that the groups desire that:

a) The Iwi Leaders Group and a group of Ministers led by the Prime Minister meet regularly to discuss freshwater management and allocation initiatives

b) The joint Māori work programme be continued

c) The Crown agree that there shall be no disposition or creation of a property right for water without prior engagement and agreement with iwi.

1.1.2 National policy statement on freshwater management

The 2011 report 'A Fresh Start for Fresh Water' (amended in August 2014; New Zealand Government 2014) provided the basis to develop the 2011 'National Policy Statement on Freshwater Management' (NPS-FM). The NPS-FM (New Zealand Government, 2011, 2014) sets out policies and objectives to help local government manage freshwater to meet social, cultural, environmental and economic goals, at a national level. It states: "successful water management will be implemented through set water quantity and quality limits".

The NPS-FM identifies the Treaty as the foundation for successful Crown– iwi/ hapū relationships, highlighting the tangible and metaphysical aspects that are of importance, as well as the spiritual connection Māori have with freshwater in New Zealand. Objective D1 (New Zealand Government 2011, 2014) sets out tangata whenua roles and interests in the freshwater space:

> *To provide for the involvement of iwi and hapu, and to ensure that tangata whenua values and interests are identified and reflected in the management of fresh water including associated ecosystems, and decision-making regarding freshwater planning, including on how all other objectives of this national policy statement are given effect to.*

The associated policies (Policy D1 a–c) guide local government (i.e. councils) to involve iwi and hapū in the management of freshwater ecosystems, working with tangata whenua to identify values and interests in local freshwater ecosystems, and have these reflected in the decision-making process and management of freshwater and freshwater ecosystems in each region (New Zealand Government 2011, 2014). The NPS-FM was followed by two subsequent reports on the proposed reforms in 2012. This information was compiled to produce the 'Freshwater reform 2013 and beyond' report.

The updated NPS-FM, released in August 2014, included a national framework to direct local governing bodies – regional and unitary councils – on how they go about setting objectives, policies and rules for freshwater management in their regional plans (New Zealand Government 2014). Water quality, quantity, allocation, and contaminant input data will need to be collected by each council to help inform them and the community when making decisions for freshwater management (New Zealand Government 2014).

National bottom lines have been identified for "ecosystem health" and "human health for recreation" values. Councils are required to maintain or improve water quality above a national set of minimum acceptable states for these values (New Zealand Government 2014). Te Mana o te Wai is a Māori concept interwoven in the NPS-FM, including the National Objectives Framework. The concept was drafted by the Iwi Leaders Group during the conception of the freshwater reforms to include information from discussions with iwi/hapū, the Crown, and the Land and Water Forum. Te Mana o te Wai represents the mauri of water and its significance for Māori and the ability to provide for human, environmental and aquatic health. As with 'national bottom lines', Te Mana o te Wai is enabled and strengthened through uptake by regional councils working collaboratively with Māori.

1.1.3   Freshwater reform 2013 and beyond

In March 2013, the New Zealand Government released "Freshwater reform 2013 and beyond" (Ministry for the Environment 2013) to guide the management of freshwater resources nationwide. The report identifies a collaborative planning process and implementation of a national objectives framework (NOF) as core objectives that come into effect immediately. The Government also recognises the importance of freshwater for Māori, and have committed to ongoing engagement throughout planning and implementation phases of any reforms.

The immediate freshwater reforms and next step reforms include three key areas:

Planning as a community

- Include an optional collaborative planning process in the RMA, covering plan development, independent hearing panels, and limited appeal rights.

- Formalise a role for iwi in providing advice and formal recommendations, with a requirement for a council to consider that advice before making decisions on submissions, both for the new collaborative process and on Schedule 1 decisions relating to fresh water in a proposed plan.

A national objectives framework

- Make consequential changes to the National Policy Statement and/or other regulation making powers to facilitate a National Objectives Framework and consequential amendments to section 69 and schedule 3 of the RMA.

- Develop regulation to implement the National Objectives Framework including national bottom lines.

Managing within quantity and quality limits

- Amend the RMA to ensure that councils can obtain information needed for accounting systems.

- To account for all freshwater takes: make amendments to ensure the Government can require councils to collect data from all water users and share data with central government; use any standard accounting system developed; and adopt defined methods for estimating water takes.

- Provide national guidance and direction on setting allocation limits covering all water takes.

- Develop sector good management practice toolkits.

- Develop national guidance on implementing the national policy statement provisions on freshwater efficiency.

- Develop national guidance on the specification of water permits.

- To account for all contaminants (for regional decision-making): make amendments to ensure the Government can require councils to collect data on all sources of contaminants and share data with central government; and adopt defined methods for estimating discharges.

- Review the Water Research Strategy.

- Provide national direction on accounting for sources of contaminants.

- Provide national guidance on the use of models for managing freshwater quality.

For Māori, there are significant reforms within all three key areas. The reforms highlight the desire to move towards a collaborative process for freshwater planning and management which will provide a basis for considering tangata whenua values and interests in the decision making process and engaging with iwi/hapū. This is identified in 'Planning as a Community: Reform 2', which seeks to provide a 'more effective role for iwi/hapū Māori in national and local freshwater planning and decision making' (Ministry for the Environment 2013, p. 26). This will be enabled through a statutory requirement for iwi/hapū representation within the collaborative planning process and a role for iwi/hapū to provide advice and formal recommendations to the council before its decisions on submissions on freshwater plans. Having statutory recognition for Māori input is of key importance as it enforces the inclusion of Māori as Treaty partners.

The freshwater reforms are giving rise to a new dynamic between local government, the Crown (central Government agencies) and iwi/ hapū/ Māori organisations. Issues of freshwater ownership and management are deeply rooted in indigenous rights, collective ownership, the common law doctrine of native title, and the legal framework under the Treaty and subsequent legislation, which continue to be debated and discussed inside and outside of the courts (Ruru 2009a,b, 2011a,b)

To roll out the proposed freshwater reforms successfully, local governing bodies require information and frameworks to help fill gaps in knowledge and capacity within their organisations. In particular, the use of a collaborative planning process, as opposed to the current Schedule 1 process, requires guidance for implementing change. The Values, Monitoring and Outcomes for Freshwater Management (VMO) programme seeks to provide government and local governing bodies with researched information and guidance to assist in the implementation of the freshwater reforms (Greenhalgh 2014).

1.2 Values, Monitoring and Outcomes for Freshwater Management Programme

The Values, Monitoring and Outcomes for Freshwater Management (VMO) programme (C09X1003) started in 2010, and was designed to address research and process knowledge gaps between the current submission and appeals process under the RMA, and the more collaborative policy and planning process environment we are moving towards under new legislation and policy, which intends to incorporate multiple values regarding freshwater management (Greenhalgh 2014).

The research carried out in VMO addresses three key barriers to effective decision making regarding freshwater resources:

1. Failure to understand and balance differing stakeholder values

2. Failure to accurately monitor the use and quality of water resources

3. Inability to effectively implement decisions to improve outcomes

To successfully implement the proposed freshwater reforms, it is important to determine and understand what collaborative processes and collaborative planning is, and identify key steps required for successful collaboration (see Appendix I for more detail).

Māori have a significant role in the management and planning of freshwater resources, as a Treaty partner, under current legislative frameworks and process, and as an interested party or key stakeholder. Māori are often represented at several levels within different interest groups, including iwi/hapū through to business and industry. Māori therefore have significant and unique issues and interests relating to freshwater. This report investigates and captures information from around New Zealand to help guide effective long-term engagement and identify what collaborative process means from a Māori perspective and how mātauranga Māori and tikanga Māori informs this process. To understand this perspective, there is a need to understand a historical context of indigenous rights regarding the management of natural resources and the current resource management (RMA) framework.

2   Māori and Freshwater Management

To understand the role of Māori within a modern collaborative freshwater management and policy space, it is important to first acknowledge and understand the unique te ao Māori world view and perspective. This perspective is largely derived from traditional mātauranga Māori, providing concepts and values that shape contemporary perspectives and thinking. Traditionally, Māori developed a comprehensive knowledge base of New Zealand's ecosystems, habitats and species that evolved and endured over the last 1000 years, through an intimate connection with the natural environment, usually in local areas. In terms of resource management, freshwater resources were sustained, managed and regulated through local cultural practice, based on iwi/hapū values and principles such as kaitiakitanga, whakapapa, and rangatiratanga linked to and managed through spiritual atua (deity) domains. This connection and knowledge provides Māori today with a "unique indigenous perspective for planning, policy, decision-making and other activities" (Tipa & Teirney 2003; Harmsworth 2005; Selby et al. 2010). Many Māori resource management issues will therefore be inherently different from those of other stakeholder and community groups.

An example of a local Māori perspective, is given by Te Uri o Hau hapū, who have engaged for several years in collaborative planning and integrated catchment management activity in the Kaipara Harbour. Te Uri o Hau summarise their relationship with water by reflecting on their physical and metaphysical connections, as well as the past, present and future of the Kaipara:

> *The Māori worldview and value of wai water is expressed in the concept wairua, which is an underlying principle of our relationship to water. Traditionally water was always conserved by Māori; like all taonga, water was protected and sacred. In order to prevent the bad uses of wai water, traditional methods for protection included for example rāhui and tapu. The mauri of wai water represents life-force and the ecological systems that live within that resource. Human activities such as urbanisation, development, mining, agriculture and horticulture impact on the mauri of wai water which degrade the resource* (Environs Holdings Trust 2014).

Since the 1991 RMA, there have been difficulties through lack of formal recognition for incorporating and understanding this unique Māori perspective and knowledge at the local and central government level (Harmsworth 2005; Jollands & Harmsworth 2007; Allen et al. 2011). This is starting to change under the Freshwater reforms as policy and planning seeks greater involvement of Māori in freshwater management. Outside drivers such as Government policy and legislation, Māori wish to play a greater role in the management of resources because of their values and responsibility to their ancestors to "uphold, express and articulate Māori culture and values in modern society" (Harmsworth 2005; Nelson & Tipa 2012). The importance of working with Māori groups, particularly around issues affecting the natural environment, therefore goes beyond considering Māori as just another stakeholder.

Establishing a more effective role for iwi/hapū Māori in national and local freshwater management will require greater understanding and inclusion of tangata whenua and Māori issues, interests and values, supporting the need for more effective collaboration. For many Māori, the ultimate goal of collaboration is to have a large range of benefits to Māori communities (Smith 2012). These benefits can be at the local level with whānau/marae/hapū, or at the regional and national level with iwi and should result in a more active role in freshwater management. Another important aspect of collaboration is the exchange and

transmission of knowledge within Māori groups and between Māori and non-Māori groups (Robb 2014; Allen et al. 2014).

Ultimately the effective inclusion of Māori values and mātauranga Māori in freshwater planning will have wide reaching benefits to all stakeholders and community to achieve freshwater management for everyone. Shared knowledge and experience are very important in the collaborative process to help build capacity within groups that can lead to innovative solutions to address specific issues (Harmsworth 2005; Allen et al. 2011; Harmsworth et al. 2011; Robb 2014).

2.1   The Treaty (Te Tiriti o Waitangi) and freshwater management

In terms of working towards improved management of freshwater resources and achieving effective Māori-Crown collaboration, it is essential to understand the historical context and contemporary setting of water rights in New Zealand. The entities, structures, and practices through which Māori interact with Local Government (e.g. TLAs and regional councils) and Central Government (i.e. the Crown) continue to evolve (Sinner & Harmsworth 2015). The 1840 Treaty of Waitangi is still the defining and guiding document for these relationships, and the government's freshwater reforms must be seen within this context. Māori see themselves as equal Treaty partners with the Crown and local government for all collaborative planning and decision-making, which therefore must reflect and be guided by the principles of the Treaty. For Māori, there are still unresolved issues in the legal ownership of freshwater in New Zealand. Many Māori have highlighted the need to address these issues before there can be any major changes in freshwater management (Ruru 2011b).

The signing of the Te Tiriti o Waitangi (The Treaty of Waitangi) in 1840 was a significant milestone for both Māori and Pākehā in New Zealand. In terms of the management of resources, Article Two is considered significant to modern debates as it states iwi/hapū Māori have exclusive and undisturbed possession of "their lands and estates, forests, fisheries and other properties" (Marr et al. 2001; Walker R 2004; Orange 2011) and in the Māori text, the guarantee of "tē tino rangatiratanga o rātou taonga katoa" – translated as Māori authority and control over all treasured things (Orange 2011; Ruru 2011b; Waitangi Tribunal 2011a). However, land and resources were progressively alienated, confiscated and sold under various Crown legislation and actions after 1840, such as the Native Lands Act and Settlements Act 1862–1865, with large-scale privatisation of land resources and land sales – with moves away from collective ownership – following the signing of the Treaty (Kawharu 1989; Ruru 2011a). The long-term impacts of land and resource alienation from iwi/hapū created a lengthy series of grievances and breaches of the Treaty that were not addressed until 1975 with the passing of the Waitangi Tribunal Act, which established the Waitangi Tribunal and a legal Treaty claims process (Williams 2001; Waitangi Tribunal 2006). Major issues of legal title, power inequity, and participation in resource management continue today to affect the way Māori engage with the Crown and local government.

Through the Treaty of Waitangi and legislation such as the RMA 1991, Māori are regarded as decision-making partners, having indigenous rights of resource ownership and management, and therefore in a unique position (from other stakeholders) at the onset of any collaborative process. Resource ownership and management rights accorded to Māori through the Treaty of Waitangi, and the associated negotiations with national, and regional government agencies, represent a significant contextual factor for collaborative initiatives across New Zealand

(Memon & Kirk 2012). Following Waitangi Tribunal settlements, the elevated capacity, organising potential, and levels of autonomy of iwi/hapū to manage freshwater resources will clearly have a major influence on collaborative process between Māori, the Crown and other stakeholders, especially under various co-management arrangements.

The National Policy Statement on Freshwater Management is one means for the Crown to fulfil its obligations under the Treaty, as partners in the management of NZ's natural resources. The Preamble of the NPS-FM recognises the importance of the Treaty, stating:

> *The Treaty of Waitangi (Te Tiriti o Waitangi) is the underlying foundation of the Crown–iwi/hapu relationship with regard to freshwater resources. Addressing tangata whenua values and interests across all of the well-beings, and including the involvement of iwi and hapu in the overall management of fresh water, are key to meeting obligations under the Treaty of Waitangi* (New Zealand Government 2014).

It is important to remember that the NPS-FM is only a policy tool and does not override the RMA (Ministry for the Environment 1991) legislation, or the Treaty. Part 2 of the RMA identifies for decision-makers certain Māori values and principles in relation to the use, development, and protection of natural and physical resources (Ministry for the Environment 1991). Sections 6–8 of Part 2 of the Act state the following:

6   Matters of National Importance:

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 recognise and provide for the following matters of national importance:

> (e) the relationship of Māori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga:

> (f) the protection of historic heritage from inappropriate subdivision, use, and development:

> (g) the protection of protected customary rights.

7   Other matters

> 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 have particular regard to –

> (a) kaitiakitanga:

> (aa) the ethic of stewardship:

> (b) the efficient use and development of natural and physical resources

> and (ba-j, etc)

8   Treaty of Waitangi

> 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 (Te Tiriti o Waitangi).

On the whole, resource planning has failed to recognise Māori rights and interests, which is largely a result of the mainstream planning concepts which are embedded in Western cultural traditions (Coates 2009; Selby et al. 2010; Taiepa 2013). The level of satisfaction of iwi with freshwater planning processes under a consultative model has often been the lowest among all sector stakeholders (Fenemor et al. 2011, fig. 5). The RMA (1991) has a number of provisions that ensure Māori concerns are taken into account; however, the implementation of these relies largely on formal Crown-Māori partnerships. In the past these have been of varying success, with the need for more purposeful and strategic planning (Allen et al. 2011; Taiepa 2013). Collaborative planning supported by formal agreement between Crown agencies and local Māori communities is one way to incorporate Māori rights and responsibilities into environmental management and planning (Taiepa 2013).

