

Innovation Fund Research Proposal Template

A. PROJECT TITLE

Participatory processes for marine ecosystem restoration and management: The Maketu Estuary cash

B. PROJECT TEAM

<p>Project Leader:</p> <p><i>Dr Patrick Barrett</i> <i>University of Waikato</i></p> <p><i>Faculty of Arts and Social Sciences</i> <i>Private Bag 3105</i></p> <p><i>Hamilton 3240</i> <i>pbarrett@waikato.ac.nz</i></p>	<p>Investigators:</p> <p><i>Professor Priya Kurian, University of Waikato</i> <i>Dr Naomi Simmonds, University of Waikato</i></p>
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C. ABSTRACT

Summarise what your proposal will achieve, including key **innovations**. Max 200 words.

A path-breaking agreement to re-divert the Kaituna River and restore the Ōngātoto/Maketu Estuary in the Bay of Plenty was reached in 2009 after a lengthy process of consultation and engagement involving iwi/hapū and a wide range of stakeholders. Since then, there have been a number of developments including: the establishment of a co-governance entity, Te Maru o Kaituna, through the Tapuika Claims Settlement Act 2014; the development of a river re-diversion and wetland restoration plan; and initiation of riparian and biodiversity management plans. This initiative provides a unique and unfolding case study of participatory decision-making where diverse stakeholders and iwi/hapū with different worldviews and competing interests have worked together to develop a shared strategy and implementation plan for marine restoration and management.

Despite its unique status as a community-backed marine ecosystem restoration strategy, there has been no social scientific analysis to identify and map the complex participatory engagement processes that have led to this outcome. The proposed research seeks to conduct such an analysis, and will involve an in-depth evaluation of the development of the strategy and implementation plan as an exemplary case of iwi/hapū and stakeholder participation in marine ecosystem governance and management.

D. RELEVANCE TO CHALLENGE OBJECTIVE

Demonstrate alignment with the Objective of the Challenge “Enhance utilisation of our marine resources within environmental and biological constraints”. Use bullet points. Max 100 words.

This research will:

- Build socio-ecological knowledge through innovative social science research into effective participatory processes in the governance and management of marine ecosystems;
- Work with Māori and other stakeholders to identify principles and practices that enable the achievement of collaborative marine restoration initiatives;

- Provide an in-depth understanding of the processes by which diverse and competing interests can come together for marine environment restoration and management;
- Contribute to a national database on participatory processes and build capacity for collaborative management and utilisation of marine ecosystems; and
- Facilitate the development of the blue economy in a way that is socially, culturally and environmentally sustainable.

E. INTRODUCTION

Insert background, rationale and key details of your proposed research, including gaps in the Challenge that your research will address. Include why your work is important to the **Challenge Objective**. Max 500 words.

Aotearoa New Zealand is facing new challenges in the management of multi-use marine ecosystems, particularly in relation to restoration initiatives and sustainable economic ventures.¹ A critical issue is the need to develop effective participatory management and co-governance processes. We know little, however, about how to negotiate the complexities of designing sustainable co-governance and collaborative management arrangements for the marine economy, particularly in contexts where iwi/hapū have statutorily defined roles. In response to this knowledge gap, this research will draw on social science and Kaupapa Māori methods to evaluate an exemplary case of effective engagement that has brought together diverse stakeholders and iwi/hapū with different worldviews and competing interests in a collaborative strategy for marine restoration and management. The Kaituna River and Ōngātoto/Maketu Estuary Strategy² provides a unique and evolving example of collaboration in estuarine restoration and management, with lessons for similar initiatives throughout New Zealand. While it is not within the Sustainable Seas Challenge focal zone, it is an excellent case that speaks directly to the objectives of the Challenge, it is a relatively discrete case, and it lends itself to a two-year study.

The Maketu restoration strategy and subsequent implementation plans (see Section G) have been developed with a commitment to include iwi/hapū in decision processes, and to recognise Māori cultural knowledge, values and aspirations. Negotiations involved local iwi and hapū, landowners,

other stakeholders, territorial local authorities and scientists. Despite the often competing economic, social and cultural interests, a common vision and implementation plan has been achieved: “Celebrate and honour Kaituna River and Ōngātoto/Maketu Estuary life as taonga: Whakanuia, whakamawawatia te mauri o te Kaituna me Ōngātoto hei taonga”.³

The proposed research focuses on six central questions: (1) How have iwi/hapū and stakeholders come together in the development of the re-diversion and restoration strategy; (2) What worldviews, interests, and perspectives underpin the positions of stakeholders and iwi/hapū; (3) How do different types of knowledges, including mātauranga Māori, about the estuary, marine ecosystem, and economy come together in the strategy; (4) What types of challenges have emerged in this process and how have they been addressed; (5) How was the process of creating the strategy achieved within existing institutional and legislative frameworks; and (6) How can lessons from this case inform innovations in public engagement and co-governance for other marine restoration and management initiatives.

