



1. Summary

As a response to reaching growth capacity, Iwi Collective Partnership (ICP) embarked upon a Sustainable Seas National Science Challenge funded innovation project called Kia Tika Te Hī Ika (KTTHI), which had two main aims: (1) to explore the branding opportunity from utilising mātauranga and tikanga within fisheries operations; and (2) to be true to their Māori identity and whakapapa (genealogy). The project seeks to build Māori knowledge systems. value frameworks and tikanga into ICP operations and fisheries management by seeking out and consolidating a set of ICPspecific tikanga and mātauranga that can be implemented within the fisheries industry. The project is a collaboration between ICP and Ngā Wai a Te Tūī research centre with Maru Samuels and researchers Irene Kereama-Royal and Eruera Lee-Morgan (Kereama-Royal et al., 2021). This report is designed as a follow-up and second phase of the KTTHI research, which explores the implementation potential of ICP-specific tikanga and mātauranga within the fisheries industry.

The report presents five key findings regarding implementing ICP-specific tikanga and mātauranga: (1) ICP aspirations - ICP's original aspirations for implementation can be used to guide the implementation process; (2) implementation agents - the expertise of several key people is required if ICP is to successfully implement tikanga and mātauranga; (3) local implementation - tikanga and mātauranga must be founded at the whānau, hapū or iwi level in order to be truly transformational; (4) opportunities, considerations and challenges - specific opportunities, considerations and challenges are involved in tikanga and mātauranga implementation; and (5) sites of implementation - ICP can implement tikanga and mātauranga at various sites and scales.

Three implementation options based on indigenising the blue economy themes are identified: (1) whakatautika (balance) – this option explores tikanga and mātauranga implementation as a solution for restoring balance between ICP, their iwi members, and commercial partners; (2) auahatanga (differentiation) – this option explores tikanga and mātauranga-based differentiation pathways for ICP; and (3) pāhekoheko (integration) – this option looks how ICP can continue to address fragmentation within the Māori marine economy through tikanga and mātauranga implementation.

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3. Introduction

3.1 Purpose

This report sets out a case study on the Iwi Collective Partnership (ICP) and its aspiration to identify and implement mātauranga Māori and tikanga Māori into its fishing operations with potential for wider application in the fishing industry.

3.2 Indigenising the blue economy

This report is a final output of Project 2.3 Indigenising the blue economy, a research project within the blue economy research stream of the Sustainable Seas National Science Challenge (the Sustainable Seas Challenge). The case study was made possible through a collaboration between ICP and the Indigenising the blue economy research team. An aim of the Sustainable Seas Challenge was to enhance the use of marine resources within environmental and biological constraints.

Indigenising the blue economy seeks to explore and support Māori to practice blue economies imbued with matauranga Māori, treaty principles, and a focus on Māori wellbeing, human potential and relational balance. Indigenising the blue economy works across three themes in relation to the fisheries industry in Aotearoa: (1) whakatautika (balance) is focused on restoring balance between ICP, their fisheries partners and their iwi members as well as between fisheries operations and the environment and between and within iwi. (2) auahatanga (differentiation) encourages ICP to focus on various differentiation pathways for tikanga and mātauranga implementation; and (3) pāhekoheko (integration) presents tikanga and mātauranga integration and uplifting tino rangatiratanga as implementation options.

The overall project partnered with four Māori authorities and Moriori to explore these themes, including the highlighted case study covered in this report.



Organisation	Description	Themes
Moana New Zealand	Moana New Zealand is a large New Zealand seafood company owned by all iwi. Research focused on overcoming centralisation by generating balance between iwi fishing enterprise and whānau (family) enterprise.	Whakatautika
Iwi Collective Partnership (ICP)	ICP is a voluntary collaboration of 19 iwi fisheries companies, pooling their quota. Working with them to integrate tikanga (customary practices) and mātauranga into operations was the focus along with research on overcoming fragmentation with added value. \$5.30m	Pāhekoheko
Moriori	Moriori are the quota holding Indigenous people of Rēkohu (the Chatham Islands). The focus is on enabling uniquely Morioriled fisheries and overcoming fragmentation, with potential for additional value. \$3.60m	Pāhekoheko Whakatautika Auahatanga
Ngāti Mutunga o Wharekauri	A Chatham Islands quota-holding iwi who are concerned about cultural input whilst optimising economic outcomes. Research focuses on overcoming fragmentation and assessing the condition of the marine reserves.	Pāhekoheko Whakatautika Auahatanga
Ōnuku Rūnanga	Akaroa Salmon is an aquaculture company purchased by two Māori organisations, Ōnuku and Ngati Porou. Akaroa Salmon is looking to add value to its products through marketing and overcoming reliance on a few markets.	Auahatanga

Table 1. Case Studies



A localised approach was taken in each case, with senior Māori researchers collaborating with community researchers. The community researcher was primarily responsible for fieldwork and community-oriented communication while the senior Māori researcher guided investigations, analysed data, and developed case study reports. This research was then given to the synthesis team, consisting of Māori and non-Māori researchers, who generated research and practice-based outputs. The project team comprised:

- Jason Mika, Co-lead
- · John Reid, Co-lead
- Matthew Rout, Synthesis team
- Jay Whitehead, Synthesis team and Senior Māori researcher
- Annemarie Gillies, Senior Māori researcher
- Fiona Wiremu, Senior Māori researcher
- Georgia McLellan, Senior Māori researcher
- Tui MacDonald, Senior Māori researcher
- Corey Ruha, Senior Māori researcher

3.3 Methods

The *Indigenising the blue economy* research team engaged extensively with ICP to understand their goals and aspirations and develop the case study research. The team then gathered information from secondary sources, including previous Sustainable Seas case studies and reports, ICP organisational documents and the KTTHI research proposal. Three industry experts were then interviewed about the implementation of KTTHI: (1) Maru Samuels, who was the CEO of ICP and working on the KTTHI research project at the time; (2) Chris Insley, ICP board sponsor for KTTHI and CEO of Te Arawa fisheries, and (3) Lucy Steel, a founding member of the ICP for Ngāi Tai. Interviews were transcribed and analysed by the research team and key findings pertaining to the implementation of tikanga and mātauranga within the Aotearoa fisheries industry were extracted from the secondary data and research transcripts.