2.2   Māori rights to water in New Zealand

Māori rights and ownership to water continue to be examined today, and provide context when discussing collaboration, decision-making and management of natural resources. When English colonisation of New Zealand brought many laws to individualise Māori collective ownership of resources, it also brought the introduction of a common law doctrine of native title. Modern day arguments have been that under this 'common law' doctrine Māori customary title was never extinguished (Ruru 2009a,b, 2011ab) and therefore Māori interest and ownership rights still exist. For these to be extinguished, a full and transparent legal process would have to be debated, which has not yet happened (Ruru 2009a,b, 2011a,b). Therefore it is assumed "that Māori customary title to freshwater continues in various forms, and that as such, customary title of natural resources, such as freshwater, remain the collective property of iwi/hapū Māori in many tribal areas" (Ruru 2011a). In the current situation, the Crown claims the right to manage water and that as no-one 'owns' water, it is therefore regarded as a common property, like air, exempt of legal 'ownership' per se (Ruru 2009ab). The RMA provides no further clarity on the issue of this ownership; rather it vests responsibility for water management in local governing bodies (Ruru 2011a). This context raises a very important question about the existing and ongoing rights of Māori and their role in freshwater management and decision-making.

Since the signing of Treaty of Waitangi, a raft of Crown legislation and policies have historically been viewed as disempowering for Māori with regard to resource management decision-making. Many of the details on the effects of land loss and alienation from tribal lands were derived both from historic land court hearings, and from Waitangi Tribunal claim hearings. A number of authors (e.g. Mead 2012; Selby et al. 2010) suggested this combination of power, legislation, and social inequality has typically led to the undermining and diminishing of Māori values, issues, and knowledge. In addition, the privileging of non-Māori values and knowledge systems has often marginalised iwi/hapū groups from constructive dialogue and created barriers for meaningful engagement (Tipa & Welch 2006; Ahuriri-Driscoll et al. 2007; Joseph 2008).

2.3 Mātauranga Māori and the environment

Loss of indigenous knowledge and barriers to the transmission of knowledge are significant issues well documented in New Zealand (Williams 2001; Pihama 2012; Royal 2012). The scarce use and understanding of mātauranga Māori in respect to environmental research and resource management can be attributed to a range of factors, including: general lack of understanding of mātauranga Māori and its role in modern society; loss of mātauranga Māori in local areas; knowledge inequality in decision-making; lack of mātauranga Māori used in science and resource management; disconnection of Māori from customary resources; and the way historical legislative barriers have impacted on the use of knowledge as described in previous sections.

Māori epistemology, Māori beliefs, and philosophy, and the natural environment can be thought of as a broad foundation for developing many forms of mātauranga Māori, influencing modern attitudes and patterns of thinking (Durie 2005). However, in many areas of cross-cultural research there is a risk of assimilating the indigenous world view into the dominant cultural world view for that geographical area (Agrawal 1995; Pihama 2012; Smith 2012). In terms of mātauranga Māori the Māori world view (te ao Māori) is valid in its own right, but the co-option of this knowledge within a more dominant knowledge system – such as western knowledge – can perpetuate power inequality and the dominance of the mainstream and scientific world view and to this end there are inherent difficulties describing concepts and values of te ao Māori using scientific language and scientific frameworks (Metge & Kinloch 1978; Harmsworth 2001; Townsend et al. 2004; Joseph 2008; Allen et al. 2011; Muru-Lanning 2012). Te reo Māori (Māori language) is typically shaped by Māori communities to express their Māori culture and there are risks of this being 'lost in translation' (Joseph 2008). Attempts to manipulate, assimilate or interpret a te ao Māori world view using scientific methods or language are therefore fraught with difficulties.

Communicating mātauranga Māori and stressing its importance within a science-dominated collaborative arena is a challenge, given the prevailing world view is often unaccommodating of alternative and indigenous views and values. However, this can also be an opportunity for innovation and relationship building, should both parties be working towards a common vision or set of goals. Within any proposed collaborative freshwater management and decision making framework mātauranga Māori should therefore be communicated and shared within this framework and process. Diverse perspectives can be taken into account as such:

> *The key for achieving a clean, healthy environment balanced with expectations*
> *for economic growth and opportunity is our ability to work productively together,*
> *and participation lies at the heart of this. Quality decision-making requires*
> *effective participation between key stakeholders, and should be built on trust,*
> *respect and understanding. On occasion it also sometimes requires consideration*
> *of the diverse perspectives of an issue, and the integration of different types of*
> *knowledge* (Harmsworth, 2005).

3   Collaborative Frameworks

For Māori, collaborative processes typically take place within a tikanga- (cultural, values, correct process) based framework that guides and orders, towards agreed and aspirational outcomes, from start to finish. From a Māori perspective, this is the key to collaborative environmental decision making by agencies for freshwater management. Within the VMO programme one of the key research objectives, which investigates "what does effective collaboration look like from a Māori perspective?" and "what are the correct (tikanga-based) collaborative steps to be used or followed from the beginning to the end of the process, so that collaboration can be maintained and deliver desired outcomes for Māori, council, and community?". We have therefore examined these terms as a process, from co-governance to co-management to co-planning. The term 'co-' can also mean co-operative in which a collaborative process can take place, but the terms are used interchangeably and typically 'co-' is short for collaborative.

It is suggested in this report that this tikanga cycle should start with recognition and respect of the Treaty of Waitangi, which recognises the importance of building strong relationships and partnerships from the onset based on Treaty principles, where early discussion can also define or agree on desired outcomes (e.g. a healthy river, restoring the mauri of the river). This is an essential first step to make Crown-Māori relationships meaningful, and provides a basis for on-going dialogue, particularly when it comes to discussing the management and ownership of common pool resources such as freshwater. In terms of freshwater management with wider groups, including stakeholders and communities, this partnership often begins with some type of co-governance arrangement between key partners or members, such as through signed agreements and accords to work together to achieve a desired or stated outcome or goal(s). Agreements such as the 'Waikato river joint management agreement' and the 'Manawatū Rivers Leaders Accord' or memoranda of understanding (MOUs) or partnership (MOPs) between Councils and local iwi/hapū Māori are examples. These early agreements often reflect the Treaty in some way, and provide both the basis for the development of relationships and collective organisations to achieve a goal(s), and also statements about the responsibilities and expectations of each party. This can progress to a number of questions asked at this early stage, such as, what is the desired membership within an effective collaborative process? This needs to be discussed early in the process to clarify expectations, including, who should be members of the collaboration, how is this made up, who is representing who at meetings, under what agenda, to achieve what, and then who should attend? A high degree of trust and respect must be established early on in the collaborative process to work together and respect individual and group perspectives. The intent to recognise and use mātauranga Māori in discussions and within the decision-making is usually signalled early in this process.

This VMO research shows that collaborative process can be examined in 3 main stages (Fig. 1). This commonly begins with co-governance at a high level (e.g. Treaty relationships, accords, MOU, MOPs), which provides the organisational framework and foundation for co-management. Co-management is a demonstration and implementation of management strategies and actions on the ground through a variety of responsibilities and practical mechanisms (e.g. restoration). The next stage is co-planning, indicating an advanced stage of collaboration. Most of the governance models show that some form of co-governance and co-management is required before co-planning can be developed and implemented successfully. Multiple governance examples and models are emerging in New Zealand to co-manage

natural resources. However, this study found that there are only limited good examples of processes that demonstrate co-planning. The three stages defined in this report are:

- Co-governance: an essential prerequisite to achieve some type of outcome or goal. This stage is essential to achieve effective collaboration between Māori and the Crown. It includes the institutional and organisational arrangements and usually results in a formal agreement between key parties;

- Co-management: a practical demonstration of co-governance through responsibilities and actions on the ground, establishing how a desired goal or outcome will be carried out and achieved. It can involve a large degree of planning, implementation, and actions led by mandated agencies such as councils (e.g. catchment plans, consents approvals, river clean ups);

- Co-planning (equitable planning): an advanced stage of the collaborative process and requires recognition and understanding of mātauranga Māori through any local or regional planning and implementation stages. It generally follows some form of co-management, whereby iwi/hapū groups and the Crown (or associated agencies) work together to plan and manage resources, such as freshwater.
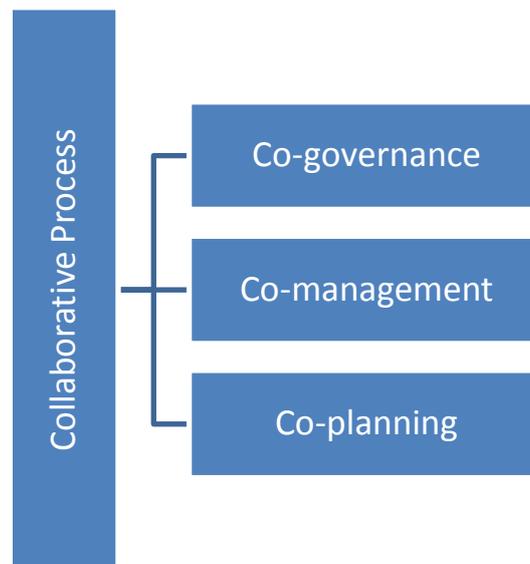
Figure 1 Collaborative framework for freshwater planning and policy making.

A key finding from this research is the importance of iwi/hapū leadership within the collaborative process. This is well illustrated in a number of examples, including Te Uri O Hau in the Kaipara catchment (Environs Holdings Trust 2014), where iwi/hapū assert mana moana and mana whenua (decision making rights over natural resources), and bring this mandate – as a Treaty partner – into the governance. As stated by Te Uri o Hau iwi, 'within a collaborative framework, iwi/hapū bring mātauranga Māori to the table and can provide leadership to enable the development of a management framework that is co-designed, co-managed and co-implemented'. As leaders they have equality at the starting position of a collaborative process whereas in the past it has been tacked on or co-opted as "cultural" needs or issues (Environs Holdings Trust 2014). The interface between Māori and non-Māori

frameworks and processes is critical as new, context-specific processes and perspectives are formed, rather than old ways being assumed (Environs Holdings Trust 2014).

In much of the NZ literature and working examples around the country the terms co-governance and co-management have been used synonymously and often interchangeably, and are also poorly defined and lacking distinction in the literature. We elaborate on the three stages below.

3.1 Co-governance

Governance is ultimately about "power, relationships and accountability – who has influence, who decides, and how decision-makers are held accountable" (Joseph 2007). Co-governance can be defined as the devolution of power between multiple parties (Dodson 2014) and generally includes the institutional and organisational arrangements that result from this devolution of power and the formal agreements that will be developed between key parties. Water governance refers to the institutions, legislation, and decision-making processes applied to develop and manage water resources (Fenemor 2014; Fenemor et al. 2011).

In the collaborative decision-making space, governance is particularly important when a group of people come together to work towards a common goal or end point (Joseph 2007). As Treaty partners, Māori have a much greater role in freshwater management than just through consultation. If we use the Treaty as the basis for developing strong relationships in a collaborative process and in freshwater management, a meaningful partnership would regard Māori knowledge, values, and issues as having equal validity with other non-Māori knowledge systems, values and issues. Evidence of good co-governance will involve Māori equally in the selection of members, setting of the terms of reference, ensuring opportunities for those not actually present, and the empowering of others by implementing robust outcomes reached through consensus. Governance models are greatly influenced by legal systems, institutional frameworks, and traditions, so there is no one-size-fits-all approach (Joseph 2007; von der Porten & de Loë 2013). But experience from past and present examples can be used for the best approach.

Successful collaboration for freshwater management in New Zealand will therefore be built on two pillars: the Treaty of Waitangi (and principles) and a strong equitable governance organisation. Figure 2 shows a Treaty of Waitangi-based partnership supported by an appropriate governance structure to illustrate how discourse between two world views can be brought together to achieve planning and management goals. For many Māori, the notion of governance is heavily based on culture, and includes an understanding and alignment with Māori values, traditions, institutions, and cultural norms that make Māori governance based much more on values rather than rules (Joseph, 2007). The Māori world view and the many values (e.g. rangatiratanga, kaitiakitanga, manaakitanga, wairuatanga, etc.) that govern behaviour, values, and practices are interrelated with tikanga or rules (Mead & Mead 2003) and need to be integrated into these models to influence and shape governance structures and processes.
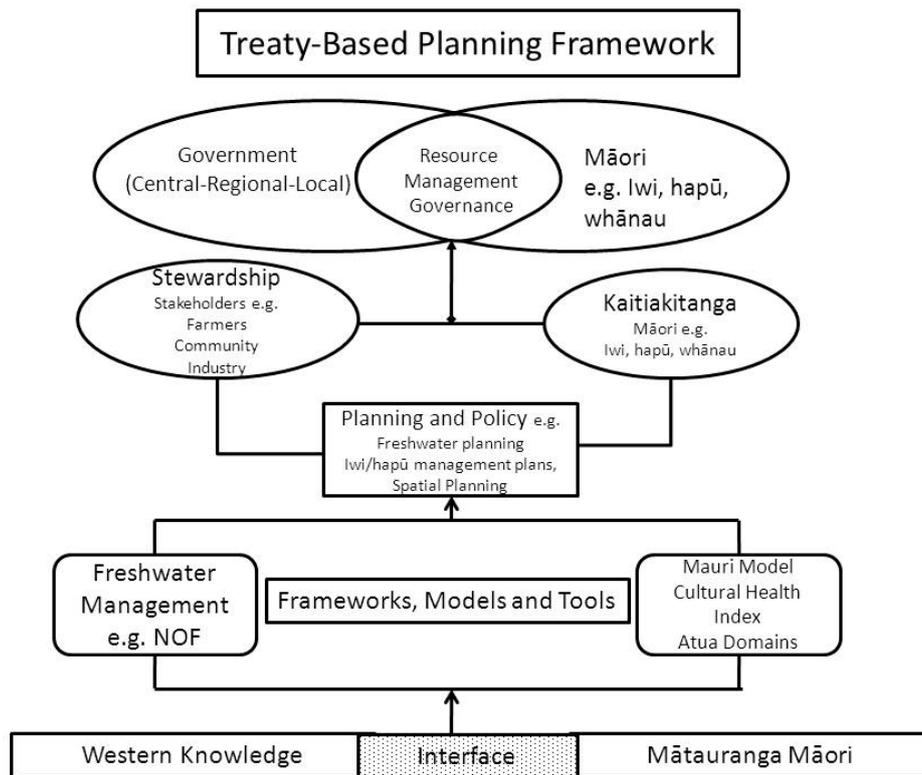
Figure 2 Treaty-based Planning Framework for Resource Planning and Management (Harmsworth & Awatere, 2013).

Māori driven governance structures tend to vary depending on the reasons for which they have been established; some are set up to manage Treaty settlement assets and finances (including infrastructure, services, land, water, forests, fisheries, and other natural resources), while others have been initiated as part of co-management arrangements with other stakeholders to achieve wider regional and national interests, such as river clean up agreements. Under Treaty settlements, various arrangements of Māori governance entities have emerged, including post-Treaty settlement organisations (e.g. post- settlement governance entities (PSGEs)) based on iwi/hapū/marae mandates. Many of these mandates were derived from former trust board and iwi authorities that are now increasingly controlling and managing large resource and financial assets on behalf of iwi/hapū. For example, large corporate-style Māori business organisations, such as Aotearoa Fisheries, manage fisheries assets on behalf of collective iwi/hapū organisations and shareholders. However, many tribal governance structures still remain, ranging from rūnanga to hapū to marae committees.

3.2   Co-management

Co-management, or the joint management of common-pool resources, is a power-sharing arrangement between the State (i.e. local or central government) and a community of resource users (Carlsson & Berkes 2005), which could involve decision-making, use, actions, and access to natural resources and monitoring by more than one interested party (Local Government New Zealand 2007).

