Appendix E Cultural impact assessment

Curriculum Vitae

PART 1

1a. Personal details				
Full name	*Title* Dr	*First name* Gail	*Second name(s)* Tewaru	*Family name* Tipa
Present position	Manager			
Organisation/Employer	Tipa and Associates Ltd			
	62A Riccarton Road			
	East Taieri			
	Otago		**Post code**	9024
Work telephone	[redacted]		**Mobile**	[redacted]
Email	[redacted]			

1b. Academic qualifications

2003 Doctor of Philosophy (University of Otago)
1988 Master Regional and Resource Planning (University of Otago)
1982 B.A. (University of Otago)
1982 Dip Teaching (Dunedin Teachers College)
2013 Harvard Business School Executive Programme - International Women's Leadership Forum.

1c. Professional positions held

1996 to present – Manager Tipa and Associates Ltd
1993 -1996 Manager Strategy & Planning Southern Regional Health Authority
1989 -1993 South Island Planner Electricity Corporation of New Zealand
1982-1986 – Teacher

1d. Present research/professional speciality

1. Undertaking research that investigates linkages between environmental condition and the health and wellbeing of Maori.
2. Exploring the interface of Matauranga Maori and western science in environmental management processes, especially freshwater management.
3. Enhancing the effectiveness of Iwi participation in planning and management
4. Improving resource management decision-making by enabling more effective participation of whanau, hapu and iwi.

All my projects have reflected a commitment to either

- develop new resource management tools and processes for Maori and communities to use to increase the effectiveness of their participation in resource management (via tools such as Cultural Health Index, Cultural Flow Preference Studies, fuzzy cognitive models); or
- developing capacity within Maori communities to take advantage of existing tools / mechanisms (CIAs, iwi plans, SOE reports etc)
- developing processes that assess risk and vulnerability of wahi taonga to resource management.

1e. Total years research experience	26 years

1f. Professional distinctions and memberships (including honours, prizes, scholarships, boards or governance roles, etc)

Present

- Director, Ngai Tahu Farming Ltd,
  - Chair of the Board's sustainability sub-committee
- Director, Kura Taka Pini
  - Technical / science lead
- Chair, Whiria to Waitaki Project Steering Group, overseeing implementation of Whiria te Waitaki
- Director, Tipa and Associates Ltd – since 2002 (sole trader 1996 – 2002).
- Member New Zealand Institute of Directors

- Member of Te Runanga o Moeraki. I have contributed to a team of resource management practitioners representing Te Runanga o Moeraki since 1992.
- Member of Waitaki Governance Group: A forum working with Meridian Energy Ltd:
    - Chair Native Fish Komiti (Waitaki)

Past

- Director Aukaha Ltd
- Trustee Kai Tahu Ki Otago Ltd
- Trainee Director Ngai Tahu Property Ltd (2013 – 2014).
- Past Trustee and Representative – Te Runanga o Ngai Tahu (representing Te Runanga o Moeraki) – served two terms: 5 years (1998-2003) and then 3 years (2009-2013);
- Past Director of Timberlands West Coast - served two terms (six years);
- Past Director - Otago District Health Board – served four years.
- Past Trustee - Community Trust of Otago – served six years;
- Past Director - Ngai Tahu Development Corporation – served three years;
- Past Member – Lottery Environment and Heritage
- Past Member – Ngai Tahu Research Committee (University of Otago)
- Past Member – Te Runanga o Ngai Tahu Mahinga Kai Tikanga Komiti

1g. Total number of *peer reviewed* publications and patents	Journal articles	Books, book chapters, books edited	Conference proceedings	Patents
	22	11	> 50 since 2010	0

PART 2

2a. Research publications and dissemination
Peer-reviewed journal articles
Moewaka Barnes, H. Harmsworth, G. Tipa, G. Henwood, W. McCreanor, T. (2020) entitled "Indigenous-led environmental research in Aotearoa-New Zealand: towards a transdisciplinary model for best practice, empowerment and action" Alter Native.
Sinner, J. Newton, M. Barclay, J. Baines, J. Farrelly, T. Edwards, P. Tipa, G. May (2020) Measuring social licence: What and who determines public acceptability of aquaculture in New Zealand? Aquaculture 521:734973 DOI: 10.1016/j.aquaculture.2020.734973
Shannan K. Crow, Gail T. Tipa, Kyle D. Nelson, Amy Whitehead (2020) Relationships between Maori values and catchment landuses: considerations when incorporating cultural values into land management decision tools. New Zealand Journal of Marine and Freshwater Research, 52:626-642.
Anderson EP, Jackson S, Tharme RE, Douglas M, Flotemersch JE, Zwarteveen M, Lokgariwar C, Montoya M, Wali A, Tipa GT, Jardine TD, Olden JD, Cheng L, Conallin J, Cosens B, Dickens C, Garrick D, Groenfeldt D, Kabogo J, Roux DJ, Ruhi A, Arthington AH. Understanding rivers and their social relations: a critical step to advance environmental water management, *WIREs Water*. 2019;6(6). doi: 10.1002/wat2.1381
Shannan K. Crow, Gail T. Tipa, Doug J. Booker & Kyle D. Nelson (2018) Relationships between Maori values and streamflow: tools for incorporating cultural values into freshwater management decisions, New Zealand Journal of Marine and Freshwater Research, DOI: 10.1080/00288330.2018.1499538
Thompson-Fawcett, M. Ruru, J. Tipa, G. (2017): Indigenous Resource Management Plans: Transporting Non-Indigenous People into the Indigenous World, *Planning Practice & Research*, DOI: 10.1080/02697459.2017.1308641
Tipa, G. Nelson, K. (2017) *Eco-Cultural Restoration Across Multiple Spatial Scales – A New Zealand Case Study* Journal of Water History Special Edition.
Tipa, Gail; Nelson, Kyle; Home, Mandy and Tipa, Myra. Policy responses to the identification by Maori of flows necessary to maintain their cultural values [online]. In: 37th Hydrology & Water Resources Symposium 2016: Water, Infrastructure and the Environment. Barton, ACT: Engineers Australia, 2016: 552-561. Availability:<https://search.informit.com.au/documentSummary;dn=690182332600583;resIELE

NG ISBN: 9781922107954. [cited 26 Oct 18].

Tipa, G. Williams (2016) The power of integration – using environmental report cards to monitor and evaluate implementation of iwi plan including restoration plans *Journal of Marine and Freshwater Research,* Special Edition

Mae Noble, Phil Duncan, Darren Perry, Kerry Prosper, Denis Rose, Stephan Schnierer, Gail Tipa, Erica Williams, Rene Woods and Jamie Pittock (2017) *Culturally significant fisheries: keystones for management of freshwater social-ecological systems* Accepted Ecology and Society

Tipa, G. Nelson K (2013) "*Bringing the past into our future - using historic data to inform contemporary freshwater management"* New Zealand Journal of Social Sciences

Tipa, G. Nelson, K. (Nov 2012) Identifying Cultural Flow Preferences: The Kakaunui River Case Study where Manawhenua identified their flow preferences Journal of Water Resources Planning and Management Vol. 138, No. 6, pp. 660-670

Stewart M, Phillips R, Olsen G, Hickey C, Tipa G (2011) *Organochlorines and heavy metals in wild caught food as a potential human health risk to the indigenous Māori population of South Canterbury*, New Zealand Science of the Total Environment

Tipa, G. (2009). "Exploring Indigenous Understandings of River Dynamics and River Flows: A Case from New Zealand" *Environmental Communication: A Journal of Nature and Culture Volume 3*, Issue 1 March 2009, pages 95 - 120

Tipa, G.; Panelli, P. (2009). "Beyond Someone Else's Agenda: an Example of Indigenous / Academic Research Collaboration" *New Zealand Geographer, Volume 65*, Number 2, August 2009 , pp. 95-106(12)

Panelli, P.; Tipa, G. (2009). "Beyond Foodscapes: considering Indigenous Wellbeing*" Health Place.* 2009 Jun;15(2):455-65. Epub 2008 Sep. 16.

Tipa, G. (2008). "Introducing Cultural Opportunities: A Framework for Incorporating Cultural Perspectives in Contemporary Resource Management" *Journal of Environmental Policy & Planning Volume 10*, Issue 4, December 2008, 313 – 337

Tipa, G.; Panelli, P. (2009). "Beyond Someone Else's Agenda: an Example of Indigenous / Academic Research Collaboration" New Zealand Geographer, Volume 65, Number 2, August 2009 , pp. 95-106(12)

Tipa G.; Welch R. (2006). "Co-management of Natural Resources: Issues of Definition from an Indigenous Community Perspective" Journal of Applied Behavioural Science Volume 42, Number 3.

Panelli, R.; Tipa, G. (2007). "Placing well-being: recognizing culture-environment specificity" Ecohealth Volume 4, Number 4, pages 445-460

Panelli, R.; Allen, D.; Ellison, B.; Kelly, A.; John, A.; Tipa, G. (2008) "Beyond Bluff Oysters? Place Identity and ethnicity in a peripheral coastal setting" Journal of Rural Studies 24: 1, pages 41-55. Journal of Rural Studies, 2008; 24 (1)

Sinner, J.; Baines, J.; Salmon, G.; Crengle, H.; Fenemor, A.; Tipa, G. Key Concepts in Sustainable Development: Part 1 Economics and Ecology Public Sector Vol. 28 (3) 2005.

Townsend, C. Tipa, G. Teirney, D. Niyogi, D "Development of a tool to facilitate participation of Maori in the management of stream and river health" Ecohealth, Volume 1, Number 2, June 2004

Peer reviewed books, book chapters, books edited (last 5 years)

Tipa, G. (2020) *Cultural Preferences for Flows in the Manuherekia Catchment* A report prepared for Kai Tahu Ki Otago and Aukaha ltd.

Tipa, G. (2020) *Whiria te Waitaki* An unpublished restoration proposal prepared for Te Runanga o Moeraki to submit to LINZ to restore riparian wetlands in the Lower Waitaki.

Tipa and Associates Ltd, Te Runanga o Ngai Tahu, Te Runanga o Awarua (30 June 2019) *Waituna Mahika Kai Pa Plan* A plan produced for Te Runanga o Awarua.

Tipa, G. Molesworth, H, (2018) *Cultural flow preference assessment to Inform an agreed flow regime on the Wahianoa River*. A report prepared for Genesis Energy Ltd and Ngati Rangi Trust.

Williams, E. Tipa, G. Hawaikirangi. T.K. Ratana, K. Rickard, D. (March 2018) *Hapū Priorities for the Restoration of the Lake Tūtira Catchment* Prepared for Maungaharuru-Tangitū Trust

Tipa, G, Harmsworth, G. Williams, E. Kitson, K (2016) Integrating mātauranga Māori into freshwater management, planning and decision making. New Zealand Freshwater Sciences Hydrology Publication

Williams, E. K., E. M. Watene-Rawiri and G. T. Tipa. 2018. Empowering indigenous community

engagement and approaches in lake restoration: an Aotearoa-New Zealand perspective Pages 599 in D. P. Hamilton, K. J. Collier, J. M. Quinn and C. Howard-Williams, editors. Lake Restoration Handbook. Springer, New York, USA.

Other forms of dissemination last 5 years (reports for clients, technical reports, popular press, etc)

Te Runanga o Arowhenua, Tipa, G. *Kati Huirapa Iwi Management Plan* A Resource Management Plan prepared for Te Runanga o Arowhenua (in print)

Tipa, G (2019) *Reshaping Ngai Tahu engagement in the Waitaki Catchment* A report prepared for Te Runanga o Moeraki, Te Runanga o Waihao and Te Runanga o Arowhenua to submit to their partners in the Waitaki Alignment Project.

Tipa, G. (2020) *Tu Te Rakiwhanoa Heritage: Delivering eco-cultural outcomes to Manawhenua* A report prepared for Te Runanga o Moeraki, Te Runanga o Waihao and Te Runanga o Arowhenua to submit to their partners in the Department of Conservation

Tipa, G. (2017) *Examining socio ecological frameworks and their potential to aid management of cultural keystone species.* A report prepared to introduce Tangata Whenua to socio-ecological models

Tipa, G. Nelson, K (2018) *The transfer of waters within a catchment & between catchments: A decision framework to assist in assessing the cultural impact of water transfers* A report prepared under the Sustainable Water Allocation Programme.

Tipa, G. Nelson, K (2018) *Using matrices to assist with the identification of impacts of water management decisions on wāhi tapu/taonga* A report prepared under the Sustainable Water Allocation Programme.

Tipa, G. Nelson, K (2018) *The Cultural Flow Preferences for the Cardrona Catchment* – A report on cultural flow preferences for the Cardrona River (for Aukaha Ltd and Kai Tahu Ki Otago)

Williams, E. Crow, S. Murchie, A. Tipa, G. Egan, E. Kitson, J. Clearwater, S. Fenwick, M (2017) *Understanding Taonga Freshwater Fish Populations in Aotearoa-New Zealand,* NIWA Client Report No: 2017326HN, prepared for Wai Maori Trust.

J. Moores, G. Tipa, S. Yalden, A. Semadeni-Davies & J. Gadd, *Assessing indicators of cultural well-being in an urban stormwater decision support system* A paper presented to Water New Zealand's 2017 Stormwater Conference

Tipa, G. Nelson, K. Williams, E, M Home (2017) *The Cultural Health of the Opihi Catchment* – A report prepared for Environment Canterbury, funded by MBIE's Nga Kete of te Wananga Research programme.

Tipa, G. Nelson, K. M Home (2017) *The Cultural Health of the Waimakariri Catchment* – A report prepared for Environment Canterbury

Tipa, G. Nelson, K. M Home (2017) *The Cultural Health of the Waimakariri Catchment* – A second presentation to the Waimakariri Zone Committee setting out whanau recommendations (for Te Ngai Tuahuriri Runanga and Environment Canterbury)

Tipa, G. Nelson, K. M Home (2017) *The Cultural Health of the Waimakariri Catchment* – A presentation to the Waimakariri Zone Committee (for Te Ngai Tuahuriri Runanga and Environment Canterbury)

Harris, S. Snelder, T. Tipa, G. (2016)Towards Māori futures-focused scenario assessment for freshwater management What is a Historic Scenario? A report prepared within MBIE's Nga Kete of te Wananga Research programme

Tipa, G. Nelson, K, Home. M, Tipa, M (2016) *Guidelines for Undertaking a Cultural Flow Preference Study* A report prepared as part of the Sustainable Water Allocation Programme.

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Tipa G, Nelson, K. Home, M, Tipa, M. (2016) R*elationships between Maori freshwater values and flow: developing tools for incorporating cultural values into flow management decisions.* Presentation to the 2016 New Zealand Planning Institute Conference, Dunedin

Snelder, T. Harris, S. Tipa, G (2015) *Towards Māori futures-focused scenario assessment for freshwater management What's required?* Report by Land Water People, A report Prepared under the Nga Kete of Te Wananga Research Programme.

Tipa, G. Nelson, K. (2015) Cultural Flow *Recommendations for the Rakahuri (Ashley River)* – A report prepared for Environment Canterbury

Tipa, G. Nelson, K. Williams, E (2015) *The Cultural Health of the Waitaki Catchment* – A report

prepared for Environment Canterbury

Tipa, G, Nelson, K (August 2015) *Incorporating Cultural interests into an Urban waterways decision support system* A Technical Report for NIWA Urban Waters programme.

Williams, E., Tipa, G., Van Schravendijk-Goodman, C., May, K., Kitson, J., Harmsworth, G., Smith, H., Kusabs, I., Severne, C., Ratana, K. (2015) *Data Management and Knowledge Visualisation Tools for Hapū and Iwi to Support Freshwater Management* – A Scoping Study. NIWA Client Report WLG2015-17 prepared for the Department of Conservation. January 2015. 58 p.

Hayes, J. Tipa, G. Allen, C. Shearer, K. (2014) *Cultural flow preference assessment and hydraulic-habitat modelling to Inform an agreed flow regime on the Tokiahuru stream*. A report prepared for Genesis Energy Ltd and Ngati Rangi Trust.