4. Iwi Collective Partnership

4.1 Formation

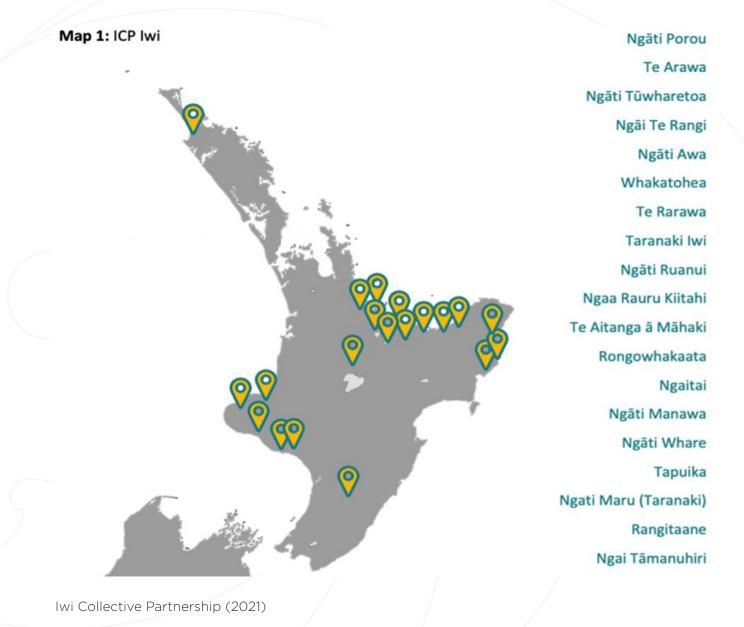
ICP is the largest fisheries collective in Aotearoa as well as a global multi-million dollar company (Mika et al., 2019) that was established in 2007 as an unincorporated collective (Rout et al., 2019). When it was established, ICP held annual catch entitlement (ACE) to deep water species: inshore species; pelagic, highly migratory species; and lobster, which it sold to a third-party organisation in 2010 (Iwi Collective Partnership, 2021). ICP became an incorporated collective in 2010 with an original group of 12 iwi members (Iwi Collective Partnership, 2021). Ten of the 12 original iwi members established both ICP Koura operations and ICP Koura Facilities in 2012 and then went on to purchase and operate Port Nicholson Fisheries (PNF) in partnership with Paraninihi ki Waitotara Incorporation and Ngāti Mutunga o Wharekauri Asset Holding Company Limited (Iwi Collective Partnership, 2021). In 2014, Rongowhakaata and Te Aitanga a Mahaki joined this partnership in ownership of PNF and subsequently joined ICP in 2015 (Iwi Collective Partnership, 2021). Soon after, Ngāti Whare, Te Rarawa and Rangitāne joined the ICP Koura Operations partnership (Iwi Collective Partnership, 2021). ICP currently consists of 19 iwi (Kereama-Royal, et al., 2021). The 19 iwi share relative geographical proximity across the central North Island with the exception of Te Rarawa in the far north (see Figure 1). This proximity means that many iwi members of the ICP

have shared whakapapa; it also helps with business relationships and collaborations (Joseph et al., 2016).

4.2 Structure

ICP operates under full-time management. Maru Samuels was the CEO when this project commenced. He has since resigned as CEO and has joined the board. The new CEO is Ken Houkamau. Five industry experts sit on the ICP board: Mere George, Nathan Reid, Peter Rice, Dean Moana, Doug Jones, and now Maru Samuels. The three largest iwi shareholders each have a board member representative, and the other board members are elected by the other shareholders (Castle, 2015). The board makes most organisational decisions within ICP, and significant matters need the approval of ICP iwi members (Iwi Collective Partnership, 2021). ICP is always open to accepting new iwi members who are interested in long-term economic gains and whose values align with ICP (Iwi Collective Partnership, 2021).

ICP is currently made up of a general partner and four limited partnerships: ICP - General partner limited; ICP ACE Holdings limited partnership - ACE Holdings; ICP Inshore ACE limited partnership - Inshore ACE; ICP Koura facilities limited partnership - Koura Facilities; and ICP Koura operations limited partnership - Koura operations, as illustrated in Figure 1 (Iwi Collective Partnership, 2021).



4.3 Operations

ICP iwi members retain ownership quota. However, their ACE is managed, administered and collectivised under ICP (Iwi Collective Partnership, 2020). ICP does not fish this quota. It is fished by ICP's commercial

partners, a majority of which are partially owned by ICP iwi members (Mika et al., 2019). ICP administers iwi members' ACE into eight key parcels. These parcels and the partners that fish them are outlined in Figure 2 (Iwi Collective Partnership, 2021).

Figure 2 ICP partners & parcels

ACE Parcel	Commercial Partner	Term
Deepwater	Sealord Ltd, via Nga Tapuwae o Maui	Rolling 5 Years
Pelagic	Pelco NZ Ltd	5 Years to 30 September 2025
Premium Inshore	Joint Venture with Moana New Zealand (Aotearoa Fisheries Ltd)	Rolling 5 Years
Lobster	Koura Inc/Port Nicholson Fisheries (PNF)	Rolling 5 Years (settlement ACE) Rolling 10 Years (non-settlement ACE)
Highly Migratory Species	Moana New Zealand	Annual
Pāua	Moana New Zealand	Annual
Scampi	Petromont Exports Ltd	Annual
GLM9	Whakatohea Mussels	3 Years to 30 September 2022

Iwi Collective Partnership (2021)

The collectivisation of individual iwi ACE through ICP achieves many benefits for ICP iwi members. Firstly, through ICP, iwi members are able to achieve economies of scale (Iwi Collective Partnership, 2020) and limit fragmentation (Joseph et al., 2016). Fragmentation is a major concern within the Māori marine economy as quota is separated into small parcels and distributed to individual iwi many of whom are not

equipped to fish this ACE themselves. Further, many iwi parcels are so small that if iwi did fish their own quota, they would receive low returns (Rout et al., 2023). Being part of the ICP also limits competition between iwi members who would otherwise compete against each other in the fishing industry. Further, iwi who own, or partially own, ICP partner companies benefit from their dividends (Kereama–Royal et al.,

2021). The ICP promotes kaitiakitanga and sustainable fishing with its partners, and iwi members benefit from being part of a collective where they are able to share knowledge and increase their capability and participation in the fisheries industry (Joseph et al., 2016).

4.4 Partners

ICP partners with four main fisheries companies that fish ICP members' quota (see Figure 3). ICP seek partners who understand Māori business, can support long-term iwi aspirations, understand the importance of kaitiakitanga, and whose values align with their own (Iwi Collective Partnership, 2021).