Co-management, in contrast to co-governance, is more action oriented and identifies how something will happen and be implemented, building on institutional and organisational arrangements. Co-management, the practical demonstration of co-governance through decision-making and explicit or agreed responsibilities and actions, establishes how a desired goal or outcome will actually be implemented, and provides the practical steps needed to move from a current state to a future goal or vision. Co-management arrangements require a formalised structure but also some flexibility in the implementation, as this will be informed by variables such as monitoring results and State/community objectives, which are likely to change and evolve over time (Carlsson & Berkes 2005).

Multiple processes can be considered co-management arrangements, as shown in Figure 3. There is a continuum of devolution of power by the State, from informing the community to partnership and community control of common-pool resources (Figure 3). This ranges from no engagement or participation, through 'informing', to a much more involved and powerful position exercised through partnerships or community controlled processes (Local Government New Zealand 2007).
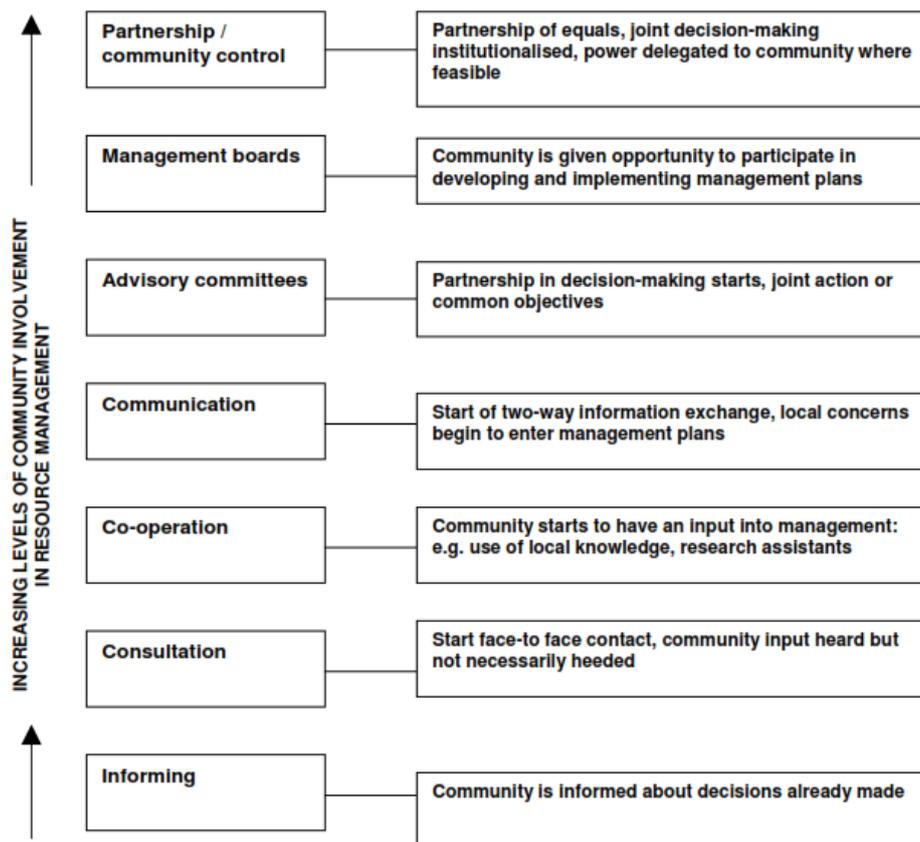
Figure 3 Co-management arrangements and the varying levels of community involvement in resource management (Local Government New Zealand 2007).

A range of models are emerging for the co-management of freshwater with different types of membership, representation, and mandates being explored. One option is to have a Joint Management Agreement (JMA) that seeks to develop and encourage collaborative projects between local governing bodies and Māori (Te Aho 2010). Currently there are JMAs for

Ngāti Tūwharetoa and Taupō District Council with regard to Lake Taupō and Ngāti Whatua o Ōrakei and the Auckland Council (Te Aho 2010). Another option, which is currently used for management of the Waikato River, Te Arawa Lakes and the management of the Kaipara Harbour, is within a multi-organisational programme. These case studies vary in their structure and operations but all have buy-in by local Māori and governing bodies to work towards a specific vision and strategy. The details of these case studies are discussed later in this report.

A number of practical steps can be shown within the co-management cycle, often following some type of co-management strategy. Co-management can be diverse and dynamic but is pre-empted by the need for decision-making. When it comes to the practical steps to move from a current state to a future state defined by a vision/aspirations/goals and objectives there are numerous phases and options to progress this within a co-management/decision-making framework and then measure progress towards stated goals. For example, a vision or broad goal could be to achieve: 'a healthy freshwater ecosystem or waterway' or 'restore the mauri of a river or lake', or 'restore a wetland'. The goals and objectives to achieve this are based on values such as, what is valued by the community, by iwi/hapū, by council, by stakeholders? Part of the decision-making process under co-management strategies is to identify and implement specific actions to achieve objectives and goals, e.g. enhancing ecosystems, habitats, restoring valued species, such as plants/tuna/native fish/birds. For example, specific actions to restore native fish populations can include improving habitat extent and condition, removing barriers to native fish passage (e.g. installing fish passes), and management of pest fish species such as pest fish reduction and/or mammal management through regular trapping. Specific actions at both farm and catchment level across landscapes can include habitat restoration through replanting, fencing to exclude livestock, effluent management, retiring agricultural land back to native vegetation, reducing stock-carrying capacity, improving pasture management, installing infrastructure to minimise nitrate leaching, fencing off waterways, and dealing with sediment and nutrient inputs, which can only be carried out under some type of planned management regime with adequate resources and capacity.

3.3 Collaborative planning

Māori and local government have made huge strides in developing and fostering positive working relationships, particularly since the passing of the Resource Management Act in 1991. However, despite 20 years of progress there still remains a high degree of frustration over the limited representation of Māori perspectives and knowledge in land-use planning and policy formation in New Zealand. Co-planning indicates an advanced stage of the collaborative process and co-management, where Māori planners work alongside mainstream planners to apply mātauranga Māori and accommodate Māori values. This can be reflected, for example, in regional plans, plan changes, policy, rules, and planning objectives where indicators are 'tangible expressions of Māori values', and tangibly demonstrated within planning design and development.

Awatere et al. (2013) identified four key qualities for successful co-planning in an urban environment, which are also relevant in a broader planning context. These are:

- positive relationships between mana whenua, property developers and local government.

- access to quality information like mātauranga Māori based assessments (e.g. the cultural health index and cultural impact assessments).

- recognising the innovative features of mātauranga Māori, e.g. landscape design based on Māori motifs and patterns.

- developing the technical planning capability and capacity for mana whenua to participate in planning processes.

The current low levels of Māori participation in co-planning generally reflect the dominant mainstream processes of planning and policy and the very low numbers of specialist Māori staff and councillors employed in local authorities. Poor understanding by local authorities of Māori values, perspectives and knowledge, and limited iwi/hapū (tribe/sub-tribe) capacity are also contribute significantly to the poor uptake and incorporation of mātauranga Māori in planning. As a consequence, there is typically a lack of direct Māori input into most planning and decision-making processes, and limited successful co-planning examples exist.

Awatere et al. (2013) demonstrated urban co-planning through a case study of the Wigram Skies property development in Canterbury. In this particular example, property developers and local authorities worked with local iwi/hapū staff to consider iwi/hapū cultural and environmental aspirations for urban environments. Iwi/hapū aspirations are often diverse and span water quality, indigenous biodiversity, cultural heritage, and sustainable energy use – they go beyond the erection of pouwhenua (carved posts) and Māori art-stylised buildings. Aspirations need to be well articulated by iwi/hapū researchers and understood by planners. In this example, the process for the integration of mātauranga Māori demonstrated how urban planning and development could incorporate detailed cultural values and environmental concerns. These concerns ranged from aesthetic, such as Māori art and design, to cultural values influencing plantings and wetland restoration, through to cultural values as part of detailed infrastructure and urban road, residential, and commercial design.

In another example, Harmsworth and Awatere (2012) demonstrated a comprehensive collaborative process to encourage direct and effective involvement of mana whenua groups, and identified the need for stronger provision for mana whenua engagement as kaitiaki to achieve sustainable management of freshwater. This work was supported by Auckland Council, and included the identification and uptake of mana whenua values into Auckland Council's Unitary Plan. Harmsworth and Awatere (2012) identified a number of approaches to achieve effective co-planning including:

- improving the resourcing of iwi/hapū capacity through "building in" (e.g., pre-loading) and "formally recognising" a mana whenua partnership with Local Government (e.g. Treaty of Waitangi claims and settlements) in planning documents to achieve anticipated outcomes in the management of natural resources.

- documenting Māori interests and values.

- following good practice guidelines on collaboration and engagement outlined in the Regional Policy Statement and Māori values frameworks.

- undertaking collaborative projects such as joint restoration efforts of waterways.

- using kaupapa Māori based planning frameworks such as Te Kōhao o te Ngira (Harmsworth & Awatere 2012) and iwi management plans to identify cultural values, interests, issues and outcomes.

The collaborative planning process recognises that mana whenua are more than just stakeholders, and have valuable contributions to make within the collaborative planning context for the sustainable management of natural resources. A conceptual framework is presented in Figure 4 that promotes the idea of a Treaty of Waitangi partnership for developing the Hauraki Marine Spatial Plan. At the heart of the framework are key Treaty of Waitangi principles, including reciprocity (recognition of the essential bargain), rangatiratanga (authority, self-determination), shared decision-making, partnership, active protection, and ōritetanga (mutual benefit, the right of development and redress).

Local Government recognise the delegated authority from the Crown to enact the principles of the Treaty of Waitangi including the principle of ***partnership*** – the duty to interact in good faith and in the nature of a partnership. In this example, the Auckland Council, recognise that a meaningful partnership will provide opportunities for mana whenua to effectively participate in all planning processes from work streams to the Project Steering Group. It is therefore important to have empowered, well-resourced, and well-informed mana whenua contributions to those core processes of collaborative plans, particularly to the work streams where ideas are vetted before their inclusion into the plan.

A mana whenua presence in parallel work streams does not necessarily mean that this is an informed mana whenua position. The mana whenua position does not necessarily exist *ex ante* of the subject and may require considerable discussion in order to negotiate a contemporary perspective that is useful for the current planning process. Figure 4 proposes the inclusion of a separate mātauranga Māori based work stream alongside other work streams. It is within this context that the discussions on mana whenua contributions take place for each of the other work streams considered by the plan. A dedicated mātauranga Māori based work stream therefore provides the opportunity for a concerted effort to develop an informed mana whenua position and minimises the risk of isolating mana whenua where other voices are often heard the more loudly. This combined and cooperative approach still advocates for mana whenua contributions from each of the other work streams, as shown in Figure 4. In this collaborative model working alongside mana whenua in a specific mātauranga focused work stream achieves this.
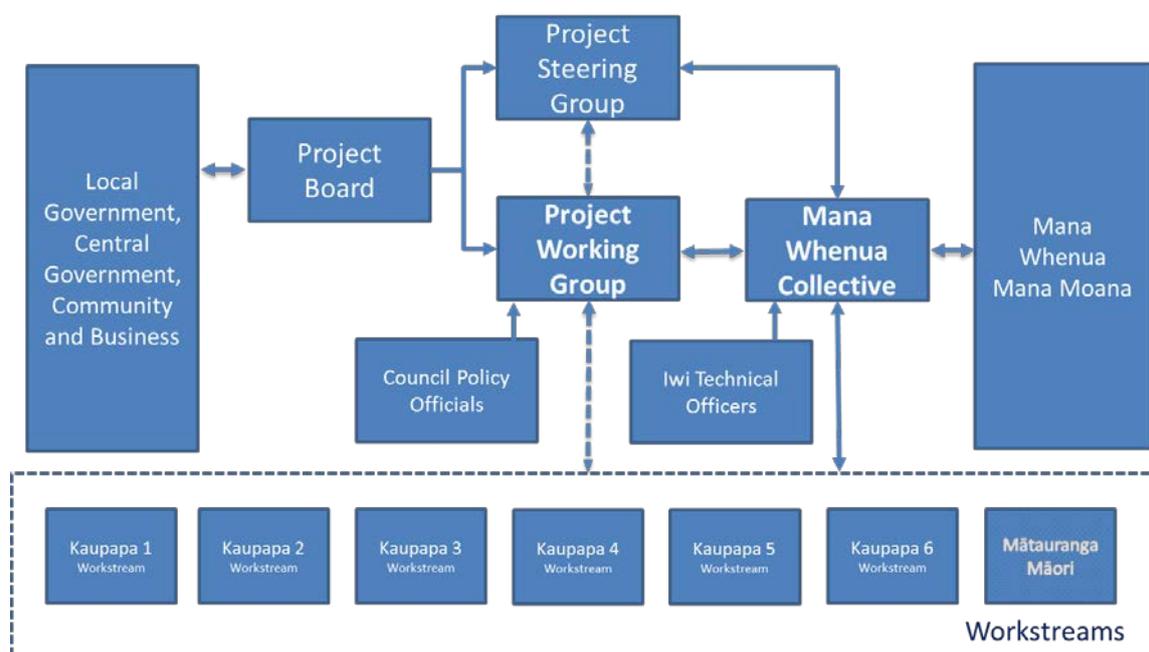
Figure 4 Conceptual framework for collaborative planning.

However, some caution is required when exploring the potential for integrating mātauranga Māori into freshwater planning. Mātauranga Māori is context specific and it would be difficult to apply generic elements of mātauranga Māori at local scales (Awatere et al. 2013; Harmsworth et al. 2013; Robb 2014) such as rules for harvesting from mahinga kai or access to wāhi tapu/taonga. Nevertheless, certain elements and processes, if adhered to, can lead to the effective incorporation of mātauranga Māori into planning (Awatere et al. 2013; Harmsworth et al. 2013; Awatere & Harmsworth 2014). A genuine attempt at recognising kaitiakitanga in planning will consider the worldview of iwi/hapū together with the sustainability goals of local authorities.

3.4   Māori-Council examples of collaboration

Previous sections of this report have described the context of New Zealand's environmental decision making and planning processes and what collaboration means from a Māori perspective. Across the country there are multiple councils, iwi/hapū groups, and communities who are engaging in collaborative processes for decision-making, planning, and managing natural resources. This section provides key examples and summarises the variety of collaborative governance arrangements, management and planning processes being used nationwide. Governance structures and legal status of collaborative agreements can vary markedly from council to council. It also provides an update of achievement in each example and a brief note on the role of mātauranga Māori to inform collaborative process.

The Resource Management Act (1991) directs Regional Councils to recognise and provide for the relationship of Māori and their culture and traditions with waters as a matter of national importance. Further, under modern Treaty settlements many statutory joint or co-

management regimes are now in place for defined freshwater catchments including the Te Arawa Lakes, Te Waihora (Lake Ellesmere), and the Waikato and Waipa rivers. We examine some of the key examples of collaboration emerging and the various models of Māori co-governance and co-management below.

3.4.1   Kaipara Community – Integrated Kaipara Harbour Management Group (IKHMG)

The Integrated Kaipara Harbour Management Group (IKHMG) was established in 2005 to "promote integrated management and inter-agency coordination and kaitiakitanga of the Kaipara Harbour" (Integrated Kaipara Harbour Management Group 2011a). The IKHMG group consists of representatives from Te Uri o Hau Environs Holding Trust, Ngāti Whātua ki Kaipara, Te Wahanga Te Manaakitanga i Te Taiao, Department of Conservation (DOC), Ministry for Primary Industries (MPI), Landcare Research, National Institute for Water and Atmospheric Research (NIWA), Forest and Bird, the Auckland Council and Northland Regional Council (Integrated Kaipara Harbour Management Group 2009). There are 19 additional interested parties (a wider stakeholder group) identified in Appendix Two of the Terms of Reference document, available online (2009).