Stewart, M. Tipa, G. Williams, E. Home, M. Olsen, G. Hickey, C. (June 2014, Revised December 2014) Impacts of Bioaccumulative Contaminants in the Te *Waihora Catchment on Mahinga Kai Impacts of BioGatherers - Data Report and Risk Assessment,* Prepared for Te Waihora Management Board & Environment Canterbury Regional Council

Tipa, G. Nelson, K. (2014) *Cultural Health Assessment of the Rakahuri (Ashley River)* – A report prepared for Environment Canterbury

Tipa, G. Nelson, K. (2014) *Cultural Health Assessment of the wetlands of the Waitaki River* – A report prepared for Boffa Miskell

Tipa and Associates Ltd *(*May 2013) *Groundwaters of Te Wai Pounamu with a focus on Murihiku* A Report prepared for Te Ao Marama

Tipa, G. Nelson, K. (2013) *Cultural Flow Preferences for the Selwyn Waihora Catchment* – A report prepared for Environment Canterbury

Conference proceedings (last 5 years)

Tipa G. (2021) *Cultural assessments* A presentation to the Otago Regional Council at a wananga at Otakou Marae, January 2021.

Tipa, G. (2021) *The Outcomes of Manawhenua Cultural Flow Preference Study* A presentation to the combined runanga of Otago and Aukaha to present the results of the Manuherekia study

Tipa, G. Nelson, K. Tipa, M. (2021) *The Outcomes of Cultural Flow Preference Studies - have they enabled Maori to inform flow setting? Manawhenua Groups across New Zealand* A presentation to Tauranga Iwi representatives interested in undertaking flow studies in the Bay of Plenty.

Tipa G. (2020) *Tuterakiwhanoa: the aspirations of the kaitiaki runanga.* A presentation to Minister Eugenie Sage on behalf of Te Runanga o Moeraki, Te Runanga o Arowhenua and Te Runanga o Waihao.

Tipa, G. Nelson, K. Home, M. Crow, S. Tipa, M. *Improving the effectiveness of Maori engagement in scenario assessments through fuzzy cognitive mapping* Presentation to New Zealand Hydrological Society conference Rotorua 2019.

Tipa, G. Nelson, K. Home, M. Crow, S. Tipa, M. *Improving the effectiveness of Maori freshwater management by integrating cultural assessments and vulnerability assessment processes* Presentation to New Zealand Hydrological Society conference Rotorua 2019.

Lynch, P. Gyopari, M. Symon, A. Tipa, G. Scott, J. Home, M. & Weastell Murchison, L. Protecting Māori rock art and associated freshwater taonga using resource management planning processes Ngā Kete o te Wānanga: Mātauranga, Science and Freshwater Management Project in partnership with the Ngāi Tahu Rock Art Trust (MBIE Funded)

Tipa, G. Nelson, K. Home, M. Crow, S. Tipa, M. *The results achieved from Cultural Flow Preference Studies* Presentation to International River Symposium Sydney 2018

Tipa, G. Nelson, K. Home, M. Crow, S. Tipa, M. *Improving the effectiveness of Maori engagement in scenario assessments through fuzzy cognitive mapping* Presentation to International River Symposium Sydney 2018

Tipa, G. Nelson, K. Home, M. Crow, S. Tipa, M. *Cultural Flow Preference Studies enabling Maori to inform flow setting* Written presentation to interdisciplinary workshop on "social and ecohydrological science connections for environmental flows" at National Socio-Environmental Synthesis Center, Annapolis, MD, USA,

Tipa G, (2016) *Presentation on Incorporating Cultural Values in Freshwater Management.* Presentation to the Indigenous Matariki Forum; Otago University.

Home, M. Tipa, G. Nelson, K. Williams, E, (2016) *The Cultural Health of the Opihi Catchment* – A presentation to the Opihi Temuka Orari Zone Committee and Environment Canterbury,

funded by MBIE's Nga Kete of te Wananga Research programme.

Tipa G, (2015) *Presentation on Incorporating Cultural Values in Freshwater Management: the Ability to Report Results Nationally*. Presentation to MFE and Statistics staff to assist with reporting under the Environmental Reporting Act 2015. .

Tipa G, (2014) *Incorporating a cultural freshwater perspective in freshwater management*. Keynote address, River Symposium, Canberra

Tipa G, (2014) *Incorporating a cultural freshwater perspective in freshwater management*. Presentation to Watertech Conference in Hamilton

Describe the impact of your previous research work

We have developed practical tools and processes that whanau are using across the country. This is the greatest compliment that we can receive. A lot of works goes into making tools simple and robust. The tools are useable and used.

2d. Demonstration of relationships with end-users

1. I have worked extensively with whanau and hapu across New Zealand.
2. We have provided training in how to apply cultural tools to Maori communities across NZ and I know that we have contributed to increased capacity of Maori to engage in freshwater management.
3. I have undertaken dozens of in-depth interviews with Maori to document their matauranga to help facilitate their input to RMA processes.
4. I have prepared, jointly with Manawhenua, numerous CIAs or cultural values reports that have been endorsed by Manawhenua and submitted to agencies.
5. I continue to mentor students and practitioners.

CULTURAL IMPACT ASSESSMENT

FOR

HANANUI AQUACULTURE PROJECT




Prepared on behalf of Te Runanga o Awarua, Te Runanga o Oraka Aparima, Te Runanga o Waihopai and Te Runanga o Hokonui

by

Tipa & Associates

October 2020

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EXECUTIVE SUMMARY

Foveaux Strait is known as Te Ara a Kiwa (the pathway of Kiwa). Tradition explains how Kiwa became tired of trailing around Rakiura as there was a sand isthmus which then joined Murihiku (Southland) with Rakiura (Stewart Island). Kiwa requested the obedient Kewa (whale) to chew through the isthmus and create a waterway so Kiwa could cross to and fro by waka. Kewa obeyed, and the crumbs from his mouth are the islands in Foveaux Strait. Solander Island is named Te Niho a Kewa, a loose tooth that fell from the mouth of Kewa.

Ngāi Tahu whānui have had a long history in this area, particularly being attracted by the bountiful mahinga kai and travel routes and exploration. Te Ara a Kiwa has important associations with trails, place names, mahinga kai, kāinga, wāhi tapu, wāhi taonga and nohoanga.

Te Ara a Kiwa, the estuaries, beaches and reefs off the mainland and islands all offer a bounty of mahika kai, with Rakiura and the tītī islands being renowned for their rich resources of bird life, shellfish and wet fish. The area offers a wide range of kaimoana (sea food), including tuaki (cockles), paua, mussels, toheroa, tio (oysters), pūpū (mudsnails), cod, groper, barracuda, octopus, pātiki (flounders), seaweed, kina, kōura (crayfish) and conger eel. (Te Ao Marama Inc, 2019)

The papatipu runanga, Te Runanga o Awarua, Te Runanga o Waihopai, Te Runanga o Hokonui and Te Runanga o Oraka Aparima share responsibility for assessing how any activity in their takiwa impacts upon their cultural values. Ngai Tahu Seafood is expected to acknowledge the responsibilities of Te Runanga o Awarua, Te Runanga o Waihopai, Te Runanga o Hokonui and Te Runanga o Oraka Aparima in its activities in Southland.

Nga Runanga are committed to:

- Protecting the rights and interests of Manawhenua;
- supporting abundant populations of taonga species, especially titi and tio.
- protecting the quality of the coastal waters of Rakiura;
- protecting wahi tapu / wahi taonga;
- protecting cultural landscapes of which unimpeded views from Hananui are a central component;
- protecting access along coastal margins;
- enhancing the economic resilience of Murihiku, including Rakiura; and
- addressing issues relating to new infrastructure becoming established in what is perceived to be relatively unmodified locations.

When assessing the impacts associated with the proposal, Nga Runanga want to see the following adverse effects avoided:

- Any deterioration to the quality of coastal waters;
- Unnatural changes to the sediment and contaminant flows and patterns of deposition;
- Any loss of access to the coastal and marine environments in the vicinity of the new infrastructure;
- Any adverse effects on titi, tio or other kai species;
- Any loss of habitats for taonga species;
- Any loss of wahi tapu and wahi taonga.

As is noted in some of the dot points above, some of these issues can be addressed by consent conditions and monitoring. Others require ongoing discussions with Nga Runanga.

Because some taonga are considered irreplaceable – specifically titi and oysters – a Plan B needs to be agreed with Nga Runanga. What does NTS propose to do if monitoring shows that there is an adverse effect on these populations?

Information provided

It is noted that there is still a report to be forwarded to Nga Runanga, specifically the report addressing wild fish and the wild fisheries. The wild fish assessment forms part of the s92 request made by Environment Southland. Due to current unavailability of technical experts, the wild fish assessment is expected to be available in August/ September 2020. This will then be followed by a wild fisheries assessment.

Nga Runanga will need to determine if the level of residual impact identified in the various technical reports is acceptable to them.

1.0 INTRODUCTION

Ngai Tahu have a long association and involvement with the coasts and seas of Murihiku, including Rakiura (Te Ao Marama Inc, 2019). The Crown formally recognised this significance with the enactment of the Te Runanga o Ngai Tahu Act 1996 and the Ngai Tahu Claims Settlement Act 1998. Four papatipu runanga, Te Runanga o Awarua, Te Runanga o Waihopai, Te Runanga o Hokonui and Te Runanga o Oraka-Aparima, collectively known as the Murihiku Runanga, are responsible for assessing how any activity in their takiwa impacts upon their cultural values, beliefs and practices.

Ngai Tahu Seafood Ltd (NTS) is expected to acknowledge the responsibilities of Te Runanga o Awarua, Te Runanga o Waihopai, Te Runanga o Hokonui and Te Runanga o Oraka-Aparima. It commissioned this CIA to document the views and concerns of Nga Runanga with respect to the construction of a new salmon farm in the waters of Rakiura (Stewart Island).

1.1. Project Objectives

The objectives of this report are:

- To relate potential adverse effects to the information on the nature and extent of cultural interests that are described in Ta Ao Marama (2019) and protected by the provisions of the Resource Management Act 1991, in particular sections 6(e), 7(a) and 8;
- To identify the impacts associated with the proposal that are of concern to Nga Runanga; and
- To identify mitigation for impacts identified that are to be discussed and agreed with Nga Runanga.

1.2 Format of the report

This report has been divided into a number of chapters:

Chapter 1 sets out the objectives and scope of the report.

Chapter 2 describes the proposal.

Chapter 3 provides the statutory, planning and policy frameworks within which the cultural impacts will be assessed.

Chapter 4 - provides a general discussion of the issues of concern to Nga Runanga that are specific to the proposal.

Chapter 5 summarises the scale of effects, from the perspective of Nga Runanga, after the mitigations proposed by NTS are considered.

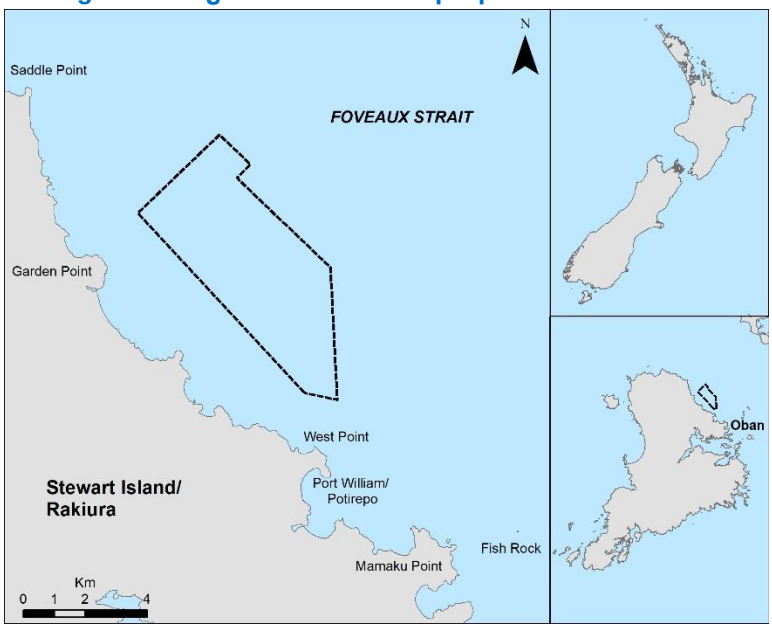
Chapter 6 concludes the report, highlighting the key issues that from the perspective of the papatipu runanga need to be addressed.

Please note that a Cultural Impact Assessment (CIA) is expected to provide an overview of the cultural environment, both traditional and current. However, for this project Te Ao Marama Ltd prepared a cultural values report discussing cultural association with the project area. This has enabled this document to focus on the identification of impacts. We do however explicitly link the impacts (in section 4) to the cultural values identified in the report by Te Ao Marama Inc.

1.3 The areas considered in this report

We have included, as Figure 1, the area that we are considering in this assessment. However, we need to acknowledge that whanau value cultural landscapes at multiple levels including the viewscape from the mountains to the sea.

Figure 1 – Ngāi Tahu Seafood proposed site location



1.4 Terminology used in this report

In this document, the use of the term 'Ngai Tahu' should be considered to include the constituent indigenous iwi, being Ngai Tahu, Ngati Mamoe, Waitaha. The term 'iwi' (tribe) is used in the same context.

The term "Nga Runanga" is to be read as Te Runanga o Awarua, Te Runanga o Waihopai, Te Runanga o Hokonui and Te Runanga o Oraka-Aparima.

The term 'manawhenua" is used to describe the individuals who through whakapapa hold the rights and interests because of their status as holding mana of the whenua and moana.

We use the abbreviation NTS to refer to Ngai Tahu Seafood Ltd.

1.5 Limitation of this Report

This CIA represents best endeavours to identify cultural effects of concern. Nga Runanga reserve the right, however, to oppose the proposal or pursue avoidance or mitigation of any

subsequent impacts that are identified as a result of further site visits or further discussions with NTS.

1.6 Identification of Manawhenua

Pursuant to section 6 of the Te Runanga o Ngai Tahu Act 1996, Te Runanga o Ngai Tahu (TRONT) is the tribal representative body of Ngai Tahu Whanui (the tribal collective) and is a body corporate duly established on 24 April 1996. Contained in Section 5 of that Act is a detailed description of the takiwa (area) of Ngai Tahu Whanui, which confirms that the proposal is within the rohe of Ngai Tahu.

Section 15(1) of the Act states:

> *Te Runanga o Ngai Tahu shall be recognised for all purposes as the representative of Ngai Tahu Whanui.*

Section 15(2) of the Act states:

> *Where any enactment requires consultation with any iwi or with any iwi authority, that consultation shall, with respect to matters affecting Ngai Tahu Whanui, be held with Te Runanga o Ngai Tahu.*

Section 15(3) of the Act states

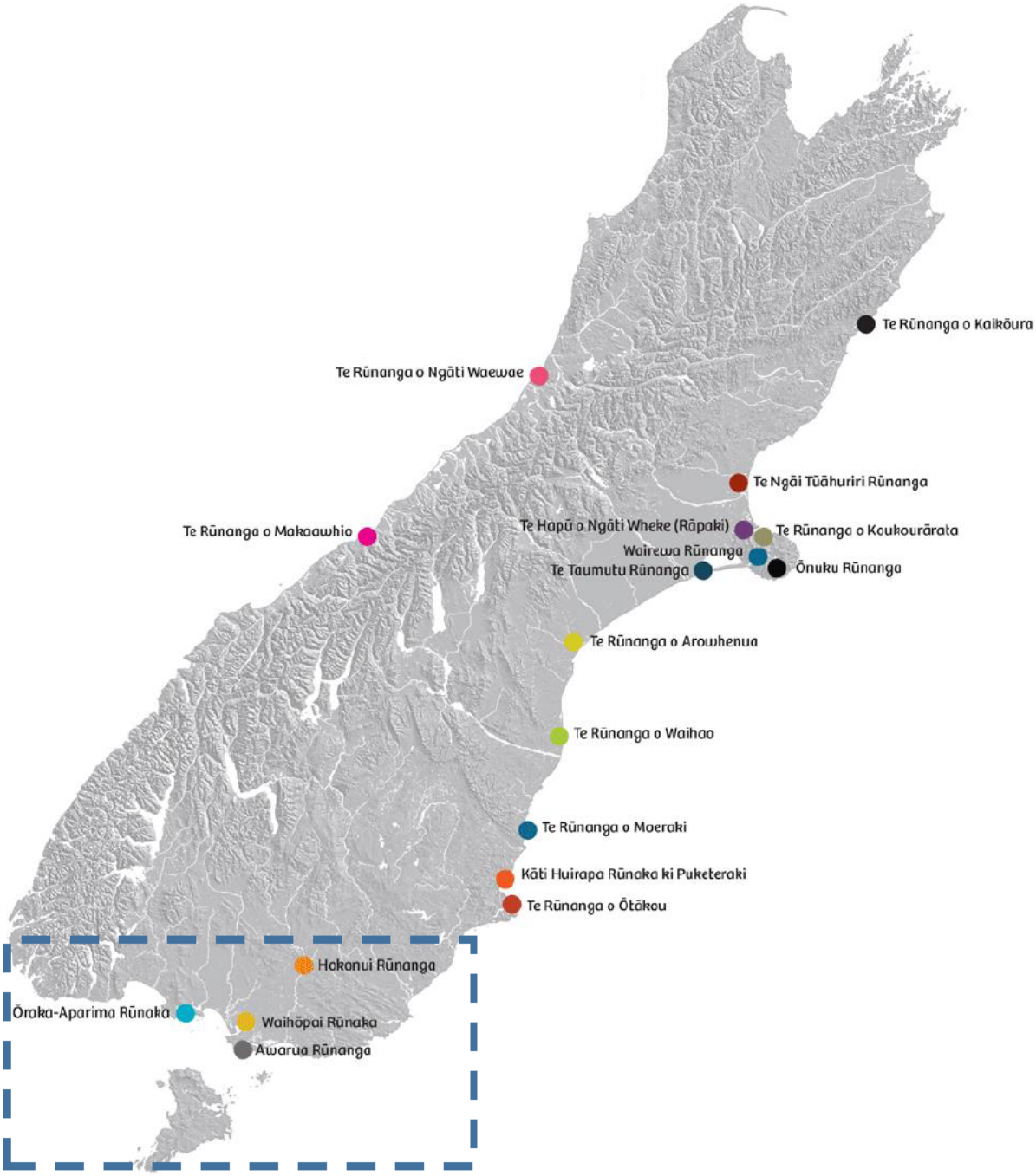
> *Te Runanga o Ngai Tahu in carrying out consultation under subsection 2 of this section shall seek the views of such papatipu runanga of Ngai Tahu whanui and such hapu as in the opinion of Te Runanga o Ngai Tahu may have views that they wish to express in relation to the matter …*

The Act therefore confirms TRONT's status as the legal representative of the tangata whenua.