ICP's member selection process is influenced by its values and aspirations as it looks to align with partners with whom it can "work together in the spirit of ... whanaungatanga, kotahitanga and manaakitanga" to achieve the collective goals of all ICP iwi members (Iwi Collective Partnership, 2021, p. 2). In Māori, 'whanaungatanga' means, "relationship, kinship, sense of family connection - a relationship through shared experiences and working together which provides people with a sense of belonging, 'kotahitanga' is togetherness and solidarity, and 'manaakitanga' can be defined as hospitality, generosity, and support (Te Aka Māori Dictionary, n.d. -a, -b, -e). Details about ICP's four main partners are outlined in Figure 3.

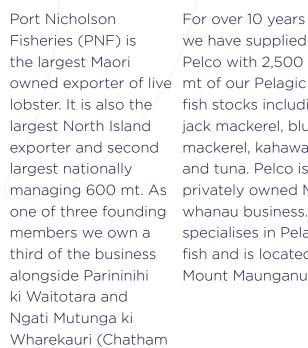




Established in 1961, Sealord is 50% owned by iwi which includes our members, who collectively hold an indirect 12% interest in the company. We supply Sealord annually with 9,000 mt of deepwater fish stocks including hoki, ornage roughy, hake and ling.

Our premium inshore fish is managed through a joint venture with Moana New Zealand (formerly "Aotearoa Fisheries Ltd"). We contribute 1,000 mt of ACE and receive 50% of profits. We also supply Moana with ACE for highly migratory species and paua. Our members collectively own 25% of Moana New Zealand.





Islands).



For over 10 years we have supplied Pelco with 2,500 fish stocks including jack mackerel, blue mackerel, kahawai and tuna. Pelco is a privately owned Maori whanau business. It specialises in Pelagic fish and is located in Mount Maunganui.

Figure 2 ICP partners

Iwi Collective Partnership (2023)

50% of Sealord is iwi-owned, and ICP iwi members own 12%. ICP supplies Sealord with deepwater fish stock quota, including hoki, orange roughy, hake and ling. ICP's inshore fishery is managed through a joint venture with Moana New Zealand, the largest Māori owned fishing company in Aotearoa, which is 25% owned by ICP iwi members. ICP also supplies ACE to Moana New Zealand. A third of PNF Fisheries are ICP owned, another Māori owned company that exports live lobster, and is part owner of PNF Fisheries alongside many other iwi lobster quota owners. Pelco is ICP's other major partner; they supply Pelco with their pelagic fish stock quota, including jack mackerel, kahawai and tuna. Pelco is Māori owned (Iwi Collective Partnership, n.d.).

4.5 Values and aspirations

ICP's Mission statement:

"With like-minded partners, we connect New Zealand's best kaimoana with the world"

(Iwi Collective Partnership, 2019, p. 2).

ICP's Vision statement:

"We are kaitiaki of Māori fishing assets, ensuring their sustainability for future generations" (Iwi Collective Partnership, 2019, p. 2).

ICP's Strategy statement:

"We will build enduring partnerships utilising our collective assets and legacy to protect and enhance our fisheries resources and environment in a sustainable and profitable manner for the future" (Iwi Collective Partnership, 2019, p. 2).

ICP's mission statement, vision and strategy statement above exemplify its aspirations and values. These statements highlight the importance ICP places on sharing high-quality products, kaitiakitanga and partnerships. Alongside these broad statements, the organisation has five common values and principles listed below (Iwi Collective Partnership, 2021):

- 1. Whanaungatanga "We are family" –
 This principle emphasises the fact that
 the ICP iwi are connected by common
 whakapapa; it encourages mutual respect
 with a focus on relationship building.
- 2. Manaakitanga "We look after one another" This principle emphasises the importance of hospitality, honesty and integrity towards one another.
- **3. Makohakoha** "Using our expertise" This principle highlights the high level of expertise required within the fisheries industry.
- **4. Kaitiakitanga** "We are guardians" This value acknowledges the importance of being a steward of the environment and ensuring the sustainability of resources for future generations.
- **5. Whakaaronui** "Visionary" This value highlights the importance of being creative, innovative, and proactive towards achieving goals.

4.6 Covid-19

ICP first experienced the effects of Covid-19 in February 2020 through its ownership in PNF. When China went into lockdown, Aotearoa New Zealand's lobster export market was closed, causing significant

financial pressure on PNF. To alleviate this pressure, ICP Koura Operations and other PNF partners agreed to a 25% reduction in ACE prices, resulting in a loss of revenue (Iwi Collective Partnership, 2020). During the Covid-19 pandemic, the ICP Board and management took steps to mitigate the impact on the business and its iwi members.

These measures included maintaining partnerships with reputable fishing companies, achieving cost savings, securing external cost reductions, developing support services for iwi, increasing communication through newsletters, and implementing a temporary discount policy for new iwi joining ICP (Iwi Collective Partnership, 2020).



5. Literature review

5.1 Tikanga and Mātauranga

Tikanga is both a concept and a practice; it and can help guide behaviour and determine appropriate actions in certain situations (Mead, 2003). Tikanga is underpinned by a set of values including whanaungatanga, manaakitanga, mana, tapu, utu, noa, and ea (Mead, 2003). Tikanga is dynamic and everchanging. It is grounded in a large set of accumulated knowledge gathered over many generations, the foundation of this knowledge being a segment of mātauranga. Hence, all tikanga are "firmly embedded in mātauranga" (Mead, 2003, p. 19). Mātauranga is "knowledge as both process and content for reinforcing the beliefs, values, and practices that sustain life" (Mika et al., 2022, p. 7). It grew from and exists within an intimate relationship between Māori and the natural world (Mika et al., 2022). Mātauranga is subjective and objective and includes scientific, spiritual, and emotional knowledge (Mika et al., 2022). Like tikanga, mātauranga is dynamic and constantly evolving over time, it is also multi-temporal; containing past, present, and future knowledge; it has no beginning and no end (Mead, 2003).