This mission-led social science research will contribute directly towards the *Our Seas* goal by identifying mechanisms through which stakeholder, Māori, and civil society interests have been included in marine ecosystem restoration and management. It will demonstrate how to respond effectively to calls by Māori and wider society for a greater say in coastal and marine systems management.⁴ The research also has direct linkages to *Tangaroa* and *Vision Mātauranga* by considering the unique role, values and mātauranga of tangata whenua as Treaty Partners and kaitiaki in marine ecosystem management (see Section I). The opportunity to draw lessons from an effective participatory process makes the Maketu case a critical piece of research, the findings of which will have national significance and support the Challenge Objective.

F. AIMS

Explain in a set of bullet points what your project will achieve. Max 200 words.

1. Record and analyse the history of the Ōngātoto/Maketu Estuary restoration initiative, including the accounts of the experiences of participants in developing the co-governance and management strategies.
2. Identify how different interests, worldviews and cultural perspectives came together in the participatory management arrangements for the Maketu Estuary initiative.

3. Understand the distinctive roles of tangata whenua as Treaty Partners and kaitiaki, and how Māori values and knowledge are included in multi-stakeholder participatory processes.
4. Understand the role played by key individuals in managing participation with a range of stakeholders and iwi/hapū and the approaches they employ to ensure that diverse perspectives and competing interests, goals and priorities are incorporated into co-governance and management arrangements.
5. Understand how these outcomes were achieved using existing legislation and governmental processes, including judicial processes and provisions for regional and local government.
6. Identify transferable principles and practices and build capacity for successful collaborative processes in other marine resource management contexts.

G. PROPOSED RESEARCH

Details of work plan and methodology, including choice of study location. Max 1800 words.

In the 1950s, the Kaituna River was diverted away from the Maketu Estuary to provide flood protection and land drainage, leading to the degradation of the estuary and destruction of traditional Māori harvest areas for kai awa and kai moana. The Kaituna River and Ōngātoto/Maketu Estuary Strategy was developed to restore the estuarine ecosystem, control flooding on low-lying farmland, and establish a significant wetland area.

The focus of this research is on the Maketu Estuary component of the wider river and marine system. The estuary initiative is well-advanced in terms of the development of a restoration strategy, co-governance arrangements and implementation plans, and thus provides an unprecedented opportunity to gain new insights into how to establish and maintain the participation of stakeholders and iwi/hapū in a marine environment. Drawing on a comprehensive review of scholarship on participatory decision-making in natural resource management, the case study involves a review and analysis of reports and official documentation used in developing the strategy, including iwi cultural impact assessments and in-depth interviews and focus groups (or wānanga) with key participants from each stakeholder group and iwi/hapū. We will investigate in detail the individual, group and organisational processes through which the initial river re-diversion and restoration strategy was created in 2009, and the subsequent evolution of that strategy in the post-agreement period. We will use qualitative and Kaupapa Māori methods to obtain detailed accounts by participants that capture their experiences of and conclusions about the engagement processes that led to the strategy and the subsequent implementation plan. These accounts will document stakeholders' experiences, mapping multiple individual and collective perspectives as the basis for developing a set of principles for engagement and collaborative management.

We will draw on a combined Kaupapa Māori and participatory action research approach to involve stakeholders and iwi/hapū in the research process, from the initial steps of devising and refining research questions to the analysis and dissemination of findings.⁵ In alignment with the principles and ethics of Kaupapa Māori research, in particular whakawhanaungatanga (the process of establishing meaningful relationships) and 'kaua e takahi te mana o te tangata' (don't trample the people's mana),⁶ we will develop mutually respectful research relationships as we gather and analyse the individual and collective views, expectations and actual experiences of participating in the development of the re-diversion and restoration strategy.

