

LEVERAGING EXISTING 'CATCHMENT COMMUNITIES' TO IMPLEMENT TE MANA O TE WAI

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ABSTRACT

How can we better utilise volunteers who are investing their own time and money to give effect to Te Mana o te Wai? Communities who collaborate to improve their local waterways have been found to achieve incredible outcomes, however frequently they are left without reliable financial support or direction. This paper explores the challenges facing these 'catchment communities' in New Zealand, and provides radical recommendations to leverage the growing public desire to practically apply the principles of Te Mana o te Wai.

A particular focus of this paper is the application of data from a Ministry for the Environment 2022 survey. This survey included approximately 240 grass-roots groups ranging in size from ten to over 1,000 members. Many of these groups formed following the release of New Zealand's National Policy Statement for Freshwater Management (versions released in 2017 and 2020). Community groups have demonstrated exemplary practical application of Te Mana o te Wai, but have also encountered immense challenges.

Short-term, inflexible financial support can be incompatible with successful, long-term restoration efforts. Funding for catchment communities is frequently available, however, volunteers are required to spend large portions of their time writing proposals to secure short-term grants from various public and private sources. Furthermore, grants are often tagged with inflexible restrictions which may not align with catchment-specific solutions.

When funding is sourced, communities are frequently left without practical guidance to apply mātauranga Māori or existing, relevant scientific literature. Government-funded institutes have undertaken decades of research, often with clear, region-specific recommendations for catchment management. The quantity of this information can be overwhelming and difficult to understand for community groups, particularly when hosted across many sources. There is a need to link these passionate groups with clear, appropriate advice relevant to their catchment.

Case studies from successful catchment communities report reductions in nutrient and sediment point source loading, pathogens from runoff, flood generation and impacts, and loss of biodiversity. Common successful catchment management activities include: wetland construction and restoration, fencing and planting riparian margins, assessing land use change, writing farm environment management plans, monitoring water quality, monitoring biodiversity outcomes, and pest / weed control.

This paper calls for New Zealand's new Water Entities to act as coordinated governing bodies to support and direct intentional, long-term, sustainable outcomes for catchment management. Our nation has this incredible opportunity to leverage our passionate volunteer groups. The following steps are proposed for each Water Entity to show leadership, build on the existing work done by regional councils, and empower communities to continue their demonstrated alignment with Te Mana o te Wai:

1. Develop catchment-specific action-plans for community groups.
Proactively provide coordination, support and communication regarding:
 - Catchment-specific limits, monitoring methodologies, equipment, and centralised reporting (e.g., flow, sediment, nutrients, E. Coli, ecological markers, and dissolved oxygen).
 - Appropriate tangata whenua contacts.
 - Interpretation of pre-settlement ecological markers to direct planting / restorative work.
2. Rationalise the existing, diverse funding streams.
Long-term partnership through financial support is required to facilitate the direction, implementation and growth of catchment community projects as defined in point 1.

KEYWORDS

Te Mana o te Wai, thought leadership, resilient communities, mātauranga Māori

PRESENTER PROFILE

Eliza is a Water Engineer whose design experience focuses on treatment alongside measuring and mitigating GHG emissions, as well as conveyance for wastewater, stormwater and water supply. She has an additional role as an 'ESG Influencer' embedding positive environmental and social outcomes throughout projects while honouring mātauranga Māori.

INTRODUCTION

Aotearoa | New Zealand faces dire freshwater quality outcomes. The Ministry for the Environment & Statistics NZ (2023), report:

- 68% of our indigenous freshwater bird species are either at risk or threatened with extinction.
- 76% of our indigenous freshwater fish species are either at risk or threatened with extinction.
- 90% of historic wetland area has been lost.
- 46% of lakes greater than 1 hectare are in poor or very poor health. (Only 2% are in good or very good health).

- 45% of rivers by length are unsuitable for swimming due to health risks posed by *E. Coli* concentrations.

As a nation, we face immense challenges to undo damage and prevent exacerbation of these negative outcomes now and into the future. To this end, legislation has come into effect detailing responsibilities for tangata whenua and authorities (with a particular focus on Regional Councils), as well as obligations for all New Zealanders. However, in the face of our ever-evolving Water Reform, the ownership of practical actions required to achieve better freshwater quality outcomes are inconsistent and uncertain across the country.