5.2 Fisheries tikanga and mātauranga

Traditional Māori marine practices were guided by tikanga and mātauranga (Mika et al., 2022). Moana-centred tikanga and mātauranga are grounded in Māori relationships with Tangaroa. In Māori creation stories, Tangaroa is regarded as god of the sea and is son of Papatūānuku (earth mother) and Ranginui (sky father) (Rout et al., 2019). Tangaroa has dominion over the moana, and all kaimoana are regarded as Tangaroa's children (Rout et al., 2019). Hence, Māori whakapapa (ancestrally connect) back to Tangaroa and his children (ie all kaimoana). We, therefore, exist within a state of reciprocity with Tangaroa and his children (Rout et al., 2019). Tangaroa provides us with his children (Rout et al., 2019), and the mātauranga needed to gather his children (Waka Huia, 2014). Moana-related mātauranga exists mostly in oral forms, including "karakia (incantations), mōteatea (chants), pepeha (tribal sayings), whakataukī (proverbs), and pūrākau (stories)." (Jackson et al., 2018, p. 3). Traditionally, fisheries mātauranga is based around when. where and how to catch kaimoana. The maramataka (Māori lunar calendar) and tohu (environmental signs) are examples of marine-based mātauranga. They provide information about the best times to gather certain kaimoana (Paul-Burke et al., 2022). There is also a large amount of marine-based mātauranga surrounding traditional fishing grounds and kaimoana gathering equipment such as spears and dredge nets (Hiroa, 1921).

5.3 Tikanga and takutai moana

In return for access to Tangaroa's domain and his children, Māori conduct a number of tikanga to ensure they are in good relations with Tangaroa. Traditionally, tikanga guided almost all interactions with the sea (Meredith, 2006). Marine-related tikanga are interrelated and often serve multiple purposes, for example, one such tikanga encourages fishers to refrain from disposing of kaimoana waste in the ocean. There are several explanations for this tikanga; a) disposing of kaimoana waste in the sea may anger Tangaroa, b) it may increase your chances of having an accident or being washed away by a freak wave, c) you are giving food to the species that prey on the kaimoana and encouraging their growth (Williams, 2004). Another common multi-purpose tikanga is that people who are menstruating are not allowed to gather kaimoana. This is because blood is tapu and will contaminate the water, and for safety reasons as sharks are attracted to blood (Mead, 2003). Karakia are reciprocal exchanges that are used to thank Tangaroa for access to his children and to ask for protection when gathering them (Mead, 2012). There are karakia pertaining to travelling over the moana, fishing and making equipment for gathering kaimoana (Jackson et al., 2018). It is still common practice to karakia to Tangaroa before and after gathering kaimoana, and if karakia are not performed or not performed correctly, this is sometimes regarded as an insult to Tangaroa (Mead, 2012).

5.4 Kaitiakitanga

Kaitiakitanga, often translated as stewardship, is another tikanga practice that nurtures human relationships with Tangaroa. Marsden (2003) refers to kaitiakitanga driven tikanga as tikanga tiaki (guardianship customs). Tohu and rāhui are examples of tikanga tiaki (Royal, Te Ahukaramū Charles, 2003). Tohu are a form of mātauranga that can provide information about kaitiakitanga activities, for example, they may indicate that a resource might need extra protection (Paul-Burke et al., 2022). Rāhui use the power of tapu to render areas as restricted (Rout et al., 2019) and are commonly used today. Traditionally, rāhui had at least three main purposes; a) to replenish kaimoana by restricting food gathering activity (McCormack, 2011), b) to mark one's territory (Mika et al., 2022), and c) for cultural reasons, for example, if someone dies in the moana the area surrounding becomes tapu because of the death (Royal, Te Ahukaramū Charles, 2003) and therefore a rāhui is placed over the area so that it can be cleansed (Royal, Te Ahukaramū Charles, 2003). Deaths at sea are sometimes considered part of the reciprocal relationship with Tangaroa; humans take Tangaroa's children, and occasionally Tangaroa takes from us (McCormack, 2011). The common tikanga of returning the first caught fish back to the ocean serves multiple purposes. It is an act of conservation, but also a way to thank Tangaroa for providing kaimoana resources (Mead, 2003).

6. Findings

6.1 Aspirations

ICP has a specific set of aspirations which can guide it in implementing tikanga and mātauranga. These aspirations can be used to guide ICP's tikanga and mātauranga implementation process. They also set the initial parameters and guide the entire implementation process. It is important for ICP's implementation process to be founded and guided by its original aspirations for the project.

Several aspirations for implementation became evident from our korero with the participants and from official documents such as the KTTHI research project proposal. Firstly, participants emphasised that tikanga and mātauranga must be sourced locally from ICP iwi member communities and implemented within these communities. Alongside local-level tikanga and mātauranga, high-level New Zealand science, and best practice, fisheries management must be used to inform decisions. ICP aspires for this project to be genuinely transformational for its iwi-member communities.

This strategy must also be transformational for the ICP. It must work to redefine ICP's branding, enhance ICP's reputation as experts in fisheries management and improve ICP's economic returns whilst being consistent with social, cultural and ecological imperatives. The implementation strategy must allow ICP to enter new partnerships and search for more unique opportunities in the marine space. Fisheries partners must also benefit from this strategy. They are the

parties who (at least initially) will be carrying out the new tikanga and mātaurangadriven, fisheries practices. In saying this, the strategy must also have an evaluative aspect so ICP can use it to assess the use of its iwi members' fisheries assets by their fisheries partners. Further, ICP aspires to tikanga and mātauranga practices implemented within the wider fisheries industry, and therefore, this strategy must be scalable to work at the national and potentially international level.

6.2 Implementation agents

There are several implementation agents or key informants whose expertise will be required throughout the whole tikanga and mātauranga implementation process. The current relationship between ICP and their iwi members is unevenly balanced. Iwi members receive a passive income from ICP in exchange for their fisheries ACE but are limited in how much influence they have over fisheries companies who fish their assets. For tikanga and mātauranga implementation to work, it is critical that this currently uneven relationship changes to better reflect tikanga, as Chris Insley discusses below:

If we were true to our tikanga, we would say to them. It doesn't matter how big Sealord is, and it doesn't matter how big Moana New Zealand is. They are just an agent on our behalf catching our fish in our water. And so, the ICP needs to become a lot more clear in its own mind that we are the agents for our people to uphold our tikanga.

A closer relationship between ICP and its iwi members aligns with Māori values. It will allow tikanga and mātauranga implementation to naturally occur within ICP's operations as they will be closely aligned with community-based iwi and hapū members. There are several other key informants whose knowledge will be needed to implement tikanga and mātauranga into operations, including scientists and industry experts. Maru Samuels exemplifies the importance of involving experts below:

One of the things that we have come to realise is just the importance of having expert advice ... So, having not just the right people who have that Mātauranga Māori and understanding of those things, and being able to interview them, but just as important as that, is the business planning, is the branding, is the science and understanding of our New Zealand Fishery's law and policy work. You kind of need experts right along that whole change and organisation change.