The IKHMG is an iwi-led process with two co-chairs representing each iwi: Ngāti Whātua ki Kaipara and Te Uri o Hau. The decision-making process within the group is by consensus; however, the IKHMG Chair may exercise the option of using a vote (Integrated Kaipara Harbour Management Group 2009). The Group is a non-statutory body and relies on good faith and the commitment of the parties to the Terms of Reference and common vision for the Kaipara Harbour (Integrated Kaipara Harbour Management Group 2009).

One of the key tools identified within the Kaipara Moana Integrated Strategic Plan of Action 2011–2021 document is kaitiakitanga (Integrated Kaipara Harbour Management Group 2011b). This represents an opportunity for Kaipara hapū to apply their responsibilities as kaitiaki and their knowledge to achieve cultural aspirations identified by their marae or hapū (Integrated Kaipara Harbour Management Group 2011b). Cultural monitoring tools are one way to help kaitiaki assess the health of their environment, and to track progress towards or away from cultural goals and aspirations. Te Uri o Hau has developed a cultural monitoring framework to guide this process (Fig. 6). In December 2011 and in June 2014, training wānanga for Kaipara hapū kaitiaki on the value and use of cultural monitoring tools was carried out. This helped build capacity within the Kaipara communities so they are able to monitor their environments in a way that is meaningful for them. The information gathered can help guide land management and discharge regulations in the Kaipara catchment.

3.4.2   Waikato Regional Council – Waikato River Co-Management

The Waikato River represents the physical embodiment of the mana and mauri of Waikato-Tainui. Following the land wars of the 1860s between local Waikato-Tainui iwi/hapu and the Crown, more than 1.2 million ha of land was confiscated from Waikato-Tainui in 1865 (Waikato-Tainui 2013; Waikato River Authority 2013). When the Crown confiscated the land surrounding the Waikato River, they also assumed control of the river itself (Selby et al. 2010). The land in the Waikato was settled by the Europeans in the mid-19th century, and converted mostly into agriculture, with large-scale wetlands drained and forests felled. This

rapid transformation of the landscape from the middle of the 19th century together with strong development pressure in the latter half of the 20th century have seriously degraded the health of both the terrestrial ecosystems and the river.

In 1995 Waikato-Tainui settled land grievances with the Crown as part of the Raupatu Claim but excluding the river. In 2008 an agreement in principle was reached to settle historical claims for the Waikato River (Selby et al. 2010), and in 2009 Waikato-Tainui signed a Deed of Settlement with the Crown followed by the Waikato-Tainui Raupatu Claims (Waikato River) Settlement Act 2010 (New Zealand Government 2010b). Co-governance and collaborative management arrangements were discussed as the Waikato River Settlement negotiations progressed.

The Settlement Act of 2010, which gave effect to the Deed of Settlement, recognised a large number of provisions and activities, including redress of assets, the Kingitanga and other accords, and implementation of Te Ture Whaimana o Te Awa o Waikato – The Vision and Strategy for the Waikato River. It also provided co-management arrangements for the Waikato River:

> *Resource management issues are an integral part of the Waikato River settlement. For example, in order to realise the vision a number of objectives are listed. They include `the integrated, holistic, and coordinated approach to management of the natural, physical, cultural, and historic resources of the Waikato River' and `the adoption of a precautionary approach towards decisions that may result in significant adverse effects on the Waikato River . . .'. To achieve the vision, twelve strategies will be followed. The first two strategies are to ensure that the highest level of recognition is given to the restoration and protection of the Waikato River, and to establish what the current health status of the river is by utilising mātauranga Māori (traditional Māori knowledge and knowledge systems) and the latest available scientific methods. This second strategy is already underway. The Waikato River Independent Scoping Study is being undertaken to identify restoration scenarios for the Waikato River, the costs and benefits of these scenarios and priority actions* (Waikato Regional Council 2010).

Following the Act, the Waikato River Authority (WRA) was established in 2010 as a co-governance entity arising out of Treaty claims by Tainui, Tūwharetoa, Raukawa and Te Arawa (New Zealand Government, 2010a) and several Joint Management Agreements (JMAs) have been developed with each local authority located within the Waikato River Catchment to carry out environmental panning under Te Ture Whaimana. The WRA has a co-governance arrangement with a total of ten board members; five members have been appointed by iwi, and five by the Crown (Waikato River Authority 2013). The WRA is responsible for setting the vision and strategy for the river, to which the Waikato Regional Council (WRC) must then give effect. The primary goal is to restore and protect the health and well-being of the Waikato River for future generations (Waikato-Tainui 2013; Waikato River Authority 2013) reliant on a successful governance model.

As part of these arrangements, the WRA works with the Waikato Regional Council (WRC) to establish a collaborative stakeholder group, including the selection of members, which will make recommendations to the WRC and WRA on a plan change for improving the health of

the Waikato River as required by the Vision and Strategy (Waikato River Authority 2013). The stakeholder group held its first meeting in March 2014.

Certain land management practices, such as intensive agriculture, energy production, and water abstraction, have been identified by both Māori and scientists as having a negative impact on the river health and associated flora and fauna species (Jowett & Richardson 1995; Quinn et al. 1997; Vant 1999; Tipa 2003; Harding et al. 2004; Allibone et al. 2010; Harmsworth et al. 2011; Lockie & Neale 2012; Ministry for the Environment 2013). As part of strategies to improve the health of the Waikato River, a range of actions and best land-use management practices are proposed, including: fencing, riparian planting, forestry, nutrient management, and the setting of nutrient limits and bottom lines, with a focus on the reduction of nutrient and sediment transport into freshwater habitats, and the improvement of habitat quality (Parkyn et al. 2003; Harding et al. 2004; Peters & Clarkson 2010). Sewerage and point discharge sources of contamination also need to be addressed to meet Māori aspirations for river health.

The Waikato-Tainui settlement is seen as a positive example of catchment-scale co-governance and co-management to achieve iwi/hapū Māori aspirations and improved freshwater management.

3.4.3 Taupō District Council – Ngāti Tūwharetoa JMA

A Joint Management Agreement (JMA) between Taupō District Council and Tūwharetoa Māori Trust Board, representing Ngāti Tūwharetoa iwi, was signed in 2008. The Council granted Ngāti Tūwharetoa decision-making power in resource consent conditions relating to their tribal area, the first agreement of this kind in New Zealand. A joint committee was established in which iwi appointees joined councillors in resource consent and private plan hearings changes that apply to Māori multiple-owned freehold land. It is estimated that more than 50% of the Taupō District's land area is owned by members of Ngāti Tūwharetoa. The Taupō District Council and the Tūwharetoa Māori Trust each select two commissioners to decide on resource consent applications (New Zealand Government 2008).

Many of the decisions on land use and resource consents are based on the Ngāti Tūwharetoa Environmental Management Plan (EMP) (Tūwharetoa Māori Trust Board 2003). This document identifies and recommends the use of cultural monitoring tools to assess health of aquatic and terrestrial habitats. There is presently limited information on whether cultural monitoring tools are currently being used in and around the Ngāti Tūwharetoa tribal area, but some key objectives are defined in their EMP:

- Promote and encourage partnerships and better communication between Ngāti Tūwharetoa and statutory authorities on all resource management issues.

- Develop and promote frameworks that facilitate communication with regional and District councils as well as other owners and users of resources within Tūwharetoa rohe.

- Development of environmental performance indicators (tohu) by hapū that can be used to monitor the mauri of water is identified in the EMP.

- Develop a suite of environmental performance indicators (tohu) by hapū that can be used to monitor and assess the effects on soil quality (e.g. leachates from

landfills, waste water treatment areas, retention ponds); the health of wāhi tapu, indigenous fisheries, mineral fields, geothermal fields, air-space; and the health of flora and fauna.

Ngāti Tūwharetoa is also part of the Waikato River Authority, under the co-management agreement with Waikato-Tainui, Ngāti Raukawa, and Te Arawa River iwi and local councils to manage the upper reaches of the Waikato River (New Zealand Government 2010a). In terms of cultural monitoring, the Tūwharetoa Māori Trust Board, supported by NIWA, is working with Tipa and Associates and Kusabs and Associates to establish a cultural framework and operational monitoring programme for the future monitoring of the health and wellbeing of Te Awa o Waikato. Monitoring in this project includes the development of a report card for 'Te Mātāpuna Wai o Tongariro' based on Tūwharetoa Cultural Health Indices.

3.4.4 Bay of Plenty Regional Council and Rotorua District Council – Te Arawa Lakes Joint Partnership

In 2004 a Deed of Settlement that was signed by the Crown and mandated representatives of Te Arawa to settle historical grievances relating to lakes in the area. The loss of ownership, use and control of the lakes through an agreement signed by the Crown and Te Arawa in 1922, led to the degradation of health of the lakes through land-use impacts, point-source discharge, and septic tank inputs from residential dwellings adjacent to the lakes (Selby et al. 2010). The Lakes are important for the cultural, social, environmental, and economic well-being of Te Arawa, and the settlement was seen as a mechanism to "strengthen the ability of the tribe to affect key areas in the plan development process" (Selby et al. 2010).

The Deed of Settlement resulted in the return of 13 lakebeds to Te Arawa and a joint partnership between Te Arawa Lakes Trust, BOP Regional Council and the Rotorua District Council to co-manage the Rotorua Lakes (New Zealand Government 2004). The Rotorua Lakes Strategy Group is made up of two representatives from each of the following bodies: Rotorua District Council, Environment Bay of Plenty, and Te Arawa Māori Trust Board (New Zealand Government 2004). The Strategy Group implements the vision set out in the 'Strategy for the Lakes of the Rotorua District' (The Rotorua Lakes Strategy Group 2000). The main purpose of the Group is to "contribute to promoting the sustainable management of the Rotorua Lakes and their catchments for the use and enjoyment of present and future generations, while recognising and providing for the traditional relationship of Te Arawa with their ancestral lakes" (The Rotorua Lakes Strategy Group 2000; New Zealand Government 2004).

Key goals identified in the Vision and Strategy document:

- The Strategy is implemented collaboratively
- The community is engaged and informed about lakes catchment issues
- Knowledge is linked to action and adaption occurs
- The lakes catchment is managed through Te Arawa values
- The lakes catchment offers residents and lake users a range of high quality experiences

- Nutrient inputs are reduced to levels that ensure water quality meets community expectations

- The health of ecosystems including habitat for kai roto has improved since 2013

- A developing lakes catchment economy that supports resource use efficiency and improved water quality

- A lakes catchment management framework that enables iwi to pursue sustainable business ideas and initiatives

- The lakes catchment makes a positive contribution to lake communities' sense of pride and belonging

- A lakes catchment management framework that provides certainty and enables landowners to plan for their future.

Multiple Māori-based research projects are currently being developed and funded to enable Māori communities to evaluate and monitor the lake and species that are important for Te Arawa, and track progress towards iwi and hapū goals and aspirations. For example, Māori monitoring of lake health includes assessing use of traditional Māori fishing methods for koura monitoring (Ian Kusabs, fisheries consultant of Ian Kusabs & Associates *pers. comm.*) and effects of the Ōhau channel diversion on koura and kakahi populations. It was noted that sedimentation may reduce kakahi numbers in some areas. By targeting sediment inputs within the catchment, populations of taonga species such as kakahi could be increased.

3.4.5   Greater Wellington Regional Council – Whaitua Committees

The Greater Wellington Regional Council (GWRC) is establishing catchment-based Whaitua committees to facilitate good engagement process and partnerships for collaborative planning and management of freshwater from the mountains to the sea (Ki uta ki tai) (Greater Wellington Regional Council 2014). Each whaitua will be asked to create a unique vision, to prioritise objectives for land and water management in the catchment area, and to recommend regulatory and/or non-regulatory ways to achieve the whaitua vision. The process is being overseen by Te Upoko Taiao – a joint committee comprising seven elected Greater Wellington councillors and seven appointed members from the region's mana whenua (Greater Wellington Regional Council 2014).

The Ruamāhanga Whaitua Committee was formed in December 2013, the first of the five whaitua committees to be established. Its purpose is to "facilitate community and stakeholder engagement in the development of the Whaitua Implementation Programme (WIP)" (Greater Wellington Regional Council 2013). The committee, non-statutory and considered an advisory body, has mixed representation from tangata whenua groups, Te Upoko Taiao, local governing bodies and up to 7 community members. Any recommendations proposed in the WIP will be decided on by consensus (Greater Wellington Regional Council 2013).

Māori representation within the Whaitua Committee consists of an appointed tangata whenua representative from each iwi authority that is either fully or partially within the whaitua boundary. One appointed (Māori) representative from Te Upoko Taiao will also be on each committee (Greater Wellington Regional Council 2013). Numbers of Māori representatives will vary between committees, depending on the number of iwi authorities included in the whaitua boundary. Work in June 2014 with each Whaitua committee involved establishing

membership, identifying community and council aspirations, and outlining the purpose of the committees to achieve agreed outcomes. A programme of work has been developed to identify community and iwi/hapū values within each catchment, the role of science, and determine how mātauranga Māori and other local knowledge systems can be used to underpin future decision-making. As of October 2014, the project was still gathering information to support a vision, and no specific management actions have been discussed.

3.4.6   Environment Canterbury Regional Council – Canterbury Water Management Strategy

The Canterbury Water Management Strategy (CWMS) was first released in 2009 (updated in 2010), to provide a strategic framework for the management of freshwater in the Canterbury Region. The development of the CWMS used an integrative and collaborative planning approach, demonstrating an approach which can provide the best outcome for the environment, economy and community of Canterbury (Canterbury Water 2010). This process included engagement and collaboration with Te Rūnanga o Ngāi Tahu.

A regional water management committee developed a strategy that includes targets across ten broad themes (e.g. kaitiakitanga, irrigated land area, drinking water) to measure progress against the vision, priorities and principles of the strategy (Canterbury Water 2010). Ten water zone management committees are developing implementation plans for their respective zones. For each zone committee, Māori representation consists of one member from each rūnanga that falls within the zone boundary or two representatives when there is only one rūnanga within the zone. For the Regional Committee, there is one representative form Te Rūnanga o Ngai Tahu (TRONT) along with three representatives from across the region (North, Mid and South Canterbury), appointed by TRONT (Environment Canterbury Regional Council 2009).

While the representation structure for the CWMS committees is clearly defined, there remains a dynamic driven by intra-iwi politics, whereby the iwi body TRONT represents regional interests, often focused on economic development, and local rūnanga promote local values and interests for decision-making. The zone committee model reflects to some degree the Ngai Tahu Treaty settlement with the Crown in 1998, through which TRONT was recognised by the Crown as the mandated iwi authority.

> *In acknowledgement of their Treaty partnership, central government has committed to work with Iwi leaders and advisers on a joint work programme on defining and resolving iwi rights and interests in New Zealand's freshwater resources. The work involves the exploration of co-management, allocation mechanisms and incorporation of tangata whenua perspectives in policy development. The final form of the legislation, committee roles and approval processes within this strategy is likely to be influenced by this central government work* (Canterbury Water 2010).

On the ground, however, hapū groups within the Canterbury District have been using cultural monitoring methods to assess the health of their waterways and set limits for attributes such as flow regimes. The CWMS identified two kaitiaki targets associated with environmental flows to protect instream values and a programme for identifying cultural preferences for river and stream flow in each water management zone (Canterbury Water 2010). Cultural

monitoring and COMAR (Tipa 2010; Tipa & Nelson 2012a,b) (section 5 on tools) have been used in the Waihau/Wainono catchment and zone committee process to provide local water management bodies with information on the environmental and physical attributes required to maintain cultural values (Tipa & Associates 2012).

3.4.7   Te Tau Ihu iwi and local unitary authorities

A further example is that of the eight Te Tau Ihu iwi who in their Deeds of Settlement have agreed to form a Rivers and Freshwater Advisory Committee to collaborate with the three local unitary authorities (Tasman, Nelson, and Marlborough) to promote 'the health and wellbeing of the rivers and fresh water within the jurisdiction of the relevant councils'.

