National SCIENCE Challenges

SUSTAINABLE SEAS

Ko ngā moana whakauka

Empowering Māori knowledge in marine decision-making

Mātauranga Māori (Māori knowledge and knowledge system) and te ao Māori (Māori worldview approaches) are often poorly understood and marginalised in marine planning, management, and decision-making.

There are documented benefits to incorporating mātauranga and te ao Māori worldviews into decision-making (Clapcott et al 2018). In addition, local and central government agencies have Te Tiriti o Waitangi obligations, yet agencies have varying capacity and capability to fulfil them. Sustainable Seas research has shown that empowering Māori knowledge in marine decision-making is key to achieving fit-for-purpose, robust, and place-based outcomes that achieve community and business aspirations.

About this document

This document provides guidance on Sustainable Seas findings and insights on empowering Māori knowledge and approaches in marine decision-making. It aims to inform decision-makers from local and central government agencies by providing guidance on how to do so, and highlights examples of projects, processes, frameworks, and tools to assist decision-makers.

Recommendations

We recommend that to achieve the benefits of marine decision-making that is informed by mātauranga Māori, local and central government agencies should:

》 Invest in building team and individual capability that provides for diversity and addresses power imbalances to achieve more equitable and effective decision-making.

》 Situate marine planning processes in context, place, time and acknowledge local aspirations.

》 Acknowledge the validity of te ao Māori informed advice.

》 Apply Te Tiriti o Waitangi principles as a key underpinning for improved decision-making processes and setting future directions.

We note also that these recommendations can be enacted within current legislative and policy frameworks.

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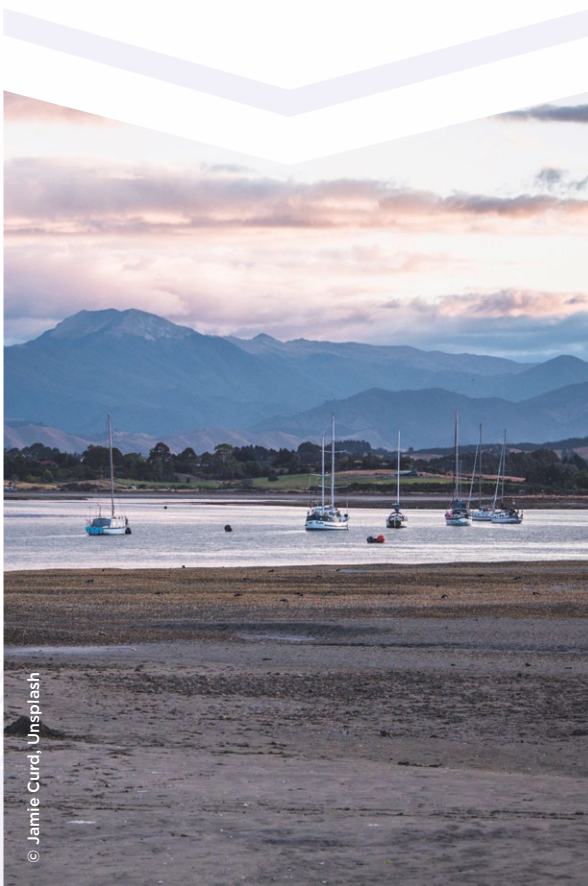
What is Māori knowledge and why is it important to marine decision-making?

Mātauranga Māori encapsulates a Māori worldview and involves observing, experiencing, studying, and understanding the world from an indigenous cultural perspective. It encompasses not only what is known, but also how it is known – that is, the way of perceiving and understanding the world, and the values or systems of thought that underpin those perceptions (Jackson et al 2017). Tikanga Māori provides a blueprint for life setting down innumerable precedents by which communities were guided in the governance and regulation of their day-to-day existence (Joseph et al 2019). Mātauranga and tikanga Māori have been created and maintained for centuries in this country and constitutes Aotearoa New Zealand's first knowledge and legal system. Now, however, New Zealand's indigenous knowledge is seen as 'alternative' to other disciplines of knowledge and therefore often marginalised in the process.

As noted above, there are many documented benefits from having decision-making and practice informed or underpinned by Māori knowledge. Local and central government agencies also have Te Tiriti o Waitangi responsibilities but often have varying capacity and capability to support such responsibilities. When reviewing policy, plans, and decision-making processes, developing, or resetting legislation or beginning a new project, te ao Māori, mātauranga and tikanga Māori are key to fit-for-purpose, robust and place-based outcomes.

Our research has indicated that in recent years there has been an improved understanding of how to better utilise mātauranga Māori in existing marine management decision-making (Paul-Burke et al 2022). In addition, the courts now recognise tikanga Māori as a source of law in Aotearoa New Zealand and part of the common law (Macpherson et al 2023). However, the recognition and provision for such knowledge capability and capacity within agencies has been limited, inhibiting the ability, appropriateness, and effectiveness of the consideration of Māori knowledge in marine decision-making.

Invest in capability

Recommendation 1:

Local and central government agencies need to **invest in building team and individual capability** that provides for diversity and addresses power imbalances to achieve more equitable and effective decision-making.

Individual capability: Position yourself as a decision-maker

- Commit to personal and professional development to expand your understanding and proficiency in te reo Māori (Māori language), Te Tiriti o Waitangi, tikanga and mātauranga Māori, New Zealand history

- Investigate worldviews, positionalities, and disciplines

- Be reflective, conscious, and willing.