Maru mentions the importance of using mātauranga Māori expertise, exemplifying the importance of tohungatanga and rangatiratanga within this implementation process.

'Tohungatanga' can be defined as Māori-specific expertise enacted by tohunga, and 'rangatiratanga' means the Māori specific leadership/chieftainship enacted by rangatira (Te Aka Māori Dictionary, n.d.-c, -d). Tangaroa is another important agent for tikanga and mātauranga implementation. As discussed above, moana-related tikanga and mātauranga are founded in Tangaroa. Tikanga in fisheries is about "putting Tangaroa at the heart of decision-making" (Sustainable Seas National Science Challenge, 2023). Interview

participant Lucy Steel also reiterated that tikanga and mātauranga inclusion is ultimately about honouring Tangaroa and Hinemoana (guardian of the moana).

6.3 Local knowledge

All of the participants emphasised the importance of implementing local level tikanga and mātauranga within ICP's new strategic direction. The KTTHI project team is currently gathering and analysing this ICPspecific local-level tikanga and mātauranga. The participants discussed several examples of local level tikanga and mātauranga that could potentially be implemented into ICP's operations. Lucy Steel emphasised the importance of focusing on high-level common Māori values such as kaitiakitanga, manaakitanga and rangatiratanga. Lucy Steel discussed longline fishing as an example of kaitiaki-centred fisheries practice and discussed how ICP could implement manaakitanga into its operations:

Now, if you've got manaakitanga, it's about looking after everyone no matter who they are or where they come from ... That's how you treat people, how you bring them on board, and you have to value them, acknowledge the work that they do, and pay them accordingly as well.

Participants also discussed karakia, te reo Māori, gender and generational equity, and whānau inclusion as examples of tikanga and mātauranga in practice. Chris Insley discusses the importance of whānau inclusion below:

We're really open about all of the staff bringing their babies. Not just during school holidays, you know, and everybody's fine, no problems. That's my point, that's tikanga. Isn't that just the way that it is with Māori if you go home at the marae the kids are running around everywhere, being told off by the grandparents and all the rest of it. That's a tikanga thing, it's a special thing. Whereas you don't see that in Pākehā organisations.

Lucy Steel emphasised the importance of tino rangatiratanga and restoring balance within the fisheries industry. Lucy Steel hopes that ACE can be returned to ICP iwi members and that small Māori fishers can begin to fish their own iwi quota:

Give the quota back to the people where it belongs. They can still go out and fish, get a good price for it but still bring it together in that one package under the ICP. But don't get the big fishers, the big partners that they've joined with. Give it back to the iwi, give it back to the hapū. That way the hapū will get their own fish for their own tangi for their own celebrations. They'll still be able to fish their quota at the same time.

6.4 Opportunities and challenges

There are several opportunities, considerations, and challenges to address in relation to tikanga and mātauranga implementation. Opportunities for implementation are instances which have the potential to make tikanga and mātauranga implementation easier for ICP or exemplify positive externalities of tikanga and mātauranga implementation. Indigenous brand development and diversification are examples of potential opportunities. Through implementing tikanga and mātauranga, ICP could develop authentic Indigenous brands

and diversify their practices. Implementing tikanga and mātauranga and potentially increasing revenue streams and diversification pathways may also attract more ICP iwi members and encourage current members to stay part of the ICP. Further implementing tikanga and mātauranga-based strategies has the potential to improve fisheries for the better, not only in Aotearoa but potentially globally.

ICP is already aligned with business partners and people who are either familiar with tikanga or already implementing tikanga within their own organisations. This serves as an advantage for implementation. The ICP and many of its partner organisations are Māoriowned. ICP has opportunities to learn about tikanga and mātauranga implementation from other Māori organisations in the fisheries space, including Te Arawa Fisheries (members of the ICP) who are actively practising tikanga and mātauranga within their fisheries organisation.

Implementation challenges may threaten tikanga and mātauranga implementation and will need to be addressed before implementation takes place. Challenges for implementation revolve around two main issues; the first being that ICP and its commercial partners, despite being Māoriorientated, currently operate within Pākehā organisational structures. These companies will have to undergo significant changes in order to implement tikanga and mātauranga. While there are some signs that ICP's current partners are willing to adopt these new strategies, there was some scepticism amongst participants around how much these companies will be willing to change. Maru Samuels believes that before ICP's partners begin to adopt tikanga and mātauranga, ICP itself must first implement these values and

enable its partners to follow suit.

ICP would like to exert influence upon the fishers who catch fish using ACE, which ICP supplies, to have a more balanced relationship and to encourage fishing practices that accord more closely with Māori aspirations and tikanga Māori. ICP influence is limited because fishers have more power in the relationship. Fishers and suppliers may also not be aware of relevant tikanga and mātauranga or how to obtain it and use it once they have got it. ICP is also not in a position just yet to articulate what the relevant tikanga and mātauranga are as they relate to the business of fishing. However, they are in the process of completing their KTTHI project, which will provide invaluable information.

The second main challenge discussed by participants revolves around consolidating the tikanga and mātauranga from the diverse whānau, hapū and iwi who belong to the ICP. As Maru Samuels discusses below:

Having multiple iwi; 19 iwi. There's still an outstanding question around do you just generalise everything and try to apply a single kind of approach or policy right across all 19 iwi throughout Aotearoa. Another approach is if there are variances, considerable variances from iwi to iwi on different topics, is it possible to develop and apply a regional policy? That may differ from rohe to rohe, so that's got to work those through.

As well as balancing the tikanga and mātauranga from several diverse iwi, participants also discussed balancing commercial gains with tikanga and mātauranga implementation as a foreseeable challenge for ICP in the future. Maru Samuels discussed the potentiality of adapting tikanga to suit certain commercial contexts.

Considerations for implementation will need to be reviewed by ICP within their implementation journey. Firstly, ICP must consider Māori data sovereignty and intellectual property rights pertaining to the tikanga and mātauranga from various iwi. Tikanga and mātauranga Māori from KTTHI must be locally derived (and applied). This means there is likely to be some uncertainty over the ownership, control, and willingness to share this tikanga and mātauranga beyond the locals who supplied it. This conflicts with the ICP aspiration for tikanga to influence industry standards and practice in the business of fishing. The KTTHI team is considering these issues as part of its project.