The First Schedule of the Act lists the eighteen Papatipu Runanga that represent the members of Te Runanga o Ngai Tahu. Te Runanga o Awarua, Te Runanga o Waihopai, Te Runanga o Hokonui and Te Runanga o Oraka-Aparima are identified as four of those constituent Papatipu Runanga and are therefore recognised by TRONT as the kaitiaki runanga for the area affected by the proposal.

The location of the marae that is at the center of the takiwa of each of the four runanga is shown in Figure 2.

Figure 2 – Showing the location of the papatipu runanga in Murihiku



1.7 The relationship between this and previous CIAs prepared for the project area

Various organisations when applying for authorisations necessary to enable their continued operation have commissioned TRONT or papatipu runanga to prepare CIAs. CIAs previously prepared that were specific to the coastal environs of Murihiku, or Rakiura complement the information in this CIA.

1.8 Consultation with Manawhenua

NTS managed all engagement with Manawhenua about this proposal prior to lodging the resource consent application with Environment Southland in December 2019. A record of these Hui is included in the application for resource consent. Nga Runanga agreed to the application being lodged before the CIA was finalised and signed off by Nga Runanga.

Subsequent to lodging the consent, there have been three hui with Manawhenua:

- Invercargill – 29 February 2020; and
- Halfmoon Bay – 1 March 2020.

Discussions from these two hui are captured in section 4 of this document.

A further discussion was held with Nga Runanga in Invercargill – 6 August 2020 – the purpose of this hui was for Ngai Tahu Seafood to update Nga rūnanga on proposed farm layout, stage development and annual feed input changes and provide explanations and discussion for these changes. Key points discussed at this hui

- Ngai Tahu Seafood have opted to reduce the number of cages from 118 to 80 cages
- Removal of broodstock and smolt farms in favour of Single year class farming system
- Reduced full production feed input from 50,000 tons pa to 25,000 tonnes per annum.
- Revised stage development from 6 stages to 4 stages (Table 1)
- Increase annual feed input for stage 1 from 9,000 to 10,000 tonnes per annum
- Updated Modelling scenarios for the new stage 1 & 4 were presented and discussed with Nga Runanga.

Tipa and Associates Ltd have worked with Te Ao Marama Ltd to ensure that the CIA was consistent with the Cultural Values Report.

2. THE PROPOSAL

Ngāi Tahu Seafood, through one of its subsidiaries, Ngāi Tahu Seafood Resources is proposing to develop an area of approximately 2500 hectares of the coastal marine area off the northern coast of Rakiura/Stewart Island for finfish aquaculture (see Figure 3). The proposed site is located off the northern coast of Rakiura/Stewart Island, 13 km north-west of Oban. The proposed site ranges from approximately 1.5 km offshore at its closest point to approximately 6 km offshore. Ngāi Tahu Seafood is seeking exclusive occupation of the whole area, in order to manage both the occurrence of farming within the area and any potential biosecurity risks or conflicts over use of coastal space within the area. As the application for resource consents notes:

> *Both exclusive and preferential occupation of the coastal marine area is sought across the proposed site. For areas where marine farms are located, and a 200 metre buffer zone around the net pens and the feed barges at each proposed farm, exclusive occupation of the coastal marine area is sought. Exclusive occupation is required principally for health and safety, navigation and biosecurity reasons, to reduce the risk of collisions between other users of the coastal marine area and the marine farm infrastructure.*
>
> *Over the balance of the approximately 2,500 hectare site, preferential occupation of the coastal marine area is sought. As the proposed site is developed, and dependent on requirements for fallowing marine farm sites, the marine farms may need to be moved within the site, and preferential occupation across the proposed site will provide the opportunity to do this if required over the term of the consent. While no marine farms will be located over biogenic habitat, the sandy substrate that exists along the offshore boundary of the proposed site between areas of biogenic habitat may be suitable for future location of the broodstock farm. Preferential occupation of the whole of the polygon shown in Figure 3 is therefore sought.*

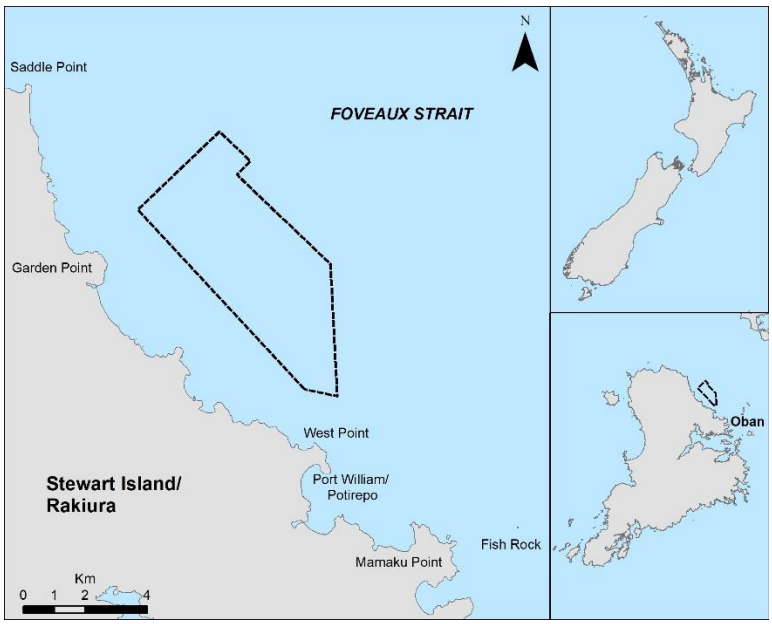


Figure 3: Ngāi Tahu Seafood proposed site location

A potential layout for pens within the proposed site is provided in Figure 4 below. Ngāi Tahu Seafood propose to farm under a single year class (SYC) regime, where smolt are introduced and grown to harvest size on the same farm site. The layout of marine farm structures contained in Figure 4 is an indication of the type and number of stock pens that would be necessary within the proposed site in order to achieve estimated annual production of16,000 tonnes of fish.

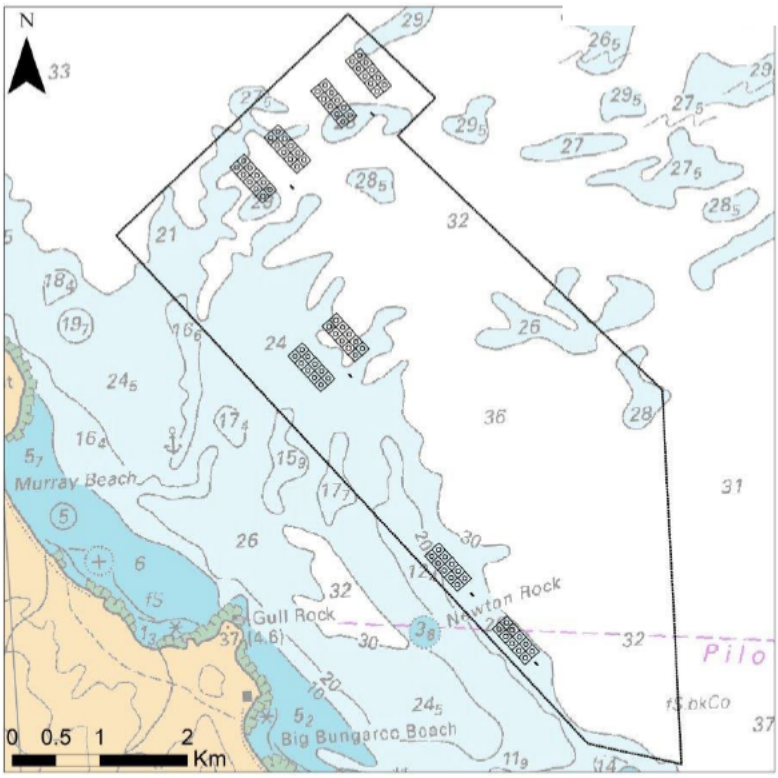


Figure 4 – The location of the proposed salmon farm is marked with a grey rectangular box ()

Ngāi Tahu Seafood propose developing a c. 2,500-ha area that would contain up to 80 pens, split into four locations containing two blocks (referred to as a & b) with each block consisting of 10 pens to potentially allow for an estimated full annual production of 16,000 tonnes of king salmon (*Oncorhynchus tshawytscha*). Sea conditions at the proposed site require sea pens that can withstand both the strong currents that run through Foveaux Strait and the wind and wave conditions that can occur at the site. The proposed pen structures will likely be polar circle pens, 168 m in circumference (c. 25 m radius) and extending to 15 m depth at the centre of the fish net and 21 m at the centre of the predator net.

- Each farm will have an associated feed barge, moored equidistant between the two grids of sea pens located at one end of the overall farm (see Figure 4 for indicative locations).

Foveaux Strait would be one of the most exposed sites in which salmon farming has been undertaken to date in New Zealand. As well as selecting sea pens that will withstand the conditions it has been necessary for Ngāi Tahu Seafood to investigate how cage structures and feed barges would be anchored to the seabed, in order to ensure that they will remain in place through the worst case conditions anticipated at the site. In summary:

- 1500 kg – 3000 kg dual shank anchors are likely to be required, with 5 tonne concrete anchor blocks required on moorings that run in the direction of the predominant current
- 28 – 30 mooring lines and anchors are required for each two-line grid. arm
- mooring lines consist of a combination of anchor chain and mooring line, rising to a node plate on the mooring line grid for the pens. Each of the net pens is then connected to the mooring grid, which is maintained in position in the water column by compensator buoys on the sea surface
- feed barges would be moored using 8 anchor chains, connected to 2500 kg dual shank anchors, offset from the predominant current so concrete anchor blocks are not required

Ngāi Tahu Seafood is proposing a staged development for the project (see Table 1 on the following page), both to allow trialling of equipment and locations for marine farming structures within the proposed site, and to allow for gradual development and monitoring of environmental effects on the seabed and water column from the discharge of feed.

The proposed operation consists of four locations, each with two blocks (termed A and B), each consisting of ten 168-m circumference pens (Figure 5). Depths range from 25 to 36 m across the proposed site. Ngāi Tahu Seafood propose developing the c. 2,500 ha area in four stages (staging summary provided in Table 1). With an initial stage of 10,000 tonnes of feed selected in order to match the highest level of feed discharge occurring within a geographic area of water in New Zealand currently – the approximately 10,000 tonnes of discharge per annum into Tory Channel in Marlborough.

At Stage 1, one of the two blocks in each farm will be developed at 75% of the total 1-block feed production (c. 10,000 tonnes feed per year total across the four locations). At Stage 2, production in those blocks will increase to 100% of total feed production (c. 15,000 tonnes feed per year). At stage 3, the second block in each farm will be developed to 50% total feed production (c. 20,000 tonnes feed per year). At stage 4, both blocks in all locations will operate at 100% total production (25,000 tonnes feed per year).

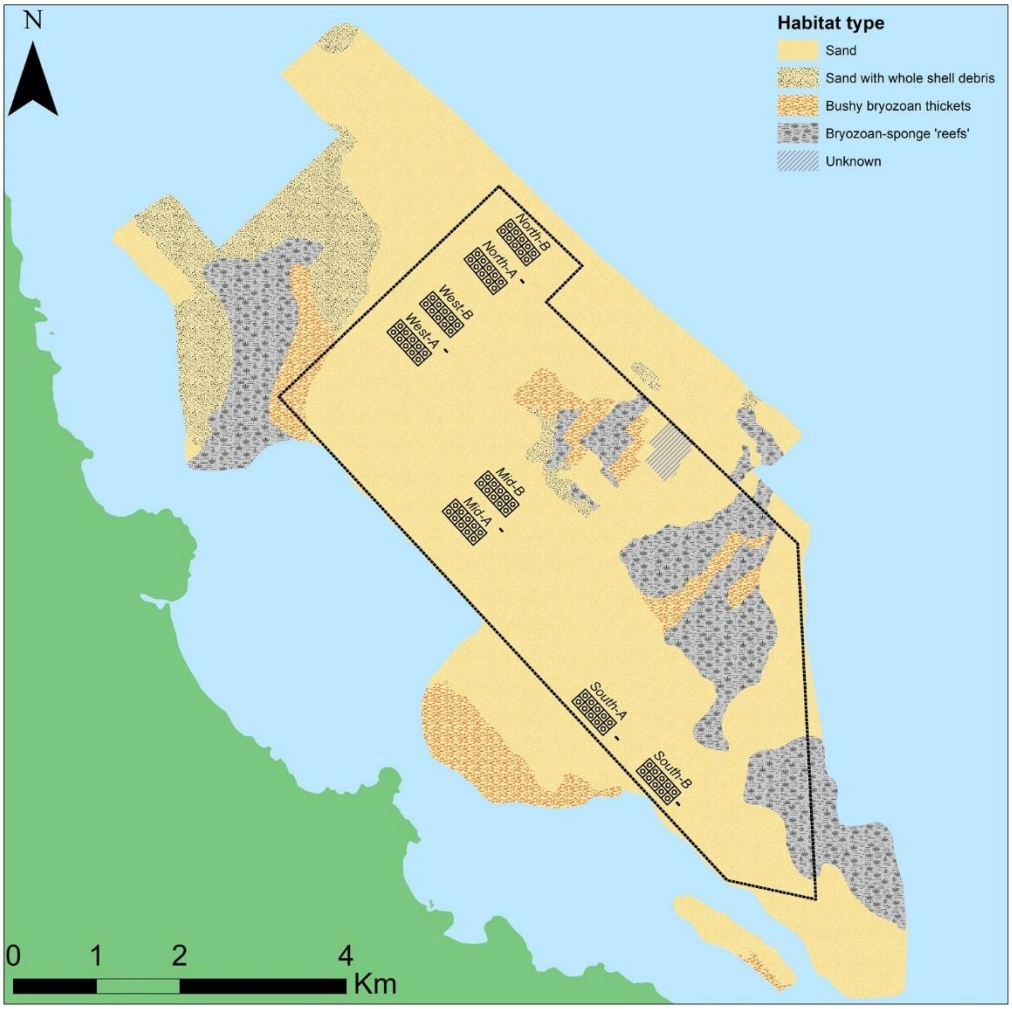


Figure 5 – T Proposed farm placement across the Ngāi Tahu Seafood Hananui proposal area (black outline) over coarse habitat map

Table1. Summary of Ngāi Tahu Seafood's proposed staging approach for each farm.Note that either the A or B block within each farm may be developed first. Feed = tonnes per year.

Stage	Farm block	% total feed	Feed total across all locations within the site
Stage 1	A	75%	10,000
	B	0%	
Stage 2	A	100%	15,000
	B	0%	
Stage 3	A	100%	20,000
	B	50%	
Stage 4	A	100%	25,000
	B	100%	

This description of the proposal informs the impact assessment in Chapter 4.