Team capability: Create a te ao Māori positive team

- Have a shared commitment to te ao Māori

- Ensure sufficient Māori knowledge expertise within the team

- Recognise the diversity of the Māori community (ie that iwi, hapū, whānau, Māori commercial organisations etc are not homogenous and often have different aspirations)

- Provide for leadership that prioritises collaborative, multidisciplinary, locally specific, and cross-boundary approaches

- Ensure a working environment that encourages the ability to work with different knowledge approaches.

Building individual and team capability is key because change cannot happen without the necessary knowledge, experience, skills, connections, and support.

Individual capability: Position yourself as a decision-maker (figure 1)

Empowering Māori knowledge in marine management decision-making may mean changing one's stance and being reflective, conscious, and willing. Part of this is committing to do personal and professional development to enable a better understanding of different knowledge approaches. Self-reflection is important – investigating different worldviews, and how they can influence decision-making. Establish an awareness of your own experiences and context, and how your disciplinary or job training has influenced how you think. These are all important to unpacking the unseen aspects of decision-making.

Worldviews, education, and experience influence the way people make decisions.

Diverse ways of understanding the world underpin decision-making. Three key factors influence the way that people understand and expect to experience the impact of a decision on something they value (for example on a place, activity, or relationship). These factors are:

- Beliefs about how the world does or should work (their worldview)

- Previous learning or training (their discipline)

- Experiences and context (their positionality).

A multiplicity of worldviews needs to be acknowledged right up front, including te ao Māori. Understanding these positions and perceptions can help with a more place-based, holistic approach to decision-making, which can support ecosystem-based marine management goals.

Several tools developed by Sustainable Seas could be helpful for understanding the existence of dominant worldviews in Aotearoa, and how these influence decisions (Sustainable Seas 2023); undertaking an assessment of your organisations capability gaps and needs relevant to Māori knowledge and Tiriti o Waitangi (Sustainable Seas 2024); and more in-depth discussion can be found in Hyslop et al (2023) and Blackett et al (2023).

Values: personal, institutional, disciplinary

Think about your values in terms of what your institution values, what arguments in your discipline catch your interest, as well as your personal values, and bring these consciously with you. See the *Individual reflection* tool in *Quick guide 4: Tools to help navigate perceptions of risk and uncertainty* (Sustainable Seas 2023) as a starting point. Get diverse voices in a room, discuss shared values and map ways forward. Discuss the things where there will not be agreement. It is easier to make progress with a shared outcome. See *Ingredients to catalyse participation* (Sustainable Seas 2020).

Personal development differs

Be aware of personal development stages (for Māori and non-Māori). For example, do not assume that any Māori on staff are mātauranga, tikanga or te reo Māori experts, or experts in te ao Māori. Someone learning about their Māori whakapapa may be unsure how to act with colleagues, and how to act with Māori who are more knowledgeable. Kindness and support are key, everyone is at a different point.

Uncomfortable is okay

A heads up – you may feel under attack when grievances are expressed by the iwi, hapū or Māori organisations you engage with. You are not under attack, but it may feel that way. It helps to know this is normal, and to focus on the issue or nature of the grievance rather than the expression of it.

Team capability: Create a te ao Māori positive team (figure 2)

Building capability as a team means recognising that strengths can be shared, but that together skills, attributes, and a disposition of willingness to learn creates a te ao Māori positive team. Both leadership and expertise are important, as is gathering those with expertise in working across and within different knowledges.

For every new project/policy/legislation focus on establishing a team with suitable skills, with clear pathways to involve Māori and Māori input. Identifying the start-up teams' range of strengths is essential, as is review of appropriate skills at points in the life of the policy/project/legislation.

Attributes that we have identified include:

1. Shared commitment to te ao Māori and Māori knowledge expertise within the team

2. Acknowledge that Māori are diverse, they are not homogenous in terms of aspirations and concerns. Every iwi, hapū and Māori organisation may have different approaches

3. The role of leadership is crucial. Leadership that prioritises collaborative, multidisciplinary, locally specific, and cross-boundary approaches is required.

4. Have a range of skills and mix of people in your team, being able to work with different knowledges including experience with te ao Māori and tikanga, and legal capability in western law and tikanga.

Tips	Dos	Assumptions
It's okay to feel uncomfortable with 'new' processes and knowledges.	Recognise and work with other ways of knowing.	That worldviews are shared and understood across parties.
You aren't starting from scratch–what Te Tiriti-led work you can join?	Do your personal work: build your capacity to be an ally of te ao Māori.	That new legislation is needed. There are already provisions to enact Te Tiriti-led decision-making in legislation.
Councils/government often have hapū/iwi representatives on salary, make contact.	Think restorative research and decision-making, increasing mauri. Reach out to hapū and iwi.	That courts may dismiss evidence-in practice legislation allows a very broad range of practices.
Pick up the phone, send an email, make relationships.		That it takes too long. Upfront relationship building and discussing shared values can shorten later decision-making times.
Find out the names of all hapū and iwi in your rohe.	**Don'ts**	**Reminders**
Read widely and out of your normal field – easy way to broaden thinking	Don't get stuck in the past, change how the future goes.	Colonisation isn't an event in the past, it's embedded in current structures and is a lived reality for many.
Arrive willing to listen and learn.	Don't feel guilt for the past, only if you ignore the present.	Remember that in co-developed work, the point is you don't know where it will end up.
Think: What can I do in my 'here and now'?	Don't retrench to reporting lines. Retain awareness of and intersect with what others are doing.	Te Tiriti-led work is a statutory obligation and there are many resources to help. Your organisation will have processes and experience in enabling te ao Māori, use these. Research should be of value to all involved, not extractive. What are hapū aspirations?

