Ministry for the Environment
Manatū Mō Te Taiao

PO Box 10362, Wellington 6143
Website: www.mfe.govt.nz
Freephone: 0800 499 700

20-D-02399

s 9(2)(a) [redacted]

[redacted]

Thank you for your email of 3 December 2020 to the Ministry of the Environment (the Ministry) requesting the following under the Official Information Act 1982 (the Act):

1) Minutes of Te Kahui Wai Māori in the period following 6 August 2019 to the present day. The Ministry for the Environment's website has not updated their website with these minutes, which have been previously supplied during the period of 1 November 2018 to 6 August 2020.

2) Reports produced by Te Kahui Wai Māori between 2018 and 2020, excluding the already released report entitled Te Mana o te Wai: The health of our wai, the health of our nation: Kāhui Wai Māori report to Hon Minister David Parker (September 2019, CR 371).

3) Reports commissioned by Te Kahui Wai Māori between 2018 and 2020.

The Ministry has identified 29 documents in scope of your request, as listed in the attached document schedule. Some information within these documents has been withheld under the following sections of the Act:

- Section 9(2)(g)(i) to maintain the effective conduct of public affairs through the free and frank expression of opinions by or between or to Ministers of the Crown or members of an organisation or officers and employees of any public service agency or organisation in the course of their duty.
- Section 9(2)(j) to enable a Minister of the Crown or any public service agency or organisation holding the information to carry on, without prejudice or disadvantage, negotiations.
- Section 9(2)(h) to maintain legal Professional Privilege.

Te Kahui Wai Māori (KWM) is a Cabinet appointed advisory group established in 2018, with an overarching purpose to broaden the Government's conversation with Māori on freshwater reform. Over the past 24 months, KWM have worked collaboratively with Ministry officials to develop Te Mana o te Wai and the Māori freshwater values policies, and provided advice directly to Ministers regarding Essential Freshwater, Three Waters and Resource Management System matters.

The functions of the KWM as set out in their Terms of Reference are:

a. facilitate engagement between the Crown and Māori on freshwater reform;

b. collaboratively develop and analyse policy options on issues of particular importance to Māori across the freshwater reform programme;

c. provide advice directly to Ministers where it wishes to;

d. undertake any other advisory/research function agreed between the Crown and the KWM; and

e. undertake or facilitate engagement with the wider Māori community on key issues if necessary.

KWM does not exercise any decision-making powers on government policy and decisions remain with Ministers or Chief Executives as appropriate.

Following our response to your request, the Ministry will update the website and recommence proactively releasing the minutes from KWM hui. The minutes included in this response will also be uploaded to the website.

You have the right to seek an investigation and review by the Office of the Ombudsman of my decision to withhold information relating to this request, in accordance with section 28(3) of the Act. The relevant details can be found on their website at: www.ombudsman.parliament.nz.

Please note that due to the public interest in our work the Ministry for the Environment publishes responses to requests for official information on our OIA responses page shortly after the response has been sent. If you have any queries about this, please feel free to contact our Ministerial Services team: ministerials@mfe.govt.nz.

Yours sincerely

Hayden Johnston
Director, Water and Land use Policy

Document schedule

Document no.	Document date	Content	Decisions	OIA sections applied
1	March 2019	DRAFT Principles-based analysis: recognising Māori rights and interests in allocation	Withhold	Section 9(2)(j)
2	March 2019	DRAFT Tino rangatiratanga – kawanatanga (TR/K) making framework for freshwater	Release in part	Section 9(2)(g)(i)
3	March 2019	Communications Strategy	Release in full	
4	March 2019	DRAFT Potential structural changes to freshwater governance to achieve a Te Tiriti-compliant partnership	Withhold	Section 9(2)(g)(i)
5	19 March2019	Position Paper Three Waters	Release in full	
6	29 March 2019	Poroiti Springs case study for Kahui Wai Maori (Millan Ruka)	Release in full	
7	April 2019	Development of non-regulatory mechanisms to restore freshwater health	Release in full	
8	April 2019	DRAFT Summary Doc Development of non-regulatory mechanisms to restore freshwater health	Release in full	
9	30 April 2019	Te Kahui Wai Maori Response to four MfE briefings	Release in full	
10	21 May 2019	Te Kahui Wai Maori Response to NPS – FM briefing	Release in full	

11	23 May 2019	Te Kahui Wai Maori Response to Allocation Discussion Document	Release in full	
12	27 May 2019	Wai u Waiora	Release in full	
13	04 June 2019	Cognitus Comments on Nitrogen Allocation Discussion Doc	Withhold	Section 9(2)(g)(i)
14	20 June 2019	Briefing on compulsory Maori values of freshwater health	Release in full	
15	02 Aug 2019	Te Kahui Wai Maori Response to Discussion Document (FEPs) 2 August 2019	Release in full	
16	24 Jan 2020	Meeting 12 – Kahui Wai Māori meeting minutes 10 November 2019	Release in full	
17	24 Jan 2020	Dr Royden Sommerville QC – Legal Opinion (Letter)	Withhold	Section 9(2)(h)
18	20 Feb 2020	Meeting 13 – Kahui Wai Māori meeting minutes 23 January 2020	Release in full	
19	27 Feb 2020	39-Draft NPS-FM-Dr Sommerville QC edits	Release in full	
20	06 March 2020	Dr Royden Sommerville QC – Response to Crown Law Opinion (Letter)	Withhold	Section 9(2)(h)
21	18 March 2020	KWM submission to the resource management review panel	Release in full	
22	20 March 2020	Meeting 14 – Kahui Wai Māori meeting minutes 28 February 2020	Release in full	
23	22 March 2020	Te Mana o te Wai Diagram	Release in full	

24	May 2020	Developing a TMoTW Implementation Strategy	Release in full	
25	17 June 2020	Kāhui Wai Māori Meeting Minutes – Meeting 15 – 04 June 2020	Release in full	
26	27 July 2020	Kāhui Wai Māori Meeting Minutes 22 July 2020	Release in part	Section 9(2)(j)
27	5 Nov 2020	Kāhui Wai Māori Meeting Minutes – 12 October 2020	Release in full	
28	12 Nov 2020	KWM Briefing to Incoming Minister	Release in part	
29	26 Nov 2020	Kāhui Wai Māori Meeting Minutes – 16 November 2020	Release in full	

Kāhui Wai Māori Discussion Document for 19 March Hui

Tino Rangatiratanga – Kawanatanga Framework for Freshwater

1. Executive Summary

1.1 Purpose

1.2 The purpose of this report is to identify the range of potential mechanisms required as part of a future freshwater tino rangatiratanga / kawanatanga framework.

1.3 Te Mana o Te Wai

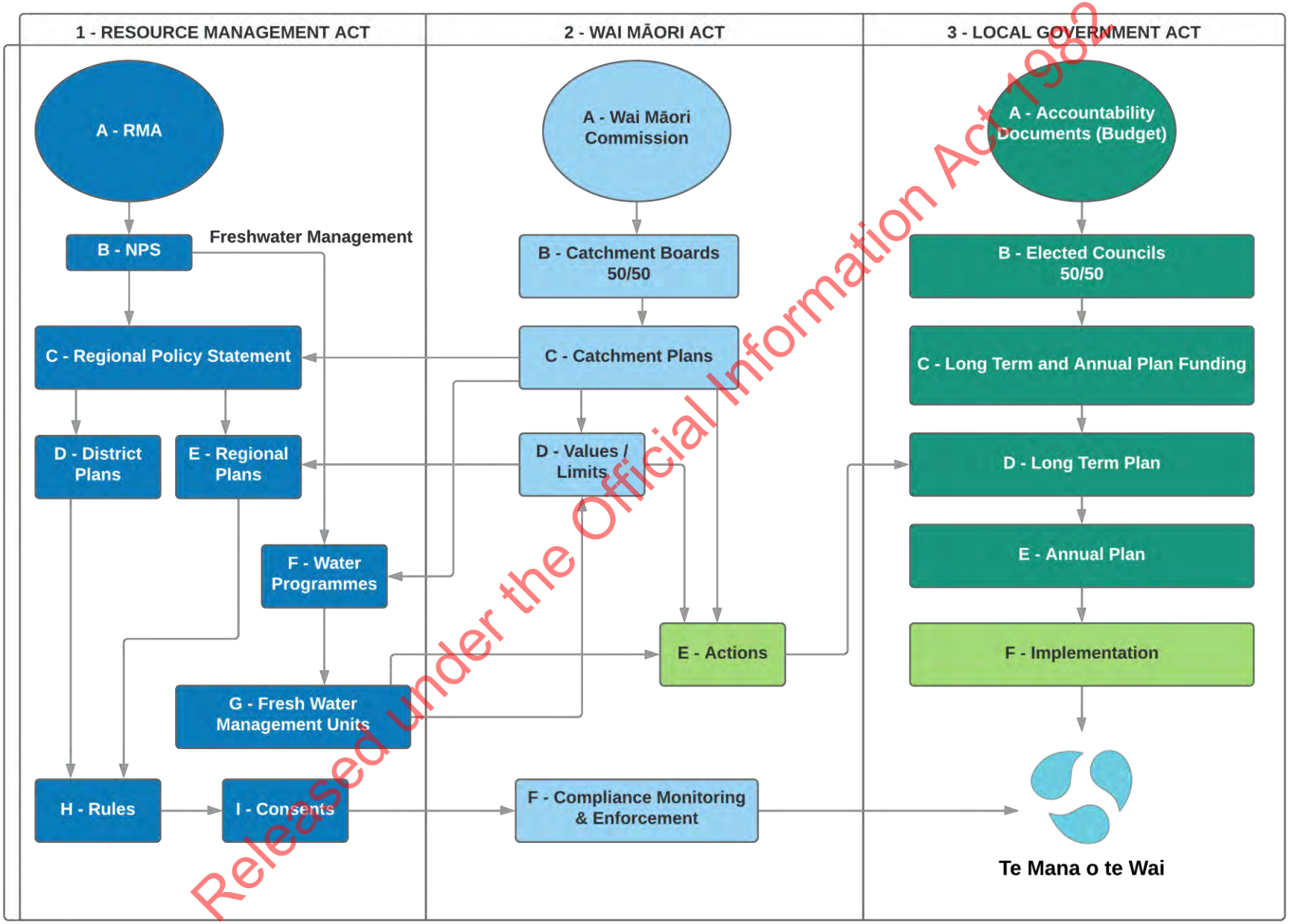
1.4 Te Mana o Te Wai provides a framework for sustainable use and provides a useful outcome focus for future reforms. Te Mana o Te Wai sets a hierarchy of rights and obligations:

- the first right is to the water, to protect its health, its mauri.
- the second right is to people, for domestic and customary uses, including allocation for marae and papakainga;
- the third right is for commercial or development use, provided that such use does not impact the mauri of the freshwater body.

1.5 The responsibility for achieving Te Mana o Te Wai is a responsibility for all communities not just hapū and iwi. Solutions for shifting the power imbalance in freshwater management will need to combine both national (central) and regional (local government) approaches.

1.6 The involvement of Māori in the delivery of Te Mana o te Wai therefore needs to occur systemically, at all levels of care, governance and management of freshwater. A proposed framework is outlined in Figure 1 below:

Tino Rangatiratanga / Kāwanatanga Framework



Short list options (tbc)

To be discussed at workshop with Te Kāhui

Component	Key changes

Background briefing

1. System reform design considerations

The following parameters are proposed as a first step towards system reform:

a. There a range of mechanisms for addressing hapū and iwi rights and interests in freshwater within a tino rangatiratanga / kawanatanga framework and;

b. The design settings for these mechanisms will need to vary across rohe due to differing needs and contexts, and;

c. While Regional Councils are well placed to decide the right settings in partnership with hapū and iwi at catchment level,

d. Central government must act by providing leadership, support and national direction.

e. Te Mana o Te Wai and Ngā Matapono provide a useful foundation for framework development.

1.1 The Shifts required

The shifts required to empower Māori within a Tino Rangatiratanga / Kawanatanga (TR-K) framework are:

Shift 1: Central Government	***From outdated ad-hoc legislation to a Tiriti compliant system that recognises and provides for Te Mana o Te Wai.***
Shift 2: Local Authorities	***From unclear roles and responsibilities to Treaty based partnership models of collaborative leadership and implementation consistent with Te Tiriti.***
Shift 3: Compliance, Monitoring and Enforcement	***From fragmented and under resourced activities to robust and systemic CME approaches of environmental regulation to achieve Te Mana o Te Wai.***
Shift 4: Restoration and enhancement of Te Mana o Te Wai	***From role confusion and lack of accountability to resourcing models that scale up the involvement of tangata whenua using the collective power held across government agencies.***

2. S 9(2)(g)(i)

	s 9(2)(g)(i)

[1] See Appendix 1.
[2] Wai 2358 #3.3.46(a)

S 9(2)(g)(i) [redacted]

[redacted]

[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]

	S 9(2)(g)(i)

S 9(2)(g)(i)	

3 s 9(2)(g)(i)

S 9(2)(g)(i) [redacted]

[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]
[redacted]	[redacted]

Appendix 1: The various arrangements between Māori and Local Government

Arrangements	Mechanism Examples
Settlement provisions Co-governance	• Structures to give effect to legal personality • Documents recognised as having status within the RMA[4] • Independent statutory bodies[5] • Integrated management plans including Wai Māori • Restoration and resourcing Trusts
Settlement provisions Co-management	• Environmental Plans • Joint Management Agreements s36 • Regulations and bylaws • Co-Management Funding • Iwi-Crown Accord • Ministerial Accords and Portfolio Agreements • Customary activities
Regulation	• RMA Plans and Policy Making groups • Plans arising from multi-iwi approaches (may be regulatory or non-regulatory) • Mana Whakahono a Rohe • Statutory Board Iwi rep on committee with voting rights • Standing/Statutory Committee • Annual Plan and Long Term Planning processes under LGA
Non-regulation	• Lower order plans and policy making groups • Non-regulatory plans – catchment plans • MoU's – relationship agreements commonly based on partnership principles • Iwi representatives on committees as observers • Technical Advisory Groups • Advisory entities and contractual arrangements for service delivery e.g. between Council and PSGE. • Various operational arrangements that may include opportunities for tangata whenua influence e.g. erosion protection schemes, biodiversity covenants, biodiversity programmes, fencing and planting, freshwater and wetland restoration, flood protection functions, restorations strategies with Iwi/Hapū and partners
Iwi/Hapū mechanisms	• Collective Forums of hapū / iwi • Commercial/Industry arrangements • Iwi Management Plans • Restoration and enhancement programmes • Commercial arrangements in freshwater infrastructure including irrigation

[4] For example The Vision and Strategy for the Waikato River / Te Ture Whaimana o Te Awa o Waikato sits below RMA and above NPS's.

[5] For example: Waikato River Authority

Document 3

KAHUI WAI MAORI ADVISORY GROUP

Draft Communications Plan

Te Mana o te Wai

A partnership model with Maori that recognises rights and obligations for fresh water management.

Communications Objectives

Goals

- To change the governance model for Freshwater Management.
- Establish a partnership model with Maori.

Objectives

- To view and agree on the messages that are reported to the Minister on views expressed by KWM.
- To retain the right to announce publicly the position Kahui Wai Maori has advocated in this Work Programme.
- To tell a compelling story.
- Clearly demonstrate the legacy of KWM.
- Move a nation to change.

Audiences

Primary

- Minister's Parker, Mahuta and Davis.
- Ministry for the Environment and Department for Internal Affairs officials.
- Department of Conservation, Minister Sage and officials.
- Ministry for Primary Industries, Minister O'Connor and officials.
- The Essential Freshwater Reform Advisory Groups.
- The Iwi Leaders Group
- Juliet Gerrard – PM's Chief Science Advisor.
- Maori and the general public.

Secondary

- Department of Conservation – *NZ Coastal Policy Statement.*
- Ministry for Primary Industries – *The National Environment Standards for Plantation Forestry.*
- The Ministry of Health – *The Health Act 1956.*

Mana Atua
Mana Tangata
Mana Whenua

Te Mana o te Wai

Water is life

PRINCIPLES

Kaitiakitanga
sustainability

Manaakitanga
care/respect/nuturing

TBC.....

CUSTODIAN

Iwi/hapu
central and local governance

Crown
central and local governance

TBC.....

OBLIGATION

Incorporated in Policy – These are the Rights

1. **The first** is to the water to protect its health and its mauri
2. **The second** is to ensure the needs of the people are met in a sustainable way
3. **The third** for the potential development and economic use providing such use does not impact the mana and the mauri of the water

The Current Issues

- No recognition of Maori rights and interests in the Essential Freshwater reform process.
- No recognition of Te Tiriti o Waitangi as the foundation for iwi/hapu-Crown relationships concerning the management of freshwater.
- Confused messaging around Te Mana o te Wai.
- The lack of capability with the Ministry for the Environment to ensure that Te Mana o Te Wai is understood and implemented within the fresh water management system.
- The disjointed approach to freshwater reform that is not sustainable.
- Laws and regulations managing freshwater management are not protecting the health of the water.
- The rules and legislation for managing and maintaining the health of freshwater is spread across a number of government agencies – MfE, DIA, Conservation, Ministry for Primary Industries and the Ministry of Health.

Key Messages

May – June

To raise awareness of the values of Te Mana o te Wai.

- *The health of our water, the health of our nation.*
- *Water is the symbol of life – protect it.*
- *Water sustains life – protect it.*
- *Develop in harmony with our natural resources.*

Commencing July

Public Consultation.

Communications Platforms

Communication Activities – Essential Freshwater Reform Programme

Internal

- Meetings with the Ministers, as required
- Advisory Group Meetings - monthly
- Meetings of sub-groups - as required
- Meetings with officials from MfE ongoing
- Meetings with the Crown Lead ongoing
- Meeting with ILG representative ongoing

Media protocols

Where information is not already public:

- The chair may seek agreement from the Minister for the Environment for KWM to release a media statement.
- A member may only participate in a media interview or public statement about the business of KWM if they have obtained the prior written approval of the Chair and the Minister for the Environment.

Kahui Wai Maori

- April NZ Planning Institute Conference 2 - 5 April. Include key messages on Te Mana o te Wai.
- Opportunities exist on:
  - Wednesday 3 April Field Trip 3 - Water - Our Life Force.
  - Thursday 4 April Theme Natural Resources presentation by Mihinaarangi Baker on Maori Involvement in freshwater management.
  - Thursday 4 April Keynote speech by Hon Nanaia Mahuta on Indigenous Biodiversity.
  - Friday 5 April Keynote speech by Hon David Parker on The government's ambitious resource management programme.
- Develop a 4 part vignette series on the values of Te Mana o te Wai for distribution in May/June through MfE.

Ministry for the Environment

- 22 March - World Water Day Media Release from Minister Parker.
- April (first week) - Bill to Parliament making small changes to the RMA.
- 2 - 5 April - NZ Planning Institute Conference - Opportunity to raise awareness of Te Mana o te Wai.
- 18 April - release of Environment Aotearoa 2019 - part of the environment reporting series on the state of the environment.
- 18 April or shortly thereafter the next Essential Freshwater Newsletter covering the Environment Aotearoa report in summary and providing an update on the reform programme.
- Around 23 April the next edition of Te Komiromiro Panui reflecting hapu, iwi and Maori interests.

Kāhui Wai Māori Position on the Government's Three Waters Approach

Background

1. The Department of Internal Affairs (DIA) is currently reviewing the Three Waters system (drinking water, wastewater, stormwater, with proposals for strengthened three waters' regulation expected to be considered by Cabinet in June 2019.

2. However, not only have these proposals been developed without any meaningful engagement or input from the Kāhui Wai Māori, but they have been developed in isolation from the Essential Freshwater reform process by the Ministry for the Environment (MfE). The Essential Freshwater reform will address some of the key issues with the framework for governance and management of freshwater, including for the 'three waters'.

3. In our role as providing the Government with advice, the Kāhui urges Ministers to consider that over 80% of Māori reside in urban areas, meaning that for a large majority, the concerns they hold about the effects of freshwater quality, are in fact concerns about three waters. The implications of what the DIA is proposing reach right into the heart of the critical matters of water governance that the Kāhui and MfE have been attempting to address.

4. Māori will rightfully not see the matters around three waters regulation being separate to other water quality issues, and have a strong expectation that these matters are integrated.

Engagement issues

5. DIA provided a presentation to the Kāhui Wai Māori in late November where they raised the following concerns that have not been followed up on with the Kāhui:
    a. A lack of analysis of the role of Māori in water infrastructure and asset governance and management
    b. Incomplete understanding of the financial cost to meet the NPS including the requirements likely to be created through the Essential Freshwater package
    c. The implications for Māori rights and interests in water in various proposals to fund water regulation and infrastructure

6. One member of the Kāhui has been approached to engage in a focus group on officials' proposals for Three Water regulation, however this was set at the same time as the Kāhui meeting for that month making it impossible for their attendance. This shows the complete disjoint between the MfE and DIA engagement processes, and the lack of commitment to ensuring that engagement from Māori experts can occur.

Issues arising from consultation material

7. From a review of material provided after the 27 February workshop, the following critical issues for Māori are evident:

8. Most significantly, the material indicates the proposition of a dedicated regulator for Three Waters in the medium term, but there isn't any evidence of DIA recognising or understanding the issues that would be created by a Crown entity exercising regulatory authority over three waters

with regards to Māori rights and interests, or that suppliers have accountability to Māori as Treaty Partners.

9. The slide provided on 'Māori and three waters' describes the Treaty partnership as creating considerations in terms of cultural significance of water. It doesn't recognise that obligations aren't limited to Treaty settlements but that Treaty obligations are implicit and pervasive as part of the responsibilities devolved to local government in their role as both service providers and regulators.

10. There is no evidence of considering how Te Mana o te Wai, as the Government's primary objective for freshwater management is being implemented within the approach to three waters. The disjointed development of proposals for Three Waters from other aspects of reform are at total cross-purposes with the requirement set by Te Mana o te Wai to consider the integrated aspects of environmental, water and human health in water governance and management, and the involvement of Māori in decision-making around water.

11. The programme wishes to address community understanding of the safety and standards of water and treated wastewater, and the risks connected to them, however there is no analysis of Māori standards for urban water, and the specific types of interaction that Māori have with urban waters, in particular through mahinga kai.

12. The changes to the NPS-FM currently being advocated by the Kāhui and proposed by officials will have significant implications for the standards that Three Waters needs to achieve. It seems unwise that the conversations about the standards that need to be met, and the mechanisms to enable service providers to achieve those standards are happening separately.

13. The Three Waters proposal identifies the need for a strong emphasis on compliance and enforcement, however this has not been informed by the recommendations that the Kāhui and MfE are making around how the exercise of compliance and enforcement must involve Māori.

14. The material provided takes the position that 'Regional Councils have good levels of scientific competencies'. This is not at all the experience for Māori who often encounter councils' inability to deal with complex water care issues pertaining to heavy metal contamination of foods found in receiving bodies of urban waterways, issues of bioaccumulation of contaminants in mahinga kai, presence and persistence of microbiological contamination.

15. Proposals around improved regulation and management of water infrastructure inevitably lead to conversations about the ability to generate revenue for the purpose of governing and managing water, which in turn leads to a dialogue about the public paying for access to clean drinking water. There hasn't been consideration about the impact of these proposals on the direction of those conversations, particularly with regards to Māori.

Recommendations

16. Pause the Three Waters reform process.

17. Integrate the Three Waters programme with the Essential Freshwater programme and adopt an all of government approach to water policy development.

18. Determine an appropriate process by which Māori and Kāhui Wai Māori more broadly can inform the development of the Three Waters proposals.

ENVIRONMENT RIVER PATROL
AOTEAROA - NEW ZEALAND
Kaitiaki mo nga awa

P.O. Box 98, Whangarei 0140
Mob: 021 67 3838
Email: millan@wairuaenergy.co.nz

Poroti Springs a Case Study for Kahui Wai Maori

by Millan Ruka, for my hapu Te Uriroroi, Te Parawhau, Te Mahurehure 29.03.2019

Ko Whatitiri te maunga
E tu nei i te ao i te po
Ko Waipao te awa i rukuhia,
i inumia e oku matua tupuna
Ko Maungarongo te marae
Hei tangi ki te hunga mate
Hei mihi ki te hunga ora
Ko Te Uriroroi
Ko Te Parawhau
Ko Te Mahurehure ki Whatitiri nga hapu
Ko Ngapuhi-Nui-Tonu te iwi

Whatitiri is the mountain which stands by night and day
Waipao is the babbling brook where my ancestors dived and drank
Maungarongo is the Marae lamenting the dead, greeting the living
Te Uriroroi, Te Parawhau and Te Mahurehure ki Whatitiri are the hapu
The people of Ngapuhi are the people

This case study of Poroti Springs is aptly described by the opening statement of Waitangi Researcher David Alexander 187 page report – "*Prior to the 1973 bore rights, none of any conflicts/demands on the resources and/or complexities existed. The springs were held and treasured in their original and traditional form. A spring of celebration, then a spring of conflict since 1973".*

Waitangi Researcher Paul Hamer's 451 page report Poroti Springs and the RMA Act 1991 to 2015 - he wrote – "*The relationship of Porotī Māori with the springs is regarded as one of the best examples in the country of a Māori proprietary right to water, and the Waitangi Tribunal has upheld the basis of Māori claims to the ownership of freshwater. The consent authorities, however, have steadfastly refused to be influenced by such considerations".*

1. The Poroti Springs Claims within Treaty of Waitangi legal teams representing Claimants is said to be the most compelling case for justification that Maori are denied our entitlement to water rights in Aotearoa. During the National Government era, the Crown and Local Government agencies have driven the notion that "no one owns the water". Over the past three year and more so in the term of the current Labour led coalition Government, New Zealanders have made it clear that our waterways must be cleaned up and that our water resources belong to New Zealanders. The New Zealand public voted in this current coalition Government with water issues being a high priority to resolve.

2. In 1895 to 1897 our tribal lands of 22,543.4 acres (Block13-Plan 6650) were subject to a compulsory Government Survey that lead to our loosing more than 90% of our whenua to settlers within 15 to 20 years. This is well documented and evidenced with Gazette Notice's within our treaty claims presented to the Waitangi Tribunal. Our evidence shows most all of our whenua was procured by the Crown to pay for survey fees that were charged for the survey and partitioning from whanau hau kaianga whom in those times lived in a largely cashless society. We were left with eight hapu reserves, one being Whatitiri 13z4 Poroti Springs Reserve and the other seven being wahi tapu reserves. We are still the sole owners of these reserves today, including Poroti Springs Reserve 13z4.

3. Poroti Springs 13z4 reserve of less than four acres and has two springs, Tahi and Rua that emit from within its boundaries. Our Maungarongo Marae is located within 200 metres distance *ref to Map #002. The springs are nourished by our ancestral maunga "Whatitiri" and its aquifer within. Our springs are the headwaters of the Waipao Stream that flows on for some 7 klm to join the Wairua River. The Waipau Stream is subject to many water-take consents and also by permitted activities ie water for cattle consumption, land irrigation, District Council public water supply and water bottling operations.

4. Within our Treaty Claims, Block 13 (22,543.4 acres) is a claim due to our 1895 loss of most all of this land that surrounds our Poroti Springs Maori Reserve 13z4. This claim is a "historic" claim.

5. However, the conflicts of Poroti Springs started in 1973 to current when the New Zealand Government and Local Government agencies decided to extract water from across the road in three bores they drilled just 90 metres from our Springs Reserve. Despite our objections, they dried our springs in 1983 and again in 1987 until the Northland Regional Council (NRC) - "1989 Special Tribunal" ordered the decommissioning of the bore site by 2004. This was agreed to by the Whangarei District Council (WDC) and other Consent holders. But later in 2004 the WDC sold the bore site for $40,000 as a going concern to Zodiac Holdings Ltd and both the WDC and NRC facilitated and accommodated for Zodiac to re-open the bores for an export water bottling plant. The WDC had previously spent more than $1.1 mil to procure and develop this site.

6. This re-opened the conflict and a further consistent compounding of breaches of the RMA that have continued right through to this present day. So, the Poroti Springs saga is also a "contemporary claim" registered with the Waitangi Tribunal by our Whatitiri Maori Reserves Trust (WMRT). We do not have high expectation of satisfactory resolution for a fair outcome that compensates our hapu nor that the Crown considers that we have an entitlement of economic benefit to derive from our customary waterway, Poroti Springs and the Waipao Stream. Our hapu are resolute to pursue our entitlement to water rights to water that emits from our whenua.

7. We have always considered, expressed and practiced, that our water from Poroti Springs and its aquifer be available to nourish the peoples of Whangarei. However, as the insatiable quest by commercial and Local Government interests for our water resource progress unabated, they have banded together and clearly deliver in all their collective actions that Poroti Maori have no customary or proprietary rights to our water resource that emits from our lands.

8. We have presented a "Share Plan" for Poroti Springs waters to prior Government Minister Finlayson and he referred us to Minister Smith who in turn referred us to the Whangarei District Council (WDC). We designed our "share plan" to fit with the RMA and to gain unused water allocation from Maungatapere Water Company and Whangarei District Council takes. We designed our share plan to ensure there was no tangible water-take loss to the three consent holders. In fact, it offered WDC more security of supply and increase in m3 water as we offered them our share in partnership. A "win win" we thought. The WDC rejected our plan on the grounds that it a matter for the Waitangi Tribunal to sort.

9. Our current Government have taken a bold step forward to purchase the Zodiac Holdings Ltd bottling and bore site for $7.5 mil and it now sits in the Office Treaty Settlements coffers. Zodiac never exercised their water-take consent in their 27 year of holding a consent to extract from Poroti waters. The land value for the bore and bottling site has an approx. value of $500,000 max. This leaves the purchase of the un-exercised consent paper to be purchased for $7 mil. The same consent cost $896.50 inc gst today.

10. We have no desire to take water from these bores, nor to apply for a consent to pay for our own water. We do want to secure the whenua so that we can put to rest any further exploitation of the aquifer lines that supply to our springs. We are now in a position where Iwi and hapu feel we are already benefitting from this Crown acquisition. In fact the Crown has not passed the acquisition to us and we still have to contest that it is our whenua while already Iwi have expressed that it should go into commercial settlement. We are again left to fight for our rights of ownership to our water resources and whenua.

11. The decision by Office Treaty Settlements to purchase the Zodiac interests was not made lightly. We have recently gained 640 pages through the OIA process on the Crown's actions and reasons to take this unprecedented move to make this purchase. It has involved the sign-off and input from several Ministries and Crown officials including - Ministry of Justice, Dept of PM and Cabinet, Ministry for Environment and Dept of Internal Affairs. Our hapu claims team are working through the documents as part of our research to contemplate litigation against the Crown. We have absolutely no financial resources for legal advice or services and push on regardless as those that have passed before us have done.

12. It is timely to pay tribute to our rangatira and kuia who since passed and who fought this long injustice and to those that are here today whom have dedicated many years of their lives on this journey for our taonga Poroti Springs. Those now at the coalface are Taipari Munro, Meryl Carter, Lorraine Norris, Dihna Paul, Hona Edwards and Millan Ruka. We also thank our Counsel Donna Hall for all her diligence to point and guide us in the right direction. This is our time and we will settle this in our favour and we will not leave it to our mokopuna to inherit.

13. We consider that Justice Department researcher Paul Hamer has great insight into the complexities of the Poroti Springs case. He has the in-depth and academic knowledge to articulate all the twists and turns that have played out over the years. Certainly, the Crown well understood from his report that the many breaches of the RMA and liberties given were a great injustice that led them, the Crown, to purchase the problem. Mr Hamer could better present a summery to the Crown than my experience affords. Mr Hamer is not so well acquainted with events happening after completing his report in late 2015 and then presenting it to the Tribunal mid next year in 2016. It would be a benefit to KWM for Mr

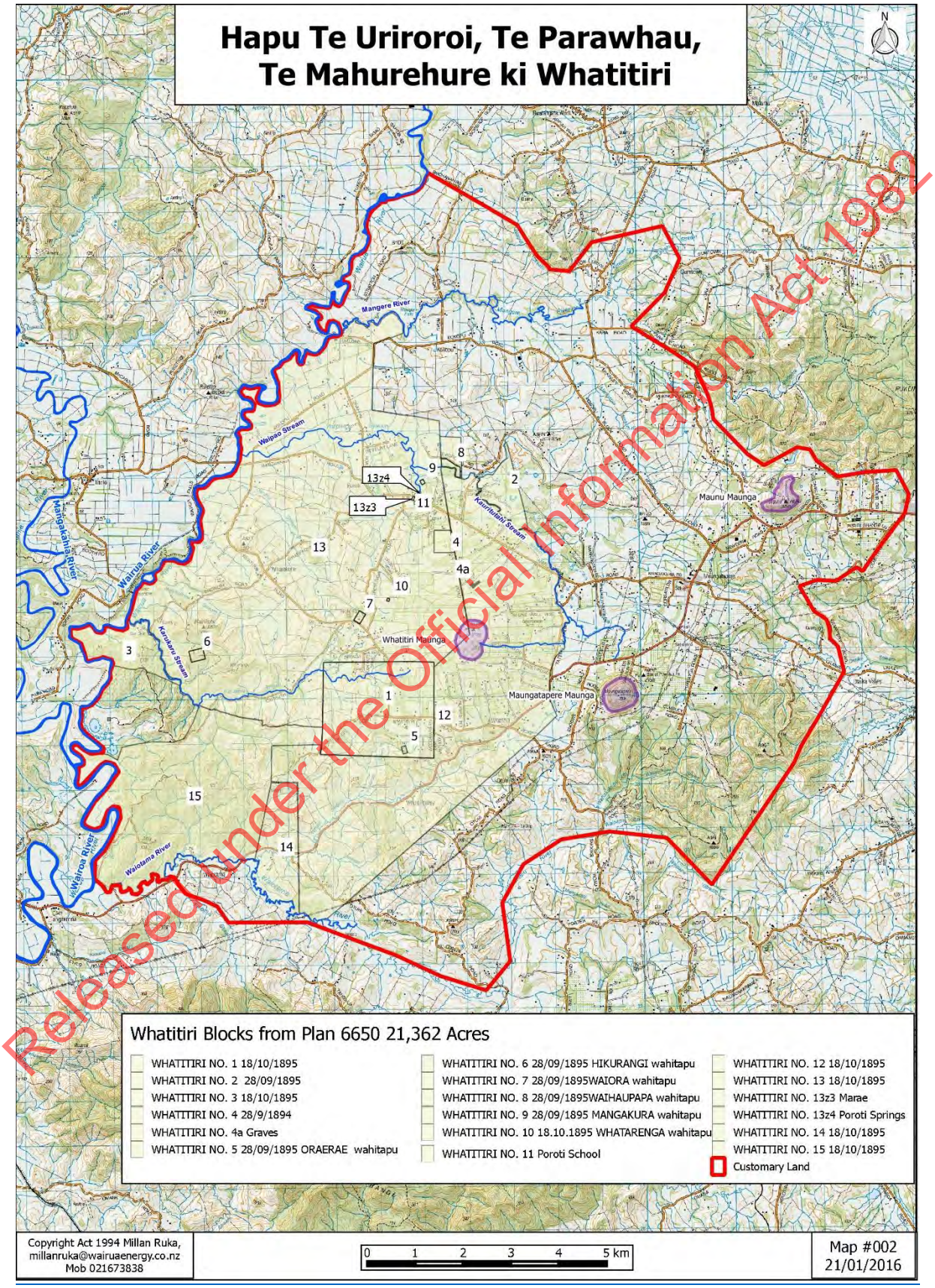
Hamer to be engaged to bring himself up to date with the proceedings and to better present this Case Study on our behalf to the Ministry for Environment.

14. Copy past RNZ link - https://www.radionz.co.nz/news/national/339198/a-burning-sense-of-injustice-at-poroti-springs-parker

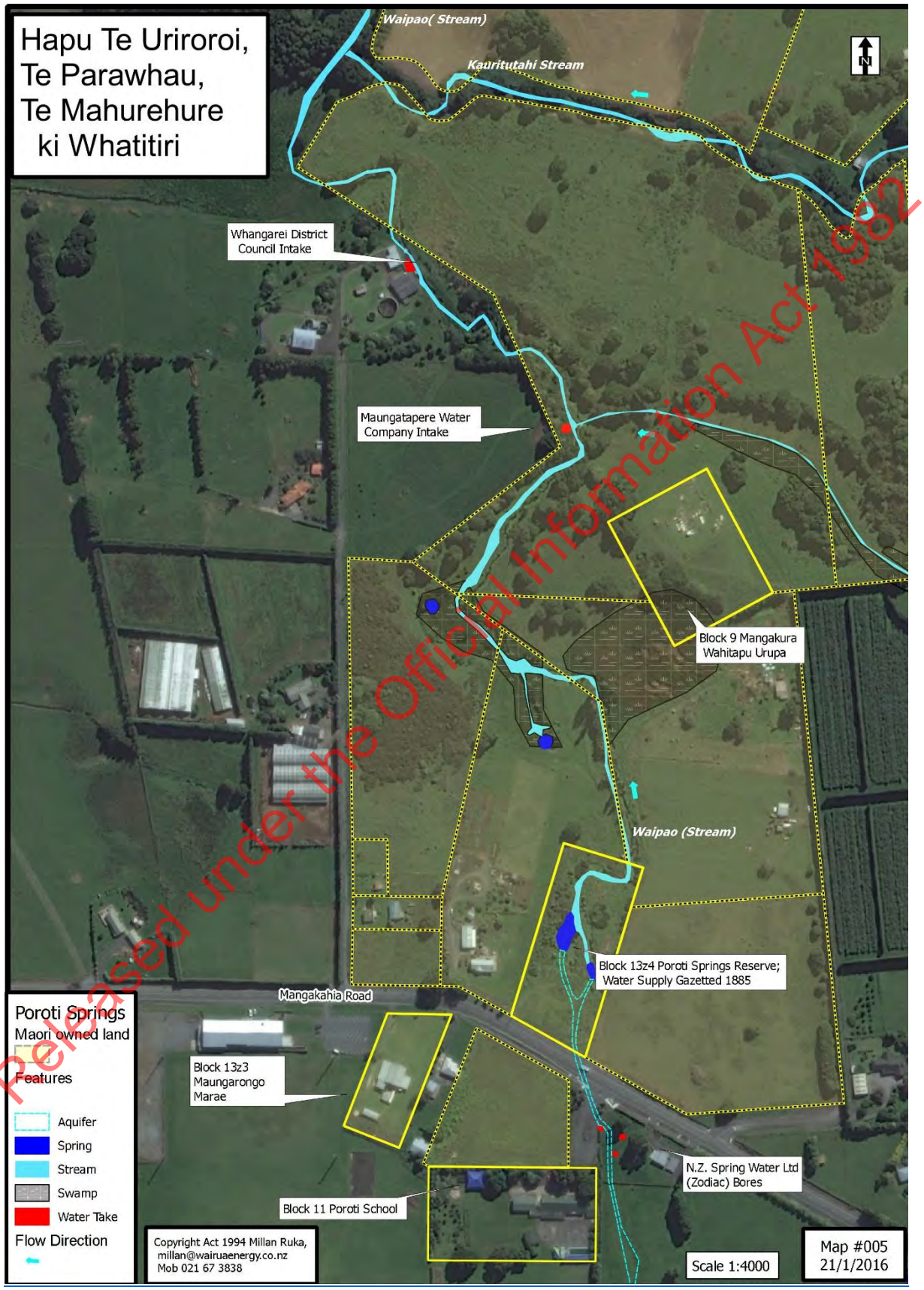
15. Copy past RNZ link - https://www.radionz.co.nz/news/national/339198/a-burning-sense-of-injustice-at-poroti-springs-parker

16. **The photo below** 2017– hapu Millan Ruka, Labour Mr David Parker, Labour Mr Tony Savage, hapu Hona Edwards. Mr Parker visited our Maungarongo Marae and Poroti Springs. They are in very low flow at this time yet Zodiac Holdings Ltd had consent to extract up to 2,500 cubic metres of water a day from bores just 90 metres across the road from this emission points of "Tahi and Rua" spring out-lets where we are standing.

Map photo #002 below show Poroti Springs Reserve 13z4 – it is located near centre of the map.

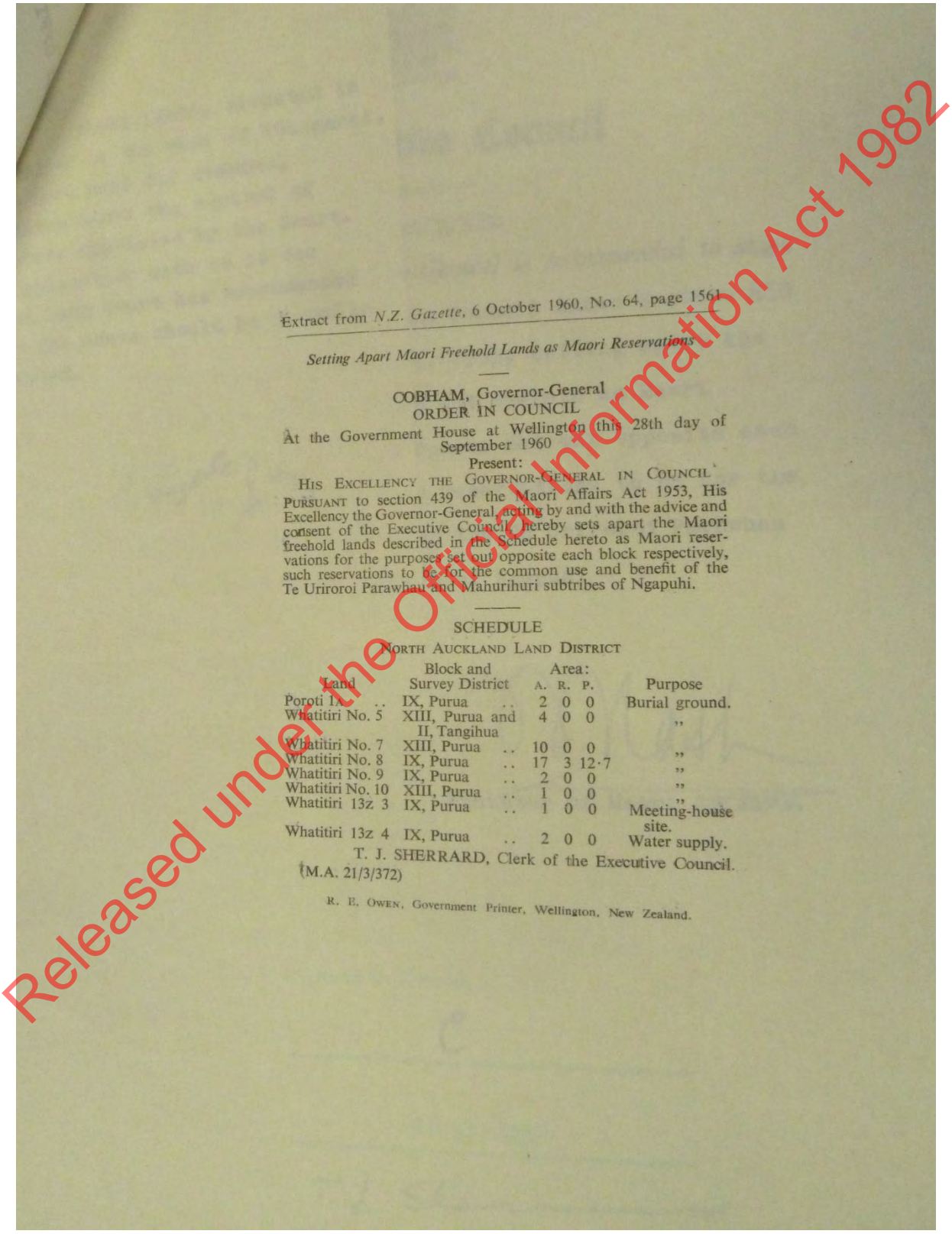


Map photo #005 below – Note NZ Spring Water Zodiac Bores are located at the bottom of the map. This is the whenua that the Crown purchased on 10.05.2018.



Survey Map 6650 drawn early 1900s and progressively updated to include 13z4 Gaz 1960 Set apart Water Supply. All disregard by Northland Regional Council and Whangarei District Council under the guise of the Water & Soil Conservation Act and later the RMA.

1960 Gazette Notice reaffirming our Poroti Springs Reserve 13z4 IX Purua “Water Supply”. Disregarded by Northland Regional Council and Whangarei District Council under the guise of the Water & Soil Conservation Act and later the RMA. They both considered several times to ensure we were “non-notified” in several consents issued just 90 metres across the road to Zodiac Holdings Ltd water bottling bore site



Extract from *N.Z. Gazette*, 6 October 1960, No. 64, page 1561

Setting Apart Maori Freehold Lands as Maori Reservations

COBHAM, Governor-General
ORDER IN COUNCIL

At the Government House at Wellington this 28th day of September 1960

Present:

HIS EXCELLENCY THE GOVERNOR-GENERAL IN COUNCIL

PURSUANT to section 439 of the Maori Affairs Act 1953, His Excellency the Governor-General, acting by and with the advice and consent of the Executive Council, hereby sets apart the Maori freehold lands described in the Schedule hereto as Maori reservations for the purposes set out opposite each block respectively, such reservations to be for the common use and benefit of the Te Uriroroi Parawhau and Mahurihuri subtribes of Ngapuhi.

SCHEDULE

NORTH AUCKLAND LAND DISTRICT

Land	Block and Survey District	Area: A.	R.	P.	Purpose
Poroti 1A ..	IX, Purua ..	2	0	0	Burial ground.
Whatitiri No. 5	XIII, Purua and II, Tangihua	4	0	0	,,
Whatitiri No. 7	XIII, Purua ..	10	0	0	,,
Whatitiri No. 8	IX, Purua ..	17	3	12·7	,,
Whatitiri No. 9	IX, Purua ..	2	0	0	,,
Whatitiri No. 10	XIII, Purua ..	1	0	0	,,
Whatitiri 13z 3	IX, Purua ..	1	0	0	Meeting-house site.
Whatitiri 13z 4	IX, Purua ..	2	0	0	Water supply.

T. J. SHERRARD, Clerk of the Executive Council.

(M.A. 21/3/372)

R. E. OWEN, Government Printer, Wellington, New Zealand.

2004 Whangarei District Council sold the Bore Site as a "going concern" for $40,000 to Zodiac Holdings Ltd with both WDC and NRC assisting them to re-start the extraction of water from this site. WDC had previously spent more than $1 mil to research and develop the Bore Site. WDC were given instruction by the 1989 NRC Special Tribunal to de-commission the Bores and infrastructure by end 1994.

Sales history

Property details	
Street address	671 Mangakahia Road, Poroti
Valuation reference	350/31002
Property ID (QPID)	2403254
Territorial authority	Whangarei District (2)
Owner/occupier	Not available
Outstanding activity	No
Nature of improvements	Other Buildings Other Improvements
Category	Lifestyle-Vacant

Sales history			
Vendor/Purchaser	**Date of agreement**	**Date of settlement**	**Gross sale price**
	14/09/2004	16/11/2004	$40,000

www.qv.co.nz

The following are documents, emails, maps and photos that provide insight to this case study. They are just part of it and many more are not included. This document dated 28.03.2019 shall be named as **Email Part One**, and follow on to "Email Part Two" etc. They may not be in necessary order of timeline of events - - - -

17. **Email Part Two** –
01.04.2016 - POROTI SPRINGS AND THE RESOURCE MANAGEMENT ACT, 1991-2015 a 451 Wai 1040 - 451x page report by Paul Hamer.

18. **Email Part Three** –
01.09.2016 - a 17x page "Summary" on Poroti Springs and the RMA report by Paul Hamer
25.07.2016 – a 187x page report by Davis Alexander on
POROTI SPRINGS: "A SPRING OF CELEBRATION, THEN A SPRING OF CONFLICT SINCE 1973"

19. **Email Part Four –**
30.10.1989 NRC Special Tribunal Report 722 of Wai 2358, D002(a)
29.08.2018 Martyn Craven (Telfer Young) Valuer – Wai 2358 valuation on National Freshwater & Geothermal Resources Enquiry.

20. Email Part Five –

30.06.2017 Wai 2024 Poroti Springs WMRT Submission 30th June 2017 3.3.334.
01.02.2016 Letter to Minister Finlayson from WMRT proposed "Water Share Plan".
02.03.2016 Minister Finlayson reply to proposed WMRT "Water Share Plan".

21. Email Part Six –

28.10.2016 Letter to Minister Nick Smith proposed WMRT "Water Share Plan"
23.03.2017 Reply from Minister Nick Smith to WMRT "Water Share Plan"
22. 06. 2017 Follow to our 1st WDC meeting with Mayor and CEO 12 06 2017 WMRT proposed "Water Share Plan.
25.09.2017 WDC Rejection of WMRT proposed "Water Share Plan".

22. Email Part Seven -

13.02.2018 - WRMU letter to Min Nanaia Mahuta Te Puni Kokiri re: our presentation.
27.03.2018 Request to NRC to set up WRMU hapu file.
02.02.2017 NRC CEO Malcolm Nicholson decision on Duty to Keep Records – refused.
26.03.2019 Ombudsman Reply WRMU seeking hapu file be established. at Northland Regional Council

23. Email Part Eight –

03.10.2018 Request to OIA re OTS purchase of Zodiac interests for $7.5 mil
21.12.2018 OTS Response letter re Purchase Zodiac $7.5 mil
21.12.2018 OIA table of 640pages of OTS docs on Crown purchase of Zodiac $7.5 mil * We note OTS has not provided several Ministries reasoning for purchase – we will request further information.

Throughout our research to assist locating documents and emails by OIA request for the Paul Hamer 451-page Report, our hapu team read correspondence that we never knew existed. Many events of deceit and collusion took place by WDC, NRC, Zodiac and other related parties. Some correspondence had comments that crossed the line to be offensive and at times, tears were shed from our hapu team members.
We are only one third through reading and collating the past four years of 640 pages between OTS and Zodiac and again we find similar instances of the same practice. The Crown appears to have held back information that gave cause to affect the purchase of the Zodiac interests in their "time-line" of correspondence. Clearly the reasoning for the purchase by the Crown Ministries' is paramount to the outcomes of our OIA request if we are to achieve a baseline to move forward with our Treaty of Waitangi claims or the forum of the New Zealand Court system.

He waka eke noa
A canoe which we are all in with no exception. We are all in this together

Millan Ruka

Environment River Patrol – Aotearoa
Postal – PO Box 98, Whangarei
New Zealand
Poroti Springs – Coordinator for WMRT
and Resource Management Unit – hapu rep,
Te Uriroroi, Te Parawhau, Te Mahurehure.
millan@wairuaenergy.co.nz
millan.ruka@gmail.com
Mobile 021 67 3838

Review of Non-Regulatory Methods to Restore Freshwater Health

Report prepared by Landconnect for Scion

March 2018

From Land to Water - People | Science | Policy

landconnect .co.nz

Review of Non-Regulatory Methods to Restore Freshwater Health

Disclaimer

The information provided in this review was accessed primarily via website resources and is accurate at the date of publication. However, Landconnect Ltd is not responsible for the contents or reliability of the linked websites and does not necessarily endorse the views expressed by them. We cannot guarantee that these links will continue to work as we have no control over availability of the linked pages.

Further, this review was conducted over a short time frame and with minimal interaction with agency staff to verify or update the on-line information that has been used.

Executive Summary

Kāhui Wai Māori (KWM) is a Māori Freshwater Forum providing independent strategic advice to the government on developing freshwater. KWM has asked for a review of Non-Regulatory Methods (NRM) that can be used to enhance freshwater health.

The overall purpose of this NRM review is captured by the following project objective:

> *To review a broad range of non-regulatory methods used in New Zealand to enhance freshwater health, with consideration of relevance to Māori, method effectiveness and evolving policy context.*

KWM expressed interest in how the principles imbedded in the concept of Te Mana o Te Wai can be realised though NRM approaches.

The working definition of NRM used in this review is:

> *NRMs are systematic 'how to' initiatives by groups or individuals that are (or can be) applied voluntarily to land and waterways management to improve freshwater health.*

The term 'NRM' is not used in everyday discourse by landowners or the general public and is a more commonly used by technocrats or academics. NRM is used here as an umbrella term to for voluntary practical initiatives to improve freshwater health. The nine NRM types covered in this review are:

- good management practices
- farm plans
- iwi management plans
- catchment groups
- environmental management systems
- land use change tools
- monitoring tools
- extension
- funding

For timeliness, the scope of this review was narrowed by excluding some NRMS, notably individual technical tools like Overseer or specific good management practices (GMPs) like riparian retirement, even though these support several of the NRM types listed above. 'High level' strategic and policy documents have also been excluded, while recognising these are essential to provide direction on using NRMs. The spatial focus of this NRM review is primarily productive rural areas i.e. not urban and conservation land. We recognise that there is considerable interdependence between NRMs. For simplicity, we have reviewed each NRM as a discrete method.

Review Methodology and Report Structure

The documents in this review were accessed online during February and March 2019, focusing on websites for central government, regional councils, primary industry and non-government organisations. These webpages and digital documents are hyperlinked within this review. While this review is not exhaustive, it does focuses on recent developments, especially those relevant to Māori. This online review was done quickly and without the benefit of interviewing stakeholders to give context and fill information gaps.

Each NRM section begins with a description of the NRM and its range of application, generally followed by sub-sections covering: (i) Māori involvement in the NRM; (ii) case studies, especially recent Māori examples; (iii) NRM effectiveness; (iv) limitations; (v) information gaps; (vi) NRM opportunities, including those related to Te Mana o te Wai.

NRM Overview

The use of freshwater-related NRMs across New Zealand is extensive, complex and highly variable between regions and land use sectors. Despite the huge collective effort and investment made by many organisations and individuals, there is little readily available reporting on NRM spending, uptake and effectiveness. One implication is that the ongoing widespread agency and public support for NRMs is based

on informal feedback and possibly a philosophical perspective where voluntary initiatives are seen in a more favourable light than regulatory controls (noting the efficacy of rules is often not clear either).

Good Management Practices and Farm Plans

There appears to be considerable duplication of effort for some NRM, notably GMPs and farm plans. While there are current collaborative efforts to standardise regional plan requirements for farm plans, and certification of those preparing farm plans, this process is not transparent. This illustrates a further challenge where a traditionally voluntary NRM is increasingly moving into the regulatory arena. Reporting on farm plan uptake, type and coverage remains poor, with a recent survey showing major gaps and inconsistencies in regional council databases.

Catchment Groups

Catchment groups come in many varieties and are often supported by multiple agencies, notably the NZ Landcare Trust. There appears to be growing interest by Māori to initiate their own catchment groups, partly in response to targeted funding from the Freshwater Improvement Fund and the Waikato River Authority. An excellent example is the Pūniu River Care group which uses Māori kaupapa in its major restoration projects and its website.

Environmental Management Systems

Environmental Management Systems (EMS) continue to be promoted and adopted, including by Māori agribusiness (e.g. Miraka), although evidence of effectiveness remains limited. Despite this, it is likely EMS will become more important in demonstrating to locals and international consumers that food and fibre products are safe, sustainable and consistent with high standards of animal welfare.

Monitoring

Monitoring reporting is becoming more consistent and transparent with the increased use of nationwide www.lawa.org.nz website and the evolving suite of National Environmental Monitoring Standards. This partly overcomes the problem of individual council websites which are often hard to navigate. While there have been concerted efforts to develop Māori monitoring frameworks that are integrated with conventional science, such as the Cultural Health Index and Tau kōura, uptake appears limited.

LU change tools

While New Zealand has some useful land use resources and models, there are major limitations in data coverage, links to underpinning science and user capability. The Taupo and Rotorua nitrogen-focused incentive schemes have helped drive land use change in order to meet lake water quality goals, albeit with major government and council funding.

Extension

There have been recent industry efforts to build extension capability, such as Fonterra's Sustainable Dairy Advisors and the Red Meat Profit Partnership Action Networks. The latter scheme uses small farmer-centred networks to significantly improve farmer learning and behaviour change, in contrast to the more traditional 'expert knowledge transfer' approach.

Funding

There is a plethora of freshwater-related funds but very few available reviews of funding schemes or even of funded projects, despite the large sums of public money involved. Funding criteria are diverse and some funds appear poorly linked to wider agency objectives. Some more recent funds do have explicit criteria on addressing Māori values and landowners. This cost-effectiveness critique could extend to other council activities, noting RMA and other statutory processes are mandatory, while NRMs (by definition) are not. The scale and type of landowner co-funding remains unclear and better data and recognition is needed.

General NRM Limitations

The diversity of NRM information and NRM use reflects the NZ's devolved system of resource management, and arguably also the presence of 'functional silos' within government and industry sectors. Even when an NRM has been developed with extensive collaboration, there is limited evidence of consistent use of the NRM e.g. the 2015 Industry Agreed Good Management Practices have informed the 2018 Good Farming Practices, but few industries and regional councils refer to either document.

Many NRMs appear to have been developed and/or adopted within the lifespan of co-funded freshwater projects. When project funding ends, it is likely the NRM use will decline. This seems to reflect a preference amongst central and regional government to fund fixed term projects rather than build long-term capacity, including amongst farmer-facing advisory staff and extension specialists. This criticism should be juxtaposed against major long-term voluntary programmes that have achieved good results, such as Taranaki's Riparian Management Plans and Horizon's Sustainable Land Use Initiative (the latter is Govt. co-funded).

With the obvious exception of Iwi Management Plans and some catchment groups and monitoring systems initiated by Māori, most NRMs do not have content that use Māori kaupapa and knowledge. This partly reflects that NRMs are largely seen as 'narrow' technical tools. A positive exception is Ecan's well-regarded Mahinga Kai factsheets, related farm plans provisions and new Māori Cultural Land Management Advisors.

Recent Policies and Developments Influencing NRMs

Multiple recent or potential policy initiatives will influence current NRMs and future NRM design and uptake. These include 2017 changes to the NPS-FM, a potential Land and Water Commission, One Billion Trees, Provincial Growth Fund, new environmental taxes and a mooted NPS to protect high-value soils. While these initiatives seek to improve one or more elements of environmental, economic, social and cultural sustainability, it will increase complexity, at least during policy transitions. This will increase the demands on agency staff to engage effectively with landowners iwi/hapū and each other.

NRM Opportunities

There are major opportunities to improve NRM effectiveness in enhancing freshwater, including:

1. Develop robust NRM programme reviews with transparent regular reporting on NRM success and failure, value for money, risks and co-benefits.
2. Streamline the number and format of publicly funded NRMs (especially GMPs) to improve consistency, scientific foundations, online access and terminology.
3. Improve synergies between agencies to minimise NRM duplication and improve integration with catchment-scale assessments of land use impacts on water quality.
4. Improve the learning from successful catchment care groups, especially Māori-led groups where there are potential synergies with Te Mana o Te Wai
5. Learn from Māori-centred EMS and develop templates for adoption by 'mainstream' EMS that reflect Māori kaupapa and values.
6. Invest more resources in farmer-facing extension staff and use more effective extension methods to build trust, enhance farmer learning and change behaviour, including borrowing from the Red Meat Profit Partnership Action Network system and its emphasis on ongoing adoption support.
7. Applying more consistent funding criteria across similar public funds and develop a common on-line portal for all public funds related to freshwater and other 'environmental goods'.

NRM Relevance to Te Mana o Te Wai

All of the above NRM opportunities can be pursued within a Te Mana o Te Wai framework i.e. Te Hauora o te Taiao (the health of the environment), Te Hauora o te Wai (the health of the waterbody) and Te Hauora o te Tangata (the health of the people). This would help provide a coherent unifying framework to what will remain a diverse and complex set of NRMs. Such an approach – if well-resourced – would also give substance to the 2017 changes to the NPS-FM where Te Mana o Te Wai is deemed to be *'an integral part of the freshwater management framework.'*

Table of Contents

EXECUTIVE SUMMARY ..... **II**

1 INTRODUCTION **1**

1.1 PROJECT CONTEXT 1
1.2 TE MANA O TE WAI 1
1.3 REPORT STRUCTURE 2

2 NON-REGULATORY METHODS DEFINITION **2**

3 GOOD MANAGEMENT PRACTICES **3**

3.1 THE MATRIX OF GOOD MANAGEMENT PROJECT 4
3.2 NEXT STEPS FOR FRESHWATER - CONSULTATION AND SUBMISSIONS 5
3.3 LAWF AND THE GOOD FARMING PRACTICE ACTION PLAN 5
3.4 REGIONAL COUNCIL GMPS 6
3.5 MĀORI INVOLVEMENT IN GMP 6
3.6 GMP CASE STUDIES 7
3.6.1 Value Based Approach to GMP in the Forestry Sector 7
3.6.2 North Otago Irrigation Company - Collective GMP Implementation and Auditing 7
3.6.3 Economic Evaluation of Stock Water Reticulation on Hill Country 8
3.7 GMP EFFECTIVENESS 8
3.8 GMP INFORMATION GAPS 8
3.9 GMP OPPORTUNITIES 9

4 FARM PLANS **9**

4.1 MĀORI INVOLVEMENT IN FARM PLANS 11
4.2 FARM PLAN CASE STUDIES 12
4.2.1 Fonterra Tiaki farm environment plans 12
4.2.2 Horizons Regional Council Sustainable Land Use Initiative (SLUI) 12
4.2.3 Tarawera lakes farm plans 12
4.3 FARM PLAN EFFECTIVENESS 13
4.4 FARM PLAN INFORMATION GAPS 13
4.5 FARM PLAN OPPORTUNITIES 14

5 IWI MANAGEMENT PLANS **14**

5.1 MĀORI INVOLVEMENT 15
5.1.1 Ngāti Rangiwewehi Iwi Environmental Management Plan 15
5.1.2 Tauranga Moana Iwi Management Plan 2016-2026 15
5.2 IMP EFFECTIVENESS 16
5.3 IMP INFORMATION GAPS 16
5.4 IMP OPPORTUNITIES 16

6 CATCHMENT GROUPS **17**

6.1 MĀORI INVOLVEMENT IN CATCHMENT GROUPS 17
6.2 CATCHMENT GROUP CASE STUDIES 17
6.2.1 Ruamāhanga Whaitua 17
6.2.2 Ngā Kaitiaki o te Awa o Pūniu: Safe Places, healthy water, healthy people 18
6.2.3 Whangawehi catchment management group 18
6.2.4 Pomahaka Water Care Group 18
6.3 CATCHMENT GROUP EFFECTIVENESS 19
6.4 CATCHMENT GROUP INFORMATION GAPS 19
6.5 CATCHMENT GROUP OPPORTUNITIES 19

7 ENVIRONMENTAL MANAGEMENT SYSTEMS (EMS) **20**

7.1 MĀORI INVOLVEMENT IN EMS 20
7.2 EMS CASE STUDIES 21
7.2.1 ISO 14001 in the Australian Cotton Industry 21
7.2.2 New Zealand Good Agricultural Practices 21
7.2.3 Te Ara Miraka 21
7.2.4 NZ Farm Assurance Programme 21
7.2.5 Organic Certification 22
7.2.6 Enviro-Mark Solutions 22
7.3 EMS EFFECTIVENESS 23
7.4 EMS INFORMATION GAPS 23
7.5 EMS OPPORTUNITIES 23

8 LAND USE CHANGE TOOLS 24

8.1 CASE STUDIES: INCENTIVISING LAND USE CHANGE 24
8.1.1 Lake Taupo Incentives Scheme 24
8.1.2 Lake Rotorua Incentives Scheme 24
8.2 FORESTRY AND LAND USE CHANGE 25
8.3 LAND USE CHANGE DECISION MAKING TOOLS 25
8.4 MĀORI INVOLVEMENT IN LAND USE CHANGE TOOLS 26
8.5 EFFECTIVENESS OF LAND USE CHANGE TOOL 26
8.6 LAND USE CHANGE TOOL INFORMATION GAPS 26
8.7 LAND USE CHANGE TOOL OPPORTUNITIES 26

9 MONITORING TOOLS 27

9.1 MĀORI INVOLVEMENT IN MONITORING TOOLS 28
9.1.1 Cultural Health Index 28
9.1.2 Tau kōura 28
9.1.3 Mauri of Waterways Kete 28
9.1.4 Guidelines for undertaking a cultural flow preference study 29
9.1.5 Enhancing Māori Agribusiness Through Kaitiakitanga Tools 29
9.2 MONITORING TOOL EFFECTIVENESS 29
9.3 MONITORING TOOL INFORMATION GAPS 29
9.4 MONITORING TOOL OPPORTUNITIES 29

10 EXTENSION 30

10.1 CO-DEVELOPMENT EXTENSION IN NEW ZEALAND 32
10.2 EXTENSION FOR RURAL PROFESSIONALS 32
10.3 MĀORI INVOLVEMENT IN EXTENSION 32
10.3.1 Wāhine Māia, Wāhine Whenua 33
10.3.2 DairyNZ Māori Agribusiness Services 33
10.3.3 MPI Māori Agribusiness programme 33
10.3.4 Environment Canterbury Cultural Land Management Advice 33
10.4 EXTENSION EFFECTIVENESS 34
10.5 EXTENSION INFORMATION GAPS 34
10.6 EXTENSION OPPORTUNITIES 34

11 FUNDING 34

11.1 LANDOWNER FUNDING 35
11.2 CENTRAL GOVERNMENT FUNDING 35
11.2.1 Freshwater Improvement Fund 35
11.2.2 Te Mana o Te Wai Fund 36
11.2.3 Fresh Start for Freshwater Clean Up Fund 36
11.2.4 Hill Country Erosion Fund 36
11.2.5 Erosion Control Funding Programme 37

11.3 Regional Council Funding for Landowners 37
11.4 Case Studies Using Co-Management Funding Models 37
11.4.1 Rotorua Te Arawa Lakes Funding 37
11.4.2 Waikato River Authority 38
11.4.3 Lake Taupo Funding 38
11.5 Funding Effectiveness 39
11.6 Funding Information Gaps 39
11.7 Funding Opportunities 39

12 RECENT POLICIES AND DEVELOPMENTS INFLUENCING NRMS 39

12.1 Possible Land and Water Commission 40
12.2 One Billion Trees, NZ ETS, the Zero Carbon Bill and NZ Green Investment Fund 40
12.3 Provincial Growth Fund 40
12.4 Tax Working Group – How taxes can help the environment 40
12.5 NPS Freshwater Management 40
12.6 RMA amendments regarding Mana Whakahono ā Rohe 41
12.7 Potential NPS to protect high-value soils 41

13 LIST OF REFERENCES 42

14 APPENDICES 48

14.1 Good Management Practices 48
14.2 Land use change 49
14.3 Extension Activities 50
14.4 Funding Activities 56

1 Introduction

1.1 Project context

Kāhui Wai Māori - the Māori Freshwater Forum (KWM) has been established to provide independent strategic advice to the government on freshwater management policy development. KWM is seeking a review of Non-Regulatory Methods (NRM) used to enhance freshwater health, focusing on five topics:

1. Definition of Non-Regulatory Methods (NRMs) and a stock take of who's designed and implemented the programs in the past
2. Description of any iwi Māori involvement in the design and implementation of these NRMs
3. Analysis of their effectiveness or impacts from secondary information/reports
4. Assessment of other regulatory/policy initiatives that might influence the design of new NRMs and approaches
5. Draft design of a Māori centred NRM framework that meets the needs/interests of Māori in the governance and management of freshwater.