The core research team comprises Dr Patrick Barrett, who brings expertise in critical public policy, policy-making processes, social policy and policy governance;⁷ Professor Priya Kurian, whose areas of expertise include environmental and social sustainability, public engagement in policy decision-making, deliberative democracy and science and technology studies;⁸ and Dr Naomi Simmonds (Raukawa, Ngāti Huri), who brings extensive Kaupapa Māori knowledge and expertise in Māori resource management, and a strong Kaupapa Māori research ethic to the team.⁹ She is also heavily involved in freshwater co-management and participatory processes and has worked with a number of iwi within the Waikato River Catchment.

We have also liaised with Te Maru o Kaituna,¹⁰ a co-governance partnership between iwi and local authorities with a focus on the Kaituna River, and are including a funded position for a representative/researcher from a Maketu-based iwi/hapū in the research team. This approach also aligns with the Vision Mātauranga policy by recognising and providing for the unique contribution that tangata whenua provide to the research. As such, we have included time and resources to co-produce a research engagement strategy with tangata whenua to ensure that their participation in the research is of benefit to them and complements other processes and projects they are involved in.

Respect for the experience of local participants informs an inclusive approach to research design, and will also contribute to the process of knowledge exchange and social learning among participants within the Maketu initiative,

serving as an integrative dynamic in a context where there are multiple perspectives. While the Maketu Estuary restoration case has much to offer in terms of generating transferable principles for effective participation and co-governance of marine resources, the Kaupapa Maori methodological approach we will adopt seeks to ensure that the participants benefit directly from research findings. As a consequence, the methodology will follow an 'adaptive-participative project design', involving an iterative process of research, analysis and reflection that involves key research participants.¹¹ This process will include consultation on the methodology, specification of the variables under consideration, the selection of participants, the procedures for data collection and data analysis.

To fully analyse the process of engagement and collaborative decision-making, we will assemble a wide variety of existing and previously undocumented information from primary and secondary documents, interviews with individuals and groups, and observations of key events in the implementation of the restoration strategy throughout the duration of the research period. As an essential foundation for this research, we will begin by reviewing a select scholarship on participatory decision-making in natural resource management, with a particular focus on literature relating to engaging with indigenous communities and to developing co-governance and management arrangements,¹² thereby ensuring that the research is informed by current research findings.

The research has been divided into five phases:

1. Liaison with other Sustainable Seas NSC research teams examining participatory processes in marine management:

We will seek to establish strong links with other *Our Seas* project teams examining participatory processes in order to ensure that the study of the Maketu Estuary restoration initiative complements related research projects. We will also seek to build important linkages with the *Tangaroa* and *Vision Mātauranga* projects to share learnings from this research and identify potential opportunities for contributions and capacity building for tangata whenua across projects. The development of these professional networks will be promoted through a half-day workshop early in the project and will facilitate alignment of goals and focus (see Section D).

2. Comprehensive review and analysis of primary and secondary documents: We will collect and analyse the official documents associated with the development and the planned implementation of the Maketu Estuary strategy. These documents will include publicly available reports and records of consultation meetings, as well as formal and informal documents prepared to support the implementation of the strategy held by the Bay of Plenty Regional Council. Analysis of these documents will inform a timeline of the initiative, which will be used to guide individual interviews and focus-group discussions that examine the experiences of participation at key moments.

Documented records of meetings and workshops will be examined for insights into the multiple perspectives of various participants, the variety of issues raised, and evidence of possible resolutions of contentious issues.

3. Participant mapping: We will prepare a comprehensive list of participants in the Maketu Estuary strategy, comprising local iwi and hapū, landowners, other stakeholders, territorial local authorities and scientists. This will involve, in the first instance, identifying the relevant groups and individuals involved in the Maketu initiative, analysing their perspectives and interests, mapping their relationships with other participants, and identifying their capacity to participate and contribute towards the planning process. This participant mapping exercise will enable an assessment of the reach of the participatory processes and inform the selection of participants for interviews and focus-group discussions.

4. Iwi/hapū research engagement strategy: This research recognises that there are multiple iwi/hapū perspectives within the Maketu case study area and therefore an engagement strategy will be developed with iwi/hapū to define how tangata whenua want to be involved and the principles of research engagement and any specific research protocols. This stage of the research will also identify opportunities for the research project to complement other work programmes and initiatives that iwi/hapū are involved in so as not to 'overburden' tangata whenua. It will also help to articulate opportunities for shared outcomes/outputs between the research team and iwi/hapū. In this engagement strategy, in collaboration with the *Vision Mātauranga* team, we will also discuss with iwi/hapū the management of any mātauranga Māori that is shared as part of the research.