Figure 1 Dos, don'ts, tips, and assumptions: building capability to empower te Ao Māori

Sustainable Seas itself offers a good governance model example, with specific attention to Māori at all levels. From ensuring Māori expertise on the Governance Group; having a Kāhui Māori advisory group who ensured Vision Mātauranga and te ao Māori principles were embedded across our research; appointing Māori expertise to partner with the Challenge Director to direct the approach and priorities of the research programme; through to establishing a leadership group of senior Māori researchers within the Challenge to provide active support and advice around the implementation of te ao Māori across the programme. The aim was to ensure the science direction, quality, and overall, the structure and approach of the challenge illustrates a te ao Māori positive team can look like.

The Waka Taurua framework of a double-hulled voyaging canoe is another model of working in partnership to manage some of the differences and build capability within a team (Maxwell et al 2020). One hull represents te ao Māori, the other represents te ao Pākehā, and the papa noho or deck joining the two represents the space for negotiation and discussion.

On a smaller scale, the *Awhi mai awhi atu* project set out to enact a kaitiakitanga-based approach to restoring Ōhiwa Harbour by incorporating hapū at the ground level and working towards hapū aspirations. This is an excellent example of different power relations being employed to great success.

"The project was co-developed through a range of long-lived existing relationships with hapū/iwi and local government agencies. It was co-implemented with hapū and iwi members (iwi resource management officers and teams, local kaitiaki, kaumātua advisory group – te rōpū kairangahau) involved at all levels and all stages of the research. Co-implementation further includes the provision of reciprocal two-way skill, capacity and capability, co-development and co-production prior to the uptake of all design, actions, and reporting with research partners at each identified stage of the research design".
– Awhi mai awhi atu project proposal.

Structure is important for your team and agency, but how you work, your attitude, behaviours and values is a much more powerful driver of change than anything in an organisational chart. The success of your organisation relies on shared understandings, behavioural shifts, and commitment to change.

Finally, we suggest the following, which is a compilation of advice from our kairangahau Māori (Māori researchers).
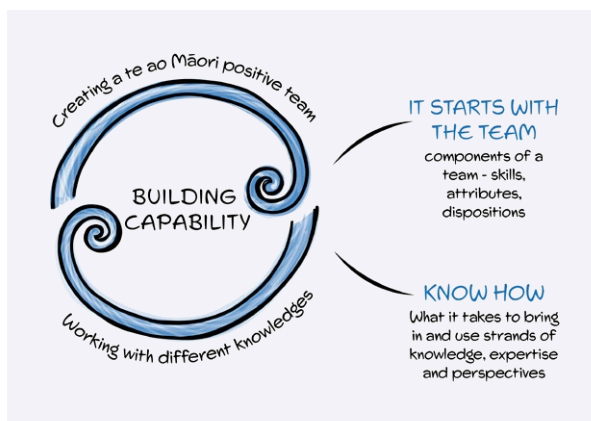

Figure 2 Building capability

This advice is for use by internal teams to build capability, as well as in producing policy or plans. It is offered as considerations that might inform future policy or legal reform, and should always be applied in accordance with current legislative/policy frameworks.

Context is critical

Situating the work in its context means including local place, iwi/hapū, and community aspirations, finding out history and legacies of previous work, thinking about differences in understandings around where power is situated, how law operates at different scales, and that differing decision timescales matter. In addition, an important part of our national and local scale context in Aotearoa is Te Tiriti o Waitangi. It's principles and ethics have been refined through courts and tribunals over decades so will provide some useful guidance.

Situating decision-making in context is critical to making decisions that are fully informed by the knowledge, experience, and expertise of those with centuries of embedded knowledge of the environment. It is also critical to ensuring the buy-in and support of local communities, thus reducing inherent tensions that arise from decision-making that balances their aspirations, needs, rights, and interests.

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Situate the project in local aspirations, history, and power relations

This means asking yourself and the project a series of questions such as:

- Who are the hapū involved? Do you have a relationship with them? How are hapū aspirations supported?

- What and whose values are dominant in this decision? Who and what benefits from this decision? Are there louder, better funded voices? Do familiar stories or voices get more credence?

- What are the legacies of your institution or others in this context?

Sustainable Seas tools available to help:

One of our research projects, *Awhi mai awhi atu*, showcases what deeply situating a project in te ao Māori might look like. It was co-developed with hapū/iwi of Ōhiwa Harbour and supported by the Bay of Plenty Regional Council and the seven partners of the co-management Ōhiwa Harbour Implementation Forum.

Te Kete Kaitiakitanga (Sustainable Seas 2024) is a simple toolkit that aims to provide guidance and means of assessment to support ensuring kaitiakitanga is appropriately provided for. It was designed in collaboration with a range of partners from local and central government, iwi, industry, and others. The toolkit has three tools centred around relationships, transparency, and accountability:

- E Toru Ngā Mea – information to advise and help users gain an understanding of the critical elements required for Mana Moana involvement in marine governance and management

- Mahi Tūhonohono – guidance to support users to provide for those critical elements to the necessary extent

- Te Tiriti Relationship Enhancer – an assessment tool that enables users to evaluate their organisational approach to implementing marine governance and management in a way that provides equity of opportunities and outcomes across the socio-ecological and cultural seascape.