Additional challenges are posed regarding community engagement. There is a lack of trust from rural and farming communities regarding the nation's Water Reform, alongside feelings of blame without consistent support needed to achieve the desired water quality outcomes.

However, throughout these environmental and communication challenges, grass-roots community groups working voluntarily to improve local biodiversity and waterways are growing in number. These groups demonstrate how to practically give effect to Te Mana o te Wai, as well as pointing to recommendations for authorities to partner with and utilise passionate local communities without burdening them.

DISCUSSION

DESCRIPTION OF NEW ZEALAND'S CATCHMENT COMMUNITIES

The Ministry for the Environment carried out a survey in 2022 (Sinner *et al.*, 2023) including approximately 240 grass-roots groups. These groups have demonstrated exemplary practical application of the principles of Te Mana o te Wai, but they have also encountered immense challenges.

The focus of these groups is biodiversity, waterways, or both. Groups represented include urban catchments, communities, collectives, and catchment groups. Groups cover both urban and rural areas throughout the nation. Due to the intertwined nature of these groups' goals and their geographical definitions, this paper refers to all of these groups as "catchment communities" hence forth.

The catchment communities surveyed range in size from less than ten to over 1000 members, geographically spanning the length of Aotearoa | New Zealand. "Member" is defined as an individual who has either contributed financially to the group via membership fees, or volunteered at least twice in the 12 months prior to the survey.

Regarding longevity, five of the 240 catchment communities surveyed were established prior to the 1980's, since which time the number of groups has grown steadily across the nation. Of note, there has been a significant surge in the number of new groups which formed within the last decade. Many catchment communities (particularly those focused on waterways only) formed following the release of New Zealand's National Policy Statement for Freshwater Management (NPSFM), which was firstly released in 2017, revised in 2020 and amended in 2023 (Ministry for the Environment, 2023a).

These catchment communities are an expression of the public's desire for positive freshwater outcomes in both rural and urban environments. This expression is not one of theoretical commitment, but is evidenced by the regular, voluntary investment of money and time.

OUTCOMES OF NEW ZEALAND'S CATCHMENT COMMUNITIES

Common successful catchment management activities reported include (Sinner *et al.*, 2023):

- Pest / weed control
- Planting
- Environmental monitoring
- Wetland restoration, protection and construction
- Improving local amenities
- Advocacy to government and industry
- Soil conservation
- Fencing
- Farm environment management plans
- Investigating land use / retirement from agriculture

Case studies from successful catchment communities (NZ Landcare Trust, 2020) report reduction of nutrient and sediment point source loading, pathogens from runoff, flood generation and impacts, and loss of biodiversity.

These outcomes were achieved alongside Māori; 37% of the catchment communities surveyed reported local tangata whenua within the group and 69% of groups interact with Māori entities (e.g., iwi, hapū, marae, Māori land trusts).

Furthermore, these outcomes were achieved with support from governing authorities such as local councils and central government via the Department of Conservation.

The outcomes of catchment communities' voluntary efforts demonstrate successful management of freshwater, giving effect to all six principles of Te Mana o te Wai.

CHALLENGES REGARDING FUNDING

While amazing outcomes are achieved by many catchment communities, funding is reported as a key limiting area. Funding is primarily required for materials, monitoring and coordinators.

The majority of catchment community members are volunteers. Only one third of the catchment communities have a paid facilitator or administrator, whose position is generally funded from member-funded donations or grants.

Volunteers spend large portions of time writing proposals to secure grants from a range of public and private sources. These sources include local and regional councils, central government, charitable foundations and trusts. Catchment communities have reported this commonly causes 'proposal fatigue', reducing volunteer time available to undertake the practical work required to improve their waterways and biodiversity.

When funding is successfully secured following the lengthy proposal and grant processes, the financial support is often short-term. Achieving a significant impact within a catchment requires long-term planning, investment and action. Significant ecological, hydrological and land-use changes need decades of planned work, rather than ad-hoc activities.