5. Individual and group interviews with key stakeholders and iwi/hapū: Semi-structured, in-depth interviews will be conducted with key individuals involved in the development of the Maketu Estuary initiative and representatives of each of the stakeholder and iwi/hapū groups identified in the participant mapping exercise. We will ensure that Māori research protocols in accordance with Kaupapa Māori research approaches are followed in interactions with Māori decision-makers and members of iwi/hapū. The aim of these interviews is to record the reflections and experiences of participants not available in the official and other primary documents.

Analysis: A critical discourse analytical method¹³ will be used to analyse these datasets and to identify the social practices and inter-group dynamics that have shaped the development of the Maketu Estuary initiative. Discourse analysis enables the examination of diverse meanings, interests and values that translate into distinct institutional and cultural practices, processes and outcomes with differing material consequences for different groups in society. Following Hajer, we see discourse as ‘a specific ensemble of ideas, concepts, and categorizations that are produced, reproduced, and transformed in a particular set of practices and through which meaning is given to physical and social realities’.¹⁴ The discourse analysis will enable us to understand the core values and worldviews of the different participant groups that underpin the documents and interviews, and the way that the specific set of ideas that inform the estuary restoration initiative have come to be accepted by the participants involved, or in the language of Hajer, how ‘a particular discourse gets its social power’.¹⁵

The analysis will explore how the Maketu Estuary strategy is situated at the intersection of science, society and culture. It will identify how it brings together marine science, indigenous knowledge and societal perspectives, and in doing so will provide a basis for developing generalizable and transferable principles with potential to inform the management of marine ecosystems elsewhere in the country. The research as a whole will facilitate a process through which we identify elements of effective public participation in the governance of marine environments.

The proposed study thus addresses the social and cultural dimensions of the Sustainable Seas Challenge. It will advance understanding of the requirements for sustainable social relationships that are pivotal to the sound management of coastal marine systems, thereby making a critical contribution to the creation of a socially, culturally and environmentally sustainable blue economy.

Dissemination: We will disseminate the findings and insights from the research via two peer-reviewed journal articles, an unpublished Masters thesis, and presentations at national and international conferences. In addition, a central aspect of the dissemination of findings will be conducting a series of hui and workshops with iwi/hapū and stakeholders who have participated in the research. There will also be presentations to other research teams in the Sustainable Seas Challenge and to national stakeholders as opportunities arise.

H. RESEARCH ROLES

Researcher	Organisation	Contribution
Dr Patrick Barrett	University of Waikato	As Chair of the School of Social Sciences at the University of Waikato, Dr Barrett has extensive experience in leading teams of researchers in a variety of academic areas. His research in public policy focuses on analysing democratic participation in policy processes and aligns closely with the goals of this proposal. He will participate in all aspects of the research and provide oversight in ensuring that all of the proposed milestones and outputs are achieved.
Professor Priya Kurian	University of Waikato	Prof Kurian has extensive experience in leading social science and interdisciplinary research in the areas of environmental policy, sustainability studies, public engagement in decision-making, and deliberative democracy. She has expertise in qualitative research and critical discourse analysis, which are central to the methodological approach of this proposal. She will contribute to all aspects of the project, spanning data collection, data analysis and dissemination of the research, and will provide overall guidance to ensure timely completion of the research.

Dr Naomi Simmonds	University of Waikato	Dr Simmonds has valuable experience in both Kaupapa Māori research approaches and Māori resource management processes. She has worked extensively with iwi and hapū within freshwater management in the Waikato and Waihou catchments and brings a great deal of experience in terms of iwi/hapū perspectives on participatory processes, co-governance and co-management. Dr Simmonds will work as part of the overall project team and will play a central role in facilitating and guiding iwi/hapū participation. Dr Simmonds is also a researcher in the P1.1.1. 'Testing EBM- supportive participatory processes for application in multi-use environments' and thus will provide a key role in liaison with this project and the Our Seas, Tangaroa and Vision Mātauranga teams. She will also provide mentoring for the iwi/hapū researcher.
Maketu-based iwi/hapū researcher	Dean Flavell, Te Maru o Kaituna (interim liaison)	The project team includes an iwi/hapū-based researcher/representative. Dean Flavell, Chairperson of Te Maru o Kaituna, has agreed to be the liaison for this role until another iwi/hapū member has been identified. This person will play a key role in ensuring that iwi/hapū participation is adequately provided for and represented, and will provide a crucial role in facilitating engagement with tangata whenua as appropriate.