This report addresses topics 1-4. Results from this review will subsequently be used to inform the design of a Māori centred NRM framework (topic #5) by KWM.

The overall purpose of this NRM review is captured by the following project objective:

> *To review a broad range of non-regulatory methods used in New Zealand to enhance freshwater health, with consideration of relevance to Māori, method effectiveness and evolving policy context.*

KWM has expressed interest in how the principles imbedded in the concept of Te Mana o Te Wai can be realised though NRM approaches. Where possible, freshwater improvement case studies, both Māori and Non-Māori reflecting Te Mana o Te Wai will be highlighted in this review.

1.2 Te Mana o Te Wai

The holistic concept of **Te Mana o te Wai** encompasses a connection between the health of water and the health of people and communities. The term was recognised in the 2014 NPS-FM. Councils, iwi/hapū, and interested stakeholders expressed concern that the meaning of Te Mana o te Wai in the NPS-FW was unclear and the direction provided to councils uncertain. The 2017 NPS-FM amendments aimed to clarify what Te Mana o Te Wai means for freshwater management. MfE's guidance factsheet (MfE, 2017d) states:

> ***What does Te Mana o te Wai mean?***
>
> *Each community will decide what Te Mana o te Wai means to them at a freshwater management unit scale, based on their unique relationship with fresh water in their area or rohe. The Statement of National Significance in the Freshwater NPS describes the concept of Te Mana o te Wai as the integrated and holistic well-being of the water. It is up to communities and councils to consider and recognise Te Mana o te Wai in their regions.*

The 2017 NPS-FW update included of Te Mana o Te Wai in the statement of national significance (rather than in the Preamble), recognising Te Mana o Te Wai as 'an integral part of the freshwater management framework'. The policy change (AA1) requires councils to recognise in Te Mana o Te Wai in policy statement and plans, noting that:

a. Te Mana o te Wai recognises the connection between water and the broader environment – Te Hauora o te Taiao (the health of the environment), Te Hauora o te Wai (the health of the waterbody) and Te Hauora o te Tangata (the health of the people); and

b. Values identified through engagement and discussion with the community, including tangata whenua, must inform the setting of freshwater objectives and limits. (NZ Govt 2017, NPS-FM).

1.3 Report Structure

Section 2 introduces a working definition for NRMs, with a list of nine NRM types which are then assessed separately in Sections 3 to 11. Each NRM section begins with a description of the NRM and its range of application, generally followed by sub-sections covering:

- Māori involvement in the NRM
- Two or more case studies to illustrate the NRM, especially recent Māori examples
- NRM effectiveness
- NRM limitations and information gaps
- NRM opportunities, including those related to Te Mana o te Wai

The above sub-headings are expanded or combined as appropriate. Section 12 summarises major policy initiatives related to freshwater health. Several tables on various NRMs are appended as Section 14.

2 Non-Regulatory Methods Definition

The working definition of NRM used in this review is:

> *NRMs are systematic 'how to' initiatives by groups or individuals that are (or can be) applied voluntarily to land and waterways management to improve freshwater health.*

The term 'NRM' is not used in everyday discourse by landowners or the general public and is a more commonly used by technocrats or academics. The term is used here to as an umbrella term to include practical initiatives to improve freshwater health. The nine NRM types covered in this review are:

8. good management practices
9. farm plans
10. iwi management plans
11. catchment groups
12. environmental management systems
13. land use change tools
14. monitoring tools
15. extension
16. funding

Strategic initiatives and institutions have been not been explicitly covered in this review in order to keep the scope manageable. This generally excludes co-governance arrangements, non-statutory catchment plans and private sector strategies (e.g. Dairy Tomorrow, DairyNZ 2018). It is noted that such initiatives and strategies can provide essential direction, structure and impetus for the development, funding and adoption of NRMs i.e. they can be directive in terms of actions to implement NRMs.

Other NRMs excluded from this review (again, to keep the scope manageable) are:

1. Individual technical tools (e.g. Overseer nutrient budget model) and specific GMPs (e.g. riparian retirement) while recognising these are often integral to several of the NRM types listed above
2. Annual and long-term financial plans (typically local government)
3. Transfer of powers under RMA s33 (this may be considered separately by KWM).

While each NRM type is discussed discretely, we acknowledge that freshwater initiatives will often employ multiple NRMs. Each of the nine NRMS are discussed in terms of: purpose and content; Māori involvement, and NRM effectiveness in achieving improved freshwater outcomes. Case studies of NRMs in action are included in each section with a lens on how they may reflect the principles of Te Mana o Te Wai.

Non-Regulatory and/or Regulatory Methods

While the focus of this report is non-regulatory methods, there is a lot of cross-over into regulatory frameworks, such as where regional plans making certain GMPs and farm plans mandatory. This review largely ignores these regulatory applications while acknowledging the dual usage.

3 Good Management Practices

'Good Management Practices', also referred to as Best Management Practices (BMPs), or industry good practices or codes of practice, have been used in a wide range of sectors, both urban and rural. Within the New Zealand discourse on fresh water health, the term Good Management Practices or GMP gained more traction during the development of the Government's 2012 Freshwater Reforms. During this time the Land and Water Forum (LAWF) was set up to provide advice to the Government on freshwater reforms[1]. LAWF comprised representatives from industry groups, electricity generators, environmental and recreational NGOs, iwi, scientists and other organisations with a stake in land and freshwater management.

LAWF, in its second report (LAWF, 2012), defined GMP as:

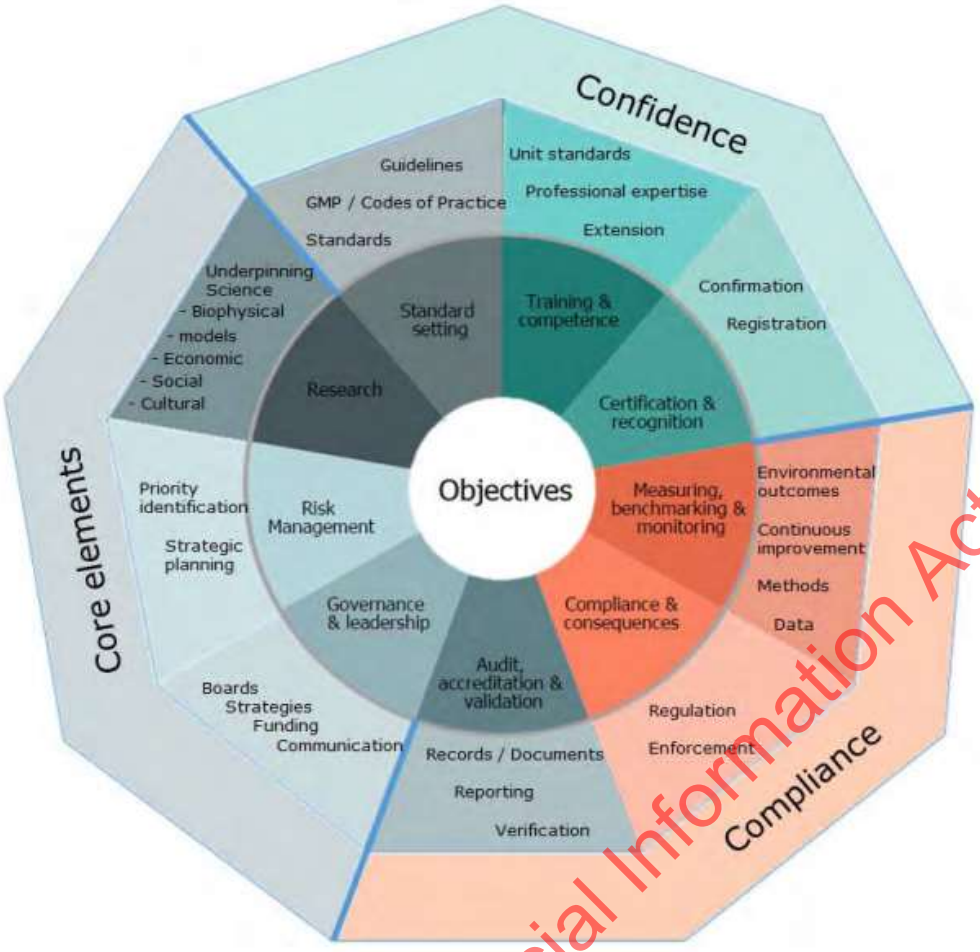
> *an evolving suite of tools or practices that can be put in place at a land user, sector and industry level to help achieve community agreed outcomes – such as water quality.*

LAWF recommended that GMP effectiveness be monitored through audited self-management and that GMP are regularly updated as knowledge increases. In its third report (LAWF, 2012a), LAWF recommends that GMP be given preference when reviewing methods to maintain and improve freshwater quality, especially in association with farm plans to assist with GMP adoption. Further, regional councils should incentivise GMP and that GMP should utilise sector guidelines and practices.

In its fourth report (LAWF, 2015), LAWF emphasised the system context within which GMP tools are created, as illustrated below in Figure 1 i.e. it is important to view NRMs as an interconnected 'toolbox'.

Figure 1: Interaction between environmental methods

[1] LAWF was formed by the Government in 2009 and entered a recess in July 2018.



3.1 The Matrix of Good Management Project

A broad consensus on what practices could be used on farm to improve water quality (notably nitrogen, phosphorus, sediment and faecal contaminants) was formed though the Matrix of Good Management (MGM) project (Ecan, 2013). This project was a collaborative initiative between Environment Canterbury, Crown Research Institutes and primary sector organisations.[2] The project focussed on Canterbury farms, quantifying typical nitrate nitrogen and phosphorus losses expected to occur from a range of farming systems, soils and climates when managed to industry-agreed good management practices. While the matrix was developed in Canterbury, the industry-agreed GMP were seen as key to improving freshwater health across New Zealand. The MGM project explicitly built on existing industry and regional council GMP resources[3] and existing research programmes.

As a result of this project, an agreed list of GMP for multiple sectors was published in 2015 - Industry-Agreed Good Management Practice Relating to Water Quality (Anon, 2015a). This document is used in its entirety by FAR and informed the development of DairyNZ GMP. The agreed GMP cover dairy, drystock, deer, horticulture, and arable sectors but do not cover forestry. In LAWF's fourth report (LAWF, 2015) they recommend that councils should consider the 'Industry Agreed Good Management Practices Relating to Water Quality' and other recognised sector GMPs as a starting point in developing GMP related policies and methods.

[2] Project partners consisted of Environment Canterbury, three Crown Research Institutes; AgResearch, Plant & Food Research and Landcare Research, six primary sector organisations; DairyNZ, Beef + Lamb NZ, Deer Industry NZ, NZ Pork, Horticulture NZ and the Foundation for Arable Research.

[3] In addition to Ecan, eight other regional councils contributed funding – see MGM Overview report, (Anon, 2015)

3.2 Next Steps for Freshwater - Consultation and Submissions

In early 2016 MfE initiated the 'Next Steps for freshwater programme'. A consultation document (MfE, 2016b) was released to guide reforms for the NPS-FW, including proposed development of GMP for discharges of contaminants to water, climate and soil. A total of 164 submissions (MfE, 2016) were received on the GMP proposal, with 9% from Iwi/Māori. The majority of submissions supported the development of a nationally-consistent approach to GMP, with many recommending their application to all catchments irrespective of current water quality status.

Submissions also recommended that GMP build off existing industry and council GMP frameworks such as the Environment Canterbury's Matrix of Good Management (MGM) and independently audited self-management (IASM) schemes. GMP should be flexible enough to allow for innovation, continuous improvement and specific regional/local contexts. Submissions from iwi highlighted the opportunity for GMP standards to give effect to Te Mana o te Wai, as well as provide iwi and hapū with increased ability to access discharge rights.

3.3 LAWF and the Good Farming Practice Action Plan

In January 2018, Minister for the Environment David Parker and Minister of Agriculture Damien O'Connor asked LAWF what could be done to form a fair, nationally driven system for freshwater improvement. LAWF's response (LAWF, 2018) stated, as its first recommendation, that Government *'...set up a Land and Water Commission... and that this commission:*

17. Oversee and provide technical assistance in the development of good management practice (GMP) (national standards and standardised risk assessment frameworks), technical and process support for GMP farm and catchment plan development and auditing, including personnel, minimum qualifications, and templates.

18. Oversee the monitoring of the effectiveness and development of updated practices

LAWF further recommended (LAWF, 2018, Recommendation 13) that:

> *Central government in partnership with industry and stakeholders must co-construct and implement a national policy instrument (NES and/or regulation) that defines GMP in rural and urban environments and which: (a) identifies sector-specific practices and minimum standards that can be applied across New Zealand for common activities that pose an environmental risk; (b) includes sector-specific risk assessments to identify the best management practices in specific circumstances...'*

The 2018 Good Farming Practice Action Plan was subsequently developed by a Governance Group comprised of senior representatives of the primary sectors, regional councils, MfE and MPI (Good Farming Practice Governance Group, 2018). The purpose of this Action Plan is to accelerate the voluntary uptake of good farming practices for water quality, to measure and demonstrate uptake, to assess the impact and benefit of those farming practices, and to communicate progress to the wider public. The key actions and timeframes are summarised in Appendix 14.1. This document does not refer to NPS-FW or Te Mana o Te Wai despite the 2016 Next Steps for Freshwater submissions highlighting the opportunity for GMP standards to give effect to Te Mana o te Wai.

Industry sectors produce their own environmental codes of practice that include GMP related to freshwater management. These are summarised in Appendix 14.1Table 4. It is interesting to note that some agencies involved in the development of Industry-Agreed Good Management Practice Relating to Water Quality (Anon, 2015) have not (yet) referred to this guide in their own GMPs or codes of practice.

3.4 Regional Council GMPs

Most Regional Councils have web and print material on individual GMPs (e.g. efficient fertiliser use) related to freshwater management. Ecan uses the 'Industry-Agreed Good Management Practice Relating to Water Quality' and Waikato Regional Council uses 'Farm Menus' (referred to in Appendix 14.1, Table 9).

Bay of Plenty Regional Council has a comprehensive list of individual GMP fact sheets relating land management and water quality, typical of GMP guidance provided to landowners by most regional councils. Hardcopies are often used by council field officers during their face-to-face interactions with landowners.

Table 1: BoP Regional Council GMP Fact Sheets

- Protection Fences
- Farm Tracks: Planning, construction and maintenance
- Stream Crossings
- Stock Water Supply
- Plant selection for environmental protection areas
- Management of retirement areas
- Native plants for revegetation projects
- Plant selection for disturbed sites
- Revegetation and shelter plants for coastal conditions
- Establishment practices for revegetation projects
- Uses and Management of Multipurpose Exotic Species
- Efficient fertiliser use
- Culvert Crossings
- Care groups
- Biodiversity in the Bay of Plenty
- Farm shelterbelts
- Grasses and legumes for erosion control
- Riparian Management Plan
- Getting fish friendly
- Soil Organic Matter
- Soil structure
- GMP Video Series
- Discharges to surface water
- Feed pads, loafing pads and farm races
- Disposal of waste milk
- Farm effluent irrigation
- Farm pond soakage system

3.5 Māori Involvement in GMP

As with farm plans discussed in section 4, there were few examples of explicit Māori content in (or involvement with) GMPs. This presumably reflects the technocratic ethos of land and water management experts that draft GMPs. GMP that do incorporate Māori perspectives include:

19. Ecan's fact sheet Mahinga kai for Canterbury farmers (Ecan, 2017a) with accompanying Whakataukī and references to Ngai Tahu values, all linked to new requirements for Ecan's FEPs.
20. The current Oranga Taiao Oranga Tāngata project is developing guidance for lake and estuarine restoration, incorporating Matauranga Māori (also see section 5.1.2 on Iwi Management Plans).
21. The Forestry Code of Practice is an example of a values-based approach to GMP development that could be applied to Te Mana o Te Wai in GMP development (see Case Study below).

While the Industry-Agreed Good Management Practice Relating to Water Quality represents a comprehensive GMP, the process had limited Māori involvement[4] and content. The more recent 2018 Good Farming Practice Action Plan included MfE, MPI and regional council staff in its development but it does not reference the NPS-FW or Te Mana o Te Wai. This is despite the NPS-FM elevating the importance of Te Mana o te Wai from 2014 to 2017 versions, clear submissions on the draft GFP Action Plan from iwi wanting the inclusion of Te Mana o te Wai. However, the GFP Action Plan does encourage iwi engagement and includes a cases study on Te Ara Miraka (as we do in section 7.2.3).

[4] Ngai Tahu was part of the governance group for the overall MGM project.

There are numerous examples of Māori implementing GMP in freshwater projects and some of these are discussed in section 6 on Catchment Groups.

3.6 GMP Case Studies

In contrast to the individual GMPs listed in Table 1 above, the first two case studies described below are broad 'combined GMPs' that are integrated into wider industry and business environmental management. The third case study below (reticulating stock water on hill country) focuses on GMP economics. This illustrates that GMPs do not function in isolation from wider NRM or regulatory contexts.

3.6.1 Value Based Approach to GMP in the Forestry Sector

The New Zealand Forest Owners Association Code of Practice (NZFOA, 2015) was developed in collaboration with Scion, Landcare Research, The Forest Industry Training and Education Council (FITEC), NZ Farm Forestry Association and support from the Sustainable Farming Fund.

This 168-page document, known as E-CoP, replaces the NZ Forestry Code of Practice (the LIRO) code. It provides practical guidance for forest planners, contractors to consistently apply and accomplish required levels of environmental performance. Value-based goals are defined and used to underpin reasoning for good practice (e.g. commercial, recreational, soil and water, historical and cultural values).

Cultural values in the forestry E-CoP relate to sites of importance to Māori that have both archaeological and cultural values that need to be considered during forestry planning and operations.

3.6.2 North Otago Irrigation Company - Collective GMP Implementation and Auditing

The North Otago Irrigation Company (NOIC, summarised in LAWF, 2012) is based in Oamaru and holds consent to take water from the Waitaki River for irrigation. The scheme has operated since 2006 and currently delivers 4 m^3/s of water to approximately 13,000 hectares via a piped network.

NOIC's land use resource consent with Otago Regional Council requires that all properties receiving water for irrigation have an environmental farm plan and are audited regularly against this plan. NOIC has worked with the Regional Council to develop a comprehensive Environmental Farm Plan System to meet these consent requirements. The key components of this system are:

22. A shareholder Water Supply Agreement which incorporates environmental requirements
23. Environmental Farm Plans which follow an agreed template and detail GMPs that must be implemented on each irrigated property. Farm plans cover the management of irrigation, soils, nutrients, riparian areas and dairy effluent.
24. Annual, independent on-farm audits and a process to address non-compliance. Supply of irrigation water may be restricted or disconnected to irrigators who fail to meet requirements.
25. An incentive programme to recognise excellence in environmental management.
26. Company-level environmental performance objectives and annual performance review reporting to the Regional Council
27. An education programme consisting of field days, workshops and other information events to ensure shareholders have the necessary skills and knowledge to implement the GMPs required.

NOIC employs an Environmental Manager to administer the Farm Plans and support shareholders. NOIC's farm plan system is well supported by both shareholders and Regional Council staff, driven by a culture of environmental responsibility within the company and on-farm (adapted from LAWF, 2012).

3.6.3 Economic Evaluation of Stock Water Reticulation on Hill Country

AgFirst Ltd carried out an economic evaluation of reticulating stock water on hill country sheep & beef farms (AgFirst, 2016). This showed strong positive financial returns with average costs of $311/ha and a 3-year payback. There were also major environmental gains with stock no longer needing direct access to waterways. The 2017 report was prepared for MPI, MBIE, Te Puni Kōkiri, and Beef + Lamb NZ and was based on results from 11 case study farms around the country. The report includes advice from the case study farmers to help other farmers considering reticulation.

While this GMP case study does not have Māori input, it will be of interest to Māori-owned sheep and beef farms with its dual economic and environmental benefits. It is also noteworthy in being explicit about assessing GMP costs and benefits, given most GMPs are not subject to this level of formal expert analysis.

3.7 GMP Effectiveness

Most GMP are directly based on published science findings and can be viewed as at least potentially effective. GMPs that are incorporated as a mitigation option within Overseer can be assessed for nutrient loss efficacy by turning the mitigation on or off. However, the degree of effectiveness will be impacted by any parallel farm system changes and a wide range of farm biophysical factors, notably soil type, slope and climate. Also, Overseer does not model sediment and bacterial contaminants and, even for nutrients, it essentially models to the farm boundary and does not model freshwater health.

The spatial and temporal variability in GMP response makes it difficult to generalise about individual GMP effectiveness. While modelling tools like Overseer will continue to improve and may include additional contaminants, it will still require expert judgement (from farmers and advisors) on what particular suite of GMPs will be most effective at achieving a particular freshwater health outcome.

There appears to be limited assessment of GMP uptake and their ultimate impact on freshwater health. A review of Taranaki's comprehensive 25-year riparian management program shows that a multi-pronged NRM approach can improve freshwater health, notably macro-invertebrate indices (NIWA, 2018).

Submissions on MfE's 2016 'Next Steps for Freshwater' consultation noted concerns about GMP being sufficient to address water quality problems i.e. GMP need co-implementation with guidance, capacity building and incentive.

The proliferation of GMP fact sheets across Regional Councils on the same or similar topics point to inefficiency, duplication and inconsistency. LAWF's latest report to Government (LAWF, 2018) also notes differences in GMP implementation across regions and sectors where some adhere to specific minimum GMP or embedded in supplier agreements or Farm Plans. In other regions and sectors GMP remains optional or has not yet been defined. LAWF highlights the importance of a centralised government approach through a Land and Water Commission to establish a consistent approach to setting guidelines as wells as overseeing the monitoring of the effectiveness and development of updated practices. The Good Farming Practice Action Plan does aim to develop better systems for monitoring uptake of GMP by 2020.

While GMPs are typically developed as an NRM, they can be referenced within regional rules. Under the Canterbury Land and Water Plan, farmers must operate at GMP, as well as prepare a FEP and potentially obtain a land use resource consent. This hybrid approach blurs the boundary between regulatory and non-regulatory realms when developing and implementing GMP.

3.8 GMP Information Gaps

There are a large number of GMPs available individually in different formats from different agencies. However, there are gaps in understanding, uptake and efficacy:

28. There is limited information on the effectiveness of GMP due to the lack of a centralised approach for GMP development, implementation, audit and reporting.

29. Despite the multi-agency approach to developing the 2015 Matrix of Good Management, its endorsement by LAWF and the evolution to the 2018 Good Farming Practice Action Plan, this comprehensive GMP approach has generally not yet been widely adopted by industry and regional councils, except Ecan and the arable and deer sectors.

30. While GMP are an integral component of Farm Plans, the efficacy of farm plans for improving freshwater health is also largely unknown due to fragmented auditing and reporting (see section 4.3 on farm plan effectiveness).

31. The GMPs reviewed generally did not make reference to Māori values, resources and concepts, with some exceptions such as forestry code of practice and Ecan's mahinga kai guide (Ecan, 2019).

3.9 GMP Opportunities

There is considerable scope for a more coherent national approach to developing, documenting and updating GMPs, including how they integrate with other NRMs such as farm plans and models. Such a national approach does not preclude regional and sector GMP variation/customisation. Whether or not a coherent national approach is developed (potentially built on the Good Framing Practice Programme), there would still be opportunities to:

32. Assess the response and uptake by Māori and non-Māori farmers to GMPs such as Ecan's mahinga kai guide, noting this GMP is presented on-line as a suite of related information and videos

33. Identify what other GMPs may benefit from a similar approach to Ecan's mahinga kai GMP

While it would be possible to develop a suite of Māori-specific GMPs, there appears to be more opportunity to improve specific existing GMPs to incorporate Māori values where appropriate, as well as the wider management frameworks that incorporate GMPs.

4 Farm Plans

Farm plans have been used extensively since the first soil conservation plans were developed in the 1940s. There are many farm plan permutations, including farm environment plans, riparian management, biodiversity and whole farm plans. Some also include business and succession planning and have provisions dealing with animal welfare, health and safety, energy efficiency, biosecurity and food safety.

Farm plans have historically been voluntary (often linked to subsidies for environmental works) but have increasingly become mandatory under recent regional plan changes. While farm plans were initially developed by regional councils and prepared by council staff, it is now more common for councils to set farm plan criteria within regional plans.

Many farm plan templates are now driven by primary sector groups (e.g. Beef+Lamb NZ's Land Environment Plan) and companies (e.g. Fonterra's Tiaki farm plan). Such farm plans seek to meet sector/company goals as well as assist farmers to meet local RMA rules and export/market quality assurance requirements. The roll-out of these FEPs may be associated with broader industry strategies and ambitious targets:

34. B+LNZ's Environment Strategy and Implementation Plan 2018-22 was launched in May 2018 and it includes a goal that 'every sheep and beef farm having a tailored and active environment plan by the end of 2021' (B+LNZ, 2018)

35. DairyNZ, Fonterra and other dairy companies launched the joint industry strategy 'Dairy Tomorrow – the future of New Zealand dairying' in 2017. This includes a goal that 'By 2025, achieve all farms implementing and reporting under certified farm sustainability plans.' (DairyNZ, 2017).

The main council FEP objectives relate to improving water quality, riparian management, waste management and soil conservation. GMPs are often incorporated into FEPs through the use of sub-headings and guidance prompts, or through the initiative of the farmer and his/her advisor. Over time, the focus of FEPs has expanded so that there is now a plethora of types, templates and terminology as summarised in Table 2 below:

Table 2: Farm Plans Types in New Zealand

Regional Council Farm Plans	**Industry Sector Farm Plans**
• Farm Environment Plan (multiple councils) • Biodiversity Plan (multiple councils) • Riparian Management Plan (multiple councils) • Farm Water Quality Improvement Plan (Northland) • Hill Country Erosion Plan (Northland, Gisborne) • Whole Farm Plan (Auckland, Horizons, West Coast) • Nutrient Management Plan (Waikato/Taupo, BoP) • Farm Environment Management Plan (Hawkes Bay / Tukituki catchment) • Tairawhiti Farm Environment Plan (Gisborne) • Sustainable Hill Country Works Plan (Gisborne) • Environment Property Plan (Horizons) • Soil Erosion Plan (Wellington) • Focus Activity Farm Plan (Southland)	• Dairy NZ (Sustainable Milk Plan) • Fonterra (Tiaki Plan – see below) • Synlait Milk (Lead with Pride) • Beef & Lamb NZ (LEPs) • Irrigation schemes e.g. Rangitata Diversion Race Management has ~400 FEPs • Foundation for Arable Research (FAR) • NZ Pork • Private Consultants e.g. AgFirst, Irricon, Opus • Ravensdown & Ballance Farm Plans **Co-Governance Farm Plan** (Ngai Tahu /Ecan) • Whakaora Te Waihora

Many industry templates have been approved by various regional councils as meeting their specific regulatory requirements e.g. Ecan has approved 20 FEP templates, as at January 2019. This partly reflects a desire by industry and farmers to combined regulatory and market requirements within a single farm plan.

The more traditional FEPs were usually prepared by council staff, typically Land Management Officers, in liaison with the landowner. The task of preparing FEPs has increasingly shifted to private industry providers, associated with various levels of council control via template approval, qualifications (for the FEP writer), audit and review. The format of some FEPs has recently shifted to digital platforms, although the majority remain as hard copies, at least for the version held by the farmer.

Farm plans can be seen as a type of Environmental Management System (see Section 7) with a 'plan, do and review' cycle of continuous improvement. This concept is illustrated in the Code of Practice for Nutrient Management regarding preparation of farm plans (Fertiliser Association of NZ, 2013). The same cyclical logic applies to all types of farm plans and is shown in Figure 2 below[5].

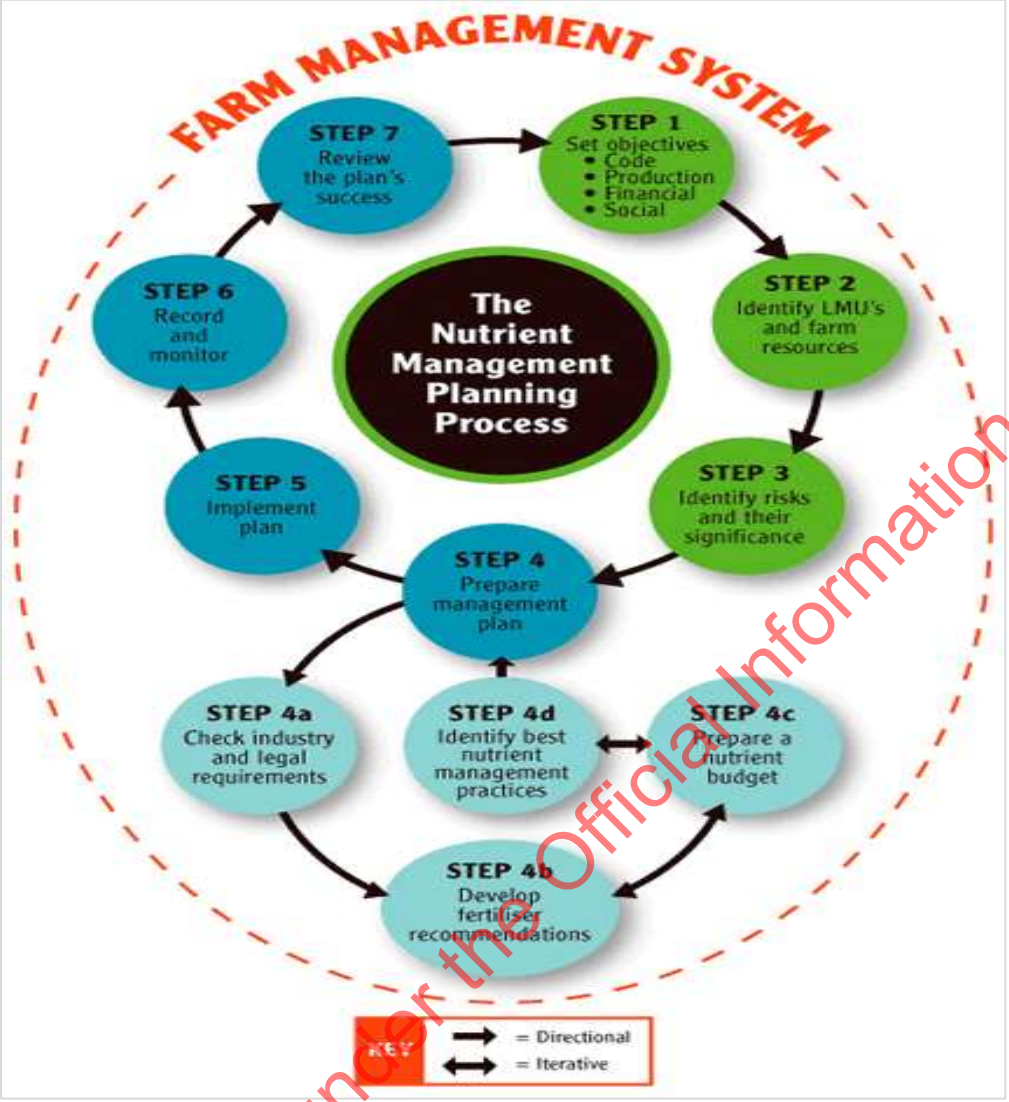


Figure 2: NMP planning process from the Nutrient Management CoP

The diagram in Figure 2 was used by Edmeades et al (2011) to encourage councils, industry and rural professionals to improve nutrient management plan (NMP) standards, with a strong emphasis on having a clear purpose that *'...must be sufficient to engage and motivate all sectors of the primary industries to support their use, so that widespread and permanent changes in on-farm management will occur – what counts is what works. There is little point in introducing NMPs otherwise.'* Edmeades et al (2011) expand on the seven steps in Figure 2 to include assessments of soil fertility, economic optimal nutrient ranges, soil quality and nutrient hot-spots.

4.1 Māori Involvement in Farm Plans

Despite reviewing numerous council and industry farm plan templates (as per Table 1), there is limited evidence of Māori input into the design of these plans or reference to cultural values. Even farm plans

[5] The 'LMU' in 'Step 2' means Land Management Units which are areas land with similar properties and management.

prepared for Māori land trusts appear[6] to follow standard templates without customisation to cover connections between the health of water and the health of people and communities.

The Whakaora Te Waihora programme is an extensive ecological and cultural restoration initiative for Te Waihora (Lake Ellesmere) with co-governance from Ngāi Tahu and Ecan. The programme started in 2012 and includes native planting, wetland restoration, research, monitoring and FEP development. The 'standard' Ecan FEP template now includes sections specific to mahinga kai for the Selwyn-Waihora zone and the Waitaki zone. Farmers (or their advisors) in the Selwyn-Waihora zone need to state actions such as *'Excavators are not used for drain clearance between Nov and April where eels are present'*.

4.2 Farm Plan Case Studies

4.2.1 Fonterra Tiaki farm environment plans

In 2017 Fonterra launched its Tiaki Sustainable Dairying Programme. A core element is the customised Tiaki FEP, as well as resource consent support, nutrient budgets, nitrogen reports and farm mapping. As of February 2019, Fonterra indicated it had rolled out 1500 Tiaki FEPs, with 100% coverage (i.e. about 10,000 farms) by 2025. The Fonterra Tiaki webpage includes a Whakataukī: *tiakina te whenua i tēnei rā, kia whai oranga tangata mō ngā rā e heke mai nei* (translated as *'caring for the land today, so that the land cares for us tomorrow*').

The Tiaki FEP template uses a sophisticated GIS platform that is partly pre-populated (e.g. boundaries, waterways and dairy shed) before a Fonterra Sustainable Dairying Advisor (SDA) visits the farm and carries out a farm walk with the farmer. Critical Source Areas and other environmental issues are identified, photographed and geospatially located on the farm map. Each issue (or site) is given a semi-quantitative matrix-style risk ranking based on the likelihood of waterway contamination and the impact of contamination. This analysis is supported by time-bound mitigation actions identified for each risk. Fonterra anticipates that Tiaki FEPs will help drive improved on-farm environmental performance and help farmers achieve regulatory compliance (Chan and Kempson, 2018).

4.2.2 Horizons Regional Council Sustainable Land Use Initiative (SLUI)

Horizons Regional Council and the Government launched SLUI as a comprehensive response to the massive erosion and flooding damage from the 2004 Valentine's Day storm. The main tools used in SLUI are comprehensive whole farm plans and cost sharing for erosion control works, targeted to the most erosion-prone land using GIS analysis by Landcare Research. Since 2008, over 650 SLUI farm plans have been produced covering 500,000 ha with 32,000 ha of new tree planting and retirement. A Horizons overview of SLUI (Todd, 2018) highlighted that key drivers of effective farm plans were:

36. Detailed farm scale Land Use Capability mapping to ensure the right mitigations were targeted in the right landscape units, including consideration of connectivity to waterways (which was not part of the historic LUC assessment)
37. A transparent prioritisation rationale to enhance cost-effectiveness
38. Building trusted individual relationships between farmers and council field staff

4.2.3 Tarawera lakes farm plans

The Project Rerewhakaaitu farmer group evolved in the 2000s from a series of projects looking at on-farm nitrogen and phosphorus mitigations. Many mitigations were incorporated into customised FEPs developed

[6] The cautionary 'appear' is used here as only four Maori trust/incorporation FEPs have been sighted by the authors, reflecting that FEPs are essentially private confidential documents that are not available for public review. There could well be FEPs that do reflect Maori owner values and tikanga.

by AgResearch. In 2015 the non-statutory Tarawera Lakes Restoration Plan (BOPRC, 2015) was developed by Bay of Plenty Regional Council (BORPC) with community input. Agreed actions included FEPs for the inner and outer Tarawera lakes catchments, including Lake Rerewhakaaitu.

Project Rerewhakaaitu and BOPRC agreed to base the new FEPs on industry templates and Overseer. Fonterra used its Sustainable Dairy Advisors to develop Tiaki FEPs (see section 4.2.1 above) and Beef and Lamb New Zealand ran two Land and Environment Plan workshops, with one-to-one follow-up by local farm consultants. As participation was voluntary, farmers were given written assurances that individual farm data would remain confidential and only aggregated catchment nutrient data would be published.

48 FEPs were completed by spring of 2018, out of a potential pool of 51 farmers. There are 32 Tiaki FEPs covering 5300 hectares with a combined 1060 on-farm actions, plus 16 LEPs covering 6800 ha. This shows that a well-resourced voluntary FEP project with strong farmer buy-in can achieve comprehensive uptake. While ongoing monitoring and further FEP updates by industry are anticipated, it is difficult to determine the freshwater health outcomes due to the complex multi-lake environment, the confidential nature of the individual FEPs and challenges with comparing Overseer outputs across different versions (Park et al, 2019).

4.3 Farm Plan Effectiveness

FEPs are widely considered by councils and primary industries to be an effective and pragmatic NRM. FEPs should: (i) be clear on the FEP outcomes; (ii) incorporate a tailored robust land resource assessment; (iii) identify key environmental risks; (iv) specify timebound mitigation actions; (v) enable review and updates.

There are current (2019) collaborative efforts led by Waikato Regional Council and NZIPIM to standardise regional plan FEP requirements and certification of consultants preparing FEPs. This is a worthy initiative although little information is publicly available, including whether Māori perspectives are being considered.

A comprehensive survey of FEP data held by regional councils (Manaaki Whenua Landcare Research, 2018) found wide variations in data quality, coverage, terminology and accessibility. Detailed recommendations were made for consistent national standards to enable FEP progress tracking and public reporting at national and regional scales.

Our review suggests that:

39. Many agencies are busy promoting and generating FEPs rather than assessing their effectiveness, with some FEP programs being too new to assess outcomes
40. There has been recent expansion in the number of FEP templates, reflecting:
    - Industries and individual processors wanting to provide their own branded FEPs with reference to industry and/or corporate sustainable goals and strategies
    - Private consultants and fertiliser companies are pursuing new advisory business, including the use of new IT and GIS tools linked to FEPs
    - Regional councils are adopting new mandatory FEP requirements in regional plans
41. FEP evaluation tends to be informal (including by Landconnect, FEP case study in section 4.2.3).

4.4 Farm Plan Information Gaps

Based on our review, FEP information gaps include:

- Accessible national data on FEP coverage, type, content, audit and performance, including FEP uptake rates, and responses i.e. addressing the need for nationally consistent systematic FEP data (see Manaaki Whenua Landcare Research, 2018)
- The nature and degree of FEP customisation by Māori landowning trusts and incorporations

- Clarity and documentation on current national efforts to standardise FEP content requirements and the qualifications and certification of staff preparing and auditing FEPs
- Clearer understanding of the causal links between FEP content, on-farm action and freshwater health, and effective means to improve those linkages
- Assessment of potential backlash risks from the Pakeha (this risk may apply in other NRM areas).

As noted elsewhere in this review, the above 'gaps' may partly reflect the limited time-frame and web-based searching used in this review, as opposed to more in-depth searching, interviews and analysis.

4.5 Farm Plan Opportunities

While it would be possible to develop a new FEP template that was explicitly framed around Te Mana o te Wai, it would probably be seen as yet another FEP amongst a large and confusing array of FEP templates. In contrast, there are several opportunities to influence existing FEPs, such as:

42. Engage with Māori landowners (possibly via FOMA and regional collectives such as Te Arawa Primary Sector Group) to understand their current FEP practice/uptake and their views of applying Te Mana o te Wai framework to FEPs.
43. Provide national guidance on relevant Māori-related FEP content, such as:
44. stating the relevant Māori waterway name, its meaning and cultural significance
45. identifying the local iwi/hapū and marae
46. cross-reference key issues identified within relevant Iwi Management Plans, mahinga kai and other natural resources and statutory acknowledgements (some apply to Crown-owned waterways)
47. a map of heritage sites with suitable precautionary advice (as included in Forestry EMS)[7].
48. Engage with key agencies to influence FEP templates and requirements for FEPs, both statutory and non-statutory, notably the current (early 2019) multi-agency effort led by NZIPIM and Waikato Regional Council to standardise regional plan FEP and certification requirements.
49. Where FEP content is driven by industry EMS, then there may be opportunities to engage with those industry bodies and influence their EMS/FEP templates.

5 Iwi management plans

The RMA requires regional councils to *'take into account any relevant planning document recognised by an iwi authority'* when preparing policy statements (s61) and regional plans (s66) (other RMA provisions apply to district plans). These RMA provisions are additional to the 'Purpose and principles' clauses, notably: that those implementing the act shall *'recognise and provide for the relationship of Māori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga'* (RMA s6(e)); *'have particular regard to kaitiakitanga*' (RMA s7(a)); and '*take into account the principles of the Treaty of Waitangi'* (RMA s8).

Iwi Management Plans (IMP, including Hapū Management Plans) have been prepared by many iwi and hapū. The RMA is silent on how IMPs are developed and they therefore assume a variety of shapes and forms, often adopting a holistic approach beyond specific RMA matters. The MfE-supported Quality Planning website (MfE, 2019) has developed guidance on accessing, using and responding to IMPs.

[7] While historic heritage sites are not normally linked to freshwater health, it is useful to include these within FEPs.

5.1 Māori involvement

It is a truism that all IMPs are fundamentally an iwi/hapū NRM and therefore unique, especially relative to other more 'culturally generic' NRMs considered in this review. It is also noteworthy that many councils have co-funded the development of local IMPs for practical and partnership reasons.

5.1.1 Ngāti Rangiwewehi Iwi Environmental Management Plan

The Ngāti Rangiwewehi IMP was first developed in 2008 and updated in 2012 (Ngati Rangiwewehi, 2012). It is 79 pages and has a detailed 14 page section on water management, with separate sections on history, kaupapa, land, coastal, air, development, legislation, future direction, koiwi and consultation, with a comprehensive set of appended resource maps. Important waterways (notably Awahou and Hamurana streams and Lake Rotorua) and associated springs are identified, including their traditional cultural uses and ongoing significance to Rangiwewehi. High-level 'vision statements' are followed by 'Wai Māori Issues', including: (i) declining water quality; (ii) loss of stream and wetland habitats; (iii) loss of traditional food stocks and cultural resources. More specific freshwater health issues are then identified for individual waterways, with advocacy of practices such as exclusion of stock, planting of vegetation in riparian buffer zones and developing floating and perimeter wetlands.

The Ngāti Rangiwewehi IMP is included in the local regional council's map (BOPRC, 2014) within a webpage explaining the role of (Hapū and) IMPs, including this brief guide (BOPRC, 2019d). While the Ngāti Rangiwewehi settlement legislation was passed in 2014 (including the vesting of Hamurana Springs Reserve), it is not known if the IMP has been updated to reflect this (or if it needs to be updated).

5.1.2 Tauranga Moana Iwi Management Plan 2016-2026

This is a joint Iwi Management Plan for Ngāti Ranginui, Ngāi Te Rangi and Ngāti Pūkenga, covering Te Awanui Tauranga Harbour, surrounding lands and waters (Conroy et al, 2016). It is 126 pages and includes a detailed set of freshwater policies, such as ensuring:

- recognition of Te Mana o Te Wai (Policy 1.1(d))
- minimum water quality standards and maximum allocation limits for freshwater incorporate tangata whenua values and interests (1.2(a))
- water allocation is equitable, given aspirations to develop underutilised Māori Land (1.2(b)).
- mātauranga and tikanga Māori is aligned with fresh water planning, management and decision making (1.2(c))

The Tauranga Moana Advisory Group was formed in 2014, in anticipation of a Treaty settlement that will require a Tauranga Moana Governance Group to be established. The Advisory Group comprising representatives from the three local iwi, Tauranga City Council, Western Bay of Plenty District Council and the Bay of Plenty Regional Council. It functions as a formal joint committee under the Local Government Act and meets about four times annually.

The Tauranga Moana Advisory Group's most recent agenda (BOPRC, 2019c) indicates that it receives reports on overall progress with implementing the Tauranga Moana IMP and more detailed project updates e.g. efforts to improve the poor bacterial water quality at Kaiate Falls. It appears the Advisory Group performs a valuable coordination forum but it is not a decision-making body and does not allocate resources.

A related research programme is the Oranga Taiao Oranga Tāngata (OTOT) four-year MBIE-funded programme led by Massey University, with Tauranga Moana as the key test case study.

5.2 IMP Effectiveness

Considerable effort has gone into developing IMPs and it seems likely that many iwi would have anticipated improved cultural and environmental outcomes. There is evidence IMPs have improved engagement processes with local councils. While IMPs may identify objectives related to local freshwater health concerns, these concerns may be expressed in qualitative ways. There is a lack of evidence on whether IMPs have contributed to better freshwater outcomes, noting this is an ambitious goal and almost certainly constrained by limited resources. Useful reports on IMP effectiveness include:

50. KCSM Consultancy Solutions (2004) reviewed IMP effectiveness from an iwi perspective and found that IMPs helped engagement with council RMA plan development and consent processing. IMP quality was variable and sometimes there was very limited awareness within iwi of the IMPs existence and content. Recommendations to improve IMPs included incorporating regular update provisions within IMPs and identifying who is responsible for updates.

51. Te Puni Kokiri (2013) found that 43% of iwi surveyed had an IMP, but this included 14% who had not lodged IMPs with council(s) i.e. 56% did not have an IMP. Individual iwi respondents noted that IMPs improved engagement with local councils.

In 2010 the Hon Nanaia Mahuta introduced a private members bill titled 'Resource Management (Enhancement of Iwi Management Plans) Amendment Bill'. While the bill was defeated by the then Government majority, it does indicate there is legislative scope to elevate the status of IMPs within the existing RMA planning framework. Mahuta argued in her parliamentary speech that the (then) recently passed Waikato-Tainui Raupatu (Claims) Waikato River Settlement Act set a useful precedent by providing *'...for a co-governance and co-management framework to address a longstanding concern amongst Waikato iwi that the degradation of the Waikato River be addressed. That settlement makes provision for statutory recognition of a vision and strategy that seeks to create an integrated management approach to cleaning up the river and, more important, forging a common ambition amongst iwi, local government, landowners, Government agencies, industry, and the community'* (Mahuta, 2010).

5.3 IMP Information Gaps

This review is a broad survey of NRMs conducted over a short period with a strong emphasis on web-available content. This practical limitation is perhaps greatest in attempting to 'summarise' the role and efficacy of numerous Iwi Management Plans. Therefore any attempt at identifying information gaps (and related 'opportunities') should be read as extremely tentative. Subject to that cautionary note, information gaps regarding IMPs and freshwater health appear to include:

52. It is unclear how and to what degree IMPs have influenced freshwater health, freshwater project funding and staff resourcing, especially in regional councils. As with other NRMs, it will be difficult to separate IMP influence from other policy drivers within councils and industry sectors.
53. Understanding how IMPs have affected engagement between Iwi, Councils and resource users, including resource consent applicants.

5.4 IMP Opportunities

The 2004 IMP effectiveness review (KCSM, 2004) was a thorough assessment with a raft of useful recommendations. After 15 years, a comparable IMP review would usefully inform any new policy on IMP purpose, development and efficacy. Further opportunities may exist in exploring effective linkages between IMPs and evolving co-governance entities responsible for managing freshwater.

6 Catchment groups

Group-based approaches to tackling sustainability challenges have been adopted by many agencies, notably the NZ Landcare Trust and regional councils. The NZ Landcare Trust was formed in 1996 and now employs about a dozen staff and supports more than 150 landcare groups across much of New Zealand. The Trust receives core funding from MfE plus a wide range of project-specific funding. It's Board comprises senior representatives from Federated Farmers, Federation of Māori Authorities, Forest & Bird, Fish & Game, Federated Mountain Clubs, Rural Women NZ and Ecologic. Fiona Gower (Rural Women) is the new Chair and George Matthews (FOMA) is the new deputy Chair. There are regions where the Landcare Trust is not active due to a combination of limited resources and some councils choosing not to support the Trust's activities (in part because those councils do not see the need).

The Landcare Trust has produced many publications relevant to NRMs, including the 'Community-owned rural catchment management: A guide for partners' (NZ Landcare Trust, 2012). This guide emphasises that local rural communities must own the issue if they want effective, sustained change. The guide describes the key strategic and implementation issues for groups, as indicated by the chapter headings:

- local ownership of the problems and the solutions
- strategic design and implementation
- collaborative processes in partnership forums
- well-designed incentives
- regulation backed by effective compliance.

Regional councils also initiate catchment groups, typically as part of a broader strategy to improve water quality and other outcomes, as illustrated by the Ruamāhanga Whaitua case study below.

Many catchment groups are supported by regional councils and industry bodies such as DairyNZ, B+LNZ, FAR and HortNZ by providing expert advice, funding, facilitation and publicity.

6.1 Māori involvement in Catchment Groups

There are synergies between catchment care groups and local iwi and hāpu whose rohe often aligns with catchment boundaries, as well as Māori approaches to collective decisions and action. Some groups have explicit iwi or hāpu representatives and/or Māori farmers that are part of the catchment community. Examples of Māori-focused groups are included in the case studies below.

6.2 Catchment Group Case Studies

The first case study below is driven by a regional council policy agenda and the remaining three case studies are more conventional, small-scale community catchment groups.

6.2.1 Ruamāhanga Whaitua

The Greater Wellington Regional Council (GWRC) has been pursuing a largely non-regulatory approach to managing water quality, structured around five 'Whaitua' or catchment committees across the region. The Ruamāhanga Whaitua is the largest of these and its committee was established in 2013. The Ruamāhanga Whaitua Implementation Programme (WIP) was adopted by GWRC in 2018 following extensive research and community engagement. It will become part of the regional plan through a plan change process.

Whaitua Chair Peter Gawith describes the essence of the Ruamāhanga WIP as follows: *'The Ruamāhanga whaitua process is the collaborative discussion on the future of our streams, rivers and lakes. The water that connects us. The land and our communities. Their historical nature and value to mana whenua.'*

Key elements of the Ruamāhanga WIP (Ruamāhanga Whaitua Committee, 2018) include:

- Reflecting mana whenua relationships with Wairarapa iwi
- Defining 23 Freshwater Management Units (FMUs) and associated objectives, such as for fish and mahinga kai, (Ruamāhanga Whaitua Committee (2018a) supported by targets for contaminants: nitrogen, phosphorus, sediment and E. coli.
- Manage diffuse contaminants through a non-regulatory package of GMP, farm plans and supporting catchment communities, plus rules on land use change and point-source discharges.

GWRC supports collaboration across 32 Wairarapa care groups, most within the Ruamāhanga catchment (GWRC, 2019). The GWRC engagement with landowners takes a dual approach at both catchment community level and 'traditional' one-on-one level through farm plans - see Macdougall and Parkes (2018) for more detail.

This case study clearly has greater scope, coverage and formality than most catchment care initiatives. However, it does illustrate that NRMs can (and perhaps should) be applied in a comprehensive fashion within a broader RMA framework.

6.2.2 Ngā Kaitiaki o te Awa o Pūniu: Safe Places, healthy water, healthy people

Pūniu River Care (PRC) is an incorporated society and charity. Its kaupapa is to enable local hapū to be involved in improving the water quality and replenishing taonga within the Pūniu River Catchment. PRC was formed in 2015 by Shannon Te Huia (Spatial Engineer, Maniapoto Māori Trust Board) under the mentorship of Harrold Maniapoto and John Roa (kaumātua).

In 2017 PRC received $741k from the Fresh Water Improvement Fund *'to improve the water quality, the mauri of the awa as well as helping to restore indigenous fish habitat and terrestrial biodiversity'*, in partnership with Waikato RC. Activities include riparian fencing to exclude stock, erosion protection works, planting 160,000 native trees and the creation of a bilingual, open-source guide for marae-based restoration, wetland restoration, Mangatoatoa marae nursery expansion and leadership and youth programmes.

Pūniu River Care Inc is committed to empowering staff to engage in the tikanga and kawa of each of the Marae which connect with Pūniu River, to ensure these practices are upheld within the rohe. Their comprehensive website illustrates work in progress through photos and video.

6.2.3 Whangawehi catchment management group

The Whangawehi catchment management group began in response to local concerns about wastewater at Mahia on the East Coast. It evolved into an ongoing catchment care group with strong tangata whenua representation and a focus on enhancing water quality and mahinga kai. The group is supported by Hawkes Bay Regional Council, Wairoa DC and DOC. The group has developed a catchment plan, run multiple extension events, carried out water monitoring and riparian planting and has expanded into pest management and bush restoration.

6.2.4 Pomahaka Water Care Group

The Pomahaka River in West Otago was identified by Otago Regional Council as having particularly poor water quality. This surprised local farmers who mobilised in 2013 to scope out a catchment plan, with the support of the NZ Landcare Trust. This evolved into a three-year SFF project 'Pathway for the Pomahaka' to showcase GMPs that would improve water quality. Around 80 farmers and business people pay a voluntary annual $250.00 subscription and are now called the Pomahaka Water Care Group Incorporated. Some interesting features and achievements are:

54. Intensive independent water quality monitoring (see video)
55. Multiple agency support, including Rabobank, ORC, Landcare Trust, B+LNZ, DairyNZ, Fish & Game, Earnslaw One Forestry and Ngai Tahu (latter includes Dean Whaanga speaking briefly about kaitiakitanga in a project overview video)
56. 'New Zealand River Story Award' at the Morgan Foundation's 2015 New Zealand River Awards
57. Using farmers to front best practice videos, such as this 2018 B+LNZ GMP video on winter grazing
58. A website and active Facebook page to highlight activities, including the formation of a farmer-led 'Best Practice Response Team' to support fellow farmers adopt GMPs (February 2019 Facebook).

6.3 Catchment Group Effectiveness

It is difficult to assess the efficacy of catchment groups as an NRM. Enthusiasm for catchment care groups varies between councils, with some viewing one-to-one advice as a more effective extension method, others seeing both methods as valid and complementary.

Australian literature on land care group 'participatory evaluation' is also relevant to New Zealand, particularly guidelines developed for groups, funders and policy agencies. A major review of the 'National Landcare Program[8]' (Australian Government, 2017) found that it *'...achieved significant benefits for agricultural productivity, environmental conservation and community engagement, with flow on economic and social benefits.'* The same review noted the need to enhance *'...links between Indigenous Protected Areas and Indigenous Ranger[9] programs, and using their success to inform appropriate Indigenous participation in other programs...'*

Ongoing industry support for catchment groups is evident in B+LNZ's strong promotion of community catchment-based freshwater action and monitoring, including using the SHMAK tool described above. The RMPP Action Network has established a directory of groups, experts and trained facilitators to improve effectiveness (RMPP, 2019). However, it is generally difficult to know what catchment group activity is occurring given the wide range of agencies and groups using this NRM, and because it is new.

6.4 Catchment Group Information Gaps

Information gaps related to catchment groups include:

59. Limited information on actual catchment group effectiveness, while noting there is excellent guidance on what is required for a group to be effective
60. Partial or difficult to access information on catchment group coverage, objectives, funding and connections with other groups and agencies
61. Clarity on the nature of Māori involvement in catchment groups, noting that our review is an incomplete web-based 'snap-shot' assessment.

6.5 Catchment Group Opportunities

There appears to be excellent scope to apply a potential Te Mana o te Wai framework to catchment group initiatives, with opportunities including:

62. An assessment of current Māori involvement in and aspirations for catchment groups would help inform guidance on a more comprehensive and inclusive approach for existing and new groups. It

[8] Note that the funding and reach of Landcare Australia per capita is much greater than its kiwi cousin, with an estimated 12,000 landcare groups across Australia.
[9] Indigenous rangers are largely funded via the Country Needs People program with 800+ full-time equivalent jobs

would be useful to scope the assessment through engagement with the NZ Landcare Trust and the Australian Indigenous Ranger program.

63. A nationally accessible spatial database on catchment group activity, agency connections, expert support, iwi/hāpu rohe and (where available) associated iwi management plans.

7 Environmental management systems (EMS)

An Environmental Management System (EMS) is a framework that helps organisations meet environmental goals through consistent review, evaluation and improvement of environmental performance. An EMS is based on a continuous improvement cycle of Act> Plan>Do>Check. EMS are generally based on voluntary participation although in terms of regulatory requirements, however some export markets may insist on participation. EMS typically take a holistic approach to the businesses and resources they seek to manage.

EMS principles are defined within the international standard EMS-ISO 14001 (ISO, 2019) and the related AS/NZS ISO 14001:2016 (Standards NZ, 2016). New Zealand primary sector-related EMS include: Enviro-Mark; Environmental Choice; NZ Good Agricultural Practice (NZGAP); NZ Farm Assurance Program (NZFAP) and various organic certification programs. NZFAP is currently under development by the Red Meat Profit Partnership (RMPP) which aims to have a single EMS that harmonises standards, eliminates duplication and provides NZ representatives a stronger negotiating position for Overseas Market Access Requirements (OMARS).

Caruthers (2011) argues that EMS ISO 14001 coupled with Audited Self-management (ASM) offers a way to operationalise Good Management Practices (GMP) while also addressing many of the issues surrounding auditing, certification and validation and has the potential to generate robust and credible data, if data requirements are set nationally, which can be used to validate practices applied. Caruthers also suggests that an EMS approach would support Land and Water Forum recommendations (LAWF, 2010), as follows:

64. Regional councils should employ a range of instruments to ensure that targets and limits they set are met, including voluntary schemes, GMP codes, regulation, and funding. They should do this in collaboration with stakeholders and iwi.
65. Industry and regulators should use audited self-management to ensure outcomes are
66. met.
67. Robust industry standards and audited self-management schemes need to be recognised in the development of regulatory approaches to water quality.

A key benefit of EMS is an enhanced ability to provide robust data that proves good performance across multiple areas. However, this 'proof' relies on a critical assessment of performance and is more credible when backed up by an independent assessment of the claims made regarding performance. This is difficult to assess as EMS performance assessments do not appear to be publicly available.

An interview with Fonterra's Director for Social Responsibility highlighted the company's adoption of the ISO 26000 to *'...further embed social responsibility into the cooperative's business functions throughout the world'* (Standards NZ, 2017). It also noted that Fonterra was using ISO 14001 and ISO 50001 to drive energy efficiency in its factories and transport operations and had extended this to achieve electricity savings on supplier dairy farms. Fonterra's on-farm 'Tiaki Sustainable Dairying' programme is described in section 4.2.1 of this report, although Fonterra does not appear to explicitly call this an EMS.

7.1 Māori Involvement in EMS

Our web review did not find examples of Māori involvement in EMS with the exception of Te Ara Miraka and the Hua Parakore organic certification scheme which are included as case studies below.

7.2 EMS Case Studies

7.2.1 ISO 14001 in the Australian Cotton Industry

As well as providing a good overview of EMS, Caruthers (2011) illustrates EMS with an Australian example. The cotton industry in Australia had been facing extreme negative community perception in the 1990s and was struggling with the potential loss of access to certain pesticides and irrigation water. The first farm in the world to gain certification against the ISO 14001 was a NSW cotton farm in 1997. The farm owner implemented an EMS to (i) differentiate his product in the market, and (ii) to reassure the community he was farming in an environmentally responsible manner, especially with regard to chemical applications and water quality. The wider cotton industry subsequently developed a set of 'best management practices' to minimise pesticide and water use, reduce erosion and improve soil health (Cotton Australia, 2019).

7.2.2 New Zealand Good Agricultural Practices

The New Zealand Good Agricultural Practice (NZGAP) provides assurance for the safe and sustainable production of fruit and vegetables in New Zealand (NZGAP, 2019). NZGAP uses farm planning tools based on nationally consistent peer reviewed codes of practice and independent third party audit, with three focus areas: (i) food safety (ii) environment and (ii) social practice. NZGAP is aligned with Global-GAP which claims to be *'the Worldwide Standard for Good Agricultural Practices'*.

NZGAP has an environmental add-on designed to help growers '*...manage their regional council's environmental requirements alongside their usual NZGAP audit*', covering:

- Protection and sustainable use of land and water
- Responsible use of agrichemicals and fertilisers
- Waste management
- Biodiversity
- Waste, emissions and energy.

NZGAP certification identifies the growers who have been audited and can prove they have met the relevant EMS standards.

7.2.3 Te Ara Miraka

The Māori-owned Miraka Ltd dairy processor opened near Taupo in 2011 and now collects milk from about 100 farms. The Miraka branding (included a Tauihu or waka prow) and their employment and environmental policies explicitly reflect Māori values. Te Ara Miraka is the company's Farming Excellence Programme and is *'...based around five pou: People / Nga Tangata; Environment / Te Taiao; Cows / Nga Kau; Milk / Miraka; Prosperity / Taurikura. Te Taiao focuses on four issues: sediment; nutrient run-off and leaching; E. coli pollution; toxins.'*

Te Ara Miraka incorporates an incentive scheme where supplying farmers are financially rewarded for meeting criteria based on the five pou, including farm environmental performance. The net value of such payments was reported as $3 million in July 2017 (Dairy News, 2017).

7.2.4 NZ Farm Assurance Programme

The NZ Farm Assurance Programme (NZFAP) has been developed by the Red Meat Profit Partnership (RMPP) to cover the audit and certification of sheep, beef and deer farms. The intent is for the NZ red meat industry will have a single assurance scheme *'...that harmonises standards, eliminates duplication and*

provides NZ representatives a stronger negotiating position in OMARs (Overseas Market Access Requirements) and global market access for NZ red meat' (RMPP, 2018).

The NZFAP builds on existing meat processing company schemes and the national roll-out commenced in June 2017. NZFAP has an 'Environment and Sustainability' section where *'...farmers must pursue farming practices that will assure sustainability of the environment* (RMPP, 2017a). While the mandatory provisions (in this section) are limited to complying with RMA and waste management, there are supporting provisions that farmers *'should'* meet, such as having *'...a farm management plan (or LEP1) demonstrating commitment to continuous improvement'* and *'Water quality and care of waterways should be maintained e.g. management of nitrate, phosphorus, sediment, faecal bacteria loadings.'* NZFAP also includes requirements on food traceability, food safety, animal health and welfare, transport to processor and deer-specific issues. A NZFAP Farmer Handbook (RMPP, 2017) explains the certification process.