Furthermore, grants are often tagged with inflexible restrictions which may not align with catchment-specific solutions. For example, grants tagged specifically to buy native plants are well intentioned, however planting is not always the most urgent or appropriate action required in every catchment. Additionally, ecology is complex; planting species (even native plants) in inappropriate locations can cause more harm than good, e.g., by competing for nutrients and harming populations of fish and/or invertebrates. It is entirely appropriate for spending to be limited to beneficial and measurable activities, however the level of detail in the diverse funding streams currently available does not reflect the complexity of catchment-specific management.

CHALLENGES REGARDING TECHNICAL GUIDANCE

Second to funding, support often requested by catchment communities is for practical, technical guidance from local governing bodies such as councils, as well as application of mātauranga Māori. Catchment communities report that while some advice and support is received from local councils, the Department of Conservation, and the NZ Landcare Trust, this support can be inconsistent. Many groups have reported unresponsive or unhelpful government agencies and councils, uncertainty about policy, and limited relationships with tangata whenua.

Our nation has excellent crown research institutes who publish up-to-date, scientific literature often relevant for catchment regeneration. These government-funded institutes have undertaken decades of research, often with clear, region-specific recommendations. However, the quantity of this information can be overwhelming and difficult to practically apply for community groups, particularly when the data is hosted across many sources. There is a need to link these passionate groups with clear, appropriate advice relevant to their catchment.

LEGISLATION

To combat these freshwater management challenges, in 2020 the New Zealand government passed the latest version of the NPSFM (Ministry for the Environment, 2023a). This outlines what the desired outcomes for freshwater management are in Te Mana o te Wai, which comprises a hierarchy of obligations along with six

governing principles. The method of how we can achieve these outcomes is described within the NPSFM in the National Objectives Framework (NOF).

The first three of the six principles of Te Mana o te Wai describe the authority and obligations of tangata whenua regarding freshwater management: 'mana whakahaere', 'kaitiakitanga', and 'manaakitanga'. The fourth principle of 'governance' describes the responsibility for authorities to make decisions prioritizing the health and wellbeing of freshwater. The fifth and sixth principles 'stewardship', 'care and respect' outline the role of all New Zealanders to care for freshwater.

The NOF dictates that all regional councils must consider each 'freshwater management unit' and set targets, develop interventions, carry out monitoring, and take steps where deterioration is detected. Attributes to be monitored and maintained include nutrients, sediment, fish and macroinvertebrates, lake macrophytes, river ecosystem metabolism, and dissolved oxygen. There has been some encouraging action from regional councils since 2020; many have defined the geographical extents of their freshwater management units. However, the rest of the monitoring and action plans legislated by the NOF are not publicly evident.

Rurally the responsibility to identify risks and undertake tangible action has been passed from the regional councils to farm owners. This has occurred through the "Freshwater Farm Plans" (Ministry for the Environment, 2023b) now required in a staged rollout across the nation from August 2023 – 2025. Under the legislation, farm owners have a duty to develop, externally certify, implement, audit and recertify these plans, while they report receiving inconsistent communication and support from authorities.

In the midst of this confusion regarding obligations to define appropriate monitoring and interventions to care for freshwater, the management of waterways through private and publicly owned land is now proposed for inclusion within the new Water Entities' responsibilities. This presents a risk of continued inaction; responsibilities could fragment even further without clear targets and actions delineated between landowners, regional councils, and Water Entities. Alternatively, this presents an opportunity for the new Entities to demonstrate leadership, technical expertise, and truly partner with our nation's communities.

CONCLUSIONS & RECOMMENDATIONS

Sir Apirana Ngata (1874 – 1950) famously said, "E tipu, e rea, mō ngā rā o tōu ao; ko tō ringa ki ngā rākau a te Pākehā hei ara mō tō tinana, ko tō ngākau ki ngā tāonga a ō tupuna hei tikitiki mō tō mahuna, ko tō wairua ki tō Atua, nāna nei ngā mea katoa." (Brougham *et al.*, 2012, p. 89).

This translates to, "Grow up, and thrive for the days destined to you; your hand to the tools of the Pākehā to provide physical sustenance, your heart to the treasures of your ancestor as a crown for your head, your soul to your God, to whom all things belong."