3. THE STATUTORY CONTEXT: RECOGNISING AND PROVIDING FOR CULTURAL VALUES

3.1 Te Tiriti O Waitangi

In 1840, Te Tiriti o Waitangi (Treaty of Waitangi) was signed between the Chiefs of Aotearoa and Her Majesty the Queen of England formalising an agreement to allow British subjects to settle in areas such as Te Wai Pounamu, under formal British colonial rule, and which guaranteed to Maori the protection of their taonga (possessions) for so long as they wished. Such taonga included their waters[1], lands, fisheries and mahinga kai.

Te Tiriti o Waitangi reaffirmed these rights thus:-

> *Maori Text:*
>
> *"Ko te Kuini o Ingarani ka whakarite ka whakaae ki nga Rangatira, ki nga Hapu, ki nga tangata katoa o Nu Tirani, te tino rangatiratanga o o ratou whenua o ratou kainga me o ratou taonga katoa. Otiia ko nga Rangatira o te Whakaminenga me nga Rangatira katoa atu, ka tuku ki te Kuini te hokonga o era wahi whenua e pai ai te tangata nona te whenua, ki te ritenga o te utu e whakarite ai e ratou ko te kai hoko e meatia nei i te Kuini hei kai hoko mona".*
>
> *English Text:*
>
> *"Her Majesty the Queen of England confirms and guarantees to the Chiefs and Tribes of New Zealand to the respective families and individuals thereof the full exclusive and undisturbed possession of their Lands and Estates, Forests, Fisheries and other properties which they may collectively or individually possess so long as it is their wish and desire to retain the same in their possession…."*

The words "their lands and estates, forests, fisheries…" in the Treaty of Waitangi encapsulates the right to mahinga kai, to places where the resources are harvested, the activity and business of gathering kai and includes the type of resources that were caught or gathered. It was upheld by the Waitangi Tribunal that Maori fishing rights have endured to the present day.

[1] The Waitangi Tribunal has defined taonga value as including the value of the water itself, the resources living in the water and the resources sustained by the water.

3.2 Cultural and Traditional Principles for Sustainable Management

Traditional management was founded on a set of cultural values that arose from the Ngai Tahu worldview. These cultural values include a set of principles upon which the relationship between people and the environment must be based in order to sustain the balance between the needs and demands of humans and the health of the natural world that sustains them. The following principles are significant elements of the Ngai Tahu worldview which, when understood together, approximate the non-Maori concept of "sustainable management".

Te Ao Maori: The principle of holism: Sustainable management must consider the environment and its component parts as a whole and assess effects from actions across all dimensions, spiritual, mental, biophysical, and social [te taha wairua, te taha hinekaro, the taha tinana, te taha whanau].

Whanaungatanga: The principle of kinship, connectedness, and inter-dependence between all things within the natural world including people: sustainable management must be based on ethics of Whanaungatanga reflecting and giving life to the inter-relationship between all things. Sustainable management should seek to sustain the health, wealth and well-being of the natural environment while sustaining the communities of people dependent upon them.

Whakapapa: The principle of cause and effect, descent and transmission: Sustainable management must be predicated on an understanding that all actions cause effects which in turn cause other effects. Eventually the cycle of effects returns in kind to the original actor. Sustainable management decisions must consider all immediate and downstream effects in the present and, as far as possible, into the future.

Taonga Tuku Iho: The principle of generational continuity and responsibility: Present generations are one with those who have gone before us and those yet to be born. This applies to people and to generations or successive cycles of other species or natural phenomenon. Present generations have an overriding obligation to control the effects of their actions so as to ensure that resources are passed on to future generations in at least as healthy and productive a condition as they were inherited from the ancestors.

Under Ngai Tahu conception, all elements within the world are linked by mutual descent from the atua (deities) and the primeval parents, Rakinui and Papatuanuku. Thus, all parts of the environment are related to one another and exist within a mutually inter-dependent whole.[2]

The descriptions in this section inform the structure of the impact assessment in Chapter 4.

[2] "Maori developed a system of resource management in which people were no more than another living part of the whole ecosystem, capable of a care-taking role alongside other creatures…People lived within and as a part of a whole to which they were intimately and genealogically related." Love (1992)

3.3 Resource Management Act 1991 (RMA)

The Resource Management Act 1991 is the principal legislation under which the natural and physical resources of New Zealand are to be sustainably managed. The duties and the obligations that Part 2 of the RMA imposes for all people who exercise functions or powers under the Act in relation to the use of natural resources are detailed below.

Section 5 : Purpose –

> *(1) The purpose of this Act is to promote the sustainable management of natural and physical resources.*
>
> *(2) In this Act, "sustainable management" means managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic and cultural well-being and for their health and safety while -*
>
> *(a) Sustaining the potential of natural and physical resources to meet the reasonably foreseeable needs of future generations;*
>
> *(b) Safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and*
>
> *(c) Avoiding, remedying, or mitigating any adverse effects of activities on the environment.*

Section 6 sets out the matters that are of national importance

> *Matters of national importance – In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall recognise and provide for the following matters of national importance:*
>
> *(e) The relationship of Maori and their culture and traditions with their ancestral lands, water, sites waahi tapu, and other taonga.*

Section 7 sets out other matters that regard is to be had to

> *Other matters - In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall have particular regard to –*
>
> *(a) Kaitiakitanga*

Section 8 states that the principles of the Treaty of Waitangi need to be taken into account.

> *Treaty of Waitangi - In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall take into account the principles of the Treaty of Waitangi (Te Tiriti o Waitangi).*

Within the RMA context a further principle, that of consultation, has been found to arise under the principles of the Treaty of Waitangi.

The Environment Court has noted that active protection of Maori interests requires positive action, which will at times oblige both the decision making authority and the applicant to consult, and also to initiate, facilitate, and monitor the consultation process as part of the duty to take into account the principles of active protection and partnership. Consultation must be conducted in a spirit of good will and open mindedness, and over a reasonable span of time, and to a degree sufficient for the local authority to be informed on the matters in issue.

Court of Appeal in *Court of Appeal v Attorney General 1987 CA 54/87*:

(i) The principle of partnership.

(ii) The principle of active protection of Maori people in the use of their lands and waters to the fullest extent practicable.

(iii) The principle of utmost good faith in dealings with the other Treaty partner.

3.4 Iwi Plans

Te Tangi a Tauira: The Cry of the People is the Ngai Tahu ki Murihiku Natural Resource and Environmental Iwi Management Plan. The plan identifies a series of issues with respect to aquaculture. The issues together with the objectives and policies from the plan are set out below.

3.6.11 Aquaculture and Marine Farms

Ngā Take – Issues

Impacts on the character of the coastal landscape.

Impacts from a non-integrated management framework for land, resources, coastal waters and the activities that occur.

Potential introduction of organisms from other places impacting coastal waters.

Unknown effects from increased marine farming activities.

Waste and by-products from the farmed fishery.

Changes in coastal nutrient levels as a result of increased filter feeding.

Impacts on local biodiversity from introduced species.

Interference with customary access to traditional mahinga kai resources.

Degradation of existing natural fish and shellfish populations through habitat competition and displacement as a result of marine farms.

Effects on the seabed habitats under and around farms.

Ineffective and inaccurate fulfilment of duties under the Reform Act.

Coastal space and occupation.

Coastal tendering provisions of the Ngāi Tahu Claims Settlement Act 1998 (s.315-320).

Ngā Kaupapa – Policy

1. Ensure that aquaculture activities recognise and provide for pre-existing customary rights and commercial fishing rights provided by the Māori Fisheries Settlement in 1992.
2. Establish a process with local government agencies to identify suitable areas for aquaculture and the allocation of coastal space to ensure Ngāi Tahu ki Murihiku rights are protected. This includes involvement in the development of programmes that assess the ecological health, carrying capacity and cumulative effects from all coastal users within Southland's coastal waters.
3. Have active involvement in the consent process for aquaculture and marine farming. Operations should include information on waste disposal and provisions for reducing effects on existing local species.
4. Recognise and be involved in the development of programmes that recognise for protection of ecological, heritage, wāhi tapu and wāhi taonga values. This includes involvement in ongoing management, setting of consent conditions and monitoring and compliance programmes.
5. Ensure participation into research of the impacts of marine farms on natural character and visual amenities.
6. Ensure participation into research that investigates increased sediment dispersal, and the effects of such on seabed habitats under and around marine farms.
7. Ensure that aquaculture does not have adverse effects on customary fishing and practices, fishing resources or fisheries. This includes maintaining access to sources of abundant local kaimoana, kaimātaitai and mahinga kai populations.
8. Ensure participation into research on the potential changes to nutrient supplies in coastal waters as a result of increased demand and the possible degradation and displacement of existing natural fish and shellfish populations.
9. Ensure that the potential introduction of unwanted organisms is monitored to ensure impacts on existing biodiversity is limited.

3.5 The Ngai Tahu Claims Settlement Act 1998

The Ngai Tahu Claims Settlement Act includes a number of provisions that are relevance to the construction and operation of a salmon farm, including

- Inclusion of Statutory Acknowledgements where the Crown recognises the significance of certain areas to Ngai Tahu[3]. For example, Schedule 104 is specific to Foveaux Strait.
- Recognition as Statutory Adviser to the Minister of Fisheries;
- Development of protocols and a closer working relationship with the Department of Conservation;
- Identification of taonga species (in schedule 97 of the Act); and
- Provision for nohoanga (campsites).

The actions of NTS are not to be conflict with the NTCSA 1998 or the Deed of Settlement.

3.6 Ngai Tahu 2025

After the settlement of the Ngai Tahu Treaty of Waitangi Claims, Te Runanga o Ngai Tahu undertook a planning exercise with its membership. The result was articulation of an iwi vision for the future. The resulting document, Ngai Tahu 2025, is referred to in the application that has been prepared by Ngai Tahu Seafood.

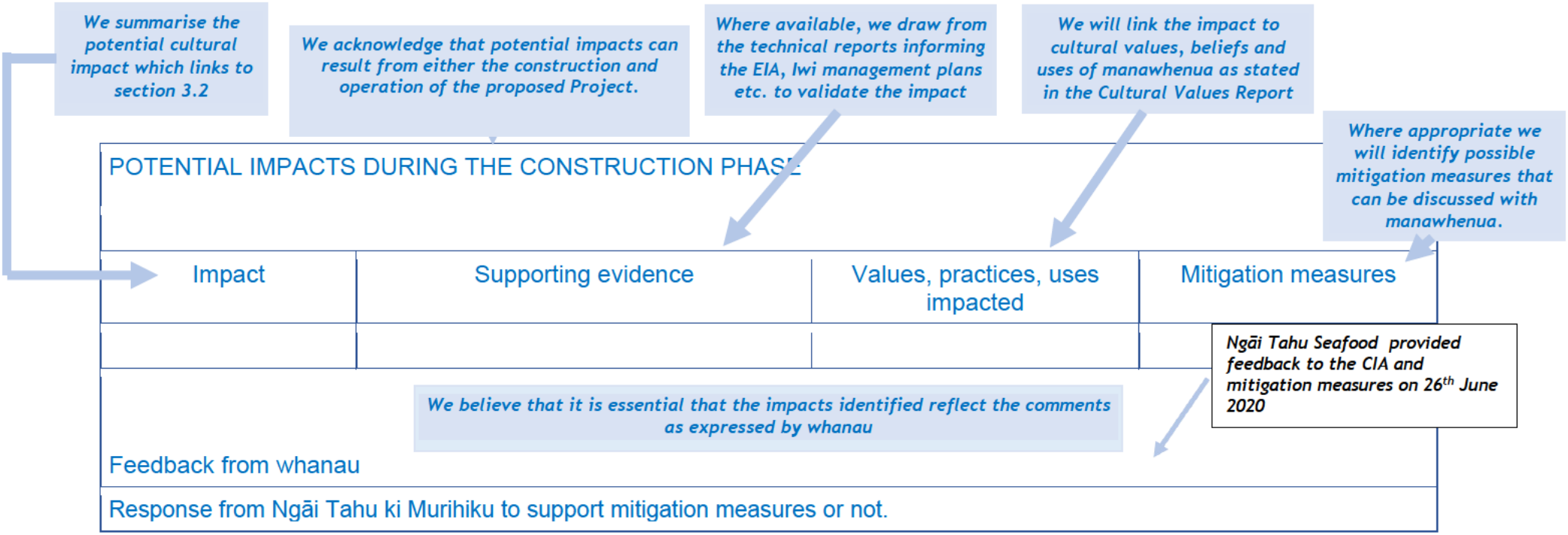
This development has the potential to translate some of the aspirations articulated in Vision 2025, to measurable outcomes in Murihiku for the benefit of Manawhenua.

[3] The Statutory Acknowledgments relevant to the Foveaux Strait are included in Appendix 1.

4. CULTURAL IMPACT ASSESSMENT

4.0 IMPACT ASSESSMENT METHODOLOGY

The impacts of the proposed development have been evaluated using a qualitative assessment of the potential direct and indirect impacts through a literature review and feedback from whanau from the affected kaitiaki runanga. We have also chosen to present the data within a standard format.



PLEASE NOTE:

1. Although for some of the impacts we have identified how some of the impacts could be mitigated, this is not to be interpreted as whanau accepting that the impact is to occur. Only Nga Runanga can determine the scale of the cultural impact and if that effect is acceptable.
2. The effects are broken into two separate groups. The first sets of impacts concern the rights and interests of Manawhenua that are to be discussed internally within Ngai Tahu. These are not resource management effects to be determined by Environment Southland. The second set of impacts are matters are resource management matters that can be addressed via consent conditions or agreements between NTS and Nga Runanga.

3. Ngāi Tahu Seafood provided feedback and mitigation options on the 26th June 2020 for review from Ngā Rūnanga ki Murihiku.

4.1 IMPACTS ON THE RIGHTS AND INTERESTS OF MANAWHENUA

POTENTIAL IMPACT 1: Impact of Ngai Tahu Seafood activities on the cultural association (Links to Te Ao Marama, 2019)[4]		
Impact	**Description of values impacted**	**Mitigation measures**
MANA **WHAKAPAPA** **WHANAUNGATANGA**	If the farm becomes a focal point for Ngai Tahu activities on Rakiura, over time cultural associations with other sites in the immediate vicinity could be diminished or dislocated. It is important for NTS to ensure this does not occur.	NTS is to explore with Nga Runanga options to record and promote the cultural association which could include support for: • Restoration projects • Signage; • Trails; • Documentation (brochures etc.); • Use of imagery; • Support for events; • Education programmes; and • Story-telling etc .
Response from Ngā Runanga		Ngā Runanga support 26th June option proposed by NTS

[4] Te Ao Marama Inc (2019) identifies sites and resources of significance.

4.2 IDENTIFICATION & MANAGEMENT OF IMPACTS – CONSTRUCTION PHASE

POTENTIAL IMPACT 2: Footprint of infrastructure during construction phase			
Impact	**Supporting evidence from technical reports**	**Description of values impacted**	**Mitigation measures**
MAURI **WAI TAI** **CULTURAL LANDSCAPE**	Figures 4 and 5 showed the extent of the farm. The staging that is proposed is included in the AEE that accompanied the proposal. Monitoring of the effects of each stage is proposed before proceeding to the next stage.	It needs to be very clear for whanau what the footprint of the farm will be: • The footprint during the construction phase. • The footprint for the coastal and land based infrastructure once construction is complete. • The footprint for the area affected by the salmon farm, which is expected to be well beyond the footprint of the structures Whanau also expressed concern at the possibility of introducing plastics to the marine environment.	Nga Runanga support Ngai Tahu Seafood: • minimising the footprint of the offshore caged salmon farm • support actions to reduce the impact on important fish habitat. • Utilizing best practice with the design of the farm. To reiterate, Nga Runanga need to agree with Ngai Tahu Seafood the monitoring programme and agree what the triggers will be that will enable or stop the progression from one stage to the next.
Response from Ngā Runanga			Ngā Rūnanga support the establishment of a Manawhenua working group to support the protection of Iwi values.

POTENTIAL IMPACT 3: Impact of accommodation if it is needed on site		
Impact	**Description of values impacted**	**Mitigation measures**
MAURI, WAI TAI	Nga Runanga questioned whether accommodation is needed on site, and if so, what support services will also be needed.	NTS is to confirm the support structures that will be built on site.
Response from Ngā Rūnanga		Ngā Rūnanga support the establishment of a Manawhenua working group to support the protection of Iwi values.