Further tools developed through our research include:

- Quick guides to help navigate risk and uncertainty – which offer further suggestions on key questions that anchor good process in Te Tiriti o Waitangi, equity, and evidence (Sustainable Seas 2023)

- An 'Ingredients Tool' which is a practical resource for marine managers and others to support broad participation in marine decision making (Sustainable Seas 2020).
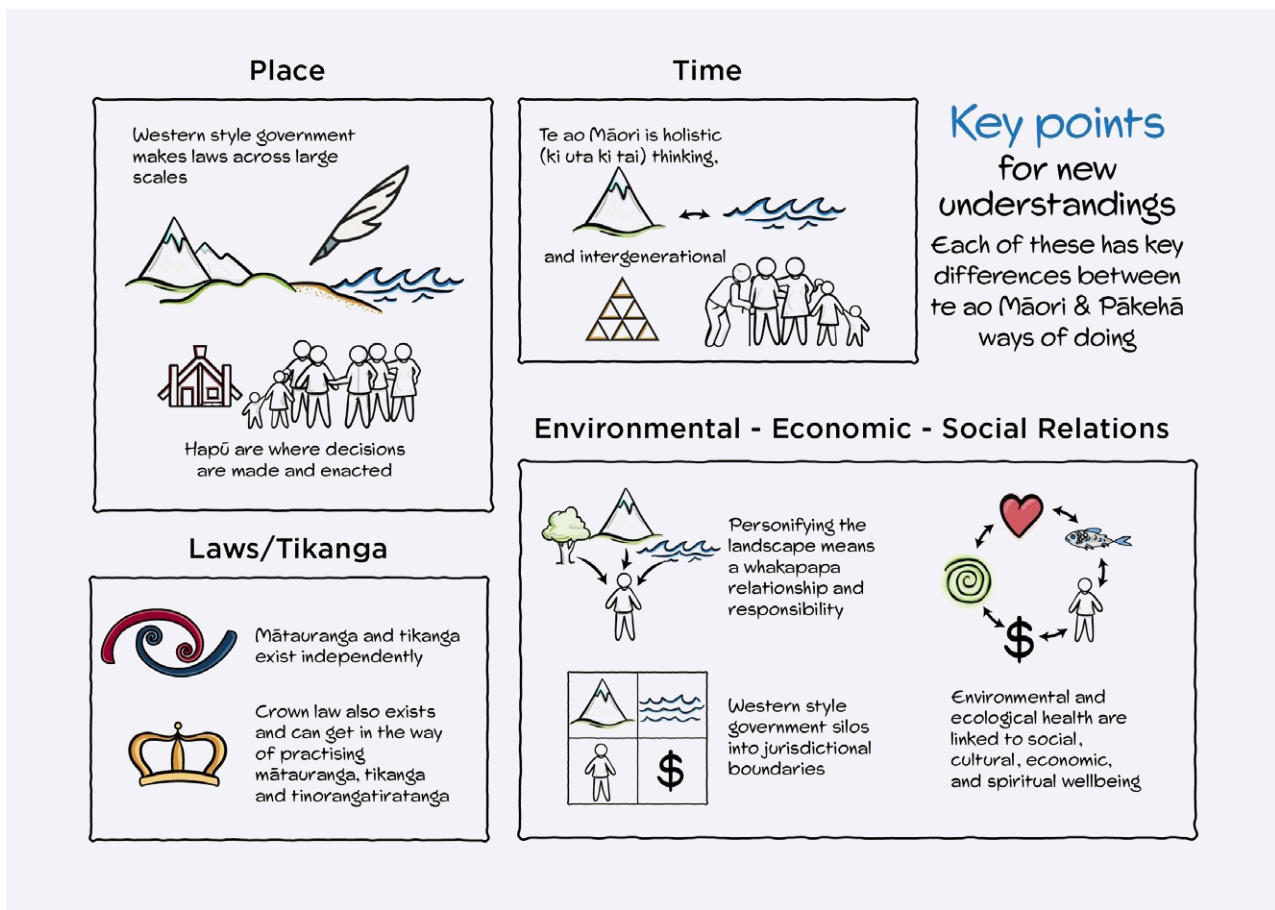
Figure 3 Key points for new understandings

Te ao Māori worldview

	Interconnected networks	Behaviour regulated by	Practised through core principles
Time — Past and future generations	Social Ecology Spiritual	Recognising mana Recognising tapu Ensuring mauri	Kaitiakitanga Manaakitanga Whakapapa

Driven by outcomes for mutual and intergenerational benefit of ecosystem and kinship networks →

- Relationships and networks are interlocked and interconnected.
- People's place in ecosystems is acknowledged and recognised through social, kinship and spiritual networks.

- The intrinsic and independent 'awesomeness' of the environment is recognised and ecosystems are maintained to ensure that 'awesomeness' and sacredness continue.
- Behaviour is regulated by these concepts.

- Metaphorical kinship extends care for society and humans to care for the environment.
- Institutions are based on principles of sustainable management, connectedness, and reciprocity.