New Zealand has successfully become a provider of physical sustenance both nationally and globally. However, we have lost sight of what our ancestors valued; our freshwater species are at significant risk of being lost forever, and our

waterways are critically unwell. Legislation has come into the effect via the NPSFM to highlight the responsibilities for tangata whenua, authorities, and all New Zealanders regarding freshwater management. However, the practical application of these principles requires technical direction and coordination.

We must not burden volunteers or individual landowners, but instead leverage our nation's existing, proven commitment to improving our biodiversity and waterways. We are presented with the opportunity to empower crowd-sourced effort to action Te Mana o te Wai. Centralised development of catchment-wide action plans and funding would provide a clear path forward while bridging the current divide between tangata whenua, local authorities, and all New Zealanders. Ultimately this is what Te Mana o te Wai describes; instead of fragmenting responsibility and blame, our catchment communities already demonstrate something of the success that can be realised collectively.

This is a call to action for New Zealand's new Water Entities to act as coordinated, technically proficient, governing bodies to direct intentional, long-term, sustainable outcomes for catchment management. Our nation is presented with the incredible opportunity to leverage our passionate catchment groups. The following steps are proposed for each Water Entity to show leadership, build on the existing work done by regional councils, and empower communities to continue their demonstrated alignment with Te Mana o te Wai.

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2. Rationalise the existing, diverse funding streams.

Long-term partnership through financial support is required to facilitate the direction, implementation and growth of catchment community projects as defined in point 1.

New Zealand's catchment communities have demonstrated long-term investment of their personal time and money to improve our nation's biodiversity and waterways. The opportunity is now with the government and the Water Entities to leverage and lead them.

ACKNOWLEDGEMENTS

Kia ora | thank you to my husband, friends and family for rejoicing with me in the beauty of Aotearoa, modelling the mahi of caring for our land in spadefuls, and joining me in lamenting the loss of our nations many taonga.

Additional thanks to my incredible AECOM Water team for encouraging these discussions and dreams to save the world.

REFERENCES

Brougham, A., Reed A., Kāretu T. (2012) *The Raupō Book of Māori Proverbs Te Kohikohinga Whakataukī a Raupō*. Auckland: Penguin Group (NZ).

Ministry for the Environment & Stats NZ (2023) *New Zealand's Environmental Reporting Series: Our freshwater 2023*. ME 1748. Retrieved from: <https://environment.govt.nz/assets/publications/our-freshwater-2023.pdf> (Accessed: 18 August 2023)

Ministry for the Environment (2020) *Essential Freshwater Te Mana o te Wai Factsheet*. INFO 968. Retrieved from: <https://environment.govt.nz/assets/Publications/Files/essential-freshwater-te-mana-o-te-wai-factsheet.pdf> (Accessed: 18 August 2023)

Ministry for the Environment (2023a) *National Policy Statement for Freshwater Management*. Retrieved from: <https://environment.govt.nz/acts-and-regulations/national-policy-statements/national-policy-statement-freshwater-management/> (Accessed: 18 August 2023)

Ministry for the Environment (2023b) *Freshwater Farm Plans*. Retrieved from: <https://environment.govt.nz/acts-and-regulations/freshwater-implementation-guidance/freshwater-farm-plans/> (Accessed: 18 August 2023)

NZ Landcare Trust (2020) *Community Catchment Management, A community-owned Catchment Approach*. Retrieved from: <https://landcare.org.nz/wp-content/uploads/2022/09/Community-Catchment-Guide.pdf> (Accessed: 18 August 2023)

NZ Landcare Trust (2023) *MAP OF CATCHMENT GROUPS & ENVIRONMENTAL COMMUNITY GROUPS*. Retrieved from: <https://landcare.org.nz/regions-groups/catchments-map/> (Accessed: 18 August 2023)

Sinner, J., Tadaki, M., McCarthy A, Challies, E., Thomson-Laing, J. (2022) *Catchment and community environment groups in Aotearoa New Zealand: goals, activities and needs. Prepared for Ministry for the Environment*. Cawthron Report No. 3733. Retrieved from: <https://environment.govt.nz/assets/publications/catchment-and-community-environment-groups-in-Aotearoa.pdf> (Accessed: 18 August 2023)