4.3 CHANGES TO THE BIO-PHYSICAL ENVIRONMENT THAT CREATE CULTURAL IMPACTS

POTENTIAL IMPACT 4: Operational footprint of infrastructure – salmon farm and support infrastructure			
Impact	**Supporting evidence from technical reports**	**Description of values impacted**	**Mitigation measures**
MAURI **WAI TAI** **CULTURAL LANDSCAPE**	Figures 4 and 5 showed the extent of the farm. The staging that is proposed is included in the AEE that accompanied the proposal. Monitoring of the effects of each stage is proposed before proceeding to the next stage.	It is clear for whanau what the footprint of the farm will be: • The footprint during the construction phase. • The footprint for the coastal and land based infrastructure once construction is complete. • The footprint for the area affected by the salmon farm, which is expected to be well beyond the footprint of the structures	The farm is located at least 2.5km offshore. Nga Runanga support Ngai Tahu Seafood minimising the footprint of the offshore salmon farm and support consideration being made to reduce impact of important fish habitat. Nga Runanga need to agree with Ngai Tahu Seafood the monitoring programme and agree what the triggers will be that will enable or stop the progression from one stage to the next.
Response from Ngā Runanga			Ngā Rūnanga support the establishment of a Manawhenua working group to support the protection of Iwi values.

POTENTIAL IMPACT 5: Changes to the seabed under the footprint of the salmon farm			
Impact	**Supporting evidence from technical reports**	**Description of values impacted**	**Mitigation measures**
MAURI	We note that the report detailing the effects on the seabed has been compiled (see Bennett et al, Nov 2019). We note the conclusion in the report that • *Depositional modelling (without resuspension) indicated that 'very high' enrichment (defined in Marlborough Sounds guidance as > 13 kg m-2 yr-1) would not occur even at full development.* • *At full production, high enrichment of the seabed is predicted across a 17.5 ha area. Opportunistic taxa such as nematodes and capitellid worms are likely to dominate seabed sediment communities, however other taxa may persist. Moderate enrichment is predicted across 241 ha and under these conditions, opportunistic and tolerant species (e.g. capitellid and dorvilleid worms) are likely to dominate macrofaunal communities. Enrichment levels are predicted to reduce progressively to near-background conditions within 1100 m of the pen edges.* We also note: • *Hot spots of redeposition may occur, and if the level of redeposition is high enough, communities containing sensitive and significant taxa may be smothered. High levels of deposition could also lead to effects on growth, recruitment and abundance. Increased nutrient supply in the region may also lead to increased macroalgal growth, potentially increasing competition for space on bryozoan-sponge reefs. Hot-spots for waste accumulation include a deeper pocket of the seabed on the north-western boundary of the proposal area as well as areas along the coastline. Monitoring of these potential hot-spots is vital to ensure undue adverse effects do not manifest*	The seabed represents habitats for marine species. Whanau questioned: • The spatial extent of the impacted area assuming that sea currents move material from under the pens to other areas in the strait. It was explained that strong currents will ensure that deposition will be minimal compared to other New Zealand salmon farms. • Where are all the potential areas where waste (faeces, excess food etc.), from the pens could be deposited? • Whether there will be an exclusion zone around the seabed?	A commitment by Ngai Tahu Seafood that the mitigations proposed in the report (no. 3315) by Bennett et al are implemented. Whanau stated that they wanted to be advised of the technology that would be used to intercept material and prevent deposition.
Response from Ngā Runanga			Ngā Runanga support 26th June option proposed by NTS

POTENTIAL IMPACT 6: Changes to the quality of marine waters.			
Impact	**Supporting evidence from technical reports**	**Description of values impacted**	**Mitigation measures**
WAI TAI	The report detailing the effects on water column has been received. We note from that report that: • *The proposed site is in deep water (20–40 m) in a region of fast currents (mean near-bed current speeds = 40 cm/s). Currents generally flow in the north west/south east direction and increase with offshore distance from the north east coast of Stewart Island. Consequently, most waste particulates are likely to be transported towards the open sea at either end of Foveaux Strait.* • *Data confirmed that the water column in the proposed site is subject to strong vertical mixing and horizontal transport, resulting in small variations of temperature, salinity and nitrogen concentrations with depth. Percent saturation of DO generally exceeded 90% which is indicative of a well-oxygenated environment. We concluded that the potential for water column stratification is very small and that water column mixing and flushing rates will assist in mitigating effects of salmon farming on the water column.* • *The results for Stage 1 site development (8,918 tonnes of feed per annum; tpa) indicated a mean increase of about 25% in TN concentrations close to the net pens (i.e. < 1 km). The estimated impact area of this plume was about 10,000 ha with mean changes of up to 10% of TN from background concentrations within the area's surface waters. For Stage 6 (c. 50,000 tpa), we found a 38% increase in TN close to the net pens and mean surface changes of 20–38% of TN from background concentrations in the plume area.* • *The additional nutrient from salmon farming has the potential to affect phytoplankton biomass*	Maintenance of high quality water is a priority for Nga Runanga. Foveaux Strait is heavily used by Manawhenua, Maori and the community. Nga Runanga asked a number of questions: • Is nutrient enrichment going to be a concern? • Is there a risk of algal blooms? • What contaminants could impact the water quality? NTS advised that the site benefits from being in deep water that is flushed by relatively strong currents.	Mitigations that are recommended in the report by Campos et al (November 2019) that are to be implemented by Ngai Tahu Seafood are be agreed with Nga Runanga.

	and community composition. Campo et al found no evidence of a direct causal relationship between salmon farm operations and HAB formation. While there are historical reports of HABs causing mass mortalities of marine fauna in Foveaux Strait, we anticipate that these are likely to be infrequent events. However, we acknowledge that should a HAB event begin to develop, reduction of feed levels may mitigate the growth of toxic species of phytoplankton in the area. This would require ongoing monitoring of key nutrient parameters and phytoplankton abundance and composition for early detection of a potential event. • *The effects of large numbers of salmon on DO concentrations are expected to be small and localised. The placement of the farm in a high-flow environment will mitigate effects of the fish on DO concentrations beyond the farm. A model developed to quantify the relative changes in DO resulting from fish respiration and water mixing and dilution indicated that DO reductions near the net pens would be measurable but small during Stage 1 (< 5% from background). During Stage 6, the model predicted the possibility for maximum short-lived DO reductions of up to 27% relative to background concentrations near the net pens.* • *The intended layout of the pens in the proposed site (parallel to the prevailing surface water currents) means it is possible that localised oxygen depletion could occur during periods of low water movement. Campos et al recommend that monitoring and management of stocking densities is used to avoid low oxygen events.*		
Response from Ngā Runanga			Ngā Runanga support 26th June option proposed by NTS

POTENTIAL IMPACT 7: Continued use of marine areas & resources (Links to Te Ao Marama, 2019 page 21)			
Impact	**Supporting evidence from technical reports**	**Description of values impacted**	**Mitigation measures**
CULTURAL LANDSCAPE **MAURI** **MANA** **MAHINGA KAI**	Use of the coastal and marine areas is dependent on access, so we have reviewed the report from Navigatus. With respect to access Navigatus (2019) explain that the proposed farm area is located in an area that is not considered to be navigationally complex and that has generally low levels of small and medium-sized marine craft traffic. It is however in an area that currently has a number of designated anchorages and that is environmentally challenging with frequent poor sea conditions and high winds. We also note that Navigatus (2019) state that the presence of the farm would create a number of enhancements in navigational safety: • As the farm may have associated with, the presence of skilled mariners operating in the otherwise isolated area can provide first response, a point of safety or essential medical support for mariners in distress. • Increase in navigational markers in an area with few existing markers for both day and nighttime navigation. • Also, if fitted with a radio reporting station, such a station could report local weather conditions and so contribute to navigational safety in the area.	Many whanau in Murihiku live and work on the sea: including: • Customary fishers; • Commercial fisherman; • Tourist operators e.g. caged shark diving; • Recreational fishing; and • Titi harvesters. Protecting the values and practices central to the cultural identity of Ngai Tahu requires that these uses be secured into the future. The concern from the perspective of whanau is that there is not a "Plan B" if the oyster beds are impacted or the titi populations (and harvests) are adversely affected. While the activities the whanau engage in occur across the Murihiku coastline, there are specific sites that are to be protected from any adverse effects.	It is noted that the impact on any of the named sites is expected to be less than minor. It is also noted that a comprehensive monitoring programme is intended to identify any unanticipated impacts. From the hui it is recommended that cultural monitoring be developed with Nga Runanga. Manawhenua need to be advised of the impact (if any) on - Titi Islands (Figure 6c) - Oyster beds (Figure 6b) - Existing mataitai (Figure 6a) - Te Whenua Hou (Fig 6b) - Rakiura. Nga Runanga need to agree the overall monitoring programme that is to be put in place to monitor potential impacts, and the strategies that will be put in place to address any unforeseen impacts. Regularly reporting monitoring results to Nga Runanga is essential.

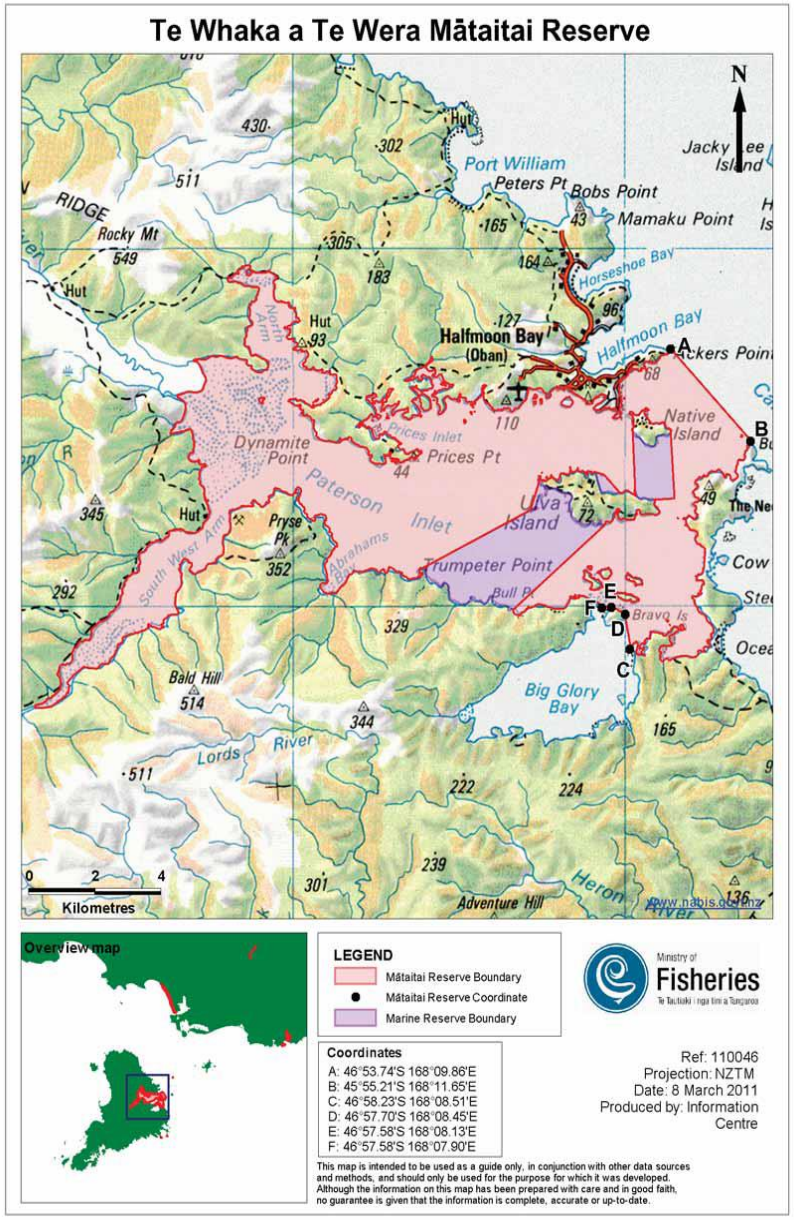
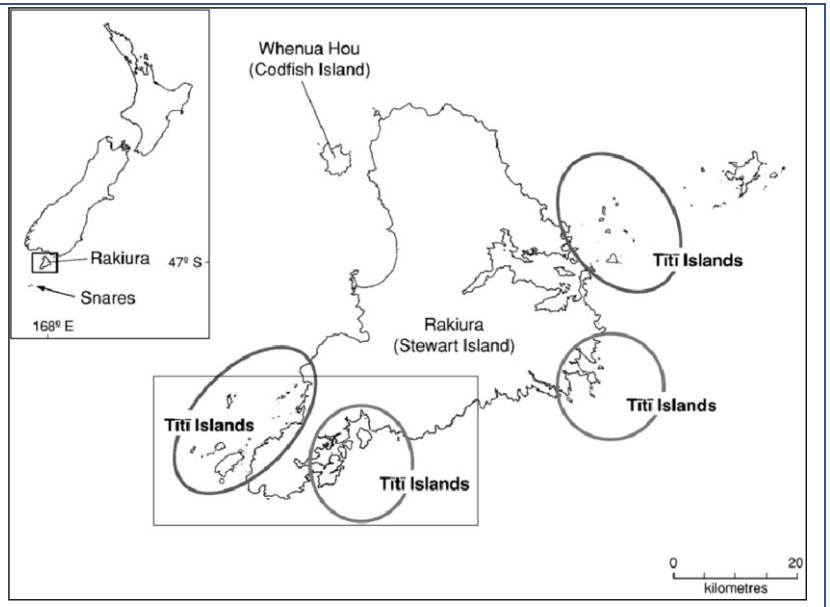
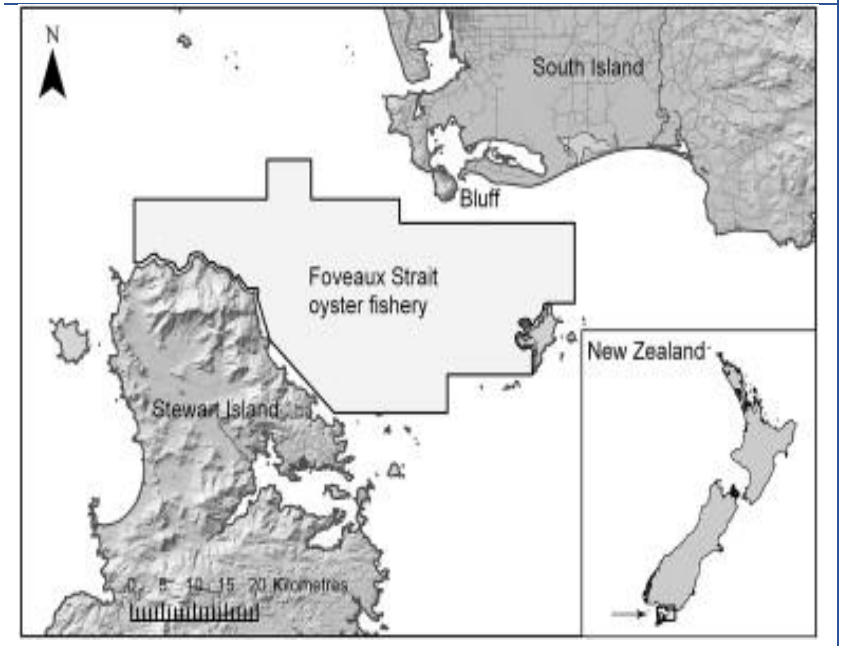


Figure 6a left: the boundaries of the Mataitai Serve in Paterson Inlet

Figure 6b top right: the location of the Titi Islands

Figure 6c bottom right: the oyster beds in Foveaux Strait





CULTURAL LANDSCAPE **MAURI** **MANA** **MAHINGA KAI**	In respect of the oyster beds, we note the report prepared by Keith Michael (2019). • *The potential, unmitigated effects of salmon aquaculture on wild oysters (O. chilensis) are dependent on the design and construction of farm structures, salmon stocking densities and farm operations. The actual risk will depend on highly specific farm, biosecurity and vessels strategies, and their effective management and compliance.* • *Worldwide, the movement of infected shellfish and biofouling on farm structures and vessels are the primary pathways of spreading shellfish pathogens. Oyster diseases pose the greatest threat to the Foveaux Strait oyster fishery and biosecurity is the highest priority for all stakeholders. The introduction of a new oyster pathogen or Bonamia ostreae from Big Glory Bay or the Marlborough Sounds would have catastrophic consequences for the oyster fishery. Vessel traffic associated with the proposed farming operations potentially pose a significant risk of spreading pathogens; however, with* • *appropriate vessel management and biosecurity strategies, this risk can be mitigated to below that posed by other vessels.* • *Shellfish and invertebrate biofouling on farm structures including oysters can provide high densities of hosts for oyster pathogens. Biofouling has the potential to spread pathogens in pallial water and through systemic infections, and drop-offs and debris detached naturally and by farm cleaning operations can be transported over long distances by the strong currents of Foveaux Strait. The unmitigated risk of oyster pathogens being spread to the fishery is high. If oysters become established on farm structures, these high host densities are likely to be well above the threshold required to trigger a B. exitiosa epizootic. Biofouling is a major problem for marine aquaculture and can be difficult and expensive to control. The risk of introducing pathogens to the wild oyster population can be substantially reduced by ensuring that the farm infrastructure is regularly maintained and kept substantially free of biofouling, including by oysters. The NTS Biosecurity Management Plan (BMP) provides strategies that can substantially minimise biofouling including by oysters. The effectiveness of the BMP will be dependent on compliance and regular monitoring.* • *The risk of nutrient enrichment from the proposed farm contributing to harmful algal blooms in Foveaux Strait is credible but low.*	Manawhenua need to be advised of the report on the potential impacts on the oyster fishery, explaining in particular the mitigations that are available. A key factor when assessing the residual risk to oysters is the Draft Biosecurity Plan. It is recommended that the Biosecurity Plan be fully explained to Nga Runanga
Response from Ngā Runanga		Ngā Runanga support 26th June option proposed by NTS and the establishment of Manawhenua Working Group