RMPP reported (via Barber, 2019) that *'...nearly 3000 farms are registered to the programme, over 80% of which have already been audited. The ultimate expectation is for a total farm uptake of around 6,500... NZFAP has proved it will be an essential tool in support of Taste Pure Nature...'*

7.2.5 Organic Certification

There are a number of certification schemes used in New Zealand for organic produce. These include AsureQuality, Bio Gro NZ, Demeter, Far North Organics, Organic Farmers NZ, and Te Waka Kai Ora. These schemes use production standards and certification to assure customers that their organic produce is genuine. The most common organic certification is Biogro which has over 750 licensees in NZ (and the Pacific) and is recognised throughout the world. A recent industry market report (Organics Aotearoa NZ, 2018) stated that the organic sector had grown by 30% since 2015, and is now worth $600 million.

Te Waka Kai Ora was set up as the National Māori Organics Authority of Aotearoa, under the leadership of the late Percy Tipene. It incorporates an organic certification scheme Hua Parakore that was developed with Government science funding support. Hua Parakore conforms to NZ and internationally recognised organic standards, while also adopting an indigenous framework that recognises Māori values and approaches to food production. This includes the incorporation of *'...Māori tikanga and the spiritual, physical and metaphysical attributes that have guided our traditional organic economies for millennia.'* Unfortunately it appears that Te Waka Kai Ora has been inactive in recent years.

7.2.6 Enviro-Mark Solutions

Enviro-Mark is an environmental management system certification programme (not a product certification programme). The EMS covers how organisations manage their environmental impacts. Organisations can achieve one of five levels of certification. The final step meets the requirements of ISO 14001.

The programme which commenced in 1992, operates independently from the government but the label is government owned and endorsed. At present there are no farm/land- based licensees.

B+LNZ indicated (see story by Barber, 2018) they would be developing a process standard in 2019 in co-operation with Enviro-Mark Solutions. National data on the preparation of farm plans would be recorded and aggregated to enable measurement of progress towards the goal. B+LNZ indicated they would hold five co-design workshops involving farmers and other stakeholders in 2019. However the B+LNZ website has no events or commentary on this development (as at 25/02/2019).

Enviro-Mark Solutions also offer CEMARS (Certified Emission and Reduction Scheme), carbonNZero, which meet ISO standard requirements and offers consistent and comprehensive reporting, benchmarking and management under international best practice.

The following diagram illustrates the annual process of Enviro-Mark certification.

Figure 3: Enviro-mark Certification Process (see www.enviromark.com)

7.3 EMS Effectiveness

EMS has not yet been fully embraced by the NZ primary sector and EMS evaluations appear to be either confidential or non-existent. However, B+LNZ is pursuing an EMS to support its Taste Pure Nature export strategy. Organics Aotearoa New Zealand reported 30% growth since 2015, with domestic and overseas markets demanding proof of organic production. The ISO 14001 has been taken up by famers in Australia and has shown to be effective in the cotton industry (Caruthers, 2011).

There appears to have been a broad enthusiasm in Australia for agricultural EMS, reflected in the promotion of a was clearly a National Framework for EMS in Australian Agriculture (Natural Resource Management Ministerial Council, 2002). A more recent Australian review (Crosthwaite, 2015) found that ISO 14001 generally reduced company environmental footprints but did not improve reported regulatory compliance. An international review using OECD survey data found a trend of companies adopting ISO 14001 for symbolic reasons '*...without achieving significant improvements in environmental performance*' (Vilchez, 2017).

7.4 EMS Information Gaps

As with other NRMs, it is difficult to attribute improved freshwater outcomes to the adoption of EMS given the complex set of drivers affecting landowner and sector environmental performance. This uncertainty is compounded by the lack of published NZ audits of EMS, either collectively across a sector or for individual businesses, including any EMS that have had Māori input. More generally, it is unclear how applicable EMS such as ISO 14001 are to on-farm performance, at least in comparison to more the readily defined processes and impacts in the manufacturing sector where EMS adoption appears more prevalent.

7.5 EMS Opportunities

Given the broad EMS information gaps noted above, it is challenging to identify where are the best opportunities for improved Māori influence on EMS. However, some opportunities may include:

- Working with Miraka to assess its Te Ara Miraka EMS and how it has contributed to the company's success and environmental performance
- Given the modular nature of many EMS, consider the scope for guidelines (or a 'model' template) on a module addressing Māori freshwater values. This approach will have synergies with similarly customised FEP content (see section 4.5). In particular, the current parallel development and implementation of the NZFAP and B+LNZ's EMS review may offer opportunities for engagement and influence.

8 Land Use Change Tools

Land use change in this NRM context refers to a change from one specific land use to another, rather than intensification within a similar system. Land use is driven by land quality (soil, climate, topography etc) and human factors (development, historical use, proximity to markets etc).

A report on Drivers and Barriers to Land Use Change (AgFirst, 2017) assessed the biophysical, economic, technical, societal, personal and regulatory factors (the latter including regional council controls on water takes and discharges of contaminants). While economic factors were considered to be the most powerful driver of land use change, increasing regulation of nitrogen (and potentially carbon) will inhibit changes to more intensive systems such as dairying and vegetable production.

If restrictions are put in place due to environmental concerns, then maintaining efficient and flexible land use may require trading systems for water and nutrients. Similarly, regulation should allow flexibility for novel approaches to mitigating environmental effects. AgFirst (2017) suggest that land use change can be directly influenced through incentives and subsidies or through regulatory controls. Other options include expanding research into farm system change and improved environmental extension programmes with collaboration between industry good bodies, regional councils and government.

The following section on land use change tools addresses incentive schemes, decision support, forestry and Māori involvement.

8.1 Case Studies: Incentivising Land Use Change

The following two case studies illustrate Government and council joint-funded incentive schemes to promote land use change within a regional council regulatory context. However, there are lessons from these schemes that could be used within a non-regulatory framework.

8.1.1 Lake Taupo Incentives Scheme

The Lake Taupo nitrogen scheme was introduced in 2009 to protect lake water quality by reducing manageable nitrogen lake inputs by 20 percent. Key elements are a regulatory 'nitrogen capping' controls (using Overseer) and a $81.5 million package to encourage pastoral farmers to diversify to low nitrogen land uses through a mixture of financial incentives and advisory services. Within a catchment-wide cap on nitrogen, farmers are allocated individual nitrogen discharge allowances (NDA) that they can trade with other farmers or sell to the incentives scheme (Lake Taupo Protection Trust, 2019).

Ngati Tuwharetoa played a key role in the policy development with Government, Waikato Regional Council, Taupo District Council and farmers (represented by Taupo Lake Care which including many Tuwharetoa farm trusts and incorporations). The Lake Taupo Protection Project Joint Committee has two representatives from Tuwharetoa, Government, WRC and TDC, with broad oversight of the programme and Protection Trust. The Taupo Incentives scheme has been effective in meeting its target of removing 183 tonnes of nitrogen entering the Lake.

8.1.2 Lake Rotorua Incentives Scheme

In a broadly similar programme to the Lake Taupo scheme above, Lake Rotorua has a $40 million Incentives Scheme (co-funded by Government and BOPRC) to reduce nitrogen inputs to the lake. The accompanying regulations known as Plan Change 10 (BOPRC, 2019) differ from Taupo in that farmers also face progressive mandatory reductions in nitrogen loss, not just an 'N cap'. The Plan Change is currently (March 2019) before the Environment Court and appellants include Te Tumu Paeroa and Central North Island Iwi Holdings Ltd, with both seeing the rules as unfair to less-developed Māori-owned land (including forested land).

The Rotorua Incentives Scheme has a target to reduce lake nitrogen inputs by 100 tonnes by purchasing NDA from willing landowner sellers. Farmer-to-farmer NDA trading will also be a future option from 2022 (BOPRC, 2019a). There are supporting non-regulatory nitrogen actions focused on engineering solutions and a gorse conversion scheme. Like Taupo, the Rotorua incentives scheme is voluntary and encompasses low nitrogen land uses such as forestry and farm system change.

A further $3.3M was allocated for the Low Nitrogen Land Use Fund which is designed to support farmers with both new and existing solutions to reduce their nitrogen discharge. It is too early to conclude it this scheme has been effective as nitrogen purchases are still underway. As with the Lake Taupo incentives scheme, Rotorua has an explicit focus on nitrogen.

8.2 Forestry and Land Use Change

Forestry is important in helping New Zealand meet its international climate change obligations. By putting a price on greenhouse gases, the Emissions Trading Scheme (ETS) established in 2007 encourages landowners to plant and manage forests in a way that increases carbon storage, providing an incentive for land use change into forestry. Recent changes to the ETS, announced in December 2018, provide pre-1990 forest landowners with more flexibility over their land, while maintaining New Zealand's long-term carbon stock. It is particularly important for Māori landowners and farm foresters who hold large areas of pre-1990 forest land. These changes address a long-standing issue regarding pre-1990 deforestation liabilities, especially for land that may suit another land use (MPI, 2019).

The One Billion Trees Programme was announced by government in 2018 to increase current rates of native and exotic tree planting over the next decade. The programme is funded through the Provincial Growth Fund (PGF) and led by Te Uru Rākau - Forestry New Zealand, operating within MPI. The Programme will *'create employment and workforce development; optimise land use; mitigate climate change; support Māori values and aspirations; protect the environment; and support New Zealand's transition to a low emissions economy.'* Differentiated grants are applied to tree types (e.g. exotic or indigenous) and trees planted through this scheme may also be eligible under the ETS. Funding wholesale conversion of farms to forestry is not an objective of the fund (Te Uru Rākau, 2019).

8.3 Land Use Change Decision Making Tools

Our Land and Water is one of 11 National Science Challenges funded by MBIE and hosted by AgResearch with input from other CRIs and universities. The aim is *'to enhance New Zealand's primary sector production and productivity while maintaining or improving land and water quality.'* AgResearch is working on 16 research programmes have completed seven research projects to date (AgResearch, 2019).

A fundamental driver in the Challenge is the importance of Māori playing a more active role in the sustainable management and economic development of land and water resources. This takes shape in a Vision Mātauranga strategy that is woven into the research programmes. One of the research programmes is Mauri Whenua Ora which is *'...about unlocking the potential of Māori land by advancing new production systems and market opportunities, and translating the learning from this to other regions'* (AgResearch, 2017a).

The Challenge's 'Land Use Suitability (LUS) programme' is about broadening the traditional focus on land-use capability to *'...account for land-use effects on economic, environmental, social and cultural (EESC) values at whole-catchment scales.'* LUS tools will use national-scale spatial information to evaluate and categorise LUS in any catchment (AgResearch, undated).

A recent report from Motu (2018) highlights the need for structured high-quality data and tools to make robust land-use decisions. These tools are increasingly GIS-based models requiring sophisticated design and user skill. While New Zealand has a *'...range of different modelling tools, these have historically been used in*

a sporadic and ad hoc way, and underlying datasets are deficient in some areas'. Land Use in Rural New Zealand (LURNZ) is an economic model designed by Motu to consider the impact of environmental policy on future land use, production and greenhouse gas emissions. Manaaki Whenua Landcare has developed the New Zealand Forest and Agriculture Regional Model (NZ-FARM, 2012) to help decision-makers assess the potential economic and environmental impacts of policy on regional land use. NZ-FARM and LURNZ are the only two models available at the national level (Motu (2018). Other decision-making tools and models developed to assess land use change (e.g. the 'CLUES' catchment model and the Rotorua forestry- focused dNitro) are summarised in Appendix 14.2.

8.4 Māori Involvement in Land Use Change Tools

Land use change tools and models appear to have been developed with a technical mindset with little or no Māori input. As with farm plans and GMPs, the exceptions are interesting:

68. The 2017 Rotorua Land Use Directory – Tahuri Whenua explores the viability of 18 alternative land uses (e.g. dairy sheep; blueberries; hazelnuts). It was developed by Te Arawa Primary Sector Group with support from Bay of Plenty Regional Council. A series of supporting workshops in 2018 drew strong interest from local Māori landowners. (TAPS, 2017)
69. The Maniapoto Māori Trust Board (2014) used Plant and Food Research to assess horticulture suitability in their rohe. A decision-tree model based on the Sustainable Land Use Research Initiative (SLURI) identified large areas suitable for a range of crops (Plant and Food, 2014).

8.5 Effectiveness of Land Use Change Tool

The Taupo Incentives scheme indicates that incentivising land use change is an effective framework for improving freshwater health. It is too early to assess the effectiveness of the comparable Lake Rotorua incentives scheme of the recently launched One Billion Trees programme. A broader review of freshwater funds is covered in section Funding of this review.

There are numerous land use change assessments using a wide range of tools to look at conventional and alternative land uses, often with dual economic and environmental outputs. However, the 2018 Motu report highlights such modelling tools have *'been used in in a sporadic and ad hoc way, and underlying datasets are deficient in some areas.'* Motu make many recommendations, including: (i) improve capability to collect and share land use data; (ii) creating more collaborative and transparent processes for applying common datasets, scenarios and assumptions, and conducting peer review.

8.6 Land Use Change Tool Information Gaps

The Motu 2018 report highlights gaps in land use modelling, especially on nation datasets. This gap presumably extends to modelling potential land use change on Māori land, although bespoke assessments (as per the Maniapoto rohe assessment noted above) can explore local land use change potential. The impacts of major land use change on freshwater health water quality are currently not well understood.

The role of funded programmes to achieve land use change is recognised at catchment scales (e.g. Taupo, Rotorua) and national scales (e.g. Billion Trees). However, it is not clear how to optimise multiple economic, environmental and social/cultural outcomes associated with land use change.

8.7 Land Use Change Tool Opportunities

There is scope to learn from not a common national approach to assessing and/or land use change and associated impacts, including on Māori. This is explicitly part of the Our Land and Water National Science Challenge and warrants closer consideration than provided in this NRM review. Similarly, there are

opportunities to learn from the existing Taupo and Rotorua programmes which, although focused on nitrogen, are also functioning as land use change drivers. It would be useful to understand how these schemes are perceived by iwi and Māori landowners, and whether a broader focus on multiple outcomes would be useful.

9 Monitoring Tools

Freshwater health monitoring is a core function of regional councils, with complementary national-scale monitoring carried out by NIWA. For many years, freshwater monitoring and reporting by councils was ad hoc and used a diverse array of water quality parameters, spatial and temporal dataset coverage, statistical methods and targets of acceptable quality. Water quality monitoring is complex due to natural variability and is more difficult to interpret if sampling is irregular or the sampling record is short. Water quality standards are typically based on larger rivers and lakes and applying the same monitoring guidelines to smaller waterbodies is challenging. Freshwater monitoring has improved with:

1. The Land and Water Aotearoa (LAWA) reporting website
2. The suite of National Environmental Monitoring Standards (NEMS)
3. Ongoing work by the MfE indicators team and several pan-regional council speciality groups focusing on the 'domains' of land, air, surface water, groundwater and coastal.

More fundamentally, the introduction of the National Objectives Framework via the 2014 NPS-FM required regional councils to address 'compulsory national values' for ecosystem health and human recreation health. Councils must also consider a defined range of 'other national values', including two related to Mahinga kai, namely: *'Kai are safe to harvest and eat'*, and *'Kei te ora te mauri (the mauri of the place is intact)'*. For each freshwater management unit, the national values would be assigned as attributes (from NPS-FM Appendix 2) that define 'national bottom lines' as well as better quality (ranked A, B or C). These attributes cover a range of quantified freshwater contaminants (e.g. nitrate concentration) and biophysical parameters (e.g. periphyton cover).

Since 2000, there has been a standard measure for monitoring the water quality of lakes, known as TLI or the Trophic Level Index. The TLI number is calculated using four separate water quality measurements – total nitrogen, total phosphorous, water clarity, and chlorophyll-*a*. TLI-based lake monitoring is published on the LAWA website with lakes assigned a value between 1 and 7 (the lower the TLI, the better). Bay of Plenty Regional Council also uses TLI to set statutory targets for 12 Rotorua lakes and reports annual progress against those targets.

In 2017 the Government amended the National Policy Statement for Freshwater Management 2014 to include national targets for swimmable lakes and rivers. The Government set a national target of making 90 per cent of New Zealand's large rivers and lakes swimmable by 2040, with an interim target of 80 per cent swimmable by 2030. Regional councils are required to develop regional targets that will contribute to the national target.

Some regional councils use the 'percentage of periphyton cover' as a measure of freshwater quality. Periphyton is the slimy coating found on rocks in streams and rivers. Periphyton is a key food source for freshwater invertebrates and helps absorb impurities such as nitrogen and phosphorus. However too much periphyton indicates degradation (NIWA, 2000 NB: this periphyton monitoring manual is 246 pages).

There are also 'citizen science' monitoring tools, such as the Stream Health Monitoring and Assessment Kit (SHMAK) developed by NIWA and Federated Farmers with input from NZ Landcare Trust, regional councils and many others. SHMAK is widely promoted to help rural communities collect consistent, scientifically valid information from small rural streams and to use that information to make assessments of stream

health. SHMAK is supported with training, on-line guides and software to manage and present data. A set of SHMAK site measurements typically takes about one hour to complete (NIWA, 2019).

The 'Gumboot Test' is another example of citizen science monitoring. Used in assessing the health of small streams using a simple visual assessment. A healthy stream has a rocky or pebble base. The plume of mud around gumboots when standing in a stream. No plume is best and a lingering plume means there is significant work to be done. This test can be repeated at regular intervals to monitor progress.

9.1 Māori Involvement in Monitoring Tools

Monitoring provides Māori with tools to articulate aspects of freshwater health and Māori well-being. The 'Review of mātauranga Māori frameworks, approaches, and culturally appropriate monitoring tools for management of mahinga kai' provides detailed context around the NPS-FM National Objectives Framework for mahinga kai. This review canvasses initiatives by iwi/hapū that *'...are trialling and refining cultural monitoring approaches, indicators, and tools for their own use to identify and articulate values and perspectives of environmental change and issues and to help measure progress towards (or away from) stated goals and outcomes.'* (Manaaki Whenua Landcare Research, 2014). Some of the monitoring tools reviewed are also covered in the case studies below.

9.1.1 Cultural Health Index

The Cultural Health Index (CHI), has three components covering: (i) site significance to tangata whenua; (ii) mahinga kai status, past and present, and; (iii) cultural stream health based on eight biophysical parameters relevant to Māori e.g. channel modification (Tipa & Teirney 2006). These three components make up the overall CHI score. In 2017, MfE reported on and mapped CHI scores for 41 sites tested between 2005 and 2016. (Statistics New Zealand, 2016).

9.1.2 Tau kōura

The Tau Kōura lake health monitoring tool is a based on a traditional method for catching kōura by lacing whakaweku (bundles of bracken fern) on a lake bed that kōura then colonise. The Lake Rotoiti study concluded the *'tau kōura method is an inexpensive tool that can be used by fishery managers, researchers, iwi and community groups that has fewer biases than the more conventional kōura/crayfish capture methods, such as baited traps'* (Kusabs and Quinn, 2009).

9.1.3 Mauri of Waterways Kete

Jefferies and Kennedy (2009) developed a *'kete of environmental indicators and outcomes for mauri of waterways, mana whenua and waahi tapu as they relate to statutory plans'* (as summarised by Environs Holdings Ltd, 2011). The 'Mauri of Water' kete (as with the other two kete) provide a structured Kaupapa Māori monitoring framework intended to be used by Council staff, Crown agencies and iwi/hapū.

The kete includes a series of 'worksheets' that guides the user through a semi-quantitative assessment process for waterways where the user chooses rankings (strongly agree to strongly disagree) on five indicators: (i) Extent to which local authorities protect mauri; (ii) Extent to which tangata whenua protect mauri; (iii) Extent to which other agencies protect mauri; (iv) Extent to which actions of the wider community affect mauri, and; (v) Physical evidence that mauri is protected.

The fifth indicator regarding physical evidence includes parameters such as water clarity, absence of visible foam, natural taste/smell and the intactness of riparian vegetation.

9.1.4 Guidelines for undertaking a cultural flow preference study

A Cultural Flows study identified a list of attributes for ecosystem and iwi/hāpu wellbeing related to stream flow. (Tipa and Associates 2012, updated 2018). These attributes are rated using a qualitative satisfaction scale (1-7), covering how flow: (i) enables use of the site as a mahinga kai; (ii) protects mahinga kai species in and around this site; (iii) enables whanau to be proud of this site; (iv) enable use of the river for health and well-being purposes. These scores are assessed by trained mana whenua observers over several days (or longer) and compared with daily physical flows to give an integrated Cultural Flow Preference assessment that can be presented via graphs and risk tables.

9.1.5 Enhancing Māori Agribusiness Through Kaitiakitanga Tools

This literature review (Hutchings et al, 2017) was carried out within the Our Land and Water National Science Challenge. It canvasses a wide range of Kaitiakitanga tools (including the knowledge and monitoring tools noted above) and how they are used, or could be used, to enhance the Māori agribusiness. The review *'communicate[s] the unique contribution that Māori science and knowledge systems can make to enhance Māori agribusiness and people capability while maintaining and improving land and water quality.'*

9.2 Monitoring Tool Effectiveness

Ongoing monitoring tools are essential for assessing the health status of freshwater in both regulatory and non-regulatory contexts. Improvements have been made on reporting the health status of larger freshwater water bodies through traditional science-based monitoring.

Citizen science and cultural models of monitoring, such as SHMAK, and CHI provide inexpensive options more suited to non-experts and small-scale landowner and care-group initiatives working on improving health of smaller waterbodies. While the CHI model was successfully used in a trial between 2005-2016, there is little evidence that this monitoring programme is still underway.

This NRM review is too limited in scope to assess the effectiveness of more sophisticated monitoring frameworks such as mauri of waterways kete and the cultural flow preference study.

9.3 Monitoring Tool Information Gaps

There is uncertainty regarding effectiveness and uptake of freshwater monitoring tools and frameworks, including those developed by Māori for Māori. Similarly, the SHMAK kit has been used since 1998 and it appears to be a popular 'citizen science' freshwater monitoring tool but reviews of its effectiveness were not found. More generally, the gaps in conventional monitoring tools (and protocols for consistent use) are identified in National Environmental Monitoring Standards website but several are proposed and it is unclear when these gaps will be filled[10].

9.4 Monitoring Tool Opportunities

A comprehensive NRM approach to freshwater health requires an agreed monitoring framework that combines scientific and cultural indicators to express to Mana o Te Wai. The use of this framework could be applied to freshwater funding criteria and reporting. Such as an approach would need sustained support from suitable training and adoption experts in cultural stream health assessment as well as conventional monitoring. Such support could be offered through or by regional councils, potentially drawing on a 'centralised team' of advisors as required (possibly due to the limited pool of expertise).

[10] NEMS lists 14 'current' monitoring documents/protocols, 4 as draft and 10 as 'under development', all with actual or target dates

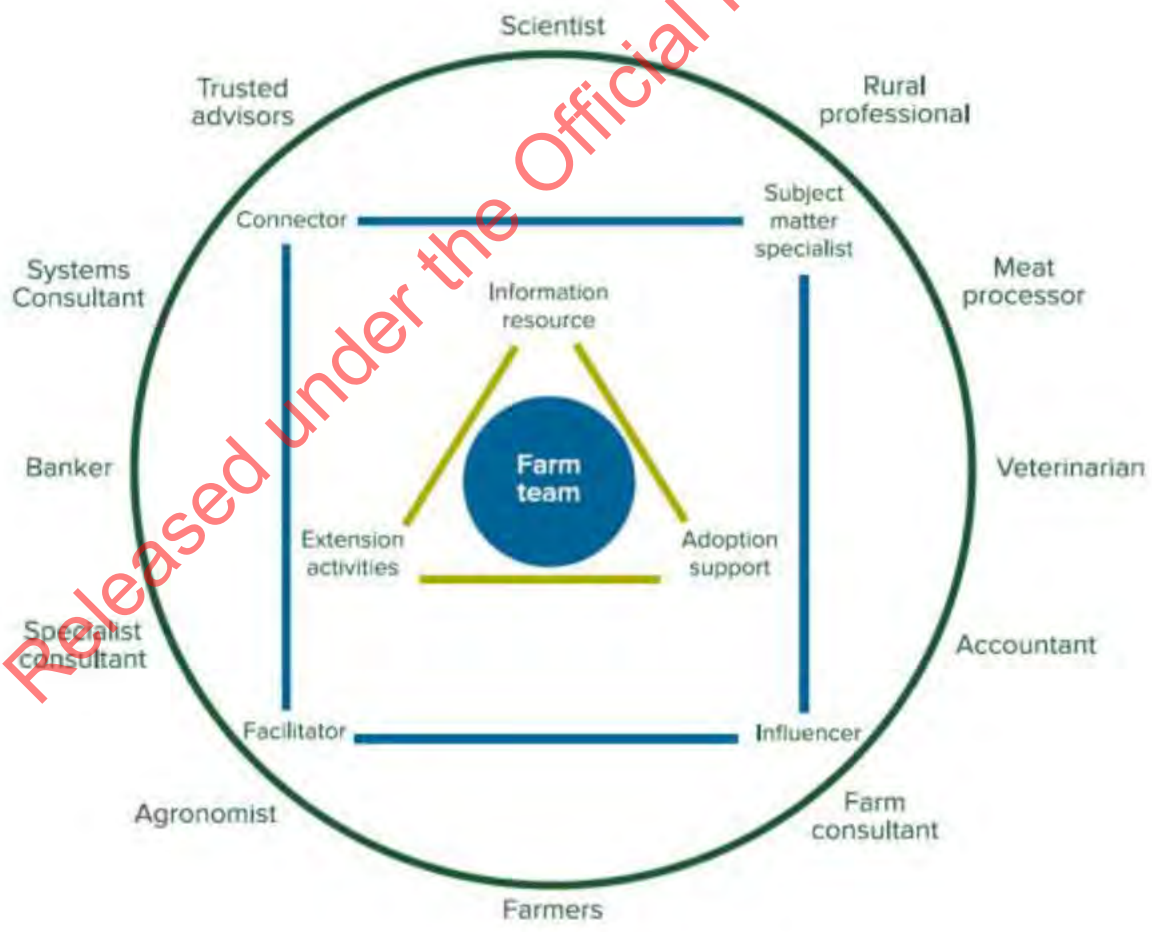
There are also Kaitiakitanga monitoring opportunities (as noted by Hutchings et al, 2017 in section 9.1.5 above) in the Māori agribusiness sector that could be pursued in a way that is mutually reinforcing to parallel monitoring within public sector resource management.

10 Extension

The Ministry of Primary Industries (MPI) defines agricultural extension as the sharing of knowledge, innovation, and technology to improve farming systems. In August 2018, MPI announced an 'Extension Service Model Initiative' to ensure farmers use information on environmental sustainability and value creation as part of their business planning. The initiative is viewed as an important tool to *'help lift water quality, improve biosecurity and help meet New Zealand's greenhouse gas emissions targets.'*[11] The Extension Service Model Initiative will build on the extension model developed by the Red Meat Profit Partnership (RMPP) used in their Action Network program (NZ Govt, 2018).

In recognition of the variable uptake of knowledge within the sheep and beef sector, RMPP obtained PGP funding to support farmers in the adoption of best practice (a total of $64M over nine years). RMPP commissioned an extensive research programme in 2014 involving more than 1000 farmers, including a three-year trial with 71 farm sheep and beef businesses across the country. The aim of this trial was to understand characteristics of high performing farmers, their motivations and barriers to change (on farm) and to understand the best approaches to drive knowledge and technology uptake (RMPP, 2018a). From

Figure 4: RMPP Extension Model



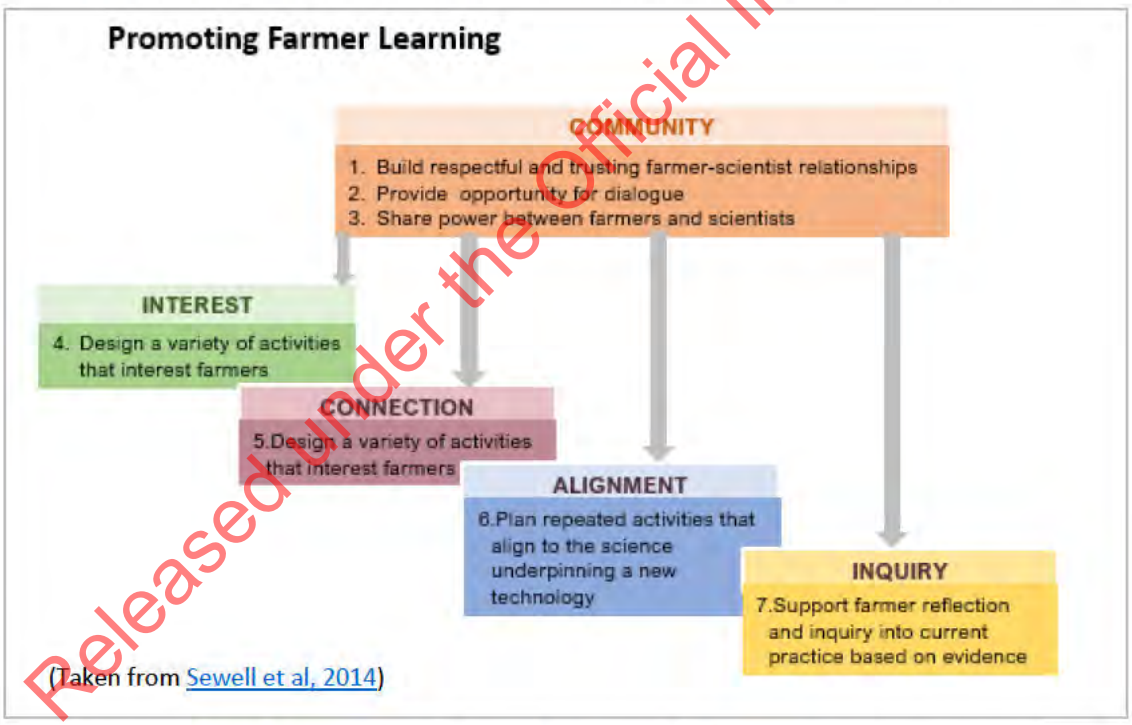
[11] Quote from Minister James Shaw (2018) Media Release

this this research the RMPP Extension System model was developed, as shown conceptually in Figure 5 below.(RMPP, 2016).

Traditional extension models used a top-down approach with little consideration given to the farmers point of view. Landowners who failed to adopt new techniques were often seen as recalcitrant and irrational by extension subject matter experts (Vanclay & Lawrence, 1994). Key lessons learnt from the RMPP project was that practice change occurs when the environment surrounding the farm business builds the farmer's confidence to act, rather than when the environment "pushes" a farmer to change. At the centre of this program's model is the farmer team (typically 5-7 farm businesses) who define their goals and bring in external subject matter experts as required. The RMPP model also identifies other key roles in the extension system. RMPP action groups receive support from trained facilitators and receive $4,000 per farm business to kick-start group funding. The RMPP Action Network programme has 112 approved action groups (as of early 2019) with a target of 300 groups, although RMPP funding expires in September 2020.

A farmer-science community approach to extension is promoted by Sewell et al (2014) who identified five critical success factors in the promotion of farmers' learning, being community, connection, interest, alignment and inquiry (see Figure 5). These factors are based on a fundamental educational principle *'that improved learning is based on mutually respectful and trusting relationships within the community of farmers and scientists or other external experts and that these extension activities are a process of sustained co-construction and participation with others rather than one-off opportunities.'*

Figure 5 Success factors and educational principles promoting farmer learning



(Taken from Sewell et al, 2014)

In both extension models proposed by RMPP and Sewel et al (2014), farmers are more likely to adopt new ideas when:

- Farmer expertise is valued
- Extension activities are sustained to form lasting, respectful relationships (rather than one-off)
- Extension activities are small enough to encourage dialogue and co-inquiry i.e. small groups rather than one-to-one, or one-to-many

- Activities are aligned to their own farm systems
- Focal farmers and their experiences are used to influence others
- Extension activities are effectively facilitated with clear goals and outcomes agreed
- Resources are tested by farmers
- The use of subject matter experts is farmer-led and power is shared between experts and farmers
- There is ongoing support for adoption and practice change.

While these extension models were generally focused on farm productivity/profitability, the models can be applied to an environmental outcome. The RMPP does include action network groups focused on developing solutions to environmental problems.

10.1 Co-development Extension in New Zealand

Primary sector extension in New Zealand is undertaken by many organisations, notably regional councils, industry groups, professional bodies, CRIs and NGOs. A list of extension services provided by these agencies is included in Appendix 14.3. There are very few examples of primary sector extension activities using co-development extension model (such as RMPP), with most still using a 1:1 or one to many knowledge transmission, top-down approach i.e. from expert to farmer (Sewell et al, 2014). The types of extension activities that are more closely aligned with sustained, small group, landowner-led initiatives are:

- Catchment care and Landcare Trust groups
- Farmer collectives
- Iwi/marae-based action groups
- RMPP Action Network groups

10.2 Extension for Rural Professionals

Training for rural professionals and council staff is often provided though membership of professional bodies such as the New Zealand Institute of Primary Industry Management (NZIPIM), NZ's largest rural professional organisation. The New Zealand Association of Resource Management (NZARM) runs annual and some regional conferences to enable knowledge exchange. NZARM also has a 'certified practitioner' scheme but this may not be currently active.

The NZIPIM's advisor certification scheme was expanded under the 'Transforming the Dairy Value Chain' Primary Growth Partnership project. The Fertiliser Association of NZ (FANZ) Nutrient Management Adviser Certification Program defines the standards for people to meet to provide certified nutrient management advice to farmers and growers. DairyNZ and B+LNZ also facilitate numerous on-farm group educational events, focusing on productivity, sustainable land use, biodiversity and biosecurity. These activities are summarised in Table 8 within Appendix 14.3.

10.3 Māori Involvement in Extension

There numerous examples of iwi and marae-based extension activities relating to freshwater management. These are often co-funded by regional councils, central government and iwi authorities, including from co-governance entities such as the Waikato River Authority. Case studies are highlighted in section **Error! Reference source not found.** below with some further examples covered within the Funding NRM in section 11.4.

Māori focussed extension activities provided by primary sector organisations are included in Table 11: Māori Relevant Extensionwithin Appendix 14.3. These extension programs are largely focussed on

increasing productivity and profit on Māori land rather than on Māori freshwater values or environmental outcomes. Some case studies are noted below.

10.3.1 Wāhine Māia, Wāhine Whenua

This RMPP-funded program *'...engages Māori women as critical farming partners by building business knowledge, skills and confidence.'* It is designed for Māori women involved in sheep and beef farming to improve understanding of how their whānau, trust or incorporation farm is run. The four-month programme consists of three full-day workshops plus an evening graduation event (Agri-Women's Development Trust, 2019).

10.3.2 DairyNZ Māori Agribusiness Services

DairyNZ is supporting Māori land owners through the establishment of their Māori Agri-Business Services in the Bay of Plenty and Northland Regions. By 2020 it is hoped that *'Māori agribusinesses are involved in co-innovation projects, sharing their experiences with the wider dairy community and that by 2030 Māori dairy entities have improved their performance compared to all farms.'* DairyNZ is encouraging participation in DairyBase, Whole Farm Assessments, FOMA conferences and Ahuwhenua Excellence awards (DairyNZ, 2019).

10.3.3 MPI Māori Agribusiness programme

This MPI programme aims to increase productivity on Māori land focussing on Māori primary sector assets, from production to processing and export. An MPI Māori Primary Sector Partnerships team is responsible for providing tailored support for Māori land owners and building mutually beneficial relationships between Māori and MPI (MPI, 2019d). MPI has identified six key steps that can help Māori improve the performance of their land (MPI, 2016).

The MPI website lists nine current Māori agribusiness projects and 13 completed projects. One of the completed projects was an evaluation report on the programme's six prototype projects. The key project benefits were identified as: *(i) building capacity for problem solving; (ii) enhancing relationships and networks; (iii) identifying ways to achieve economic scale; (iv) supporting the development of appropriate governance entities; (v) producing public knowledge by sharing the learnings with other Māori land owners; (vi) supporting Māori self-determination* (Oakden and Wehipeihana, 2014).

10.3.4 Environment Canterbury Cultural Land Management Advice

Ecan has appointed a cultural land management advisor for the Selwyn-Waihora zone *'...to help farmers on land near Te Waihora/Lake Ellesmere understand and comply with new rules designed to protect mahinga kai – traditional Ngāi Tahu food resources and their ecosystems'* (Ecan, 2017). Ecan have also appointed a Cultural Land Advisor in Kaikoura who is *'...working specifically to support Kaikōura farmers as part of the Kaikōura Plains Recovery Project'* (Ecan, 2018).

The cultural values of Mahinga kai are included as a supplementary module for the completion of Farm Plans for landowners within the Cultural Landscape Values Management Area (land adjacent to Te Waihora and its tributaries). Supporting information on Mahinga Kai was developed for local landowners, who are required to identify mahinga kai values and adhere to the application of Industry Agreed Good Management Practices to protect these values (Ecan, 2017a). The Mahinga Kai objectives and practices are audited by Ecan as part of the Farm Plan assessment (for the Te Waihora and Waitaki zones/catchments).

A scan of Ecan agendas for the Selwyn Waihora Zone Committee indicates that while there is explicit representation from six Ngai Tahu runanga and reference is made to the Treaty and tikanga Māori, it is not clear what impact this has on farm practice and FEP content. However, informal feedback (from an Ecan

staff member) is that both the Mahinga Kai factsheets and the Cultural LMO appointments have been very well received by Ngai Tahu, local communities and Ecan's elected members.

10.4 Extension Effectiveness

Landowner peer to peer learning is recognised as an effective method of GMP uptake. Seeking advice from council staff is not the first choice for many farmers and often relies on trusted personal relationships built up over many years. Professional membership organisations do seek feedback from members about the effectiveness of their certification programs. Ngā Kaitiaki o te Awa o Pūniu provides an informative website on their progress to achieving their strategic goals.

Extension activities are always part of larger programmes and it is difficult to assess their effectiveness, especially as the uptake of new practices and technologies may take place gradually and well after the extension event(s). One-off extension activities such as field days, farm visits, conferences as well as the production of web and print material are not normally reviewed to assess behaviour change. In contrast, the sustained, small group approach used by the RMPP Action Network programme is showing promising results in terms of adoption of practices to improve productivity (RMPP, 2018b).

The effectiveness of regional council extension activity is not explicitly reported and each council has its own suite of educational resources and advisory services. While some regional council extension is provided through catchment care groups, most is provided through 1:1 extension activity by land management officers when visiting farms, or through disseminating documents such as GMP factsheets.

Extension activities provided by CRIs, primary sector agencies, fertiliser agencies and professional bodies are typically evaluated in terms of participation rather than uptake/adoption.

10.5 Extension Information Gaps

Monitoring the effectiveness of extension activities has not been widely reported other than the number of participants attending extension events (e.g. field days, workshops etc). To be monitored effectively, extension programmes need to have specific goals with measurable targets. These measurables need to be developed in manner that acknowledges that change occurs after sustained effort rather than as a result of a series of one-off events.

10.6 Extension Opportunities

The recently funded RMPP Action Network Programme and the developing MPI Extension Service Model will hopefully provide the impetus for wider adoption of effective extension models that that could:

- Be extended to reflect Māori values and principles of Te Mana o Te Wai
- Provide the basis for ongoing, centralised funding for NRM extension
- Provide a more formalised framework for monitoring the effectiveness of NRM

It would be useful to provide guidance to regional councils, government agencies, CRIs, industry bodies, rural professionals and other subject matter experts on how best to engage with landowners to ensure extension activities are targeted, meaningful and ultimately promote on-farm NRM actions that will improve freshwater quality.

11 Funding

Projects aimed at improving freshwater health are funded through various funding pools with diverse funding criteria, spatial coverage and co-funding requirements. This funding review largely focuses on central and regional government funding directed at freshwater improvement. There are many private

philanthropic funds available such as Tindall Foundation, Million Metres Stream Project and Ducks Unlimited that have not been included in this review.

11.1 Landowner funding

It is acknowledged that landowner cash and in-kind contributions to on-farm and catchment projects are substantial, including opportunity costs such as when productive land is retired. A 2015 survey of over 500 dairy farmers indicated the 'environmental spend' of all dairy farmers was $1 billion over five years, or an average spend of $18,000 per farm per year. This covered *'effluent management, stock exclusion, riparian planting, upgrading systems and investing in technology, retiring land and developing wetlands'* (DairyNZ, 2015). The full report is not publicly available and there appears to be little other published assessment of farmer funding related to protecting freshwater health.

11.2 Central Government Funding

There has been significant central government funding for the primary sector (e.g SFFF[12]). However much of this funding is directed at productivity and return on investment rather than explicit environmental outcomes for freshwater. The key central government contestable funding that can be linked to the improvement of freshwater health is summarised below.

Table 3:Central Government contestable funding related to freshwater[13]

Fund Name	$	Dates	Status	Geographic Focus
MfE Freshwater Improvement Fund	$100M	2017-2027	unclear	Vulnerable catchments
MfE Fresh Start for Fresh Water Clean-Up Fund	$14.5M	2011-2014	Closed	Seven polluted water bodies
MfE Te Mana o Te Wai Fund	$5M	2011-2014	Closed	National
MPI Erosion Control Funding Programme (ECFP)	$30M	1992 -2018	Open	Gisborne erosion
MPI Hill Country Erosion Fund (HCE)	$36M[14]	2019-2023	Open	Identified erosion prone regions

11.2.1 Freshwater Improvement Fund

The Freshwater Improvement Fund (FIF) was established in 2017 to support improved the management of vulnerable catchments (MfE, 2016a). The $100 million fund was to be administered by MfE over ten years but appears to be on hold with no dates set for the next funding round. FIF eligibility included the following criteria:

- increase iwi/hapū, community, local government, or industry capability and capacity in relation to freshwater management
- increase the application of mātauranga Māori in freshwater management.

In 2017, over $44 million was allocated, with most of this funding going to regional and district councils ($39.2M). A full itemised allocation of this 2017 funding is summarised in Appendix 14.4 Table 12. Six of the 33 funded projects refer to the development of cultural monitoring as a project outcome. As yet, there have been no formal evaluation reports released by MfE on the outcome of any FIF projects. These 2017 funded projects are likely to still be underway.

[12] Sustainable Food & Fibre Futures (SFFF) fund was established August 2018, replacing the SFF and PGP funds
[13] This table excludes the Government's Billion Trees programme although it will have water quality co-benefits
[14] Additional funding was provided from 2008 - 2018

11.2.2 Te Mana o Te Wai Fund

'Te Mana o Te Wai' fund was announced in 2014 as a co-operation agreement between the Māori Party and the National Government. The purpose of this $5M fund was to help Māori improve the water quality of freshwater bodies (including lakes, rivers, streams, estuaries and lagoons) by:

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

The specific funding criteria relating to Māori are:

- Projects must be focused on activities to improve water quality of freshwater bodies (including lakes, rivers, streams, estuaries and lagoons) that are important to local iwi/hapū.
- Projects must demonstrate more than one of the following:
  - support or enable iwi/hapū participation in freshwater management
  - involve local iwi/hapū in the governance structure or decision-making processes on fresh water
  - support iwi/hapū-led freshwater restoration projects
  - support iwi/hapū to engage in freshwater quality initiatives
  - develop iwi/hapū capacity and capability in relation to fresh water (MfE, 2017b)

Te Mana o te Wai Fund had one round of funding in 2015. All ten projects were managed by iwi trusts and Māori catchment groups (see Appendix, p.65). As yet no formal evaluation reports have been released on the outcome of these projects.

11.2.3 Fresh Start for Freshwater Clean Up Fund

The 'Fresh Start for Freshwater Clean Up Fund' allocated $14.5M between 2011-2014 to seven projects to restore nationally significant waterways affected by historical pollution. These seven projects are summarised in the Appendix 14.4 Table 14. The fund was managed by MfE and set up to help implement the NPS-FM, providing additional funding for regional councils struggling to manage and finance localised pressures. The outcomes of each project are reported in the MfE website, summarising measurable outputs of what has been achieved through the funding (MfE, 2019).

11.2.4 Hill Country Erosion Fund

The 'Hill Country Erosion Fund' (HCEF) is a partnership between MPI, regional councils and landowners to manage erosion-prone land by establishing sustainable land management practices. The HCEF *'...uses a total catchment management approach to reduce erosion, requiring landowners and community members to identify issues and create solutions in their catchments.*' The scale of erosion must be longstanding and exceed the financial resources of the local regional council. While the funding criteria does not refer to Māori input or values, projects must '*Demonstrate how the project will contribute to economic and social sustainability for the region*'(MPI, 2019c).

11.2.5 Erosion Control Funding Programme

The $30M 'Erosion Control Funding Programme '(ECFP[15]) was established in 1992 to help Gisborne district landholders and community groups reduce severe wide-scale erosion problems. ECFP land treatment grants were available for both plantation forestry and native reversion. MPI works with Gisborne Council and Te Runanganui o Ngāti Porou to deliver the programme (MPI, 2019b). At present, MPI has funding available for community projects with no further ECFP land treatment funding rounds. MPI's website advises applicants seeking ECFP land treatment funding to apply under the One Billion Trees Programme.

11.3 Regional Council Funding for Landowners

Regional Councils have their own funding and support opportunities, other than what is provided through central Government. A summary of these opportunities is included in Appendix 14.4 Table 15. Typical projects funded by Regional Councils related to water quality include:

- Riparian planting/riparian management plans
- Stock exclusion from streams via fencing and culvert crossings
- Native bush replanting
- Erosion protection
- Development of farm plans
- Wetland protection
- Flood management
- Water Management Forums and Sub-Catchment Plans.

These projects are typically part-funded by councils who contribute to the cost of implementation (e.g. fencing, trees, earthworks) and/or by providing in-house advice and support to landowners.

A website scan of funding opportunities provided by regional councils point to an overall lack of clarity and transparency on funding available to both Māori and non-Māori landowners

- Difficulty in finding funding opportunities and landowner support i.e. what is available to landowner; what is contestable and what is offered through in-house advice and support
- Difficulty in understanding links between funds as part of an overall funding strategy with the notable exception of Waikato Regional Council which provides a clear description of how their three funds fit within their funding policy programme.
- Regional Councils also contribute to funding Water Management Forums and Sub-Catchment Plans. Understanding how landowners can access this funding and support is also not clear.

11.4 Case Studies Using Co-Management Funding Models

Recent Government funding support for specific freshwater restoration initiatives has been reflected in co-management of funding for Lake Taupo, Rotorua lakes and the Waikato River. These three case studies are described below.

11.4.1 Rotorua Te Arawa Lakes Funding

In 2008 the Government, Bay of Plenty Regional Council and Rotorua District Council committed $144.2 million to the Rotorua Te Arawa Lakes Programme. The Crown contributed $72.1 million towards the

[15] This project was known as the East Coast Forestry Project until 2014/15

programme aimed at restoring the water quality of the Rotorua Lakes (Rotorua, Rotoiti, Ōkāreka and Rotoehu). This programme runs to 2032.

The programme used a co-management model through the overarching Rotorua Te Arawa Lakes Strategy Group (RTALSG), comprising representatives of the Te Arawa Lakes Trust (TALT), Bay of Plenty Regional Council[16] and Rotorua District Council. The main methods for achieving reductions in the nitrogen load entering Lake Rotorua are:

- Extending the sewerage network and upgrading the Rotorua wastewater treatment plant
- Proposed Plan Change 10 (a change to the Regional Natural Resources Plan) to use rules requiring reductions in nitrogen losses from dairy and dry stock farms – this is subject to Environment Court appeals in 2019 (BOPRC, 2019b)
- A $40 million Incentives Fund to support landowners adopting permanent low nitrogen land uses
- $2.5 million fund to support the conversion of land from gorse into trees
- The Tikitere geothermal treatment plant using locally mined zeolite[17]
- $3.3 million Low Nitrogen Land Use Fund to promote good practice, alternative low nitrogen land uses and land use trials
- Advice and Support – Nutrient Management Plans – regulatory requirement for PC10 Lake Rotorua Catchment ($2.2M) (MfE, 2017a)

11.4.2 Waikato River Authority

The Waikato River Authority is a unique example of co-governance in the allocation of funding for freshwater improvement. The Waikato River Authority is a Crown - Waikato River iwi organisation established in 2010 under the Waikato-Tainui Raupatu Claims (Waikato River) Settlement Act. The River Authority oversees the vision and strategy for improved health and wellbeing for the Waikato and Waipa Rivers. The River Authority has five Crown appointed board members and five Waikato River Iwi appointed members. The Authority is co-chaired with Crown and Iwi representation.

The $200 million dollar fund, administered by the River Clean-Up Trust, has allocated $44 million to over 250 projects through the contestable River Clean-Up Trust Fund. These restoration projects are guided by Waikato River Authority Funding Strategy' and the 'Waikato River and Waipa River Restoration Strategy'. The Authority's website has comprehensive resources on projects funded in the past, evaluation reports and guiding strategic documents.

11.4.3 Lake Taupō Funding

In 2007 the Government, Waikato Regional Council and Taupō District Council committed $79.2 million to reduce the volume of nitrogen entering the lake by 20 per cent. The Crown contributed $35.6 million to the programme.

The programme was co-managed by joint committee consisting of representatives from Government, Ngāti Tūwharetoa, Waikato Regional Council, and Taupō District Council. This steering group set up the Lake Protection Trust to implement strategies to reduce nitrogen entering the lake.

The main methods of achieving nitrogen reduction were:

- Purchasing nitrogen from landowners through a nitrogen discharge trading system, placing covenants for 999 years on property titles to maintain nitrogen reductions into the future.

[16] TALT and RTALSG were established within the Te Arawa Lakes Settlement Act 2006

[17] In late 2018 this project was put on hold due to low cost-effectiveness – funds may be used for wetland projects

- Providing practical advice and support to landowners on land uses that produce low levels of nitrogen

This funding programme was implemented within a regulatory environment (Variation 5 – Lake Taupo, within the Waikato Regional Plan. The project target was met by mid-2015. The programme is now focussed on monitoring (MfE, 2017).

11.5 Funding Effectiveness

Many freshwater enhancement funds evolve or are renamed and/or restructured, partly in response to changing political circumstances. It is therefore difficult to track and assess funding efficacy. There is little readily available information on the success or progress achieved due to regional council environmental funding, although Northland Regional Council provides a useful web snapshot based on their Environment Fund. It is likely that there are funding performance reports within various council agendas and internal files that support council annual and long-term financial plans (Northland Regional Council, 2018).

Individual landowners also face difficulties finding out what funding (and advice) is available and suitable for environmental works on their land, unless they are supported by trusted knowledge brokers.

11.6 Funding Information Gaps

While the total funding quantum provided by Government and regional councils is significant, it varies between regions and it is not clear how well it is targeted nationally. This also reflects that freshwater health funding is generally not well integrated into regional or national strategies. With the exception of the 'Fresh Start for Freshwater Fund' (see above) very few funds have been evaluated and published (based on our web searching). It is therefore difficult to assess how well taxpayer and ratepayer funds have been spent i.e. has this spending been cost-effective and how can it be improved to achieve better freshwater outcomes.

In addition, the level and type of spending by landowners is poorly understood, including the split between spending on mandatory regulatory requirements and voluntary initiatives.

11.7 Funding Opportunities

A review of regional council funding (including co-funding from Government) suggests that funding schemes should be linked to clear funding policies that are at least consistent across a region, if not wider when essentially the same outcomes are being pursued. The allocation of funds needs to be more transparent and regular evaluations of fund effectiveness should also be reported in a consistent manner across the country.

The principles of Te Mana o Te Wai could be applied to all government funding criteria with clear direction on how freshwater projects would be evaluated on these principles. A centralised framework on freshwater management could provide a consistent approach to reporting, reviewing and evaluating freshwater outcomes that give effect to Te Mana o Te Wai and ensure financial accountability.

12 Recent Policies and Developments Influencing NRMs

There are several current government policy initiatives relating to freshwater health that may influence NRM design. When looking at this wider policy context, our focus is to inform a potential 'Māori centred NRM framework that meets the needs/interests of Māori in the governance and management of freshwater design' i.e. the NRM design envisaged by topic 5 (see section 1.1 on project context).

Brief commentary is provided below on whether these new policies are likely to be enabling or constraining in terms of NRM design.

12.1 Possible Land and Water Commission

A recent report from the Land and Water Forum recommends that greater effort is needed at a national level to improvement water quality through better co-ordination and deployment of resources that could be delivered through the establishment of a Land and Water Commission. This commission would enable a stronger centralised direction on NRM design and adoption (LAWF, 2018). Elements of this are discussed in section 3.3 on GMPs.

12.2 One Billion Trees, NZ ETS, the Zero Carbon Bill and NZ Green Investment Fund

While the One Billion Trees Programme is not directly aimed at improving freshwater health, it is likely to have a positive outcome for mitigating erosion and enhancing biodiversity. See section 8.2 for some discussion of this programme in the context of land use change. Note that the previous 'Afforestation Grant Scheme '(AGS) was replaced by the Billion Trees Fund in December 2018 (MPI, 2019a).

As with the One Billion Trees programme, the Zero Carbon Bill will impact freshwater, with an MfE analysis stating '*The environmental co-benefits of reducing agricultural emissions and changing land use to forestry are also worth noting, particularly improvements in water quality*' (MfE, 2018). All of these are likely to influence land use change, especially towards more bush and forestry.

12.3 Provincial Growth Fund

Set up in 2018, the overall objective of this fund is to lift the productivity potential in the regions. The fund will provide $1 billion per annum for three years to initiatives that: enhance economic development opportunities; create sustainable jobs; enable Māori to reach their full potential; build resilient communities; and help meet New Zealand's climate change targets through the billion trees programme. All regions are eligible for funding, however the regions identified for early investment are: Tairāwhiti/East Coast; Hawke's Bay; Tai Tokerau/Northland; Bay of Plenty; West Coast; Manawatū-Whanganui (MBIE, 2019).

The large size of this fund, its speed of implementation, the focus on Māori land utilisation and high-value horticultural land uses will positively impact the Māori rural economy. The consequent intensification of land use in some catchments may require comprehensive adoption of GMPs to mitigate any adverse impacts on freshwater health.

12.4 Tax Working Group – How taxes can help the environment

The Tax Working Group is looking at ways in which our tax system could do more to help protect the natural environment. Environmental taxes could also be an option for generating more revenue that could be used by Government to make the economy more environmentally sustainable. The tax working group also suggest three options for improving environmental outcomes: Putting a tax on harmful activities, introducing rules and regulations; or banning certain activities (Tax Working Group, 2018).

12.5 NPS Freshwater Management

The 2017 update to the National Policy Statement-Freshwater Management (NZ Govt., 2017) includes the following objective and policy:

> *D. Tangata whenua roles and interests*
>
> *Objective D1*
> *To provide for the involvement of iwi and hapū, 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.

Policy D1

Local authorities shall take reasonable steps to:

a) involve iwi and hapū in the management of fresh water and freshwater ecosystems in the region;

b) work with iwi and hapū to identify tangata whenua values and interests in fresh water and freshwater ecosystems in the region; and

c) reflect tangata whenua values and interests in the management of, and decision-making

12.6 RMA amendments regarding Mana Whakahono ā Rohe

Mana Whakahono ā Rohe (Iwi Participation Arrangements) are provided for by Sections 58L to 58U of the RMA as a result of 2017 amendments to the RMA. MfE's website lists two such agreements although one is noted as 'under negotiation'. These enable iwi participation arrangements, with detailed guidance provided by MfE prepared for tangata whenua, council staff and elected councillors (MfE, 2018a). The guidance states *'The intent of Mana Whakahono is to improve working relationships between tangata whenua (through their iwi authority or hapū) and local authorities. The intent of Mana Whakahono is also to enhance Māori participation in RMA resource management and decision-making processes.'*

12.7 Potential NPS to protect high-value soils

The government has commenced consultation with Councils and industry to discuss a proposal on protecting high-value soils. The Land Monitoring Forum has suggested that a large percentage land with high-value soils could be lost in the next 50-100 years as a result of urban development and lifestyle blocks. There has been a suggestion that a National Policy Statement to protect high value soils would give the government the ability 'to leapfrog over local government policy.' Further consultation on this topic is scheduled for the middle of 2019 (Rennie, 2018).

In response to the release of the 'Our land 2018' report (MfE, 2018b), the Minister for the Environment stated that *'I was particularly troubled by how much of our urban growth is occurring in our irreplaceable highly productive land. Even in a country as lucky as New Zealand we only have limited quantities of these high-class soils'* (Parker, 2018).

13 List of references

AgFirst (2016) Economic Evaluation of Stock Water Reticulation on Hill Country. A report prepared for the Ministry for Primary Industries and Beef + Lamb New Zealand. Retrieved March 2019 from www.mpi.govt.nz

AgFirst (2017) Analysis of Drivers and Barriers to Land Use Change. A Report prepared for the Ministry for Primary Industries. Retrieved March 2019 from www.mpi.govt.nz

AgResearch (2017). Land Use Suitability. Retrieved March 2019 from www.ourlandandwater.nz

AgResearch (2017a). Mauri Whenua Ora. Retrieved March 2019 from www.ourlandandwater.nz

AgResearch (2019). Our Land and Water. Retrieved March 2019 from https://www.agresearch.co.nz

Agri-Women's Development Trust (2019). Wāhine Māia, Wāhine Whenua (WMWW) Engaging wāhine as critical farming partners. Retrieved March 2019 from www.awdt.org.nz

Anon (2015) Matrix of Good Management project: Overview report. Downloaded March 2019 from www.ecan.govt.nz

Anon (2015a). Industry-Agreed Good Management Practice Relating to Water Quality. Downloaded March 2019 from www.ecan.govt.nz

Australian Government (2017). Report on the Review of the National Landcare Program. Retrieved March 2019 from www.nrm.gov.au

Barber A (2018) Allan Barber reviews how sheep and beef farmers can meet their industry environmental targets, through individual and group actions, responsive to key data. Retrieved March 2019 from www.interest.co.nz

Barber A (2019). Almost half of all farms are in the Farm Assurance Programme. Retrieved March 2019 from www.interest.co.nz

Bay of Plenty Regional Council (2014) Bay of Plenty Regional Council Hapū/Iwi Resource Management Plans. Retrieved March 2019 from www.boprc.govt.nz

Bay of Plenty Regional Council (2015). Tarawera Lakes Restoration Plan. Retrieved March 2019 from www.rotorualakes.co.nz

Bay of Plenty Regional Council (2019) Lake Rotorua Nutrient Management - Plan Change 10. Retrieved March 2019 from www.boprc.govt.nz

Bay of Plenty Regional Council (2019a). Incentives. Retrieved March 2019 from www.rotorualakes.co.nz

Bay of Plenty Regional Council (2019b). Regional Natural Resources Plan. Retrieved March 2019 from www.boprc.govt.nz

Bay of Plenty Regional Council (2019c). Tauranga Advisory Group Agenda. Retrieved March 2019 from www.boprc.govt.nz

Bay of Plenty Regional Council (2019d) Using iwi and hapū resource management plans in our work. Retrieved March 2019 from ww.boprc.govt.nz

Beef & Lamb New Zealand (2018). Environment Strategy and Implementation Plan 2018-22. Retrieved March 2019 from www.beeflambnz.com

Carney G and Takoko M (2010). Te Waka Kai Ora Hua Parakore Verification System Ministerial Briefing. Retrieved March 2019 from https://tewakakaiora.wordpress.com

Caruthers G (2011). Auditing and Critical Review in Environmental Management Systems (EMS) in Agriculture. Is there value for similar approaches in New Zealand's proposals for audited self-management? Retrieved March 2019 from www.massey.ac.nz

Chan D and Kempson A (2018). Delivering tailored farm environment plans at scale. In: Farm environmental planning – Science, policy and practice. (Eds L.D. Currie and C.L. Christensen). http://flrc.massey.ac.nz/publications.html. Occasional Report No. 31. Fertilizer and Lime Research Centre, Massey University, Palmerston North, New Zealand.

Conroy & Donald Consultants Ltd and Te Rununga o Ngāi Te Rangi Iwi Trust (2016). Tauranga Moana Iwi Management Plan 2016-2026. A Joint Environmental Plan for Ngāti Ranginui, Ngāi Te Rangi and Ngāti Pūkenga. Retrieved March 2019 from www.boprc.govt.nz

Cotton Australia (2019) Accountability. If it's BMP it's fair dinkum (Factsheet). Retrieved March 2019 from www.bmpcotton.com.au

Crosthwaite J (2015). Is ISO14001 Effective?. University of Queensland Masters research short thesis. Retrieved March 2019 fromwww.eianz.org

Dairy News (2017). $3m bonus for top farmer suppliers. Retrieved March 2019 from www.ruralnewsgroup.co.nz

DairyNZ (2015). Dairy farmers spend over $1 billion on the environment. Retrieved March 2019 from www.dairynz.co.nz

DairyNZ (2018). Dairy Tomorrow - The Future of New Zealand Dairying. Retrieved March 2019 from www.dairytomorrow.co.nz

Dairy NZ (2019). Māori Agribusiness Services. Retrieved March 2019 from www.dairynz.co.nz

Edmeades D, Robson M and Dewes A (2011). Setting the Standard for Nutrient Management Plans. Retrieved March 2019 from www.massey.ac.nz

Environment Canterbury (2013). Matrix of Good Management (MGM) project, Information Sheet. Retrieved March 2019 from www.ecan.govt.nz

Environment Canterbury (2017). Farmers learn about protecting Maori food sources. Media Release Retrieved March 2019 from www.ecan.govt.nz

Environment Canterbury (2017a). Mahinga kai guidelines for Selwyn farmers. Retrieved March 2019 from www.ecan.govt.nz

Environment Canterbury (2018). Cultural land advisor to help Kaikōura farmers "get ahead of the game". Media Release. Retrieved March 2019 from www.ecan.govt.nz

Environment Canterbury (2017b). An introduction to Mahinga kai for Canterbury farmers – Information Sheet. Retrieved March 2019 from www.canterburywater.farm

Environment Canterbury (2019). Mahinga Kai webpage. Retrieved March 2019 from www.ecan.govt.nz

Environs Holdings Ltd (2011). Assessing the mauri of the kaipara. Retrieved March 2019 from www.landcareresearch.co.nz

Fertiliser Association of New Zealand (2013) Code of Practice for Nutrient Management (With Emphasis on Fertiliser Use). Retrieved March 2019 from www.fertiliser.org.nz

Good Farming Practice Governance Group (2018). Good Farming Practice for Water Action Plan 2018. Retrieved March 2019 from www.fedfarm.org.nz

Greater Wellington Regional Council (2019). Wairarapa Care Groups Map. Retrieved March 2019 from www.gw.govt.nz

Hutchings J, Smith J, Roskruge N, Severne C, Mika J, Panoho J (2017). Enhancing Māori Agribusiness through kaitiakitanga tools. For the Our Land Our Water National Science Challenge. Retrieved March 2019 from www.ourlandandwater.nz

International Organization for Standardization (2019). ISO 14000 family - Environmental management. Retrieved March 2019 from www.iso.org

Jefferies R and Kennedy N (2009). Ngä Mahi: A Kaupapa Mäori Outcomes and Indicators Kete. Retrieved March 2019 from https://researchcommons.waikato.ac.nz

KCSM Consultancy Solutions (2004). Review of the Effectiveness of Iwi Management Plans: An Iwi Perspective. Report prepared for the Ministry for the Environment. Retrieved March 2019 from www.mfe.govt.nz

Kusabs I and Quinn J (2009). Use of a traditional Maori harvesting method, the tau kōura, for monitoring kōura. Retrieved March 2019 from www.tandfonline.com

Lake Taupo Protection Trust (2019). Web page. Retrieved March 2019 from www.laketaupoprotectiontrust.org.nz

Land and Water Forum (2010). Report of the Land and Water Forum: A Fresh Start for FreshWater. Retrieved March 2019 from www.landandwater.org.nz

Land and Water Forum (2012). Second Report of the Land and Water Forum: Setting Limits for Water Quality and Quantity, and Freshwater Policy- and Plan-Making Through Collaboration. Retrieved March 2019 from www.landandwater.org.nz

Land and Water Forum (2012a). Third Report of the Land and Water Forum: Managing Water Quality and Allocating Water. Retrieved March 2019 from www.landandwater.org.nz

Land and Water Forum (2015). The Fourth Report of the Land and Water Forum. Retrieved March 2019 from www.landandwater.org.nz

Land and Water Forum (2018). Land and Water Forum advice on improving water quality: preventing degradation and addressing sediment and nitrogen - May 2018 Retrieved March 2019 from www.landandwater.org.nz

Land, Air Water Aotearoa (LAWA) (2017). Factsheet: (NEMS) National Environmental Monitoring Standards. Retrieved March 2019 from www.lawa.org.nz

Macdougall, M and Parkes, R, (2018). Communities and individuals: how capitalising on relationships at both levels can improve our environment. In: Farm environmental planning – Science, policy and practice. (Eds L. D. Currie and C. L. Christensen). http://flrc.massey.ac.nz/publications.html. Occasional Report No. 31. Fertilizer and Lime Research Centre, Massey University, Palmerston North, New Zealand. 4 pages

Mahuta N (2010). Parliamentary speech on Resource Management (Enhancement of Iwi Management Plans) Amendment Bill — First Reading, Recorded in Hansard. Retrieved March 2019 from www.parliament.nz

Manaaki Whenua Landcare Research (2015). Ngā Aroturukitanga tika mō ngā Kaitiaki: Summary review of mātauranga Māori frameworks, approaches,and culturally appropriate monitoring tools for management of mahinga kai. Retrieved March 2019 from www.waikatoregion.govt.nz

Ministry for Primary Industries (2016). Increasing the Value of Māori Land. Retrieved March 2019 from www.mpi.govt.nz

Ministry for Primary Industries (2019) Emissions Trading Scheme reviews. Retrieved March 2019 from www.mpi.govt.nz

Ministry for Primary Industries (2019a). Afforestation Grant Scheme. Retrieved March 2019 from www.mip.govt.nz

Ministry for Primary Industries (2019b). Erosion Control Funding Programme. Retrieved March 2019 from www.mpi.govt.nz

Ministry for Primary Industries (2019c). Hill Country Erosion Fund. Retrieved March 2019 from www.mpi.govt.nz

Ministry for Primary Industries (2019d). Māori agribusiness. Retrieved March 2019 from www.mpi.govt.nz

Ministry for the Environment (2014). Fresh Start for Fresh Water Clean Up Fund. Retrieved March 2019 from www.mfe.govt.nz

Ministry for the Environment (2016). Next steps for fresh water: Summary of submissions. Retrieved March 2019 from www.mfe.govt.nz

Ministry for the Environment (2016a). Vulnerable catchments Freshwater Improvement Fund. Retrieved March 2019 from https://data.mfe.govt.nz/

Ministry for the Environment (2016b). Next steps for fresh water: Consultation document. Retrieved March 2019 from www.mfe.govt.nz

Ministry for the Environment (2017). Lake Taupo Protection Project. Retrieved March 2019 from www.mfe.govt.nz.