4   Challenges and Issues Affecting Collaborative Processes

A Māori perspective of collaborative process draws on about 10 years of experience and learnings in Māori research across New Zealand, and an extensive literature review, participation in a large number of national and regional hui and local wānanga. This has been supplemented by a large amount of information obtained directly from iwi/hapū groups we have been working with in various freshwater research projects, such as the VMO programme. The work has included a number of iwi/hapū sub-contracts and participatory research with iwi/hapū that have been running each year since 2011, particularly in the Kaipara, Manawatū, Hawkes Bay and Waikato regions.

Work with regional councils has involved regular dialogue and forums within the VMO programme. Māori-council collaborative process in freshwater management was explored as a key topic at a regional council forum in August 2014. The session documented information on current issues, models and tools being used by councils, and recommended processes and tools that have had some element of success. In terms of the freshwater reforms and collaboration, challenges were discussed from a regional council perspective at the August 2014 council forum and key issues and challenges from a Māori perspective were also highlighted. Together with previous findings, some of the challenges recently discussed are explained in the sections below.

4.1   Challenges for regional councils within the collaborative process

4.1.1   The Treaty of Waitangi

The relationship between local government in New Zealand and the Treaty of Waitangi continues to be debated in many forums, and this has been renewed under new 2014 Freshwater reforms and the National Policy Statement on Freshwater Management (NPS-FM) with debates about the ownership and management of water. At the same time, many councils are increasingly engaging with iwi/hapū to co-govern and co-manage natural resources.

The lack of express provision in the RMA and LGA relating to local government obligations to Māori under the Treaty places strain and uncertainty on both parties in these discussions. The purpose of the Local Government Act (LGA) 2002 is to provide for democratic and effective local government that recognises the diversity of New Zealand communities. Part 1 of the LGA clarifies that local authorities do not have Treaty of Waitangi obligations under the LGA (those responsibilities lie with the Crown), but Part 6 of the Act includes provisions for local government to consult with Māori and involve them in decision-making processes.

The lack of Treaty obligation to council, in legislation such as the LGA, means councils do not have to recognise iwi/hapū as equal Treaty partners in any formal collaborative arrangement under the freshwater reforms, but need to take appropriate account of the Treaty. Under the LGA, RMA and NPS-FM TLAs councils are not regarded as the Crown (this is central Government), and hence are termed 'the regional council' within a collaborative management framework.

Section 4 of the LGA clearly acknowledges that responsibility for the Treaty obligations lie with the Crown:

> *…..recognise and respect the Crown's responsibility to take appropriate account of the principles of the Treaty of Waitangi and to maintain and improve opportunities for Māori to contribute to local government decision-making processes.*

Parts 2 and 6 of the Act are intended to facilitate participation of Māori in local government decision-making. Section 81 with Schedule 10 clause 8 requires local authorities to "engage with Māori … and foster the development of Māori capacity… and information needs". Local government, under these provisions, is responsible for promoting opportunities for Māori and tauiwi (other members of the public) to contribute to its decision-making processes.

However, the new freshwater reforms propose provisions to achieve greater clarity on the role of iwi/hapu in local government resource management planning and where iwi/hapu fit in a local authority process. The LGA and RMA presently state that "Councils are not the Crown, although they may undertake some activities on behalf of the Crown, in the same way that many iwi, hapū and NGOs have contracts with the Crown to deliver social services" (Reid 2011).

The latest set of freshwater reforms, including notably the NPS-FM, states that The Treaty of Waitangi (Te Tiriti o Waitangi) is the underlying foundation of the Crown/iwi /hapū relationship with regard to freshwater resources:

> *Addressing tangata whenua values and interests across 4 well-beings (social, cultural, environmental, and economic), including the involvement of iwi and hapū in the overall management of freshwater are key to meeting obligations under the Treaty of Waitangi* (New Zealand Government, 2014).

> *In general, views regarding the obligations the Treaty places on local government depend on the community's understanding of the constitutional basis of local government. The key factor is whether local government is seen to be part of the Crown, an agent of the Crown, or an independent sphere of government in its own right* (Local Government New Zealand 1997).

With respect to the Treaty, two main challenges have emerged from this debate:

- The lack of clarity of the role of the Treaty of Waitangi by local government. The relationship between Māori and local government is of increasing significance within debates and arrangements for freshwater governance, management and ownership and councils remain the main authority responsible for water management (under the RMA and NPS-FM).

- Some councils are finding incorporating modern Treaty settlements and agreements into plans and policy a challenge that requires in-depth understanding of Treaty Settlement provisions, and time and resources.

4.1.2   Council culture

From a council's perspective, another key challenge when working with Māori is the existing or ingrained 'council culture' within many council organisations (e.g. TLAs, regional councils), which limits their ability to adapt quickly to something new. This culture, especially if it is inflexible, can greatly influence how staff operate, interact, and relate to Māori. An organisational and staff culture can be adverse to the adoption of new, time-consuming processes, and have limited resources for engagement with iwi/hapū, community, and stakeholders (Table 1). Difficulties also arise because of a lack of understanding of mātauranga Māori and Māori values for freshwater and how to implement these values (Table 1). Some proposed solutions to these issues included increasing training for council staff to understand Māori values for freshwater management, or employing more Māori staff.

4.1.3   Power sharing

Another aspect of 'council culture' that has been highlighted during VMO regional council forum discussions, is the resistance by some council members to share decision making or planning power. Councillors have 3-year terms, and are democratically elected to make decisions on behalf of the community, and to meet current and future needs of the community through infrastructure, services, and regulatory functions that are most cost-effective for households and businesses (New Zealand Government 2002). Any increase in the use of collaborative processes would require councillors and senior staff to share power with representatives and stakeholders from other 'interested parties', such as tangata whenua. There is no easy solution to this except that as collaboration becomes more common over time, it will be expected that councillors become a part of a widely accepted and standard process.

4.1.4   Membership

When engaging with contemporary Māori it is important to understand the differences between tangata whenua, mana whenua, iwi/hapū, and other Māori representation and modern entities (e.g. urban Māori, rāwaho), and therefore determine the required membership needed to define and achieve desired goals and objectives. Local government/councils need to have adequate knowledge of the history and whakapapa in a region or district. To this end it essential to invite the correct mana whenua members into collaborative discussions and working groups to set priorities and achieve a stated vision and goals. Councils need a comprehensive understanding of Māori issues across a region, a list of mana whenua/tangata whenua representatives, to identify who they need to work with, and can work with, to achieve successful outcomes through collaboration. Deeds of Settlement can greatly help clarify these matters.

4.1.5   Trust and relationships

Effective and meaningful collaboration requires a solid foundation, reliant on good relationships and trust between parties. However, for some councils past tensions and conflict between council and particular Māori organisations (e.g. iwi/hapū groups), which may have resulted from the use of poor process, have created high levels of mistrust. In some examples, this has created a 'legacy issue' that is difficult to rectify. For both councils and Māori

groups, the building and maintenance of relationships require time and resources, both of which are often unavailable or stretched (Table 1). Although some councils have staff that specialise in Māori relationship management, tikanga Māori, and provide internal support, many others do not have this resource or the capacity to engage effectively.

Table 1 Challenges facing regional councils and Māori groups when engaging in a collaborative process for freshwater planning

Challenge	Regional Council	Hapū/ Iwi
Overcoming historical tension/ conflict	✓	✓
Lack of capacity to engage in collaborative processes	✓	✓
Lack of Māori representation at a governance level	✓	
Difficulty getting 'buy-in' for institutional change	✓	
Lack of capability/capacity to maintain collaborative relationships	✓	✓
Uncertainty about who to engage with	✓	✓
Internal politics	✓	✓
Lack of capability/capacity to understand Māori values	✓	
Lack of capability/capacity to implement Māori values	✓	✓
Lack of resourcing, capacity, and funding to engage and maintain collaborative processes	✓	✓

4.1.6   Māori values and the Treaty of Waitangi

Highlighted in a number of forums is the present paucity of skills in most councils to work effectively with Māori. In many cases, the intention to collaborate effectively is there, but the 'how to' is not so clear. Councils will need to build capability in running collaborative processes with stakeholders, communities, and Māori to meet different (and possibly increased) demands as they commit to and engage in collaborative planning. This will require new skills – for example, skills in running an intensive community process, turning technical information into 'plain English', and understanding Māori values and interests. Many Council staff would benefit from training workshops on te ao Māori world view, tikanga and the Treaty partnership, as well as training to help them understand the Treaty of Waitangi, Treaty-based planning frameworks, and best practice approaches/ processes to working with Māori groups.

4.1.7   Lack of understanding of mātauranga Māori and tikanga Māori

Another challenge is the low level of in-house capability and capacity to understand mātauranga Māori and how it can be used and integrated into freshwater management.

4.1.8   Resourcing

Resourcing is another issue that needs to be addressed. Sufficient resources will need to be provided to achieve successful collaboration at every stage. Because collaboration is a longer term process, meaningful relationships will have to be maintained throughout. The true benefits of collaboration as a process may not be immediately clear, and can only be measured against achievement of goals and objectives, and successful outcomes.

4.2   Challenges for Māori within the collaborative process

4.2.1   The Treaty of Waitangi

Many Māori organisations wish to establish a Treaty relationship or partnership with local authorities and regional councils as a foundation for bicultural decision-making and co-governance and co-management. Within this 'Treaty' context Māori commonly regard TLAs/Councils as the Crown and regard them as the Crown in debates over the ownership and management of water and within collaborative arrangements. However, most co-governance arrangements and joint agreements to date have been established in response to modern localised (regional) Treaty settlements by giving effect to provisions, not under the RMA or LGA legislation.

The Waitangi Tribunal has been very critical of the Resource Management (RM) framework in New Zealand before and after the 1991 RMA:

> *Our consideration of the provisions of the RMA and in particular Part II, which sets out the purpose and principles of the Act, leaves us with no option but to conclude that the Crown has not, in delegating extensive powers to local and regional authorities under the Act, ensured that its Treaty duty of protection of Māori interests will be implemented. On the contrary it appears that in promoting this legislation the Crown has been at pains to ensure that decision-makers are not required to act in conformity with Treaty principles. They may do so, but they are not obliged to so. For this reason we believe the Act to be fatally flawed….*
> (Fox & Bretton 2014).

In the findings of the Wai 262 report, in 2005 the High Court endorsed the view that councils were indeed the Crown, in this passage from Judge Joe Williams (Waitangi Tribunal 2011b):

> *it is the responsibility of successors to the Crown, which in the context of local government includes the council, to accept responsibility for delivering on the second article of the Treaty. The Crown is a metaphor for the Government of New Zealand, here delegated by Parliament to the council, which is answerable to the whole community for giving effect to the Treaty vision in the manner expressed in the RMA. The due application of that statute will assist to "avert the evil*

consequences which must result from the absence of the necessary Laws and institutions" needed to secure justice to all New Zealanders ... Thus, the Crown's Treaty duties remain and must be fulfilled, and it must make its statutory delegates accountable for fulfilling them too (Waitangi Tribunal 2011b, p. 270).

The lack of express provision in the RMA and LGA for local government obligations under the Treaty, and for Treaty principles, affects the way Māori will work and engage with regional councils, and will affect relationships, collaborative process, and tikanga (Māori or local customary process) within any collaborative framework, agreement, or arrangement. Many of the existing and emerging co-governance and co-management agreements are based on Treaty settlements given in the Waikato, Rotorua lakes, and Te Waihora examples referred to above, which solidify the iwi/hapū position within a collaborative process and clarify and confirm expectations, representation, and responsibilities of the different parties.

4.2.2 Membership within a collaborative arrangement

A major challenge for Māori – one continually raised by regional councils – is how to select the right representation and membership for a collaborative process; for example, the number of Māori individuals and groups invited into collaborative arrangements and discussions, their iwi/hapū affiliation or mana whenua status, which particular iwi/hapū Māori members to invite, who do they represent, who should be engaged to work with council, on what frequency, i.e. monthly, in what type of forum. In terms of getting the membership right, Māori politics and complex dynamics will have an enduring impact on the engagement process, and parties need to be aware of converging agendas, such as significant polarising issues, including Treaty claims and local environmental and cultural issues (e.g. degraded rivers, lakes, streams, wastewater contamination, water allocation).

4.2.3 Strength of relationships and trust

The strength of the relationship, the level of respect and trust, and how relationships can be maintained between local government/Māori/ and other stakeholders are key ingredients to successful enduring relationships. A strong relationship relies on having a solid platform on which such relationships can be built, particularly as regards the Treaty. From a Māori perspective, being irregularly consulted, or providing ad hoc advice and being treated as just another stakeholder are not options. The principles of the Treaty of Waitangi become an essential basis for Māori when it comes to collaborative process within freshwater management. For Māori, having some type of co-governance or co-management agreement in place is a natural move towards mutual respect and inclusion, a necessary step towards the co-planning and management of natural resources.

4.2.4 Lack of capacity and resources

This is a major challenge for Māori that greatly affects engagement within a collaborative process. In terms of capacity issues, including lack of staff and resources, many Māori organisations face similar challenges to regional councils. Many Māori organisations and staff have significant demands on their time. This affects the ability of many iwi/hapū Māori members to engage and collaborate regularly with councils. Many are already asked to be members of, for example, steering groups, technical advisory groups, iwi advisory groups,

governance groups or part of a collaborative process which are costly and time-consuming. Some councils are offering to help reimburse travel costs and pay for the time spent at hui and wānanga, but in other cases the work is carried out in people's spare time and at their own cost. This is seen as an issue that may hinder upholding agreements and engaging on a regular basis in collaborative processes; it could also limit effective implementation of legislation.

The Treaty settlement process is another area providing capacity and time challenges for Māori groups and some councils. The Treaty negotiations process is time, energy and resource intensive and can often put much pressure on individuals who are also part of negotiations or involved in advisory roles. Some Treaty settlements have resulted in new localised legislation, such as 'Ruruku Whakatupua Te Mana o te Awa Tupua – Upholding the Mana of the Whanganui River'. This landmark settlement recognises the Whanganui River as its own legal entity, and it will need to be recognised and protected in current and future legislation.

4.3 Overcoming collaborative challenges

Under the new freshwater reforms, collaborative processes potentially provide Māori with a more inclusive role and voice in freshwater decision- making and management, in contrast to the historical and limited consultative role they have had. The LAWF identified a need to "enhance and clarify the role and status of iwi in planning and decision-making processes regarding freshwater" (Land and Water Forum 2010). However, the success of collaboration relies on the formation and retention of strong relationships between regional and territorial agencies and tangata whenua. This requires a high degree of respect and understanding on both sides, so that desired outcomes for freshwater are met. From a Māori perspective, collaboration in the resource management context is intricately linked both to relationships, and to the dynamics of power. The process can be heavily influenced by fixed agendas (Selby et al. 2010). To develop successful collaborative relationships there needs to be early clarification of any stakeholder agendas and explicit definition of expectations from each party. Building trust and communication at the beginning of the process is critical to the success of the entire collaborative process, and ultimately affects all future work (Allen et al. 2011). When working with Māori, the important ingredients that need to be resolved at the beginning of processes include respect, clarification of iwi/hapū and local government roles and expectations, and understanding the historical context for collaboration, including preceding and existing issues and ongoing concerns. A large number of documents based on many years of learnings and case studies have been produced to successfully guide collaborative processes, including good practice guidelines for working with tangata whenua and Māori organisations (e.g. Harmsworth 2005).

5   Tools for Effective Collaboration

A range of tools can be used individually or in combination to achieve desired freshwater outcomes by establishing effective and meaningful Māori-Crown collaboration through dialogue, partnerships, and co-governance and co-management agreements. Tools can be used to support various stages in collaborative process cycles. Within each of the collaborative stages (as outlined in Section 3, Figure 1) are key tools that can be applied. Some of these tools are discussed below.

Co-governance is typically a response for achieving some type of outcome. It includes the institutional and organisational arrangements, such as representative membership, usually reflecting the principles of the Treaty of Waitangi, to establish partnership, trust, and respect at the beginning of a collaborative process. At this stage, values, priorities, and goals will be identified and discussed by parties to formulate an agreement on desired outcomes and how this is best achieved. Generally, some type of agreement or accord is formed and signed by parties at this early stage.