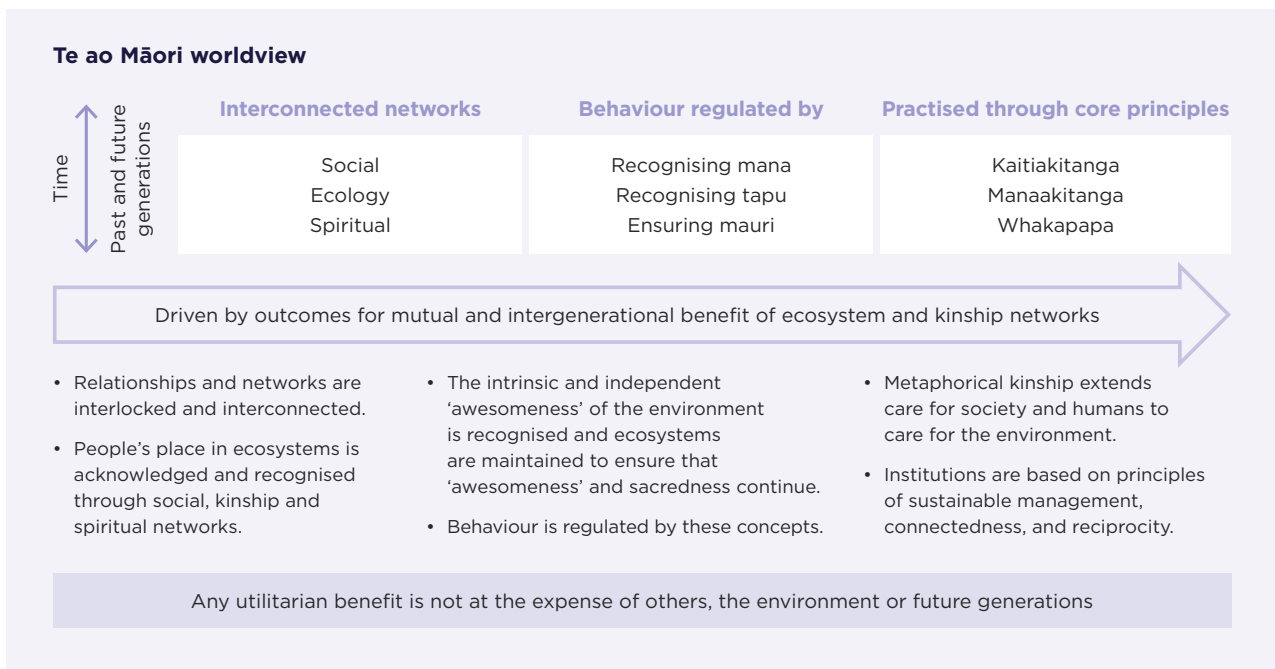Any utilitarian benefit is not at the expense of others, the environment or future generations

Figure 4 Te ao Māori worldview

Think about different understandings of place, time, law, and economic-environmental-social relations

Te ao Māori and Pākehā worldviews have different priorities and understandings of time, place, law, and economic-environmental-social relations. What different ways of seeing or understanding are involved?

Understandings of concepts differ. Decision-making can change if these are considered.

Decision-making depends on timescales and geographical scales

Short term time periods set by financial priorities profoundly affect decisions, yet te ao Māori provides a framework for long-term thinking, which prioritises different decisions that are often better for the natural environment and moana. Because te ao Māori views time and place differently, this offers a potential alternative to the economic model that dominates most decision-making.

There are spatial mismatches between te ao Māori and European government and laws. For example, local, regional, and central government divides things up into jurisdictional boundaries. Te ao Māori is about holistic ki uta ki tai (mountains to sea) thinking. In te ao Māori, hapū and iwi are the knowledge holders and where authority rests. This is contrary to western style central government making laws for all. It is important to remember the role of hapū and iwi as the site of power, where decisions are made and enacted.

These differences in scale can be disruptive, for example for Te Awa Tupua and Whanganui, where place-based decisions are being made (ki uta ki tai) about port development. However, decisions made in Palmerston North (regional council) or laws by central government can obstruct place-based connections, realities and opportunities.

We undertook research to directly tackle how to support governance approaches that attend to the rights, values, interest, and knowledges of Māori, suggesting that "Ecosystem-based management is a holistic approach to managing marine environments that can potentially reconcile cross-sectoral conflicts, scale mismatches, and fulfil sustainability objectives" (Fisher et al 2022).

Te ao Māori principles are outlined in many publications including Joseph (2022), Marsden and Royal (2003) and Mead (2003). See also a summary of the pou of te ao Māori in *Quick guide 2: Worldviews influence people's perceptions of risk and uncertainty* (Sustainable Seas 2023).

Role of law and tikanga me te mātauranga

The courts recognise that tikanga and mātauranga are sources of law and knowledge. Decisions therefore need to consider both tikanga and western law. Lawyers involved who have legal capability with both western law and tikanga would be an asset, as is building a relationship with your lawyer. In all cases, situate the decision in legislation, follow statutory direction, good decision-making practice, and document decisions.

Research looked at how mātauranga, tikanga Māori and New Zealand law can be applied in the marine estate. *Stemming the Colonial Environmental Tide* (Joseph et al 2020) is a substantial work that analyses the seven principles of ecosystem-based management (EBM) from a te ao Māori worldview, through mātauranga and tikanga, and outlines possibilities for shared Māori governance jurisdiction through Treaty of Waitangi partnerships over the marine and coastal seascape.

Economic-environmental-social relations

The mātauranga Māori approach of personifying the landscape through whakapapa means that you can have a whakapapa relationship to it, and care for it. Rather than managing nature, this means managing relationships with nature (and personified aspects of nature, eg atua), a fundamental shift from conventional European approaches. This te ao Māori way of thinking through relations, reciprocity, and responsibilities (whakapapa, manaakitanga, kaitiakitanga) is complementary with holistic marine governance and management. This sort of approach aligns well with an EBM approach where environmental and ecological health is linked to social, cultural, economic, and spiritual wellbeing, rather than siloed management and extractive approaches.