Ministry for the Environment (2017a) Rotorua Te Arawa Lakes. Retrieved March 2019 from www.mfe.govt.nz.

Ministry for the Environment (2017b). About the Te Mana o Te Wai Fund. Retrieved March 2019 from www.mfe.govt.nz

Ministry for the Environment (2017c). Te Mana o Te Wai projects. Retrieved March 2019 from www.mfe.govt.nz

Ministry for the Environment (2017d). Changes to Freshwater NPS -2017. Retrieved March 2019 from www.mfe.govt.nz

Ministry for the Environment (2018). The co-benefits of emissions reduction - An analysis. Retrieved March 2019 from www.mfe.govt.nz

Ministry for the Environment (2018a). Mana Whakahono ā Rohe Guidance. Retrieved March 2019 from www.mfe.govt.nz

Ministry for the Environment (2018b). Our land 2018. Retrieved March 2019 from www.mfe.govt.nz

Ministry for the Environment (2019). The Quality Planning Resource. Retrieved March 2019 from www.qualityplanning.org.nz

Ministry for the Environment (2019a). Fresh Start for Fresh Water Clean-up Fund. Retrieved March 2019 from www.mfe.govt.nz

Motu (2018). Land-use modelling in New Zealand: current practice and future needs. Motu Working Paper 18-16. Retrieved March 2019 from www.motu.org.nz

Natural Resource Management Ministerial Council (2002). Australia's National Framework for Environmental Management Systems in Agriculture. Retrieved March 2019 from www.almg.org.au

New Zealand Forest Owners Association Inc (2015). New Zealand Environmental Code of Practice for Plantation Forestry Parts One to Five. Retrieved March 2019 from www.nzfoa.org.nz

New Zealand GAP (2019). Environment Management System Add-on Empowering Growers to Implement Environmentally Sustainable Growing Practices. Retrieved March 2019 from www.newzealandgap.co.nz

New Zealand Government (2017). National Policy Statement for Freshwater Management 2014. Updated August 2017 to incorporate amendments from the National Policy Statement for Freshwater Amendment Order 2017. Retrieved March 2019 from www.mfe.govt.nz

New Zealand Government (2018). New service a helping hand for farmers. Media Release. Retrieved March 2019 from www.beehive.govt.nz

NIWA (2000). Stream Periphyton Monitoring Manual. Prepared for The New Zealand Ministry for the Environment. Retrieved March 2019 from www.niwa.co.nz

NIWA (2018). Analysis of stream responses to riparian management on the Taranaki ring plain Prepared for Taranaki Regional Council. Retrieved March 2019 from www.trc.govt.nz

NIWA (2019). Stream Health Monitoring and Assessment Kit. Retrieved March 2019 from

Northland Regional Council (2018). Environment Fund: What we've achieved July 2017 -June 2018. Retrieved March 2019 from nrc.govt.nz

NZ Landcare Trust (2012). Community-Owned Rural Catchment Management : A guide for partners. Retrieved March 2019 from www.landcare.org.nz

Oakden J and Wehipeihana N (2014). Māori Agribusiness Prototype projects: Final Evaluation. Prepared for Ministry for Primary Industries. Retrieved March 2019 from www.mpi.govt.nz

Organics Aotearoa New Zealand (2018). New Zealand Organic Market Report 2018. Retrieved March 2019 from www.scoop.co.nz

Park S, Creagh H. and Sutton C (2019). Tarawera Farm Environment Plans – Farmers building on the past, preparing for the future. In: Nutrient loss mitigations for compliance in agriculture. (Eds L.D. Currie and C.L. Christensen). http://flrc.massey.ac.nz/publications.html. Occasional Report No. 32. Fertilizer and Lime Research Centre, Massey University, Palmerston North, New Zealand. 10 pages.

Parker D (2018). Environment report highlights serious land issues. Media statement by Hon David Parker, Minister for the Environment. Retrieved March 2019 from www.beehive.govt.nz

Plant and Food Research (2014). An in-depth assessment of the suitability for horticulture of the land resources in the Maniapoto rohe. Retrieved March 2019 from www.maniapoto.iwi.nz

Red Meat Profit Partnership (2016). Extension Design Project Year one summary and results. Retrieved March 2019 from ww.rmpp.co.nz

Red Meat Profit Partnership (2017). New Zealand Farm Assurance Programme (NZFAP).Farmer Handbook. Retrieved March 2019 from www.rmpp.co.nz

Red Meat Profit Partnership (2017a). New Zealand Farm Assurance Programme (NZFAP). Retrieved March 2019 from www.rmpp.co.nz

Red Meat Profit Partnership (2018). New Zealand Farm Assurance Programme. Retrieved March 2019 from www.rmpp.co.nz

Red Meat Profit Partnership (2018a). Research Sheep and beef farmer segmentation. Retrieved March 2019 from www.rmpp.co.nz

Red Meat Profit Partnership (2018b). Extension Design Project. Retrieved March 2019 from www.rmpp.co.nz

Red Meat Profit Partnership (2019). Action Group Directory. Retrieved March 2019 from https://agdirectory.actionnetwork.co.nz/

Rennie R (2019). Soil policy on way. Retrieved March 2019 from www.farmersweekly.co.nz

Ruamāhanga Whaitua Committee (2018). Ruamāhanga Whaitua Implementation Programme. Retrieved March 2019 from www.gw.govt.nz

Ruamāhanga Whaitua Committee (2018a). Specific Freshwater Objectives for Fish and Mahinga Kai. www.gw.govt.nz

Scoop.co.nz (2017). Freshwater Improvement Fund projects 2017. Retrieved March 2019 from www.scoop.co.nz

Sewel A, Blair H, Gray D, Hartnett M, Kemp P, Kenyon P, Morris S, Wood B (2014). The Farmer-Learning Project: improving the design of agricultural extension to promote learning. Retrieved March 2019 from www.nzsap.org

Standards New Zealand (2016). AS/NZS ISO 14001:2016 Environmental management systems. Retrieved March 2019 from www.standards.govt.nz

Standards New Zealand (2017). Fonterra's quest for sustainable dairy nutrition. Retrieved March 2019 from www.standards.govt.nz

Statistics New Zealand (2016). Cultural health index for freshwater bodies. Retrieved March 2019 from www.stats.govt.nz

Tax Working Group (2018). How taxes can help the environment. Retrieved March 2019 from www.taxworkgingroup.govt.nz

Te Arawa Primary Sector Inc. (2017). Rotorua Land Use Directory. Retrieved March 2019 from www.landusenz.org.nz

Te Maru o Ngāti Rangiwehi (2012). Ngāti Rangiwewehi Iwi Environmental Management Plan. Retrieved March 2019 from http://awahou.smart-project.info

Te Uru Rākau (2019). One Billion Trees Programme. Retrieved March 2019 from www.teururakau.govt.nz

Te Waihora Co-Governance Group (2018). Annual Summary Report 2017/2018. Retrieved March 2019 from www.tewaihora.org

Tipa & Associates (2012 updated 2018). Guidelines for undertaking cultural flow preference study. Retrieved March 2019 from www.culturalflows.co.nz

Tipa G and Teirney L (2006). A Cultural Health Index for Streams and Waterways: A tool for nationwide use . Report prepared for the Ministry for the Environment . Retrieved March 2019 from www.mfe.govt.nz

Varclay F and Lawrence G (1994). Farmer rationality and the adoption of environmentally sound practices: A critique of the assumptions of traditional agricultural extension. Retrieved March 2019 from www.researchgate.net.

Vilchez V (2017). The dark side of ISO 14001: The symbolic environmental behaviour. Retrieved March 2019 from www.sciencedirect.com

14 Appendices

14.1 Good Management Practices

Table 4 : Sector Specific GMP

Dairy NZ	70. Good Management Practices: A Guide to Environmental Management on Dairy Farms (2016) (based on MGM Project) 71. A Farmer's Guide to Managing Farm Dairy Effluent (2013) 72. Farm Dairy Effluent (FDE) Design Code of Practice (2015) 73. Guide to good irrigation parts One & Two (2011) 74. Nutrient management on your dairy farm (2013) 75. Reducing nitrogen loss (2014) 76. Sustainable Dairying: Water Accord (2013) 77. Riparian Planner
Beef+Lamb NZ	78. Farm Menus: Practices to improve water quality 79. Beef + Lamb NZ Knowledge Hub. Key freshwater GMP information includes: How to start a catchment Group Community Based Monitoring Engaging in environmental policy vital for sector resilience (podcast)
HortNZ	80. Horticulture New Zealand Code of Practice for Nutrient Management (2014) 81. Horticulture New Zealand Erosion and Sediment Control Guidelines for Vegetable Production (2014)
Deer	82. New Zealand Deer Farmers Association Landcare Manual (2012) 83. New Zealand Deer Farming Industry- Environmental Management Code of Practice 2018
Arable	84. The Foundation for Arable Research (FAR) uses the Industry-Agreed Good Management Practice Relating to Water Quality
Forestry	85. New Zealand Forest Owners Association: New Zealand Environmental Code of Practice for Plantation Forestry (2015) 86. National Environmental Standards for Plantation Forestry
Other	87. The Fertiliser Association of New Zealand's Code of Practice for Nutrient Management (2013) 88. EnviroPork™: Pork Industry Guide to Managing Environmental Effects (2005)

Table 5: 2018 Good Farming Practice Action Plan

See the full GFP Action Plan here

Action	Time-frame	Who will be involved?
Refresh the Industry Agreed Good Management Practices for Water Quality and revise to National Good Farming Practice Principles	Complete	Governance Group with support from the Land and Water Partnership[1] and Regional Council Land Management Officers
Develop systems and tools for monitoring and reporting on Good Farming Practice uptake	2018–2020	Sectors, councils, Water Directorate, and other interested parties
Identifying priority principles to apply for a region, catchment and/or sector to support the uptake of targeted Good Farming Practice	2018–2020	Sectors, councils and other interested parties, e.g. community-based, commercial agribusiness, rural professionals
Supporting every farm and horticultural property to have assessed risks against priority principles for catchment/ sector and developed their response actions (farm plan)	Milestones to be developed, with priority catchments and sectors completed first 2018–2030	Sectors, councils and rural professionals
Accelerating uptake through sector and council extension programmes and share learnings	2018–2020	Sectors, councils, Water Directorate, and other interested parties
Communicate progress on farming practice to communities, councils, central government	Ongoing	Sectors
Strengthen and validate support systems and tools to: • Improve and expand training and certification for consultants, council Land Management Officers, auditors • Ensure a database for monitoring and reporting • Promote harmonisation of approaches across New Zealand	2018–2020	Councils, sectors, Water Directorate, other government agencies e.g. Tertiary Education Commission
Update the Good Farming Practices Action Plan	2020	Sectors, councils, central government, ENGO's, iwi organisations and other interested parities

14.2 Land use change

Table 6: Land Use Change Decision Making Tools

Tools	Features
(CLUES – Catchment Land Use for Environmental Sustainability model (2003 – ongoing)	The CLUES project led by NIWA in 2003, is an ArcMap tool including national maps of land use, soils, and pollution risk, plus extensive databases predicting nitrogen leaching for many combinations of crop, fertiliser, climate, and soils. Land-use types which can be analysed include arable, horticulture, forestry, and several sheep, beef, dairy, and deer farming variations.
An in-depth assessment of the suitability for horticulture of the land resources in the Maniapoto rohe Plant and Food Research (2014)	Maps Maniopoto Rohe climate and soils to assess potential horticultural land uses

Tools	Features
dNITRO Land Use Change Tool Jointly owned by Toitū Te Waonui Limited (TTW) and the Bay of Plenty Regional Council	The web-based dNITRO is designed to provide land owners within the Lake Rotorua catchment with an indication of the financial implications of changing land use to either a Mānuka honey or Pinus radiata, and commercial harvesting land use. Users can choose specific land titles within the catchment area and determine the percentage area of the eligible land within each title to convert to either of the forested land uses.
Assessment of crop and tree species growing potential using climate, soil and topographic information NIWA (2003- ongoing)	The web-based (or CD) map interrogation tool compiles detailed climate, soil, and topographic data and combines this with expert-derived crop and tree species growth requirement information in a GIS (mapping) environment. Originally designed for Western Kaipara, Hokianga and Gisborne districts the methodology can be applied to any region (at cost). Suitability maps are derived which delineate land where there is high (and low) potential for growing certain crops and tree species.
Grow Otago (2005- ongoing)	The GROW Otago project maps the region's climate and soils using the scientific expertise of NIWA, AgResearch, Landcare, and the universities of Otago and Auckland. It provides information that can be used to improve existing land uses, develop new high value land-based activities and foster regional economic development, through optimising the use of Otago's varied climate and soils.
Rotorua Land Use Directory Jointly owned by Bay of Plenty Regional Council and Te Arawa Primary Sector Group (TAPS, 2017)	The Rotorua Land Use Directory – **Tahuri Whenua** is a guide to help land users in the Lake Rotorua catchment evaluate other land use options that may be available to them. The directory is published on the dedicated website and in hardcopy. This project was funded by the Low Nitrogen Land Use Fund.

14.3 Extension Activities

Table 7: Local Government Advice and Support

Extension Provider	Activities
Regional Council Land Management Advice and Support	Regional Council Land Management Officers (LMOs) work with farmers, growers, forestry agri-business and community group to find solutions to key land management issues that affect water quality. This advice and support will usually take place in a face-to-face context on the property. Typical areas of advice include: • soil conservation through land stabilisation and interception methods • improving water quality through appropriate fencing and plantings • the protection and enhancement of biodiversity • reducing the loss of nutrients to water

Extension Provider	Activities
	• nutrient management advice • advice on stock exclusion • advice on effluent management • plant and animal pest advice • flooding advice This advice may be part of the development of plans such as Riparian, Biodiversity, Erosion, and Farm Environment Plans. Regional Councils also provide education and decision support tools on their web-pages as well as downloadable factsheets and guides on good management practices.
Training and Support for Regional Councils	Envirolink grants provide advice grants (up to $40K) to help eligible regional councils to obtain expert advice on science techniques or training requirements.

Table 8: Extension for Rural Professionals

Extension Provider	Activities
Fertiliser Association of New Zealand **Nutrient Management Adviser Certification Programme**	The Nutrient Management Adviser Certification Programme (NMACP)defines the standards for people to meet to provide certified nutrient management advice to farmers and other landowners. The Programme has been running since 2013 and is funded by the Fertiliser Association of New Zealand and DairyNZ. The Management Board is represented by DairyNZ, the Fertiliser Association of New Zealand, Beef + Lamb New Zealand and AgFirst. Applicants must be currently working with landowners in the development of Nutrient Management Plans and have completed the Intermediate and Advanced Sustainable Nutrient Management courses offered through Massey University (see below). There is also a requirement for certified advisors to undertake Continuing Professional Development. NMACP offers nine Continuing Professional Development Modules, none of which are related to improving environmental outcomes. NMACP currently has around 200 certified advisors, most of whom (74%) work for Ballance Agri-Nutrients and Ravensdown as Nutrient Management Advisors.
Massey University FLRC short courses	The Massey University Fertiliser and Lime Research Centre (FLRC) developed two courses in conjunction with the Fertiliser Association of New Zealand (FANZ) for the NMACP accreditation of advisors provided responsible for safe and effective nutrient management: Sustainable Nutrient Management in NZ Agriculture (SNM) (Intermediate and Advanced short courses) These courses are also popular with staff from Regional and District Councils.

Extension Provider	Activities
New Zealand Institute of Primary Industry Management (NZIPM)	The New Zealand Institute of Primary Industry Management (NZIPIM) is the industry body for rural professionals. A core purpose of the organisation is to build the capability and capacity of rural professionals within New Zealand. IPIM runs the Dairy Farm Systems Certification Scheme, and the People Management Certification Scheme. NZIPIM's two certification schemes assesses the knowledge base and competency of individuals in dairy farm systems and people management respectively. The schemes provide farming community and industry assurance and confidence in the skills and knowledge of certified individuals. NZIPIM also provides professional development nine training modules aligned to the certification schemes to further build individual's knowledge base. • Module 7 - Environment and Sustainability The development of NZIPIM's certification scheme was supported under *Transforming the Dairy Value Chain Primary Growth Partnership* funded by New Zealand dairy farmers through DairyNZ and the Ministry of Primary Industries.
NZARM Resource Management Certification System	The New Zealand Association of Resource Management (NZARM) is an Incorporated Society with membership drawn from those engaged in the management of natural and physical resources. The goal of NZARM is to promote the philosophy, science, and practice of resource management in New Zealand, with particular emphasis on land and water resource management. NZARM members are required to maintain professional competence through their Resource Management Certification system (set up in 2010 replacing their Certified Practising Resource Manager (CPRM) system).
Red Meat Profit Partnership **Action Network Programme**	Red Meat Profit Partnership (RMPP) is a Primary Growth Partnership programme funded by meat processors, banks, B+LNZ and the Ministry for Primary Industries. RMPP facilitates the Action Network Group programme which is centred around a small group of 7-9 farming businesses willing to share and learn actions to improve a farm productivity profitability. Members of an RMPP action group receive support from trained facilitators and obtain a $4,000 per farm business kick-start allocation towards the group fund. The Action Network programme currently has 112 approved action groups and have a target of 300 groups by 2019. Some groups are focusing on environmental issues. The funding for this initiative expires in September 2020

Table 9: Industry Sector Extension to Landowners

Extension Provider	Activities
DairyNZ	DairyNZ has had a long history of farmer-to-farmer extension opportunities including their monthly dairy discussion groups. These group focus on the host farmer's system and management practices in order to identify opportunities and solutions that meet the hosts future goals and objectives. Seasonal issues

Extension Provider	Activities
	and challenges affecting farmers in the region are also discussed. This is an open forum that utilises the experiences of all members within the group. The DairyNZ website also has an environment section on their website with GMP educational material to view or download.
B+LNZ	B+LNZ have a range of workshops and field days taking place across the country, mostly focusing on increasing productivity. They also run water quality specific workshops and practical demonstrations of the SHMAK (Stream Health Monitoring Assessment Kit) equipment and how farmers can use it to help them assess their own water quality and the values of their freshwater ecosystems. More recently they have been offering workshops on 'Farms Trees and Carbon' to assist famers in making the most of the One Billion Trees Programme. B+LNZ also provide extension material on their Knowledge Hub.

Table 10: Fertiliser Industry Extension

Extension Provider	Activities
Ballance	Ballance provides a Farm Sustainability Service to help farmers achieve economic, environmental and social sustainability. They provide one-to-one advice on nutrient budgeting and assistance with farm environments plans. Ballance have recently launched Mitigator – a fee-based, farm environment geo-spatial planning tool. This tool gives a spatial view of where nutrient losses are occurring and identifying Critical Source Areas (CSAs) around the farm.
Ravensdown	Ravensdown started its environmental consulting business in 2013 and now claims to be the largest farm environmental consultancy in New Zealand. Ravensdown offers fee-based services including: • Nutrient Budgeting with OVERSEER®. • Farm Environment Plans (FEP; FEMP; SMP). • Resource Consent Applications. • Water Quality Monitoring and Laboratory Testing. • Wastewater and Effluent Testing and application modelling. • GIS Mapping.

Table 11: Māori Relevant Extension

Extension Provider	Activities
DairyNZ Māori Agri-Business Services	DairyNZ has signalled a commitment towards developing closer relationships with Māori land owners to understand their values and goals through the establishment of Māori Agri-Business Services in the Bay of Plenty and Northland Regions. (Priority 3- Thriving Māori Agri- business). Goals:

Extension Provider	Activities
	By 2020: Māori agribusinesses in BOP involved in co-innovation projects are sharing their experiences with the wider dairy community Māori dairy organisations are gathered into networks to exchange challenges and opportunities **By 2030**: As a group, BOP Māori dairy entities have improved their performance compared to all farms. Māori dairy conversions are world class and contribute to fulfilling all the dairy industry strategy commitments Careers and progression for young Māori meet targets
Agri-Women's Development Trust (AWDT) Wāhine Maia - Wāhine Whenua	Wāhine Māia, Wāhine Whenua engages Māori women as critical farming partners by building business knowledge, skills and confidence. Designed especially for whenua Māori involved in sheep and beef farming. Funded by the Red Meat Profit Partnership (RMPP), the four-month programme consists of three, full-day workshops delivered by industry experts and an evening graduation event.
Ahuwhenua Trophy Awards & Field Days.	The Ahuwhenua Trophy, Te Puni Kōkiri Excellence in Māori Farming Award Trophy winner field days draw attention to excellence in Māori farming. The competition alternates between dairying and sheep and beef. Other trophies are for: Ahuwhenua Young Māori Farmer Award 2019 Sheep and Beef and Dairy These awards attract multiple high- level sponsors
Māori Focus Farms and Research	Māori focus farms involved in research provide an avenue for education through field days, workshops and employment. Four examples of such opportunities are listed below: • Hill Country Project • Low emissions farm systems for the Māori sector • Monitoring Greenhouse Gas Emissions on Māori Farms • PKW Farms • Parekarangi: Meeting nutrient loss targets on dairy farms in the Lake Rotorua Catchment • Whangara Farms
Federation of Māori Authorities (FOMA)	FOMA aims to 'accelerate economic growth for our members by being the ultimate authority on Māori economic development'. FOMA holds annual conferences and newsletters on Māori Agri-businesses
NZ Landcare Trust	Established in 1996, NZ Landcare Trust and other catchment groups (often Council-supported) provide motivation, organisation, practical templates (e.g. strategic planning) and facilitate access to expert advice on freshwater management. Regional co-ordinators work with local and national government organisations, community-based groups and volunteers to work on sustainable water and land quality. They provide face-to-face advice and education to Landcare groups as well as providing educational resources on their website

Extension Provider	Activities
	including the 'Waikato River Restoration: Bilingual Guide' -funded by the Waikato River Authority through the Waikato River Clean-Up Trust.

14.4 Funding Activities

Table 12: Freshwater Improvement Fund – Allocated Projects 2017 (MfE, 2017c)

Note: Funding highlighted in blue indicate where cultural monitoring was to be an outcome of the project.

Region	Project Name	Description	Funding	Total Cost	Lead Organisation
Northland $2519K	Northland Dune Lakes Strategic Water Quality Improvement	***Project for rare Dune lakes in Northland to address invasive pests and weeds*** The Dune lakes in Northland are a globally rare ecosystem. Water quality and quantity is being affected by pastoral and dairy farming. It also faces biosecurity threats from invasive pest species. The project will introduce a systematic approach to improving 25 affected lakes. Interventions include nutrient modelling and mitigation measures (such as fencing, sediment retention bunds and riparian planting), macrophyte aquaculture, biosecurity surveys, removal of pest fish and water-weeds.	$783K	$1566K	Northland Regional Council
	Northern Wairoa Freshwater Improvement Project	***Landowners key to setting up sustainable land management practices in the Wairoa river*** This project will reduce sediment and bacteria levels in the Wairoa River and its tributaries by working with landowners to set up sustainable land management practices informed by Mātauranga Māori. The project will employ two land management advisors, develop farm plans, and undertake fencing, wetland enhancement, soil conservation and monitoring activities.	$1254K	$2507K	Northland Regional Council
	Nga WaiMāori o Waimahae	***Project with four creeks flowing into the Kaipara Harbour aims to restore freshwater quality to that of 30 years ago*** This project will focus on the three creeks which flow to the west coast and the Kaipara Harbour, and four creeks which flow to the east coast and the Taumarere River. The project will restore freshwater life and quality to that of 30 years ago through stream re-battering, installation of debris structures, water reticulation for stock, fencing margins and riparian planting.	$243K	$492K	Waimahae Marae

Region	Project Name	Description	Funding	Total Cost	Lead Organisation
Northland *(cont.)*	Restoration of the Waipoua Awa	***Undoing the impacts of farming and the legacy from forestry to improve the mauri of the Waipoua Awa*** Sediment, E. coli, nutrients from pastoral farming and legacy effects from the forestry industry are all impacting on the mauri of the Waipoua Awa. The project will establish an integrated management plan to inform the collaborative management of the river, fence headwater tributaries and wetlands to exclude stock, identify and protect eroded areas to reduce sediment run-off and provide instream habitat for native fish species.	$240K	$480K	Te Roroa Centre of Excellence
Auckland $1,042,500	Hōteo Sediment Reduction Project	**Targeting sediment hot-spots in the Hōteo Catchment** This project implements engineering solutions to target sediment 'hot spots' within the Hōteo Catchment. Interventions include natural river engineering, fencing to exclude stock and riparian planting to retain banks. A case study evaluating the effectiveness of interventions will also be produced as part of the project.	$1043K	$2085K	Auckland Council
Waikato $1642K	Water Quality and Habitat Enhancement of Lake Whangape	**Addressing aggressive alligator weed to improve Lake Whangape** Sedimentation and nutrient loading from intensive dairying, coupled with aggressive spread of alligator weed has led to a decline in the water quality and habitat of Lake Whangape. This project will restore the health of the lake and associated wetlands through fencing to exclude stock, re-vegetation of lake margins and wetlands, accelerated alligator weed containment and the implementation of a Kaitiaki Monitoring Framework.	$901K	$2926K	Waikato Regional Council
	Ngā Kaitiaki o te Awa o Pūniu	**Ngā Kaitiaki o te Awa o Pūniu plan** to improve water quality along a 16km stretch of the Pūniu River. This project aims to improve water quality, the mauri of the awa as well as helping to restore indigenous fish habitat and terrestrial biodiversity. Activities include riparian fencing to exclude stock, erosion protection works, planting 160,000 native trees and the creation of a bilingual, open-source guide for marae-based restoration to enable growth in the development of other new organisations undertaking similar activities.	$741K	$2094K	In partnership with Waikato Regional Council

Region	Project Name	Description	Funding	Total Cost	Lead Organisation
Gisborne $847K	Wharekopae River Restoration	30 km of improvements for the Wharekopae River. Supporting a diverse and healthy abundance of aquatic life and consistently meeting swimming targets is the goal of a project that will lead to 30km of improvements along the Wharekopae River. Interventions include fencing to exclude stock, installation of water reticulation systems, culverting of stock crossings, riparian and soil conservation plantings.	$847K	$1717K	Gisborne District Council
	Rangitāiki River Wetland Restoration Project	***Restoring 206ha of wetlands across six high-value ecological sites*** Located in the Rangitāiki River catchment, between Murupara and the lower limit of Lake Aniwaniwa (Aniwhenua Dam), this project will restore 206ha of wetlands across six high-value ecological sites by establishing long-term management plans, installing fencing to exclude stock, removal of pest plants and animals and native riparian planting.	$1,500K,	$3000K	Bay of Plenty Regional Council
Bay of Plenty $8250K	Katikati Hills to the Ocean - H20 Improvement Project	***Using citizen science to improve knowledge about water quality from the Katikati Hills to the Ocean*** Increasing urban development and intensification of horticulture and farming are accelerating stream bank erosion, sedimentation rates and stream pollution events. This project is focused on four streams within the catchment and builds on previous work undertaken by the group. Interventions include fencing, riparian planting, fish passage and wetland construction and pest control. A citizen science monitoring component is also included.	$250K	$500K	Uretara Estuary Managers Incorporated
	Lake Tarawera Sewerage Reticulation and Treatment	***Seeking solutions for one of New Zealand's iconic lakes*** Lake Tarawera is facing the risk of an irreversible deterioration from high clarity through 'flipping' into an algae-dominated state. A reticulated sewerage system, connecting to wastewater treatment is proposed to remove 15 per cent of manageable inputs into the lake. The final design is subject to further investigation and community consultation.	$6500K	$17800K	Rotorua Lakes Council
	Te Waiū o Tūtira - the Milk of Tūtira	***Improvements for Lakes Tūtira and Waikōpiro*** Pressures including erosion, excessive nutrient loading, poor water flow, loss of connectivity and restricted fish passage have negatively affected	$1,578K	$3,554K	Hawke's Bay Regional Council

Region	Project Name	Description	Funding	Total Cost	Lead Organisation
		the mauri of Lakes Tūtira and Waikōpiro. This project will develop an Integrated Catchment Management Plan, develop and implement farm environmental management plans throughout the catchment, reconnect Papakiri Stream to Lake Tūtira, install an oxygenation system and implement a mauri monitoring programme (HBRC weblink).			
Hawke's Bay $3496K	Sunshine, Wetlands and Bees to Revitalize the Taonga of Whakaki	***Sunshine, wetlands and bees to revitalize the Taonga of Whakaki*** Whakaki is the largest freshwater lagoon on the east coast of the North Island and has a Sites of Special Wildlife Interest (SSWI) ranking of 'high'. This project proposes a recirculating wetland, the establishment of 80na of mānuka plantation and complete stock exclusion from the lagoon's perimeter. Irrigation of mānuka will occur from the silt-laden water to produce high value honey.	$1358K	$2818K	Hawke's Bay Regional Council
	Onenui Restoration Project	***Fencing and retiring farmland to improve water quality at Onenui Station*** Erosion and faecal contamination from stock accessing waterways has led to degradation of waterways throughout the 3500ha Onenui Station. This project will fence and retire substantial farmland, develop reticulated water supplies for stock and undertake erosion control work.	$260K	$521K	Tawapata South Incorporated
	Te Awaawa Stream Restoration	***Bringing back the health of Te Awaawa Stream to protect its cultural significance*** Te Awaawa Stream has significant cultural importance to the whanau/hapū of Ngāti Pāhauwera as a food source and place of ritual importance. These values are being threatened by forestry and farming practices within the catchment. The Trust will restore the health of the catchment and uplift the mauri of the Te Awaawa Stream by establishing a research and observation centre to provide educational information for the public, undertaking cultural monitoring, stock exclusion fencing, landowner liaison and riparian planting.	$300K	$600K	Ngāti Pāhauwera Development Trust
Taranaki $2000K	Transforming Taranaki	***Reaching a target to transform Taranaki water quality by 2020*** Intensification of dairying on the ring plain and coastal terraces along with the loss of natural streambank habitat for native fauna, has increased the	$2000K	$34438K	Taranaki Regional Council

Region	Project Name	Description	Funding	Total Cost	Lead Organisation
		risk of waterway contamination from overland runoff. A programme of riparian fencing and planting will be undertaken to intercept nutrients, sediment and pathogens to improve water quality and biodiversity.			
Manawatu - Whanganui $5844K	The Lake Waipu Freshwater Improvement Project	***Addressing wastewater discharge into Lake Waipu*** Lake Waipu is at risk of tipping from a macrophyte-dominated lake to an algal-dominated lake; this project will remove the direct discharge of treated wastewater to the lake and apply wastewater to land. Monitoring will enable assessment of whether additional interventions are required to restore lake health.	$875K	$1842K	Horizons Regional Council
	The Ngā Wai Ora o te Whangaehu Freshwater Improvement project	***60km of fencing, 12,000 native plants, five fish passes and 10 community projects for Whangaehu*** Whangaehu Catchment is vulnerable due to its geology and point source discharges into the two main catchment tributaries (Makotuku and Mangawhero rivers). This project proposes 60km fencing to prevent stock access, riparian planting of 12,000 native plants, five fish pass repairs and 10 community-led restoration projects.	$590K	$1669K	Horizons Regional Council
	Manawatu Awa Freshwater Improvement Project	***250 km of fencing, plant 200,000 native plants, install 20 fish passes and 45 community projects for Manawatu River*** This project focuses on the entire Manawatū Catchment and parts of the Rangitīkei Catchment, which have declined due to pressures from point source discharges and intensive land use. Funding will complete 250 km of fencing, plant 200,000 native plants, install 20 fish passes, deliver a monitoring programme and enable 45 community-led restoration projects.	$2929K	$7247K	Horizons Regional Council
	Lake Horowhenua Water Quality Improvement Project	***Increasing cultural and scientific information for Lake Horowhenua*** This project proposes to increase the body of cultural and scientific information about the quality and movement of groundwater within the catchment, assessment and flushing of the stormwater system, establishment of a silt interceptor, shallow groundwater monitoring and implementation of two cultural monitoring programme activities.	$843K	$1686K	Horowhenua 11 (Lake) Part Reservation Trust

Region	Project Name	Description	Funding	Total Cost	Lead Organisation
Manawatu – Whanganui *(cont.)*	Water Quality Improvement in the Waiwiri Catchment	***Mānuka and kānuka to replace pines as part of redesign of Horowhenua's Waiwiri catchment*** The exotic pine plantation surrounding the 'Pot' in Horowhenua's Waiwiri catchment is spray irrigated with treated effluent from Levin's wastewater treatment plan. The project will re-design the irrigation infrastructure and replace 10ha pine forest with mānuka/kānuka and other native species to limit contaminants entering the drain and subsequently the Waiwiri Stream. Monitoring of groundwater will be undertaken to quantify the benefits of the new system.	$607K	$1214K	Lowe Environmental Impact Limited
Wellington $2172K	Wairarapa Moana Wetlands Project (Onoke Saltmarsh Restoration)	***Earthworks to reinstate hydrological connections and restore habitat*** Historic diversion of streams and drainage affected quality and quantity of water flowing through saltmarsh on the western margin of Lake Onoke. This project will undertake earthworks to reinstate hydrological connections, restore habitat with at least 15ha of planting and improve the Rimutaka Cycle Trail with interpretive signage to enhance the visitor experience in the area.	$200K	$1,050K	Department of Conservation
	Awarua wetland and ecological corridor	***Developing an urban wetland in Porirua*** Improvements to the lower reaches of the Rangihuhi and Mahina Streams will be achieved through the development of a 1ha urban wetland to treat contaminated runoff from over 40ha of developed land. A wetland flood bypass pipe (with provision for fish migration) will also be constructed to improve flows from the upper catchment without causing flooding to low-lying areas following rainfall events. Landscaping (including boardwalk and viewing platform) will be installed.	$1972K	$3987K	Porirua City Council
Tasman $7000K	Waimea Water	***Significant environmental benefits for the Waimea Plains*** Construction of a water augmentation storage run-of-river dam located in the Upper Lee Catchment, with a design capacity of 13.4 million cubic metres of water storage, to service the Waimea Plains and adjoining areas. Water distribution will be via a run-of-river scheme with water users taking water directly from the river or the adjacent connected aquifers on the Waimea Plains. The scheme will deliver water for community supply,	$7000K	$22500K	Tasman District Council

Region	Project Name	Description	Funding	Total Cost	Lead Organisation
		irrigation, stock as well as environmental and community flows (30 per cent of dam capacity). The project also includes a biodiversity component to improve habitats for threatened species.			
Marlborough $520K	Moawhitu Lake and Wetland	***D'Urville Island's Moawhitu Lake and wetland to increase taonga species*** This project will improve catchment management by undertaking major earthworks to restore water levels, in-lake re-establishment of macrophytes, riparian planting and fish habitat restoration. Cultural health assessment and monitoring will also be carried out.	$258K	$536K	Ngāti Koata Trust
	Taylor River Catchment Improvement Project	***Local community groups to work together on the Taylor River catchment in Marlborough.*** The establishment of a community stakeholder group including local schools and interest groups, iwi and the viticulture and pastoral farming industry will enable targeted riparian planting, expanded monitoring, and assessment of the urban stormwater and sewer networks via camera surveys.	$262K	$527K	Marlborough District Council
Canterbury $2694K	Whakaora Te Ahuriri (the Restoration of Ahuriri)	***A new wetland and improved habitat will ensure the future of Mahinga kai in the Ahuriri Lagoon and downstream Huritini/Halswell River*** Improvements to water quality are proposed as a pathway to improve the water quality of the associated catchments feeding Te Waihora/Lake Ellesmere. Installation of a constructed wetland at Ahuriri Lagoon (to reduce nutrient and sediment flows) and the creation of an open water area to provide an improved habitat for mahinga kai.	$1258K	$2719K	Canterbury Regional Council
	Waikirikiri / Selwyn River: Near River Recharge Project	***Restoration of a much-valued community swimming spot and improved aquatic habitat for native fish species and brown trout*** An off-take for long-term access to water from the Central Plains Water scheme pipeline will be installed to significantly improve water quantity and quality of Waikirikiri/Selwyn River system (including the Hororata, Irwell and Selwyn Rivers as well as their nearby wetlands and Te Waihora/Lake Ellesmere). The pipeline will result in restoration of much valued community swimming site.	$1140K	$2280K	Canterbury Regional Council

Region	Project Name	Description	Funding	Total Cost	Lead Organisation
Canterbury *(cont.)*	Snake Creek Restoration Project	***Improving Snake Creek water quality will protect one of the main trout spawning grounds in the Selwyn catchment*** The creek flows into the Selwyn River/Waikirikiri and was historically managed as a drain. The diversity of species in the creek has reduced, and elevated E. Coli attributed to pollutants from the Silverstream catchment. The project will establish sediment traps and other sediment mitigation measures, re-batter stream banks and plant native grasses, and deepen a well to ensure the creek's water quantity.	$296K	$591K	Water & Wildlife Habitat Trust
Otago $375K	Lake Wanaka	***This project will develop a community management plan for Lake Wanaka to ensure the lake is clean and accessible for future generations.*** There are particular concerns about lake snow in lakes Wanaka and Hawea and the potential linkages with nutrient run-off and land use change. The project is a partnership with the Regional and District Council and is subject to further negotiation on the details of the work programme.	$375K	$750K	Te Kākano Aotearoa Trust
Southland $5000K	Whakamana Te Waituna	***Establishing a buffer around Waituna Lagoon*** This project will allow water levels to be managed independently of the need to keep surrounding farm land drained. Contaminant reduction targets for the lagoon and its tributaries will also be established, farm plans developed to reduce the rate of sediment and nutrient losses originating from on-farm and off-farm activities, and demonstration of in-situ technologies as examples of better practice.	$5000K	$14657K	Environment Southland
Multi-region $750K	Protecting our Groundwater: Measuring and Managing Diffuse Nutrient Losses from Cropping Systems	***Improving New Zealand's understanding of groundwater flows.*** This project will improve our understanding of groundwater flows nationally, by gathering data from a network of drainage meters in five regions under a range of mixed arable and horticultural rotations. Continual data collection for a three-year period is proposed (resulting in a full term of data), as is the development of good management practice resources and validation of the accuracy of farm system models (OVERSEER).	$485K	$1040K	Foundation for Arable Research

Region	Project Name	Description	Funding	Total Cost	Lead Organisation
	Improving Freshwater Through Enhanced Outcomes on Sheep and Beef Farms (Otago/Southland / Taranaki/East Coast)	***Improving freshwater through better outcomes on sheep and beef farms*** Farming community leaders, knowledge sharing events and farm environment plans will improve water quality on four priority sheep- and beef-dominated (hill country) catchments across New Zealand. Interventions include development of farm environment plans, establishing farming community leaders to promote good practice, running knowledge-sharing events (field-days, national workshops), and installing remote sensors in four catchments to enable real-time monitoring and evaluation of on-farm mitigations.	$265K	$530K	Beef + Lamb New Zealand

Table 13: 2015 Te Mana O Te Wai Funding (MfE 2017)

Project Name	Description	Funding	Organisation
Nga Roto Tapokapoka	Enhancing three degraded Te Hiku dune lakes/wetlands of ecological importance. Activities include fencing, planting and building capability. Te Hiku iwi is collaborating with the Department of Conservation via He Korowai, a Treaty settlement partnership. The project involves community-led flora and fauna restoration (including planting and fencing) and education through wānanga and restoration activities.	$319,000	Te Hiku o Te Ika Iwi Development Trust
Te Kaahui o Rauru Waterways Restoration Project	Supporting hapū and whanau to become actively involved in the monitoring and restoration of seven culturally significant waterways. A waterway health monitoring programme will be created and riparian plans for each area developed. Waterways will be cleared of rubbish and weed plants, fencing and pest control will be undertaken, and riparian zones replanted with suitable plants	$377,000	Te Kaahui o Rauru Trust
Ngā Puna Rau Rangitīkei	Enhancing the water quality and mana of the Rangitīkei Awa and catchment. Activities include stock exclusion through fencing, re-vegetation of riparian zones, reconnecting iwi and others to the Rangitīkei Awa and the development/implementation of an environmental monitoring framework. It also includes a long-term strategic approach to the management of the catchment.	$708,000	Ngā Pae o Rangitīkei (via the Te Maru o Ruahine Trust)
Tū te Manawa	Eight whare are being constructed to provide a place for the community to gather and reconnect with the Manawatū River. They will be located at iconic points in the catchment and will tell the stories of the cultural and historical importance of each of the sites. Local hapū, iwi and the wider community are addressing water quality issues with an extensive riparian planting and fencing programme. A monitoring programme will provide information to support local hapū/iwi groups make decisions on the ongoing management of the river.	$534,000	Rangitāne o Tamaki Nui a Rua Incorporated
Uawanui A Ruamatua - Healthy River - Healthy People	Strengthening Te Aitanga A Hauiti as Kaitiaki of the Uawa River at Tolaga Bay by restoring the Kaitawa Estuary and Uawa River. Iwi are working together with local schools, foresters and farmers. Activities include weed control, predator control, fencing, planting and enhancement of whitebait spawning areas and trialling sediment management methods.	$503,000	Te Aitanga A Hauiti Centre of Excellence Trust
Tūtira mai ngā iwi	Developing an integrated community management programme for Lake Tūtira. Activities include riparian planting and fencing of priority riparian 'hot spots'.	$414,000	Maungaharuru-Tangitū Trust

Project Name	Description	Funding	Organisation
Te Kakapa Manawa o Muaūpoko – The Heartbeat of Muaūpoko	Restoring the mauri of Lake Horowhenua including its waters, environment and fishery. The project builds upon existing restoration projects with planting, stream fencing, storm water upgrades, community outreach and education, assisted eel reproduction and scientific analysis of lake water quality.	$972,000	Horowhenua 11 Part Reservation Trust
Te Mana o Te Wai Wainono Lagoon Restoration	Improving water quality and other characteristics of the Wainono Lagoon. It will develop additional rūnanga capacity to influence the management of freshwater resources. Activities include stream fencing and battering, construction of sediment traps, and planting of denitrifying riparian species.	$518,000	Te Rūnanga o Waihao Incorporated
Whangawehi Catchment Restoration Project	Supporting land owners, marae and local agencies to protect and enhance the rare and endangered freshwater and coastal ecosystems along the Whangawehi stream. This includes riparian fencing and planting, as well as soil conservation and erosion protection.	$243,000	Whangawehi Catchment Management Group

Table 14: MfE Fresh Start for Freshwater Clean Up Fund (MfE, 2014)

Region	Project	Funding Focus	Funding	Total Cost
Manawatu Whanganui	Lake Horowhenua Project*	Lake weed harvesting, boat wash facility, riparian fencing planting, urban stormwater treatment interventions trap, sustainable milk production plans, habitat restoration of Hokio stream (2014-2017)	$540K	$1.27M,
	Manawatu River Project*	Riparian planting, stream fencing, fish/white bait restoration, nutrient management plans for dairy, sewage upgrade (2012-2015)	$5.2M	$30M;
Wellington	Wairarapa Moana Project*	Restore wetland habitat at edge of Lake Wairarapa & Onoke. Including earthworks, Farm environment Plans, weed and pest control (2012-2015)	$1M	$2.2M;
West Coast	Lake Brunner Project*	Buffer strips along waterways, fencing and planting Development of farm plans (2013-2016)	$200K	$440K;
Canterbury	Wainono Lagoon Project	Fence off streams, build culverts bridge, re- vegetation, sediment traps (2012-2015)	$800K	$2.1M
	Lake Ellesmere/Te Waihora Project	The restoration and rejuvenation of mauri and the ecosystem health of Te Waihora. (2014-2017)	$6M	$11.6 M
Southland	Waituna Lagoon Project*	Riparian fencing & planting, reconstruction of stream banks, farm flooding management, wetland construction (2012-2015)	$785K	$1.6M

Table 15: Funding Administered by Regional Councils (Information below is collated from a Regional Council website scan retrieved March 2019)

Regional Council	Funding and Grants	Funding Focus/Projects	Amount
Northland	Farm Water Quality Improvement Plans	A short report with photos identifying suggested actions, prioritised for greatest water quality benefits.	$ unknown Free service to individual landowners Riparian planting, stock exclusion, erosion, culverts for stock stream crossing, wetland buffer zones Works included in plans are eligible for the council's Environment Fund.
	Environment Fund	Projects focused on water quality, soil conservation, coastal protection	Total $ unknown Can fund up to 50% of costs
Waikato	Natural Heritage Fund	Preservation of waterways of ecological significance	About $850K per annum, aimed at projects $40K-$300K. Prioritises projects that evidence Mātauranga Māori and mana whenua
	Environmental Initiatives Fund	Local environmental restoration projects	About $250K per annum, up to $40K per project
	Small Scale Community Initiatives Fund	Ecological, biodiversity focus	Up to $5K ($150K total funds)
Bay of Plenty	Environmental Enhancement Fund	Seed funding for community-based projects with broad focus on environmental enhancement	$ variable
	Iwi/Hapū Management Plan Funding	Funding for resource management planning for Māori	$ variable
	Riparian Management Plan grant	Landowner funding and support	Plan developed with BOPRC advice and support with up to 50% grant for erosion control and revegetation (outdated information)
	Landowner funding and support	Landowner funding and support	Aimed at reducing erosion, sediment and nutrient run-off into waterways. $ variable, unclear

Regional Council	Funding and Grants	Funding Focus/Projects	Amount
Taranaki	South Taranaki and Regional Erosion Support Scheme (STRESS)	Funding to assist erosion control through re-vegetation, fencing and land use change within the Farm Plans	$1.2 million (2015 to 30 June 2019) Funded by Ministry of Primary Industries (MPI) Sustainable Land Management Hill Country Erosion Fund.
Manawatu-Wanganui	Environmental Grants	Erosion control to reduce sediment in waterways	Up to 30% of costs (maximum $10,000)
	Whanganui Catchment Strategy	Whanganui River enhancement	30-70% of total costs
	Sustainable Land Use Initiative (SLUI)	Grant for hill country landowners. Free Farm Plans are developed to reduce erosion and sediment in waterways	Funded by Horizons MW ratepayers and Central Government through the MPI Hill Country Erosion Fund
	Freshwater Riparian Management funding	Fencing off waterways, revegetation, pest control	30-50% of costs
Wellington	Healthy Waterways	Assistance with fencing, planting and pest management	Up to 50% of costs, up to $15K per landowner
Tasman	Rivers and Stream Management Fund	Prevent stock form waterways and enhance habitat	No set financial limit found
Nelson	No specific freshwater or broader ecological funding found		
Canterbury	Immediate Steps Biodiversity Fund	Includes wetland and freshwater restoration projects	$10M. Fund implemented as part of Water Management Strategy
Otago	Ecofund	Funded projects include water quality, water conservation and biodiversity	Projects streamed under $5K and above $5K

NON-REGULATORY MECHANISMS AND TE MANA O TE WAI

1. Introduction to Non-Regulatory Mechanisms (NRM)

Note: Much of this Introduction could be deleted in the final integrated document

The working definition of an NRM for this report was "*initiatives by groups or individuals that are (or can be) applied voluntarily to land and waterways management to improve freshwater health*".

Groups or individuals predominantly included farmers, landowners, community groups, hapu land entities, iwi organisations and anyone else that isn't government or industry. These were recipients or invitees from communication and extension initiatives aimed at encouraging the uptake of these mechanisms. The other group were the funders, promoters, designers and implementers of NRMs that included industry organisations, central and regional government.

This distinction is important to understand the political context that NRMs are produced and promoted among rural communities, industry and iwi/hapu groups. Government is represented largely by MfE, MPI and Regional Council in conjunction with the primary industry and non-governmental advisory groups like LAWF. The primary industry including the pastoral (dairy and mixed livestock), forestry and horticultural sectors have been represented by their industry good, levy funded organisations (e.g. DairyNZ, Fonterra, B+LNZ, NZ Forest Owners Association etc.) While their reach is significant, it isn't comprehensive, and rural sector communities including life style property owners that have forestry, agriculture and horticultural interests can often feel marginalised by these industry organisations that don't represent the full diversity of farmers or producers.

The use of freshwater-related NRMs across New Zealand is extensive, complex and highly variable between regions and land use sectors. Despite the huge collective effort and investment made by many organisations and individuals, there is little readily available reporting on NRM spending, uptake and effectiveness. One implication is that the ongoing widespread agency and public support for NRMs is based on informal feedback and possibly a philosophical perspective where voluntary initiatives are seen in a more favourable light than regulatory controls (noting the efficacy of rules is often not clear either).

Exclusions

Given the timeframe the scope of this review was narrowed by excluding technical tools like Overseer or specific good management practices (GMPs) like riparian retirement, even though these support several of the NRM types listed above. Strategic 'high level' policy documents have also been excluded, while recognising these are essential to provide direction on using NRMs. The spatial focus of this NRM review is primarily productive rural areas and excludes urban and conservation land. While there is considerable interdependence between NRMs each of the NRMs have been reviewed as a discrete method in the full review report with an integrated assessment outlined in this summary.

Māori Involvement in NRMs

Māori involvement in the design of NRMs has been limited to date but there are exceptions and a number of these cases provide insights into how the funding of NRMs could be structured to increase the capacity of iwi Māori to be the designers, implementers was well as recipients. These are outlined in the following section.

Methodology
Following an extensive review of publically available documents and reports from industry, central and regional government agencies and community groups, a review document was produced: "Restoring Freshwater Health: Non-Regulatory Methods"[1] providing a review of NRM initiatives including an assessment of their impacts and the level of involvement of Māori in their design and implementation.

The documents in this review were accessed online during February and March 2019, focusing on websites for central government, regional councils, primary industry and non-government organisations. These webpages and digital documents are hyperlinked within the review document. While this review is not exhaustive, it does focuses on recent developments, especially those relevant to Māori. Each NRM section begins with a description of the NRM and its range of application, generally followed by sub-sections covering: (i) Māori involvement in the NRM; (ii) case studies, especially recent Māori examples; (iii) NRM effectiveness; (iv) limitations; (v) information gaps; (vi) NRM opportunities, including those related to Te Mana o te Wai.

he broad range of NRMs fell into 4 broad categories:

1. Approaches to establish catchment collectives and groups
2. Planning tools and models
3. Monitoring and assessment tool
4. Funding, extension and con-management

Number 4 is less of a category of mechanisms but an underpinning, cross cutting category that includes industry extension, government funding sources, and co-management funding that underpins these NRM categories of tools and approaches.

Structuring the approaches, tools, models and underpinning mechanisms into an integrated framework allows the strengths and weaknesses of each to be assessed and tested under the mantle of Te Mana o te Wai; in particular the governance arrangements at the national and regional levels (insert reference).

The arrangement of these mechanisms under Te Mana o te Wai is outlined in Figure 1.

2. Te Mana o te Wai and Non-Regulatory Mechanisms

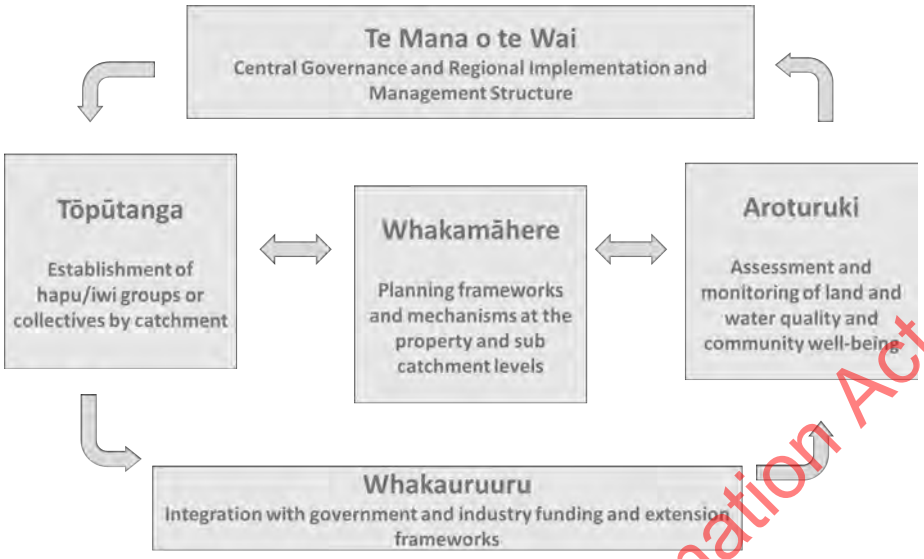
A description of the 3 categories of mechanisms and the cross cutting, integrative models are outlined below

Tōpūtanga: Establishing Hapu/Iwi Ropu Catchment Groups

Catchment groups come in many varieties and are often supported by multiple agencies, notably the NZ Landcare Trust. The alignment with iwi and hapu groups to establish catchment groups in their own right or in partnership is high, partly in response to targeted funding from the Freshwater Improvement Fund and the Waikato River Authority. Examples include the Nga Kaitiaki o te Awa o Punui (Pūniu River Care) group, Whangawehi Catchment Management Group, Pomahaka Water Care Group and Ruamāhanga Whaitua Implementation Programme. Each of these are described in

[1] Restoring Freshwater Health: Non-Regulatory Methods, Report (Draft) prepared by Landconnect for Scion, March 2018

the report but of note with the Ruamāhanga programme is the partnership model with the Greater Wellington Regional Council.



Whakamāhere: Planning frameworks and mechanisms

There are 4 broad subcategories of planning mechanisms included here: Good Management Practices and Farm Plans; Environmental Management Systems, Land Use Change Tools and Iwi Management Plans. Including IMPs in this section alongside farm and environment plans does little to recognise the critical factor that IMPs have in integrating all of the planning and monitoring mechanisms under the Iwi/Hapu Collectives or Groups.

Good Management Practices and Farm Plans

Farm Plans have been used extensively since the first soil conservation plans were developed in the 1940s with the majority driven by primary sector groups e.g. B+LNZ Land Environment Plan and their Environment Strategy and Implementation Plan (2018-22) launched in 2018.

Māori involvement in the design of GMPs and FPs is low and the recent Good Farming Practice Action Plan (2018) does not reference the NPS-FW or Te Mana o te Wai. There are however, examples where Farm Plans were included in larger collaborative programmes such as the Whakaora Te Waihora Programme with co-governance from Ngai Tahu and Environment Canterbury. Other examples that include Māori farmer/landowner input includes the Tarawera Lakes Restoration Plan developed by the Bay of Plenty Regional Council with community input led by Te Arawa Lakes Trust.

Environmental Management Systems

Environmental Management Systems (EMS) continue to be promoted and adopted, including by Māori agribusiness (e.g. Fonterra and Miraka). While independent evaluations of their effectiveness is still to be carried out it is likely that the EMS will become more important in demonstrating to domestic and international consumers that food and fibre products are safe, sustainable and consistent with high standards of animal welfare.

Māori involvement is again sparse but an important case is Te Waka Kai Ora was set up as the National Māori Organics Authority of Aotearoa, and incorporates an organic certification scheme Hua Parakore that was developed with Government science funding support. Hua Parakore

conforms to NZ and internationally recognised organic standards, while also adopting an indigenous framework that recognises Māori values and approaches to food production.

Land Use Change Tools

Land use change tools are dominated by spatial models, production system optimisation or simulation models and nutrient or emission models. The majority of the models and frameworks have evolved over many years of research and government investment into their development including Farmax and Overseer. While Māori input into the design of the tools is limited there are examples of Māori input into the design of programmes that have assessed land diversification.

They including The 2017 Rotorua Land Use Directory – Tahuri Whenua that explores the viability of 18 alternative land uses (e.g. dairy sheep; blueberries; hazelnuts) developed by the Te Arawa Primary Sector Group with funding from the Bay of Plenty Regional Council. A series of supporting workshops in 2018 drew strong interest from local Māori landowners.

Iwi Management Plans

Iwi Management Plans (IMP, including Hapu Management Plans) have been prepared by many iwi and hapu over the years. And given that the RMA does not dictate how IMPs are developed they therefore assume a variety of shapes and forms, often adopting approaches and forms that reflect the requirements and interests of the specific iwi.

There are many examples of excellent IMPs around the country. What many lack is the Regional context where these plans have the capacity to influence the policy development process that leads to rules and regulations impacting on catchments of interest to iwi and hapu. This is taken up in the following section on integration.

Aroturuki: Monitoring and Assessment

Monitoring

In recent years there has been increased development in the number of Māori monitoring frameworks that are integrated with conventional science. Recent reviews of mātauranga Māori frameworks, approaches, and monitoring tools in the context of the NPS-FM and NOF for mahinga kai have shown their value in identifying and articulating values and perspectives of environmental change. These frameworks include: The Cultural Health Index (CHI) was developed by Gail Tipa and Laurel Teirney; Tau kōura developed by Ian Kusabs, John Quinn and Joe Butterworth; and the Mauri of Waterways Kete by Jefferies and Kennedy.

There is an opportunity to develop a comprehensive monitoring framework that combines scientific and cultural indicators, both quantitative and qualitative, to meet the wai mauri and tangata ora requirements of Te Mana o Te Wai.

Whakarurururu: Integration

Funding

While there is a large number of freshwater-related funds available from Central and Regional government agencies there very few reviews of the funding schemes or funded projects. Despite the large sums of public money involved, there is a paucity of information from which to assess the strategic alignment to Te Mana o te Wai. In spite of this lack of information there is the overarching objective of aligning current central and regional pools of funding that sit with MfE and Regional Councils to provide the funding infrastructure to develop a comprehensive NRM programme.

Extension

Increased alignment across the industry good organisations, Regional Councils and MfE (plus other government agencies) is critical to develop a cohesive and effective programme that stimulates and motivates land owners within catchments (Māori and non Māori). There have been recent industry efforts to build extension capability, such as Fonterra's Sustainable Dairy Advisors and the Red Meat Profit Partnership Action Networks, but these are often designed to suit generic audiences and not tailored for Māori.

Recommendations:

1. Develop support (funding and information) mechanisms to increase the number of iwi/hapu catchment groups and the integration of these groups into the regional or catchment policy setting frameworks
2. Develop Iwi Management Plans for each of these groups and ensure that these plans are integrated with detailed spatial assessments of land and water within their catchments of interest
3. Design integrated farm-level frameworks that incorporate Best Farm Practice Plans and Land Use Change Plans to encourage land diversification and management practices that are consistent with the catchment's freshwater limits
4. Establish mechanisms to align industry good organisations' activities in freshwater, with central and regional government and iwi/hapu groups or collectives to develop catchment and multi-catchment frameworks to achieve the objectives of Te Mana o te Wai

TE KĀHUI WAI MĀORI

COMMENTS ON MfE PAPERS RECEIVED AT 29 APRIL 2019 HUI

*On 15 April 2019 Te Kāhui Wai Māori provided the Hon Minister David Parker with its recommendations to restore the health of our wai (the **Te Kāhui Wai Report**). At our meeting of 29 April we were provided with four papers by Ministry for the Environment (**MfE**) officials, to be presented to the Minister on 30 April 2019. This paper sets out our comments in respect of those papers.*

We note, for completeness, that the MfE papers do not appear to have fully grappled with the recommendations provided in the Te Kāhui Wai Report. Operationalising Te Mana o Te Wai lies at the heart of our report. Our proposals for structural and system change are not presented as a menu from which only some recommendations might be chosen. Our recommendations need to be implemented in their entirety to achieve the necessary outcome for Te Mana o Te Wai. Our comments on these papers should be received in that context.

OVERARCHING COMMENTS

We have three overarching observations which apply to all of the papers that we received, and which frame our more detailed comments below.

1. We have evaluated these papers against the recommendations which we set out in our report to you on 15 April 2019. Overall, there is little alignment between these papers and our recommendations.
2. There is an inconsistent understanding of Te Mana o te Wai across all of these papers, and a lack of strategic understanding of how to apply the framework which we have recommended. The only paper which comes close to a full understanding is paper C.
3. Receiving papers in a piecemeal way has required us to comment in a piecemeal approach. This paper is our attempt to weave together our response in a holistic and all-of-package fashion.

DOCUMENT A: ESSENTIAL FRESHWATER 40 - ASSISTING COUNCILS TO IMPLEMENT THE NPS-FM

Key statement: The proposed Freshwater Hearings Panel does not meet the Essential Freshwater Policy objective of stopping further degradation and loss to make improvements within five years, when proposed without any commitment to introducing accountability measures on local government for the implementation of regional plans in relation to the NPS-FM.

Comments

- Our level of confidence in councils to implement the NPS-FM is very low, and this position is well supported by the current state of freshwater.
- The critical issue regarding the implementation of the NPS-FM is that councils are not effectively implementing plans and the NPS-FM provisions even when they are operative.
- One of the key recommendations in the Te Kāhui Wai Report is:

  - Recommendation 7: Develop new accountability and partnership requirements for local governments.
- The priority for Te Kāhui Wai is to ensure that there are new and effective accountability measures on local government to ensure that councils are actually implementing their plans.
- If this option is to be introduced, it must be hand in hand with addressing the more fundamental issue of a lack of requirements for ensuring that council plans are implemented.
- Another recommendation in the Te Kāhui Wai Report:
  - Recommendation 10: Implement a Te Mana o te Wai Capacity and Capability Strategy to guide the investment in, and development and empowerment of the leaders of Te Mana o te Wai to enable structural and system reform.
- The proposal to utilise hearing commissioners (i.e persons accredited through the RMA Making Good Decisions Programme) is particularly concerning from a Māori perspective, given a serious void of capability regarding Te Mana o te Wai and Māori values and knowledge across hearing commissioners. The RMA Making Good Decisions Programme lacks delivery of any meaningful content to support the consideration of Māori values in freshwater decision-making.
- MfE's paper *'Essential Freshwater 44: Seeking agreement to national direction proposals'* sets out five underpinning elements of Te Mana o te Wai (paragraph 24).[1] The Kāhui can see there would be more benefit in ensuring that hearing processes were better able to recognise and consider Te Mana o te Wai, as the lead objective of the NPS-FM, for example through enabling mātauranga Māori to inform freshwater care, protecting the needs of the water first, and recognising Te Tiriti o Waitangi as the appropriate foundation of Te Mana o te Wai (three of the five elements).
- Currently there is a total absence of analysis as to how the proposed Freshwater Hearing Panel will provide for Te Mana o te Wai. Māori concerns and considerations are essentially invisible in what is proposed.
- Finally, from the Kāhui's perspective, the following recommendation is most likely to achieve the Essential Freshwater Policy objective of stopping further degradation and loss to make improvements within five years:
  - Recommendation 3: Declare a moratorium on additional discharges and water-related consents for 10 years.