Co-management is a practical demonstration of co-governance expressed through plans, policy, strategies, and actions. It relies on the establishment pf good governance early in the process and the right representative membership. Again, the success of co-management relies on measuring the performance of parties to achieve desired outcomes. Co-management is more planning, policy, and action focussed, demonstrating how a strategy will be carried out, and who has responsibility for each action.

Co-planning is an advanced stage of the collaborative process and requires a high degree of planning and policy skill. It requires recognition and understanding of mātauranga Māori through any local or regional planning stages. It is generally shown through practical and local examples of partnership and bicultural projects. It generally follows some form of co-management, whereby iwi/hapū groups and council will work together to plan and manage resources, such as freshwater. An example of co-planning is demonstrated by an active working arrangement and a high level of participation to deliver bicultural outputs, milestones, and activities that can achieve the desired outcome. A co-planning framework giving full recognition to the Treaty of Waitangi, in terms of a strong partnership, is given in Figure 2.

5.1   Guidelines and protocols for engagement

Extensive information has been documented on guidelines and protocols demonstrating correct process for Crown-Māori engagement in New Zealand and provides guidance for collaborative processes (e.g. Harmsworth 2005). Aspects include identifying both the steps required to build and strengthen relationships, kanohi ki kanohi (face-to-face) meetings, and the correct tangata whenua group to work with, training, building expertise within councils and capacity with iwi/hapū, identifying issues, understanding mātauranga Māori and Māori values in the context of planning and policy, workshops and presentations, resourcing, sharing resources, and developing joint projects.

5.2   Collaborative process models

A tikanga-based framework model (Harmsworth et al. 2013) (Fig. 5) shows 8 process steps to achieve freshwater planning and management outcomes. An additional step was inserted to the process in 2014 to define limits to sustain and enhance cultural values, such as mahinga kai (Awatere & Harmsworth 2014). The framework is centred on core Māori/tangata whenua values and principles to identify issues, establishing methods, and consequently informing decision-making about freshwater management. The principles of the Treaty are used to guide process and for formal recognition of specific iwi/hapū or tangata whenua group(s) to work with, setting out guidelines for relationships, respect and behaviour, and for the early establishment of agreements and protocols. This not only provides a basis to understand Māori issues and priorities, but also incorporates values and mātauranga Māori in the engagement process, for now and into the future. Limits are defined for the management of iwi/hapū values in freshwater ecosystems, which helps to inform policy. Monitoring is used to measure progress or performance towards agreed iwi/hapū goals, and should not be used in isolation from other key steps.

The 8 process steps are illustrated in Figure 5, and summarised below:

- *Mana Whakahaere*: A Treaty-based planning framework is used for engagement and policy development

- *Whakamāramatia ngā Pou Herenga*: Tangata whenua values or Māori values (physical to metaphysical) are defined and reflected in engagement processes, e.g. Whakapapa, Rangatiratanga, Kaitiakitanga, Manaakitanga, Wairuatanga, Mauri, Mahinga Kai, etc.

- *Whakamāramatia ngā Huānga*: Shared outcomes are defined at the beginning of the engagement process

- *Whakamāramatia ngā Uaratanga*: Goals and objectives are established

- *Whakamāramatia ngā Ritenga*: Using the generic tikanga-based framework for setting limits for cultural values, such as mahinga kai.

- *Whakamāramatia ngā Kaupapa*: Rules, methods, and policies are developed

- *Whakamāramatia ngā Mahinga*: Actions on the ground that demonstrate kaitiakitanga and progress iwi/hapū towards their goals/objectives/aspirations through tangible projects

- *Whakamāramatia ngā Aroturukitanga*: Implement a monitoring programme
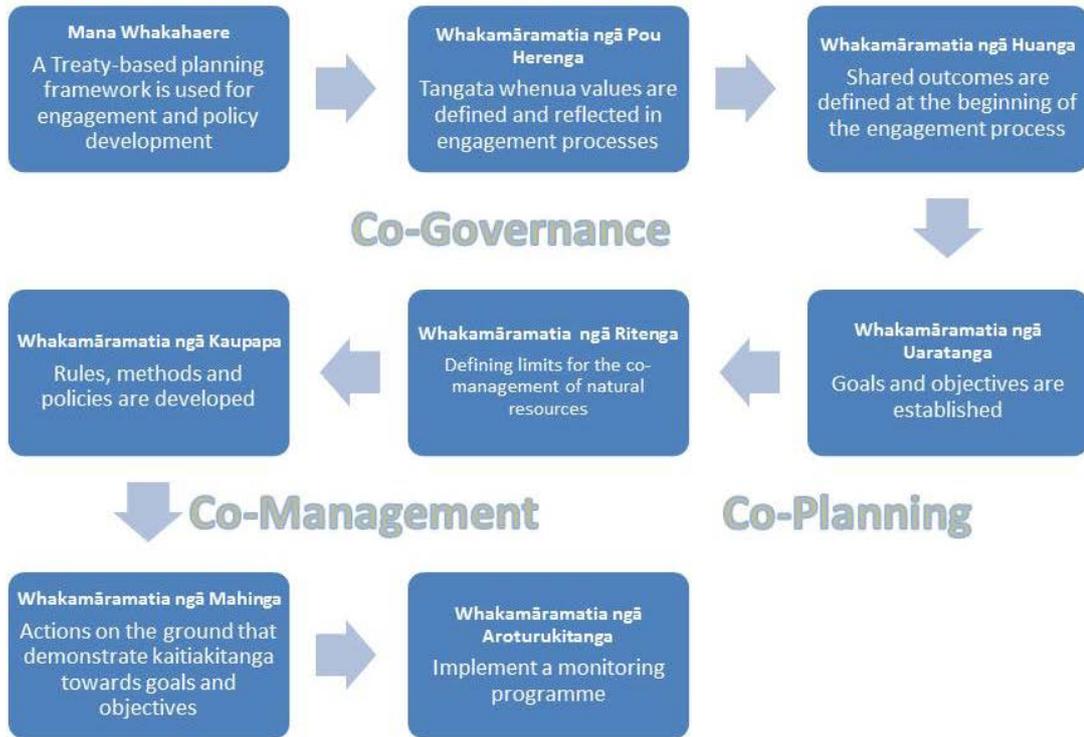
Figure 5 A generic tikanga-based framework for freshwater planning and management.

5.3 Case studies

Results and outcomes from iwi/hapū-based case studies have been incorporated into this framework. Table 2 gives results from two case study areas, one with the iwi Te Uri o Hau in the Kaipara harbour catchment, Northland, and one with the iwi Rangitāne o Manawatū in the Manawatū river catchment. The 8 step process method has been used for both these case studies.

Table 2 Using the framework and process model in the Kaipara and Manawatū catchments

Key process steps	Te Uri o Hau (Kaipara)	Rangitāne (Manawatū)
Mana Whakahaere (Treaty relationships established, respect, mātauranga Māori/values recognised)	Agreements signed (Crown–iwi–community) Collaborative process with stakeholders Key member of Integrated Kaipara Harbour Management Group (IKHMG)	Agreements signed (Crown–iwi–community) Member of the Manawatū Leaders River Accord Collaborative process with stakeholders
Whakamāramatia ngā Pou Herenga	Core Values, e.g. Tikanga, Mātauranga, Whakapono, Tūmanako, Manaakitanga, Aroha Kaitiakitanga, Wairuatanga, mauri	Core Values, e.g. Tikanga, Whakapapa, Rangatiratanga, Mana, Te Ao Tūroa, Rangitānenuirawa, Kaitiakitanga, Whānaungatanga, Manaakitanga, mauri
Whakamāramatia ngā Huānga	Outcomes, e.g. a healthy and productive Kaipara harbour (IKHMG common vision), co-governance, Vision est. Restore the mauri of the harbour, healthy environment, water, land and air Environmental & resource management provides & implements policies that give recognition to the practice of kaitiakitanga & exercise of tino rangatiratanga (TUOH) Principles: Rangatiratanga, Manawhenua, Te Uri O Hau key players in harbour management	Outcomes, e.g., restore the mauri of the river, sustain communities Vision: Kei te ora te wai, kei te ora te whenua, kei te ora te tangata If the water is healthy, the land and the people are nourished (healthy) Co-governance and co-management of river Principles: Rangatiratanga, Rangitāne key players in FW management
Whakamāramatia ngā Uaratanga	Goals & objectives defined Promote integrated and co-ordinated management of the Kaipara Harbour and its catchment through regulation, policy, research, monitoring, partnerships, planning and collaborative initiatives Plant 2 million trees in priority areas, no discharges, integrated catchment management, TUOH education	Goals & objectives defined: "Our goal is to improve the Manawatū River, the mauri (life force) of the Manawatū River Catchment, such that it sustains fish species, and is suitable for contact recreation, in balance with the social, cultural and economic activities of the catchment community". Regional pride and mana Catchment and waterways healthy, swimmable, sustainable land and water Restoration/rehabilitation at key sites, Re-establish mahinga kai and taonga in iwi rohe

Whakamāramatia ngā Ritenga:	Limits/standards being set – based on key indicators across harbour to support and enhance cultural values	Limits/standards being set – Key indicators for cultural windows/sub-catchments, water management zones to support and enhance cultural values
Whakamāramatia ngā Kaupapa	Enable TUOH to be the primary driver for protecting and restoring the mauri of the Kaipara. Develop iwi/hapū management plan(s) and ensure uptake of the plan(s) by relevant agencies Establish spatial priorities and strategies for conservation and restoration initiatives in order to be implemented through statutory and non-statutory methods.	Enable Tanenuirangi Manawatū Inc. – as a forum member - to implement strategies and goals through co-management and their part in a catchment action plan. Tanenuiarangi Manawatū Inc.identifies priorities and key sites Action plan: Collaborative decision-making to achieve goals – 6 key priorities identified; 130 specific actions
Whakamāramatia ngā Mahinga:	Implement actions: Iwi-Community projects/restoration/rehabilitation projects at key sites	Implement actions: Restoration/rehabilitation projects at key sites
Whakamāramatia ngā Aroturukitanga	Monitoring: Review/develop cultural methods completed, identify key sites & cultural indicators, monitoring programme established and being tested	Monitoring: Review/develop cultural methods, select cultural windows sub-catchments selected/prioritised, cultural indicators identified, monitoring programme est. and being tested

5.4   Tikanga-based frameworks

The use of tikanga-based frameworks provides a platform for ongoing feedback and two-way information exchange (Harmsworth 2005). This type of engagement goes beyond 'consultation' – it fosters trust and relationships within a project team that has positive outcomes for all. The building of relationships between the Crown and Māori is the foundation of collaboration which should be maintained and strengthened beyond a single project (Harmsworth 2001, 2004, 2005). Activities that can be introduced into this type of framework include:

- *Hui/wānanga* – Identifies values/ priorities of a particular environment/resource

- *Monitoring I* – How do we measure these values (indicators?)

- *Management* – Monitoring tools identify which aspects/ areas require management. Helps to prioritise management options

- *Monitoring II* – Looks at effectiveness of management practices. Do you need to re-assess or re-prioritise? Modelling may come in here to project outcomes

- *Planning/Policy* – Informed by the above process.

It is important to note here that the above process and implementation of the tikanga-based framework should be led by the Māori groups themselves, with the guidance of other Māori experienced in this process. The aim of these processes and frameworks is to enable Māori groups and communities to exercise rangatiratanga (self-determination) over their cultural values, resources and knowledge. These steps are then supported and strengthened by the use of cultural monitoring tools as one way to assess or measure progress towards or away from cultural goals and aspirations, which can be reported back to iwi/hapū communities or councils on a regular basis for kaitiaki, iwi environmental, or within state of environment reporting.

5.5   Mātauranga Māori to inform collaborative processes

5.5.1   Iwi/hapū management plans

Iwi/hapū management plans (IMPs) are an important source of information for articulating Māori issues, values and priorities within a given area, and general mātauranga Māori. They often identify desired outcomes and goals for iwi/hapū in regard to the natural environmental and in terms of Māori aspirations, such as land development and kaitiakitanga. Many iwi/hapū management plans identify the relationships that have been formed with various agencies, such as territorial local authorities, and provide a tikanga or protocol framework useful in collaboration. IMPs often contain information on more than just RMA matters, providing a holistic view of a resource or area. These plans are developed by Māori as an expression of rangatiratanga, or self-determination over their particular tribal area. However, the content, specificity, and insight of these plans are variable. At recent VMO regional council forums (August 2014 and March 2015), some council representatives found it difficult to understand the values and how to include and implement IMPs into their regional planning and policy processes and documents. Other council representatives found these

documents comprehensive and very valuable, particularly when they were developed with guidance from the council on local government processes and requirements under the RMA. It is important to note that councils should not be determining the content of IMPs, but providing guidance on how IMPs are used and ways that information can be of most use in terms of implementation, resulting in better outcomes for Māori and council.

IMPs were highlighted as a useful tool that identifies and articulates Māori values and key features within the tribal landscape; however, the application or incorporation of IMPs into council planning and policy documents was variable. This was partly attributed to differences in quality of the plans themselves, but also to difficulty in implementing these values in council processes and planning frameworks.

5.5.2   Cultural monitoring

Several sophisticated cultural monitoring and assessment methods and tools based on a blend of mātauranga Māori, traditional concepts, and western science have been developed and are being continually adapted and modified for local use (Harmsworth et al. 2013; Awatere & Harmsworth 2014; Environs Holdings Trust 2014). Most cultural monitoring has developed a set of standard indicators (e.g. water quality, taonga species, mahinga kai) that builds up a knowledge base of local areas. In some iwi/hapū monitoring projects, indicators have been organised into Atua (deities) domains, or, in the first instance, selected within these Atua domains as part of a mātauranga Māori framework.

In terms of collaboration and collaborative processes, cultural monitoring can inform collaborative engagement and freshwater management and planning priorities, as shown in Figure 5. The findings of the VMO work indicate that cultural monitoring can be used to build capacity and capability of Māori communities, identify cultural values and priorities, strengthen connections between Māori and freshwater resources, build skills and knowledge in both mātauranga Māori and western science and measure progress towards agreed goals to achieve desired freshwater outcomes and Māori aspirations. It has also been found that cultural monitoring and cultural projects provide a basis to understand, share learnings, and develop methods (e.g. through wānanga and field work) to set standards and limits within freshwater ecosystems. Cultural monitoring is typically used to articulate values as well as assess, measure, and monitor changes to the environment from a Māori perspective, and report those changes. Monitoring is usually brought into the collaborative process cycle at a later stage, either during co-management or co-planning and relates to supporting strategic objectives and goals. Common cultural assessment methods and tools include the following:

- the Cultural Health Index (CHI) for Rivers and Streams (Tipa 1999, 2003; Tipa & Teirney 2003; Townsend et al. 2004; Tipa & Welch 2006; Harmsworth et al. 2011)

- Adaptation of the Cultural Health Index (CHI) by Tiakina te Taiao for their own use and application Te Tau Ihu (Young et al. 2008)

- CHI for estuarine environments – Tiakina Te Taiao (D. Walker, Nelson City Council, & Tiakina te Taiao 2009)

- State of Takiwā "toolbox" iwi environmental monitoring and reporting tool Te Waipounamu/South Island – Ngai Tahu (Mattingley & Pauling 2005; Pauling et al. 2007; Te Rūnanga ō Ngāi Tahu 2007)

- Cultural indicators of wetlands (Harmsworth 2002)

- the Mauri Assessment model (Morgan 2011)

- Significance assessment method for tangata whenua river values – Te Waipounamu/South Island (Tipa 2010)

- Wetland habitats along the Waikato west coast (Robb 2014)

- Mauri of Waterways Kete and Framework (Jefferies & Kennedy 2009)

- Kaitiaki tools: an internet-based Iwi Resource Management Planning Tool (NIWA website);

- Ngā Waihotanga Iho: Iwi Estuarine Monitoring Toolkit (Rickard & Swales 2009ab).