4.4 IDENTIFICATION & MANAGEMENT OF IMPACTS ON WAHI TAONGA – CONSTRUCTION & OPERATIONAL STAGES

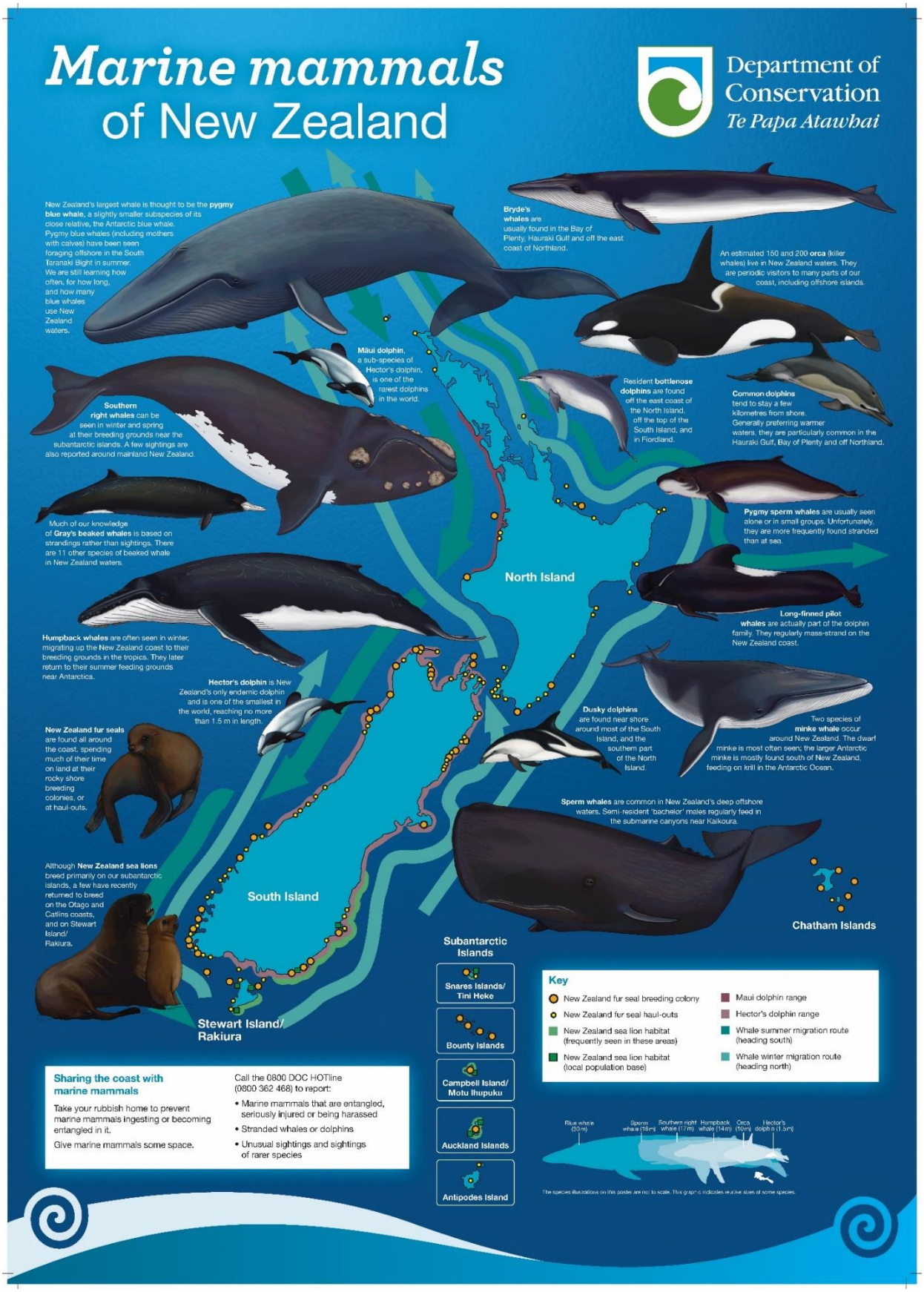
The Rakiura National Park Management Plan identifies the following populations of taonga species.

Common name (Scientific name)	Mäori name	Threat status	Distribution
New Zealand fur seal (Artocephalus forsteri)	Kekeno.	Not threatened.	Bench Island and Whero Rock are main colonies.
New Zealand or Hooker's sea lion (Phocarctos hookeri)	Whakahao.	Range restricted.	Port Pegasus/Pikihatiti.
Southern right whale (Eubaleana australis)	Tohora.	Range restricted.	Becoming more frequently seen in area waters.
Albatross (Diomedeidae spp.)	Toroa.	Range of statuses - many species naturally uncommon.	
Great white shark (Carcharodon carcharias)		Gradual decline.	Coastal waters.
Black corals (Antipathidae spp.)		Range restricted.	Port Pegasus/Pikihatiti.

In the sections that follow we discuss the potential effects on seals, sealions, whales, birds and sharks.

Figures 7 – 9: seals, sealions and sharks found in Foveaux Strait.

Figure 10: Marine mammals of New Zealand: some of which are found in Foveaux Strait.



POTENTIAL IMPACT 8: Impact on whales			
Impact	**Supporting evidence from technical reports**	**Description of values impacted**	**Mitigation measures**
TAONGA SPECIES **MAHINGA KAI**	Cawthron (2019) quote a recent global review by Price et al. (2017), that concludes there is currently very little information on how marine mammals might perceive farm structures within the open ocean environment, and even fewer data that can adequately inform their possible responses. Cawthron (2019) note with respect to Baleen whales that while the active avoidance of farm structures by a few individual whales would not be considered a significant disruption, the displacement of the migration pathway further offshore or complete avoidance of vital resting or nursing habitats could have larger scale repercussions on the population if these responses led to a reduction in fitness (i.e. extra travel time causes reduced reproduction rates in pregnant females). With respect to entanglement, larger whales are considered more susceptible to entanglement in marine gear from fisheries and aquaculture (e.g. ropes, buoys, nets) than other marine mammals with three species most commonly reported worldwide; humpback, minke and right whales (Benjamins et al. 2012; Young 2015). Regarding the present proposal, the extent to which the proposed farm sites overlap with potential winter habitats of southern right whales and the northern migrations routes of humpback whales, as well as their known vulnerability towards entanglement, make these species the primary whales of concern. Cawthron (2019) note with respect to echolocating species (e.g. bottlenose dolphins or orca) that based on the limited evidence available, the likelihood for habitat displacement or avoidance behaviours associated with the proposed farm is considered low for pinnipeds, dolphins and whale species. Some species, such as bottlenose dolphins, fur seals and orca, are just as likely to be attracted to the farm structure as a food source, and thus the risk of displacement is also considered low. However, the consequences of any displacement effects are uncertain at this stage, particularly for whale species, due to lack of adequate data. Despite this ability, odontocetes still entangle with finfish farms, and are often more at risk of entanglement than whales due to their attraction to the penned fish as an easy food source or to the associated aggregations of wild fish around farms.	With the presence of new infrastructure that brings lighting and noise whanau voiced their concern that there is the potential to disrupt the passage of whales through the strait. Not all whales echo-locate to locate obstacles.	Nga Runanga are to review and finalise with Ngai Tahu Seafood the Mammal Management Plan.
Response from Ngā Runanga			Ngā Runanga support 26th June option proposed by NTS

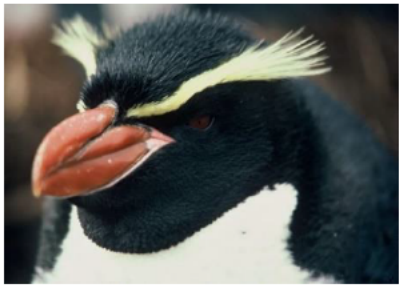
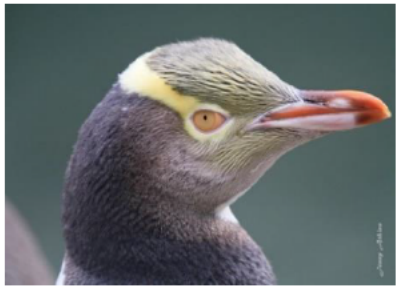
POTENTIAL IMPACT 9: Impact on seals and sea lions			
Impact	**Supporting evidence from technical reports**	**Description of values impacted**	**Mitigation measures**
MAURI **TAONGA SPECIES**	Cawthron (2019) note that it is likely that both pinniped species will visit and interact with the proposed farm. In the case of NZ sea lions, the issues of low population size and a fairly isolated population structure make this species more vulnerable to adverse interactions than other species. Hence, the entanglement of one individual could have much larger scale and longer-lasting repercussions on the population's recovery, making a previously minor effect much more serious and broader in its implications (MPI 2013). However, unlike baleen whales, it is thought that most entanglements of pinnipeds occur when farms, or more likely predator nets, are not properly installed or maintained (e.g. Tanner 2007), and thus appropriate management and mitigation actions can help reduce the chances of entanglement significantly. Overall, the likelihood for entanglement is considered low for all species. However, the consequence of such a rare event is highly dependent on the animal(s) involved as several of the species are considered threatened or endangered and a fatal entanglement could have potentially serious regional or population level repercussions. While pinnipeds and dolphins (mainly bottlenose and dusky) are considered the species most at risk in regard to this proposal, evidence suggests that the risk can be reduced through appropriate farm design and strict operational procedures. The entanglement of baleen whales, particularly southern right and humpback whales has also been considered due to the more offshore location and scale of the proposal. The direct effect of anthropogenic noise from the proposed salmon farm and associated operations is expected to be nil to less than minor on local marine mammal species.	Seals and sea lions are taonga species. Ngai Tahu is aware that marine mammals such as seals and sea lions may be attracted to the pens given the presence of a new food source. If so this could increase the risk of entanglement with the infrastructure.	Cawthron conclude the likelihood of any potential adverse impacts from aquaculture activities affecting local and visiting marine mammals is assessed as *low*. To ensure that the most appropriate measures are in place, it is suggested that a Marine Mammal Management Plan (MMMP) be developed by a marine mammal expert in consultation with Nga Runanga and Department of Conservation (DOC) prior to commencing operations. This plan should at least outline in detail: (i) a dis-entanglement protocol in the unlikely event that there is an entanglement, (ii) any implemented mitigation procedures that will need to be reviewed for effectiveness during operations and (iii) to determine timelines for any subsequent reporting requirements. If the farm is consented, there are a range of best management practices (BMPs) regarding the set up and operation of marine farms that can help reduce risks of entanglement and other adverse effects. Note that BMPs are suggested even where effects are expected to be negligible. The role that Nga Runanga will have in monitoring and reporting needs to be agreed.
Response from Ngā Runanga			Ngā Rūnanga support being involved in any development of management plans

POTENTIAL IMPACT 10: The impacts on sharks			
Impact	**Supporting evidence from technical reports**	**Description of values impacted**	**Mitigation measures**
MAURI **TAONGA SPECIES** **MAHINGA KAI** **MANA**	We note the NIWA (2019) comment that there has been little documentation of those interactions or of the measures taken to avoid or mitigate them. NIWA also suggested that marine farm should avoid areas deeper than 20 m to minimise white shark interactions.	Native fish species include great white sharks, which are known to inhabit Foveaux Strait. Nga Runanga want the farm to reduce, eliminate or mitigate potential impacts on sharks. Manawhenua stress that any indigenous biodiversity is very significant and the expectation is that they will not be adversely impacted.	NIWA (2019) recommend reducing or mitigating interactions between sharks and the proposed fish farm by: 1. use a predator exclusion net around the fish holding net to repel sharks; 2. inspection of nets daily for sharks, and for holes and gaps; 3. ensuring animal husbandry is of the highest possible standard to reduce fish mortality; 4. monitoring shark activity near the farm with underwater video cameras; 5. maintaining greatest vigilance from summer to early winter when sharks are expected to be most abundant; 6. developing an action plan in conjunction with Nga Runanga and the DOC to describe the procedures to be followed in the event of a white shark being trapped or killed; 7. training staff in the removal of sharks from the exclusion and holding nets; and 8. developing and implement a Shark Management Plan, which is to be agreed by Nga Runanga.
Response from Ngā Runanga			Ngā Rūnanga support being involved in any development of management plans

POTENTIAL IMPACT 11: The impacts on birds, in particular titi			
Impact	**Supporting evidence from technical reports**	**Description of values impacted**	**Mitigation measures**
MAURI **TAONGA SPECIES** **MAHINGA KAI** **MANA**	Boffa Miskell (2019) identified the following potential direct and indirect ecological effects: • Entanglement in structures – the potential risk was seen to be negligible and at a local scale; • Habitat exclusion – the potential risk to sooty shearwater, red billed gull and white fronted tern was seen to be very low; • Smothering of benthos beneath farm feed - added species farm; • Providing roost sites closer to foraging areas – this was seen as a net gain or positive impact; • Changes to food supply - the potential risk was seen to be very low; • Disturbance - the potential risk to Foveaux Shag and yellow eyed penguins was moderate, for the little penguins and variable oystercatcher low, and for other species very low; • Marine litter - the potential risk to Foveaux Shag was low, and for other species very low; and • Attraction to lights - the potential risk to Foveaux Shag, pied shag, sooty shearwater and fairy prion was low and for other species very low;.	A range of birds found in and around Rakiura are classed as being a taonga species. From the perspective of Ngai Tahu all taonga bird species are to be protected. Whanau are concerned about the impacts of construction: • Noise; • Lighting; • Increased presence of predators; • Increased vehicle traffic; • Disruptions at key times e.g. the risks of leaving the nests during nesting time; and • Debris and rubbish entering the marine environment. Titi are a species of immense value and interest, which was specifically identified at both of the consultation hui. It is acknowledged that the diversity of birdlife has led to a number of tourist ventures.	Boffa Miskell (2019) advise that the following measures have been incorporated into the proposed salmon farming project in order to manage and mitigate the potential effects: • Good management of underwater nets and predator nets (e.g. keeping nets taut and well maintained). • Enclosing predator nets above and below pens, keeping nets taut and using small mesh sizes. • Minimise the waste accumulating on the seabed beneath pens. • Use of top nets, preventing birds gaining access to the fish from above. • Minimise boat traffic associated with the salmon farming, and no land access on adjacent coastline. • Waste Management Plan to ensure waste material and debris are collected and disposed of correctly. • Minimal non-navigational lighting at night. In order to further minimise these moderate level effects, a 100 m buffer zone should be established along the coastline adjacent to the project site whereby no activities associated with the proposed salmon farming would occur. This would help to reduce the potential effects of indirect disturbance, especially on breeding species (including yellow-eyed penguin and Foveaux shag). In addition, monitoring and reporting of negative interactions of seabirds with any structures associated with the salmon farming activities should be undertaken, and species-specific management strategies should be agreed with Nga Runanga, implemented and reported to Nga Runanga. A comprehensive baseline survey of populations is needed pre-construction.
Response from Ngā Runanga			Ngā Runanga support 26th June option proposed by NTS

			**Figures 11 to 13: Some of the seabirds found in and around Rakiura**

POTENTIAL IMPACT 12: The impacts on penguins			
Impact	**Supporting evidence**	**Description of values impacted**	**Mitigation measures**
MAURI **TAONGA SPECIES** **MAHINGA KAI** **MANA**	We note that penguins are discussed in the bird species report.	A number of penguin species are recognised as taonga species. Four species of penguins are found on Rakiura (shown from left to right below): • Snares Crested penguin (rare visitor); • Yellow eyed penguin (all year); • Blue penguin (all year); and • King Penguin (rare). At the Rakiura hui it was stated that yellow eyed penguin nested along the coastal margin, although nests had not been observed during a recent search.	A comprehensive baseline survey of populations is needed pre-construction.
Response from Ngā Runanga			Ngā Runanga support 26th June option proposed by NTS as per Impact 16