Funding and expertise for further research and development is another important consideration, as several highly skilled experts need to be involved in this implementation process. For example, tikanga and mātauranga are ever-changing, so KTTHI is going to be a long-term, never-ending project - a continuous improvement style venture in which ICP and its members are always gathering, processing, and applying relevant tikanga and mātauranga to improve their activity, performance, and survival and growth as enterprises. ICP will need to consider how to resource this and how the collection of tikanga and mātauranga will be viable from a business perspective. Interview participant Lucy Steel pointed out that ICP employees are also going to play a major role in this implementation strategy. Hence, ICP needs to consider who it has on board and how it can improve its capacity in this area. Finally, ICP iwi members have been experiencing low returns on their quota. ICP will need to keep this in mind when implementing tikanga and mātauranga as it wants to retain its current members and attract new ones.

6.5 Implementation sites

There are various diverse sites where ICP could implement tikanga and mātauranga within its operations. Perhaps the most obvious place to start will be within its own current operations. ICP already practices tikanga and mātauranga through karakia, mihimihi, whakatau and pōhiri, however, there are many other ways in which ICP can incorporate tikanga and mātauranga into its operations. Some examples of this are discussed above.

Another site of implementation is within the operations of ICP's current commercial partners. This could involve altering the current operations of its partners to reflect better tikanga and mātauranga or entering into new ventures with its current partners that promote Māori values. Another site of implementation is within the operations of future partners.

ICP has discussed a desire for the wider fisheries industry to implement tikanga and mātauranga-based strategies, so this is another potential site of implementation. A shift towards a tikanga and mātaurangadriven fisheries industry would have positive environmental, cultural and economic effects for the whole of Aotearoa, and ICP has the potential to pave the way in this space. Further, with interest in Indigenous fisheries management practices on the rise, ICP also has the potential to influence global fisheries practices if its successfully implements its tikanga and mātauranga-driven strategy; hence, global industries are another potential site of implementation.



7. Discussion

The following section discusses three implementation options in relation to the research themes of whakatautika (balance), auahatanga (differentiation), and pāhekoheko (integration).

7.1 Implementation option 1 - Whakatautika (balance)

Implementation option 1 explores whakatautika (balance) as a focus for tikanga and mātauranga implementation. ICP would like to be able to restore balance to the moana by a) first collating an ICP iwi specific tikanga and mātauranga and b) influencing its commercial fishing partners to adopt this tikanga and mātauranga into their operations. ICP iwi members are positioned as investors who receive a sum of money in return for ICP administering and selling their ACE to large fisheries companies. Some participants were concerned about ICP iwi members' limited ability to influence the companies who fish their ACE. KTTHI provides an opportunity for iwi to apply tikanga and mātauranga-based conditions to their ACE and in turn, restore balance within the Māori marine economy.

Iwi are increasingly expressing a desire to exercise their fishing rights by retaining their own quota instead of selling it to large fisheries companies. For ICP, implementing tikanga and mātauranga may mean working towards a more balanced business model where iwi who aspire to fish their own quota are able to do so.

In being able to exert more influence over

fisheries companies, ICP can also work to restore environmental balance in the moana and encourage fishing practices that accord more closely with Māori aspirations and tikanga Māori. The implementation of tikanga and mātauranga-driven strategies within the Aotearoa fisheries industry has the potential to restore balanced relationships between fisheries operations and the environment. Implementing and promoting kaitiakitanga will also work to rebuild good relations with Tangaroa.

Finally, in implementing tikanga and mātauranga, ICP can work together with its iwi members to empower smaller Māori collectives such as hapū and marae to develop sustainable policies centred around iwi and/or hapū-specific tikanga and mātauranga that can be applied within or across iwi members' tribal boundaries. ICP may also look to tikanga and mātaurangadriven strategies to restore balance within and between pan-iwi entities. For example, instead of engaging with its members at an iwi level, ICP may choose to engage with hapū, marae or whānau. Operationalising tikanga and mātauranga may help transfer benefits from iwi/pan-iwi level consolidated assets to small-scale or isolated communities.

7.2 Implementation option 2 - Auahatanga (differentiation)

Implementation option 2 explores auahatanga (differentiation) as a pathway for ICP to adopt tikanga and mātauranga driven strategies. KTTHI was born out of ICPs desire to: a) explore the branding opportunity behind utilising mātauranga and tikanga within fisheries operations and to b) be true to its Māori identity. A focus on the uniqueness of tikanga and mātauranga is an attempt to identify the value in these cultural elements for ICP iwi members, ICP organisations, and ICP's partners, suppliers, and others. Covid-19 had a significant financial impact on the industry and ICP partners, particularly the lobster business, which PNF was running. This increased the urgency with which short and long-term ways of securing the financial position of the ICP became necessary.

Diversification could also involve entering new ventures with its current partners and promoting mātauranga and tikanga. For example, Te Arawa Fisheries has partnered with Sealord to implement kaitiakitanga in forestry. ICP could also look to diversity the partners with whom it does business. Lucy Steel proposed that ICP could form new partnerships with local Māori fishers:

The other thing is don't give our fishing quota to the big fishing companies; we've lost so many Māori fishers over the years, the small operators. We need to go back to that because we can do it within our own areas. Give the quota back to the people where it belongs. They can still go out and fish, get a good price for it but still bring it together in that one package under the ICP. But don't get the big fishers. Give it back to the iwi and give it back to the hapū. That way, the hapū will get their own fish for their own tangi, for

their own celebrations. They'll be able to fish their own quota at the same time. This makes sense in terms of tikanga and mātauranga implementation as small Māori fishers fishing in their own rohe are likely to be familiar with the tikanga and mātauranga of their rohe. With this being said, ICP could take differentiation a step further and look to shift its business model completely. Lucy Steel suggested that ICP could shift its focus away from profit maximisation and towards uplifting the tino rangatiratanga and mana motuhake of their iwi members. Lucy Steel also expressed her desire for ICP to lobby for and promote Māori fishing rights within Aotearoa's political sphere. In this way, ICP could become a vehicle for promoting tikanga and mātauranga within the fisheries industry in Aotearoa or even globally.