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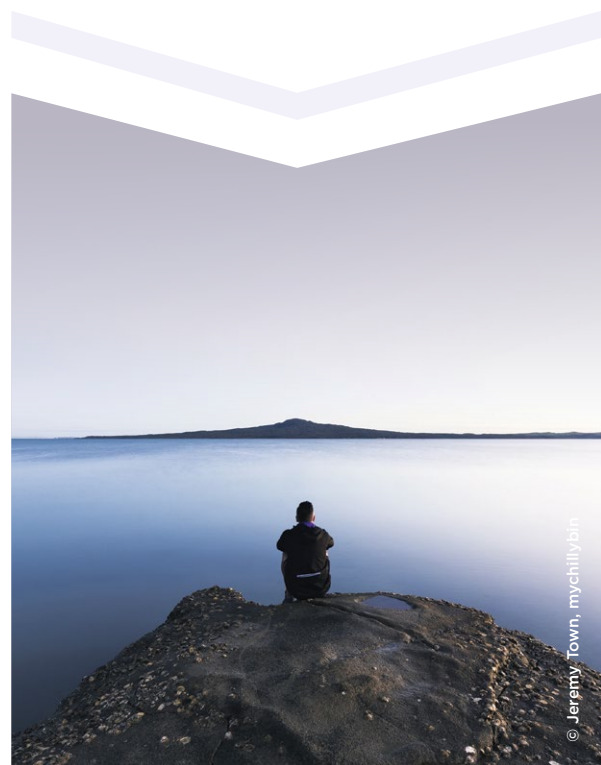
Become informed by te ao Māori

Recommendation 3:

Acknowledge the validity of te ao Māori informed advice (figure 4 and figure 6).

- Recognise the valuable contribution of mātauranga Māori experts.

- Provide for different types of mātauranga Māori – general vs context specific.

- Relationships are critical to timely decision-making.

- Te ao Māori does not work within our mainstream policy, principles, governance, knowledge, boundary structures.

Mātauranga has a long and valid history in Aotearoa. We have shown that including te ao Māori informed advice will benefit marine processes.

Beyond legal personhood for the Whanganui River: Collaboration and pluralism in implementing the Te Awa Tupua Act (Cribb et al 2024) is an example of different forms of knowledge being recognised formally in resource governance and management. Diversity, contestation, participation in Aotearoa New Zealand's multi-use/user marine spaces (Le Heron et al 2019) discusses kinds of knowledge, evidence, responsibility, reciprocity, and rights through five case studies.

Recognise the valuable contribution of mātauranga Māori experts

Experts in mātauranga Māori have a wealth of knowledge and experience, often gathered and refined over centuries, that can contribute valuable input to decision-making. This knowledge should be treated as you would treat other expert knowledge (eg from scientists), albeit the knowledge is likely to be framed within a different worldview context. This might make understanding the value within the knowledge difficult, but there are tools available to assist such as the Mātauranga Framework (Environmental Protection Authority 2020). This tool was developed to support decision-makers to veracity check mātauranga advice in an appropriate way, whilst providing the necessary respect to the knowledge holders. Clapcott et al (2018) discusses the validity and use of mātauranga to generate knowledge that is both contemporary and traditional.
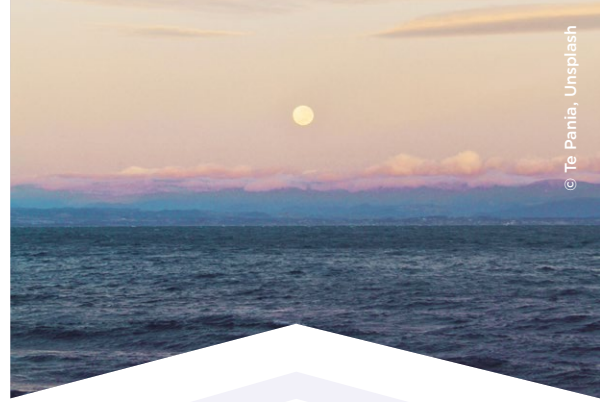
General vs context specific information founded in mātauranga Māori

Although general principles, themes, narratives, and other forms of more 'general' information can often be gleaned from academic and publicly accessible forms of mātauranga Māori, context and local people and place specific knowledge is best and most appropriately explored through partnerships and engagement.

The Environmental Protection Authority's Mātauranga Framework discussed above is an example of mātauranga informed organisational policy, which has drawn together expertise from the public domain as well as through engagement with specialist expertise.

La Croix et al (2023) and Paul-Burke et al (2022) are both based on the *Awhi mai awhi atu* project and exemplify how hapū and iwi based mātauranga relevant to the Ōhiwa Harbour restoration project have informed improved marine management.

Relationships are critical to timely decision-making

Robust decisions require robust information and knowledge – and people are a valuable source of that information and knowledge. Taking the time to establish and maintain key relationships and partnerships with iwi, hapū and other knowledge holders will enable more efficient information gathering processes.