I. LINKAGES AND DEPENDENCIES

Explain how your research complements, but does not overlap with research already funded within the Challenge. Please note particular projects that your research complements, and any inter-project linkages. Max 500 words.

Although Maketu Estuary is outside the focal zone of the Challenge, this project will contribute significantly to *Programme 1: Our Seas* Themes 1 (*Participatory processes*) and 2 (*Frameworks for testing social licence*). It will identify the principles and mechanisms for inclusive decision-making that address community and industry concerns, identify commonalities, and promote trust between industry, Māori, science, and society as evident in this successful, well-established example of engagement and collaborative decision-making. We will examine how scientific knowledge has been linked with indigenous knowledge, human concerns, values and interests, and how trust has been built between stakeholders with diverse interests and standpoints. These insights will advance understanding of how to develop links between the public, iwi/hapū and the scientific community, and build the capacity of the public to engage with and respond to scientific information.

This research will contribute to the *Our Seas* programme deliverables by contributing to the database on national participatory processes, ‘highlighting key attributes that are associated with success in enhancing marine management and decision making’.¹⁶ Detailing this case will complement each of the current *Our Seas* projects within Themes 1 and 2, in particular Projects

1.1.1 (*Review existing Māori and stakeholder engagement in marine science and marine governance participatory processes*), 1.1.2 (*Determine suite of participatory processes for application in multi-use environments*), and 1.2.1 (*Frameworks for testing social licence*), by recognising the distinctive roles, values and contributions of tangata whenua, identifying the elements that contributed to successful collaboration, and articulating principles that are transferable to other contexts. We will contribute to insights about the information requirements for the development of social licence, including how different participants used science in decision-making and how science informed the collective decision-making process. Analysing the history of the Maketu case will also illustrate how a participatory process was facilitated within the constraints of the existing legislative and institutional context, complementing *Cross Programme 1.1 (EBM within New Zealand’s existing legislative framework)*.

The explicit focus of this research on the distinctiveness of tangata whenua voices in multi-stakeholder participatory processes also links to *Programme 3: Tangaroa*, in particular Themes 1 (‘Kaitiakitanga in our marine environment’) and 3 (‘Bridging the lore and law dynamic’), and to *Vision Mātauranga*. The research will seek iwi and hapū perspectives, using the Maketu example, on current participatory processes within the associated legislative and policy frameworks and whether or not, from their perspective, they provide for kaitiakitanga, tikanga, lore and mātauranga Māori, with a view to highlighting the potential for improvements and increased participation and collaboration. The research will also complement these programmes and themes by considering the ways that Māori values and perspectives on marine environments are shared by other stakeholders and explicitly consider how this is addressed in the marine ecosystem management and policy context. This analysis will be particularly useful to *Vision Mātauranga* by providing a localised case study for the international comparative study of indigenous approaches to resource management policy frameworks.

J. RISK AND MITIGATION

Highlight risks to the success of your proposal and demonstrate mitigation measures. Max 300 words.

Given that a key goal of the project is to hear from all of the key stakeholders and iwi/hapū involved in the development of the Maketu Estuary restoration initiative, the principal risk is failure to secure the participation of all parties in the research. We have mitigated this risk by adopting a combined Kaupapa Māori and participatory action research approach that involves developing mutually respectful relationships with stakeholders and iwi/hapū and a commitment to ensure participants benefit from the research process and outcomes. A key element towards mitigating non-participation has been the preliminary meetings we have held with key representatives from local government, the science community and, importantly, iwi and hapū. We have made provision in the budget to include a tangata whenua researcher as a member of the research team, and through the co-production of an iwi/hapū research engagement strategy, we are committed to ensuring that iwi/hapū participation is culturally responsive and beneficial. The members of the research team have a strong track-record of carrying out research on contentious social and political issues.

The linkages with researchers across *Our Seas*, *Tangaroa* and *Vision Mātauranga* will also be important in mitigating the risk of non-participation by identifying opportunities for capacity building, reciprocation and benefits across the Sustainable Seas Challenge for participants and marine communities. We are committed to ensuring that the research design, implementation and

dissemination of results is meaningful and undertaken in a way that benefits local participants whilst sharing insights and learnings with other marine communities around Aotearoa New Zealand.