Recommendation

Regarding the intention of the proposed Freshwater Hearings Panel, Te Kāhui Wai recommends adoption of recommendations 3, 7 and 10 of the Te Kāhui Wai Report concurrent with introduction of the current proposal.

DOCUMENT B: ESSENTIAL FRESHWATER 45: DECISIONS ON NATIONAL DIRECTION FOR RURAL LAND USE

Key statement: Kahui Wai Maori support in principle the proposals put forward under the 'national direction for rural land-use' package as useful *interim* steps to support aspirations to halt the decline and improve water quality.

Comments

Stock Exclusion

[1] These were developed in collaboration with Te Kāhui Wai, and build on prior work of the Iwi Leaders' Group.

- There is widespread support across Aotearoa for enacting stock exclusion rules. Kahui Wai Maori support the proposal as it will provide immediate and sustained benefits for water quality.
- While we support the integration with Farm Environment Plans, care needs to be taken in enabling any exceptions through Farm Environment Plans (or otherwise) that these do not undermine the intent of these proposals. Compliance, monitoring and enforcement will also be critical to the success of the proposal.

Nitrogen Cap

- Kahui Wai Maori support establishing and implementing a 'Nitrogen Cap' to reduce excessively high nitrogen leaching in principle, but as with all of these proposals, the detail of how the proposal will be implemented and enforced will be critical.
- We also agree a N-Cap can only be considered an interim step towards a more sustainable long-term solution, including the establishment and enforcement of N limits at a sustainable level for every waterbody.
- The threshold for the N-Cap in each FMU/catchment should be established relative to the scale of the over-allocation being addressed, e.g. in a catchment that where N discharges are 500% over sustainable limits setting the threshold at the 75th percentile may not be sufficient.
- Nitrogen is also only one of a range of contaminants that affect water quality and additional measures for sediment and phosphate for example also need to be considered.

Land use intensification rules

- While the proposed interim rules for managing rural land use intensification are similar to the moratorium on intensification proposed by the Kahui, we do not believe they will be as effective as a moratorium. Wai Maori is in crisis and we need to be bold and courageous in responding to this predicament head on.
- Placing a moratorium on any new water takes and discharges will not address the underlying failures of our current freshwater management system. However, it will prevent further cumulative detrimental effects while the necessary steps are put in place to restore Te Mana o Te Wai and create a more sustainable freshwater management regime.

High Risk Land Use Activities

- We also support taking a more active approach to managing high risk land use activities due to the potential of these activities to have a detrimental impact on water quality.

Farm Environment Plans

- Farm Environment Plans are a useful tool to support improvements in farming practice and operations. Farm Environment Plans, particularly in conjunction with the other proposed tools, are likely to have a positive impact on our water resources, at the very least by slowing the degradation of this taonga.
- Care is required, however, in implementing FEP (and all of these interim tools) that this does not create any expectation regarding the long-term viability of any particular activity.
- While FEPs and the other proposed tools may reduce environmental harm, in the long term there is a reasonable chance that this will still not be sufficient to be sustainable.
- Regulators need to be upfront with land owners and communities regarding the potential scale of over-allocation within catchments, including how much contaminants may need to be reduced to provide for Te Mana o Te Wai.

- We also recommend catchment reduction targets are established for the implementation of FEPs (e.g. those farms that are not at best practice should be required to achieve a 10% reduction in discharges over a 3-year period).

Creation of head-room for under-developed Maori land

- Provision also needs to be made for the development of under-utilised Maori land. There are a wide range of historical reasons why Maori land may not have been fully utilised or developed. In fully or over allocated catchments, ensuring this can occur without causing further environmental degradation and within the confines of the moratorium will require the creation of headroom by reallocating discharge capacity (and water allocation) from existing users to the owners of under-utilised Maori land.
- Enabling the development of under-utilised Maori land is a subset of addressing the full range of iwi rights and interests in water.

DOCUMENT C: ESSENTIAL FRESHWATER 42 - SEEKING AGREEMENT TO NATIONAL PROPOSALS

Key statement: With regard to the Document C National Direction proposals, Te Kāhui Wai is considers that there are two fundamental requirements to their success:

- Directing regional councils to implement Te Mana o te Wai; and
- Developing a compulsory value that is consistent with Te Mana o te Wai and of relevance to Māori as part of the National Objectives Framework

Comments

- The fundamental concept of Te Mana o te Wai that is critical for all New Zealanders is that the health of our nation, across all well-beings, is connected to the health of freshwater.
- Implementing Te Mana o te Wai will ensure that New Zealanders can connect with water again; that they can swim in rivers, source and consume food from freshwater, and will no longer have their health and safety at risk from contact with water.
- As is consistent with the functions of National Policy Statements in providing further interpretation and direction of environmental legislation such as the RMA, implementing Te Mana o te Wai through regional plans will also provide for more clarity and certainty as to how councils and communities operating under regional plans can ensure that they uphold their RMA obligations, including those under section 6(e) and Section 7(a). This provides a clear framework to guide councils at the outset on how the Māori relationship to water, and kaitiakitanga of water, can be taken account of and considered through freshwater policy development and freshwater management.
- Currently, there is a significant policy gap as to how section 6(e) and 7(a) matters should be addressed through the development of regional plans, and specifically through the objectives and limit setting process.
- Te Kāhui Wai strongly considers that the only option for generating the change that Māori and other New Zealanders wish to see in freshwater quality, and in achieving more consistency and clearer direction on how Māori values in water inform limit setting, is to adopt Option 3 in Essential Freshwater 44 (to direct regional councils to implement Te Mana o te Wai).
- Te Kāhui Wai is conscious that Te Mana o te Wai has been in the NPS-FM since 2014, yet there are no genuine examples of Te Mana o te Wai being implemented. Councils will not implement Te Mana o te Wai unless they are required to.

- Te Kāhui Wai also has a strong view that there is a need to establish a compulsory value that is consistent with Te Mana o te Wai as part of the NOF framework.
- Rather than the alternative where matters are addressed through litigation, setting requirements for councils to establish a Māori compulsory value will provide for councils and iwi/hapū to determine together at the outset:
  - what attributes they can identify that are appropriate to reflect Te Mana o te Wai locally;
  - how these attributes can be measured; and
  - what could be monitored to provide data to support the management of this value, and to inform decision-making and consent processes.
- Te Kāhui Wai are aware of many examples of this work being initiated, albeit in an ad hoc way. Creating a policy framework for this to occur will ensure that best practice methods can be shared and developed across the country.

DOCUMENT D: ESSENTIAL FRESHWATER 44 - SEEKING AGREEMENT TO NATIONAL PROPOSALS

Key statement: With regard to the Document D National Direction proposals, the critical issues for Te Kāhui Wai are:

- The need for investment in developing a more appropriate methodology for setting catchment limits (overeseer is not sufficiciently comprehensive to be solely relied upon).
- Renewable energy generation infrastructure must not be:
  - prioritised such that it shall be established and provided for no matter what the effects;
  - given primacy to renewable energy generation over other matters in section 6 or section 7.

Comments

- Document D identifies that, for the purpose of supporting limit setting, Budget 2018 committed $5m over the next four years to improve Overseer and the Our Land and Water science challenge currently has $96.9m allocated over ten years (paragraph 28a).
- Te Kāhui Wai note that investment in Overseer alone will not provide a comprehensive approach to setting limits.
- There is a critical need to invest in developing a more appropriate methodology for setting catchment limits.
- Te Kāhui Wai are also strongly opposed to the policy proposals in paragraphs 52 to 61 of Document D, which favour renewable energy generation infrastructure in the NPS-FM.
- Renewable energy generation infrastructure is responsible for significant water degradation as a consequence of its operation. This industry needs to contribute appropriately with the rest of the community to address its contribution to fresh water decline.
- The Environment Court has:

- confirmed that the National Policy Statement for Renewable Energy Generation (**NPS-REG**) does not state that renewable energy generation is prioritised such that it must be established and provided for no matter what the effects.[2]
- concluded that the NPS-REG does not give primacy to renewable energy generation over other matters in section 6 or section 7.[3]

- The policy proposal, particular that which proposes to remove NPS-FM Appendix 3 and enable regional councils to maintain water quality below a national bottom line if necessary to retain the benefits provided by existing renewable electricity generation infrastructure, would result in these very outcomes.

[2] *Day v Manawatu-Wanganui Regional Council* [2012] NZEnvC 182 at [2]-[21].
[3] *Blueskin Energy Limited v Dunedin City Council* [2017] NZEnvC 150.

TE KĀHUI WAI MĀORI

Comments on Officials' NPS-FM (Te Mana o Te Wai, Māori freshwater values and measures, and Mātauranga Māori) briefing to Minister Parker

*On 15 April 2019 Te Kāhui Wai Māori provided the Hon Minister David Parker with its recommendations to restore the health of our wai (the **Te Kāhui Wai Māori Report**). On 30 April Te Kāhui Wai Māori provided the Minister with a second report (the **30 April Report**), responding to four papers presented to us by Ministry for the Environment (**MfE**) officials at the 29 April 2019 Te Kāhui Wai Māori meeting.*

*This document responds to MfE officials' NPS-FM (Te Mana o Te Wai, Māori freshwater values and measures, and Mātauranga Māori) briefing to Minister Parker (the **NPS-FM Briefing**).*

Te Kāhui Wai Māori has previously raised concerns about the lack of adequate time to understand, review and comment on the documents provided by MfE officials for feedback. This NPS-FM Briefing is no exception. Select Te Kāhui Wai Māori Members[1] were provided with a first draft version of the NPS-FM Briefing on Saturday 11 May and second draft version of the NPS-FM Briefing on Monday 13 May. They were asked for feedback by Wednesday 15 May. On the morning of Wednesday 15 May they were advised that a Te Kāhui Wai Māori response was not required until Friday 17 May or the morning of Monday 20 May. On Friday 17 May they received a revised version of the NPS-FM Briefing which, after review from the MfE Legal Team, had changes including the removal of the proposal to "give effect to" or "recognise and provide for" Te Mana o Te Wai. They were told that they could provide feedback by the morning of 21 May.

Te Kāhui Wai Māori requests that:

- *the NPS-FM Briefing states up front that Te Kāhui Wai Māori has not had adequate time to review the NPS-FM Briefing document, and that any comments provided by Te Kāhui Wai Māori are therefore preliminary; and*
- *all other references to Te Kāhui Wai Māori "review" be removed.*

Operationalising Te Mana o Te Wai in its totality lies at the heart of the Te Kāhui Wai Māori Report. Te Kāhui Wai Māori proposals for structural and system change are not presented as a menu from which only some recommendations might be chosen. The recommendations need to be implemented in their entirety to achieve the necessary outcomes for Te Mana o Te Wai.

1. In the 30 April Report Te Kāhui Wai Māori noted that there are two fundamental requirements to the success of the NPS-FM Briefing proposals:

    a. Directing regional councils to implement Te Mana o te Wai; and

    b. Developing a compulsory value that is consistent with Te Mana o te Wai and of relevance to Māori as part of the NPS-FM National Objectives Framework.

2. The NPS-FM Briefing appears to have taken on board comments from previous Te Kāhui Wai Māori reports, particularly the 30 April Report with respect to the decision to

[1] These Members were asked by Te Kāhui Wai Māori to review the material on behalf of the group given the quick turn-around.

recommend Option C (directing regional councils to implement Te Mana o te Wai) to the Minister.

3. Te Kāhui Wai Māori endorses some of the stronger and more directive proposals in the NPS-FM Briefing Paper, particularly the process-driven recommendations at B1 and B2.

4. Te Kāhui Wai Māori makes the following specific comments.

Removal of proposal to "give effect to" or "recognise and provide for" Te Mana o Te Wai

5. The paper that preceded the NPS-FM Briefing, *'2019-B-05475 - Essential Freshwater, Seeking agreement to national direction proposals'* included, as part of the recommendation to direct regional councils to implement Te Mana o te Wai, a proposal to insert language directing that councils "give effect to" or "provide for" Te Mana o Te Wai.

6. MfE officials have shared with Te Kāhui Wai Māori (by email dated 17 May 2019) that it is not possible to determine or assess that the NPSFM is fully giving effect to Te Mana o te Wai, or directing councils to give effect to it, without a clear assessment or direction about what 'giving effect to' Te Mana o te Wai would look like. They say that directing regional councils to 'implement', 'give effect to' or 'provide for' Te Mana o Te Wai would need to be very specific as to what that would mean, and they're concerned that defining Te Mana o te Wai in that way may undermine the concept in itself and its ability to be locally applied.

7. Te Kāhui Wai Māori disagrees. Without this language the opportunity to embed Te Mana o Te Wai at a local council level is completely lost, and any notion that Option C indeed involves "directing regional councils to implement Te Mana o te Wai" is in fact illusory and does not carry the necessary agency to affect the desired outcome.

8. Further, Te Kāhui Wai Māori is becoming increasingly frustrated that the matters raised by MfE officials, including this proposal to remove necessary language, demonstrate a continued lack of understanding of Te Mana o Te Wai and how it can be given effect to in policy.

9. Embedding Te Mana o te Wai as the framework for freshwater care in Aotearoa will involve an approach that is about empowering tangata whenua and communities to; a) inform decision-making, and b) see their values reflected in its outcomes. This will require localised dialogue with tangata whenua and the wider community on their values for fresh water to ensure that values that are reflective of New Zealand as a whole are identified and cared for.

10. The NPS-FM engenders Te Mana o te Wai by directing councils to give effect to it at a local scale. How Te Mana o te Wai is manifest on the ground will be nuanced and influenced by location.

11. This is not an impediment to use of the above language; it simply requires considered drafting.

12. The last version of the draft NPS-FM Briefing (received Monday 13 May) included the language of "recognise and provide for" or "give effect to". Te Kāhui Wai Māori considers that this wording does not provide the necessary authority and agency to recognise the intent.

13. Te Kāhui Wai Māori is adamant, and therefore recommends, that the wording "give effect to" (not "recognise and provide for") is reinstated.

Providing stronger and more specific direction on how to uphold Te Mana o Te Wai

14. Recommendation B includes four proposals regarding direction to Te Mana o Te Wai (at paragraph 29). Te Kāhui Wai Māori recommends:

a. Strengthening paragraph 29c ('Direct regional councils to put the needs of the water first in the planning process.'). This paragraph needs to be re-drafted to make explicit that the needs of the water extend beyond biophysical parameters and must include intrinsic and essential values for the sole needs of the water. Excluding these values will confine this direction to a narrow 'biophysical environmental flow' target.

b. Deleting paragraph 29d ('Direct regional councils to consider the needs of the people once provisions to protect the essential value of the water have been set.') Te Kāhui Wai Māori considers this direction is implicit in the three-tiered hierarchy. Having it as a specific direction could be interpreted as elevating the needs of people to such a level as to permit encroaching on the prior needs of the wai as identified in paragraph 29c.

Mandatory Māori measures of wellbeing in the NPS-FM

15. In the Te Kāhui Wai Māori Report there is a recommendation to develop mandatory Māori measures of wellbeing in the NPS-FM National Objectives Framework. In the Kāhui Wai Māori 30 April report it was confirmed that this was fundamental to the success of any revised NPS-FM proposal.

16. MfE officials have asked you to "agree to officials exploring the possibility of introducing mandatory Māori measures of wellbeing in the NPS-FM with Te Kāhui Wai Māori."

17. Te Kāhui Wai Māori does not endorse seeking only agreement to explore the possibility of mandatory Māori measures.

18. Te Kāhui Wai Māori recommends that the Minister agrees to progress the recommended amendments to the NPS-FM concerning development of mandatory Māori measures of wellbeing in the NPS-FM National Objectives Framework.

TE KĀHUI WAI MĀORI

Comments to Minister Parker on Ministry for the Environment Officials' 'Fair Allocation' (Nitrogen) Discussion Document

INTRODUCTION

Te Kāhui Wai Māori has provided the following written reports to Hon Minister David Parker:[1]

28 February 2019	Te Kāhui Wai Māori: The Health of our Wai; the Health of our Nation written report tabled at meeting with Minister Parker.
15 April 2019	Te Kāhui Wai Māori recommendations to restore the health of our wai (the **Te Kāhui Wai Māori Report**).
30 April 2019	A report compiling Te Kāhui Wai Māori responses to four papers presented to the Kāhui by Ministry for the Environment (**MfE**) officials at the 29 April 2019 Te Kāhui Wai Māori meeting.
21 May 2019	Te Kāhui Wai Māori comments to MfE officials' NPS-FM (Te Mana o Te Wai, Māori freshwater values and measures, and Mātauranga Māori) briefing to Minister Parker.

Response

This report is the Te Kāhui Wai Māori response to the 'Fair Allocation' (Nitrogen) Discussion Document (the **Discussion Document**).

Noting our comments in respect of timing below, Te Kāhui Wai Māori also offer (at their agreement) individual analysis and comments on the document from two Te Kāhui Wai Māori Members who are on the Allocation Sub-committee, namely Riki Ellison and Millan Ruka. The analysis generally accords with the high-level response to the report made here and Te Kāhui Wai Māori has every confidence in the Members to express their positions.

However, the full membership of Te Kāhui Wai Māori has not had an opportunity to review and agree on individual amendments and suggestions made by these members. The membership of Te Kāhui Wai Māori represents a diverse range of backgrounds and interests in respect of the Māori lived experience with respect to freshwater. For that reason, that aspect of the Te Kāhui Wai Māori decision-making process involving the close examination and confirmation of a collective response is significant. Nonetheless, in the interest of offering more detailed analysis relating to the papers for which time does not permit collective Te Kāhui Wai Māori review, we offer these two individual responses. Therefore, the individual responses must be considered in that context.

[1] This is in addition to numerous responses to MfE and other agency officials, including in Kāhui Wai Māori monthly meetings and via select Kāhui Wai Māori member engagement on various aspects of the Essential Freshwater and associated reforms.

Timing for response

Te Kāhui Wai Māori has previously raised concerns about the lack of adequate time to review, understand and comment on the documents provided by officials for feedback. This Discussion Document is no exception.

Te Kāhui Wai Māori requests that:

- any briefing accompanying the Discussion Document states up front that Te Kāhui Wai Māori has not had adequate time to review the Discussion Document, and any comments provided by Te Kāhui Wai Māori are therefore preliminary;
- this report is appended to the Discussion Document Briefing to Ministers; and
- Other than messages expressing that Te Kāhui Wai Māori does not support the Discussion Document in its current form, no references to Te Kāhui Wai Māori involvement or review in the production of this Discussion Document are made in the final Discussion Document release.

Operationalising Te Mana o Te Wai and addressing Māori rights and interests in freshwater lie at the heart of our Te Kāhui Wai Māori Report. Our proposals for structural and system change identified in the Te Kāhui Wai Māori Report, and reitirated in our later responses, are not presented as a menu from which only some recommendations might be chosen. Our recommendations need to be implemented in their entirety to achieve the necessary outcome for Te Mana o Te Wai and address Māori rights and interests in freshwater.

GENERAL COMMENTS

1. Te Kāhui Wai Māori is not comfortable being associated with the Discussion Document in its current form.

2. We have two fundamental concerns. The Discussion Document:

    a. Does not move the discussion on nitrogen allocation, or allocation more generally, anywhere near where Aotearoa needs to be by now.

    b. Does not address Māori rights and interests in allocation.

3. With respect to foundational allocation issues, the Discussion Document lacks basic analysis.

    a. The problem is not clearly articulated and there is little robust analysis of options or solutions relating to the challenges of nitrogen allocation.

    b. The Discussion Document conflates management tools with allocation.

    c. The Discussion Document fails to provide any indication of how to deal with transition (the hardest part of any change) in any meaningful way, other than to continually refer to the need for transition.

    d. Despite stating that “no grandparenting” is a principle, the Discussion Document continues to promote options that are based on, or require, grandparenting.

4. In relation to Māori rights and interests:

   a. The proposed arrangements presume greater degree of residual control and ownership rights by the Government than is appropriate given the Government's acknowledgement of both Māori Treaty partner interests, and asserted customary rights and interests.

   b. This relegates Māori to playing only a kaitiakitanga role in any new allocation framework; to our values looking after the water from which others receive the benefit.

   c. Greater governance must be provided for. Co-governance is implied under Treaty principles. In fact, this level of Māori governance is required as a minimum given Crown-acknowledged Māori rights and interests in water.[2] The Crown presuming ultimate control of water-related reform, as it does in the Discussion Document, is not consistent with either position. Before any water-related reform proposals can proceed, proper provision for Māori co-governance of any reform process, and even a greater role as and when Māori rights and interests are resolved, must be provided for.

   d. Rights and interests of Māori must be provided for. Multiple precedents exist for mechanisms which can protect Māori rights and interests while facilitating water quality and efficiency enhancing reforms. The Crown forest licensed land regime is just one example. Such mechanisms (i.e. improved versions thereof, informed by their experience) must be put in place ahead of any nitrogen or other water-related allocation reforms. Once in place, reforms can proceed while rights and interests are being resolved. The sooner this is addressed the sooner that certainty can be provided to everyone.

5. There is also little sense to the layout/structure of the document, making it hard to read and follow.

6. There is much more rich and useful advice in the reports of the Land and Water Forum; the evidence of the Wai 2358: National Fresh Water and Geothermal Resources Inquiry; and other work emerging from those parties that participated, including the New Zealand Māori Council and Iwi Leaders Group.

Recommendation

7. The Kāhui Wai Māori recommends that:

   a. the Discussion Document is withdrawn;

   b. officials develop and resource a work programme for engaging with Te Kāhui Wai Māori to re-design an allocation Discussion Document that address the matters raised above, beginning with items 4(c) and 4(d).

[2] We refer to the Crown's acknowledgement at paragraph 49 of the Discussion Document, also mentioned below.

8. Te Kāhui Wai Māori make this recommendation on the basis that the analysis in the Discussion Document is too undeveloped to be of any value in a national conversation, and may actually present a risk to positively advancing the conversation.

SPECIFIC COMMENTS ON MĀORI ASPECTS TO THIS DISCUSSION DOCUMENT

9. These specific comments supplement the general comments above.

10. They are not an exhaustive commentary on the Māori aspects of the Discussion Document.

11. For clarity, the headings used below do not reflect how Te Kāhui Wai Māori sees these issues. (As we have noted, there is little sense to the layout and structure of the report. This results in many related sections being disjointed.) Accordingly, the headings below reflect that part of the document to which this report is responding.

Principles to guide the Government's decisions

12. Paragraph 16 of the Discussion Document makes the following statement (which we have separated into bullets a and b for emphasis, but which are part of a single paragraph in the document):[3]

    a. "No nitrogen allocation system can be developed without simultaneously considering how the rights and interests of Iwi in freshwater will be addressed."

    b. "The widespread view of Māori is that Te Mana o te Wai must be the guiding framework on which a future allocation system is based."

13. Putting aside the diluted reference to addressing rights and interests in 12(a) above (Māori rights and interests must be addressed), considered separately, these two statements (in their proper and true form) reflect statements made in the Te Kāhui Wai Māori Report.

14. However, it is the combination of these two statements together which shows that the Discussion Document needs work to correctly reflect:

    a. the influence of 'Te Mana o Te Wai' in the context of allocation; and, as a separate matter;

    b. addressing Māori rights and interests in allocation.

15. Te Mana o Te Wai is about overarching water management and governance. Te Mana o Te Wai has implications for allocation, which is that allocation must give effect to Te Mana o Te Wai.

16. However, the allocation issues specific to Māori rights and interests are about ensuring Māori rights and interests are recognised and provided for, and that allocation is fair and equitable. This is a separate issue that needs to be provided for in the broader context of Te Mana o Te Wai. For example, where any rights to discharge nitrogen[4] are allocated to

[3] Paragraph 16.
[4] The matter to which the Discussion Document relates.

Māori, those Māori right holders must still give effect to Te Mana o Te Wai (they must still comply with the three tiered hierarchy of obligations).

17. If this distinction is misunderstood there is a real risk that addressing Māori rights and interests in allocation will be equated solely with giving effect to Te Mana o Te Wai.

18. Such an approach does not address Māori rights and interests, and instead relegates Māori to playing only a kaitiakitanga role in any new allocation framework; to our values looking after the water from which others receive the benefit.

19. This circumstance will not address Māori rights and interests in allocation.

Addressing Māori rights and interests

20. The Discussion Document states that:

    a. "any future allocation system needs to consider how the rights and interests of Māori in freshwater will be addressed";[5] and

    b. "this issue cannot be progressed without substantive discussion with Māori about their rights and interests in freshwater under the Treaty of Waitangi."[6]

21. This approach is fundamentally flawed.

22. Māori have been engaging in substantive discussion with the Government on this issue for decades.

23. The matter needs to be attended to so that New Zealanders can all move forward as a nation. The future allocation system needs to address Māori rights and interests in freshwater.

24. This is not a controversial statement. Indeed, it is consistent with then Deputy Prime Minister, Hon Bill English's, undertaking on behalf of the Crown in 2012. This undertaking is referred to in the Discussion Document at paragraph 49.

25. Addressing Māori rights and interests is a bottom-line consideration for Te Kāhui Wai Māori, which was set out clearly in paragraphs 12 and 66 of the Te Kāhui Wai Māori Report.

26. What will address Māori rights and interests in allocation is providing an allocation to Māori.

27. In the interim, in order for reforms to proceed in good faith, the following is required:

    a. Proper provision for Māori co-governance of any reform process, and even a greater role as and when Māori rights and interests are resolved.

    b. A mechanism to protect Māori rights and interests while facilitating water quality and efficiency enhancing reforms. The Crown forest licensed land regime is just one example. Such mechanisms (i.e. improved versions thereof, informed by their

[5] Paragraph 48.
[6] Paragraph 52.

experience) must be put in place ahead of any nitrogen or other water-related allocation reforms. Once in place, reforms can proceed while rights and interests are being resolved. The sooner this is addressed the sooner that certainty can be provided to everyone.

Principles of Kāhui Wai Māori

Te Mauri o te Wai
Whakapapa
Taonga
Rangatiratanga
Manaakitanga
Oranga
Te Tiriti o Waitangi
Te Mana o Te Wai

Wai u waiora, wai Maori, wai ora (mother and water are the sustenance of life)

Water is wai Māori. Water is a taonga.

Water is held by Māori.

This is affirmed by Te Tiriti o Waitangi and the UNDRIP

This is not compromised by the Treaty of Waitangi, the common law or legislation.

Current water law, policy and practice is not consistent with Te Tiriti or the Treaty.

Te Mana o te Wai and Ngā Mātāpono ki te Wai provides the framework for reform of law

---

Kahui Wai Māori Terms of Reference

Freshwater is a precious and limited resource and a taonga of huge significance to all New Zealanders including tangata whenua.

Te Tiriti o Waitangi/the Treaty of Waitangi is the underlying foundation of the Iwi/hapū-Crown relationship with regard to freshwater resources. Addressing tangata whenua values and interests across all of the well-beings (Te Hauora o te Taiao (the health of the environment), Te Hauora o te Wai (the health of the waterbody) and Te Hauora o te Tangata (the health of the people), and including the involvement of hapū and iwi in the overall allocation, protection and management of fresh water, are key to giving effect to Te Tiriti o Waitangi/the Treaty of Waitangi.

Since 2009, the Crown engaged primarily with the Freshwater Iwi Leaders Group on these issues. Since 2012 the Waitangi Tribunal has been inquiring into claims led by the New Zealand Māori Council and 10 co-claimants (individuals representing various hapu/iwi /Maori interests in specific water bodies (or systems) about Māori rights and interests in freshwater and geothermal resources (Wai 2358). It is envisaged that KWM will build on this body of work in the way it undertakes its functions.

Ngā Mātāpono (principles):

Whakapapa / Whanaungatanga
Iwi and hapū have a kinship relationship with the natural environment, including fresh water, through shared whakapapa. Iwi and hapū recognise the importance of fresh water in supporting a healthy ecosystem, including human health, and have a reciprocal obligation as kaitiaki to protect freshwater quality.

Mana
Te Mana o te Wai is an important concept in the development of understandings and practices relating to wai. Te Mana o Te Wai acknowledges and protects the mauri of the water. Te Mana o te Wai recognises the connection between water and the broader environment – Te Hauora o te Taiao (the health of the environment), Te Hauora o te Wai (the health of the waterbody) and Te Hauora o te Tangata (the health of the people). Te Mana o Te Wai acknowledges that Wai is a taonga with all the consequent obligations to preserve the taonga for present and future generations.

Manaakitanga / Kaitiakitanga
Iwi and hapū have a responsibility of care to ensure environmental management and sustainable enterprise within the overarching obligation to protect the environment and waters for present and future generations. It includes the obligation to take care of taonga for the future and foster wellbeing, as opposed to just maintaining ownership and the right to divest assets in contemporary settings.

The exercise of guardianship is important for KWM, particularly in relation to natural resources, such as lands, waterways, acquifers and harbours; flora and fauna, and people, that comprise elements of the natural environment. This principle requires that sustainability and environmental protection is valued. KWM recognises that the owners or trustees of an enterprise, including rights and interestes in water, are also kaitiaki or guardians and are therefore responsible for protecting resources for future generations – not just for short-term or individual or whanau profit.

Tapu / Noa / Utu

The concept of mana is closely allied to the principles and practices of tapu and noa. Wai, flora, fauna and objects in the environment can all be affected by tapu and noa. When a person, living thing or object is tapu it can restrict people's behaviour or limit the range of uses of a resource or object. Noa means ordinary, common or free from restriction or the rules of tapu. Often ceremonies were carried out to remove the influence of tapu from objects or people so people were able to act without restrictions. Utu or balance enables the justices or merits of a particular situation to be balanced having regard (but not just limited by) to the principles of mana; tapu; and utu. KWM will have regard to the dynamics of these precepts in the way they develop options for allocation; protection and management of Wai.

Rangatiratanga

The exercise of leadership, authority, guardianship, and ownership rights, interests and responsibilities particularly focused on resource production, utilisation, care and management for current and future requirements and the obligations to future generations will underpin the work of KWM as it explores options for water allocation, management and protection of the taonga. The practice of rangatiratanga includes strategic development and oversight, relationship development and maintenance, problem-solving, conflict resolution and peace-making, adaptation, risk analysis, and care, management and regulation of Wai.

Nothing in this terms of reference shall diminish the rights of Iwi, Hapū, Whanau, including Iwi Chairs to exercise their Rangatiratanga over those matters of importance to them, as set out in Article II and Article III of Te Tiriti o Waitangi and/or is confirmed in Iwi Settlement legislation.

Ngā Tikanga (correct procedure):

KWM acknowledges that their work programme and advice will endeavour to give effect to Te Tiriti o Waitangi / the Treaty of Waitangi and its guarantees and will be guided by the values embedded in this constitutional foundation stone of the modern Aotearoa New Zealand government.

KWM acknowledges that disagreement will exist with some of the precepts and assumptions that underpin the present government approach, but KWM will work within the *Essential Freshwater Reform programme* in good faith and in accordance with Tikanga Maori, including ngā mātāpono, to develop *constructive* pathways and options for the care, allocation, management and protection of Wai.

BOX: Water is a Taonga

(Waitangi Tribunal Stage 1 report, section 2.8.3, pages 75-81)

• Water bodies were taonga for Maori over which hapu or iwi exercised te tino rangatiratanga and customary rights in 1840;
• Maori had both a physical and a metaphysical relationship with water under tikanga;
• Maori rights in respect of water included authority and control over access to the resource and use of the resource;
• Maori authority in respect of water was sourced in tikanga and carried with it kaitiaki obligations to care for and protect the water;
• Sometimes authority and use was shared between hapu, but it was always exclusive to specific kin groups;
• Access to water resources and use for outsiders required permission and often payment of a traditional kind;
• Water was vital for the sustenance of the life and health of the person, both in body and spirit;
• Water bodies had their own mauri, which was so tied to that of the people that if it sickened they did too;
• For Maori, water bodies are indivisible regimes, encompassing banks, bed, water, fish, aquatic plants and
spiritual plants (taniwha), and with no element being severable;
• 'Full-blown' ownership of property in the English sense was the closest legal equivalent for Maori customary rights in respect of freshwater in 1840;
• Te tino rangatiratanga was also more than ownership, and encompassed the authority of hapu to arrange and manage their own affairs in partnership with the Crown;
• Maori did not see the sharing of their water bodies as a relinquishment of tino rangatiratanga but rather as an exercise of tino rangatiratanga;
• While there might be a general expectation of access and use for non-commercial purposes, access would be on Maori terms until such time as Maori chose to make a Te Tiriti-compliant alienation, and Maori could say no;
• The Crown has a duty to actively protect Maori development rights in water bodies to the fullest extent reasonably practicable;
• The Crown has a duty to redress Te Tiriti breaches by taking positive steps to make amends for past Te Tiriti breaches in respect of Maori water rights, including through compensation for loss.

Current law is failing te mauri o te wai

New Zealand Māori Council closing submissions to Waitangi Tribunal, 2018

Key aspects of the current law in respect of fresh water and freshwater bodies that are not consistent with the principles of Te Tiriti are:

(1) The failure to recognise any Te Tiriti-grounded proprietary right or interest of Maori in water bodies;

(2) The allocation of rights to water bodies, both at the stage of initial allocation and subsequently through transferability, on a 'first in, first served' basis without any reference to the Te Tiriti-grounded proprietary rights or interests of Maori;

(3) The failure to confer any meaningful co-management rights on Maori;

(4) The failure to confer any guaranteed funding to support the discharge by Maori of their statutorily recognised kaitiakitanga responsibilities (including by way of taking or participating in environmental proceedings where that is necessary), or to support the participation of Maori in local or regional planning processes;

(5) The bypassing of affected hapū by way of notification (particularly where limited notification procedures were used) and the 'pick and choose' approach taken by Local Authorities to consultation with Maori - perhaps exemplified by the case study of Poroti Springs;

(6) The failure to ensure that Local Authorities discharge the stewardship obligations the Crown has delegated to them in respect of water bodies, including in the areas of compliance, monitoring and enforcement;

(7) The systemic failure of the current law, in practice, to prevent the degradation of water bodies to the state we find them in today.

Iwi Leaders Group

Te Mana o te Wai and Ngā Mātāpono ki te Wai encompass:

(a) *Te Mana o te Wai:* The first right to the water, goes to the water itself. In the context of allocation, Te Mana o te Wai must be achieved before an allocable quantum is available. In the interim, Councils in partnership with Iwi/hapū must measure our water use and only use what is reasonable.

(b) *Access:* Communities should not have to pay to access water for drinking water purposes.

(c) *Wai Tuku Kiri:* Once Te Mana o te Wai is achieved, drinking water must be the next priority.

(d) *User assessment:* Whoever uses water must prove that they have the systems and infrastructure in place to care for it responsibly; permits should include assessments of users and not just effects.

(e) *Te Mana Motuhake o ia wai o ia wai ki te wai:* Each catchment is different and so we will need a suite of tools to ensure this difference is honoured. There will be no one size to fit all.

(f) *Te Tiriti o Waitangi te tāhuhu o te Wai:* Access to water for tangata whenua based on the Treaty partnership is not just related to land that we currently own, but is connected through whakapapa.

(g) *Te kaitiakitanga o ngā hapū me ngā iwi ki te wai:* Costs of water use and the implications of water use must be borne by the user, not kaitiaki and not the ratepayer.

(h) *Certainty:* Attributing value to water is expected to support efficiency and effectiveness of use as long as the value is then transferred to the river and to tangata whenua in an appropriate way.

(i) *Te kaitiakitanga o ngā hapū me ngā iwi ki te wai:* A freshwater management system that is agile to address environmental shocks is required.

(j) *Equity:* Iwi/hapū must have a perpetual and non-alienable right to water that is catchment based.

In over-allocated systems all users must take a reduction in their water use to ensure the water is shared equitably and Te Mana o te Wai is met. There should be no grandparenting, but reverse grandparenting should be considered, recognising that Māori are disproportionately represented as owners of underdeveloped land and that iwi and hapū have been physically and economically shut out of equitable access to and use of the fresh water in their rohe.

Options to provide for compulsory Māori values of freshwater health

Introduction

1. Te Kāhui Wai Māori (KWM), in our report of April 2019, has recommended that the Ministry for the Environment (the Ministry) develop a mandatory measure of freshwater health for inclusion in the National Objectives Framework (NOF) of the National Policy Statement for Freshwater Management (NPSFM).

2. This recommendation is supported by the Freshwater Leaders Group.[1]

3. We understand that the Ministry also agrees with this recommendation. This paper identifies KWM's proposal to give effect to the recommendation.

4. We recommend the following amendment to the NPSFM in order to require regional councils to incorporate Māori values of freshwater health more effectively into regional planning processes:

   (a) Creating a compulsory mahinga kai value in the NOF of the NPSFM.

5. We understand that Ministry officials are recommending you consult publicly on this proposal as part of the Essential Freshwater package, noting that you can then make a decision on your preferred approach following public feedback, and consideration by the Independent Advisory Panel. The Officials' have further identified that consultation will provide an opportunity to receive feedback from Māori to expand on these proposals, or to indicate support or not. KWM welcomes feedback from Māori about these proposals.

6. For the avoidance of doubt, these proposals are necessary to give effect to Māori rights and obligations, and make workable existing policy in Part D of the NPSFM. To that end, KWM does not consider that any feedback from the public at large that might oppose the inclusion of a compulsory mahinga kai value should have any bearing on your decision.

Advice

Context

7. New Zealand's overarching resource management legislative framework recognises the role of tangata whenua as the Treaty partner, and as kaitiaki over their taonga (including freshwater). The Resource Management Act requires anyone exercising functions and powers, in order to achieve the purpose of the Act, to:

   (a) Section 6(e) - recognise and provide for the relationship of Māori and their culture and traditions with their ancestral lands, water, sites, wāhi tapu, and other taonga;
   (b) Section 6(g) - recognise and provide for the protection of protected customary rights;
   (c) Section 7(a) - have particular regard to kaitiakitanga; and
   (d) Section 8 - take into account the principles of the Treaty of Waitangi (such as partnership and active protection).

[1] See the 31 May 2019 further advice from the Freshwater Leaders Group.

8. It is the role of the NPSFM to provide national policy direction on how the above provisions can be given effect through plans. The current NPSFM does not, however, compel regional councils to give effect to these values. Part D simply directs councils to 'take reasonable steps' to 'provide for the involvement of iwi and hapū, and to ensure that tangata whenua values and interests are identified and reflected in the management of fresh water'.

9. The NOF sets out a framework for identifying specific, measurable and achievable freshwater objectives that are used in the management of water, including setting limits to achieve those values. There are two compulsory values in the NOF (ecosystem health and human health) and these values apply in all Freshwater Management Units (FMUs). The NOF refers to mahinga kai, wai tapu and tauranga waka in the 'other national values' category, which are values that may be identified if relevant within an FMU.

10. You have agreed to recommendations to clarify and strengthen Te Mana o te Wai in the NPSFM (2019-B-05597 refers). Te Mana o te Wai is the integrated and holistic well-being of a freshwater body.[2] Currently, the NOF does not provide a comprehensive and nationally applicable mechanism for upholding the full integrated and essential values of the waterbody (values pertaining to the water itself), which is required by Te Mana o te Wai.

Problem

11. Overall, Māori values and attributes of health are not being adequately identified, reflected or incorporated by regional councils in regional freshwater planning processes, despite the context outlined above. In the absence of specific provision for Māori values of fresh water health in planning processes, these values are not being managed appropriately in accordance with Māori rights and obligations under the RMA. The freshwater management system also loses the benefit of having inherently holistic and integrated approaches incorporated into regional freshwater management processes.

12. This problem relates to the general issue that the NOF does not currently require regional councils to set objectives and limits to provide for values that uphold the full integrated and essential values of the waterbody as required by Te Mana o te Wai.

13. The existing compulsory values prioritise certain biophysical attributes of freshwater health (for example nutrients). These specific attributes alone do not fully reflect Māori values or all of the values that comprise Te Mana o te Wai. Māori values need to be elevated within the NOF to ensure that Māori have the ability to express their freshwater values and to ensure they are managed for. There are additional biophysical attributes and other social attributes that must be considered in order for freshwater objective-setting processes to be reflective of Te Mana o te Wai.

14. The identification of ecosystem health and human health, as defined in the NPSFM, has triggered significant investment by both regional councils and the wider research sector into tools, frameworks and methods to identify, give effect to and measure these compulsory values. Not providing the same compulsory status to Māori values of freshwater health creates significant inequity in terms of the legal weighting and

[2] NPS-FM, page 7.

associated resources and status that they attract in the regulatory system. This must be remedied.

15. This problem is demonstrated and caused by:

    (a) Poor regional council implementation practice in some circumstances, and an ad-hoc approach to involving Māori in freshwater management.

    (b) Regional councils not making provision in their Long Term Plans for resourcing of freshwater management to be inclusive of Māori values and measures.

    (c) The absence of strong centralised direction and regulation obligating regional councils to involve and finance hapū and iwi to participate in regional planning processes, and to understand and implement Māori-desired outcomes for freshwater management.

    (d) Variability in Māori resourcing. Some iwi and hapū have extremely scarce resources and there is inconsistency in opportunities to obtain funding to support the development. Without compulsion, Councils are not obligated to dedicate resources to support Māori in implementing the NPSFM. The costs to iwi and hapū can be high, creating barriers to participation.

Opportunity

16. There is an opportunity to provide a clearer and more direct avenue for Māori participation in freshwater management, and to provide mechanisms in the NOF that ensure the integrated values that comprise Te Mana o te Wai are given effect. Clarity and direction will provide councils with certainty about their obligations.

17. There is also an opportunity to address the significant lack of investment into Māori measures of freshwater health, by sending clear signals to regional councils, and more broadly the research community, that the development and application of Māori tools, frameworks and methods of identifying, giving effect to and measuring freshwater health are a central aspect of implementing the NPSFM.

18. Noting that Māori measures of freshwater health tend to focus on the health of connections between the environment, water and humans, including social measures, there is an opportunity for freshwater management to better address social values and issues in connection to freshwater that are relevant to all New Zealanders.

Proposal

19. This option involves making the existing mahinga kai values in the NOF a consolidated third compulsory value in narrative form as follows:

COMPULSORY NATIONAL VALUES
Mahinga kai *Kai are safe to harvest and eat* – This generally refers to indigenous freshwater species that have traditionally been used as food, tools, or other resources. It also refers to the places those species are found and to the act of catching them. Mahinga kai provide food for the people of the rohe and these sites give an indication of the overall health of the water. For this value, kai would be safe to harvest and eat. Transfer of knowledge would occur about the preparation, storage and cooking of kai. In freshwater management units that are used for providing mahinga kai, the desired species are plentiful enough for long-term harvest and the range of desired species is present across all life stages. *Kei te ora te mauri – the mauri of the place is intact* – For this value, freshwater resources would be available and able to be used for customary use. In freshwater management units that are valued for providing mahinga kai, resources would be available for use, customary practices able to be exercised to the extent desired, and tikanga and preferred methods are able to be practised.

20. We do not recommend the national identification of pre-determined attributes and bands. Instead, this proposal requires regional councils to resource iwi and hapū locally to develop attributes, and fulfil the other requirements of the NOF. (See the case study at Appendix One).

21. The implementation of mahinga kai as a compulsory national value will ensure the ability of regional councils and tangata whenua to uphold Te Mana o te Wai through regional planning. The NPSFM sets out that to uphold Te Mana o te Wai you must provide for Te Hauora o te Taiao (the health of the environment), Te Hauora o te Wai (the health of the waterbody) and Te Hauora o te Tangata (the health of the people). Mahinga kai, as defined in the NPSFM, reflects the integration of these different aspects of health.

22. This will ensure the aspirations and unique values of iwi and hapū based on whakapapa, history, tikanga and mātauranga are met.

Analysis

23. A compulsory value provides the level of compulsion needed to ensure that regional councils incorporate Māori values of freshwater health into regional freshwater planning processes.

24. This proposal ensures that the NOF incorporates a holistic and integrated value in order to give effect to Te Mana o te Wai, the fundamental objective of the NPSFM, and supports improving outcomes for freshwater.

25. This proposal also provides certainty. The single value that is to be identified and incorporated is mahinga kai.

26. Due to its existing inclusion in the ‘other national values’, mahinga kai is already a familiar value to regional councils, and many hapū/iwi have already identified mahinga kai values and attributes through iwi management plans and kaupapa Māori assessment frameworks. These are ripe for incorporation into regional freshwater planning

processes, making it straightforward to implement the compulsory value across the country by 2025.

27. For those regional councils that are yet to engage with iwi and hapū to identify mahinga kai values, a report[3] by Hannah Rainforth and Garth Harmsworth is available which summarises a range of iwi and hapū tools, frameworks and methods that are available. These resources provide a good starting point for Councils to resource iwi and hapū to develop their own metrics for freshwater mahinga kai wellbeing and to feed into the NOF and regional freshwater planning.

28. Improving council capacity and capability, and resourcing iwi and hapū involvement, is critical to enable effective implementation of this option, and to improve outcomes for freshwater.

29. In **Appendix One** we provide a case study as an example of the types of attributes that iwi or hapū may identify for a compulsory Māori value of freshwater health, the monitoring methods they may utilise to monitor these attributes, and the types of objectives they then may seek to be set for those attributes.

30. We provide the following responses to potential impacts raised by officials in their Briefing note:

    (a) Mahinga kai represents a value that can be supported in all FMUs.

    (b) There is no risk that this proposal could be perceived as an imposition on iwi and hapū from central government. Mahinga kai is a universal concept for iwi and hapū throughout Aotearoa and central to maintenance of tikanga and mātauranga.

    (c) The proposal does not obstruct iwi and hapū autonomy to adapt the NOF to reflect their values. By not pre-determining national attributes, bands or bottom lines, it expressly provides for that.

    (d) The notion that a compulsory value could result in requiring iwi and hapū to engage when they are not ready to, or choose not to, is fundamentally flawed. Iwi and hapū are already engaged in freshwater planning processes even with limited resources. The key difference is here is, just as Councils engage experts to determine ecosystem and human health attributes in FMUs, Councils would be required to resource iwi and hapū involvement.

    (e) The notion that a compulsory mahinga kai value could result in a situation where regional councils are compelled to develop attributes for a compulsory Māori value without tangata whenua involvement is illusory. Policy D1 of Part D of the NPSFM, which is well known to regional councils, signals tangata whenua involvement in tangata whenua fresh water value identification processes. The compulsory value simply makes it mandatory.

[3] Rainforth, H. J. & Harmsworth, G. R. (2019). Kaupapa Māori Freshwater Assessments: A summary of iwi and hapū-based tools, frameworks and methods for assessing freshwater environments. Perception Planning Ltd. 115 pp.

No support for proposed Option B

31. Through engagement with Te Kāhui Wai Māori, officials have proposed a 'tangata whenua' value category in the NOF to sit alongside the 'compulsory value' and 'other national value' categories. Any values identified by tangata whenua as relevant for the local catchment would become compulsory, and therefore subject to current NPSFM Policy CA2b)i.

32. We have considered this proposal carefully and advise that it is not appropriate for the following reasons:

    (a) This option does not achieve the purpose of the proposal, which is to vest Māori values with equivalent power to the compulsory values.

    (b) This option creates the burden for Māori that they must initiate and resource the trigger to have Māori values included, when instead the NPSFM should ensure that councils take responsibility for this occurring.

    (c) This option is open-ended, providing less certainty to regional councils to appropriately resource Māori value implementation.

    (d) This option creates a new 'tangata whenua' value category that appears to be a hybrid of the 'compulsory' and 'other national value' categories. It is likely to be confusing and open to interpretation and debate.

Recommendation

33. We recommend that you:

    (a) **Agree** with officials continuing to develop a compulsory mahinga kai value in the draft NPSFM with Te Kāhui Wai Māori

    (b) **Agree** to consult publicly on the compulsory mahinga kai value proposal as part of the Essential Freshwater package.

Appendix One: Case study of implementing a Māori value of freshwater health

1. This case study comes from the iwi Te Ātiawa ki Whakarongotai (TAKW) on the Kāpiti Coast, who have recently completed a process of developing catchment attributes and objectives for both a catchment planning process, and in anticipation of the NOF process in their rohe.

2. Different iwi and hapū will identify different attributes that are relevant to their particular physical and socio-political context. This case study merely provides an example of what may be the types of attributes that iwi or hapū may identify for a compulsory Māori value of freshwater health, the monitoring methods they may utilise to monitor these attributes, and the types of objectives they then may seek to be set for those attributes.

3. In this case study, TAKW identified a range of attributes that comprise the overall health of freshwater. As they were conscious of the broader NPS-FM regulatory framework, these attributes were deliberately identified as comprising both the values of mahinga kai and Te Mana o te Wai, as defined with narratives within the NPS-FM, and can be utilised as attributes of either if they are identified as compulsory values within the NPS-FM.

4. The types of attributes identified and therefore the monitoring methods required to monitor them are mostly already familiar to both Māori and regional councils, but to date are applied in an ad hoc way, perhaps as conditions of specific consents or as part of a local research or restoration project, rather than within a cohesive management and monitoring regime. The vast majority of examples of this in practice currently are not published in academic literature. However, where possible, monitoring methods identified below have been footnoted with examples from the academic literature.

5. The iwi has identified attributes and objectives of two catchments so far, one a River in a residential area, the second a Stream that runs through a mixture of commercial, industrial and residential land use. Almost all the attributes for both catchments were identical for both waterways; the only divergence was the method for measuring the attribute 'quality of mahinga kai' in each catchment, which was dependent on the type of traditional food that was sought in that catchment and therefore the type of monitoring that was relevant.

6. This suite of attributes identifies that there are several social attributes of catchment health that can all be monitored through the same method, and in the case of this iwi this is undertaken in a way that is efficient, where data that is relevant to several catchments is gathered through one survey iteration at the same time.

7. The iwi undertook a rigorous scientific method to identify attributes and monitoring methods, pilot monitoring methods, and undertake quantitative modelling to assist in identifying catchment objectives. This has been funded through a combination of small research projects, resource provided in connection to consent conditions of large consented projects, and small pieces of intermittent regional council funding. However, they only have three years of funding left to continue this monitoring, and as with many other case studies like this, this will cease to be implemented without a perpetual compulsory requirement on regional councils to share the resource to implement this aspect of the NPS-FM.

TAKW Attributes of Mahinga Kai

Value: Mahinga kai			
Attributes	**Attribute Unit**	**Monitoring method**	**Objective**
Water temperature	°C	Pre-existing regional council temperature monitoring	Water temperature remains ≤20°C
Quality of mahinga kai – Waikanae River	Abundance	Standard eel survey monitoring[4]	Catch 4 eating tuna at one site when using standard mahinga kai fyke net setting method.
Quality of mahinga kai - Wharemauku Stream	mg contaminant/kg plant material	Watercress sampling[5]	Mahinga kai species are safe for human consumption in accordance with the Australia New Zealand Food Standards Code
Intergenerational knowledge transfer	Likert scale	Social survey[6]	An average score of 4 'Te Rea: I am learning and practising this knowledge' across all knowledge types.
Iwi are part of water governance	Likert scale	Annual partnership audit[7]	Achieve 'Tika' score: Decision-making is informed by mana whenua knowledge. Mana whenua have authority over natural resource management to the extent that they are part of its governance, can determine decision-making and are resourced to do so.
Environmental distress	Likert scale	Social survey[8]	An average score of below 3 for severity of distress.
Connection of people to waterways	Likert scale	Social survey[9]	An average score of 3 or above for connection to waterways.

Appendix 2 NOF Attribute Table Format

Value	Mahinga kai
Freshwater Body Type	Rivers
Attribute	Water temperature

[4] Rainforth, H. J. & Harmsworth, G. R. (2019). Kaupapa Māori Freshwater Assessments: A summary of iwi and hapū-based tools, frameworks and methods for assessing freshwater environments. Perception Planning Ltd, p.24.
[5] Ibid.
Edmonds, C., & Hawke, R. (2004). Microbiological and metal contamination of watercress in the Wellington region, New Zealand--2000 survey. Australian and New Zealand Journal of Public Health (1), 20.
[6] Ibid 1. pp. 39-34
[7] Independent Māori Statutory Board. (2018). Te Tiriti o Waitangi Audit Report 2018. Auckland: Independent Māori Statutory Board.
[8] Higginbotham, N., Freeman, S., Connor, L., Albrecht, G., & Agho, K. (2006). Validation of an environmental distress scale. EcoHealth, 3(4), 245-254
[9] Ibid. 3.
Larson, L. R., Whiting, J. W., & Green, G. T. (2011). Exploring the influence of outdoor recreation participation on pro-environmental behaviour in a demographically diverse population. *Local Environment, 16*(1), 67-86.

Attribute Unit	°C
Objective state	Water temperature remains ≤20°C
Monitoring method	Pre-existing regional council temperature monitoring

Value	Mahinga kai
Freshwater Body Type	Rivers
Attribute	Quality of mahinga kai
Attribute Unit	Abundance
Objective state	Catch 4 eating tuna at one site when using standard mahinga kai fyke net setting method.
Monitoring method	Standard eel survey monitoring[10]

Value	Mahinga kai
Freshwater Body Type	Streams
Attribute	Quality of mahinga kai
Attribute Unit	mg contaminant/kg plant material
Objective state	Mahinga kai species are safe for human consumption in accordance with the Australia New Zealand Food Standards Code
Monitoring method	Watercress sampling[11]

Value	Mahinga kai
Freshwater Body Type	Rivers
Attribute	Intergenerational knowledge transfer
Attribute Unit	Likert scale
Objective state	An average score of 4 'Te Rea: I am learning and practising this knowledge' across all knowledge types.
Monitoring method	Social survey[12]

Value	Mahinga kai
Freshwater Body Type	Rivers
Attribute	Iwi are part of water governance
Attribute Unit	Likert scale
Objective state	Achieve 'Tika' score: Decision-making is informed by mana whenua knowledge. Mana whenua have authority over natural resource management to the extent that they are part of its governance, can determine decision-making and are resourced to do so.
Monitoring method	Annual partnership audit[13]

[10] Rainforth, H. J. & Harmsworth, G. R. (2019). Kaupapa Māori Freshwater Assessments: A summary of iwi and hapū-based tools, frameworks and methods for assessing freshwater environments. Perception Planning Ltd, p.24.
[11] Ibid.
Edmonds, C., & Hawke, R. (2004). Microbiological and metal contamination of watercress in the Wellington region, New Zealand--2000 survey. Australian and New Zealand Journal of Public Health(1), 20.
[12] Ibid 1. pp. 39-34
[13] Independent Māori Statutory Board. (2018). Te Tiriti o Waitangi Audit Report 2018. Auckland: Independent Māori Statutory Board.

Value	Mahinga kai
Freshwater Body Type	Rivers
Attribute	Environmental distress
Attribute Unit	Likert scale
Objective state	An average score of below 3 for severity of distress.
Monitoring method	Social survey[14]

Value	Mahinga kai
Freshwater Body Type	Rivers
Attribute	Connection of people to waterways
Attribute Unit	Likert scale
Objective state	An average score of 3 or above for connection to waterways.
Monitoring method	Social survey[15]

[14] Higginbotham, N., Freeman, S., Connor, L., Albrecht, G., & Agho, K. (2006). Validation of an environmental distress scale. EcoHealth, 3(4), 245-254

[15] Ibid. 3.
Larson, L. R., Whiting, J. W., & Green, G. T. (2011). Exploring the influence of outdoor recreation participation on pro-environmental behaviour in a demographically diverse population. *Local Environment, 16*(1), 67-86.

TE KĀHUI WAI MĀORI

Comments to Minister Parker and other lead Ministers on New Farm Environment Plan Option in Essential Freshwater Discussion Document

Te Kāhui Wai Māori requests that this response is delivered to Minister Parker, Minister O'Connor and all other lead Ministers being consulted on the Discussion Document.

INTRODUCTION

Background

1. At 12pm on 30 July 2019 all advisory groups, including Te Kāhui Wai Māori, received the latest version of the Essential Freshwater Discussion Document. This included a late addition of a new farm environment plan (**FEP**) option (Option 2 below) to the Discussion Document, together with a briefing to Ministers from the Ministry for Primary Industries (**MPI Briefing**).[1]

2. We understand that:

   (a) Option 2 has been included following Ministerial feedback, and reflects a focus on managing the potential impact on the farming sector;

   (b) the option is still being developed, and is likely to change further.

3. A request was made for feedback by 4pm on 2 August 2019.

Timing and process

4. Te Kāhui Wai Māori has previously raised concerns about the lack of adequate time to review, understand and comment on the documents provided for feedback. Option 2 is no exception. We stand by the comments in this paper, while recognising that a turnaround of four days (which includes a briefing from MPI officials on the day our feedback is due) is inadequate to properly analyse Option 2, and is highly unsatisfactory.

5. Te Kāhui Wai Māori is also frustrated and gravely concerned that MPI has taken a lead role in the development of Option 2. There has been robust discussion on the role of FEPs between all the advisory groups and officials, including the Integrated Advisory Group (**IAG**). MPI was involved in those discussions and will be aware that options very similar to Option 2 were robustly considered and roundly rejected by the IAG. Attempting to resurrect this option in this way shows great contempt for the Ministerial Advisory Groups. We understand and accept Te Kāhui Wai Māori and other advisory groups do not have a final decision making or veto role over government decisions. However the last minute way this option has been presented undermines the ability of the advisory groups to respond effectively.

[1] MPI, Preliminary advice on mandatory freshwater farm environment plan feasibility dated 18 July 2019.

Actions contrary to Te Mana o te Wai

6. It appears that Option 2 has arisen out of a concern for managing the potential impact on the farming sector. Placing the impact on the farming sector ahead of environmental sustainability runs completely contrary to Te Mana o te Wai. Te Kāhui Wai Māori acknowledges and supports the role of primary industries in the New Zealand economy, including the significant contribution from the Māori primary industries sector. However, Te Mana o the Wai embeds environmental sustainability as the overriding focus, and all subsequent actions need to be taken with that as the foremost consideration.

TE KĀHUI WAI MĀORI STATEMENT OF POSITION ON FEPs

7. Te Kāhui Wai Māori agrees with the Freshwater Leaders' Group that:[2]

   (a) FEPs, noting FLG prefer the term Land Environment Plans,[3] should be mandatory and the requirements for them should be developed using a risk-based approach, using the catchment or the sub-catchment as the basis for assessing risk.

   (b) However, FEPs **should not** be used as a tool to ensure regulatory compliance. They can only be used as a tool to assist farmers comply with limits and regulations set by central and/or local government. They cannot be used to set limits for environmental performance in their own right as is proposed in Option 2.

   (c) A regulatory focus on FEPs, ahead of setting catchment limits and allocation mechanisms being established, risks individual enterprises making poor decisions.

COMMENTS ON DISCUSSION DOCUMENT

8. The two options for farm planning now identified in the Discussion Document, as we understand them, are:

   (a) Option 1: National level regulation with mandatory freshwater modules, where farm plans are adopted - Within this option, where farm plans are adopted, mandatory freshwater modules are proposed that would integrate with existing farm planning tools, resource consents, and regional plan rules.[4] (Note that this is our interpretation of Option 1, as the way that it is set out is unclear.)

   (b) Option 2: Farm-level risk management plans - A new regulatory regime based on mandatory, enforceable farm plans.[5]

9. Beyond this, there is little explanation about these options in the Discussion Document, and no clear explanation of the differences or overlap between the two options. Significant additional drafting is required to confirm the detail of these options so that the public is clear

[2] First Report of the Freshwater Leaders' Group, April 2019 (**FLG Report**), pgs 6-7 & 22-23.
[3] FLG Report, pg 6, footnote 1.
[4] Essential Freshwater Draft Discussion Document (draft Monday 29), received 30 July 2019, p 55.
[5] Discussion Document, p 56.

about the two options and their differences. There is also a lack of clarity around the expectation that industry organisations will provide plans to assist with the mandatory freshwater module.

10. We also recommend a wire diagram that demonstrates the difference between the options.

COMMENTS ON MPI BRIEFING – OPTION 2

11. Reviewing the MPI Briefing, Te Kāhui Wai Māori understands that Option 2 involves:[6]

    (a) Mandatory FEPs that include a freshwater module, with national direction on minimum requirements for the content of these FEPs.

    (b) Building on those minimum requirements, farmers / growers would then develop a risk based plan that is tailored to their particular property. All farmers and growers above a minimum size being required to secure the services of a 'suitably qualified and experienced practitioner' (**SQEP**) to work in close cooperation to develop a tailored FEP for their particular operation.

    (c) Farms would then be audited against their compliance with that plan.

12. We understand that the proposal is that these FEPs are to be used as the primary tool for improving water-related farm practice. In effect this delegates Council regulatory powers to private SQEP, with responsibility for creating mandatory, enforceable farm plans.

13. Te Kāhui Wai Māori does not support Option 2.

    (a) FEPs alone, will not deliver sufficient change to address the decline in our freshwater resources and give effect to Te Mana o Te Wai.

    (b) Options 2 has the potential to lead to perverse outcomes like farmers taking a minimalist approach in their environmental planning; and

    (c) the compliance costs will be much higher than stated in the MPI Briefing;

14. There is also no specific analysis on the impact on the Māori farming sector.

Failure to give effect to Te Mana o Te Wai

15. There remains a lack of evidence that FEPs will deliver the change necessary to improve Te Mana o Te Wai.

16. Farm plans can only operate effectively where robust objectives, limits and rules have been set by central and local government through the suite of national and regional planning tools. Once these objectives, limits and rules have been set, SQEP can work with the farm to ensure they meet their obligations. Without objectives, limits and rules set by Government

[6]MPI Briefing, p 1 (bullet 3), p 4 (bullets 10 & 11).

or Councils, farm plans will become the default regulation and there is no assurance they will give effect to Te Mana o Te Wai.

17. Nor does the MPI Briefing include any detailed assessment on this point.

18. This is our most fundamental issue with Option 2.

Incentivising perverse outcomes

19. The experience of Kāhui Members who have been involved in planning processes seeking to use FEPs (including Environment Bay of Plenty's Plan Change 10 and Waikato Regional Council's Plan Change 1) shows that rather than drive practice change on-farm to improve environmental outcomes, farmers will resist bureaucratic interference compelling them to farm to a plan that can be used to monitor and regulate their performance on a broad scale.

20. However, farmers do respond well to an assessment of their farms that demonstrates how they can increase performance to meet environmental limits, and promotes them to work with advisors to develop a plan that can be implemented over time.

Cost impacts

21. MPI has provided preliminary analysis on the cost of developing an FEP and an FEP audit.

22. MPI's preliminary cost analysis to develop an FEP is grossly understated and suggests a lack of first-hand experience with the development of FEPs created to date. This process cannot be completed for $3,500.[7] A more accurate estimate would be somewhere between $5,000 for a simple farm and up to $10,000 for more complex systems. However, the lack of a clear purpose and objectives of the FEP means that a minimum process could be adopted to produce outputs that do little to drive the change that is needed. The work required includes:

    (a) Spatial farm map including farm boundaries, fence lines and water reticulation, plus soils, topography and land use capability layers at a minimum. Most farmers have farm maps in hard copy. These have limited use in designing plans to implement change in farm systems and land utilisation.

    (b) Identification of high risk or critical source areas (CSAs) including erosion prone sites, soil damage from overstocking, areas where stock should be excluded included riparian planting.

    (c) An Overseer file to provide a base line environmental profile of all emissions.

    (d) A farm system model (using Farmax or a similar tool) to show system mitigation options and implementation/management plans, in response to nutrient, sediment or pathogen limits.

[7] MPI Briefing, p 5 (bullet 17).

(e) Land use change modelling based on land suitability and infrastructure access for alternative production systems including forestry, horticulture and other uses.

(f) Detailed plans and farmer support including extension and training to implement the plans.

23. There is also a lack of clarity on the outputs of the mandatory FEP along with industry environmental plans and the role of regional councils in the implementation of rules and regulations in producing points (a) to (f) above.

24. As there is no clarity around the purpose and outputs of proposed the FEPs, we cannot comment as to whether the FEP Audit figure of $1,500 is sufficiently robust.

25. Despite the driver for Option 2 being a focus on managing the potential impact on the farming sector, the reality is that it is likely to come with significant costs.

Impact on Māori farming sector

26. Nothing in the analysis provided to date gives Te Kāhui Wai Māori the confidence that MPI has the capability to understand how Māori-owned, administered and/or operated farms will be affected.