Diversification for the ICP could involve innovation. Indigenous innovation — gathering, processing, and achieving mātauranga Māori and tikanga-informed value creation, whether through new products, branding, business models, supplier relationships, or industry standards, is really about the process of Indigenous innovation. Indigenous innovation is about value creation from Indigenous and nonindigenous knowledge to meet a perceived opportunity. ICP has some broad ideas of those opportunities, but nothing fixed. The ICP has expressed a desire to take its own uniquely Indigenous-branded products to market; it hopes to find a small niche market where it can provide a high-value product and receive highvalue returns. ICP could look to a new fisheriesbased product or other moana-related products like mussels, kina and seaweed. It could also look into products that are not related to the moana at all. For example, Te Arawa Fisheries have moved within the forestry space. Lucy Steel discusses diverse product exploration below:

I think they need to diversify. ICP doesn't necessarily have to be just about fish. It should diversify and move into other areas. There's mussels, and we've gone into crayfish, but it's not just the blue economy. It can do other things and diversify into other areas to bring more of a sustainable income to be able to actually provide dividends back to its shareholders who will then give it back to the iwi.

Differentiation and diversification could come in the form of re-branding. As discussed above, re-branding is a major aspiration for ICP. ICP already has an incredibly interesting branding story as it has a legacy of "Indigenous" community ownership, unique legal structures and frameworks underpinned by strong socioeco-cultural strategic drivers and aspirations" (Iwi Collective Partnership, 2020). With its renewed tikanga and mātauranga-driven strategy, it has the potential to capitalise on this story. In time, tikanga and mātauranga may provide a foundation for future Indigenous branding opportunities for ICP. ICP has identified the United States as a potential market that will appreciate an Indigenous branding story (personal communication). Ethically, Indigenous branding should involve a genuine attempt to incorporate Indigenous values; therefore, rebranding might be something that ICP look to after it has begun to implement tikanga and mātauranga into operations.

7.3 Implementation option 3 - Pāhekoheko (integration)

The modern-day Māori marine economy is fragmented, and the QMS, a highly complex system not well aligned with te ao Māori, contributes significantly to this fragmentation

(Rout et al., 2023). The fragmented distribution of quota to individual iwi means many, especially smaller, iwi receive low returns, which means they are not able to fish their own quota (Rout et al., 2023). The QMS is also problematic in the sense that prior to colonisation, iwi fishing rights were not necessarily held at the iwi scale, and this has had negative repercussions for Māori (Rout et al., 2023). "Increased collaboration and cooperation across the Māori fisheries space" has been identified by Rout et al. (2023, p. 38) as a solution to fragmentation in the Māori marine economy. In this sense, ICP is already contributing to integration in the industry, but through matauranga and tikanga implementation, it has the opportunity to enhance industry integration further.

Firstly, through KTTHI and Project 2.3, ICP has the opportunity to collate, integrate and implement the fisheries-related mātauranga of its iwi members across the motu. Implementing a well-integrated set of practices and policies within its operations and the operations of their partners and potential new partners will help consolidate some of the fragmentation within the Māori marine economy. Further, in implementing tikanga and mātauranga, ICP may look to uplift the tino rangatiratanga of its iwi members by implementing strategies that allow them to fish their own quota. As discussed above, one of the participants Lucy Steel, emphasised the importance of tino rangatiratanga and hopes that ACE can be returned to ICP iwi members and small Māori fisheries. ICP has the networks and potentially some of the capital to start to do some of this important work.

8. Conclusion

ICP, Aotearoa New Zealand's largest fisheries collective, recently exhausted the growth potential of its existing operations, activities, and business. It is looking to grow its company and reorient its strategy by implementing tikanga and mātauranga within its operations and to be shared with their commercial partners. Tikanga and mātauranga related to the business of fishing are grounded in Māori reciprocal relationships with Tangaroa and are traditionally based around when, where, and how to catch kaimoana. ICP already practises tikanga and mātauranga within its operations to a certain extent; it has a tikanga-based dispute resolution technique and practice karakia and mihimihi. ICP's first step in tikanga and mātauranga implementation was to embark on a research project called KTTHI which sought to gather, collate, and analyse an ICP-specific tikanga. This report seeks to build on the KTTHI research project and explore how ICP might start implementing tikanga and mātauranga. The case study team interviewed three industry experts, Maru Samuels, Chris Insley, and Lucy Steel, about tikanga and mātauranga implementation. We also gathered information from several secondary sources, including previous Sustainable Seas case study reports, ICP organisational documents and the KTTHI research proposal.

Ultimately, we came up with five key findings that may help ICP guide its tikanga and mātauranga implementation project. Firstly,

we found that ICP's original aspirations for tikanga and mātauranga implementation can help to guide this process. These aspirations centre around the importance of implementing locally sourced tikanga, rebranding, new partnership opportunities for ICP, and scalability. Secondly, we found that there were a number of key agents whose expertise will be required throughout this implementation process, including ICP iwi members, industry and scientific experts, and Tangaroa. We then found that in order for tikanga and mātauranga implementation to be truly transformational. it must be sourced from the local level. Our fourth key finding was based around opportunities, considerations and challenges for implementing tikanga and mātauranga. Opportunities have the potential to make tikanga and mātauranga implementation easier and provide potential positive externalities. Challenges may threaten the tikanga and mātauranga implementation process and must be addressed before implementation. Considerations are not necessarily as servere as challenges, but ICP will need to be aware of these going forward.

The discussion centred around the three broader Project 2.3 research themes, whakatautika, auahatanga, and pāhekoheko and how they might guide ICP in this process. ICP may choose to focus on whakatautika and look to restore balance between itself, its commercial partners and its iwi members. There is also an imbalance

between fisheries operations and within ICP iwi members themselves, which ICP could also look to restore through tikanga and mātauranga implementation. ICP may also focus on auahatanga in its pursuit of implementing tikanga and mātauranga; it can look to diversify its operations and those of its current or new partners, as well as Aotearoa fisheries industry or the global fisheries industry. Differentiation through

rebranding or transforming its business model also serve as options for mātauranga and tikanga implementation. Finally, ICP could focus on pāhekoheko and work against some of the fragmentation that works against Māori within the fisheries industry by integrating an ICP-specific tikanga and mātauranga or supporting its iwi to fish their own quota.