Cultural monitoring tools can be used to contribute to, or inform, some formalised assessment (qualitative or quantitative) or statement of cultural values through time and space. This is especially relevant when assessing habitat and water quality standards and show trends. Table 3 shows the relationship between tangata whenua values and monitoring, and provides some examples of management variables that are required collectively to meet iwi/hapū goals and aspirations.

Table 3 Cultural monitoring to assess freshwater limits to maintain/enhance cultural values

Values	Objectives	Performance measures/tools	Management variables (examples)
Kaitiakitanga Mauri Mahinga kai	Set limits to restore the mauri of freshwater, cultural resources, mahinga kai areas (define standards / limits / above bottom lines to support life supporting capacity / ecological integrity for taonga spp. and habitats)	Monitoring such as CHI and mauri assessment – identify change/trends in the state or mauri Abundance/condition of cultural resources, taonga spp., mahinga kai	Minimum flows Nutrient management/reduction Water clarity & sediment Habitat extent and condition Connectivity Pathogens (e.g. E. coli) Stock exclusion Catchment management –land use

Although still in its infancy as a tool, cultural monitoring is being carried out in many parts of New Zealand from early development to implementation. Because of iwi/hapū capacity and resourcing issues, the methods and assessment approaches are not used regularly. However, monitoring provokes much interest and can increase participation at the local level through Māori/kaitiaki-led projects. Many groups have developed planning and policy frameworks to show where monitoring fits, to help meet overall objectives, and to monitor change. The process framework in Figure 5 has been incorporated into the iwi/hapū environmental management plans for Te Uri o Hau (2014). Te Uri o Hau, in the Kaipara harbour region, developed the framework in Figure 6, showing how monitoring is linked to outcomes and aspirations, as part of regular cycle providing information on progress towards addressing issues and goals.
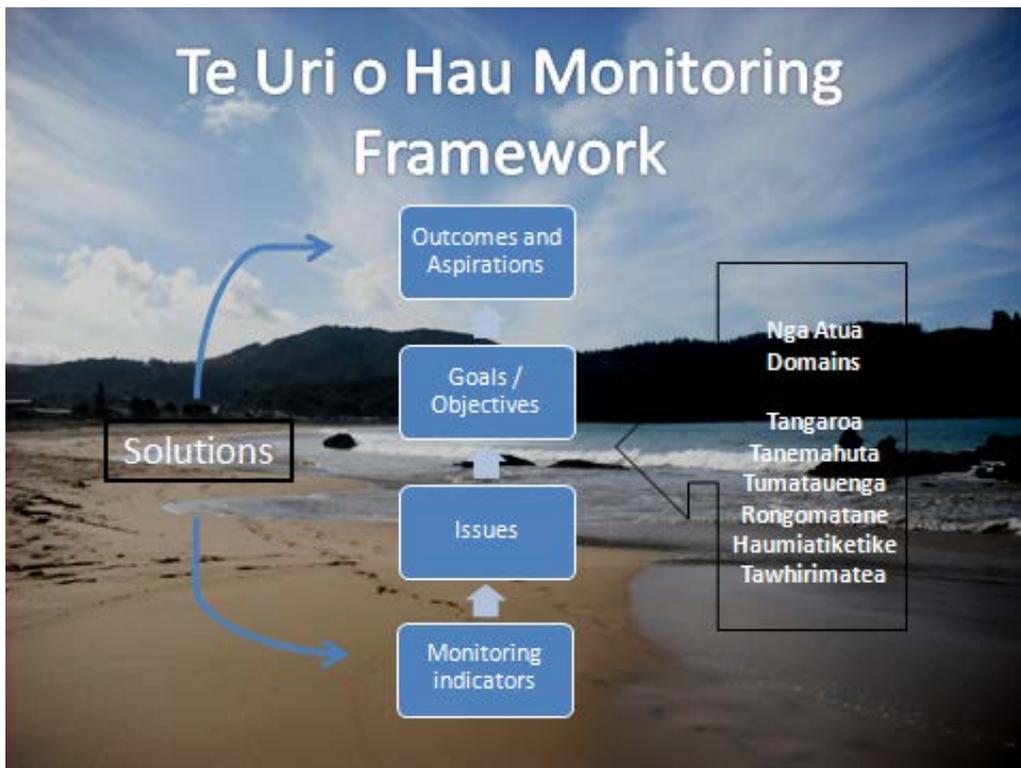
Figure 6 Te Uri o Hau Monitoring Framework for the Kaipara Harbour.

Figure 7 Building excellent relationships and collaborative research provides the basis for integrating mātauranga Māori in complementary monitoring frameworks in New Zealand.

Cultural monitoring can help build strong relationships between Māori communities, stakeholders, local Government and scientists (Fig. 7). As well as tracking progress towards goals and aspirations for particular local ecosystems, it can be used to link or make a statement about relationships between human and cultural well-being and the health of the environment, given that they are intimately connected. It can also be used in local iwi/hapū areas to identify the source of issues and problems, to pin-point impacts and effects (e.g.

critical source areas), and to identify suitable responses to address issues through a set of actions (e.g. limiting nitrates, restoration, riparian planting, best management practice).

Cultural monitoring is becoming increasingly important to enable kaitiaki to carry out their duties as environmental resource managers and provide information to their communities. This goes beyond the monitoring itself, with mana whenua retaining control over data interpretation and reporting. By connecting tangata whenua with their tribal lands and environments on a practical level, knowledge is gained and capacity is built. This also strengthens connections between people and across generations. Kaitiaki become a link between people and place, as well as facilitating discussion around the state of environment and issues that are affecting the group (Robb 2014).

The value of cultural monitoring has been highlighted in the 2011 NPS-FM (New Zealand Government 2011). Monitoring and indicators can help "reflect tāngata whenua values and interests in the management of, and decision-making regarding, freshwater and freshwater ecosystems in the region" and "involve iwi and hapū in the management of freshwater and freshwater ecosystems in the region" (New Zealand Government 2011). Through knowledge sharing and capacity building, Māori are more effectively – and often more confidently – able to engage and communicate with local governing bodies, stakeholders, and co-managers, to exercise rangatiratanga and mana. Building knowledge (both mātauranga Māori and western science) is particularly important to inform decision-making and underpins successful collaboration.

5.5.3   Geographic Information Systems (GIS)

Mapping and the use of spatial layers is another method for conveying cultural values, and the location of significant sites or special interest areas. Much work has been carried out on indigenous approaches to GIS and spatial and temporal mapping (Harmsworth 1997, 1998). When using tools such as GIS and mapping, it is important to have an in-depth understanding of intellectual property rights and sensitivity to working with indigenous knowledge or mātauranga Māori. Much information will be confidential and not freely available in a collaborative process.

5.5.4   Cultural Opportunities Mapping and Assessment (COMA)

Cultural Opportunity Mapping Assessment (COMA) and Cultural Opportunity Mapping Assessment and Responses (COMAR) are tools (Tipa 2010; Tipa & Nelson 2012a,b) that provide a framework for incorporating cultural perspectives, values, and interests into freshwater management and contemporary resource management. A web site providing more information on COMAR can be found at: http://comar.co.nz/. The framework was developed to identify and assess the opportunities for Māori to engage in a range of cultural experiences under differing environmental conditions (Tipa & Nelson 2012b). It can be used to document iwi/hapū values, interests, and uses to identify for example, cultural flow preferences and to help participatory and collaborative process. The process enables Māori to describe the opportunities they seek. These cultural opportunities are informed by traditional, historic and/or contemporary values, and may be akin to ecological, economic, recreational, aesthetic, and social opportunities sought by others, while some are distinctly cultural. Attributes,

ratings, and metrics are often given to opportunities to identify preferences. The COMA/COMAR framework has developed 7 main steps shown below in Table 4.

1. initiating the project
2. defining or documenting the association of Māori with a resource (e.g. freshwater) or location
3. cultural opportunity mapping
4. critical review to focus on the subject of the inquiry
5. cultural opportunity assessment
6. concept mapping
7. analysis of data to inform planning and decision making.

Table 4 A Summary of process to incorporate the cultural beliefs, values and practices of Māori in management (Tipa & Severne 2010)

STEP	OBJECTIVE OF STEP	METHODS	OUTPUTS
1. INITIATING THE PROJECT	To identify the body representing Māori interests To secure support and mandates	Meetings with tribal leaders, elders, and tribal members	1. Research agreement; 2. Mandates for tribal representatives and research team
2. DOCUMENTING THE ASSOCIATION	To identify the multiple dimensions and elements of cultural values, beliefs and practices that collectively represent cultural association with a resource and / or area To identify the indicators used to assess whether environment conditions sustain cultural values, beliefs and practices	Focus groups Semi structured interviews with key informants	3. Report describing the cultural association as articulated by Māori 4. Maps of association; 5. List of indicators used by Māori
3. CULTURAL OPPORTUNITY MAPPING	To identify the cultural values associated with specific sites, together with the opportunities sought at each site given the values identified.	Focus groups Semi structured interviews with key informants Focus group to validate the data	6. Detailed (site specific) maps of values and opportunities sought
4. CRITICAL REVIEW TO FOCUS THE INVESTIGATION	To critically review the data collected and to identify those that are relevant to the resource / issue that is being investigated	Focus group	7. Assessment framework comprising indicators identified by Māori.
5. CULTURAL OPPORTUNITY ASSESSMENTS	To undertake assessments at sites identified during the mapping phase to assess whether conditions sustain cultural values and provide the opportunities sought	Mandated representatives undertaking field assessments Focus groups	8. Assessment forms completed 9. Sketches of each site with key issues summarised 10. Photographic profiles of each site
6. CONCEPT MAPPING	Concept mapping	Focus groups	11. Cognitive maps summarizing Māori perceptions of factors influencing condition. Maps, concepts discussed
7. ANALYSIS TO INFORM DECISION MAKING	To analyse the data to identify issues, management priorities and strategies for action For example qualitative analysis and statistical analysis to identify flow thresholds, flow related issues, and management priorities.	Focus groups Meetings with collaborators	12. Paper summarizing issues, priorities and actions

5.5.5   Other tools

Collaboration cannot succeed without strong and meaningful relationships and this is necessary for both council and Māori groups. One of the key tools is having staff within councils who are specialised and resourced to manage relationships between councils and Māori. Having a Māori relationships unit may benefit both staff at council and Māori groups, as is shown in the Auckland Council with the establishment of 'Te Waka Angamua', the Māori relations and strategy unit. Relationships are built and maintained between key staff and iwi/hapū representatives; these staff are usually trained and resourced to carry out a specific task and advise other council staff on how to engage with Māori, and with whom to engage.

Increased resourcing and funding is a significant prerequisite to achieve successful collaboration, an issue highlighted at several hui and regional council forums. Resourcing will be required to cover participants' time, travel, and attendance at regular meetings and/or working groups. Generally, collaboration will run for a much longer duration than consultation processes, which are typically one-off, of short duration, and often focus on a particular issue or activity. Because the collaborative process is generally built to achieve an outcome over the long term, and to build on-going relationships, it will have to be adequately resourced. Collaboration may therefore cost much more in the short-term but have greater long-term benefits. This cost needs to be evaluated against the resulting benefits and outcomes being achieved.

Capability and capacity building are tools to help both councils and Māori effectively engage in collaborative processes. An important component within collaboration will be having trained and skilled staff in the engagement process. Education programmes within council, such as exercises in the Treaty, te ao Māori and mātauranga Māori, tikanga Māori, te reo Māori, iwi/hapū planning and resource management issues, and methods iwi/hapū use for resource management such as cultural monitoring, are all significant approaches for building capability and capacity. Education and training can be used to increase confidence and understanding of te ao Māori by council staff, and what the councils role is and what is isn't when working with Māori. Education can be tailored to the freshwater management area, depending on priorities and issues being faced by council. Some courses can improve understanding by being held in Māori environments such as marae, on joint field-days, or in joint work programmes with council and Māori on collaborative restoration projects. Three key areas for skills/training have been identified for councils in this VMO research:

- Improving the councils understanding of Māori values for freshwater, Māori monitoring tools, and how to support Māori to implement these.

- Māori values and monitoring tools, and positive intentions to work effectively together.

- How to recognise, understand and utilise IMP's. IMPs are developed by Māori, for Māori, and councils should not be advising on the content of IMPs, but should provide training and support to help iwi/hapū understand the council process to enable better uptake of these plans.

A detailed summary of collaborative processes are given in Appendix 1, which also includes how to evaluate the success of collaboration, and what constitutes successful membership.

6 Discussion and Conclusions

Within the 2013–2014 New Zealand freshwater reforms (RMA and NPS-FM) are specific objectives to increase iwi/hapū Māori involvement in freshwater planning and decision-making. The NPS-FM makes specific provisions for a more effective role for iwi/hapū, to meet obligations under the Treaty of Waitangi, with the Treaty being the underlying foundation of the Crown/iwi/hapū relationship. The NPS-FM further states that its intention is to "provide for the involvement of iwi and hapū, and to ensure tangata whenua values and interests are identified and reflected in the management of freshwater" and in section D, "that local authorities shall take reasonable steps to: involved iwi and hapu in the management of freshwater and freshwater ecosystems and identify tangata whenua values".

This research examined the proposed freshwater reforms under the RMA and NPS-FM and the key aspects that directly involve or affect Māori, including the 'planning as a community' reform, which promotes a collaborative approach for all freshwater management. It is important to start collaborative work with an in-depth understanding of the historical and legislative context, Māori perspectives, and the contemporary role of Māori in environmental management. This report briefly describes many existing and emerging co-governance and co-management examples and models for freshwater management and identifies and summarises a suite of tools to help decision-making and collaboration, as part of a collaborative process, within freshwater management.

The freshwater reforms are creating a new dynamic between local government, particularly regional councils – who enable and enforce Crown legislation and policy – and iwi/hapū in terms of relationships, decision-making, and freshwater management. By fostering positive working relationships between Māori and local government, it is likely these partnerships will provide a solid foundation to work together on projects wider than just the freshwater domain. If these relationships do not currently exist, then collaboration on freshwater could open the door for long-term benefits for both parties. However, a large number of challenges are emerging within collaborative processes. This VMO research shows that effective collaboration to achieve desired outcomes for freshwater management should be based on a Treaty planning framework discussed in Section 3.1 (Fig. 2). One of the major issues highlighted by this research is the lack clarity of the role of Treaty of Waitangi and principles in local government, as a precursor for successful collaboration. While local government, including regional councils, have delegated authority from the Crown to enforce various pieces of legislation (particularly the RMA and LGA), according to most case law they are not the Crown – they act only on behalf of the Crown for certain pieces of national legislation. The role of the Treaty in local government therefore needs to be explored more comprehensively beyond this report. This finding, that councils are not seen as the crown in legislation, highlights a series of issues that will affect engagement and collaborative process in freshwater management for both Māori and councils. This will be an important factor to resolve in discussion about indigenous values, interests, rights, and the ownership of water.

6.1 Cultural monitoring within the collaborative process

In terms of tools that can be used, cultural monitoring methods are becoming more widely used in the environmental monitoring space. Cultural monitoring is an assessment method often using indicators, or tohu, which can identify and articulate iwi/hapū values and perspectives, and then be used to monitor and report environmental-cultural change through time from an iwi/hapū perspective. It can also measure progress towards, or away from, iwi/hapū aspirations and desired outcomes. Within this type of assessment cultural indicators and methods are usually site specific and rely on the in-depth mātauranga Māori of tangata whenua. Cultural monitoring is identified as a tool that can have many positive outcomes for Māori and Māori communities, at multiple spatial scales and within a variety of ecosystems and habitats.

However, with the wider recognition and adoption of cultural monitoring comes the risk of co-option and use of these tools by people with very little understanding of Māori perspectives, mātauranga Māori, and tikanga (customary process) that underpin cultural monitoring, which could undermine the successful development and application of these tools.