27. Māori-owned, administered and/or operated farms are more likely to work collaboratively to address catchment water quality problems where they are involved in defining water quality and designing solutions at a rohe and catchment level

28. Māori involvement in industry bodies (such as DairyNZ, Fonterra, Horticulture NZ, and Beef and Lamb) has historically been low, and this is unlikely to change in the future. Instead, the Government needs to work with Māori sector leaders like the Federation of Māori Authorities to understand FEP implementation issues for Māori-owned, administered and/or operated farms.

FURTHER ADVICE

29. The MPI Report refers to Ministers being provided with further advice on an FEP based system **in early August 2019**, including: its relationship to the RMA, Treaty implications, competencies and central oversight of SQEPs, data management, dispute resolution, compliance and enforcement.[8]

30. Te Kāhui Wai Māori expects to receive that advice at the earliest opportunity, in order to ensure we can advise Ministers of our views on these matters.

[8] MPI Briefing, p 2 (bullet 3).

Document 16

Draft Kahui Wai Māori meeting minutes, 19 November 2019

Venue: Terrace Conference Centre, 114 The Terrace, Wellington

Attendees:

KWM members: Kingi Smiler (Chair), Hon. Dover Samuels, Prof. Jacinta Ruru, Millan Ruka, Riki Ellison, Dr Tanira Kingi

KWM contractors: Lyn Harrison, Maia Wikaira

Ministry for the Environment (MfE) officials: Bryan Smith, Dr Lucy Bolton, Dr Matthew Cunningham, Pernelle Vari

Te Arawhiti officials: Benedict Taylor

Via Zoom: Paul Morgan, Mahina-a-rangi Baker

Apologies: Annette Sykes, Dr James Ataria, Traci Houpapa

Karakia

General Updates from MfE

1. Officials spoke about the key themes and messages heard during consultation:
    a. There was strong support for action to improve water quality.
    b. There was broad support for Te Mana o te Wai as a korowai for the package, though there were some submissions that stated there may be a conflict between Te Mana o te Wai and the purpose and principles of the Resource Management Act (RMA).
    c. There was support for mahinga kai as a compulsory value.
    d. There has been pushback from the agricultural sector. Those within the sector are most opposed to the bottom lines for Dissolved Reactive Phosphorous and Dissolved Inorganic Nitrogen, and the stock exclusion requirements. Sheep and beef farmers are also concerned about grandparenting, the sediment attributes, and mandatory Farm Environment Plans (FEPs).
    e. The need to address Māori rights and interests, in particular governance and allocation issues, was a continuing theme in submissions from Māori.
    f. There was consistent agreement with KWM regarding the hydropower exceptions, both from environmental NGOs and the wider public.

2. KWM emphasised that it is vital that MfE closes the gaps in its economic analysis by working more closely with primary sector groups. There is some inconsistency

between the information prepared by MfE and sector groups around where the bulk of the costs will arise. KWM members suggested that officials work more closely with sector group organisations like Federated Farmers and DairyNZ around modelling the costs of these proposals. This may help to ensure that the information in the public domain is accurate and robust, and reduce the level of opposition from the primary sector.

3. MfE officials stated that the Crown will be having a meeting with the Iwi Leaders Group on 11 December 2019. Officials will be providing advice on allocation prior to this meeting. Officials asked KWM to consider what role they would like to play in the allocation work programme moving forward.

4. There was some discussion about the different groups that are involved in the Action for Healthy Waterways and comprehensive resource management (RM) review work programmes. It was clarified that:
    a. The Independent Advisory Panel (IAP) will be preparing a report and recommendations for Ministers on the submissions received through the *Action for Healthy Waterways* consultation and the subject matter of proposals. KWM members expressed interest in receiving further information about the members of this panel.
    b. The Resource Management Review Panel (RMRP) will be working with officials to prepare proposals for public consultation for reforming the resource management system. KWM expressed interest in receiving further information about the timeline of the comprehensive RM review.
    c. The Te Ao Māori Reference Group will be supporting the RMRP. The members of this group have yet to be determined. MfE officials invited KWM to consider nominating members to be considered for this reference group.
    d. There will also be workshops taking place between December 2019 and February 2020 with environmental NGOs, and sector group representatives to discuss the practicality and implementation of the freshwater package. KWM expressed an interest in having a KWM representative observe these workshops. Officials are currently organising a similar workshop for iwi representatives.

5. KWM expressed concerns over the number of different groups that have or are being formed, and the risk that their presence might dilute the advice of the advisory groups. It was noted that these advisory groups might not be best-placed to offer advice given that they have not been involved with the package from the beginning.

6. A number of submissions stated that there could be a possible legal challenge to Te Mana o te Wai, on the grounds that it is inconsistent with the purpose and principles of the RMA. Officials' preliminary advice is that this is not the case. Ms Wikaira agreed with this, and referenced the King Salmon decision.

7. KWM members expressed that there needs to be an organisation with the mana to provide oversight of local government in order to ensure the delivery of Te Mana o te Wai, and compulsory values. Officials confirmed that monitoring the performance of councils and how they perform their functions (including giving effect to National Policy

Statements) has been identified as an important part of a future work programme. There are currently no timeframes for this work.

8. MfE officials have commissioned a report which will look specifically at the impacts of the package on Māori landowners and iwi/hapū. A draft of this report will be sent to KWM for comment on 20 January 2020. KWM members requested that the author present their draft report at their meeting on 23 January 2020.

9. KWM would like to be kept abreast of any issues that may arise while completing the impact analysis. If there are any issues that arise, KWM would like to be informed via Ms Wikaira immediately.

10. MfE officials stated that while freshwater allocation issues have been ruled as out of scope for the comprehensive RM review, Cabinet agreed on 11 November 2019 that the Waitangi Tribunal's recommendations in its report on stage two of the Freshwater and Geothermal Resources inquiry (Wai 2358) concerning the RMA will be considered as part of the report. The Cabinet minute also directs officials to look for opportunities to co-design policy options with Māori.

Closed session: Reflections and Future Priorities

11. The members held a closed session on the process to-date and KWM's future priorities. Officials were not present for this session.

Joint Work Programme

12. MfE officials and KWM discussed Minister Parker's request for advice from the advisory groups on their reflections from the consultation process (by 27 November). KWM members stated that they are aware of a number of smaller Māori landowners who are concerned about the costs of compliance. They also mentioned the low attendance at tangata whenua hui and the fact that they were not well advertised.

13. KWM members agreed to the joint work programme with officials to progress the Te Mana o te Wai and compulsory Māori value proposals to completion. The intention is that a KWM sub-group will work collaboratively with officials to develop final policy advice, with KWM retaining the option to provide separate advice at the end of February 2020 if it wishes.

14. KWM members discussed whether they would need to request a change in their Terms of Reference to produce a discussion paper on Māori freshwater rights and interests. They agreed to send a letter to Minister Parker by COB Thursday 21 November outlining their proposal.

15. KWM members noted that they will need more time to consider their level of involvement in the comprehensive RM review process. They agreed to convene a teleconference to discuss this further on 6 December.

16. KWM members approved all of the outstanding meeting minutes to-date with the changes proposed by Ms Wikaira.

Agreed dates

17. The table below outlines the dates that were discussed during the course of the hui:

Date	Event
Thursday 21 November 2019	KWM to send Minister Parker a letter outlining their proposal to produce a discussion document on Māori freshwater rights and interests.
Friday 22 November 2019	KWM representatives to meet with the IAP to discuss the freshwater package.
Wednesday 27 November 2019	KWM to provide advice to Ministers based on its reflections on the consultation process for the freshwater package.
Monday 2 December 2019	The environmental NGO implementation workshop will be taking place. KWM has the option to nominate a representative to observe this workshop.
Friday 6 December 2019, 10am-12pm	KWM teleconference to discuss the cabinet minute and 'Issues and Options Paper' on the comprehensive RM review, and potential for future involvement in this space.
Thursday 12 December 2019	KWM to meet with the RMRP and the Te Ao Māori Reference Group. KWM to hold a further discussion about their desired level of involvement in the comprehensive RM review (if required)
Thursday 23 January 2020	KWM meeting. The draft report on the impacts of the package on Māori landowners and iwi/hapū will be discussed. The work of the sub-group will also be presented at this hui.
Friday 28 February 2020	KWM meeting. Officials' proposed final advice will be reviewed, and KWM will decide if they would like to provide separate advice to Ministers. KWM will also review the advice of the IAP.
TBC	KWM sub-group meetings. It was proposed that there should be one meeting in December 2019, and another in January 2020. It was proposed that these meetings dates are organised by the members of the sub-group.

Closed session: further advice based on public consultation

18. The members held a session on the advice they might offer to Ministers based on their reflections on public consultation. Officials were not present for this session.

Karakia whakamutunga

Appendix A: Action points

No.	Action	Responsibility	Date
1	Circulate a copy of the November Cabinet minute and the 'Issues and Options Paper' for the comprehensive RM review.	Dr Cunningham	Done (19/11/2019)
2	Ms Harrison requested an introduction with Ms Victoria Rogers, who has replaced Ms Rodenberg in her communications role.	Dr Cunningham	Done (19/11/2019) – they will be meeting on 2 December
3	Investigate possibility of having a KWM representative observing the workshops with environmental NGOs and primary sector representatives in December 2019 and January 2020.	Dr Bolton	Done (19/11/2019) – KWM may send a representative in an observer role to these meetings.
4	Confirm the KWM meeting date with the RMRP.	Dr Bolton	Done (19/11/2019) – KWM representatives will meet with the RMRP and Te Ao Māori Reference Group on 12 December
5	Provide KWM with more information regarding the workshop for iwi technicians.	Dr Bolton	
6	Circulate further information regarding the timeline for the comprehensive RM review process.	Dr Cunningham	Done (26/11/19) – via email)
7	Circulate further information regarding the members of the IAP (including their Terms of Reference).	Dr Cunningham	Done (26/11/19) – via email)
8	Provide Ministers with a letter outlining KWM's proposal to prepare a discussion document on Māori freshwater rights and interests	Ms Wikaira	Done (21/11/2019)
9	Provide advice to Ministers on KWM's reflections from the consultation	KWM	By 27/11/2019

Document 18

Draft Kahui Wai Māori meeting minutes, 23 January 2020

Venue: Terrace Conference Centre, 114 The Terrace, Wellington

Attendees:
KWM members: Kingi Smiler (Chair), Annette Sykes, Hon. Dover Samuels, Prof. Jacinta Ruru, Dr James Ataria, Mahina-a-rangi Baker, Millan Ruka, Paul Morgan, Riki Ellison, Dr Tanira Kingi, Traci Houpapa (via VC)

KWM contractors: Lyn Harrison, Maia Wikaira, Dr Royden Somerville QC

Ministry for the Environment (MfE) officials: Alice Jacobs, Anne Haira, Bridget Fraser, Bryan Smith, Dr Lucy Bolton, Dr Matthew Cunningham, Pernelle Vari, Vicky Robertson

Te Arawhiti officials: Oliver Skinner

Karakia

General Matters

1. KWM agreed for Ms Sykes' firm to be instructing solicitors for Dr Royden Somerville QC, as Dr Somerville cannot have his own company as a Barrister sole. Ms Sykes did not participate in the resolution.

2. KWM agreed to contract Professor Ruru, Mses Baker and Sykes, and Messrs Morgan and Ellison for their work on the NPSFM and RM sub-committees. These members did not participate in the resolution.

Updates from MfE

3. Officials identified some of the potential 'hot spots' raised in submissions about the *Action for Healthy Waterways* package: Farm Environmental Plans (FEPs), the dissolved inorganic nitrogen (DIN) attribute and policies to manage stock exclusion and nitrogen loss.

Farm Environment Plans (FEPs)

4. Officials highlighted that both MfE and MPI are eager to improve farming practices that affect freshwater, climate and biodiversity through the use of FEPs. However, MfE and MPI differ in their philosophical approach to reaching this outcome: MPI advocate for an industry-led approach, whereas MfE favours regulatory compulsion.

5. KWM members emphasised that they see a need for FEPs to be supported by firm regulation to ensure compliance. Officials noted this preference.

6. KWM members stressed that they perceive an urgent need for the Minister for the Environment and the Minister for Agriculture to discuss how they can work in a joined up and cohesive way to achieve environmental outcomes via the use of FEPs.

7. Officials stated there is no clear landing point for FEPs at present. Officials emphasised that the industry-led and regulatory approaches may not be substitutes for each other, they may be complementary.

8. KWM members highlighted that the current debate about regulatory and industry-led approaches is creating uncertainty and disruption for the primary sector. They suggested that leadership needs to come from Ministers and officials to provide a clear pathway forward.

9. KWM members queried whether the Government's October 2019 climate agreement with farming sector leaders has impacted the two options put up for FEPs. They stressed that a climate change-style agreement would not work for freshwater management, which is much more complex. Officials acknowledged that freshwater is a complex policy area that requires different management to climate change.

DIN attribute

10. Officials highlighted that the bottom line for the DIN attribute is still being debated by those in the scientific community. For example, NIWA are still debating whether the relationship between DIN and MCI is sufficient.

Stock Exclusion

11. Officials stated that the best option for managing stock exclusion requirements, particularly in hill country, is still being considered. Officials noted there is the possibility that stock exclusion could be managed through FEPs, if FEPs are part of an enforceable regulatory regime.

12. KWM members stressed that farmers urgently need detail about the content and function of FEPs. They reiterated that MfE and MPI must work cohesively on the FEP kaupapa, to reduce uncertainty.

Immediate action to reduce nitrogen loss

13. Officials outlined that the catchments originally identified as Schedule 1 may be subject to change. Officials stated they are still considering the three options outlined for nitrogen loss in the *Action for Healthy Waterways* discussion document. There is a possibility that the final landing point may be a combination of more than one of the three options outlined.

14. KWM stressed that there are underlying allocation issues that need to be addressed.

15. KWM members queried whether regional councils have the required information to model nutrient discharge limits. Officials confirmed that it is possible to model this for every catchment using information collected by central and local government. Officials stated that this information could be used to determine the load reduction required in catchments and inform subsequent reductions in on-farm discharges.

16. KWM stressed that the drafting for FEP provisions needs to be aware of the jurisprudence surrounding resource consents, and the extent to which conditions in FEPs can be construed as conveying property interests.

Impact analysis

17. Officials outlined the impact analysis work that is currently being undertaken to identify the costs and benefits of the *Action for Healthy Waterways* package. This work will inform Ministers' decision-making. Officials stressed that this work is supplementary to the interim Regulatory Impact Statement and will include quantitative as well as qualitative data.

18. KWM members expressed concerns about the impact analysis work- specifically, that:
    a. the work commissioned may focus too heavily on ecosystem attributes, and not enough on cultural attributes, Māori modelling methods and the potential benefits of the package for Māori
    b. there is disparity between the costs and benefits, and information must be equally well-developed for both. For example, consideration must be given to the economic value for communities of having fish and freshwater
    c. consideration of Māori values must be well-developed and cannot be a clip-on piece of analysis.

19. KWM members stressed that impacts on Māori will be hard to ascertain without addressing Māori rights and interests in freshwater.

Māori rights and interests in freshwater

20. Vicky Robertson joined the meeting.

21. Ms Robertson stated that it is difficult to have a discussion about the impacts of freshwater management policy on Māori without addressing Māori rights and interests. She noted that there has been work completed in the past to establish what addressing rights and interest would entail, and what the process for resolving the issue would be. Rather than repeating this work, Ms Robertson sought suggestions as to how MfE might be able to initiate constructive, inclusive discussion with communities about Māori rights and interests.

22. Ms Robertson suggested that KWM members consider how the tone of the conversation around Māori rights and interests could be changed, to make the topic more palatable for all New Zealanders. She stressed that she is seeking KWM's perspective on these matters but does not expect them to resolve the problem.

23. KWM members highlighted that any work programme that aims to resolve Māori rights and interests should have inter-agency support, and also be supported by Māori and industry.

24. KWM members highlighted that there is potential to charge for water usage, which could unlock a revenue stream to support delivery of the *Action for Healthy Waterways* package. KWM members stressed that this revenue cannot be unlocked without addressing rights and interests.

25. A KWM member suggested that litigation in the Supreme Court may compel the Crown to address Māori rights and interests in freshwater.

26. Ms Robertson emphasised the need to develop some options to move this issue forward. One potential option is to have a national conversation between Ministers and Māori about the values and frameworks that could underpin the resolution of Māori rights and interests.

Closed session: Te Mana o te Wai and Māori compulsory values

27. The KWM Sub-group members updated KWM on their progress regarding their collaborative work with officials to refine the the Te Mana o te Wai and Māori compulsory value policies.

Te Mana o te Wai and Māori compulsory values

28. KWM members discussed Dr Somerville's legal opinion, which suggested that there is scope within the NPSFM to direct co-governance. KWM members reiterated the need to provide co-governance and decision-making opportunities for Māori within the package. Officials noted that it was their understanding that co-governance could not be directed through the NPSFM without changing the overarching legislation (the RMA), but were interested in seeing Dr Somerville's opinion and discussing how this might translate into policy options.

29. KWM members sought clarity on a note from the previous meeting minutes, which states, "KWM members expressed that there needs to be an organisation with the mana to provide oversight of local government in order to ensure the delivery of Te Mana o te Wai, and compulsory values. Officials confirmed that the oversight of councils is part of a future work programme." Officials suggested this was in error, as there is no active work programme at present on this matter. They agreed to clarify this minute, and amend if required.

30. KWM members stressed they are in need of an update from DIA on their progress with the Three Waters programme. Members suggested that this should be included in the letter to the Minister.

31. KWM sub-group members discussed their suggestion that the word 'indigenous' is removed from the descriptor of mahinga kai. They explained that this could limit the mahinga kai value, which may extend to species (such as watercress) that are not indigenous. KWM members discussed the use of the phrase 'other valued species', instead of 'indigenous'.

32. KWM members discussed whether access to mahinga kai sites should be mentioned in the descriptor of mahinga kai. Members concluded that tangata whenua in communities will be able to determine what the elements of mahinga kai will be and that some tangata whenua might identify access to sites as a component for them.

33. KWM members highlighted that some local authorities have claimed that it is the Crown, not local authorities, which has entered into partnership under the Treaty. KWM members claimed that councils have used this reasoning to avoid their obligations to partner with iwi/hapū. Officials replied that, while the matter of whether local government is/is not part of the Crown is more of a legal question, local authorities must still comply with the Treaty obligations in section 6, 7 and 8 of the RMA. The Te Mana o te Wai and Māori value proposals may provide one mechanism for this.

Engagement and implementation

34. Officials provided a brief update on upcoming engagement with Māori to support the finalisation of policy and implementation of the package. They specified that there will be an upcoming iwi technicians hui to test the practicalities of the package. In addition to this, MfE will be engaging in another round of regional hui with Māori. The focus of these hui will be the RM review but there will also be opportunities to discuss other kaupapa such as indigenous biodiversity and freshwater.

35. KWM members expressed concerns about the timing of the regional hui, which will take place after submissions on the Resource Management Review Panel (RMRP) 'issues and

options' paper close. Some KWM members expressed the view that this is not Treaty compliant and that hui should have taken place well ahead of the deadline for submissions.

36. Officials noted that it is their understanding that the RMRP will still be taking feedback from Māori through the February hui. They agreed to follow up to ensure that feedback received at the regional hui would be incorporated in the RM Review.

37. KWM members expressed that iwi/hapū should still be given the opportunity to provide written submissions after the February quarterly hui. It can be hard to express views at hui and some hui attendees may prefer to take time to consider their points and send written feedback after hui.

38. KWM members suggested that MfE's engagement practices could be strengthened. Allowing Māori a reasonable opportunity to engage is vital. They also stressed the need for increased coordination across MfE regarding engagement.

39. KWM members queried the role and membership of the Te Ao Māori Reference Group and whether they would be attending the February quarterly hui. Officials agreed to follow up on this.

40. One KWM member suggested that KWM write a letter expressing their concerns with MfE's engagement to Deputy Secretary for Partnerships and Customs, Anne Haira. Ms Harrison offered to make contact with Ms Haira to discuss these issues with MfE's engagement practices.

41. KWM members expressed interest in creating a document that summarises the proposals and officials' current thinking, to accompany regional hui. Ms Harrison offered to create a document that connects all of the areas the hui consults on.

42. Officials outlined the plans to progress work on implementation of the package. Kara Dentice has been contracted into MfE to establish a Māori technicians' rōpū to collaboratively identify and develop implementation support tools for tangata whenua.

43. KWM expressed concerns about having separate Māori groups working in the policy development and policy implementation space. They stressed that those involved in implementation should have been involved in the development of policy too.

44. Officials sought clarification as to the extent to which KWM members would like to be involved in the implementation work programme. KWM members suggested that the KWM Sub-group may be best placed to work in the implementation space. Officials and KWM

members agreed that Mr Dentice would attend the next meeting of the KWM Sub-group to discuss options for KWM's involvement in implementation of the package.

Closed session: Interaction between RMA and NPSFM

45. KWM sub-group members met with Dr Somerville and discussed his legal advice on the interaction between the RMA and the NPSFM.

Closed session: KWM advice on the comprehensive review of the resource management system

46. KWM RM sub-group members met to discuss their advice for the RMRP on potential reforms to the RMA.

Karakia whakamutunga

Appendix A: Action points

No.	Action	Responsibility	Date
1	Send Minister Parker a letter regarding FEPs	Maia Wikaira	Done – letter sent 31/01/2020
2	Provide further information on the role and membership of Te Ao Māori Reference Group, and whether they will be attending the regional hui	Matthew Cunningham	Done - email sent 24/01/2020
3	Confirm whether the RMRP will be accepting and using feedback received from attendees at regional hui	Matthew Cunningham	Done - email sent 24/01/2020
4	Clarify a minute from the last November meeting (paragraph 7 from the 19 November 2019 minutes)	Pernelle Vari	Done - email sent 24/01/2020
5	Send a letter to Anne Haira detailing KWM's concerns about MfE's engagement processes	Lyn Harrison	Done – email sent 23/01/2020
6	Contact MfE about creating resources to accompany the next round of regional hui	Lyn Harrison	
7	Provide additional information on the models being used in impact analysis (for Mahina-a-rangi Baker)	Bridget Fraser	
8	Organise for Kara Dentice to attend the next meeting of the KWM Sub-group to discuss KWM involvement in implementation	Matthew Cunningham	Done

NOT GOVERNMENT POLICY– CONSULTATION DRAFT

Draft National Policy Statement for Freshwater Management

Proposals for consultation September 2019

Authority

This National Policy Statement is issued by the Minister for the Environment under section 54 of the Resource Management Act 1991.

Contents

Part 1: Preliminary provisions 3
1.1 Title 3
1.2 Commencement 3
1.3 Purpose of National Policy Statement 3
1.4 Matter of national significance 3
1.5 Fundamental concept – Te Mana o te Wai 3
1.6 Definitions 4
1.7 Application 5
1.8 Application of section 55(2) of Act 6
Part 2: Objective and policies 6
2.1 Objective 6
2.2 Policies 6
Part 3: Implementing objective and policies 7
3.1 Overview of Part 7
Subpart 1 Approaches to implementing objective and policies 7
3.2 Te Mana o te Wai 7
3.3 Tangata whenua roles and interests 8
3.4 Integrated management 9
Subpart 2 National objectives framework 10
3.5 Overview of national objectives framework 10
3.6 Identifying FMUs and monitoring sites 10
3.7 Identifying values and environmental outcomes 10
3.8 Identifying current attribute states 11
3.9 Setting target attribute states 11
3.10 Identifying limits on resource use and preparing action plans 12

3.11 Setting environmental flows and levels 13
3.12 Identifying take limits 13
3.13 Monitoring 14
3.14 What to do if deterioration detected 14
Subpart 3 Specific requirements 16
3.15 Inland wetlands 16
3.16 Streams 18
3.17 Fish passage 19
3.18 Primary contact sites 20
3.19 Water allocation 21
3.20 Accounting systems 21
3.21 Assessing and reporting 22
Subpart 4 Exceptions 23
3.22 Exception for large hydro schemes 23
3.23 Exception for naturally occurring processes 23
3.24 Transitional exception 24
Part 4 Timing 24
4.1 Timing 24
Appendices 25
Appendix 1A: Compulsory values 25
Appendix 1B: Other values that must be considered 27
Appendix 2A: Attributes requiring limits 30
Appendix 2B: Attributes requiring action plans 44
Appendix 2C: Sediment Classification Tables 55
Appendix 3: National target 57
Appendix 4: Temporary exception for specified freshwater management units 59

Part 1: Preliminary provisions

1.1 Title

This is the National Policy Statement for Freshwater Management 2019.

1.2 Commencement

This National Policy Statement comes into force on [*to come*].

1.3 Purpose of National Policy Statement

The purpose of this National Policy Statement is to set out objectives and policies in relation to freshwater management and to specify what local authorities, in their governance and management roles, must do to help achieve those objectives and policies.

1.4 Matter of national significance

The matter of national significance that this National Policy Statement is about is freshwater management.

1.5 Fundamental concept – Te Mana o te Wai

Te Mana o te Wai, "the mana of the water", refers to the fundamental value of water and the importance of prioritising the health and wellbeing of water before providing for human needs and wants. It expresses New Zealanders' special connection with freshwater. When Te Mana o te Wai is upheld, the future wellbeing of people and our unique ecosystems is protected.

Upholding Te Mana o te Wai protects the mauri of the water and requires that Te Hauora o te Taiao (the health of the environment), Te Hauora o te Wai (the health of the waterbodies), and Te Hauora o te Tangata (the health of the people) are all provided for.

[Placeholder for reference to the Treaty of Waitangi, if it's not included in a preamble. For example: Te Mana o te Wai is cross-cultural in application. The Treaty of Waitangi /Te Tiriti o Waitangi is the underlying foundation of the Crown and Māori relationship, and is important to all New Zealanders. Te Tiriti upholds Te Mana o te Wai.]

As it applies to freshwater management, Te Mana o te Wai is a framework that has a number of features. These may be interpreted differently by different people in different contexts. It is relevant to the application of various regulatory and non-regulatory tools. The features of Te Mana o te Wai that are relevant to, and reflected in, this National Policy Statement, are:

- the principles of mana whakahaere/governance, kaitiakitanga/stewardship and manaakitanga/respect and care;
- the **hierarchy of obligations** – to waterbodies first, then to the essential needs of people, and finally for other uses.

In the context of this National Policy Statement, giving effect to Te Mana o te Wai requires the following, and may include other things as determined locally:

a) adopt~~ing~~ the priorities set out in the hierarchy of obligations;

b) ~~providing~~ provide for the involvement of iwi and hapū in freshwater management and decision-making ~~identifying and reflecting~~ when addressing tangata whenua values and interests;
c) ~~engaging~~ engage with ~~tangata whenua and~~ communities to identify matters that are important to them in respect of waterbodies and their catchments;
d) ~~enabling~~ enable the application of broader systems of values and knowledge, such as mātauranga Māori, to the health and wellbeing of waterbodies and freshwater ecosystems;
e) adopt ~~ing~~ an integrated approach, ki uta ki tai, to the management of waterbodies and freshwater ecosystems.

1.6 Definitions

(1) In this National Policy Statement:

Act means the Resource Management Act 1991

attribute means a measurable characteristic that can be used to assess a particular component of a value applied to water under the national objectives framework (*see* clauses 3.5 – 3.14)

commencement date means the date on which this National Policy Statement comes into force

compulsory value means any of the 3 [4] values of: Ecosystem Health, Human Contact, [Mahinga Kai or Tangata Whenua Value,] and Threatened Species, as described in Appendix 1A

ecosystem health has the meaning given in Appendix 1A

ecosystem services are the benefits obtained from ecosystems, which include:
a) supporting services (e.g. nutrient cycling, soil formation, habitat creation);
b) provisioning services (e.g. food, freshwater, wood, fibre, fuel);
c) regulating services (e.g. water purification, climate regulation, flood regulation, disease regulation); and
d) cultural services (e.g. aesthetic, spiritual, educational, recreational)

efficient allocation, in relation to water, includes economic, technical, and dynamic efficiency

environmental outcome means an environmental outcome for an FMU, or for individual waterbody or freshwater ecosystem that is described as required by clause 3.7

FMU, or **freshwater management unit**, means all or any part of a waterbody or waterbodies, and their related catchments, that a regional council determines under clause 3.6 is an appropriate unit for freshwater management and accounting purposes

inland wetland has the meaning in clause 3.15

ki uta ki tai ("from the mountains to the sea"), as used in the context of this National Policy Statement, refers to a holistic and integrated approach to freshwater management

limit refers to either a limit on resource use or a take limit

limit on resource use means a limit as defined in clause 3.10

national bottom line means an attribute state identified as such in Appendix 2A or 2B

natural wetland has the meaning in clause 3.15

outstanding waterbody means a waterbody identified in a regional policy statement or plan as having outstanding values (such as ecological, landscape, recreational, or spiritual values)

over-allocation, in relation to both the quantity and quality of water, is the situation where the water:

a) has been allocated to users beyond a limit on resource use or a take limit; or
b) is being used to a point where one or more target attribute states is not being met.

primary contact site means a site identified by a regional council that it considers is regularly used, or would be regularly used, but for existing freshwater quality, for recreational activities such as swimming, paddling, boating, or watersports, and particularly for activities where there is a high likelihood of water or water vapour being ingested or inhaled

publish, in relation to an obligation on a local authority to publish material, means to make the material freely available to the public on the local authority's Internet site

stream has the same meaning as **river** in the Act, and is used interchangeably with that term, as consistent with common usage

take limit means a limit on the amount of water that can be taken from an FMU, as set under clause 3.12

Te Mana o te Wai has the meaning set out in clause 1.5

terrestrial environment means land above mean high water springs

threatened species are taxa that meet the criteria specified by Townsend et al. (2008) for the categories Nationally Critical, Nationally Endangered, and Nationally Vulnerable Species (*Andrew J. Townsend, Peter J. de Lange, Clinton A.J. Duffy, Colin M. Miskelly, Janice Molloy and David A. Norton (2008). The New Zealand Threat Classification System Manual*, available at:

https://www.doc.govt.nz/globalassets/documents/science-and-technical/sap244.pdf.)

waterbody has the meaning in the Act, except that it does not include geothermal water.

(2) Terms defined in the Act and used in this National Policy Statement have the meanings in the Act, except as otherwise specified.

1.7 Application

Geographic application

(1) This National Policy Statement applies to freshwater in the terrestrial environment throughout New Zealand, except that any consideration of receiving environments includes consideration of environments in the coastal marine area.

Temporal application

(2) This National Policy Statement applies as from the date [*to come*], which means, for instance, that:

a) references to "current" or "existing" means existing as at that date; and
b) a requirement to "maintain" something is a requirement to maintain the thing as it was at that date.

(3) *See* Part 4 for provisions about the timing of the implementation of this National Policy Statement.

Information note

The coastal marine area is covered by the New Zealand Coastal Marine Policy.

1.8 Application of section 55(2) of Act

(1) A requirement in this National Policy Statement to include a specific objective or policy (as, for instance, in clauses 3.2(1) and 3.15(2)) is a requirement referred to in section 55(2)(a) of the Act.

(2) This means the specified objective or policy must be included in policy statements or plans (as required) without using the process in Schedule 1 of the Act.

Part 2: Objective and policies

2.1 Objective

The objective of this National Policy Statement is to ensure that resources are managed in a way that prioritises:

a) first, the health and wellbeing of waterbodies and freshwater ecosystems; and
b) second, the essential health needs of people; and
c) third, the ability of people and communities to provide for their social, economic, and cultural wellbeing, now and in the future.

2.2 Policies

The policies that this National Policy Statement is intended to achieve are as follows:

Policy 1: Freshwater is managed in a way that gives effect to Te Mana o te Wai;

Policy 2: Freshwater is managed through a national objectives framework, in order to ensure that the health and wellbeing of waterbodies and freshwater ecosystems is maintained or improved;

Policy 3: The condition of waterbodies and freshwater ecosystems is systematically monitored over time, and action is taken to reverse deteriorating trends;

Policy 4: Freshwater is managed in an integrated way that considers the effects of the use and development of land on a whole-of-catchments basis, including the effects on sensitive receiving environments;

Policy 5: Iwi and hapū are involved in freshwater management, and tangata whenua values and interests are identified and reflected in the management of, and decisions relating to waterbodies and freshwater ecosystems;

Policy 6: The national target for water quality improvement (as set out in Appendix 3) is achieved;

Policy 7: Freshwater is allocated and used efficiently, all existing over-allocation is phased out, and future over-allocation is avoided;

Policy 8: There is no further loss or degradation of natural inland wetlands;

Policy 9: There is no further net loss of streams;

Policy 10: The significant values of outstanding waterbodies are protected;

Policy 11: The habitats of indigenous freshwater species are safeguarded;

Policy 12: Information about the state of waterbodies and freshwater ecosystems, and the challenges to their health and wellbeing, is regularly reported on and published;

Policy 13: Communities are enabled to provide for their economic wellbeing while managing freshwater in a manner consistent with Te Mana o te Wai and as required by the national objectives framework and other requirements of this National Policy Statement.

Part 3: Implementing objective and policies

3.1 Overview of Part

This Part sets out what local authorities must do to implement or give effect to the objective and policies of this National Policy Statement as follows:

a) subpart 1 is about the manner in which local authorities must go about implementing this National Policy Statement;
b) subpart 2 sets out the national objectives framework for managing freshwater;
c) subpart 3 set out additional specific obligations on regional councils;
d) subpart 4 sets out exceptions applying to requirements on regional councils.

Subpart 1 Approaches to implementing objective and policies

3.2 Te Mana o te Wai

(1) Every regional council must include the following objective (or words to the same effect) in its regional policy statement:

"The management of freshwater in our region must be carried out in a manner that gives effect to Te Mana o te Wai, as it is described in the National Policy Statement for Freshwater Management 2019 and understood locally."

(2) Every regional council must give effect to Te Mana o te Wai in implementing this National Policy Statement.

(3) Te Mana o te Wai must inform the interpretation of:
a) the objective and policies of this National Policy Statement; and
b) the objectives and policies required by this National Policy Statement to be included in local authority policy statements and plans.

(4) As part of the requirement to give effect to Te Mana o te Wai, when implementing this National Policy Statement tangata whenua will direct regional councils ~~must specifically engage in discussion with communities and tangata whenua to determine local understandings of~~ on how to apply Te Mana o te Wai ~~as applied~~ to freshwater bodies in the region.

(5) In particular, every regional council must develop, and articulate in its regional policy statement, a long-term vision that gives effect to Te Mana o te Wai.

(6) The long-term vision must:

a) be developed with tangata whenua in order to give effect to Te Mana o te Wai;
~~a)~~b) be developed through discussion with communities ~~and tangata whenua~~ about their long-term wishes for waterbodies in the region; and
~~b)~~c) be informed by an understanding of the history of, and current pressures on, waterbodies in the region; and
~~c)~~d) express what communities ~~and tangata whenua~~ want their waterbodies to be like in the future.

(7) Every regional council must assess whether waterbodies in the region can both sustain current pressures on them and provide for the long-term vision articulated in its regional policy statement.

(8) The long-term vision and the discussions that led to it must inform and provide the context for all subsequent freshwater management and freshwater planning decisions in the region.

3.3 Tangata whenua roles and interests

(1) ~~As part of the requirement to give effect to Te Mana o te Wai, regional councils must engage with tangata whenua in the management of waterbodies and freshwater ecosystems.~~ In order to give effect to the principles of mana whakahaere/governance regional councils must include provisions in their regional policy statements and regional plans requiring that there shall be joint decision-making by tangata whenua and local authorities in areas including, but not limited to:

a) any statute implementing a Tiriti o Waitangi/Treaty of Waitangi settlement which involves freshwater;
b) any Water Conservation Order;
c) any freshwater resources and sites identified by tangata whenua that are available and able to be used for customary use and valued for providing mahinga kai;
d) the protection of significant native fisheries and wetlands and the restoration of those that have been depleted; and
e) undeveloped Māori land.

(2) As part of the requirement to give effect to Te Mana o te Wai regional councils and tangata whenua must:

a) adopt the priorities set out in the hierarchy of obligations;
b) provide for the involvement of iwi and hapū in freshwater management and decision-making when addressing tangata whenua values and interests;
c) engage with communities to identify matters that are important to them in respect of waterbodies and their catchments;
~~a)~~d) enable the application of broader systems of values and knowledge, such as mātauranga Māori, to the health and wellbeing of waterbodies and freshwater ecosystems;
e) adopt an integrated approach, ki uta ki tai, to the management of waterbodies and freshwater ecosystems.

~~Engagement with tangata whenua requires taking reasonable steps to:~~

Formatted: Space After: 8 pt

Formatted: Space After: 8 pt

~~a) involve tangata whenua in freshwater management and decision-making regarding freshwater planning; and~~
~~b) identify tangata whenua values and interests in relation to waterbodies and freshwater ecosystems; and~~
~~c) reflect those values and interests in the management of, and decision-making regarding, the waterbodies and freshwater ecosystems in the region.~~

3.4 Integrated management

(1) Regional councils must, ~~consistent~~ to give effect to ~~with~~ Te Mana o te Wai:

a) jointly manage and recognise with tangata whenua the interactions ki uta ki tai between freshwater, land, waterbodies, freshwater ecosystems, other ecosystems, and sensitive receiving environments, including the coastal environment; and
b) manage with tangata whenua freshwater, and land use and development, in catchments in an integrated and sustainable way to avoid, remedy, or mitigate adverse effects, including cumulative effects.

(2) Regional councils must make or change their regional policy statements to the extent needed to provide for the integrated management of the effects of:

a) the use and development of land on freshwater; and
b) the use and development of land and freshwater on sensitive receiving environments.

(3) Giving effect to subclause (2) includes encouraging the co-ordination and sequencing of regional or urban growth, land use and development, and the provision of infrastructure.

(4) In order to give effect to this National Policy Statement, local authorities that share jurisdiction over a catchment should co-operate in the integrated management of the effects on freshwater of land use and development.

(5) Every regional council must insert the following method (or words to the same effect) into its regional policy statement:
"District plans must include objectives, policies, and methods to avoid, remedy, or mitigate the cumulative adverse effects of land use on freshwater bodies, freshwater ecosystems, and sensitive receiving environments resulting from urban development."

(6) Every territorial authority must include objectives, policies, and methods in its district plan at the next review of the plan to avoid, remedy, or mitigate the cumulative adverse effects of land use resulting from urban development on waterbodies and sensitive receiving environments.

Information note:

The following are examples of the kinds of methods territorial authorities could use to comply with clause 3.4(6):

- Regulating impervious surface cover and/or requiring on-site infiltration;
- Requiring treatment of contaminants at source;
- Using zoning/designations to avoid all, or certain types of development in areas where the effects on freshwater could not be adequately managed;
- Provision of green infrastructure (especially for stormwater management);
- Use of best practice Water Sensitive Urban Design or Low Impact Design techniques.

Subpart 2 National objectives framework

3.5 Overview of national objectives framework

(1) The national objectives framework requires that every regional council identifies values for each FMU in its region; sets target attribute states, and flows and levels, for waterbodies; develops interventions (limits specified in rules, or action plans) to achieve the target attribute states, flows, and levels; monitors waterbodies and freshwater ecosystems; and takes steps if deterioration is detected.

(2) At every stage of the process, regional councils must jointly with tangata whenua engage with communities ~~and tangata whenua~~ in order to give effect to Te Mana o te Wai, as required by clause 3.2.

3.6 Identifying FMUs and monitoring sites

(1) Every regional council jointly with tangata whenua must identify FMUs for its region.

(2) Every waterbody in the region must be located within an FMU.

(3) Every regional council must also identify with tangata whenua the following (if present) within each FMU:

a) sites to be used for monitoring attributes;
b) primary contact sites;
c) the location of habitats of threatened species;
d) outstanding waterbodies;
e) inland wetlands (*see* clause 3.15);
~~e)~~f) sites that are of importance to tangata whenua.~~.~~

(4) Monitoring sites in an FMU must be located at sites that are either or both of the following:

a) representative of tangata whenua values and interests;
~~a)~~b) representative of the FMU;~~:~~
~~b)~~c) representative of one or more primary contact sites in the FMU.

3.7 Identifying values and environmental outcomes

(1) Every regional council must identify the values that apply to each FMU, as follows:

a) the compulsory values as set out in Appendix 1A;
b) any of the other values set out in Appendix 1B that the council considers applies;
c) any other value as the council and tangata whenua consider~~s~~, after consultation with ~~its~~ their communities~~y and tangata whenua~~, applies.

(2) For each FMU, or for individual waterbodies or freshwater ecosystems within an FMU, the regional council and tangata whenua must describe the environmental outcomes that it and tangata whenua want~~s~~ to achieve for:

a) the value Ecosystem Health, and each of its components; and
b) the value Human Contact, and each of its components; and
c) ~~the value[s] [Mahinga Kai or Tangata Whenua Value and]~~tangata whenua values; and
~~c)~~d) Threatened Species; and
~~d)~~e) any other values and components the council and tangata whenua identify~~ies~~.

(3) A regional council and tangata whenua may identify additional components and attributes for any of the compulsory values, and components and attributes for any additional values identified.

(4) Any attributes developed by councils and tangata whenua must be specific and, where possible, be able to be assessed in numeric terms.

(5) Regional councils and tangata whenua must include the environmental outcomes identified or described under this clause as an objective in their regional plans.

3.8 Identifying current attribute states

(1) Every regional council and tangata whenua must identify the current state of each attribute (noting that water quantity does not have attributes – *see* clause 3.11).

(2) The current state need not be a single measure but may take into account natural variability and sampling error.

(3) If a regional council does not have complete and scientifically robust data on which to establish the current state of an attribute, it must use its best efforts to identify a current state using the information that is available, including partial data, local knowledge, and information obtained from other sources.

3.9 Setting target attribute states

(1) In order to achieve the environmental outcomes described under clause 3.7, every regional council and tangata whenua must set a target attribute state for every attribute, as at each relevant monitoring site.

(2) Every target attribute state must:

a) for attributes relating to the value Human Contact, be above the current state of that attribute as determined under clause 3.8; and

b) for all other attributes, be at or above the current state of that attribute as determined under clause 3.8.

(3) However, if the current attribute state is worse than the national bottom line for that attribute (as identified in Appendix 2A or 2B), the target attribute state must be set at, or better than, the national bottom line (*see* subpart 4 for exceptions to this).

(4) Every target attribute state must:

a) specify a timeframe for achieving the target attribute state; and

b) for attributes for compulsory values, be set in terms of the requirements of Appendix 2A or 2B, as appropriate; and

c) for any other attribute, be set in any way appropriate to the attribute.

(5) Timeframes for achieving target attribute states:

a) may be of any length or period; but

b) if timeframes are long-term, they must include interim targets (set for intervals of not more than 10 years) to be used to assess progress towards achieving the target attribute state in the long-term.

(6) When setting target attribute states, regional councils must:

a) have regard to the following:

i. the foreseeable impacts of climate change;
ii. the long-term vision set under clause 3.2;
iii. the environmental outcomes set under clause 3.7(2);
iv. the connections between waterbodies;
v. the connection of waterbodies and coastal water; and

b) use the best information available at the time; and
c) not delay making decisions because of uncertainty about the quality or quantity of the information; and
d) take into account results or information from freshwater accounting systems; and
e) consider the requirements of all other national directions.

(7) If an attribute applies to more than one value, the most stringent target state that is required to achieve the environmental outcomes described under clause 3.7 must be applied wherever that attribute applies.

3.10 Identifying limits on resource use and preparing action plans

(1) In order to achieve the target attribute states for the attributes in Appendix 2A, every regional council and tangata whenua:

a) must identify limits on resource use that will achieve the target attribute state; and
b) must include the limits on resource use as rules in its regional plan; and
c) may prepare and publish action plans; and
d) may impose conditions on resource consents.

(2) In order to achieve the target attribute states for the attributes in Appendix 2B, every regional council and tangata whenua:

a) must prepare an action plan for achieving the target attribute state within the specified timeframe; and
b) must publish the action plan; and
c) may identify limits on resource use and include them as rules in its regional plan; and
d) may impose conditions on resource consents.

(3) In order to achieve any other target attribute states, a regional council and tangata whenua may do any or all of the following:

a) identify limits on resource use and include them as rules in its regional plan;
b) prepare and publish action plans;
c) impose conditions on resource consents.

(4) Limits on resource use may:

a) apply to any activity or land use practice; and
b) apply at any scale (such as to all or any part of an FMU, or to a specific waterbody or individual property); and
c) be expressed as an input control (such an amount of fertiliser that may be applied) or an output control (such as a volume or rate of discharge); and
d) describe the circumstances in which the limit applies.

(5) In setting limits on resource use, regional councils and tangata whenua must:

a) use the best information available at the time (which may include measured, modelled, or estimated data); and
b) take into account results or information from freshwater accounting systems.

(6) Action plans may be published either by including them in a regional plan, or by being published separately.

3.11 Setting environmental flows and levels

(1) Every regional council and tangata whenua must set environmental flows and levels for each FMU, and may set them for individual waterbodies or parts of waterbodies in an FMU.

(2) The environmental flows and levels must be developed on the basis of the environmental outcomes identified under clause 3.7.

(3) The environmental flows and levels must be expressed in terms of the water level, flow rate, and variability of flow (as appropriate to the waterbody) at which:

a) for flows and levels in rivers, the taking, damming, or diverting of water meets the environmental outcomes for the river and any connected waterbody; and
b) for levels of lakes, the taking, damming, or diverting of water meets the environmental outcomes for the lake and any connected waterbody; and
c) for levels of groundwater, the taking, damming, or diverting of meets the environmental outcomes for the groundwater and any connected surface water.

(4) Clause 3.9(6) applies when regional councils and tangata whenua are setting environmental flows and levels.

3.12 Identifying take limits

(1) In order to meet environmental flows and levels, every regional council and tangata whenua:

a) must identify take limits for each FMU; and
b) must include the take limits as rules in its regional plan; and
c) must state in its regional plan whether existing water permits will be reviewed to comply with environmental flows and levels; and
d) may prepare and publish action plans; and
e) may impose conditions on resource consents.

(2) Take limits must be expressed as a total volume or total rate at which water may be taken from each FMU, or from parts of an FMU, and must state the circumstances in which the take may occur.

(3) Take limits must be identified at levels that:

a) provide for flow or level variability that meets the needs of the relevant waterbody and connected waterbodies, and their associated ecosystems; and
b) safeguard ecosystem health from the effects of the take limit on the frequency and duration of lowered flows or levels; and
c) provide for the lifecycle needs of aquatic life; and
d) provide for the essential health needs of people; and
e) take into account the environmental outcomes applying to the relevant waterbodies and any connected waterbodies (such as aquifers and downstream surface waterbodies), whether in the same or another region.

(4) Clause 3.10(5) and (6) apply when regional councils and tangata whenua are identifying take limits.

3.13 Monitoring

(1) Every regional council and tangata whenua must establish methods for monitoring progress towards achieving target attributes states and identified environmental outcomes for values and components.

(2) The methods must include:

a) measures of the health of indigenous flora and fauna; and

b) mātauranga Māori.

(3) Monitoring methods must recognise the importance of long-term trends in monitoring results, and the relationship between results and their contribution to evaluating the environmental outcomes set under clause 3.7(2).

3.14 What to do if deterioration detected

(1) If a regional council and tangata whenua detects a trend indicating a deterioration in any attribute state, or a failure to achieve identified environmental outcomes for values or components, it must prepare an action plan for halting, and if possible reversing, the deterioration.

(2) The action plan must include actions to identify the causes of the deterioration, methods to address those causes, an evaluation of the effectiveness of the methods, and processes for regular review and adjustment.

(3) Where a target attribute state, environmental flow or level, or environmental outcome is not being met, the regional council may take any other steps, which may be regulatory (such as making rules or implementing methods), non-regulatory, or both, to assist the improvement of water quality, and avoid over-allocation, within defined timeframes.

Information notes

Action plans may include, for example:

a) describing the circumstances (ie, minimum flows) at which water takes will be restricted by way of a water shortage direction under section 329 of the Act;

b) points at which monitoring will be increased.

The following table identifies the values, components, and attributes of the compulsory values, and the minimum interventions that regional councils must use to achieve the target attribute states.

Table Number	Value	Component	Attribute	Minimum Intervention
3	Ecosystem health	Water quality	Total nitrogen (lakes) (to be included in Appendix 2A)	Limit
4	Ecosystem health	Water quality	Total phosphorus (lakes) (to be included in Appendix 2A)	Limit

Table Number	Value	Component	Attribute	Minimum Intervention
5	Ecosystem health	Water quality	Dissolved inorganic nitrogen (rivers)	Limit
6	Ecosystem health	Water quality	Dissolved reactive phosphorus (rivers)	Limit
7	Ecosystem health	Water quality	Amonia toxicity (rivers)	Limit
8	Ecosystem health	Water quality	Nitrate toxicity (rivers)	Limit
9	Ecosystem health	Water quality	Dissolved oxygen (rivers)	Limit or Action plan
10	Ecosystem health	Water quality	Suspended fine sediment (rivers)	Limit
19	Ecosystem health	Water quality	Dissolved oxygen (general)	Action plan
20	Ecosystem health	Water quality	Dissolved oxygen (lakes) (bottom)	Action plan
21	Ecosystem health	Water quality	Dissolved oxygen (lakes – seasonally stratifying) (mid-hypolimnetic)	Action plan
18	Ecosystem health	Physical habitat	Deposited sediment (rivers - wadeable)	Action plan
1	Ecosystem health	Aquatic life	Phytoplankton (lakes) (to be included in Appendix 2A)	Limit
2	Ecosystem health	Aquatic life	Periphyton (rivers) (to be included in Appendix 2A)	Limit
13	Ecosystem health	Aquatic life	Macroinvertebrates (MCI, QMCI) (rivers - wadeable)	Action plan
14	Ecosystem health	Aquatic life	Macroinvertebrates (ASPM) (rivers - wadeable)	Action plan
15	Ecosystem health	Aquatic life	Fish (IBI) (rivers)	Action plan
16	Ecosystem health	Aquatic life	Lake submerged plants (native)	Action plan

Table Number	Value	Component	Attribute	Minimum Intervention
17	Ecosystem health	Aquatic life	Lake submerged plants (invasive species)	Action plan
22	Ecosystem health	Ecosystem processes	Ecosystem metabolism (rivers)	Action plan
11	Human contact	Human health	*E. coli* (lakes and rivers)	Limit or Action plan
12	Human contact	Human health	Cyanobacteria (lakes and lake-fed rivers)	Limit or Action plan
23	Human contact	Primary contact	*E. coli*	Action plan

Subpart 3 Specific requirements

3.15 Inland wetlands

(1) In this subpart:

coastal wetland means a natural wetland that is influenced by marine or coastal geomorphological processes to the seaward extent of freshwater influence, and includes:

a) saltmarshes (of which mangroves can be a structural component); and
b) seagrass meadows in intertidal and subtidal zones less than 2 m below mean low water spring tide

constructed wetland means a wetland constructed by artificial means that:

a) supports an ecosystem of plants that are suited to wet conditions; and
b) is constructed for a specific purpose in a place where a natural wetland does not already exist

effects management hierarchy means an approach to managing the adverse effects of subdivision, use, and development that requires that:

a) adverse effects are avoided where possible; and
b) adverse effects that cannot be demonstrably avoided are remedied where possible; and
c) adverse effects that cannot be demonstrably remedied are mitigated; and
d) in relation to adverse effects that cannot be avoided, remedied, or mitigated, offsetting is considered; and
e) if offsetting is not demonstrably achievable, compensation is considered

inland wetland means any wetland that is not a coastal wetland, but does not include geothermal wetlands

loss or degradation, in relation to a wetland, means the loss of extent, or a condition of deteriorated or depleted ecosystem health, ecosystem services, processes, or functioning

natural wetland means a wetland as defined in the Act (regardless of whether it is dominated by indigenous or exotic vegetation), except that it does not include:

a) wet pasture or paddocks where water temporarily ponds after rain in places dominated by pasture, or that contain patches of exotic sedge or rush species; or
b) constructed wetlands; or
c) geothermal wetlands

net gain, in relation to a wetland or stream, means the point at which the measurable positive effects on the ecosystem health of the wetland or stream exceed the point of no net loss

net loss means the point at which measurable positive effects from targeted environmental management activities match the environmental losses due to the impacts of a specific development project, so that compared to a baseline there is no net reduction in environmental values over space and time

(2) Every regional council and tangata whenua must include in its regional policy statement the following policy (or words to the same effect):
"The loss or degradation of all or any part of a natural inland wetland is avoided."

(3) However, the policy required by subclause (2):

a) must be read subject to any rules that give effect to the requirements of the National Environmental Standards for Freshwater, or to any more stringent rules that the council, as permitted by those Standards, includes in its regional plan; and
b) does not apply to adverse effects from an activity that is for the purpose of restoring a wetland and those effects are temporary and reversible, or are consistent with achieving the long-term restoration aims for the wetland.

(4) Every regional council and tangata whenua must make or change its policy statement and plan to ensure that, when considering an application for a consent, adverse effects on any natural inland wetland are managed by applying the effects management hierarchy.

(5) Every regional council and tangata whenua must, in respect of natural inland wetlands, and may in respect of constructed wetlands,:

a) identify and map wetlands in its region that are:
    i. 0.05 hectares or greater in size; or
    ii. known to contain threatened species; or
    iii. of a type that is naturally less than 0.05 ha in size (such as ephemeral wetlands or springs); and
b) establish and maintain an inventory of wetlands that includes, at a minimum, the following information about each mapped wetland:
    i. identifier and location;
    ii. area and Geographic Information System (GIS) polygon;
    iii. classification of wetland type;
    iv. values (such as ecosystem services, habitat for indigenous biodiversity, amenity values);
    v. results of monitoring.

(6) In case of uncertainty or dispute about the existence or extent of a natural inland wetland, a regional authority must use the wetland delineation protocol available at: https://www.landcareresearch.co.nz/__data/assets/pdf_file/0003/181353/1903-TSDC148-Wetland-delineation-protocols.pdf, and the outcome of applying that protocol must be taken as definitive.

(7) Every regional council and tangata whenua must include objectives, policies, or methods in its regional policy statement and plans that provide for and encourage the restoration of natural inland wetlands in its region.

(8) Regional councils and tangata whenua must permit the management of a constructed wetlands to prioritise activities and management practices that are necessary for, or consistent with, the purpose for which the wetland was constructed.

(9) Every regional council and tangata whenua must:

a) develop and undertake a monitoring plan to monitor the condition of its region's natural inland wetlands by reference to, at a minimum, their extent, vegetation, hydrology, and nutrients (in water, soil, or both); and
b) have methods to respond when degradation of wetland conditions is detected.

Information note:
Examples of constructed wetlands include areas of wetland habitat in or around bodies of water created for, or in connection with, any of the following purposes:

- nutrient attenuation;
- effluent treatment and disposal systems;
- stormwater management;
- reservoir for firefighting;
- hydroelectric power generation;
- irrigation;
- stock watering;
- domestic and community water supply;
- water storage ponds;
- landscaping;
- other artificial water storage facilities, including open drainage channels and engineered soil conservation structures;
- conservation or biodiversity offsetting;
- hunting.

The National Policy Statement on Indigenous Biodiversity 2020 contains additional relevant policies concerning the restoration and enhancement of wetlands.

The National Environmental Standard for Freshwater sets out regulations for the management of wetlands, river bed infilling, and fish passage.

3.16 Streams

(1) Every regional council and tangata whenua must include the following policy (or words to the same effect) in its regional policy statement:
"The extent and ecosystem health of rivers and streams in the region, and their associated freshwater ecosystems, are at least maintained".

(2) However, the policy must be read subject to any rules that give effect to the requirements of the National Environmental Standards for Freshwater, or to any more stringent rules that the council, as permitted by those Standards, includes in its regional plan.

(3) Every regional council and tangata whenua must make or change its policy statement and plan to ensure that, when considering an application for a consent, adverse effects on any stream are managed by applying the effects management hierarchy.

(4) Every regional council and tangata whenua must make or change its regional policy statement and plans to ensure that the following do not result in a net loss in the extent or ecosystem health of a stream:

a) permanently diverting a stream;
b) culverting a stream, where that is allowed and as far as practicable.

(5) Every regional council and tangata whenua must make or change its regional policies and plans to ensure that the infilling of river or stream beds is avoided, unless there are no other practicable alternative methods of providing for the activity, and it is part of an activity:

a) designed to restore or enhance the natural values of the stream or of any adjacent or associated ecosystem; or
b) necessary to enable the development, operation, maintenance and upgrade of nationally significant infrastructure; or
c) required for the purposes of flood prevention or erosion control.

(6) However, subclause (5) is subject to any rules that give effect to the requirements of the National Environmental Standards for Freshwater, or to any more stringent rules that the council, as permitted by those Standards, includes in its regional plan.

3.17 Fish passage

(1) Every regional council and tangata whenua must make or change its regional plan to include aquatic life objectives to achieve diversity and abundance of fish in all or specified streams.

(2) When preparing the objective, regional councils and tangata whenua must:

a) identify the valued species, and their relevant life stages, for which instream structures must provide passage; and
b) identify undesirable species whose passage can or should be prevented; and
c) identify streams where fish passage for undesirable fish species is to be impeded in order to manage their adverse effects on fish populations upstream of any barrier; and
d) take into account any Freshwater Fisheries Management Plans and Sports Fish and Game Management Plans approved by the Minister of Conservation under the Conservation Act 1987; and
e) consult with the Department of Conservation to identify any threatened fish species that may benefit from natural or built barriers to exclude undesirable species.

(3) Regional councils and tangata whenua must make or change their plans to require that regard is had to at least the following when considering an application for a consent relating to an instream structure:

a) the extent to which the structure provides, and will continue to provide for the foreseeable life of the structure, the council's aquatic life objective for fish;
b) the extent to which the structure does not cause a greater impediment to fish movements than in adjacent stream reaches;

c) the extent to which it provides efficient and safe passage for all fish (other than undesirable species) at all their life stages;
d) the extent to which it provides a diversity of physical and hydraulic conditions leading to a high diversity of passage opportunities for fish;
e) any proposed monitoring and maintenance plan for ensuring that the structure meets the council's aquatic life objective for fish now and in the future.

(4) Regional councils and tangata whenua must establish and implement a work programme to improve the extent to which existing structures achieve the council's aquatic life objectives for fish.

(5) The work programme must include the following:
a) identifying existing instream structures within the region, and evaluating the risk they present as an undesirable barrier to fish migrations;
b) prioritising structures for remediation, applying the ecological criteria described in Table 5.1, of the New Zealand Fish Passage Guidelines;
c) documenting the structures or locations that have been prioritised, the remediation that is required to achieve the desired outcome, and how and when this will be achieved;
d) identification of structures that have been remediated since the commencement date;
e) how the ongoing performance of the remediated structure will be monitored and evaluated.

(6) Regional councils and tangata whenua must collect, maintain, and publish records of new and (known) existing instream structures and assess their likely impact on fish passage and river connectivity.

Information note:
The following is a useful tool to help with managing fish passage:

Franklin, P., Gee, E., Baker, C., Bowie, S. 2018; New Zealand Fish Passage Guidelines for structures up to 4 metres: NIWA client report 2018019HN. Report Date: April 2018, Version 1.0. 229 p.

3.18 Primary contact sites

(1) Regional councils and tangata whenua must manage primary contact sites for:
a) their risk to human health; and
b) their suitability for the activities that take place in them, in terms of, for example, the absence of slippery or unpleasant weed growth, and the visual clarity of the water.

(2) For every primary contact site in an FMU, regional councils and tangata whenua must identify a sampling site or sites representative of the primary contact site or a number of primary contact sites.

(3) Between 1 November and 31 March each year, every regional council and tangata whenua must undertake weekly sampling for *E. coli*, unless:
a) a single sample from the sampling site is greater than 260 *E. coli* per 100 mL, in which case:
   i. sampling frequency must be increased to daily, where practicable; and
   ii. the regional council must take all reasonable steps to identify potential causes of microbial contamination; or
b) a single sample from the sampling site is greater than 540 *E. coli* per 100 mL, in which case the regional council must take all reasonable steps to notify the public, and keep them informed, that the site is unsuitable for primary contact until further sampling shows a result of 540 *E. coli* per 100 mL or less.

3.19 Water allocation

(1) Every regional council and tangata whenua must make or change its regional plan to include criteria for:

a) deciding applications to approve transfers of water take permits; and
b) deciding how to improve and maximise the efficient allocation of water.

(2) Every regional council and tangata whenua must identify in regional plans methods to encourage the efficient use of water.

(3) Regional councils and tangata whenua must define a timeframe within which over-allocation is phased out, and methods to achieve that, so that the limits on resource use and take limits are reduced to levels that meet the objective and policies of this National Policy Statement.

3.20 Accounting systems

(1) Every regional council must operate and maintain, for every FMU for which target attribute states and limits have been or are being set,:

a) a freshwater quality accounting system; and
b) a freshwater quantity accounting system.

(2) The purpose of the accounting systems is to provide the baseline information required:

a) for setting target attribute states, environmental flows and levels, and limits; and
b) to assess whether an FMU is over-allocated or not; and
c) to track over time the cumulative effects of activities (such as the granting of resource consents).

(3) The accounting systems must be maintained at a level of detail commensurate with the significance of the water quality or quantity issues applicable to each particular FMU.

(4) Every regional council must make information from those systems available to the public, regularly and in a suitable form, for every FMU for which target attribute states have been, or are being, set.

(5) The freshwater quality accounting system must (where possible), for each FMU, record, aggregate, and regularly update information on the measured, modelled, or estimated:

a) loads, concentrations, or both, of relevant contaminants; and
b) where a load or concentration has been set on the amount of a contaminant that is acceptable in a waterbody, the proportion of that amount recorded at monitoring sites for that contaminant; and
c) sources of relevant contaminants; and
d) the amount of each contaminant attributable to each source.

(6) The freshwater quantity accounting system must, for each FMU, record, aggregate, and regularly update information on the measured, modelled, or estimated:

a) amount of freshwater take; and
b) the proportion of freshwater taken by each major category of use; and
c) where a take limit has been set, the proportion of the allocation taken.

(7) In this section, **freshwater take** refers to all takes, whether metered or not, whether subject to a consent or not, and whether authorised or not.

Information note:

The Resource Management (Measurement and Reporting of Water Takes) Regulations 2010 require water takes of more than 5 l per second to be measured and reported on.

3.21 Assessing and reporting

(1) Every regional council and tangata whenua must produce a report annually on freshwater management in its region that sets out:

a) actual data, or a link to those data, about each component of the values Ecosystem Health and Human Contact, as obtained from monitoring sites for the attributes of the components; and if no data has been collected in relation to any attribute, this must be identified; and
b) actual data, or a link to those data, from any other monitoring done for the purpose of freshwater management; and
c) a description of any uncertainties associated with the data.

(2) As part of the report required by section 35 of the Act (which is required at least every 5 years), every regional council and tangata whenua must assess the freshwater management in its region and produce a synthesis report on it.

(3) The assessment required for the synthesis report must cover at least the following:

a) a comparison of the present state of attributes (and other things that are monitored) as at the time of the assessment as compared with any target attribute states for those things, including the extent to which the present state aligns with the environmental outcomes sought, in relation to each value, for each FMU; and
b) an assessment of the cumulative effect of changes across multiple sites within an FMU and multiple attributes during the period covered by the assessment;
c) if monitoring shows a deterioration from the current state or a downward trend, information on the known or likely causes;
d) an assessment of the actions taken since the last assessment, whether regulatory or non-regulatory and whether by local authorities or others, that contribute to the implementation of this NPS;
e) an assessment of whether the target attribute states and environmental outcomes for each FMU in the region are being achieved and, if not, whether and when they are likely to be;
f) the environmental pressures on each FMU (such as water takes, sources of contaminants, or waterbody modification) as indicated by information from the freshwater accounting systems referred to in clause 3.20;
g) any uncertainties in the data, evidence, or other information referred to or relied on in the assessment;
h) predictions of changes that are likely to affect waterbodies and freshwater ecosystems in the region;
i) an account of the extent to which, in the region,:
    i. the long-term visions for waterbodies, as identified under clause 3.2, are being achieved; and
    ii. the objective and policies of this National Policy Statement are being met.

(4) The synthesis report must set out the results of the assessments and also:

a) report on the state of each component of the value Ecosystem Health, and identify where any data or information is missing; and
b) provide a single ecosystem health score (by reference to the 5 components of Ecosystem Health) for each FMU in the region.

(5) The synthesis report must:

a) be written and presented in a way that members of the public are likely to understand easily; and

b) include specific data, or a link to where that data may be viewed; and

c) be freely available on the regional council's website.