A te ao Māori worldview does not work within our mainstream policy, principles, governance, knowledge, boundary structures

Understanding this is important because when engaging with Māori to inform decision-making, their contributions will not always fit nicely into the frameworks and structures of your decision-making process. For example, when looking to identify activities and impacts in the marine environment, you cannot separate land from sea within a te ao Māori context (ki uta ki tai). You will need to consider this carefully and work in partnership with iwi and hapū at a local level to address a more holistic approach. The EBM, blue economy and te ao Māori principles developed by Sustainable Seas acknowledge and provide for this and can be used to guide process improvements.
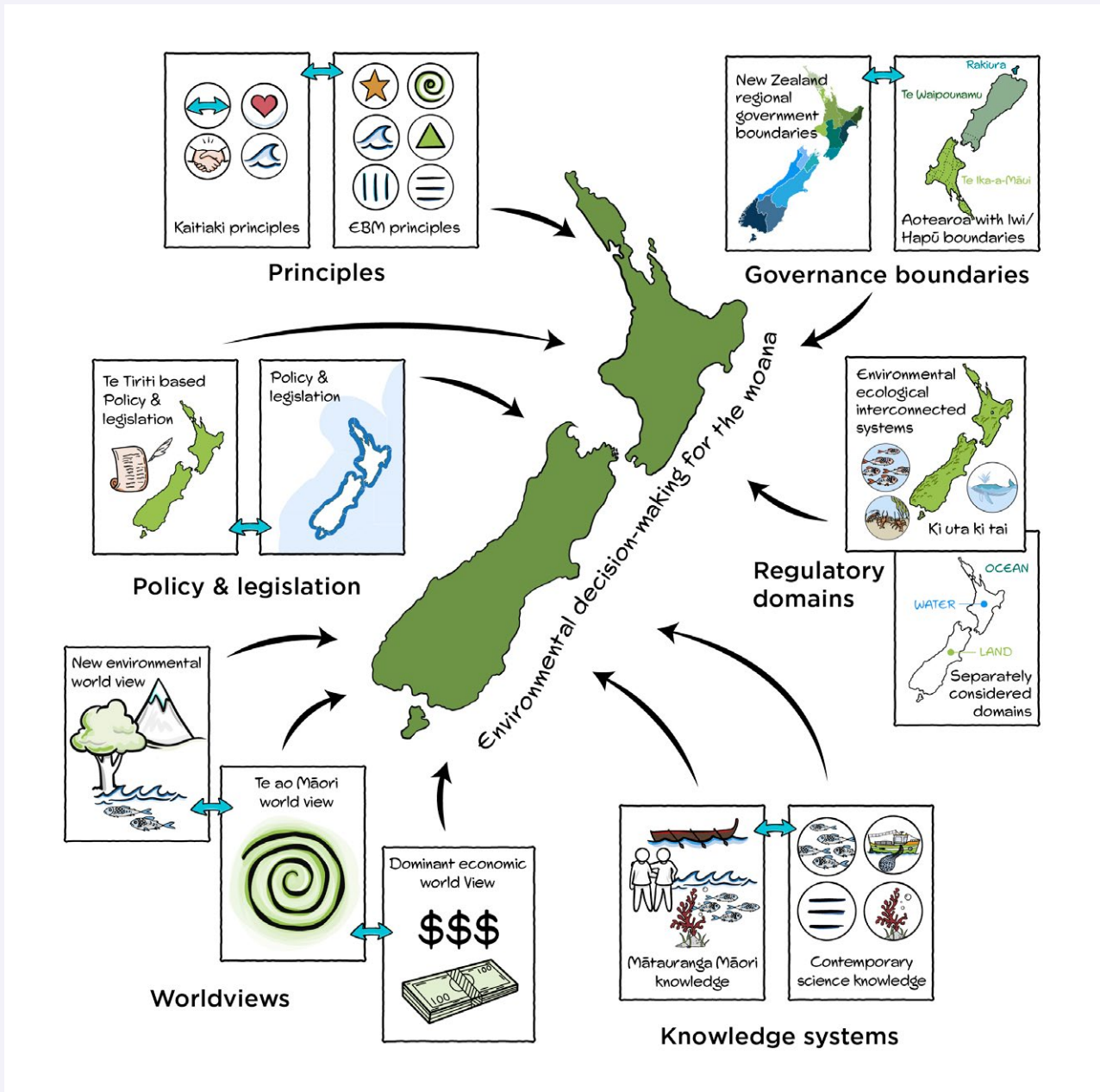
Figure 5 Environmental decision-making for the moana

Te Tiriti o Waitangi principles

Recommendation 4:

Apply **Te Tiriti o Waitangi principles as a key underpinning for improved decision-making** processes and setting future directions (figure 5).

- Provide for partnership in decision-making.

- Respect that mātauranga Māori belongs to the knowledge holders, like intellectual property.

- Shift the focus to interdependent wellbeing.

- Enact te ao Māori principles and outcomes.

- Bringing together mātauranga Māori and science can inform improved decision-making.

In policies, plans and decision-making processes, indigenous knowledge is an anchor to securing robust immediate and intergenerational outcomes. Building trust by setting up appropriate processes, expectations and tikanga is foundational to ensuring robust and enduring policy and plan development relationships. Policy advice and plan reviews should start with active inclusion of te ao Māori and the principles of Te Tiriti o Waitangi provide guidance to inform the approach.

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Key points highlighted by researchers of the Challenge include:

Partnership in decision-making

Connecting back to the questions in Recommendation 2, power relations are part of every decision. We recommend starting processes from the change in thinking of sharing power through balanced and respectful partnerships and place-based practices. This makes sure process and decisions empower hapū and iwi, and that hapū and iwi are the heart of action.

The *Awhi mai awhi atu* project's engagement section gives a small insight into the kinds of practices partnership requires.