K. ALIGNED FUNDING AND CO-FUNDING

Demonstrate your co-funding and in-kind support. Max 300 words.

University of Waikato marine ecologist and oceanographer Professor Conrad Pilditch will provide an in-kind contribution to the project as a science advisor. His input will provide guidance on the contribution of marine science to the development of the Maketu initiative and complement the social science component of the research. In addition, the project is aligned with the Coastal Science and Lakes Chairs funded by the Bay of Plenty Regional Council, which represent the University of Waikato's commitment to the strategic management of marine ecosystems. In this capacity, Professor Chris Battershill will also perform an advisory role to this project, and provide access to wider networks including coastal and marine research initiatives in the area.

Funding of \$10,000 towards the project has been secured from the University of Waikato's Faculty of Arts and Social Sciences for research assistance. We also have access to University of Waikato funds for travel to provide presentations to iwi/hapū and stakeholder groups within New Zealand, and to attend national and international conferences to disseminate findings to wider audiences.

L. VISION MĀTAURANGA (VM)

Describe whether and how your proposal is relevant to the marine management interests of Māori, and/or how it incorporates mātauranga Māori. Also outline how you plan to involve Māori in your proposal. Max 300 words.

This research project is informed by a Kaupapa Māori approach to research and engagement with Māori communities¹⁷. As such, the research design is explicit in its consideration of the distinctive role of tangata whenua as Treaty partners and kaitiaki within the Maketu case study area. We have included a position within the research team for an iwi/hapū researcher/representative in addition to the role of Māori researcher Dr Simmonds. The research team has also initiated discussions and gained support from Te Maru o Kaituna for this proposal and is committed to working collaboratively with iwi/hapū to ensure that their participation in the project is meaningful, appropriate and mutually beneficial.

This research will contribute to Vision Mātauranga and, in particular, to the theme of Taiao, achieving sustainability through iwi/hapū relationships with land and sea, by considering the distinctive values, perspectives and contribution that tangata whenua bring to marine ecosystem participatory processes as kaitiaki and Treaty partners and not just 'another stakeholder voice'. The Maketu case study provides an exemplar to unpack the unique processes and perspectives of iwi and hapū in their approaches to sustainably managing marine environments and to the participatory engagement process. In particular, the case study will contribute to understanding of:

- The diversity of tangata whenua perspectives and values in relation to the marine environment;
- The effectiveness of participatory processes for tangata whenua in the case study area;
- The role of cultural values and mātauranga Māori in shaping decisions in relation to the Maketu Estuary strategies and plans, including iwi perspectives on the concept of social licence;
- The shared and divergent values between tangata whenua and stakeholders and how those are managed in and incorporated into marine resource management policy frameworks;
- Legislative, policy and other mechanisms for improved participation of iwi/hapū as Treaty partners and tangata whenua; and
- Improving outcomes for marine environments and kaitiaki roles in the management of those ecosystems.

M. CONSENTS AND APPROVAL

Does your proposal require any marine consents or ethics approvals? If so, do you have them in place? If not, outline the processes required and demonstrate they can be achieved within the time frames and budgets requested. Max 300 words.

The project will require ethical approval before interviews and focus groups/hui with key participants can begin. We will apply for approval from the University of Waikato's Human Research Ethics Committee as soon as the project commences. The timeframe from application to approval is typically 4-6 weeks. The research team has experience in obtaining ethical approval and will ensure that all ethical issues are considered and accommodated in the application to avoid delays in receiving approval. No marine consents are required for this research.

N. DATA MANAGEMENT

Describe your data management plan. Max 300 words.

Data will be managed in accordance with the principles specified in the Sustainable Seas Research Plan.¹⁸ Subject to ethical, privacy and cultural reasons, particularly in relation to ownership of cultural knowledge, data will be made available in line with the goal of providing open access to publicly funded research. Where culturally specific knowledge and material is provided, the research team will negotiate use and access of this information with the iwi/hapū in order to ensure it is respected and protected. We will also work closely with the project leader of VM4.1 'Repository of knowledge: Mātauranga Māori' to ensure that iwi and hapū knowledge and data are appropriately handled and safeguarded and that there is a consistent approach with how this is implemented within the Challenge.

O. REFERENCES

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17. Sustainable Seas, Ko ngā moana whakauka, National Science Challenge Research and Business Plan (Page 103) at Reference 4.