Information note

A framework for assessing and communicating overall ecosystem health is described in Clapcott J, Young R, Sinner J, Wilcox M, Storey R, Quinn J, Daughney C, Canning A, 2018. *Freshwater biophysical ecosystem health framework.* Prepared for Ministry for the Environment. Cawthron Report No. 3194. 89 p. plus appendices. This is available from: https://www.mfe.govt.nz/publications/fresh-water/freshwater-biophysical-ecosystem-health-framework.

Subpart 4 Exceptions

3.22 Exception for large hydro schemes

(1) This section applies to the following 6 hydro-electricity generation schemes (referred to as **Schemes**):

a) Waikato Hydro Scheme;

b) Tongariro Power Scheme;

c) Waikaremoana Power Scheme;

d) Waitaki Hydro Scheme;

e) Manapouri Power Scheme;

f) Clutha Hydro Scheme.

(2) When setting limits or developing action plans, and when making plan changes required by this National Policy Statement, regional councils must have regard to the importance of not adversely impacting the generation capacity, storage and operational flexibility of a Scheme.

(3) Regional councils may accordingly set target attribute states that are below national bottom lines in respect of waterbodies or freshwater ecosystems that are adversely impacted by structures that form part of any Schemes, to the extent of such an impact.

(4) Despite subclause (3), regional councils must still set target attributes states that, to the extent possible, improve any waterbody or freshwater ecosystem affected by any Scheme.

(5) Subclause (1) only applies to structures that were first operational as part of any Scheme on or before 1 August 2019, including any subsequent maintenance, repair or like for like replacement works.

3.23 Exception for naturally occurring processes

(1) If all or part of a waterbody is affected by naturally occurring processes that mean that the current state is worse than the national bottom line, and a target attribute state at or better than the national bottom line cannot be achieved, the regional council may set a target attribute state that is worse than the national bottom line, but must still set it to achieve an improved attribute state to the extent feasible given the natural processes.

(2) In any dispute about whether this exception should apply, the onus is on the relevant regional council to demonstrate that it is naturally occurring processes that prevent the national bottom line being achieved.

(3) For the purposes of this section, **naturally occurring processes** means processes that could have occurred in New Zealand before the arrival of humans.

3.24 Transitional exception

Regional councils and tangata whenua may set target attribute states that are worse than national bottom lines in respect of freshwater ecosystems identified in Appendix 4, until the times, or for the periods, specified in that appendix.

Part 4 Timing

4.1 Timing

(1) Every regional council must implement the objective and policies of this National Policy Statement as soon as reasonably practicable.

(2) The final decisions on changes to policy statements and plans that are necessary to give effect to this National Policy Statement must be publicly notified no later than 31 December 2025.

(3) To the extent that regional policy statements and plans already implement the objective and policies of this National Policy Statement, regional councils are not obliged to make changes to wording or terminology merely for consistency with it.

(4) However, in case of dispute, the onus is on the regional council to show that, despite the different wording or terminology used, their regional policy statement or plan does implement the objective and policies of this National Policy Statement.

Appendices

Appendix 1A: Compulsory values

1 Ecosystem health

In relation to a waterbody in an FMU, ecosystem health refers to the extent to which the FMU supports an ecosystem appropriate to the type of waterbody (eg, river, lake, wetland, or aquifer).

There are 5 biophysical components that contribute to freshwater ecosystem health, and it is necessary that all of them are managed. They are:

Water quality – the physical and chemical measures of the water, such as temperature, dissolved oxygen, pH, suspended sediment, nutrients and toxicants.

Water quantity – the extent and variability in the level or flow of water.

Habitat - the physical form, structure and extent of the waterbody, its bed, banks and margins, riparian vegetation and connections to the floodplain.

Aquatic life – the abundance and diversity of biota including microbes, invertebrates, plants, fish and birds.

Ecological processes – the interactions among biota and their physical and chemical environment such as primary production, decomposition, nutrient cycling and trophic connectivity.

In a healthy freshwater ecosystem, water quality, quantity, habitat and processes are suitable to sustain appropriate indigenous aquatic life, as would be found in a minimally disturbed condition (before providing for other values).

2 Human contact

This refers to the extent to which waterbodies in an FMU support people being able to connect with the water through a range of activities such as swimming, waka, boating, fishing, mahinga kai, and water skiing, in a range of different flows.

Matters to take into account for a healthy waterbody for human contact include pathogens, clarity, deposited sediment, plant growth (from macrophytes to periphyton to phytoplankton), cyanobacteria, and other toxicants.

3 Threatened species

This refers to the extent to which an FMU that supports a population of threatened species has the conditions necessary to support the continued presence and survival of the threatened species. The basic conditions relate to aquatic habitat, water quality, and flows or water levels, but may also include specialised habitat or conditions needed for only part of the life-cycle of the threatened species.

4 [Placeholder for possible Mahinga Kai (described below) or Tangata Whenua Value]

Mahinga kai – Kai are safe to harvest and eat.

Mahinga kai generally refers to indigenous freshwater species that have traditionally been used as food, tools, or other resources. It also refers to the places those species are found and to the act of catching them. Mahinga kai provide food for the people of the rohe and these sites give an indication of the overall health of the water. For this value, kai would be safe to harvest and eat. Transfer of knowledge would occur about the preparation, storage and cooking of kai. In freshwater management units that are used for providing mahinga kai, the desired species are plentiful enough for long-term harvest and the range of desired species is present across all life stages.

Mahinga kai – Kei te ora te mauri (the mauri of the place is intact).

For this value, freshwater resources would be available and able to be used for customary use. In freshwater management units that are valued for providing mahinga kai, resources would be available for use, customary practices able to be exercised to the extent desired, and tikanga and preferred methods are able to be practised.

Appendix 1B: Other values that must be considered

Contents

1 Natural form and character

2 [Mahinga kai]

3 [Mahinga kai]

4 Fishing

5 Irrigation, cultivation, and food productions

6 Animal drinking water

7 Wai tapu

8 Potable water supply

9 Commercial and industrial use

10 Hydro-electric power generation

11 Transport and Tauranga waka

Descriptions of other values

Natural form and character – Where people value particular natural qualities of the freshwater management unit.

Matters contributing to the natural form and character of a freshwater management unit are its biological, visual and physical characteristics that are valued by the community, including:

i its biophysical, ecological, geological, geomorphological and morphological aspects;

ii the natural movement of water and sediment including hydrological and fluvial processes;

iii the location of the waterbody relative to its natural course;

iv the relative dominance of indigenous flora and fauna;

v the presence of culturally significant species;

vi the colour of the water; and

vii the clarity of the water.

They may be freshwater management units with exceptional, natural, and iconic aesthetic features.

[To be omitted if Mahinga kai is included as a compulsory value] **Mahinga kai** – Kai are safe to harvest and eat. Mahinga kai generally refers to indigenous freshwater species that have traditionally been used as food, tools, or other resources. It also refers to the places those species are found and to the act of catching them. Mahinga kai provide food for the people of the rohe and these sites give an indication of the overall health of the water. For this value, kai would be safe to harvest and eat. Transfer of knowledge would occur about the preparation, storage and cooking of kai. In freshwater management units that are used for providing mahinga kai, the desired species are plentiful enough for long-term harvest and the range of desired species is present across all life stages.
[To be omitted if Mahinga kai is included as a compulsory value] **Mahinga kai** – Kei te ora te mauri (the mauri of the place is intact). For this value, freshwater resources would be available and able to be used for customary use. In freshwater management units that are valued for providing mahinga kai, resources would be available for use, customary practices able to be exercised to the extent desired, and tikanga and preferred methods are able to be practised.
Fishing – The freshwater management unit supports fisheries of species allowed to be caught and eaten. For freshwater management units valued for fishing, the numbers of fish would be sufficient and suitable for human consumption. In some areas, fish abundance and diversity would provide a range in species and size of fish, and algal growth, water clarity and safety would be satisfactory for fishers. Attributes will need to be specific to fish species such as salmon, trout, eels, lamprey, or whitebait.
Irrigation, cultivation and food production – The freshwater management unit meets irrigation needs for any purpose. Water quality and quantity would be suitable for irrigation needs, including supporting the cultivation of food crops, the production of food from domesticated animals, non-food crops such as fibre and timber, pasture, sports fields and recreational areas. Attributes will need to be specific to irrigation and food production requirements.
Animal drinking water – The freshwater management unit meets the needs of stock. Water quality and quantity would meet the needs of stock, including whether it is palatable and safe.

Wai tapu – Wai tapu represent the places where rituals and ceremonies are performed, or where there is special significance to iwi/hapū. Rituals and ceremonies include, but are not limited to, tohi (baptism), karakia (prayer), waerea (protective incantation), whakatapu (placing of raahui), whakanoa (removal of raahui), and tuku iho (gifting of knowledge and resources for future generations). In providing for this value, the wai tapu would be free from human and animal waste, contaminants and excess sediment, with valued features and unique properties of the wai protected. Other matters that may be important are that there is no artificial mixing of the wai tapu and identified taonga in the wai are protected.
Water supply – The freshwater management unit can meet people's potable water needs. Water quality and quantity would enable domestic water supply to be safe for drinking with, or in some areas without, treatment.
Commercial and industrial use – The freshwater management unit provides economic opportunities to people, businesses and industries. Water quality and quantity can provide for commercial and industrial activities. Attributes will need to be specific to commercial or industrial requirements.
Hydro-electric power generation – The freshwater management unit is suitable for hydro electric power generation. Water quality and quantity and the physical qualities of the freshwater management unit, including hydraulic gradient and flow rate, can provide for hydro-electric power generation.
Transport and tauranga waka – The freshwater management unit is navigable for identified means of transport. Transport and tauranga waka generally refers to places to launch waka and water craft, and appropriate places for waka to land (tauranga waka).

Appendix 2A: Attributes requiring limits

Table 1 - Phytoplankton (Trophic state)

Value (and component)	Ecosystem Health (Aquatic Life)	
Freshwater Body Type	Lakes	
Attribute Unit	mg chl-*a*/ m³ (milligrams chlorophyll-*a* per cubic metre)	
Attribute band and description	**Numeric attribute state**	
	Annual median	Annual Maximum
A Lake ecological communities are healthy and resilient, similar to natural reference conditions.	≤2	≤10
B Lake ecological communities are slightly impacted by additional algal and/or plant growth arising from nutrient levels that are elevated above natural reference conditions.	>2 and ≤5	>10 and ≤25
C Lake ecological communities are moderately impacted by additional algal and plant growth arising from nutrient levels that are elevated well above natural reference conditions. Reduced water clarity is likely to affect habitat available for native macrophytes.	>5 and ≤12	>25 and ≤60
National Bottom Line	**12**	**60**
D Lake ecological communities have undergone or are at high risk of a regime shift to a persistent, degraded state (without native macrophyte/ seagrass cover), due to impacts of elevated nutrients leading to excessive algal and/or plant growth, as well as from losing oxygen in bottom waters of deep lakes.	>12	>60
For lakes and lagoons that are intermittently open to the sea, monitoring data should be analysed separately for closed periods and open periods.		

Table 2 - Periphyton (Trophic state)

Value (and component)	Ecosystem health (Aquatic Life)	
Freshwater Body Type	Rivers	
Attribute Unit	mg chl-*a*/m² (milligrams chlorophyll-*a* per square metre)	
Attribute band and description	**Numeric Attribute State (default class)**	**Numeric Attribute State (productive class)**
	Exceeded no more than 8% of samples	Exceeded no more than 17% of samples
A Rare blooms reflecting negligible nutrient enrichment and/or alteration of the natural flow regime or habitat.	≤50	≤50
B Occasional blooms reflecting low nutrient enrichment and/ or alteration of the natural flow regime or habitat.	>50 and ≤120	>50 and ≤120
C Periodic blooms reflecting moderate nutrient enrichment and/ or moderate alteration of the natural flow regime or habitat.	>120 and ≤200	>120 and ≤200
National Bottom Line	**200**	**200**
D Regular and/or extended-duration nuisance blooms reflecting very high nutrient enrichment and/or very significant alteration of the natural flow regime or habitat.	>200	>200
Classes are streams and rivers defined according to types in the River Environment Classification system (REC). Numeric attribute states must be derived from the rolling median of monthly monitoring over five years.		

Note: To achieve a freshwater objective for periphyton within a freshwater management unit, regional councils must at least set appropriate instream concentrations and exceedance criteria for dissolved inorganic nitrogen (DIN) and dissolved reactive phosphorus (DRP). Where there are nutrient sensitive downstream receiving environments, criteria for nitrogen and phosphorus will also need to be set to achieve the outcomes sought for those environments. Regional councils must use the following process, in the following order, to determine instream nitrogen and phosphorus criteria in a freshwater management unit:

a) either:
   i. if the freshwater management unit supports, or could support, conspicuous periphyton, derive instream concentrations and exceedance criteria for DIN and DRP to achieve a periphyton objective for the freshwater management unit; or
   ii. if the freshwater management unit does not support, and could not support, conspicuous periphyton, consider the nitrogen and phosphorus criteria (instream concentrations or instream loads) needed to achieve any other freshwater objectives.

b) if there are nutrient sensitive downstream environments, for example, a lake and/or estuary, derive relevant nitrogen and phosphorus criteria (instream concentrations or instream loads) needed to achieve the outcomes sought for those sensitive downstream environments:
c) compare all nitrogen and phosphorus criteria derived in steps (a) – (b) and adopt those necessary to achieve the freshwater objectives for the freshwater management unit and outcomes sought for the nutrient sensitive downstream environments.

Table 3 – Total Nitrogen (Trophic state)

Value (and component)	Ecosystem Health (water quality)	
Freshwater Body Type	Lakes	
Attribute Unit	mg/m³ (milligrams per cubic metre)	
Attribute band and description	**Numeric attribute state**	
	Annual Median	Annual Median
	Seasonally Stratified and Brackish	Polymictic
A Lake ecological communities are healthy and resilient, similar to natural reference conditions.	≤160	≤300
B Lake ecological communities are slightly impacted by additional algal and/ or plant growth arising from nutrient levels that are elevated above natural reference conditions.	>160 and ≤350	>300 and ≤500
C Lake ecological communities are moderately impacted by additional algal and plant growth arising from nutrient levels that are elevated well above natural reference conditions.	>350 and ≤750	>500 and ≤800
National Bottom Line	**750**	**800**
D Lake ecological communities have undergone or are at high risk of a regime shift to a persistent, degraded state (without native macrophyte/seagrass cover) due to impacts of elevated nutrients leading to excessive algal and/or plant growth, as well as from losing oxygen in bottom waters of deep lakes.	>750	>800
For lakes and lagoons that are intermittently open to the sea, monitoring data should be analysed separately for closed periods and open periods.		

Table 4 – Total Phosphorus (Trophic state)

Value (and component)	Ecosystem Health (water quality)
Freshwater Body Type	Lakes
Attribute Unit	mg/m³ (milligrams per cubic metre)
Attribute band and description	**Numeric attribute state**
	Annual Median
A Lake ecological communities are healthy and resilient, similar to natural reference conditions.	≤10
B Lake ecological communities are slightly impacted by additional algal and plant growth arising from nutrient levels that are elevated above natural reference conditions.	>10 and ≤20
C Lake ecological communities are moderately impacted by additional algal and plant growth arising from nutrient levels that are elevated well above natural reference conditions.	>20 and ≤50
National Bottom Line	**50**
D Lake ecological communities have undergone or are at high risk of a regime shift to a persistent, degraded state (without native macrophyte/seagrass cover), due to impacts of elevated nutrients leading to excessive algal and/or plant growth, as well as from losing oxygen in bottom waters of deep lakes.	>50
For lakes and lagoons that are intermittently open to the sea, monitoring data should be analysed separately for closed periods and open periods.	

Table 5 – Dissolved inorganic nitrogen

Value (and component)	Ecosystem health (water quality)	
Freshwater Body Type	Rivers	
Attribute Unit	DIN mg/L (milligrams per litre)	
Attribute band and description	**Numeric Attribute State**	
	Median	95th percentile
A Ecological communities and ecosystem processes are similar to those of natural reference conditions. No adverse effects attributable to DIN enrichment are expected.	≤ 0.24	≤ 0.56
B Ecological communities are slightly impacted by minor DIN elevation above natural reference conditions. If other conditions also favour eutrophication, sensitive ecosystems may experience additional algal and plant growth, loss of sensitive macroinvertebrate taxa, and higher respiration and decay rates.	> 0.24 and ≤0.50	> 0.56 and ≤01.10
C Ecological communities are impacted by moderate DIN elevation above natural reference conditions, but sensitive species are not experiencing nitrate toxicity. If other conditions also favour eutrophication, DIN enrichment may cause increased algal and plant growth, loss of sensitive macroinvertebrate & fish taxa, and high rates of respiration and decay.	> 0.5 and ≤ 1.0	> 1.10 and ≤ 2 05
National Bottom Line	**1.0**	**2.05**
D Ecological communities impacted by substantial DIN elevation above natural reference conditions. In combination with other conditions favouring eutrophication, DIN enrichment drives excessive primary production and significant changes in macroinvertebrate and fish communities, as taxa sensitive to hypoxia and nitrate toxicity are lost.	>1 0	>2.05
Groundwater concentrations also need to be managed to ensure resurgence via springs and seepage does not degrade rivers through DIN enrichment. Numeric attribute state must be derived from the rolling median of monthly monitoring over five years.		

Table 6 – Dissolved reactive phosphorus

Value (and component)	Ecosystem health (water quality)	
Freshwater Body Type	Rivers	
Attribute Unit	DRP mg/L (milligrams per litre)	
Attribute band and description	**Numeric Attribute State**	
	Median	95th percentile
A Ecological communities and ecosystem processes are similar to those of natural reference conditions. No adverse effects attributable to DRP enrichment are expected.	≤ 0.006	≤ 0.021
B Ecological communities are slightly impacted by minor DRP elevation above natural reference conditions. If other conditions also favour eutrophication, sensitive ecosystems may experience additional algal and plant growth, loss of sensitive macroinvertebrate taxa, and higher respiration and decay rates.	> 0.006 and ≤0 010	> 0.021 and ≤0.030
C Ecological communities are impacted by moderate DRP elevation above natural reference conditions. If other conditions also favour eutrophication, DRP enrichment may cause increased algal and plant growth, loss of sensitive macro-invertebrate & fish taxa, and high rates of respiration and decay.	> 0.010 and ≤ 0.018	> 0.030 and ≤ 0.054
National Bottom Line	**0.018**	**0.054**
D Ecological communities impacted by substantial DRP elevation above natural reference conditions. In combination with other conditions favouring eutrophication, DRP enrichment drives excessive primary production and significant changes in macroinvertebrate and fish communities, as taxa sensitive to hypoxia are lost.	>0.018	>0.054
Numeric attribute state must be derived from the rolling median of monthly monitoring over five years.		

Table 7 – Ammonia (Toxicity)

Value (and component)	Ecosystem Health (Water Quality)	
Freshwater Body Type	Rivers	
Attribute Unit	mg NH4-N/L (milligrams ammoniacal-nitrogen per litre)	
Attribute band and description	**Numeric Attribute State**	
	Annual Median	Annual Maximum
A 99% species protection level: No observed effect on any species tested	≤0.03	≤0 05
B 95% species protection level: Starts impacting occasionally on the 5% most sensitive species	>0.03 and ≤0 24	>0.05 and ≤0.40
C 80% species protection level: Starts impacting regularly on the 20% most sensitive species (reduced survival of most sensitive species)	>0.24 and ≤1 30	>0.40 and ≤2.20
National Bottom Line	**1.30**	**2.20**
D Starts approaching acute impact level (ie risk of death) for sensitive species	>1.30	>2 20
Numeric attribute state is based on pH 8 and temperature of 20°C. Compliance with the numeric attribute states should be undertaken after pH adjustment.		

Table 8 – Nitrate (Toxicity)

Value (and component)	Ecosystem Health (water quality)	
Freshwater Body Type	Rivers	
Attribute Unit	mg NO_3 - N/L (milligrams nitrate-nitrogen per litre)	
Attribute band and description	**Numeric Attribute State**	
	Annual Median	Annual 95th Percentile
A High conservation value system. Unlikely to be effects even on sensitive species.	≤1.0	≤1 5
B Some growth effect on up to 5% of species.	>1.0 and ≤2.4	>1.5 and ≤3.5
C Growth effects on up to 20% of species (mainly sensitive species such as fish). No acute effects.	>2.4 and ≤6 9	>3.5 and ≤9.8
National Bottom Line	**6.9**	**9.8**
D Impacts on growth of multiple species, and starts approaching acute impact level (ie risk of death) for sensitive species at higher concentrations (>20 mg/L).	>6.9	>9 8

Note: This attribute measures the toxic effects of nitrate, not the trophic state. Where other attributes measure trophic state, for example periphyton, freshwater objectives, limits and/or methods for those attributes will be more stringent.

Table 9 – Dissolved oxygen

Value (and component)	Ecosystem health (Water Quality)	
Freshwater Body Type	Rivers (below point sources only)	
Attribute Unit	mg/L (milligrams per litre)	
Attribute band and description	**Numeric Attribute State**	
	7-day mean minimum (Summer Period: 1 November to 30th April)	1-day mean minimum (Summer Period: 1 November to 30th April)
A No stress caused by low dissolved oxygen on any aquatic organisms that are present at matched reference (near-pristine) sites.	≥8.0	≥7 5
B Occasional minor stress on sensitive organisms caused by short periods (a few hours each day) of lower dissolved oxygen. Risk of reduced abundance of sensitive fish and macroinvertebrate species.	≥7.0 and <8 0	≥5.0 and <7.5
C Moderate stress on a number of aquatic organisms caused by dissolved oxygen levels exceeding preference levels for periods of several hours each day. Risk of sensitive fish and macroinvertebrate species being lost.	≥5.0 and <7 0	≥4.0 and <5.0
National Bottom Line	**5.0**	**4.0**
D Significant, persistent stress on a range of aquatic organisms caused by dissolved oxygen exceeding tolerance levels. Likelihood of local extinctions of keystone species and loss of ecological integrity.	<5.0	<4 0
The seven day mean minimum is the mean value of 7 consecutive daily minimum values. The one day mean minimum is the lowest daily minimum across the whole summer period.		

Table 10 – Suspended fine sediment

Value (and component)	Ecosystem Health (water quality)											
Freshwater Body Type	Rivers and streams											
Attribute Unit	Turbidity (FNU)											
Attribute band and description	**Numeric attribute state by Suspended Sediment Class**											
	1	2	3	4	5	6	7	8	9	10	11	12
A Minimal impact of suspended sediment on instream biota. Ecological communities are similar to those observed in natural reference conditions.	<2 0	<6 2	<1.3	<3.3	<7.5	<4.8	<2.3	<4.3	<1.2	<1.1	<1.1	<2.4
B Low to moderate impact of suspended sediment on instream biota. Abundance of sensitive fish species may be reduced.	<2 5	<7 9	<1.6	<3.9	<9.8	<6.3	<2.8	<5.2	<1.4	<1.3	<1.3	<2.7
C Moderate to high impact of suspended sediment on instream biota. Sensitive fish species may be lost.	<3 2	<10 5	<2.0	<4.8	<13.1	<8.3	<3.3	<6.4	<1.6	<1.5	<1.6	<3.1
National Bottom Line	**3.2**	**10.5**	**2.0**	**4.8**	**13.1**	**8.3**	**3.3**	**6.4**	**1.6**	**1.5**	**1.6**	**3.1**
D High impact of suspended sediment on instream biota. Ecological communities are significantly altered and sensitive fish and macroinvertebrate species are lost or at high risk of being lost.	>3 2	>10 5	>2.0	>4.8	>13.1	>8.3	>3.3	>6.4	>1.6	>1.5	>1.6	>3.1
The minimum record length for grading a site is two years of at least monthly samples (at least 24 samples). See Appendix 2C Tables 1 and 3 for the definition of each suspended sediment class and its River Environment Classification composition.												

Note: the attribute does not apply in the following rivers and streams due to naturally occurring processes:

1. Naturally highly coloured brown-water streams;
2. Glacial flour affected streams and rivers;
3. Selected lake-fed REC classes (particularly warm climate classes) where high turbidity may reflect autochthonous phytoplankton production (as opposed to organic/inorganic sediment derived from the catchment).

Table 11 – *Escherichia coli* (*E. coli*)

Value (and component)	Human contact (human health)			
Freshwater Body Type	Lakes and rivers			
Attribute	Escherichia coli (*E. coli*)			
Attribute Unit	*E. coli*/100 mL (number of *E. coli* per hundred millilitres)			
Attribute band and description	**Numeric Attribute State**			
Description of risk of Campylobacter infection (based on *E. coli* indicator)	% exceedances over 540 *E. coli*/100 mL	% exceedances over 260 *E. coli*/100 mL	Median concentration *E. coli*/100 mL	95th percentile of *E. coli*/100 mL
A (Blue) For at least half the time, the estimated risk is <1 in 1000 (0.1% risk) The predicted average infection risk is 1%	<5%	<20%	≤130	≤540
B (Green) For at least half the time, the estimated risk is <1 in 1000 (0.1% risk) The predicted average infection risk is 2%	5-10%	20-30%	≤130	≤1000
C (Yellow) For at least half the time, the estimated risk is <1 in 1000 (0.1% risk) The predicted average infection risk is 3%	10-20%	20-34%	≤130	≤1200
D (Orange) 20-30% of the time the estimated risk is ≥50 in 1000 (>5% risk) The predicted average infection risk is >3%	20-30%	>34%	>130	>1200
E (Red) For more than 30% of the time the estimated risk is ≥50 in 1000 (>5% risk) The predicted average infection risk is >7%	>30%	>50%	>260	>1200
Attribute state should be determined by using a minimum of 60 samples over a maximum of 5 years, collected on a regular basis regardless of weather and flow conditions. However, where a sample has been missed due to adverse weather or error, attribute state may be determined using samples over a longer timeframe. Attribute state must be determined by satisfying all numeric attribute states. The predicted average infection risk is the overall average infection to swimmers based on a random exposure on a random day, ignoring any possibility of not swimming during high flows or when a surveillance advisory is in place (assuming that the *E. coli* concentration follows a lognormal distribution). Actual risk will generally be less if a person does not swim during high flows.				

Table 12 – Cyanobacteria (Planktonic)

Value (and component)	Human contact (human health)
Freshwater Body Type	Lakes and lake fed rivers
Attribute Unit	Biovolume - mm^3/L (cubic millimetres per litre)
Attribute band and description	**Numeric Attribute State**
	80th percentile
A (Blue) Risk exposure from cyanobacteria is no different to that in natural conditions (from any contact with freshwater).	≤0.5 mm^3/L biovolume equivalent for the combined total of all cyanobacteria
B (Green) Low risk of health effects from exposure to cyanobacteria (from any contact with freshwater).	>0 5 and ≤1.0 mm^3/L biovolume equivalent for the combined total of all cyanobacteria
C (Yellow) Moderate risk of health effects from exposure to cyanobacteria (from any contact with freshwater).	>1.0 and ≤1 8 mm^3/L biovolume equivalent of potentially toxic cyanobacteria OR >1.0 and ≤10 mm^3/L total biovolume of all cyanobacteria
National Bottom Line	**1.8 mm^3/L biovolume equivalent of potentially toxic cyanobacteria** **OR** **10 mm^3/L total biovolume of all cyanobacteria**
D (Orange/Red) High health risks (eg, respiratory, irritation and allergy symptoms) exist from exposure to cyanobacteria (from any contact with freshwater).	>1.8 mm^3/L biovolume equivalent of potentially toxic cyanobacteria OR >10 mm^3/L total biovolume of all cyanobacteria
The 80th percentile must be calculated using a minimum of 12 samples collected over 3 years. 30 samples collected over 3 years is recommended.	

Appendix 2B: Attributes requiring action plans

Table 13 – Macroinvertebrates (1 of 2)

Value (and component)	Ecosystem health (aquatic life)	
Freshwater Body Type	Wadeable streams and rivers	
Attribute Unit	Macroinvertebrate Community Index (MCI) score; Quantitative Macroinvertebrate Community Index (QMCI) score	
Attribute band and description	**Numeric Attribute States**	
	QMCI	MCI
A Macroinvertebrate community, indicative of pristine conditions with almost no organic pollution or nutrient enrichment.	≥6 5	≥130
B Macroinvertebrate community indicative of mild organic pollution or nutrient enrichment. Largely composed of taxa sensitive to organic pollution/nutrient enrichment.	≥5.5 & <6 5	≥110 & <130
C Macroinvertebrate community indicative of moderate organic pollution or nutrient enrichment. There is a mix of taxa sensitive and insensitive to organic pollution/nutrient enrichment.	≥4 5 & <5.5	≥90 & <110
National Bottom Line	**4.5**	**90**
D Macroinvertebrate community indicative of severe organic pollution or nutrient enrichment. Communities are largely composed of taxa insensitive to inorganic pollution/nutrient enrichment.	<4.5	<90

MCI and QMCI scores to be determined using annual samples taken between December and March (inclusive) with either fixed counts with at least 200 individuals, or full counts, and with current state calculated as the five-year rolling average score. All sites in Deposited Sediment Classes 1, 5, and 11 per Table 18 are to use soft-sediment sensitivity scores and taxonomic resolution as defined in Table A1.1 in Clapcott et al. 2017 *Macroinvertebrate metrics for the National Policy Statement for Freshwater Management*. Cawthron: Nelson, New Zealand.

MCI and QMCI to be assessed using the method defined in Stark JD, Maxted, JR 2007 A user guide for the Macroinvertebrate Community Index. Prepared for the Ministry for the Environment. Cawthron Report No. 1166. 58, except for sites in deposited sediment classes 1, 5 and 11 per Table 18, which require use of the soft-sediment sensitivity scores and taxonomic resolution defined in Table A1.1 in Clapcott et al. 2017.

Table 14 – Macroinvertebrates (2 of 2)

Value (and component)	Ecosystem health (aquatic life)
Freshwater Body Type	Wadeable streams and rivers
Attribute Unit	Macroinvertebrate Average Score Per Metric (ASPM)
Attribute band and description	**Numeric Attribute States ASPM score**
A Macroinvertebrate communities have high ecological integrity, similar to that expected in reference conditions.	≥0.6
B Macroinvertebrate communities have mild-to-moderate loss of ecological integrity.	<0.6 & ≥0.4
C Macroinvertebrate communities have moderate-to-severe loss of ecological integrity.	<0.4 & ≥0 3
National Bottom Line	**0.3**
D Macroinvertebrate communities have severe loss of ecological integrity.	<0 3
ASPM scores to be determined using annual samples taken between December and March (inclusive) with either fixed counts with at least 200 individuals, or full counts, and with current state calculated as the five-year rolling average score. All sites in Deposited Sediment Classes 1, 5, and 11 per Table 18 are to use soft-sediment sensitivity scores and taxonomic resolution as defined in Table A1.1 in Clapcott et al. 2017 *Macroinvertebrate metrics for the National Policy Statement for Freshwater Management*. Cawthron: Nelson, New Zealand. When normalising scores for the ASPM, use the following minimums and maximums: %EPT-abundance (0-100), EPT-richness (0-29), MCI (0-200). Collier, K. J. (2008). Average score per metric: an alternative metric aggregation method for assessing wadeable stream health. New Zealand Journal of Marine and Freshwater Research, 42(4), 367-378.	

Table 15 – Fish (rivers)

Value (and component)	Ecosystem health (aquatic life)
Freshwater Body Type	Wadeable
Attribute Unit	Fish Index of Biotic Integrity (F-IBI)
Attribute band and description	**Numeric Attribute State (Average)**
A High integrity of fish community. Habitat and migratory access have minimal degradation.	≥34
B Moderate integrity of fish community. Habitat and/or migratory access are reduced and show some signs of stress.	<34 and ≥28
C Low integrity of fish community. Habitat and/or migratory access is considerably impairing and stressing the community.	<28 and ≥18
National Bottom Line	**18**
D Severe loss of fish community integrity. There is substantial loss of habitat and/or migratory access, causing a high level of stress on the community.	<18
Sampling is to occur at least annually between December and March (inclusive) following the protocols for at least one of the backpack electrofishing method, spotlighting method, or trapping method in Joy M, David B, and Lake M. 2013. New Zealand Freshwater Fish Sampling Protocols (Part 1): Wadeable rivers and streams. Palmerston North, New Zealand: Massey University. The F-IBI score is to be calculated using the general method defined by Joy, M. K., & Death, R. G. (2004). Application of the Index of Biotic Integrity Methodology to New Zealand Freshwater Fish Communities. Environmental Management, 34(3), 415-428. but will exclude salmonids.	

Table 16 – Submerged plants (natives)

Value (and component)	Ecosystem health (Aquatic life)
Freshwater Body Type	Lakes
Attribute Unit	Lake Submerged Plant Indicators: Native Condition Index
Attribute band and description	**Numeric Attribute State (% of maximum potential score)**
A Excellent ecological condition. Native submerged plant communities are almost completely intact	>75%
B High ecological condition. Native submerged plant communities are largely intact	>50 & ≤75%
C Moderate ecological condition. Native submerged plant communities are moderately impacted	≥20 & ≤50%
National Bottom Line	**20%**
D Poor ecological condition. Native submerged plant communities are largely degraded or absent	<20%
Monitoring to be conducted at least once every three years, following the method described in Clayton J, and Edwards T. 2006. LakeSPI: A method for monitoring ecological condition in New Zealand lakes. User Manual Version 2. Hamilton, New Zealand: National Institute of Water & Atmospheric Research Ltd p57 Scores are reported as a percentage of maximum potential score (%) of the Native Condition Index, and lakes in a devegetated state receive scores of 0.	

Table 17 – Submerged plants (invasive species)

Value (and component)	Ecosystem health (aquatic life)
Freshwater Body Type	Lakes
Attribute Unit	Lake Submerged Plant (Invasive Impact Index)
Attribute band and description	**Numeric Attribute State (% of maximum potential score)**
A No invasive plants present in the lake. Native plant communities remain intact.	0%
B Invasive plants having only a minor impact on native vegetation. Invasive plants will be patchy in nature co-existing with native vegetation. Often major weed species not present or in early stages of invasion.	>1 & ≤25%
C Invasive plants having a moderate to high impact on native vegetation. Native plant communities likely displaced by invasive weed beds particularly in the 2 – 8 m depth range.	≥26 & ≤90%
National Bottom Line	90%
D Tall dense weed beds exclude native vegetation and dominate entire depth range of plant growth. Species concerned likely hornwort and Egeria.	>90%
Numeric attribute state to be calculated annually following the method described in Clayton J, and Edwards T. 2006. LakeSPI: A method for monitoring ecological condition in New Zealand lakes. User Manual Version 2. Hamilton, New Zealand: National Institute of Water & Atmospheric Research Ltd.	

Table 18 – Deposited fine sediment

Value (and component)	Ecosystem Health (Physical Habitat)											
Freshwater Body Type	Wadeable Rivers and Streams											
Attribute Unit	% fine sediment cover											
Attribute band and description	**Numeric attribute state by Deposited Sediment Class**											
	1	2	3	4	5	6	7	8	9	10	11	12
A Minimal impact of deposited fine sediment on instream biota. Ecological communities are similar to those observed in natural reference conditions.	<84	<9	<42	<12	<80	<30	<41	<22	<48	<15	<76	<27
B Low to moderate impact of deposited fine sediment on instream biota. Abundance of sensitive macroinvertebrate species may be reduced.	<90	<15	<50	<17	<86	<38	<48	<33	<54	<22	<82	<36
C Moderate to high impact of deposited fine sediment on instream biota. Sensitive macroinvertebrate species may be lost.	≤97	≤21	≤60	≤23	≤92	≤46	≤56	≤45	≤61	≤29	≤89	≤45
National Bottom Line	**97**	**21**	**60**	**23**	**92**	**46**	**56**	**45**	**61**	**29**	**89**	**45**
D High impact of deposited fine sediment on instream biota. Ecological communities are significantly altered and sensitive fish and macroinvertebrate species are lost or at high risk of being lost.	>97	>21	>60	>23	>92	>46	>56	>45	>61	>29	>89	>45
The indicator score is percentage cover of the streambed in a run habitat determined by the instream visual method, SAM2, and the monitoring method is defined in p. 17-20 of Clapcott, J.E., Young, R.G., Harding, J.S., Matthaei, C.D., Quinn, J.M. and Death, R.G. (2011) Sediment Assessment Methods: Protocols and guidelines for assessing the effects of deposited fine sediment on in-stream values. Cawthron Institute, Nelson, New Zealand. The minimum record length for grading a site is 24 samples taken over 2 years of monthly monitoring, or longer for sites where flow conditions only permit monthly monitoring seasonally. See Appendix 2C Tables 2 and 3 for the definition of each class' River Environment Classification composition.												

Table 19 – Dissolved oxygen

Value (and component)	Ecosystem health (Water Quality)	
Freshwater Body Type	Rivers	
Attribute Unit	mg/L (milligrams per litre)	
Attribute band and description	**Numeric Attribute State**	
	7-day mean minimum	1-day mean minimum
A No stress caused by low dissolved oxygen on any aquatic organisms that are present at matched reference (near-pristine) sites.	≥8.0	≥7 5
B Occasional minor stress on sensitive organisms caused by short periods (a few hours each day) of lower dissolved oxygen. Risk of reduced abundance of sensitive fish and macroinvertebrate species.	≥7 0 and <8.0	≥5.0 and <7 5
C Moderate stress on a number of aquatic organisms caused by dissolved oxygen levels exceeding preference levels for periods of several hours each day. Risk of sensitive fish and macroinvertebrate species being lost.	≥5 0 and <7.0	≥4.0 and <5 0
National Bottom Line	**5.0**	**4.0**
D Significant, persistent stress on a range of aquatic organisms caused by dissolved oxygen exceeding tolerance levels. Likelihood of local extinctions of keystone species and loss of ecological integrity.	<5.0	<4 0
Seven-day continuous dissolved oxygen monitoring to be collected at least once during summer (December to March inclusive). Objectives apply year-round.		

Table 20 – Lake-bottom dissolved oxygen

Value (and component)	Ecosystem Health (water quality)
Freshwater Body type	Lakes
Attribute Unit	mg/L (milligrams/litre)
Attribute band and description	**Numeric attribute state**
	Measured or estimated annual minimum
A No risk from bottom DO of biogeochemical conditions causing nutrient release from sediments.	≥7.5
B Minimal risk from bottom DO of biogeochemical conditions causing nutrient release from sediments.	≥2.0 and < 7.5
C Risk from bottom DO of biogeochemical conditions causing nutrient release from sediments.	≥0.5 and < 2.0
National Bottom line	**0.5**
D Likelihood from bottom DO of biogeochemical conditions resulting in nutrient release from sediments.	<0.5
To be measured less than 1m above sediment surface at the deepest part of the lake using either continuous monitoring sensors or discrete DO profiles.	

Table 21 – Mid-hypolimnetic dissolved oxygen

Value (and component)	Ecosystem Health (water quality)
Freshwater Body type	Seasonally stratifying lakes
Attribute Unit	mg/L (milligrams/litre)
Attribute band and description	**Numeric attribute state**
	Measured or estimated annual minimum
A No stress caused to any fish species by low dissolved oxygen.	≥7.5
B Minor stress on sensitive fish seeking thermal refuge in the hypolimnion. Minor risk of reduced abundance of sensitive fish and macro-invertebrate species.	≥ 5.0 & <7.5
C Moderate stress on sensitive fish seeking thermal refuge in the hypolimnion. Risk of sensitive fish species being lost.	≥ 4.0 & <5 .0
National Bottom line	**4.0**
D Significant stress on a range of fish species seeking thermal refuge in the hypolimnion. Likelihood of local extinctions of fish species and loss of ecological integrity.	< 4.0
Numeric attribute state to be measured using either continuous monitoring sensors or discrete DO profiles.	

Table 22 – Ecosystem metabolism

Value (and component)	Ecosystem health (ecosystem processes)
Freshwater Body Type	Rivers
Attribute	Ecosystem metabolism (Both Gross Primary Production and Ecosystem Respiration)
Attribute Unit	g O_2 m^{-2} d^{-1} (grams of dissolved oxygen per square metre per day)

Derived from at least seven days of continuous dissolved oxygen monitoring to be collected at least once during summer (December to March inclusive), using the method of Young RG, Clapcott JE, Simon K 2016. Ecosystem functions and stream health. Advances in New Zealand Freshwater Science. NZ Freshwater Sciences Society, NZ Hydrological Society.

Councils are to monitor, and develop an action plan to respond to deteriorating trends.

Table 23 – *Escherichia coli (E. coli)* (primary contact sites)

Value (and component)	Human contact (recreation)
Freshwater Body Type	Primary contact sites in lakes and rivers (during the bathing season)
Attribute Unit	95th percentile of *E. coli*/100 ml (number of *E. coli* per hundred millilitres)
Attribute Band and description	**Numeric Attribute State**
Excellent Estimated risk of Campylobacter infection has a < 0.1% occurrence, 95% of the time	≤ 130
Good Estimated risk of Campylobacter infection has a 0.1 – 1 0% occurrence, 95% of the time	131 - 260
Fair Estimated risk of Campylobacter infection has a 1 – 5% occurrence, 95% of the time	261 – 540
National bottom line	540
Poor Estimated risk of Campylobacter infection has a > 5% occurrence, at least 5% of the time	> 540
The narrative attribute state description assumes "% of time" equals "% of samples"	

Appendix 2C: Sediment Classification Tables

Table 1 - Suspended sediment attribute class REC composition

Suspended Sediment Class	Suspended Sediment REC Groups
1	WW_Low_VA; CW_Low_VA
2	WD_Low_Al
3	CD_Low_HS
4	CW_Low_SS
5	WW_Low_SS; WD_Low_SS
6	WW_Low_HS
7	CD_Low_Al; CW_Hill_VA
8	CD_Low_SS
9	CW_Hill_HS; CD_Hill_HS; CW_Low_Al
10	CW_Lake_Any
11	CW_Low_HS
12	CW_Mount_HS; CW_Hill_SS

Table 2 – Deposited sediment attribute class REC composition

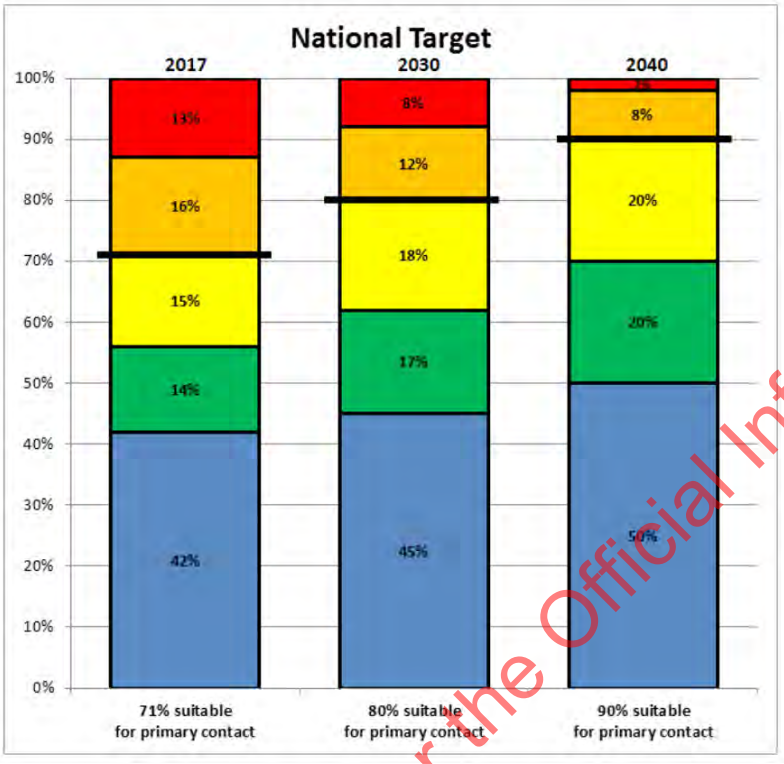
Deposited Sediment Class	Deposited Sediment REC Groups
1	WD_Low_VA; WD_Low_Al
2	WW_Hill_HS; CW_Mount_VA
3	CW_Lake_Any; CW_Low_Al; CD_Hill_SS
4	CW_Mount_SS
5	WD_Low_SS
6	WW Low VA; WW Low HS; CD Low VA; CD Hill Al; CD_Low_HS
7	WW_Low_SS; CD_Low_SS; CD_Low_Al
8	WW_Lake_Any
9	WD_Low_HS
10	WW Hill VA; CW Hill HS; CW Low HS; CW Mount HS; CW_Hill_SS; CW_Hill_Al; CD_Mount_HS; CW_Mount_Al
11	WW_Low_Al
12	CW_Hill_VA; CW_Low_VA; CW_Low_SS; CD_Hill_HS

Table 3 – REC groups for both classification

REC Variable	REC Values	SSC abbreviation
Climate	Warm-Wet	Warm-Wet (WW)
	Warm-Extremely Wet	
	Warm-Dry	Warm-Dry (WD)
	Cold-Wet	Cold-Wet (CW)
	Cold-Extremely Wet	
	Cold-Dry	Cold-Dry (CD)
Topography (Source of flow)	Lowland	Lowland (Low)
	Lakefed	Lakefed (Lake)
	Hill	Hill (Hill)
	Mountain	Mountain (Mount)
	Glacial Mountain	
Geology	Soft Sedimentary	Soft Sedimentary (SS)
	Plutonic Volcanic	
	Miscellaneous	
	Hard Sedimentary	Hard Sedimentary (HS)
	Alluvium	Alluvium (Al)
	Volcanic Basic	Volcanic (VA)
	Volcanic Acidic	

Appendix 3: National target

The national target is to increase proportions of specified rivers and lakes that are suitable for primary contact (those that are in the blue, green and yellow categories) to at least 80% by 2030, and 90% no later than 2040, but also to improve water quality across all categories.



The categories above represent combined improvements in all regions. For each region, this means reducing the length of specified rivers and lakes in the **red** and **orange** categories, and increasing the length of specified rivers and lakes in the **yellow**, **green** and **blue** categories.

The categories are based on water quality in terms of the two human health attributes, E. coli and cyanobacteria – planktonic in Appendix 2 of this National Policy Statement.

For rivers and lakes, the target categories are same as the *E. coli* table attribute states. However, the categories do not include the 95th percentile of *E. coli*/100 mL numeric attribute state if there is insufficient monitoring data to establish the 95th percentile.

For lakes, the categories are also based on the cyanobacteria – planktonic attribute states, however, to provide additional granularity for tracking improvements over time, the D band has been split into two categories (**orange** and **red**) as follows:

a) **orange** means the lake has between 1.8 and 3.0 mm3/L biovolume of cyanobacteria – planktonic, using an 80th percentile; and

b) **red** means the lake has more than 3.0 mm3/L biovolume of cyanobacteria – planktonic, using an 80th percentile.

For lakes, the lowest category for either *E. coli* or cyanobacteria – planktonic applies.

Appendix 4: Temporary exception for specified freshwater management units

Freshwater management unit	Time until, or period, when exception in clause 3.23 applies

Kāhui Wai Māori

TE KĀHUI WAI MĀORI SUBMISSION TO THE RESOURCE MANAGEMENT REVIEW PANEL

BACKGROUND AND APPROACH

1. In December 2019 Te Kāhui Wai Māori (the **Kāhui**) presented to the Resource Management Review Panel (the **Panel**) regarding our views on what is required by way of comprehensive review of the Resource Management Act 1991 (**RMA**).[1]

2. We consider that reform needs to be systemic and meaningful so as to realise Treaty partnership governance. It must result in positively disrupting the current decision-making, which is consistently "balancing out" Māori rights and interests in environmental management.[2]

3. We are conscious that the Panel would have received strong support for a range of its proposals, including:

   a. Establishing a National Māori Advisory Board on Planning and the Treaty.

   b. Giving greater status to Iwi Management Plans in Part 5 of the RMA.

   c. That allocation of functions in the resource management system to appropriate institutions ensure the principles of the Treaty and relationship between the Crown and Māori is given due recognition.

   d. Strengthening independent oversight and review to develop an outcomes monitoring system that is culturally appropriate and recognises mātauranga Māori, and provides for regular auditing of council performance in meeting Treaty requirements. In this regard, we refer to the opportunity to expand our recommendation of a Te Mana o te Wai Commission to undertake this broader resource management audit function.[3]

   e. Require a mandatory national policy statement on Te Tiriti o Waitangi.

   f. Provide funding mechanisms to support Māori participation. This is crucial, and we encourage the Panel to make an express recommendation of the need for funding support to address chronic under-resourcing of Māori.

---

[1] Our view was that Aotearoa New Zealand's current resource management system is broken. It is failing to achieve its purpose and has become complex, dysfunctional and inaccessible. The promises of the RMA to Māori have not been realised; and Māori have had to use valuable Treaty credits to achieve what the RMA was supposed to deliver in any event. Treaty-based structural and system reform is required.

[2] Wai 2358 Report Stage 2 (2019).

[3] See our Te Mana o te Wai Report, page 9.

4. We endorse the above proposals, considering them minimum requirements to ensure that the RMA is Treaty compliant, protecting and promoting Māori interests.

5. This submission focuses on amendment recommendations to address key issues, namely, a revised Part 2 and Māori involvement in resource management decision-making.

REVISED PART 2

6. In this part we consider two matters:

   a. 'Giving effect to' Tiriti o Waitangi principles.

   b. Purpose and principles of the RMA.

'Giving effect to' Tiriti o Waitangi principles

7. We strongly agree with the Panel's statements that Te Tiriti o Waitangi is "an important part of New Zealand's unique constitutional arrangements" and that the current RMA system provides insufficient recognition of the Treaty.[4] The WAI 2358 Stage 2 Report has found that "Section 8 of the RMA is entirely inadequate for the degree of recognition and protection of Māori interests that is required by the Treaty."[5]

8. Our revised Part 2 elevates references to Te Tiriti o Waitangi so as to direct RMA decision makers to "give effect to" Te Tirit o Waitangi.

9. We also adopt the Waitangi Tribunal's recommendation to include a direction that: "The duties imposed on the Crown in terms of Treaty principles are imposed on all persons who exercise powers and functions under the Act."[6] We agree with the Tribunal that such an amendment ensures that Māori interests are protected, that local authorities and all RMA decision makers carry out Treaty responsibilities and obligations, and that Part 2 of the RMA is Treaty compliant.

<u>Implementation implications</u>

10. We consider that the "give effect to" drafting is clear and well understood, in light of *EDS v King Salmon*. The direction and the clarification as to duties imposed represents a clear elevation of the expectations on RMA decision-makers when carrying out Tiriti responsibilities and obligations.

Purpose and Principles of the RMA

11. We support reform of sections 5, 6, 7 and 8 to better reflect te ao Māori, including Māori law, Māori rights and interests, Māori decision-making and to recognise Te Mana o te Wai.

12. The reform should position a move away from an effects-based approach to a values-based approach, to ensure the change is holistic and empowering of a bicultural management approach.

13. Any recasting of the purpose and principles of the RMA needs to catch up with the specific innovation in Tiriti o Waitangi settlement legislation, and more

[4] Issues and Options Paper, paragraphs 44-46, pages 16-17.
[5] WAI 2358 Stage 2 Report, page 66.
[6] Ibid.

generally in Māoridom. The RMA is outdated in its framework when compared to statutes such as Te Awa Tupua (Whanganui River Claims Settlement) Act 2017 (the **Te Awa Tupua Act**), Te Urewera Act 2014 and the Waikato-Tainui Raupatu Claims (Waikato River) Settlement Act 2010 (refer specifically, Te Ture Whaimana – the Vision and Strategy).

14. Tiriti settlements are endorsing Māori knowledge about caring for Papatūānuku and reasserting a founding place for Māori law to once again guide natural resource governance and management. This new national recognition of Māori law for the environment ought to be at the forefront of any significant foreseeable review and reform of the RMA.

15. In fact, the reform should be future-proofed as much as possible. This includes embracing notions that our current state legal system is in the early stages of adapting to become bicultural, bilingual and bijural.

    a. *Bicultural* - meaning a legal system that implements structures, develops processes and provides resources grounded in Te Tiriti o Waitangi, including the sharing of resources and decision-making with hapū, iwi and Māori.

    b. *Bilingual* - meaning a legal system that utilises Te Reo Māori broadly in the learning, reading and practice of law.

    c. *Bijural* - meaning a legal system that presupposes the existence of Māori Law founded on kaupapa tuku iho and tikanga and recognises Māori law as a legitimate and continuing source and influence on the rights, obligations, rules and policy in Aotearoa New Zealand's legal system.

16. The Te Mana o te Wai framework in the NPS-FM may be useful for reframing section 5. Te Mana o te Wai inherently seeks to give effect to our bicultural, bilingual and bijural legal system; so too the frameworks to be found in the innovative settlement legislation referred to in paragraph 13. This framework could be adapted to become a concept such as 'Te Mana o te Taiao', which frames expectations of a revised section 5, providing an interpretive aid. An example can be found in Tupua Te Kawa - the intrinsic values that represent the essence of Te Awa Tupua (the Whanganui River) – in the Te Awa Tupua Act. While in that Act Tupua Te Kawa must be recognised and provided for, we would suggest any such Te Mana o te Taiao equivalent is elevated to an interpretive aid.

17. In providing this advice we note that, before advancing further in any consideration of the adaptability of Te Mana o te Wai to become Te Mana o te Taiao, or some other such concept, there will be a need to engage widely to consider the appropriate reflection of such a proposal.

18. Whatever the precise amendments, there ought to be an opportunity to entwine into our country's understanding of sustainable management recognition of the important role Māori law can have in further enabling us as a country to care for and use natural resources.

19. Our current thinking on a revised Part 2 is included as **Appendix 1**.

<u>Implementation implications</u>

20. We understand that the Panel has been reflecting on how a framework like Te Mana o te Taiao might be reflected, and that a key concern is not to create

uncertainty for users of the RMA system. Use of Māori concepts is not fatal to understanding, if clear direction is given. What is more, New Zealanders are receiving these concepts favourably. Officials have reported that, in relation to Te Mana o te Wai, public submissions demonstrated that New Zealanders are were overwhelmingly in favour of Te Mana o te Wai as a concept and framework for freshwater management that councils would have to 'give effect to'.

21. Tensions between use and development versus protection and restoration will remain when taking a whole of environment approach. Where the aforementioned settlement legislation has overcome that tension, it has done so by taking a stand, elevating one consideration over another, rather than relying on a balancing approach. Such an elevation does not have to be categorical.

22. For example, initial feedback on Te Mana o te Wai was that the hierarchy of obligations[7] risks dictating a return to a pre-human natural water state. This was never the intention so the feedback was helpful in recognising the need for greater clarity – that there must first be expectations of water being available for it to then meet the needs of people and communities.

RESOURCE MANAGEMENT DECISION-MAKING

23. In the context of the *Essential Freshwater* reforms, Te Kāhui Wai Māori has been pushing for a direction, through proposed section 3.3[8] of the draft National Policy Statement for Freshwater Management (**NPS-FM**), for a direct, co-governance level of involvement in freshwater decision-making.[9] Resource management decision-making, typically conflated with statutory governance mechanisms that are a means to provide for a role in decision-making (s 33 transfer of powers, s36B JMAs and mana whakahono ā-rohe), currently sits with local authorities pursuant to sections 30 and 31 of the RMA.

24. The distinction is important. Some of the most widely acknowledged co-governance mechanisms, such as the ability of Waikato and Waipā River iwi to 'jointly decide' on the preparation of RMA planning documents relating to the Waikato and Waipā River catchments, relate only to 'final recommendations to the local authority', who remains the ultimate decision maker.

25. That said, the Panel is also aware that statutory governance mechanisms are severely underutilised in an RMA context. Indeed, in our *Essential Freshwater* discussions with the Ministry for the Environment and Crown Law, those agencies are suggesting the NPS-FM cannot direct a co-governance level relationship through the RMA. This is on the basis that the language in sections 33, 36B and the mana whakahono ā-rohe provisions means the NPS-FM cannot make compulsory what is voluntary.

[7] That resources are managed in a way that prioritises: first, the health and wellbeing of waterbodies and freshwater ecosystems; and second, the essential health needs of people; and third, the ability of people and communities to provide for their social, economic, and cultural wellbeing, now and in the future.

[8] Section D of the 2017 NPS-FM.

[9] We have received advice from Dr Somerville QC confirming that the NPS-FM can direct co-governance relationships.

26. While we disagree on the basis of the advice that we have received, considering in fact that officials have narrowed the issue; the agency approach speaks to the problem lying squarely within the RMA.

27. The Kāhui therefore consider that the reforms must address both issues:

    a. They must confer resource management decision-making directly on iwi and hapū via 50/50 involvement in decision-making in resource consents and plan-making hearings.

    b. The RMA's existing statutory governance mechanisms for transfer of powers, joint management and iwi participation (in the case of mana whakahono ā-rohe) must be amended to be made compulsory.

28. In respect of the statutory governance mechanism, lesser recommendations that have been made in the past (e.g that local authorities be required to regularly review their activities to see if they are making appropriate use of sections 33 and 36B, and be required to report annually on their efforts) are matters iwi and hapū are reluctantly pursuing within the confines of the existing framework. They are not satisfactory reform options.

Implementation implications

29. The key questions that routinely arise when considering compulsion is, how would a mandatory expectation or 50/50 arrangement work where you have multiple iwi, and what are the engagement (and accordingly cost) expectations on councils?

30. We caution the Panel against seeing the existence of multiple iwi with which the Council would need to engage as a barrier to practical implementation; particularly in the context of repeated reports that Tiriti settlement arrangements that create these roles are providing what the RMA was supposed to provide in any event. When considering the Treaty settlement relationship, we need to act our age. Existing settlement arrangements demonstrate that a collective model, incorporating multiple hapū and iwi, is workable. We posit that for an opportunity to finally have a seat at the decision-making table hapū and iwi will make it work.

31. What we see as crucial is allowing hapū and iwi to come up with their preferred collective engagement model with Councils where there are overlaps. We therefore suggest a variation of the mana whakahono ā-rohe approach, where iwi/hapū initiation triggers engagement hui of all other relevant iwi/hapū, providing an opportunity to wānanga.

32. We suggest that a dispute resolution mechanism that, as a circuit breaker, uses the Māori Land Court's section 30 Te Ture Whenua Māori Act 1993 jurisdiction to advise on or determine representation of Māori groups, could be effective in ensuring matters are not stalled.

HE MIHI

33. This submission is deliberately succinct and speaks to matters that we understand are at the front of the Panel's mind at this time. It should be read in conjunction with our Te Mana o te Wai Report.

34. We would be happy to offer supplementary comments should the Panel find it of value.

APPENDIX ONE

Section 5 Purpose

(1) The purpose of this Act is to promote the **bicultural** sustainable management of natural and physical resources **for the health of the environment and for the health of the nation.**

(2) In this Act, bicultural *sustainable management* means **enabling mana whakahaere,** respecting the **mauri,** and managing the **care,** use, development, and protection, of natural and physical resources in a way, or at a rate, which sustains people and communities to be healthy and safe, and be culturally, socially and economically well while—

(a) safeguarding the life-supporting capacity of air, water, soil, and ecosystems from the mountains to the sea; and
(b) giving effect to the principles of Te Tiriti o Waitangi; and
(c) sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations.

The new wording proposed in this reframed section 5 (highlighed in bold) is wording that is for the most part already in use in other legisltion or policy.

1. **"Bicultural"** sustainable management would signal a new era in resource decision-making. The existing 'sustainable management' juriprudence developed under the RMA will need to be entirely rethought from a new starting point that values equally Māori *and* Pākehā laws and decision-making. The core framework of any new law must have at its heart biculturalism to make real and possible the giving effect to the principles of Te Tiriti.

2. **"For the health of the environment and for the health of the nation"** is an important purpose statement that clearly links into the positioning of Te Mana o te Wai. This expression would help create the new jurisprudence for developing a bicultural jurisprudence. Some other statutes make similar commitments. For example, section 3 of the Waikato-Tainui Raupatu Claims (Waikato River) Settlement Act 2010 reads "The overarching purpose of the settlement is to restore and protect the health and wellbeing of the Waikato River for future generations".

3. **"enabling mana whakahaere"** is purposefully positioned here to demonstrate systemic power-sharing change (and not business as usual).

4. **"mauri"** and **"care",** are insertions that seek to ensure 'bicultural sustainable management' has an equally firm footing in te ao Māori.

5. **"from the mountains to the sea"** reinforces an important Māori legal principle.

6. **"giving effect to"** Treaty principles is already required by section 4 of the Conservation Act 1987. We have deliberately prioritised the sole mention of Te Tiriti of Waitangi, rather than the Treaty, because it is the Māori language version that must be given effect to. The repositioning for a systemic change ought to be holistic. To enable a true practice of bicultural sustainable management, we need

to be comfortable as a nation with Te Tiriti o Waitangi. This will signal a new change for Treaty jurisprudence.

7. With Te Tiriti o Waitangi upfront in section 5, we recommend the deletion of section 8.

Section 6 Matters of national importance

In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to respecting the mauri and mana, and managing the care, use, development, and protection, of natural and physical resources, shall recognise and provide for the following matters of national importance:

(a) **the tikanga and mātauranga of tangata whenua including the inalienable connection tangata whenua have with, and responsibility for, natural and physical resources**; and
(b) effects of climate change;
(c) the preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use, and development:
(d) the protection of outstanding natural features and landscapes from inappropriate subdivision, use, and development:
(e) the protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna:
(f) the maintenance and enhancement of public access to and along the coastal marine area, lakes, and rivers:
(g) the protection of historic heritage from inappropriate subdivision, use, and development:
(h) the protection of protected customary rights:
(i) the management of significant risks from natural hazards:
(j) any finite characteristics of natural and physical resources:
(k) the benefits to be derived from the use and development of renewable energy.

Section 7 Other matters

In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to respecting the mauri and mana, and managing the care, use, development, and protection, of natural and physical resources, shall have particular regard to—

(a) the efficient use and development of natural and physical resources:
(b) the efficiency of the end use of energy:
(c) the maintenance and enhancement of amenity values:
(d) intrinsic values of ecosystems:
(e) maintenance and enhancement of the quality of the environment:

Document 22

Draft Kahui Wai Māori meeting minutes, 28 February 2020

***KWM members*:** Kingi Smiler (Chair), Annette Sykes, Hon. Dover Samuels, Mahina-a-rangi Baker, Millan Ruka, Paul Morgan, Riki Ellison, Dr Tanira Kingi (via VC)
KWM contractors: Lyn Harrison, Maia Wikaira, Dr Royden Somerville QC
Ministry for the Environment (MfE) officials: Alice Jacobs, Andrew Bowman, Bryan Smith, Cheryl Barnes, Janine Smith, Dr Lucy Bolton, Mary McCulloch, Dr Matthew Cunningham, Pernelle Vari, Susan Guthrie
***Te Arawhiti officials*:** Dr Benedict Taylor, Oliver Skinner
***Ministry for Primary Industries (MPI) officials*:** Chris Kerr, Rachelle Linwood, Ray Smith
***Regional council Chairs and CEs*:** David MacLeod (TRC), Doug Leeder (BOPRC), Nadeine Dommisse (ECAN), Vaughan Payne (WRC) Daran Ponter (GWRC), David Perenara-O'Connell (ECan)
Apologies: Prof. Jacinta Ruru, Dr James Ataria, Traci Houpapa

Karakia

Closed session: KWM Member Updates

1. KWM members discussed:
    a. The presentation at Waitangi
    b. Their meeting with Minister Mahuta on 20 February concerning the Three Waters review
    c. Their submission to the Resource Management Review Panel (RMRP)
    d. Officials' Farm Environment Plan (FEP) briefing
    e. Updates in the communications space.

2. Officials were not present for this session.

Farm Environment Plans (FEPs)

3. A session was held on the joint MfE/MPI proposal to make FEP's legally enforceable through changes to legislation.

4. Mr Ray Smith discussed the balance that MPI has to achieve between its economic and sustainability objectives. He emphasised that he has worked closely with Vicky Robertson (MfE Secretary) to reconcile the differences between MPI and MfE with regard to FEPs. He stressed that the agencies have now reached agreement on the role of FEPs and that they will be working closely on this issue moving forward.