Figures 14- 17: The penguin species found around Rakiura

POTENTIAL IMPACT 13: Increased pressures on other (non-salmon) fish populations			
Impact	**Supporting evidence**	**Description of values impacted**	**Mitigation measures**
MAURI **TAONGA SPECIES** **MAHINGA KAI**	Cawthron (2019) conclude that there is the potential for wider, more indirect ecosystem effects on marine mammals due to aquaculture in the form of food-web alterations (Black 2001; Kaiser 2001; Würsig & Gailey 2002; Kemper et al. 2003). But the effect will be less than minor. NTS explained that reports on wild fish and wild fisheries are still to be completed.	Taonga species include numerous fish species. These also remain of cultural significance to Ngai Tahu. At the Invercargill hui the impact on blue cod was raised as a concern. However, those present at the Rakiura hui observed that the location of the farm was not known as a blue cod fishery. The loss of coastal space from which to gather was still an issue, as was the possibility that food fed to penned stock could attract other fish species e.g. blue cod.	It is expected that the wild fish and wild fisheries reports that are still to be completed will identify a number of mitigations. The appropriateness of these is to be discussed with Nga Runanga.
Response from Ngā Runanga			Ngā Runanga support 26th June option proposed by NTS

POTENTIAL IMPACT 14: Increased risk of disease within the farm and spreading to other populations			
Impact	**Supporting evidence**	**Description of values impacted**	**Mitigation measures**
MAURI **TAONGA SPECIES** **MAHINGA KAI**	The risks associated with mass farming of any species was identified as an issue at both the Invercargill and Rakiura hui. We note that there are multiple reports about biosecurity and disease. We note the conclusion by Morrisey (Nov 2019): • *Farm-related vessel movements are likely to be the most important biosecurity risk associated with the proposed farm. Although individual vessel movements are unlikely to be of higher risk than any other movements in the area, the number of movements in and around the proposed farm site will increase. However, several risk mitigation measures are proposed, and the residual biosecurity risk is expected to be less than minor.* • *The production of smolts in a purpose-built facility away from other aquaculture facilities, and their transport to the proposed farm site in live tanks or a live-well vessel, will minimise risks of contamination of the stock by pests and pathogens. The proposed methods for harvesting, transport of harvested fish, and management of mortalities under containment, will minimise the biosecurity risk of the pathway from the farm.* • *The dispersive (high-flow) nature of the proposed farm site will minimise the accumulation of organic waste on the seabed beneath, and of nutrients in the water column around, the farm. This will minimise any risk of creating conditions favourable to non-indigenous species.*	In international literature there is considerable discussion of the risk of parasites and diseases affecting penned populations of fish. Whanau need to understand the: • Risk to non-penned indigenous biodiversity; • How any diseases will be treated and what the impacts of the treatment are likely to be; • The extent, given the location of the farm in Foveaux Strait, of the spread of disease; and • The risk of any contaminants reaching the oyster beds or other highly valued sites.	Whanau at the Invercargill hui stated that NTS needs to adopt best management processes. This would also mean that BMPs would be applied to prevent the spread of diseases beyond the footprint of the farm. We also note that Morrisey (2019) refers to: • *The proposed mitigation measures include standards for management of biofouling, stock-transfer water and bilge water.* • *NTS proposes that all vessels under its direct control, and those of its contractors, will comply with the Fiordland Marine Pathway standards for clean vessels. All equipment and materials used on the farm will be new. Nets and pens will be cleaned in situ on a continuous basis to prevent the development of biofouling, reducing the risk that any non-indigenous species that reach the site will establish persistent populations.* Nga Runanga need to be confident with the monitoring and adaptive management regime, and the Biosecurity Management Plan will protect their interests should an unanticipated impact occur.
Response from Ngā Runanga			Ngā Runanga support 26th June option proposed by NTS

POTENTIAL IMPACT 15: Visual impact of the salmon farm - (Links to Te Ao Marama, 2019 page 15)			
Impact	**Supporting evidence**	**Description of values impacted**	**Mitigation measures**
CULTURAL LANDSCAPE **MAURI**	The report from Rough and Milne Landscape Architects was reviewed. We note their conclusions that: • *The CTA is considered to be an area of Outstanding Natural Character. The proposed development will be located at between 1.7–3 km from the CTA and because of this separation distance the ONC values of the CTA interface will remain unaffected.* • *Consequently, there will be no adverse effects on the Outstanding Natural Character of the CTA.* • *The CMA is considered to be an area of Moderate High Natural Character. There will be low adverse effects relating to the Moderate High Natural Character of the CMA arising from the proposed development* • *Overall, despite the presence of the proposed development the CTA will remain an area of Outstanding Natural Character and the CMA will remain an area of Moderately High Natural Character.* • *There will be no adverse effects on the ONL and effects on other natural landscapes within the receiving coastal environment are considered very low.* • *Although visible to varying degrees depending on viewing distance, overall there will be very low effects on visual amenity within the CTA and CMA.*	The entire landscape of the Rakiura is of significance to Ngai Tahu. The trails that take you up Hananui are increasing in use. It is important to note however, that places/sites did not function in isolation from one another but were and remain part of a wider cultural setting that includes not only sites as defined by the presence of archaeological remains, but all manner of highly valued places that were named by the earliest inhabitants of the area. • Every part of the landscape was known and named. • Cultural landscapes encompass a range of sites valued and utilised by Ngai Tahu. Minimising the visual impact of the offshore salmon farm on the cultural landscape is important. It should be stressed, however, that the open expanse of Foveaux Strait, the view from Hananui that is largely infrastructure free are two attributes valued highly by Ngai Tahu.	It is acknowledged that distance from the coast is a key mitigating factor. As noted in the introduction to section 2, the proposed site is located off the northern coast of Rakiura/Stewart Island, 13 km north-west of Oban. The proposed site ranges from approximately 1.5 km offshore at its closest point to approximately 6 km offshore. Ngai Tahu Seafood need to share with Manawhenua the reasons why Rough and Milne Landscape Architects concluded that impacts would be low or very low. It is for Nga Runanga to accept this assessment.
Response from Ngā Runanga			Ngā Runanga support 26th June option proposed by NTS

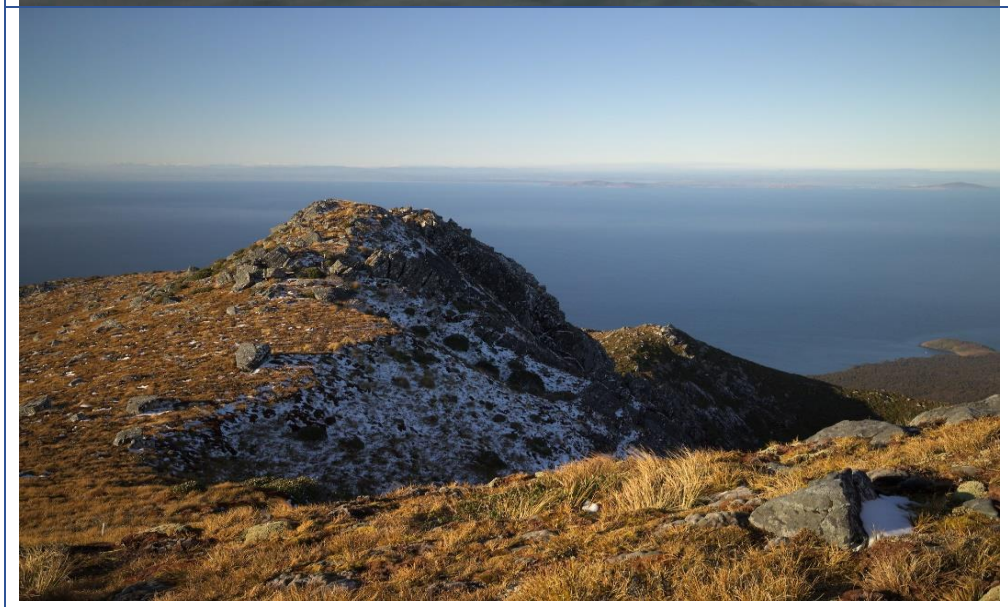


Figure 18 top left: view of a cage from sea level (photo supplied by Thomas Hildebrand)

Figure 19 top right: view when approaching a caged salmon farm from sea Level (photo supplied by Thomas Hildebrand)

Figure 20 bottom left: view from Hananui

POTENTIAL IMPACT 16: Impact of Ngai Tahu Seafood activities on access of Manawhenua and communities to the coastal margin and marine waters.		
Impact	**Description of values impacted**	**Mitigation measures**
MANA **WHAKAPAPA** **WHANAUNGATANGA**	It is expected that access to and from the beach will not be impacted by the operation of the farm. At the Rakiura hui it was noted that small craft travel along the inshore coastal waters which if the farm is consented will be between the coast and the farm. This access must be maintained in the future.	There will be no onshore infrastructure so access to and along the beach will not be impacted. Also, at its nearest point, the farm is at least 2.5km offshore.
Response from Ngā Runanga		Ngā Runanga support 26th June option proposed by NTS

POTENTIAL IMPACT 17: Potential introduction and spread of noxious species		
Impact	**Description of values impacted**	**Mitigation measures**
MANA **WHAKAPAPA** **WHANAUNGATANGA**	Protecting the coastal and marine environment and the cultural opportunities that it affords is important to Ngai Tahu. Therefore, a conscious effort is needed to ensure that the construction and operation of the farm do not introduce invasive species or enable populations of invasive species to secure a foothold and to flourish. Those present at the Rakiura hui also identified the potential risk to the farm from anchorages of large vessels in close proximity to the farm.	The expectation is that BMP means that protocols will be in place to prevent incursions. However, this is an area that needs to be discussed with Nga Runanga. Nga Runanga need to be confident of the provisions of the Biosecurity Management Plan.
Response from Ngā Runanga		Ngā Runanga support 26th June option proposed by NTS

POTENTIAL IMPACT 18: Health and safety implications			
Impact	**Supporting evidence**	**Description of values impacted**	**Mitigation measures**
MANAAKITANGA	There is limited information provided from Ngai Tahu Seafood of a Health and Safety Management Plan or protocol, or what the role of Nga Runanga may be.	Nga Runanga supports recent initiatives from TRONT and its subsidiaries to create a safe workplace for individuals working in their takiwa. Whanaungatanga and manaakitanga are fundamental values for Ngai Tahu which stress the importance of working together and looking after each other. The health and safety of those active in and around the site during and post construction is essential.	Nga Runanga acknowledge that exclusive occupation of space is a key health and safety strategy. It is also assumed that Ngai Tahu Seafood will develop a detailed Health and Safety Plan that ensures individuals working on the project are protected during the construction phase and then later during the operational phase. Given that there is no onshore infrastructure, health and safety issues associated with the development will not deny whanau or the community access to the coastal margin or put anyone enjoying the coast at risk.
Response from Ngā Runanga			Ngā Runanga support 26th June option proposed by NTS

POTENTIAL IMPACT 19: Long term maintenance		
Impact	**Description of values impacted**	**Mitigation measures**
MAURI **MAHINGA KAI** **CULTURAL LANDSCAPES** **WAI MAORI**	Ngai Tahu Seafood will require a long term maintenance programme for the offshore salmon farm infrastructure. This will be on a much smaller scale than the activities and impacts during the construction phase. Manawhenua raised concerns about the risk and likelihood of breakages during storms which could lead to onshore and marine debris, which can detract from use by Manawhenua and communities.	Maintenance will be required but the scale of this is unknown. It may require further remediation in the future. A detailed description of maintenance requirements is required by Ngai Tahu to understand potential long term effects of the infrastructure. An ongoing process whereby Ngai Tahu and Ngai Tahu Seafood meet to discuss maintenance activities and the results of monitoring is required. The expectation of those present at the hui was that NTS will commit to ensuring that debris from their farm will not adversely impact those interacting with shoreline, coastal or marine environments.

POTENTIAL IMPACT 20: Permanence of the salmon farm – will it prevent other runanga opportunities?		
Impact	**Description of values impacted**	**Mitigation measures**
TE MOEMOEA	In a number of freshwater management processes, whanau have heard of situations where an optimum water management solution cannot be implemented because it has been preempted by the placement of infrastructure in the catchment. Nga Runanga need to be advised of all options considered by NTS so that it is assured that this is the optimum solution.	NTS is not to prevent future development opportunities by Nga Runanga.
Response from Ngā Runanga		Any permanence or discussions that may impact the rights of the next generation will need further discussion.

POTENTIAL IMPACT 21: The risks of adaptive management			
Impact	**Supporting evidence**	**Description of values impacted**	**Mitigation measures**
KAITIAKITANGA	Cawthron (2019) note that "there are still knowledge gaps and uncertainty around how marine mammals will perceive offshore farm structures visually and acoustically, and importantly, the results of their reactions to farms". During the hui whanau also expressed concerns about the scale of the farm. Staging is seen as being the principal means of ensuring the environment can sustain a farm of the scale proposed. Nga Runanga want to be engaged in the key decision whereby NTS determine whether to move to the next stage.	Ngai Tahu experiences with adaptive management (in other resource management contexts) is that it hasn't always worked as expected. The key is to make sure that what is monitored can trigger an adaptive cycle. Of particular concern is that for some cultural uses and values the effects are to be avoided. There is a "Plan B" if unforeseen effects are experienced, other than ceasing operations.	Cawthron (2019) note that recommended mitigation actions are aimed at addressing some of these gaps, including how marine mammals respond to the proposed farm, while assessing the effectiveness of any mitigation measures put in place. There are two issues that need to be agreed with Nga Runanga. Firstly, they need to be confident of the monitoring plan. The second issue that needs to be agreed with Nga Runanga is what will occur if the farm in operational and new information – to fill a current gap – identifies an unacceptable adverse effect.
Response from ngā Runanga			Ngā Runanga support 26th June option proposed by NTS

4.5 CUMULATIVE IMPACTS

POTENTIAL IMPACT 22: Cumulative impact of aquaculture		
Impact	**Description of values impacted**	**Mitigation measures**
MAURI **KAITIAKITANGA**	It is difficult for whanau to separate and isolate the effects of a discrete activity in Foveaux Strait knowing that it is to enable an activity which could have impacts far in excess of those associated with a single salmon farm.	NTS is encouraged to continue discussions with Nga Runanga to help them assess future applications and the cumulative impact of aquaculture in Murihiku.
Response from Ngā Runanga		Ngā Runanga support 26th June option proposed by NTS

Figures 21 - 23 a range of acitivities undertaken in Foveaux Strait

5.0 SCALE OF THE CULTURAL IMPACT AFTER MITIGATION

The table below has been developed to assist Nga Runanga to reconcile the impacts identified in section 4 and scale of impact that has been identified in the biophysical technical reports. However, we note that only Nga Runanga can determine if they are satisfied with the mitigation proposed, and the scale of impact after mitigation. Each column can be scored:

1. Very high
2. High
3. Moderate
4. Low
5. Very low

IMPACTS TO BE RESOLVED BETWEEN NGA RUNANGA AND NTS

Potential impact	Significance to Nga Runanga	Scale of impact identified in AEE after mitigation	Level of concern at impact after considering mitigations in AEE
Impact of Ngai Tahu Seafood activities on the cultural association			This is for Manawhenua to determine

IMPACTS DURING CONSTRUCTION

Footprint of infrastructure – salmon farm and support infrastructure during construction	-		Acceptability of the footprint is for Manawhenua to determine given the size of the footprint which would include the size of the plume (affecting water quality)
Impact of accommodation if needed at the farm.			It is not known if accommodation will be needed on site.