6.2 Key findings

A number of useful tools were identified that are helpful for informing the collaborative process and building relationships between local government and iwi/hapū, and are necessary components to build capacity for achieving agreed or desired freshwater outcomes. The information collated in this report has confirmed that the terms co-governance, co-management, and co-planning are often used interchangeably and are not well defined. It is proposed that, from a Māori perspective, co-governance, co-management, and co-planning are stages in a process or collaborative cycle and are distinguished as such. Clear definitions for each of these three main stages are given in this report (Section 3).

Some of the key findings from working with both regional councils and Māori groups in collaborative processes and Māori led research, include:

- In terms of legislative provisions and responsibilities, and the Treaty of Waitangi, there is a clear distinction made between the Crown (used in national legislation to mean central Government as synonymous with the Crown) and local government consisting of TLAs, regional councils, and unitary authorities

- Treaty obligations and responsibilities for local government are not as clear as they could be under the LGA and RMA, although the principles are used as a premise on which to build relationships and partnerships (i.e. good collaborative process)

- NPS-FM (2014) refers to the Treaty as the underlying foundation of the Crown/iwi/hapū relationship in regard to the management of freshwater resources

- Regional councils wish to build strong relationships and partnerships with Māori organisations such as iwi/hapū and mana whenua to improve management of freshwater resources

- Many regional councils wish to include iwi/hapū in freshwater management and to address tangata whenua values and interests through meaningful engagement and through a collaborative process (rather than consultation)

- Collaborative processes can be costly and time consuming. For such collaboration to be successful, adequate resourcing must be provided. Increased time must be given to individuals to engage in collaboration (e.g. workshops, community meetings, wānanga)

- Strong relationships between councils and Māori, established at the beginning of collaboration, increase the chances of success. The collaborative relationship with Māori should be based on a Treaty planning framework, as discussed in Section 3.1 (Fig. 2). A high degree of trust, respect, and protocols for ongoing dialogue need to be developed early in the engagement cycle, for example at the pre co-governance stage

- Building capacity and/or capability is a prerequisite for long-term, sustained collaboration, and tools such as monitoring and collaborative projects that use mātauranga Māori in a pragmatic sense can increase skills in both Māori groups and councils to support effective collaborative process

- Māori have unique rights and interests under the Treaty of Waitangi, through indigenous or aboriginal rights and under the 'common law' doctrine of Māori customary title, which need to be recognised within any collaborative process and co-governance arrangement for the management of freshwater and other natural resources

- Incorporating Treaty principles into partnerships is integral for collaboration to commence and succeed, especially as it underpins co-governance, co-management, and co-planning

- It is important to consider Māori representation in a collaborative process very carefully, and understand the complex composition of Māori hierarchical, institutional, and societal arrangements, issues, and agendas (e.g. entities, structures, practices). It is also important to identify who represents who and what kaupapa or agenda are taken into the collaborative or decision-making process

- Māori membership in the collaborative process should be considered carefully. Māori should be represented by as many or as few individuals as necessary to represent their status, values, perspectives, and interests, so that adequate membership is sought to achieve the purpose of the collaboration and an outcome

- Māori membership will have a wide range of perspectives and interests and there will be more than one Māori view. Māori may have a more generic view on some matters and the definition of some common goals and priorities is one way to achieve unity and consensus

- Māori interests should not be pigeon-holed simply as "cultural", and parties such as council, industry, and stakeholders should be cognisant of other perspectives Māori bring to the table regarding political, economic, social and environmental issues, goals, priorities, and aspirations.

6.3   Summary

Examining how Māori values, mātauranga Māori, and perspectives inform collaborative processes has reiterated the importance of the Treaty of Waitangi in forming meaningful relationships and partnerships, and the important role of Treaty principles to guide the collaborative process. The entities, structures, and practices through which Māori interact with the Government continue to evolve. The 1840 Treaty of Waitangi is still the defining and guiding document for relationships with the Crown, and the government's freshwater reforms must be seen in this historical context. Māori should not be considered simply as another stakeholder group, but rather need to be recognised for their unique relationship as indigenous peoples of New Zealand. By engaging with Māori as Treaty partners it is expected that stronger relationships can be built with local governing bodies and other stakeholders. It is also thought that increased trust and knowledge of issues and values in our freshwater environments can be gained through this process. By building and strengthening relationships, a solid foundation can be built for working together on projects both within and beyond freshwater.

Valuable information from several case studies and examples across New Zealand have been summarised and are used to evaluate the meaning of collaboration and the collaborative process. This research has identified a number of helpful tools to inform the collaborative process for achieving agreed or desired freshwater outcomes.

Many existing and emerging models of co-governance and co-management are given from around New Zealand. The information collated in this study has confirmed that the terms co-governance, co-management and co-planning are often used interchangeably and are not well defined. It is proposed that, from a Māori perspective, co-governance, co-management and co-planning are stages in a collaborative and tikanga process, as shown in Figure 1. The framework shows that co-planning is actually an advanced state of the process and requires the creation of excellent relationships and the recognition, understanding, and incorporation of mātauranga Māori to enable bi-cultural planning and policy to be implemented as tangible activities and expressions.

7 Future Challenges

Many future challenges will appear in the sphere of collaboration and freshwater management, particularly for indigenous interests, rights and resource ownership, given they are largely reliant on power sharing arrangements between Māori, local government (TLAs, regional councils) and central Government (i.e. the Crown). It is be essential to clarify the role of iwi/hapū and other Māori entities and institutions within this engagement/co-governance/co-management process. This research has indicated there are contrasting perspectives on the way Māori view regional councils as the Crown within the collaborative process, and the way regional councils see themselves as local government, distinct from the Crown and not a Treaty partner. This is substantiated by a lack of clarity of the role of the Treaty under national legislation such as the RMA and LGA. Many papers based on the RMA and LGA state that "Councils are not the Crown, although they may undertake some activities on behalf of the Crown" (Reid 2011). This has relevance to the way relationships and partnerships between councils and iwi/hapū Māori will be developed within the collaborative process in future and the way the Treaty is used as the underlying foundation (e.g. NPS-FM) in this process to achieve successful outcomes.

The NPS-FM makes provisions for a more effective role for iwi, as Treaty partners. The freshwater reforms are creating a new dynamic between councils and iwi/hapū in terms of relationships and decision-making within a collaborative planning framework. The importance of relationships has been reiterated throughout this report and creates a solid foundation from which a collaborative process can be built.

Resourcing and training is a significant issue. Sufficient resources are needed to achieve successful collaboration. Because collaboration is a long-term process, meaningful relationships will have to be maintained throughout and the benefits of collaboration may not show up in the short term, and can only be measured against the long-term achievement of objectives, and successful outcomes. Some groups may wish to opt out of the collaborative process after they have commenced, or wish to be included at a later stage of the process. If a collaborative process runs for several years, this representation and contribution at later stages of a process will have to be carefully managed.

This report stresses the need to recognise the Treaty of Waitangi from the beginning to the end of a collaborative process, particularly its guiding principles and goals for partnership, as a foundation and framework when engaging with iwi/hapū and Māori organisations in freshwater management. This will be important through the collaborative stages from co-governance, to co-management, to co-planning and will help clarify the iwi/hapū/Māori role in decision-making. This report shows this can be achieved if councils and Māori groups work together from the beginning as partners and joint sponsors of the collaborative process. In this role, they protect the integrity of the process through selection of members, ensuring opportunities for those not in the room, and empowering others by implementing the outcomes reached through consensus. Outside the realms of the present VMO research there is an urgent need to clarify the indigenous rights and ownership of freshwater resources required to advance collaboration to achieve New Zealand's desired freshwater outcomes.

8   Acknowledgements

9   References

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Appendix I: Defining the Collaborative Process

A collaborative process can be defined as "all the affected interests jointly engage in face to face dialogue, bringing their various perspectives to the table to deliberate on the problems they face together…all participants must be fully informed and be able to express their views and be listened to, whether they are powerful or not" (Innes & Booher 2010). For the purposes of this report, collaborative planning is defined as multiple parties (e.g. industry, central and local government) working together to promote a planning outcome. This process begins at the outset of the planning process, when gathering information about a complex and dynamic system (Allen et al. 2001). This collaborative planning process is distinct from "Confrontational Planning", an example of which might be industry, central and local government only coming together at the court hearing stage of a planning process and each trying to win the day (St Clair et al. 2013).

The rationale for this alternative process is that collaborative planning and collaborative processes for freshwater management reduce conflict in what is a very complex issue. It achieves a wider understanding on freshwater issues and buy-in to decisions (Ministry for the Environment 2013). However, it is very important to emphasise that the collaborative process proposed in the freshwater reforms document is non-statutory, and local authorities have the choice of using the existing RMA Schedule 1 process or the proposed collaborative approach.

To ensure the collaboration is a success, it is important for practitioners to use the initial scoping stages to consider context, goals, and potential evaluation criteria. Rather than focusing immediately on stakeholder engagement and recruitment, careful planning can pave the way for a successful process and satisfactory outcome. The problem with the most recent Freshwater Reform 2013 and Beyond document (Ministry for the Environment 2013), is that it does not provide a definition on collaborative processes or collaborative planning. And as Monica Peters, a PhD candidate who has a long work history with community and collaborative projects, points out:

> *This will be left to Regional Councils to determine how in practice 'collaboration' with the 'community' occurs. If what is meant by collaboration isn't clearly defined, then the same dissatisfactions will be revisited as have occurred with other poorly used processes like consultation.… and participation. Instead of being a meaningful process, 'collaboration' risks becoming a set of bare bones without being fleshed out by any moral and ethical philosophies (Peters 2014).*

The current ambiguity in collaboration poses a real challenge for local authorities and the other parties with freshwater interests. Representatives from multiple local authorities, through the VMO regional council forums and associated meetings, have highlighted the need for processes and frameworks to help collaborative planning as well as capacity building and resourcing within these organisations.

Collaborative decision-making processes rest on the basic, and seemingly straightforward assumption that those best suited to decision-making are the individuals or groups who will be most impacted by the planning outcome (Frame et al. 2004; Morton et al. 2012). Collaboration goes by a number of different names: "consensus building", "win/win", "interest-based negotiation" and "mutual gains" (Innes & Booher 2010; Bryson et al. 2013).The goal is to manage the decision-making process in such a way that the outcome is

constructive, leading to greater understanding, communication and improved relationships between stakeholders (Ansell & Gash 2008). It involves people with diverse interests working together to achieve mutually satisfying outcomes. It is often (but not exclusively) characterised by consensus: all stakeholders reaching a decision they can all support.

Although using collaborative processes for freshwater management is in its early stages in New Zealand, it is already utilised worldwide to varying degrees of effectiveness for a multitude of problems (Cullen et al. 2010; Margerum 2002). While all collaborative processes are unique, experience has shown there are similar activities associated with each. A generalised framework for collaboration (Fig. 8) typically follows three distinct stages: scoping or pre-collaboration; collaboration and post-collaboration (Cradock-Henry & Kilvington 2013; Cradock-Henry et al. 2014). Criteria for evaluation enable the processes to be dynamic and responsive (Cradock-Henry & Kilvington 2013).

Figure 8 Stages in a collaborative process. While different authors categorise phases in different ways, these stages are commonly recognised (e.g. see Bryson et al. 2013).

Who is part of the collaborative process?

One of the initial considerations in the collaborative process is who should be involved. This initial step is critical to the success of collaboration, as it is the first step to building trust and a relationship with interested parties. Insight and good practices for stakeholder recruitment, group composition and mandate have been drawn from the extensive international literature on collaborative processes, together with insight from the Hawke's Bay TANK process (Cradock-Henry & Kilvington 2013; Sharp 2014). Key considerations for practitioners include:

- Stakeholder composition and recruitment is the most widely agreed upon success factor for participants. There are many options and choice of what approach to take depends on knowledge of the context and intentions of the CP process.

- Since no approach to stakeholder composition and recruitment will meet all needs, it is important to reflect on what bias may be unconsciously included and act to mitigate this.
- CP processes are an important opportunity to improve connection between science and policy making, therefore involvement of science and technical expertise should be given weight in considerations of participation.

The ways in which stakeholders are involved in the collaborative planning process can have a significant impact on its overall success. According to Cradock-Henry and Kilvington (2013) there are three key design considerations related to stakeholder involvement in collaboration: group composition, stakeholder recruitment, and mandate. The role of tangata whenua in the collaborative processes is included in this. One of the key measures of success of collaboration is the level of inclusiveness, or who has been part of the process. However, achieving representativeness in a group, or even deciding what the composition of the group should be, is less clear-cut (Cradock-Henry et al. 2014). Table 5 below, adapted from Bryson et al. (2013), summarises various option for group composition, which is clearly influenced by the context of the collaborative process (Cradock-Henry et al. 2014).

Table 5 Options for choosing group composition (Bryson et al. 2013).

Singular	Participants are drawn from a single sector or from a single criterion or category of interest.	Not representative of wide interests so not generally used for CP process – but can be used to form smaller working groups.
Universal	Group composition reflects all relevant categories.	May not be practical for CP processes given the diversity of interests involved.
Anarchic	Self-selection of participants willing to be involved.	Not favoured by CP processes as easily captured by well-organized interests.
Selective	Stakeholders are chosen purposively to represent a chosen selection of categories.	Commonly used in CP processes Categories could be determined through community consultation, expert knowledge or based on the purpose of the CP process
Proportionate	All relevant categories and criteria are represented relative to their distribution in the wider population.	Also used in CP processes. Risks are that such groups cannot make decisions that run contrary to the status quo.

Some other aspects to consider include what timeframes are required for each milestone, capacity building and training, funding and resourcing, an adaptive approach, risks, monitoring, and process management. It is very important to identify 'key contacts' within each partnering group and ensure the relationship baton is passed on should employees or project representatives move on from the specific project. For many Māori groups, allowing some flexibility in timeframes is important as it allows for other commitments that they may have, such as attendance of tangi, marae meetings. etc. (particularly when time is voluntary).

How do we evaluate success of collaboration?

To provide support to local government agencies using collaborative processes, Table 6 presents key insights and considerations related to the initial planning stages of collaborative processes, i.e. the scoping phase, as well as criteria for evaluation that will enable the processes to be dynamic and responsive (Cradock-Henry & Kilvington 2013). Related policy briefs are available and provide a review of design elements related to stakeholder selection and group composition (Cradock-Henry & Kilvington 2013) and the roles of public agency personnel in a collaborative process(Berkett et al. 2013).

Table 6 Proposed criteria for evaluating the success of the process of collaboration (Cradock-Henry & Kilvington, 2013)

Criteria	*Measure of success*
Purpose and incentives	The purpose is driven by a shared purpose and provides incentives for participation and for working towards consensus in the collaborative process.
Inclusive representation	Majority/All parties with a significant interest in the Heretaunga plan change, related issues, and relevant outcomes are involved through the process.
Voluntary participation and commitment	Affected or interested stakeholders participate voluntarily and are committed to the process.
Self-design	The parties involved work together to design the process to suit the needs of the HSG and stakeholder-participants.
Clear ground rules	As the process is initiated, a comprehensive procedural framework is established that includes clear terms of reference, operating procedures, schedule, and protocols.
Equal opportunity and resources	The process provides for equal and balanced opportunity for effective participation of all interested/affected stakeholders.
Principled negotiation and respect	The process operates according to the conditions of principled negotiation including mutual respect, trust and understanding.
Accountability	The process and its participants are accountable to the broader public and their own constituencies.
Flexible, adaptive, creative	Flexibility is designed into the process to allow for adaptation and creativity in problem solving.
High-quality information	The process incorporates high-quality information into decision making.
Time limits	Realistic deadlines and milestones are established and managed throughout the process.
Commitment to implementation and monitoring	The process and final agreement include commitments to implementation and monitoring.
Effective process management	The collaborative process is managed and coordinated effectively and in a neutral manner.
Independent facilitation	The process uses an independent facilitator throughout the process.