5. Mr Ray Smith referenced the work of the Primary Sector Council (PSC), a body established by Minister O'Connor to provide strategic advice and a vision for the future of primary industries. The PSC have highlighted the concept of Taiao as a key feature of their vision

because it emphasises respect for the natural world. Mr Ray Smith highlighted MPI's intention to work with industry to create a Te Taiao framework, which will drive more sustainable practices within the primary industries. The KWM members expressed reservations about MPI developing a Te Taiao framework while also trying to balance economics alongside the environment. They also expressed concerns that the tikanga may become distorted, as they have yet to see a Māori concept well-reflected in law. Mr Smith highlighted that there is enthusiasm from all New Zealanders for the concept of Te Taiao and that developing a Te Taiao framework will be a journey. He stressed that he is hopeful given the current interest from industry leaders in reducing their environmental impact. Mr Smith stressed that the development of a Te Taiao framework provides an opportunity to foster pan-sector drive for change.

6. Mr Ray Smith noted that FEPs provide farmers with an 'x-ray' of their farms, allowing farmers to identify the risks specific to their property and take ownership of these risks.

7. One KWM member expressed concern about passing on the responsibility for compliance to councils. The member stressed that local government should not be picking up the costs of compliance for central government. The member reiterated KWM's proposal that an independent commission is established to audit local government practices that relate to freshwater.

8. KWM members expressed support for the jointly-written paper on FEPs, produced by MfE and MPI. They expressed support for coordination between the agencies on FEPs.

9. KWM members expressed concern that DIA was establishing a separate water regulator. They stressed the need for DIA, MfE and MPI to work together to create a single commission that audits and monitors those operating in the water space more generally. KWM members highlighted that they perceive a high degree of siloed thinking among government agencies. They stressed the importance of whole-of-government responses.

10. The Chair emphasised that there are lessons to be learned from Te Mana o te Wai that might be useful for the Te Taiao work stream. He recommended that there needs to be increased involvement from Māori to ensure that those involved in the work stream understand the concept and do not sacrifice elements of it in favour of vested interests.

11. Officials noted some key details about the FEP proposals:
    a. Initial thinking about the key functional elements of FEPs is currently being developed. Officials stressed that the work on FEPs is just beginning, and there will be a 12-18 month process to flesh out the FEP proposals.
    b. FEPs will not be used to authorise or permit behaviours that councils have set limits or restrictions on.
    c. Officials perceive that FEPs present an opportunity for those in industry to use their knowledge and experience.
    d. There is an opportunity for Māori to be involved in the FEP regime from governance and decision-making roles at the top, to monitoring and auditing at the bottom.

12. Officials discussed the responses different sector groups have had to the FEP proposals:
    a. The dairy sector are increasingly supportive of the FEP approach.

b. The sheep and beef sector are less supportive and have concerns regarding the costs that FEPs may impose.
c. ENGOs stress that hard limits are preferred to good management practice. However, officials stressed that the proposals to make FEPs legally enforceable will not supersede or replace other parts of the freshwater package (such as the proposed new limits).

13. Ms Dommisse outlined the process that Environment Canterbury (ECAN) follows with their FEPs. She stressed that while FEPs are not the only mechanism that should be used, they are a practical, on-farm tool that help farmers to make better decisions over time. Ms Dommisse explained the process that ECAN has followed with Ngāi Tahu, which led to the adoption of mahinga kai as an element of FEPs. She acknowledged that there were challenges in the implementation of this, including building staff capability to cater for this value. Ms Dommisse explained that they have established Pou Mātai Kō (cultural land advisor) roles to help farmers to understand mahinga kai and to train farm auditors so that they understand mahinga kai.

14. Ms Dommisse emphasised that councils will be interested to hear about how FEPs will sit alongside their other statutory responsibilities. She stressed that councils will want certainty around when and how they are to take enforcement action.

15. KWM members queried how many compliance issues ECAN has enforced. Ms Dommisse confirmed that they have approximately 12 prosecutions in progress at any one point in time for serious breaches and that they also make use of other tools like infringement and abatement notices for less serious breaches. They also make use of industry sanctions in some instances.

16. One KWM member commented on the potential to use non-regulatory methods, such as industry sanctions, to support compliance. The member indicated that large industry groups can exert significant influence over farmers and growers and felt that this could be a good tool to assist regulatory measures.

17. One KWM member queried how Te Mana o te Wai will be reflected in FEPs. They asked how planners will cope with mahinga kai as a compulsory value and emphasised the need for increased understanding of Te Mana o te Wai for hearing commissioners. The member reiterated KWM's recommendation that a Te Mana o te Wai capacity and capability strategy is developed to ensure the successful implementation of the concept. Another member emphasised that there are Māori who do not support government-mandated iwi organisations. The member suggested that hapū have the knowledge needed to implement Te Mana o te Wai and that they may be best placed to implement a Te Mana o te Wai capacity and capability strategy.

18. KWM members raised concerns about the governance structure surrounding FEPs and queried whether MfE has a plan surrounding how FEPs will be governed. Officials confirmed that they have been considering options but that nothing had been confirmed. An official from MPI stressed that there is no plan currently but that there is the potential to develop a plan in partnership.

19. One KWM member expressed concern about the default grandparenting allocation regime and suggested that issues for over-allocated catchments will not be addressed by FEPs. Officials stressed that there need to be environmental limits set and that good management practices will not be sufficient in some cases.

20. Mr Payne discussed Taranaki Regional Council (TRC)'s hesitation around supporting limits, especially those around DIN, as they perceive that the bottom line currently proposed by STAG is ineffective in certain landscapes in New Zealand. He stressed that setting hard limits may require asking farmers to make costly changes for limited environmental outcomes. One KWM member stressed that there does not need to be complete agreement among all STAG members in order to set the DIN limit. The member highlighted that there have been three analyses that agree on the proposed limit.

21. KWM members expressed concerns about the lack of guidance for councils around the allocation methodology. They stressed that an allocation methodology is necessary if FEPs are to achieve environmental outcomes. Officials acknowledged that FEPs and the *Action for Healthy Waterways* package is only a partial solution to water quality issues; allocation will also need to be addressed. Officials stressed that the Minister for the Environment is also aware of this need.

22. KWM members stressed that Māori need to be involved in designing a plan to address allocation. One KWM member stressed that the information required for decision-making around allocation exists but that it needs to be in a form that allows people to participate in the thinking around allocation.

23. KWM members discussed the potential to include mātauranga Māori in FEPs and how this may lead to the need to create some positions to ensure that this expertise is shared appropriately. KWM members queried whether there could be touchstones in policy to provide for these roles for keepers of mātauranga Māori.

Closed session: Regional Water Subgroup (RSWS) engagement

24. KWM and RSWS discussed the regional sector's position on the freshwater package. Officials were not present for this session.

Closed Session: Dr Somerville QC Advice, Part 2

25. KWM members discussed Dr Somerville's advice on potential changes to the National Policy Statement for Freshwater Management (NPSFM). Officials were not present for this session.

Closed session: Te Mana o te Wai and Māori compulsory values

26. KWM sub-group members updated KWM on their progress on the Te Mana o te Wai and Māori compulsory value proposals. Officials were not present for this session.

Te Mana o te Wai and Māori compulsory values

27. KWM members queried the extent to which the recommendations of the Independent Advisory Panel (IAP) will influence Ministers' decisions. While officials were unable to comment on what Ministers will decide, they confirmed that they will continue to offer their own advice, some of which will differ to the recommendations of the IAP. Specific areas of difference concerning Te Mana o te Wai and compulsory Māori values policies include:
    a. Officials consider that the 'give effect to' direction should be retained.
    b. Officials consider that the hierarchy should be retained.
    c. Officials consider that tangata whenua should be engaged at every stage of the NOF process.

28. Officials noted that the Government has made a commitment to the Iwi Chairs Forum (ICF) to develop a joint work programme to address Māori proprietary rights in freshwater. This work programme, which will be prepared by officials and iwi advisors, is supposed to be ready for review by the ICF in May. Officials noted that this work programme could have some overlaps with the comprehensive review of the resource management system, as the first report of the RMRP is scheduled be released in May.

29. Officials highlighted that there may be a role for KWM in the discussion on proprietary rights. KWM members emphasised that they do not have a mandate to make an agreement on behalf of iwi and hapū. Officials confirmed that Minister Parker sent a letter to the Chair of KWM, offering to meet KWM to discuss their proposal to produce a discussion document on Māori rights and interests in freshwater.

30. KWM members asked why officials were not proposing to direct regional councils to enter into co-governance arrangements. A general discussion was held about Ministers' positions on progressing co-governance through the freshwater package versus discussing it within the scope of the comprehensive review of the resource management system. The KWM members expressed some dissatisfaction at being told that the issues would be addressed in another work programme, which still has yet to be agreed upon.

31. KWM members discussed the draft briefing note on Te Mana o te Wai and queried whether officials endorsed KWM's draft of the Fundamental Concept section. Officials confirmed that they could endorse the descriptor but that the responsibility for drafting sits with the independent drafter. KWM members stressed that the drafting process that was used to create the current draft of the NPSFM was frustrating. Members emphasised that they should have direct access to the drafter to make their drafting recommendations. Members also stressed the need for KWM to see exposure drafts early, so that they can weigh in on the drafting of the NPSFM.

32. Officials outlined that there are elements of the KWM's current drafting of the Fundamental Concept section that they would like to discuss with the sub-group. In particular, they would like to know what the terms 'partnership' and 'leadership' could look like in practice.

33. Officials and KWM members discussed what would happen in elected councillors declined to approve plan changes that related to Māori freshwater values, or 'watered down' these values. As all notified plans will need to be reviewed by the freshwater hearing commission,

officials argued that the commissioners could observe that councils have failed to give effect to the parts of the NPSFM which concern Māori freshwater values if councils do not provide sufficient rationale explaining their decisions. Members queried what 'sufficient rationale' meant in this context and queried whether the hearing commissioners will receive draft copies of plans. Officials offered to check this point.

34. KWM members also emphasised that tangata whenua should not have to bear the cost of participating in the freshwater hearing process.

35. One KWM member stated that they were largely happy with the paper on Māori freshwater values and the collaborative process that was followed in producing it.

36. KWM members discussed the Te Mana o te Wai paper. They noted that paragraph 14 (a), which recommends that the NPSFM require councils to 'provide opportunities for tangata whenua to be involved in decision-making for freshwater planning' is not dissimilar to section 81 (1) of the Local Government Act (LGA). Members recommended that this wording needs to encourage stronger decision-making.

37. KWM members stressed that resourcing of iwi and hapū is still a key issue with this package. Members stressed that implementation support for councils in the form of further guidance is likely to be of limited use. Regional councils are looking for funding to support capacity issues, both for councils and tangata whenua, and a budget bid needs to be prepared to accomplish this. Officials suggested that funding and implementation issues may be worth raising when KWM meets with the Minister.

Impact assessment

38. Officials outlined the projects that have been commissioned to model the impacts of the *Action for Healthy Waterways* package. These reports are currently in progress and will be completed shortly. Officials outlined the three economic impacts for Māori that will be explored in these analyses:
    a. How best to give effect to Te Mana o te Wai in the impact assessment.
    b. The commercial impact on farmers, communities and regions as a result in reduction of nutrient loads.
    c. Opportunity costs for Māori collective land, due to restrictions on intensification.

39. KWM members expressed interest in the data available on underdeveloped Māori land. Officials outlined that there are tools available to track the potential of land. Officials stressed that the utilised and unutilised classification of data currently available is clunky, and that available information about current land use is limited.

40. KWM members noted that there are large plots of Māori land that remain unproductive because of a lack of access to water, or the caveats that come with perpetually leased land.

41. KWM members expressed interest in seeing the available data and mapping for underdeveloped Māori land. Members requested that officials present this information to

them once it is has been collated. Officials agreed to provide this information to KWM once the reports have been completed.

42. Officials emphasised that they have had some success in developing subclasses of farm types. One of the companies contracted to conduct an impact analysis report has been able to use published data about the characteristics of farms (soil type, slopes, climate, farm types, etc.) to identify the required on-farm mitigations. This farm-centric analysis also allows for modelling at catchment level, which can then be used to analyse what will happen in the region.

43. KWM members queried whether the information gathered will allow MfE to identify the order in which catchments need to be addressed. Officials confirmed that this information enables them to identify where the biggest load reductions will be required and where the biggest opportunities are. Officials emphasised that the catchments to target may not be those in the worst state: in some instances, the most effective strategy may be protecting a near-pristine lake from the risk of decline.

44. KWM members queried the assumptions of the modelling, to see if things such as value added, the positive impacts of land use change, increased food security, tourism and fewer public health concerns, were being considered in the analysis. Officials confirmed that they have three scenarios: an optimistic, central and conservative scenario. Each of these scenarios takes into account these elements to a different extent.

45. KWM members expressed concern about quantifying the economic impact of different aspects of the package, such as policies to reduce nitrogen loss. This may provide groups with information that they can use in perverse ways.

46. Officials outlined that they are being clear about the key assumptions in their modelling and that they are also conducting sensitivity analysis to ensure that the information made available to decision-makers is as accurate as possible. They emphasised that they are also undertaking independent reviews, to ensure that the modelling is robust.

47. KWM members queried whether sector bodies such as DairyNZ, Federated Farmers, will be able to criticise the analysis that is being conducted. Officials confirmed that the contractors commissioned for these analyses are highly respected and credible individuals in their respective fields.

Closed session

48. KWM members discussed:
    a. The final advice that they will provide to Ministers on the Te Mana o te Wai and Māori compulsory value proposals
    b. The final advice that they will provide to Ministers on FEPs
    c. The RM sub-group's meeting with RMRP on 18 March 2020
    d. KWM's future meeting dates and priorities moving forward.

49. Officials were not present for this session.

Karakia whakamutunga

Appendix A: Action points

No.	Action	Responsibility	Date
1	Clarify the process for drafting; check to see if KWM can have direct access to the drafter and access to exposure drafts.	Matthew Cunningham	
2	Clarify what documents are provided to freshwater hearing panels alongside draft plans	Bryan Smith	Done – sent to KWM via email on 20/3/20
3	Impacts Team to report back at a future meeting to present information about underdeveloped Māori land.	Janine Smith	

Mana Atua – Mana Tangata – Mana Whenua

Te Mana o te Wai

The health of our Wai: The health of our Nation

Incorporated into Policy

PRINCIPLES

- **Kaitiakitanga** – Stewardship/guardianship
- **Manaakitanga** – Care/respect
- **Mana whakahaere** – Governance

OBLIGATION

1. **The first** is to the water, to protect its health and its mauri
2. **The second** is to ensure the needs of the people are met in a sustainable way
3. **The third** for the potential development and economic use providing such use does not impact the mana and the mauri of the water

LEADERSHIP

- **Iwi/hapu**
- **Crown** – Central and local governance
- **Whanau and Community**

NGA RITENGA

- Te Tiriti o Waitangi te tahuhu o te Kaupapa o te wai
- Te Mana o te wai – Te Mauri o te wai
- Te Mana Motuhake o ia wai o ia iwi ki te wai
- Te Kaitiakitanga o nga hapu me nga iwi ki te wai
- Te Mana Whakahaere o nga hapu me nga iwi ki te wai

May 2020

Developing a Te Mana o te Wai Implementation Strategy

Kāhui Wai Māori

The Essential Freshwater package will be launched in July 2020. The package comprises a reformed National Policy Statement for Freshwater Management (NPSFM) and a new National Environmental Standard for Freshwater (NES). Te Mana o te Wai is the Fundamental Concept of the NPSFM and therefore will inform the implementation of the Essential Freshwater Package. A strategy that guides cohesive and clear implementation of the package in accordance with Te Mana o te Wai is required.

The following provides a proposal for how to develop a Te Mana o te Wai Implementation Strategy. Members were provided with a draft overview from the Ministry for the Environment (MfE) for an 'Action for Healthy Waterways – Implementation Programme' and a draft shortlist of implementation ideas. The KWM note these and provide here a view of how they see the various components of a programme fitting together at the strategic level, in accordance with Te Mana o te Wai.

The proposal also assumes that the KWM continues in its role to provide advice to the Minister for the Environment on the implementation of the package and to work with MfE to oversee implementation work detailed here. In line with this, members of the KWM suggest that at the soonest convenience we are able to go through the proposal in detail with the Implementation team at MfE to communicate and optimise shared thinking to the fullest extent.

1. Aim

To develop and implement a strategy that guides the integrated application of Te Mana o te Wai in freshwater governance and care in Aotearoa.

2. Scope

There are two key tranches of work required to fulfil this aim:

1. The full development of the strategy
2. Implementing and delivering the strategy

What the strategy will address:	**What will implementation involve?**
1. Who are the agencies, organisations and groups to be involved? 2. What will the outcomes be? How are they related? 3. What capabilities are needed to achieve the outcomes? 4. What resources are needed? 5. How will the outcomes be delivered, distributed and disseminated?	1. Securing and applying resources 2. Engagement between key agencies, organisations and groups. 3. Developing and engaging the right capabilities 4. Delivery of key programmes 5. Measuring achievement of outputs

3. Key agencies and partners involved in the implementation of Te Mana o te Wai

The following are the key kāwanatanga agencies involved in the implementation of Te Mana o te Wai:

- Ministry for the Environment
- Ministry of Primary Industries
- Department of Internal Affairs
- Taumata Arowai
- Environmental Protection Authority
- Ministry for Business, Innovation and Employment
- Department of Conservation
- Te Arawhiti
- Te Puni Kōkiri
- Climate Change Commission
- Ministry of Health
- Regional Public Health
- Local Government

The following are the key partners involved in the implementation of Te Mana o te Wai:

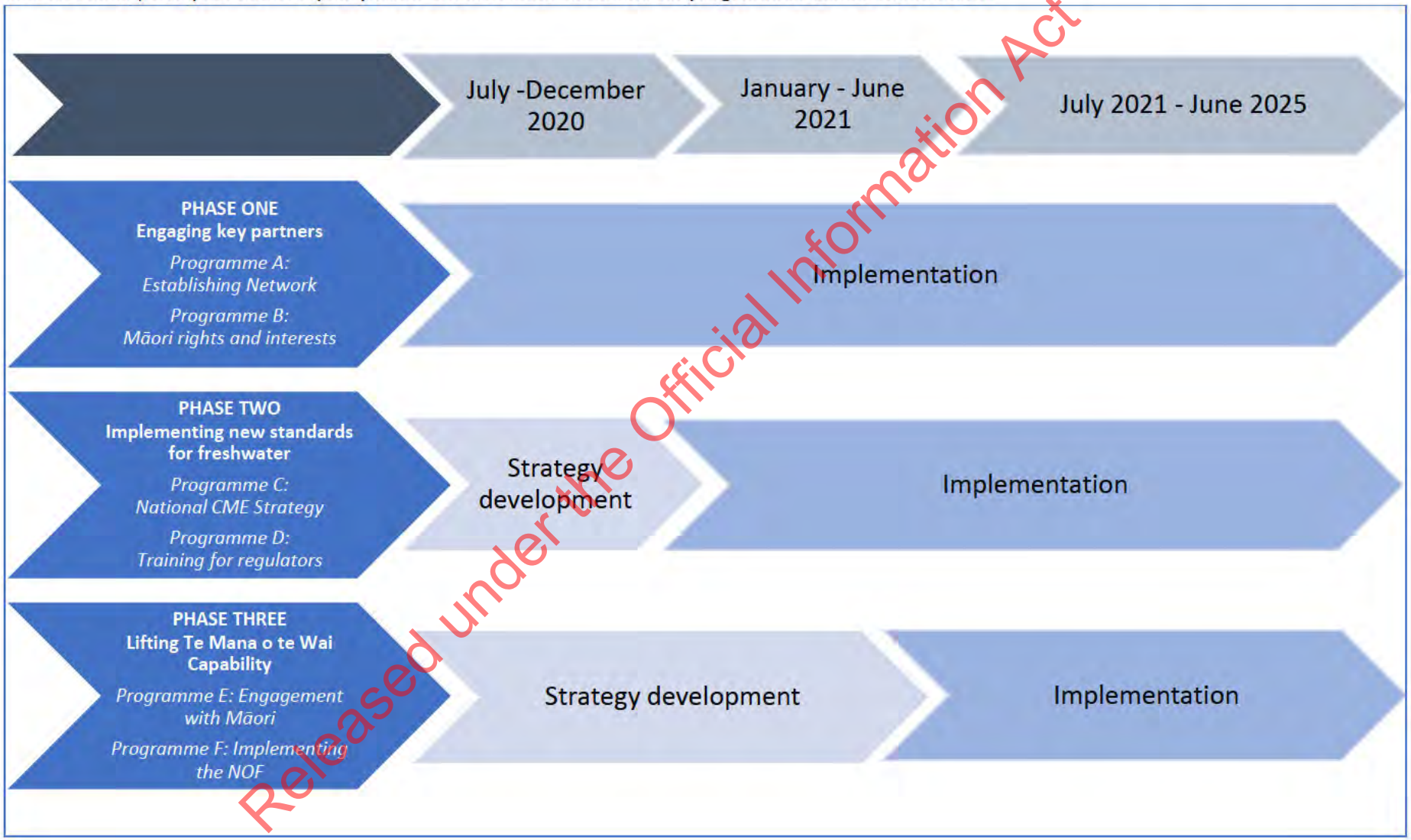
- Iwi and hapū
- Māori landowners
- Planning community
- Primary industry sector
- Rural communities
- Urban communities
- Education sector
- Research sector

4. Broad objectives of Te Mana o te Wai Implementation Strategy

1. Te Mana o te Wai interpreted and implemented appropriately
2. NPS-FM, NOF, including integrated limit-setting implemented effectively through Plan processes
3. Compliance, Monitoring and Enforcement of freshwater system is effective
4. Improved practice in landuse and care of catchments that restores and improves water quality.

5. Key phases and timeframes

Implementation would occur over three interrelated phases, as identified below. This is to reflect that some aspects of the package require implementation and delivery in the immediate to short-term, whilst others require more strategic development before launching. The timeframes identified are across the next six-month, one-year and five-year period. Detailed information on the programmes can be found below.



6. Key programmes that will be developed and implemented via the Strategy

The key programmes of each phase are identified and described below. The key outputs are identified and estimated budgets for the 2020/2021 year are identified. Implementation budgets into the 2021/2022 year and beyond will be determined through development of the strategy.

Phase One: Engaging key partners Engagement of the right partners at the outset is key to the success of an implementation strategy.	
Programme A: Establishing a network of key partners in the implementation of Te Mana o te Wai *Recognising that Te Mana o te Wai has implications across various agencies and other partners, this programme will establish and maintain a network of key partners who can work to strategically address the integrated implementation of Te Mana o te Wai.* The Ministry for the Environment are the lead agency responsible for ensuring the implementation of Te Mana o te Wai. However, Section 3 depicts the various agencies and partners to be involved in implementation, and various audiences they need to reach. In order to successfully and cohesively embed Te Mana o te Wai as the transformational value system in the New Zealand waterscape, communication and collaboration across these partners needs to be actively facilitated. A cross-agency approach also provides a platform from which additional funding streams are available, including those external to the network that could be jointly sought, e.g. research funding. This is also in line with the recommendations of the Regional Sector group that the Regional Sector and KWM work together with agencies in an 'Implementation Advisory Group. This programme will: 1. Establish and facilitate a network across and between two key groups: a. Kāwanatanga agencies, including central and local government. b. Māori experts in implementation of Te Mana o te Wai, including a Māori governance sub-group and a Māori technical expert sub-group 2. Develop and implement a joint Te Mana o te Wai communication strategy.	**Outputs** *July 2020* *Establish network and initiate communication strategy* **Budget For** *Network operation* *MfE resourcing = 2 FTE* *Kāwanatanga agencies = internally funded* *Māori experts = resourced via Programmes B, E & F* *Communication strategy 2020/2021 year*
Programme B: An engagement process for addressing Māori rights and interests *Developing and initiating a process for addressing Māori rights and interests to water.*	**Outputs** *July 2020*

Key advisory groups to the Essential Freshwater Package development, i.e. the Regional Sector, Freshwater Leaders Group and Te Kāhui Wai Māori, have all urged the Government to commence discussions with iwi to progress the addressing of Māori rights and interests to water. As noted by the Regional Sector Group in their March 2020 letter to the Minister for the Environment, 'the challenging nature of iwi rights and interests is already creating disruption to implementing the current NPSFM and this will continue when the NPSFM is amended, prolonging the period before effective policy takes place.' Addressing Māori rights and interests is critical to the effective implementation of the NPSFM. This programme will lay the ground work for progressing allocation policy, which all interest groups have also identified is critical to both water quality and reducing economic uncertainty. It will address how the hierarchy of obligations that are directly informed by Te Mana o te Wai, will inform principles of allocation. This programme will engage the advice of Māori governance and water rights experts to develop and initiate a process for addressing Māori rights and interests to water directly with iwi and hapū.	*Initiate development of engagement process* *July 2021* *Initiate engagement* **Budget For** *Process development* *Allocation* *Engagement 2021/2022*
Phase Two: Implementing new standards for freshwater. Changes to the regulatory framework requires support for key players in the freshwater system.	
<u>Programme C: National Compliance, Monitoring and Enforcement (CME) Strategy</u> *Supporting and ensuring the effective implementation of the range of novel compliance, monitoring and enforcement matters introduced via the Essential Freshwater package.* In certain areas, freshwater compliance, monitoring and enforcement intersects with other areas of environmental and health planning and regulation. Examples of these intersections include • farming compliance with freshwater regulation and the implications of emerging climate change policy • source water protection and the implementation of the Water Services Act under the Taumata Arowai • freshwater health monitoring and public health and food safety response work. The development and implementation of a national CME strategy therefore needs to have oversight from Te Mana o te Wai Network identified in Programme A, so as to maximise the efficiency and cohesiveness of CME support. The following CME matters introduced via the Essential Freshwater package will require strategic support in order to be effectively implemented via both regulatory and non-regulatory methods: 1. Freshwater system performance monitoring 2. Farm environment plan systems 3. National Environmental Standards for Freshwater	**Outputs** *December 2020* *CME Strategy development complete* *January 2021* *Initiate implementation through establishment of Farm environment plan system* **Budget For** *Strategy development and first steps of implementation via the*

4. Monitoring of attributes from the National Objectives Framework (NOF) of the NPS-FM 5. CME of limits set via the implementation of the NOF Based on information provided by MfE to date, there is a desire to establish the Farm environment plan system as a matter of priority of the five matters identified above. If this will be the first item from the CME Strategy to be implemented, this will require identifying how Farm environment plans will demonstrate compliance with Te Mana o te Wai principles and policy, and how regional councils can ensure this compliance. It will also require ensuring that the Farm environment Plan system will be able to service a future allocation framework that reflects Te Mana o te Wai by ensuring good quality data systems.	*establishment of Farm environment plan systems.*
Programme D: Te Mana o te Wai Capability; Training for the regulatory system *Developing and delivering policy guidance for interpreting and applying Te Mana o te Wai and methods for reflecting local interpretations of Te Mana o te Wai.* Various key groups will require guidance on interpreting and applying Te Mana o te Wai in relation to their respective responsibilities. This interpretation will also need to be informed by local understandings of Te Mana o te Wai, as identified in the NPS-FM. This will involve the development and delivery of training programmes for understanding and applying Te Mana o te Wai, and supporting local government in particular to ensure they reflect local understandings of Te Mana o te Wai. Training programmes will be developed and delivered to: a. Regional councils: For their roles in regional plan development, environmental regulation, and catchment management. b. Taumata Arowai: For their role in giving effect to Te Mana o te Wai through initially the provision of safe drinking water, and later through other aspects of Three Waters management. c. Hearing Commissioners: Both for the accelerated plan process and for general Hearing Commissioner Training. d. Territorial authorities: For their roles in governing and managing three waters and its infrastructure. Due to their role in overseeing the freshwater system, regional councils and the Taumata Arowai will be prioritised for training.	**Outputs** *December 2020* *Strategy development complete* *January 2021 – June 2022* *Initiate implementation and first training* **Budget For** *Development of strategy and training material* *Delivering training*
Phase Three: Lifting Te Mana o te Wai Capability Implementing a new system for freshwater governance and care requires a strategic approach to capability development.	
Programme E: Te Mana o te Wai Capability: Engaging with Māori *Development of policy guidance and best practice approaches to fulfilling the mana whakahaere principle of Te Mana o te Wai via Māori partnership in freshwater governance, management and care.*	**Outputs** *June 2021*

Various aspects of the Essential Freshwater Programme require increased or improved engagement with Māori, and there is a need to support local government and other key agencies to do this effectively, whilst meeting statutory requirements. The National Policy Statement for Freshwater Management Implementation Review[1], found that 'engagement with iwi and hapū is improving in many regions, but remains one of the biggest challenges for successful implementation of the NPS-FM.' Guidance is required for: 1. Māori partnership and participation in local government generally 2. Effective Māori participation in Plan Hearing Processes 3. Māori governance of technical Plan processes including regional council modelling for limit-setting 4. Māori involvement in resource consent processing that involves assessment against MCV 5. Māori involvement in CME	*Strategy development complete* *July 2021* *Initiate implementation* **Budget For** *Strategy development* *Implementation*
<u>Programme F: Te Mana o te Wai Capability: Implementing the National Objectives Framework (NOF)</u> *Development and training for both Māori and local government in the approach and methods required for implementing the NOF, including the new Māori compulsory value.* Given the addition of new compulsory values to the NOF, and the need for all attributes to be applied in an integrated way for the purpose of objective and limit-setting, effective approaches and methods for implementing the NOF are required, and capability in applying these methods needs to be developed. The development of a strategy for this is a matter of priority as regional councils are already starting to plan for the process of drafting the NOF components of regional plans. Effective approaches and methods are required for: a. The identification of attributes, including for the Māori compulsory value b. Integrated monitoring, across various NOF values and attributes c. Catchment mapping (monitoring sites, fish passage sites, Farm Environment Plan discharge mapping) d. Integrated modelling for objective and limit-setting	**Outputs** *June 2021* *Strategy development complete* *July 2021* *Initiate implementation* **Budget For** *Strategy development* *Implementation*

[1] Ministry for the Environment. 2017. National Policy Statement for Freshwater Management Implementation Review: National Themes Report. Wellington: Ministry for the Environment. https://www.mfe.govt.nz/sites/default/files/media/Fresh%20water/npsfm-implementation-review-national-themes-report.pdf

7. Procuring the Implementation Strategy

This proposal distinguishes the phases of implementation where some matters require immediate implementation, and others requires a period of careful strategic development prior to implementation. This design is also to ensure that the procurement of the implementation work allows the required time to identify the most appropriate experts to undertake the work. This is critical to the success of the Te Mana o te Wai and Māori technical work required for implementation in particular, given that the specific capabilities required can be in high demand, and significant lead-in time can be required to ensure the availability of the right expertise.

Delivery requires balancing the demand from key partners that the implementation of the package is done right, delivered by the right experts, and in as timely a manner as possible. This requires a clear and robust process for procurement that ensures delivery by those with a proven track record of delivery and experience in implementation.

8. Summary of key outputs for the 2020/2021 year

Based on the phases and programmes identified above, the key outputs of the 2020/2021 year of the Implementation Strategy will be:

1. Implementing Phase One: Engaging key partners
2. The completion of a Te Mana o te Wai Implementation Strategy which will include a strategy for:
    a. CME Implementation
    b. Te Mana o te Wai training programmes
    c. Lifting local government capability in engagement with Māori
    d. Implementing the National Objectives Framework (NOF) of the National Objectives Framework.
3. The initial implementation steps of the CME Implementation Strategy
4. The initial delivery of Te Mana o te Wai training for regional councils and the Taumata Arowai

9. Overall budget for the implementation strategy

The estimated overall budget is $1.9 – $2.95 million.

Document 25

Draft Kāhui Wai Māori Meeting Minutes – 4 June 2020

Venue: Zoom Teleconference

Attendees:

KWM members: Kingi Smiler (Chair), Paul Morgan, Traci Houpapa, Annette Sykes, Jacinta Ruru, Mahina-a-rangi Baker, Tanira Kingi, Mātua Dover Samuels, Riki Ellison, Millan Ruka

KWM contractors: Maia Wikaira, Lyn Harrison

Ministry for the Environment officials: Martin Workman, Sam Buckle, Bryan Smith, Pernelle Vari, Moya McConnell, Alice Jacobs, Lucy Bolton, Bridget Fraser

Te Arawhiti officials: Oliver Skinner, Benedict Taylor

Apologies: Kelly Parekowhai (TPK)

Karakia

Action for healthy waterways package updates

1. Officials outlined some organisational structure and personnel changes at the Ministry, specifically that:
    a. Cheryl Barnes has moved over to DPMC to assist with the COVID-19 recovery until the end of the year;
    b. Martin Workman has stepped into the Deputy Secretary role for Sustainable Land Use Delivery and is the senior official responsible for implementation, including the implementation of the freshwater package; and
    c. Sam Buckle has stepped into the Deputy Secretary role for Water Policy and is the senior official responsible for work programmes related to water allocation and Māori rights and interests.
2. KWM members queried the decision to remove the Dissolved Inorganic Nitrogen (DIN) bottom line. Officials outlined that this decision will be reviewed in 12 months' time. The package will still address Nitrogen use by lowering the bottom line for Nitrogen toxicity and introducing a synthetic fertiliser cap, the details of which are currently being worked through in drafting. It is estimated that these policies will require between 30 and 50% of farmers to reduce their Nitrogen use. In Canterbury, it is estimated that 75% of farmers will have to reduce their Nitrogen use. Pukekohe and Horowhenua, as heavy vegetable growing areas, will be exempted from these policies to ensure fresh vegetable supply for Aotearoa New Zealand.
3. KWM members queried the vegetable growing exemption for these areas. Officials outlined that modelling had indicated that it would not be possible to meet the Nitrogen toxicity bottom line without significant land use change.
4. KWM members expressed concern and disappointment that that they were not consulted about these exemptions, especially as these exemptions do not give effect to Te Mana o te Wai. KWM members highlighted that a precedent is set by allowing exemptions and that this

will encourage other industries to request exemptions, which will ultimately degrade Te Mana o te Wai and create future allocation issues.

5. KWM members suggested that referring to this policy as an 'exemption' may be problematic and one member suggested that the policy could be referred to as a longer-term plan to uphold Te Mana o te Wai.
6. Another member expressed concern about the Crown's approach to governance and management when dealing with this issue. This member emphasised that there needs to be an affirmative process in place so that iwi/hapū are able to address such issues over time.
7. Officials highlighted that the Ministry is currently engaging with iwi/hapū in both Horowhenua and Pukekohe regarding the vegetable growing exemptions. Officials indicated that they had received advice from Te Arawhiti to engage broadly in these areas, as there is no single voice in either region.

6 March letter matters and Te Mana o te Wai Implementation Strategy

8. Officials highlighted they are supportive of the draft Te Mana o te Wai Implementation Strategy submitted by the KWM Implementation Subgroup, though at this stage, the Ministry is unable to confirm if it has the resources required to implement the strategy as drafted.
9. Officials queried KWM members on what they see their role being moving forward. Members consider KWM should be involved in:
    a. Co-governance of the implementation package; active participation in determining the approach to implementation and decision-making regarding delivery of the implementation package;
    b. Assisting with implementation of specific components of the package. There are members of KWM who are sufficiently skilled to deliver parts of the programme and these members could act as technical experts. This could operate in much the same way that KWM subgroups operate currently;
    c. Continuing to provide advice directly to Ministers; and
    d. Advising the Crown on engaging with iwi/hapū to recognise Māori rights and interests in freshwater. Members suggested that they might have a role in assembling information and ensuring that this information is received by involved parties. They stressed that the Crown would then engage in separate conversations with iwi/hapū.
10. KWM members emphasised that Programme B of the draft Te Mana o te Wai Strategy, which involves engagement with iwi/hapū on allocation as it relates to Māori rights and interests in freshwater, would relate to both implementation of the freshwater package, and the broader issue of recognition of rights and interests. KWM members stressed that implementation of the package will require limit setting and consideration of allocation, and therefore requires consideration of broader rights and interests. They stressed that the Crown needs to lead this discussion, and that it should not be left to regional councils to lead this process.
11. Officials sought confirmation from KWM members as to what they consider their role to be in relation to ongoing discussions about Māori rights and interests in freshwater. Members emphasised that their role is to advise the Crown but that ultimately, the Crown has an obligation to engage with its Treaty partners, not KWM or the Iwi Chairs Forum, both of which do not have the mandate to act on behalf of iwi/hapū. One member suggested that

the Treaty Settlement process might be a good engagement model for the Crown to follow, as under this process, the Crown has a vested interest in engaging iwi in discussions.

12. KWM members outlined that co-governance would require that KWM shares authority with the Ministry and other decision-makers, has access to – and a role in – allocating resources and broader decision-making. The Waikato River example was referenced as a good working model for demonstrating this sort of co-governance.
13. KWM members stressed that they would like an urgent answer regarding resourcing, co-governance and timeframes for the implementation package. Officials stressed that they would prefer to be working with KWM to design and deliver the implementation package by involving KWM right from the early planning stages. However, decisions regarding co-governance and resourcing will lie with Ministers.
14. KWM members stressed that implementation of the package will also likely be dependent on individual regional councils and that this will make the role of an overarching Te Mana o te Wai Commission especially important. One member suggested that there may be a role for a member of KWM to assist regional councils in constructing plans to ensure that they give effect to Te Mana o te Wai.
15. KWM members sought confirmation of the methodology the Ministry will be using to prioritise different parts of the implementation programme, and what the timeframes will be for different projects. Officials could not offer that detail at this stage.
16. KWM members reiterated their view that those on the expert panels for the fast track consenting process should receive Te Mana o te Wai training. Officials outlined that while there is no current proposal to provide expert panels for the fast track consenting process with Te Mana o te Wai training, this is something that the Ministry should consider. Officials agreed they could raise this issue with Minister Parker and encouraged KWM to include this suggestion in their next letter to the Minister.
17. Officials outlined that there is currently a paper in draft seeking decisions on the implementation package. Once this paper has been sent to the Minister and decisions have been made, officials will be able to provide KWM with more clarity on the details of the implementation package. It is likely that this detail will be available in early July 2020.

Budget 2020 and investment in regional environmental projects

18. Officials outlined that the government's COVID-19 stimulus package allocated $1.3 billion to environment-related projects. Of this total amount, the Ministry will be responsible for $500 million. This will be used as follows:
    a. $67 million for the Freshwater Improvement Fund (including $12 million for work on at-risk catchments); and
    b. $433 million as an open contingency.
19. Officials outlined that the open contingency fund is available to direct in a wide range of ways. The Ministry has to develop action plans that outline how these funds could be used, which would need to be approved by both the Minister for the Environment and Minister of Finance. The Ministry has until February 2021 to draw these funds down. Officials highlighted that the Ministry may choose to do this in different phases, across several action plans. Officials stressed that they have already received a high number of proposals, including 300 from regional councils.
20. KWM members expressed concerns about equity, and queried whether funds had been ring-fenced for iwi/hapū, and whether there would be technical support available to assist

iwi/hapū with putting forward proposals. Officials stated the Ministry did not currently have the capacity to assist iwi/hapū with putting forward their proposals but that they had taken the suggestion of having a specific allocation for iwi/hapū to the Minister.

21. KWM members queried the governance structure for this process and emphasised that Treaty partners must be represented fairly within this structure. Officials outlined that the Chief Executives of the central government agencies involved will be putting together this governance structure shortly, and that it will likely involve a panel of less than 10 individuals. The Chair emphasised that if there is a governance group of less than 10, there should be three to five iwi/Māori representatives on the panel to ensure significant representation of Treaty partners and equity of allocation.

Closed session: The future role of Te Kāhui Wai Māori

KWM members held a closed session to discuss the future role of KWM.

Karakia

Appendix A: Action Points

No.	Action	Responsibility	Date
1	Provide further clarity regarding resourcing, co-governance and timeframes for the implementation package - including whether the Ministry is able to resource the Te Mana o te Wai Implementation Strategy put forward by KWM.	Bridget Fraser	

Kāhui Wai Māori Meeting with the Minister Minutes – 22 July 2020

Venue: Meeting Room 1C, Ministry for the Environment

Attendees:

Minister: Hon David Parker.
KWM members: Kingi Smiler (Chair), Annette Sykes, Matua Dover Samuels, Matua Millan Ruka, Mahina-a-rangi Baker, Paul Morgan.
Via Zoom: Traci Houpapa, Dr Tanira Kingi.
KWM contractors: Maia Wikaira, Lyn Harrison.
Ministry for the Environment officials: Vicky Robertson, Martin Workman, Sam Buckle, Lucy Bolton, Bryan Smith, Stephen Walter, Moya McConnell.

Apologies: Riki Ellison, Professor Jacinta Ruru.

Karakia- Meeting opened by Matua Dover Samuels

1. The Chair opened the meeting by congratulating the Minister on getting the Essential Freshwater package (the Package) through, and expressed Kāhui Wai Māori's (KWM) willingness to continue to support the Minister on implementation of the Package.

The Future of Kāhui Wai Māori

2. KWM outlined their expectation to be involved / updated on:
   - All general issues
   - Allocation specifically
   - Vegetable growing exemptions
   - Auckland Water Issues
   - Land use changes over time

3. KWM members have enjoyed their term to date, however note they are busy and require a clear vision / outline of the upcoming programme.

4. KWM's continued support would provide continuity moving forward, specifically with regard to implementation of the Package (including engagement on a programme for regional councils to implement TMOTW), freshwater allocation issues and engagement with iwi/hapū on the vegetable exemptions in the Package.

5. Budget is limited, and currently not available for local authorities to assist all iwi on the implementation of TMOTW and the Māori freshwater values policies.

6. The potential establishment of a water commission was discussed with a consensus on the importance of iwi seats on the water commission and the need for quality Māori technical input.

S 9(2)(j) [redacted]

8. S 9(2)(j) [redacted]

[redacted]

[redacted]

[redacted]

[redacted]

Rights and Interests / Allocation

13. KWM members voiced the urgent need to begin designing the principles for allocation, so catchments can start addressing these issues.

14. The Minister, KWM and ILG will need to agree on a fair approach to address rights and interests, and come together to best support iwi / hapū and whānau.

15. KWM members strongly recommend the need for a discussion document on these matters to be circulated amongst all iwi and hapū.

Minister Parker departed 9:45am

KWM Members and Officials continued to discuss the future role of KWM and allocation issues.

16. Vicky Robertson outlined two key priorities:
    a) The future of KWM
        - Proposing to extend the term until mid-2021. This will provide an immediate priority for KWM to work on the implementation of TMOTW.
    b) **Freshwater allocation – post election**
        - There is an intention post-election, to work with both ICF and KWM on freshwater allocation, and rights and interests in freshwater. Advice will be required on the approach and who should be involved.
        - There is a clear intent to push forward with this issue, and a clear timeframe within the next term to achieve this.
        - KWM members suggested they hold a planning meeting to discuss the scope of implementation of the Package and the future implications of implementation. Sam Buckle to attend this meeting.

17. KWM members expressed concerns about the timeframes for achieving a robust and enduring settlement of freshwater allocation issues, feeling strongly that more time is required to develop a discussion document which can be taken out to the people to support them in this major decision.

Appendix A: Action Points

Action	Responsibility	Date
Implementation – TOR agreed to / approved	Bridget Fraser / Jen Price	29 July 2020
Indicate / Negotiate / Produce a draft budget	Lucy?	29 July 2020
Kaipara – already have funding, opportunity to work with iwi on monitoring and enforcement capability building.	Ministry / connect with Matua Millan	
Te Mana o te wai funding – Work with Lyn on communication strategy to support this.	MfE	
Recommendation Peter Skelton – Freshwater Commissioner to meet with KWM.		

Kāhui Wai Māori Meeting - 12 October 2020

Venue: The Terrace Conference Centre

Attendees:

KWM members (in person): Kingi Smiler (Chair), Hon Dover Samuels, Matua Millan Ruka, Dr Mahina-a-rangi Baker, Dr Tanira Kingi.
KWM Members (via Zoom): Traci Houpapa, Professor Jacinta Ruru, Annette Sykes, Paul Morgan,
KWM contractors: Te Rangimārie Williams, Lyn Harrison (in person), Maia Wikaira (via Zoom)
Ministry for the Environment (MfE) officials: Vicky Robertson, Martin Workman, Sam Buckle, Lucy Bolton, Keita Kohere, Lorena Stephens, Moya McConnell, Jen Price, Nora Burghart.
Te Arawhiti Officials via Zoom: Benedict Taylor, Oliver Skinner

Apologies: Riki Ellison.

Expectations for embedding Te Mana o Te Wai (TMoTW) in freshwater implementation programme, and Freshwater Farm Environment Plans FWFPs)

1. KWM outlined how they think Te Mana o Te Wai (TMoTW) can best be embedded in the implementation programme:
    - Members would like to be made aware of/involved in projects that involve TMoTW; they expressed a key concern about the amount of projects underway that involve TMoTW that KWM are not aware of, or involved with.
    - Members expressed a need to be resourced to provide advice on TMoTW across all implementation guidance.
    - Urgent guidance needs to be provided to councils regarding how to apply TMoTW. This is especially important as some councils are already applying TMOTW to consents.
    - Members have recommendations regarding contractors that they wish to engage to assist with implementation. Members have faith in these contractors' abilities to ensure that TMoTW is effectively embedded in the implementation programme.

2. Freshwater Farm Plans (FWFPs):
    - KWM to be involved from the beginning of the process on farm plan regulations to ensure TMoTW is included and embedded from the start.
    - MfE has approached KWM for five representatives to provide advice on the farm plan work streams. KWM will nominate representatives with the right kind of expertise for this.
    - Members expressed a need to develop consistency across the country; this requires consistent messages for council to ensure TMoTW is implemented as intended through FWFPs.
    - KWM members emphasises that they would like to be advised of any differences in advice between MfE and MPI if a consensus is not met.

Rights and interests

3. To achieve a successful allocation programme, MfE will need to look at practical ways for Iwi to be involved, including what processes and outcomes will achieve recognition of rights and interests.

4. Members suggested that, from a legal perspective, it's important that MfE is able to identify a commonality between the values all New Zealanders have and Māori connections to the water.
5. Members suggested that a well-informed, respectfully written discussion document is important, and urgency needs to be placed on preparing this discussion document for consultation and engagement with communities.
6. MfE is considering case studies to model the implications of different policy options for freshwater allocation reform. KWM members recommended that Poroti Springs is included as one of these catchment case studies.
7. Advice will be provided to the Ministers, once the new government is formed on the members proposal to commission two papers:
    - A legal rights paper
    - A practical paper about addressing rights and interests through allocation. This paper would include:
        i. Where implications fall;
        ii. Visionary options;
        iii. Intergenerational understanding; and
        iv. Kaupapa Māori framework.

Te Mana o Te Wai Fund

8. Lorena Stephens provided an overview of this fund and its purpose:
    - To assist with improving water quality;
    - To provide opportunities for communities to play an active role in improving water quality; and
    - To help communities with the funds required to manage freshwater bodies and provide for ecosystem health.
9. The TMoTW Fund is currently at the design phase, and criteria for acceptance is being developed.
10. A workshop will be held in the next few weeks to assist in developing the criteria for acceptance and KWM members to be invited to attend.
11. In November/December 2020 MfE will hold its next round of regional hui and the fund will be discussed at these.
12. The fund will open in early December 2020 for applications.
13. The Kaipara Funding launch event was hosted by Ngāti Whatua. There was concern Ngā Puhi did not receive an invite. Martin Workman to check who invites were sent to. KWM members emphasised that all Kaipara iwi need to be included with formal involvement.
14. In addition to the TMotW fund, there is a need to be across all projects that address TMotW to ensure efficiency and avoid duplication.

Closed Session: Update on Communications Plan

15. MfE have restarted their iwi pānui. KWM members confirm they would like input into the pānui.
16. **KWM want to ensure TMotW messaging is consistent across communication networks. MfE have a list of iwi who they engage with regularly that can be provided to KWM.**
17. **Webinars have been developed to follow on from MfE Factsheets. TMotW should be weaved throughout webinars and consideration given as to whether webinars targeted to Māori should be developed.**

Appendix A: Action Points

Action	Responsibility
Make a plan to bring in more resourcing to help KWM do more work focussed on TMOTW.	MfE
TMOTW – Funding workshop, invites to be extended to KWM.	MfE
MPI to be invited to future KWM meetings with officials.	MfE
Martin Workman to pass on contact details to KWM of iwi representative on Southland Regional Council so they can discuss the implementation of TMotW through the Southland Advisory Group.	KWM
KWM to work with MfE to provide recommendations for farm regulation work streams	KWM / MfE
Follow up on Kaipara Funding involvement	MfE
MfE to provide a diagram setting out all TMotW projects that MfE is aware of. This includes the Our land and Water (OLW) research which MfE is confirming whether there are duplications with the Freshwater Implementation Programme.	MfE
MfE to confirm who the iwi relationship managers are at MfE and which iwi MfE engages with.	MfE
KWM to work with MfE to have input into the MfE iwi pānui from a freshwater perspective. KWM members to connect in with their various networks to disseminate the pānui wider.	MfE / KWM
MfE to confirm the number of Māori registered for the webinars	MfE
Freshwater Implementation Communications Team to consider producing webinar targeted to Māori	MfE / KWM

Kāhui Wai Māori

Kāhui Wai Māori

Briefing to Minister for the Environment

Date: 12 November 2020

Mihimihi and Introduction

Tēnei te mihi ki a koe i roto i ngā tini āhuatanga o te wā.

On behalf of the Kāhui Wai Māori, I congratulate you on your reappointment to Minister for the Environment. The Kāhui have enjoyed our working relationship with you and your officials and look forward to working collaboratively over the next three years.

Kāhui Wai Maori was established in November 2018 and on 15 April 2019, and provided the Minister with both structural and systemic reform recommendations in the form of the Te Mana o te Wai Report.[1] The recommendations within the Te Mana o te Wai Report sat both inside and outside of the Action for Healthy Waterways policy package. The Kāhui then worked with Ministry for the Environment officials to reflect the recommendations contained in the Te Mana o te Wai Report within the Action for Healthy Waterways policy package.

On 3 September 2020, the freshwater reforms came into effect and central to the reforms is the concept of Te Mana o te Wai. Te Mana o te Wai sets out a hierarchy of obligations and a values-based system for freshwater management. The freshwater reforms also include mahinga kai as a compulsory value within the National Policy Statement for Freshwater 2020 (**NPS-FM 2020**). These reforms and giving effect to Te Mana o te Wai have received wide support from iwi/hapu and whanau and a broad range of sectors across Aotearoa.

The Kāhui Wai Māori have set out in this letter our initial post-election feedback and key issues relating to the implementation of the freshwater reforms.

I roto i ngā mihi,

Kingi Smiler

Chairman – Kāhui Wai Māori

[1] *Te Mana o te Wai: The health of our wai, the health of our nation: Kāhui Wai Māori report to Hon Minister David Parker.* September 2019.

Freshwater Implementation Programme

1. The Freshwater Implementation Programme (**FIP**) is progressing at pace and the Kāhui Wai Māori are represented across the FIP, including representation on the Freshwater Implementation Group, the Freshwater Directors' Group, and the Freshwater Secretariat. The focus for the Kāhui through the FIP is ensuring Te Mana o te Wai, the fundamental concept of the NPS-FM 2020, is placed at the forefront of all priority projects that are a part of the FIP.

Issues

Tangata Whenua Mandating and Resourcing

2. The Freshwater Reforms will require regional councils to engage with tangata whenua at multifaceted levels, including at a hapū and Māori landowner level.[2] Whilst regional councils are familiar with engaging with tangata whenua at an iwi level, they do not have the systems or relationships in place to engage at the more complex hapū and Māori landowner level. The additional work that is now required as a result of mahinga kai being included as a compulsory value and the requirement to integrate this with the NOF (discussed below at paragraph 8) adds another layer of complexity to engagement.

3. Regional Council have raised these concerns with Kāhui Wai Māori, noting that they will not have the capacity or capability to engage at this complex level both internally in terms of regional council staff, and externally in terms of tangata whenua capacity to engage.

4. This issue is one that will require dynamic and flexible solutions to ensure tangata are comprehensively involved in freshwater reforms across the spectrum of tangata whenua representation. Currently, there is no targeted funding set aside to address these issues and the Kāhui has significant concerns that resources are not readily available to support tangata whenua participation in the FIP. The Kāhui is currently working with Ministry for the Environment officials to target the Te Mana o te Wai fund towards tangata whenua mandating and resourcing.

5. The Regional Council have also identified the $50 million Farm Plan programme set aside for Farm Plans as a possibility for redirecting to tangata whenua engagement and building capability.

[2] We refer to Māori landowners of Māori freehold land under the Te Ture Whenua Act 1993. This includes trusts and incorporations.

Recommendation

6. The Minister urgently provides funding targeted toward tangata whenua and regional council capability and capacity building to enable a timely and effective approach to give effect to Te Mana o te Wai and to meet the targeted regional plan timetable of 2024.

Te Mana o te Wai Capability and Capacity Building

7. Te Mana o te Wai is the fundamental concept of the NPS-FM 2020. As such, all groups and individuals that engage in the Freshwater Reforms must have a clear understanding of the meaning of Te Mana o te Wai. Kāhui Wai Māori have concerns that iwi and hapu and regional councils lack the capability and capacity to give effect to Te Mana o te Wai. Kāhui Wai Māori will be working with appropriate technical experts to develop a set of Te Mana o te Wai training progammes for key personnel involved in the freshwater reforms.

8. A significant new change to the NPS-FM is the inclusion of mahinga kai as a compulsory value and the requirement to identify a definitive set of attributes for this value.

9. We also note Professor Skelton, the new freshwater commissioner, has emphasised that all the freshwater commissioners will need to undertake a training programme in giving effect to Te Mana o te Wai.

Recommendation

10. The previous recommendation clearly refers to the urgency to address the resourcing issues to ensure the NPS-FM 2020 requirements are met.

Rights and Interests

11. The Iwi Leaders Group, the New Zealand Māori Council, Te Wai Māori and the Federation of Māori Authorities have signalled a clear need to work together to engage with the Crown in relation to freshwater rights and interests. A meeting has been held between this collective and the Ministry for the Environment facilitated by Sir Harawira Gardiner.

12. The Kāhui Wai Maori are committed to assisting the Minister with the engagement process to resolve rights and interests with Maori. In this regard both the Iwi Leaders and the NZ Maori Council have indicated support for the Kahui Wai Maori to prepare a report on Māori rights and interest that could then be disseminated to iwi and hapū.

Recommendation

13. The Minister confirms that resourcing will be made available to enable Kāhui Wai Māori to prepare a report on Māori rights and interests and facilitate discussion with iwi and hapu.

Resource Management Act Reform

14. Kāhui Wai Maori would appreciate an update from the Minister on the government's intentions and timetable regarding the June 2020 Resource Management Review Panel's recommendations.

15. We also note that many of the recommendations of the Kāhui Wai Report of 15 April 2019 relating to future reform have been "pending" further policy directions from Government.

Kāhui Wai Māori Meeting - 16 November 2020

Venue: Meeting Room 1A (Matairangi), Environment House, Kate Sheppard Place, Wellington

Attendees:

KWM members: Kingi Smiler (Chair), Hon Dover Samuels, Dr Tanira Kingi, Riki Ellison, Annette Sykes, Paul Morgan
Via Zoom: Traci Houpapa, Professor Jacinta Ruru
KWM contractors: Te Rangimārie Williams, Lyn Harrison, Vanessa Tipoki

Ministry for the Environment (MfE) officials: Vicky Robertson, Martin Workman, Sam Buckle, Bryan Smith, Lucy Bolton, Keita Kohere, Lorena Stephens, Shadrach Rolleston, Bridget Fraser, Nora Burghart, Claire Graeme, Whitney Nuku, Moya McConnell

Te Arawhiti Officials: Arnu Turvey, Oliver Skinner
MPI Officials: Charlotte Denny, Sophia Murphy
TPK Officials: George Short, Hiria Pointon
Regional sector: Christina Robb, Nadeine Dommisse (ECan)

Apologies: Matua Millan Ruka, Dr Mahina-a-Rangi Baker, Sir Harawira Gardiner.

Key messages
There were six key messages which were discussed throughout the hui, connecting to all kaupapa discussed during the day.

- **Joint working – MfE, MPI and KWM agree to invite each other and regional councils to all discussions on the Essential Freshwater Implementation.**
- **Funding is required to support councils, iwi and hapū to engage and work collaboratively.**
- **Education resources are required to support councils, iwi, hapū and Māori to understand the intent of the freshwater programme and to move forward with implementation guidance.**
- **Education on Te Mana o Te Wai (TMoTW) – ensuring everyone understands the meaning and considers TMoTW from the beginning.**
- **Database required to connect councils, agencies, iwi, hapū and Māori together.**
- **Meaning of *Tāngata Whenua* to be understood as intended – iwi, hapū and Māori with ahi kā.**

Priority Projects: Implementation and issues arising from scopes and Freshwater Farm Plans.
13 Priority projects, to give effect to Te Mana o Te Wai and the freshwater reforms.

1. Te Kupenga Priority Project
    - A network of government agencies and key partners involved in freshwater reforms with the main purpose to align kōrero and filter information through to the relevant organisations, right down to communities.
    - It is important Te Kupenga includes regional council, aligning with other government agencies. This includes korero with Ngā Kairapu, as well as the regional council CEs and councillors at a governance level.
    - MPI and TPK have also been contacted
    - Webinars and fact sheets have already been produced, data indicates they are being accessed by Māori organisations which is positive.

Issues

- National funding as well as resourcing from the regional sector is required to get Te Kupenga started.
- Regional councils must also be resourced in order for this to happen, and they need a consistent framework around what TMOTW looks like, and these should be sitting in a central system.
- Already clear people are struggling to understand TMoTW. Videos have been filmed to help clarify the meaning, however more education tools and a common database are required.

2. Architecture / Mahinga Kai NOF Priority Project
   - Step one is to identify a small working group with science expertise by early December. This group will then develop a mahinga kai tool kit, collating information (late Dec – Early Jan 2021).
   - Step two will focus on producing a questionnaire to understand the state of mahinga kai to iwi, Māori and council.
   - Mahina-a-Rangi intends on returning in March / April to evaluate and produce methodologies. If she is unable to return Vanessa has recommendations for contractors.
   - Tina Porou is working with the NZMC around TMOTW and TMOTW methodologies, her work could help inform the blueprint document.

Issues

- Short timeframes with developing the toolkit and questionnaire before end December. This relies on Te Kupenga being operational.
- The scope of stage two has not been clearly identified, this should be resolved with the establishment of the project team.
- It is important that regional councils are involved, concern this is not joined up. Clear everyone must meet together, not individual workshops.
- Support for the methodology, however what are the Māori values which frame this? Requires Mātauranga to be informing the assessment criteria.

3. Te Mana o Te Wai Priority Projects
   - The TMoTW project needs to be upfront so that people have a clear understanding.
   - The first focus of this project is for training programmes. Regional councils, Taumata Arowai, territorial authorities and hearing commissioners have been identified as priority.
   - Ngā Kairapu members now included in the TMOTW Project Team for Streams 1 and 2.
   - Technical advisors will be in place by mid-December – Jan 2021.
   - Engagement with KWM is scheduled for Feb 2021 on its thinking on the training programme. It is recommended that this is moved to an earlier spot.
   - Desktop review of councils and territorial authorities, looking at what they are required to do, and the instruments required, scheduled for March 2021.
   - Delivery of the first training programme is scheduled for April 2021.
   - TMoTW stream two is directly targeted towards creating systems to engage iwi and hapū with capacity and capability in various regions.
   - A national data resource will be available through Te Kupenga.

Issues

- Need to organise a 'sprint' (focussed discussion workshop) for TMoTW – the terms of reference for technical advisors needs to be discussed with KWM before finalising.
- Commissioners require an understanding of the local area as well as TMoTW.
- Concern around iwi who do not have a good relationship with the council, how do we get those iwi involved? Would require separate training, as well as discussions with iwi and hapū happening before council discussion.

4. Existing Plan Assessment Priority Project
    - Proposed stage 2 is not a priority as the regional sector is already considering the plan gaps and will use this information to inform it.
    - Decision made by the Freshwater Implementation Directors' Meeting on 6 November 2020 that with the removal of stage 2 the project will be completed once the Beca report and council feedback is finalised and published on MfE's website.

5. NES / s360 Priority Project
    - Focussing on ensuring effective implementation of the NES, including preparing fact sheets, webinars, communications and a toolkit approach.
    - Need to consider the entire river, if there is investment at one point need to collaborate across the river.
    - Project team need to follow up with MfE about the wastewater approach.

6. Freshwater Farm Plans (part 9A of the RMA)
    - Every farm is required to have a farm plan which is consistent with the RMA.
    - The person in control of the farm is responsible for producing and managing this as a living document.
    - Risk for landowners being held accountable, need to make clear the leaseholder is responsible.
    - The Māori trustee will look after Māori-freehold land owners they are responsible for, but there are many others to consider. There are often issues with leases that aren't in writing and difficulties with getting a quorum or mandate to do the mahi.

Certifier

- The criteria to be a certifier needs to be established.
- Opportunity for Māori service providers to audit this process.
- How can Māori be involved in the implementation of the freshwater farm plan regime?
- Three workshops will be held before Christmas (KWM members to attend) to understand best practice for farm plans.

Iwi / Hapū mandating issues

- Current council engagement is often with the PSGE who were established to manage the Treaty settlement assets, not for the purpose of engagement.
- There is resistance from councils to engage with iwi, hapū and Māori with Ahi Kā.
- Guidelines are required for regional councils to navigate the shift in mind-set as we need to avoid councils going back to the default of PSGE-only engagement.
- Mana rangatiratanga sits with hapū. Tāngata whenua in this context includes hapū, iwi, whānau and Māori landowners.

- Hapū and Māori freehold landowners are also partners with the Crown.
- Regional council and the government need to upskill and also be resourced to engage with Māori at each of these levels.
- Ensuring a hapū or entity has mandate could present issues.
- TPK have a list of marae-mandated hapū in the Te Kahui Mangai (website). Is there an opportunity for this website to incorporate other databases e.g. Māori freehold-land online?
- TPK is the first port of call, followed by training workshops. Regional councils need to be funded too.
- Engagement should focus on the wai – those who are connected to the wai, live within the catchment and are engaged with improving the wai should be involved.
- KWM to begin developing a framework for general guidelines, to include a set of actions.

Rights and interests

- There is a strong message to the Crown that Māori are ready to discuss rights and interests.
- This kaupapa will not be easy, if all parties work together for an outcome it can be achieved.
- KWM reminded officials, the political year begins at Ratana and the collective will be preparing to present a paper here.
- This mahi could include KWM, FOMA, NZ Māori Council and ILG all working together as a collaborative team.
- Freshwater reform and other material needs to be aligned with the rights and interests process.

DIA Update

- DIA focus is currently on the operational matters. KWM is concerned about the environmental issues, addressing how to clean up urban areas and support marae to have access to clean drinking water.
- Urban works are impacting awa and moana. KWM particularly interested in regulation around cross-connections, and problems with wastewater and stormwater pipes and focussing on water-sensitive design.
- From a TMOTW perspective, the water must come first.
- Taumata Arowai requires assistance, KWM are unable to provide operational help but are in a position to provide feedback on its policy position.
- Recommend the conversation should focus on who to engage with on the key issues, iwi, hapū and Māori.
- Can then address the work programme, supporting marae for infrastructure, water tanks etc. Consider improving access to drinking water is the key focus, not training programs on TMoTW.
- Recommend that Mahina-a-rangi Baker and Riki Ellison are nominated to assist the DIA with the policy development for 3 waters and Taumata Arowai.

Action Points

Action	Responsibility	Date Due
Regional council representatives from Te Kupenga to be invited to the next KWM Hui (December).	KWM MfE	December
Te Kupenga – Finalise scoping document for approval.	KWM MfE	Dec Hui

Action	Responsibility	Date Due
Te Mana o Te Wai Priority Project – Propose moving engagement with KWM earlier than Feb 2021	KWM	Dec / Jan
Sprint session on TMOTW organised.	MfE	December
NES / s360 – 3 workshops to be organised and held before Christmas, including Regional sector wetland workshop and project team priority issues. (invite KWM representatives)	MfE	Late November
Monitoring the NES; council compliance; and enforcement special interest group – MfE to report back on this work stream and workshop.	MfE	KWM December hui
Investigate if there is opportunity for Te Kahui Mangai to incorporate further information e.g. Land online.	TPK	Report back at KWM Feb hui
KWM to begin developing a framework for general guidelines on engagement, and hapū mandate.	KWM	Report back at KWM Dec hui
Waste – significant work programme, Sam to provide an update at next KWM hui.	MfE	KWM Dec Hui
Resolve / find a solution for Perception Planning COI.	KWM MfE	Completed
KWM provide some names of people who could be assist the DIA with policy development on 3 waters and Taumata Arowai.	Te Rangimārie get a list of names to Annette.	End November