Meetings with co-development hapū/iwi partner representatives of te rōpū kairangahau will be held a minimum of twice a year. It is our experience and anticipated however, that ad hoc meetings may also occur dependent on unforeseen issues that may arise. Meetings are further supported with monthly group email discussions and/or review of relevant fieldwork/documents/papers/reports/plans/topical events. After these meetings, the representatives return to their respective runanga, hui-ā-marae/iwi and/or kaitiaki resource management team to discuss. The researchers are usually required and/or invited to attend marae hui to discuss recent findings and how the wider whānau of each hapū/iwi wish to proceed with the next stage/steps. Researchers also meet with regional council a minimum of three times a year, coupled with consistent monthly email conversations. The co-management Ōhiwa Harbour Implementation Forum (OHIF) meetings are usually held every six months in March and September. The researchers submit a short report as an agenda item and present at every OHIF meeting, seeking endorsement of current activities/findings and approval to proceed to the next stage (NB: the next stage includes a logistical plan co-developed by hapū/iwi via the previous marae/hui-ā-iwi, which is then approved by te rōpū kairangahau prior to presenting to the OHIF). The principles of successful co-development through face-to-face availability/engagement are underpinned by a lived experience of tikanga Māori.

This point is further noted and explored in Parsons et al (2021) and Sustainable Seas (2024). These articles provide valuable insight to the gaps, needs and opportunities inherent in working in partnership with indigenous knowledge and knowledge holders to inform improved decision-making.

Respect that mātauranga Māori belongs to the knowledge holders (data sovereignty)

Just like other sources of knowledge and information, mātauranga Māori belongs to the holders who have shared it. Where mātauranga Māori is sourced from within the public domain, does not mean it shouldn't be treated with respect and appropriate referencing. Where knowledge and information are shared directly, permission must be sought before sharing it or considering its transferability to other areas. Think of it as the intellectual property of the hapū or iwi and treat it as such.

Shift the focus to interdependent wellbeing

The health and wellbeing of the moana is a key goal to achieving the wellbeing and prosperity of people and communities, with everything else being secondary (such as is provided for by Te Mana o Te Wai). Within a Māori worldview, as with recent Treaty of Waitangi settlements relevant to the legal personhood of nature, the moana is considered to have its own rights and responsibilities. This is important when considering the development or review of plans, policies, legislation, decisions etc relevant to the ocean, because within a Māori worldview the rights, wellbeing and interests of the ocean must be provided for first before the rights, wellbeing and interests of communities and industry.

Enact te ao Māori principles and outcomes

Where and how are core principles (manaakitanga, whakapapa, kaitiakitanga) and key outcomes (mana, mauri, tapu) being enacted or enabled in this decision/policy/project? Once again, the *Awhi mai awhi atu* project explains this well.

The project arose from the issues, challenges, actions, and aspirations of Māori and is grounded in *Whanaungatanga* – the principle of working in meaningful, genuine collaboration to influence how mātauranga Māori and western science principles and practices are translated

operationally in ways that recognise cultural values, knowledge systems and opportunities. The principles of whanaungatanga include:

- *Kotahitanga* – the concept of mahi tahi or working together to achieve a common goal

- *Manaakitanga* – highlights the responsibility to act, at-all-times, in a respectful manner that uplifts and enhances the mana or prestige of others

- *Kaitiakitanga* – refers specifically to the obligation to care for the environment and taonga (culturally important) species and spaces

- *Rangatiratanga* – promotes strategic coordination and affirmation when agencies contribute to collective decision-making.

Co-development with hapū/iwi and stakeholders was foremost throughout the life of the *Awhi mai awhi atu* project and beyond, as is consistent with tikanga Māori (Mead 2003, Te Awekotuku 1991), a whanaungatanga approach to research (Paul-Burke et al 2018) and the principles of kaitiakitanga (Jackson et al 2018).

Bringing together mātauranga Māori and science can inform improved decision-making

Sustainable Seas research has been based on expert scientific knowledge working together with mātauranga Māori to inform the priorities and outcomes for the improved wellbeing of the ocean. This approach has been extremely successful and the opportunities to carry this through to marine management functions, decisions, values, and goals more generally can add significantly to improving intergenerational sustainability and the wellbeing of the environment, communities, and the economy.
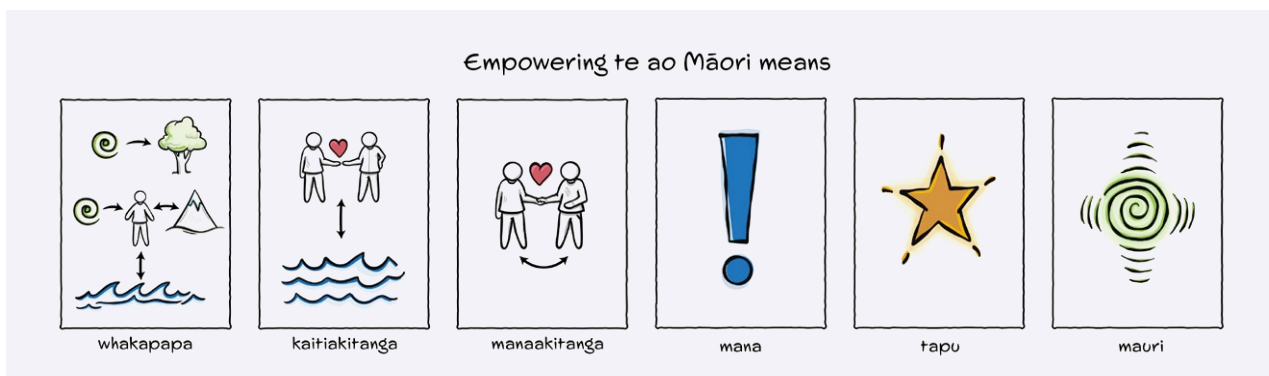

Empowering te ao Māori means

whakapapa   kaitiakitanga   manaakitanga   mana   tapu   mauri

Figure 6 Empowering te ao Māori

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