9. References

- Castle, T. (2015). Tāia Kia Matariki Make sure the net is closely woven Independent Review of Māori Commercial Fisheries
 Structures Under the Māori Fisheries Act 2004. https://teohu.maori.nz/wp-content/uploads/2018/12/Maori_Fisheries_
 Review 2015.pdf
- Hiroa, T. R. (1921). Maori Food-supplies of Lake Rotorua, with Methods of obtaining them, and Usages and Customs appertaining thereto. https://paperspast. natlib.govt.nz/imageserver/periodicals/P2 9pZD1UUFJTTloxOTIxLTUzLjluOC4xLjQ4J mdldHBkZj10cnVl
- Iwi Collective Partnership. (2019). ICP Strategy Map and Key Statements.
- Iwi Collective Partnership. (2020). Iwi

 Collective Partnership Annual Report 2020. Iwi Collective Partnership.
- Iwi Collective Partnership. (2021). *Iwi Collective Partnership Profile.* Iwi Collective Partnership.
- Iwi Collective Partnership. (2023). *Our*Partners. https://www.iwicollective.co.nz/
 ourpartners/
- Jackson, A. M., Mita, N., & Hakopa, H. (2018). Hui-te-ana-nui: Understanding kaitiakitanga in our marine environment. Sustainable Seas National Science Challenge. https://www.sustainableseaschallenge.co.nz/assets/dms/Hui-te-ana-nui-Understanding-kaitiakitanga-in-our-marine-environment-Summary/1449320SustainableSeas20Rese arch20Round-Up20Tangaroa_Understanding20Kaitiakitanga20Oct1820FINAL.pdf

- Joseph, R., Tahana, A., Kilgour, J., Mika, J., Rakena, M., & Jefferies, T. P. (2016). *Te Pai Tawhiti: Exploring the horizons of Māori economic performance through effective collaboration* (pp. 1-174). Ngā Pae o Te Māramatanga. http://www.waikato.ac.nz/__data/assets/pdf_file/0006/322188/MAIN-FINAL-Te-Pai-Tawhiti-Report-Nov-11-2016.pdf
- Kereama-Royal, Irene Samuels, Maru
 Lee-Morgan, Eruera. (2021). Research
 Proposal: Kia tika te hi ika: Exploring
 fisheries tikanga and mātauranga
 amongst the ICP iwi partners. https://
 www.sustainableseaschallenge.co.nz/
 assets/dms/Proposals/Kia-tika-tehi-ika-Exploring-fisheries-tikangaand-matauranga/2.17-Kia-tika-tehi-ika-Exploring-fisheries-tikangaand-matauranga-Project-proposalWEBVERSION.pdf
- McCormack, F. (2011). Rāhui: A Blunting of Teeth. *The Journal of the Polynesian Society. Polynesian Society,* **120**(1), 43-55.
- Mead, H. M. (2003). *Tikanga Maori: Living by Maori Values.* Huia Publishers.
- Mead, H. M. (2012). Understanding
 Mātauranga Māori. In New Zealand
 Qualifications Authority (Ed.),
 Conversations on Mātauranga Māori. New
 Zealand Qualifications Authority.
- Meredith, P. (2006). *Te hī ika Māori fishing*.

 Te Ara the Encyclopedia of New Zealand.

 http://www.TeAra.govt.nz/en/te-hi-ikamaori-fishing/print
- Mika, J. P., Rout, M., Lythberg, B., Mika,

- J. P., Gillies, A., Bodwitch, H., Hikuroa, D., Awatere, S., Wiremu, F., Rakena, M., & Reid, J. (2019). *Kaitiaki-centred business models: case studies of Māori marine-based enterprises in Aotearoa New Zealand* https://www.sustainableseaschallenge.co.nz/assets/dms/Reports/Kaitiaki-centred-business-models-Case-studies-of-Maori-marine-based-enterprises-in-Aotearoa-NZ/MME20JMika20KATIAKI-CENTRED20BUSINESS20MODELS20LR.pdf
- Mika, J., Rout, M., Reid, J., Bodwitch, H.,
 Gillies, A., Lythberg, B., Hikuroa, D.,
 Mackey, L., Awatere, S., Wiremu, F.,
 Rakena, M., Davies, K., & Robertson, N.
 (2022). Whai Rawa, Whai Mana, Whai
 Oranga Māori Marine economy: Its
 definition, principles and structure.
 https://www.sustainableseaschallenge.
 co.nz/assets/dms/Tools-resources/
 Maori-marine-economy-Its-definitionprinciples-and-structure/Maori-MarineEconomy-Definition-Principles-StructureSummary-Booklet.pdf
- Paul-Burke, Ngarimu-Cameron, Paul, Burke, Cameron, O'Brien, & Bluett. (2022). Ngā tohu o te taiao: Observing signs of the natural world to identify seastar overabundance as a detriment to shellfish survival in Ōhiwa Harbour, Aotearoa/New Zealand. New Zealand Sociology, **37**(1), 186-210.
- Rout, M., Mika, J. P., Reid, J., Whitehead, J., Wiremu, F., Gillies, A., McLellan, G., & Ruha, C. (2023). *Indigenising the blue economy in Aotearoa: A literature review.*

- https://www.sustainableseaschallenge.co.nz/assets/dms/Tools-resources/ Indigenising-the-blue-economy-in-Aotearoa-A-literature-review-/ Rout-M_2023_Indigenising-the-Blue-Economy-Lit-Review_Singles-sml.pdf
- Rout, M., Reid, J., Bodwitch, H., Gillies, A., Lythberg, B., Hikuroa, D., Mackey, L., Awatere, S., Mika, J. P., Wiremu, F., Rakena, M., & Davies, K. (2019). *Māori marine economy: A literature review.* https://www.sustainableseaschallenge.co.nz/tools-and-resources/maori-marine-economy-a-literature-review/
- Royal, T. A. C. (2003). The woven universe Selected writings of Rev. Māori Marsden (Royal, Te Ahukaramū Charles (Ed.)). The Estate of Rev. Māori Marsden.
- Sustainable Seas National Science Challenge. (2023, April 18). *Te Au o Te Moana Conference 2023 | Beth Tupara-Katene & Te Puoho Katene*. YouTube. https://www.youtube.com/watch?v=LOGG7dGT9JM
- Waka Huia. (2014, June 29). Waka Huia profiles Daniel Poihipi and traditional methods of fishing. Youtube. https://www.youtube.com/watch?v=cMWFDUAqtB0
- Williams, J. (2004). E pākihi hakinga a kai An examination of pre-contact resource management practice in Southern Te Wāi Pounamu [Doctor of Philosophy, The University of Otago]. https://ourarchive.otago.ac.nz/bitstream/handle/10523/5198/Williams_E_Pakihi_Hakinga_A_Kai.pdf?sequence=4&isAllowed=y