CHANGES TO THE BIOPHYSICAL ENVIRONMENT

Final operational footprint of infrastructure – i.e. salmon farm and support infrastructure	-		Acceptability of the footprint is for Manawhenua to determine given the size of the footprint which would include the size of the plume (affecting water quality)
Changes to the seabed under the footprint of the salmon farm			

Changes to the quality of marine waters.			
Continued use of marine areas & resources			

IMPACTS ON WAHI TAONGA

Impact on whales			
Impact on seals and sea lions			
The impacts on sharks			
The impacts on birds, in particular titi			
The impacts on penguins			
Increased pressures on other (non-salmon) fish populations			Reports on wild fish and wild fisheries is still to come.
Increased risk of disease within the farm and spreading to other populations			
Visual impact of the salmon farm			
Impact of Ngai Tahu Seafood activities on access of Manawhenua to the coastal margin and marine waters.			
Potential introduction and spread of noxious species			
Health and safety implications			
Maintenance requirements once the farm is established.			
Permanence of the salmon farm – will it prevent other more efficient opportunities?			This is for Manawhenua to determine
The risks of adaptive management regime		Staging of the development is important. However, this means Manawhenua need to be confident of the monitoring proposed for each stage.	This is for Manawhenua to determine
Cumulative impact of aquaculture in Murihiku		This cannot be assessed via technical reports of one application.	This is for Manawhenua to determine

CONCLUDING COMMENTS

This section summarises three key areas:

1. It provides a summary of adverse effects to be avoided.
2. It sets out the areas that are subject to further discussion.
3. It describes the expectations of Nga Runanga going forward.

6.1 Adverse effects to be avoided

In other CIAs that Nga Runanga have prepared, they explain how whanau have experienced the following adverse impacts across Murihiku:

- wahi tapu and wahi taonga have been lost. As a result, named and active associations are broken and the cultural relationship with areas is weakened and damaged,
- previously valuable mahinga kai have been similarly destroyed, and in instances access to existing resources has also been adversely affected.
- fish movements have been disrupted.
- the character of catchments and coastal environs have been irrevocably altered;
- infrastructure has had serious environmental implications and damaged fisheries and other mahinga kai, some irrevocably; and
- infrastructure has trapped sediments and coarser materials needed to replenish coastal environments.

Nga Runanga are committed to:

- protecting titi and tio;
- supporting abundant taonga species,
- protecting the quality of the coastal waters of Rakiura;
- protecting wahi tapu / wahi taonga;
- protecting cultural landscapes of which unimpeded views from Hananui is a central component;
- enhancing access along coastal margins;
- addressing issues relating to new infrastructure becoming established in what is perceived to be relatively unmodified locations.

When assessing the impacts associated with the proposal, Nga Runanga want to see the following adverse effects avoided:

- any impact on titi and tio;
- any deterioration to the quality of coastal waters – monitoring needs to confirm improvement;
- unnatural changes to the sediment flow and patterns of deposition – monitoring needs to confirm no adverse impacts.
- any loss of access to the coastal and marine environments in the vicinity of the new infrastructure;
- any loss of habitats for taonga species;
- any loss of wahi tapu and wahi taonga.

As is noted in some of the dot points above, some of these issues can be addressed by consent conditions and monitoring. Others require ongoing discussions with Nga Runanga.

Because some taonga are considered irreplaceable – specifically titi and oysters – a Plan B needs to be agreed with Manawhenua. What does NTS propose to do if monitoring shows that there is an adverse effect on these populations?

6.2 Going forward – Nga Runanga expectations

It is expected that the impacts specific to the proposed offshore salmon farm that are raised in this CIA will become the focus of ongoing discussions between Nga Runanga and Ngai Tahu Seafood.

6.3 Ongoing Discussions

Suggestions of ways to address some of the issues raised by members representing the four papatipu runanga included:

- Support for practical restoration of kai moana in harbours, wetlands and coastal waters and other valued ecosystems;
- Undertake formal monitoring, using a range of methods and actively involving Manawhenua;
- Support initiatives to increase capability in the area of the environmental management;
- Ensure a robust and direct relationship with Nga Runanga is established;
- Investigate the potential for the salmon farm contributing to the rejuvenation of the Bluff and Rakiura communities;
- Agree research priorities with Nga Runanga so that they can be confident that their uncertainties are to be investigated; and
- Explore with Nga Runanga opportunities that may be available to whanau to engage in salmon farming and or the support activities.

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Rough and Mile, 2019: *Natural character, landscape and visual amenity assessment of Te Ara a Kiwa Aquaculture Rakiura*

Appendix 1 – Statutory Acknowledgements

Schedule 104 of the Ngai Tahu Claims Settlement Act 1998: Statutory acknowledgement for Rakiura/Te Ara a Kiwa (Rakiura/Foveaux Strait Coastal Marine Area)

Statutory area

The statutory area to which this statutory acknowledgement applies is Rakiura/Te Ara a Kiwa (Rakiura/Foveaux Strait Coastal Marine Area), the Coastal Marine Area of the Hokonui and Awarua constituencies of the Southland region, as shown on SO 11505 and 11508, Southland Land District, as shown on Allocation Plan NT 505 (SO 19901).

Preamble

Under section 313, the Crown acknowledges Te Rūnanga o Ngāi Tahu's statement of Ngāi Tahu's cultural, spiritual, historic, and traditional association to Rakiura/Te Ara a Kiwa as set out below.

Ngāi Tahu association with Rakiura/Te Ara a Kiwa

Generally the formation of the coastline of Te Wai Pounamu relates to the tradition of Te Waka o Aoraki, which foundered on a submerged reef, leaving its occupants, Aoraki and his brother to turn to stone. They are manifested now in the highest peaks of the Kā Tititiri o Te Moana (the Southern Alps). The bays, inlets, estuaries and fiords which stud the coast are all the creations of Tū Te Rakiwhānoa, who took on the job of making the island suitable for human habitation.

The naming of various features along the coastline reflects the succession of explorers and iwi (tribes) who travelled around the coastline at various times. The first of these was Māui, who fished up the North Island, and is said to have circumnavigated Te Wai Pounamu. In some accounts the island is called Te Waka o Māui in recognition of his discovery of the new lands. A number of coastal place names are attributed to Māui, particularly on the southern coast. Māui is said to have sojourned at Ōmaui (at the mouth of the New River Estuary) for a year, during which time he claimed the South Island for himself. It is said that in order to keep his waka from drifting away he reached into the sea and pulled up a stone to be used as an anchor, which he named Te Puka o Te Waka o Māui (Rakiura or Stewart Island).

The great explorer Rakaihautu travelled overland along the coast, identifying the key places and resources. He also left many place names on prominent coastal features. When Rakaihautu's southward exploration of the island reached Te Ara a Kiwa, he followed the coastline eastwards before heading for the east coast of Otago.

Particular stretches of the coastline also have their own traditions. Foveaux Strait is known as Te Ara a Kiwa (the pathway of Kiwa), the name relating to the time when Kiwa became tired of having to cross the land isthmus which then joined Murihiku (Southland) with Rakiura (Stewart Island). Kiwa requested the obedient Kewa (whale) to chew through the isthmus and create a waterway so Kiwa could cross to and fro by waka. This Kewa did, and the crumbs that fell from his mouth are the islands in Foveaux Strait, Solander Island being Te Niho a Kewa, a loose tooth that fell from the mouth of Kewa.

The waka Takitimu, captained by the northern rangatira (chief) Tamatea, travelled around much of Te Wai Pounamu coast, eventually breaking its back at the mouth of the Waiau River in Murihiku. Many place names on the coast can be traced back to this voyage, including Monkey Island near Ōrepuki which is known as Te-Punga (or Puka)-a-Takitimu. While sailing past the cliffs at Ōmaui it is said that Tamatea felt a desire to go ashore and inspect the inland, and so he turned to the helmsman and gave the order "Tārere ki

whenua uta" ("swing towards the mainland"), but before they got to the shore he countermanded the order and sailed on. Subsequently the whole area from Ōmaui to Bluff was given the name of Te Takiwā o Tārere ki Whenua Uta. In olden days when people from the Bluff went visiting they were customarily welcomed on to the hosts' marae with the call, "haere mai koutou te iwi tārere ki whenua uta". One of the whare at Te Rau Aroha marae in Bluff is also named "Tārere ki Whenua uta" in memory of this event.
The Takitimu's voyage through the Strait came to an end and when the waka was overcome by three huge waves, named Ō-te-wao, Ō-roko and Ō-kaka, finally coming to rest on a reef near the mouth of the Waiau (Waimeha). According to this tradition, the three waves continued on across the low lying lands of Murihiku, ending up as permanent features of the landscape.

For Ngāi Tahu, traditions such as these represent the links between the cosmological world of the gods and present generations. These histories reinforce tribal identity and solidarity, and continuity between generations, and document the events which shaped the environment of Te Wai Pounamu and Ngāi Tahu as an iwi.

Because of its attractiveness as a place to establish permanent settlements, including pā (fortified settlements), the coastal area was visited and occupied by Waitaha, Ngāti Mamoe and Ngāi Tahu in succession, who through conflict and alliance, have merged in the whakapapa (genealogy) of Ngāi Tahu Whānui. Battle sites, urupā and landscape features bearing the names of tūpuna (ancestors) record this history. Prominent headlands, in particular, were favoured for their defensive qualities and became the headquarters for a succession of rangatira and their followers.

The results of the struggles, alliances and marriages arising out of these migrations were the eventual emergence of a stable, organised and united series of hapū located at permanent or semi-permanent settlements along the coast, with an intricate network of mahinga kai (food gathering) rights and networks that relied to a large extent on coastal resources.

Mokamoka (Mokomoko or Mokemoke) was one such settlement, in a shallow inlet off the Invercargill estuary. It was here that Waitai was killed, the first Ngāi Tahu to venture this far south, well out of the range of his own people, then resident at Taumutu. This settlement was sustained by mahinga kai taken from the estuary and adjoining coastline, including shellfish and pātiki (flounder).

Ōue, at the mouth of the Ōreti River (New River Estuary), opposite Ōmaui, was one of the principal settlements in Murihiku. Honekai who was a principal chief of Murihiku in his time was resident at this settlement in the early 1820s, at the time of the sealers. In 1850 there were said to still be 40 people living at the kaik at Ōmaui under the chief Mauhe. Honekai's brother, Pukarehu, was a man who led a very quiet life, and so was little known. He is remembered, however, in the small knob in the hills above Ōmaui which bears his name. When he passed away he was interred in the sandhills at the south end of the Ōreti Beach opposite Ōmaui. Ōue is said to have got its name from a man Māui left to look after his interests there until his return. It was also here that the coastal track to Riverton began. From Ōue to the beach the track was called Te Ara Pakipaki, then, when it reached the beach, it was called Mā Te Aweawe, finally, at the Riverton end, it was known as Mate a Waewae.

After the death of Honekai, and as a consequence of inter-hapū and inter-tribal hostilities in the Canterbury region, many inhabitants of Ōue and other coastal villages on Foveaux Strait relocated to Ruapuke Island, which became the Ngāi Tahu stronghold in the south. The rangatira Pahi and Tupai were among the first to settle on the island.

Pahi had previously had one of the larger and oldest pā in Murihiku at Pahi (Pahia), where 40 to 50 whare (houses) were reported in 1828. The Treaty of Waitangi was signed at Ruapuke Island by Tuhawaiki and

others. No battles however occurred here, the pā Pā-raki-ao was never fully completed, due to the realisation that Te Rauparaha could not reach this far south.

Other important villages along the coast included: Te Wae Wae (Waiau), Taunoa (Ōrepuki), Kawakaputaputa (Wakaputa), Ōraka (Colac Bay), Aparima (Riverton— named Aparima after the daughter of the noted southern rangatira Hekeia, to whom he bequeathed all of the land which his eye could see as he stood on a spot at Ōtaitai, just north of Riverton), Turangiteuaru, Awarua (Bluff), Te Whera, Toe Toe (mouth of the Mataura River) and Waikawa.

Rarotoka (Centre Island) was a safe haven at times of strife for the villages on the mainland opposite (Pahi, Ōraka and Aparima). Numerous artefacts and historical accounts attest to Rarotoka as having a significant place in the Ngāi Tahu history associated with Murihiku.

Rakiura also plays a prominent part in southern history, the “Neck” being a particularly favoured spot. Names associated with the area include: Kōrako-wahine (on the western side of the peninsula), Whare-tātara (a rock), Hupokeka (Bullers Point) and Pukuheke (the point on which the lighthouse stands). Te Wera had two pā built in the area called Kaiarohaki, the one on the mainland was called Tounoa, and across the tidal strip was Kā-Turi-o-Whako.

A permanent settlement was located at Port Pegasus, at the south-eastern end of Rakiura, where numerous middens and cave dwellings remain. Permanent settlement also occurred on the eastern side of Rakiura, from the Kaik near the Neck, south to Tikotaitahi (or Tikotatahi) Bay. A pā was also established at Port Adventure.

Mahinga kai was available through access from the coastal settlements to Te Whakaa-te-Wera (Paterson Inlet), Lords River and, particularly for waterfowl, to Toi Toi wetland. In addition, the tītī islands off the northeastern coast of the island, and at the mouth of Kōpeka River and the sea fishery ensured a sound base for permanent and semi-permanent settlement, from which nohoanga operated.

Te Ara a Kiwa, the estuaries, beaches and reefs off the mainland and islands all offered a bounty of mahinga kai, with Rakiura and the tītī islands being renowned for their rich resources of bird life, shellfish and wet fish. The area offered a wide range of kaimoana (sea food), including tuaki (cockles), paua, mussels, toheroa, tio (oysters), pūpū (mudsnails), cod, groper, barracuda, octopus, pātiki (flounders), seaweed, kina, kōura (crayfish) and conger eel. Estuarine areas provided freshwater fisheries, including tuna (eels), inaka (whitebait), waikōura (freshwater crayfish), kōkopu and kanakana (lamprey). Marine mammals were harvested for whale meat and seal pups. Many reefs along the coast are known by name and are customary fishing grounds, many sand banks, channels, currents and depths are also known for their kaimoana. A range of bird life in the coastal area also contributed to the diversity of mahinga kai resources available, including tītī, seabirds such as shags and gulls, sea bird eggs, waterfowl, and forest birds such as kiwi, kākā, kākāpō, weka, kukupa and tieke. A variety of plant resources were also taken in the coastal area, including raupō, fern root, tī kōūka (cabbage tree), tutu juice and kōrari juice. Harakeke (flax) was an important resource, required for the everyday tasks of carrying and cooking kai. Black mud (paru) was gathered at Ocean Beach for use as dye. Tōtara bark was important for wrapping pōhā in, to allow safe transport of the tītī harvest. Pōhā were made from bull kelp gathered around the rocky coast.

The numerous tītī islands are an important part of the Ngāi Tahu southern economy, with Taukihepa (Te Kanawera) being the largest. Tītī were and are traded as far north as the North Island. The “Hakuai” is a bird with a fearsome reputation associated with the islands. No one has ever seen this bird, which appears at night, but it once regularly signalled the end to a birding season by its appearance at night. Known for its distinctive

spine-chilling call, the hakuai was a kaitiaki that could not be ignored. At the far western edge of Foveaux Strait is Solander Island (Hau-tere), an impressive rock pinnacle rising hundreds of feet out of the sea, on which fishing and tītī gathering occurred.

The coast was also a major highway and trade route, particularly in areas where travel by land was difficult. Foveaux Strait was a principal thoroughfare, with travel to and from Rakiura a regular activity. There was also regular travel between the islands Ruapuke, Rarotoka and other points.

The tītī season still involves a large movement across the Strait to the islands, in addition large flotillas of Ngāi Tahu once came south from as far afield as Kaikōura to exercise their mutton-birding rights. Whenua Hou (Codfish Island) and the Ruggedy Islands were important staging posts for the movement of birders to the tītī islands off the south-west coast of Rakiura. Whenua Hou had everything that the birders required: shelter, proximity to the tītī islands, kai moana, manu (birds) and ngahere (bush). From Whenua Hou, the birders would camp at Miniti (Ernest Island), at the end of Mason Bay, where the waka-hunua (double-hulled canoes, or canoes with out-riggers) were able to moor safely, ready for the final movement to the various tītī islands.

Waka-hunua were an important means of transport on the dangerous and treacherous waters of Foveaux Strait and the Rakiura coast. After dropping birders and stores on the tītī islands the waka hunua generally returned immediately to Aparima and other tauranga waka along the mainland of Foveaux Strait, due to the paucity of safe anchorages among the tītī islands.

Travel by sea between settlements and hapū was common, with a variety of different forms of waka, including the southern waka hunua (double-hulled canoe) and, postcontact, whale boats plying the waters continuously. Hence tauranga waka occur up and down the coast, including spots at Pahi, Ōraka and Aparima, and wherever a tauranga waka is located there is also likely to be a nohoanga (settlement), fishing ground, kaimoana resource, rimurapa (bull kelp - used to make the pōhā, in which tītī were and still are preserved) and the sea trail linked to a land trail or mahinga kai resource.

Knowledge of these areas continues to be held by whānau and hapū and is regarded as a taonga. The traditional mobile lifestyle of the people led to their dependence on the resources of the coast.

The New River Estuary contains wāhi tapu, as do many of the coastal dunes and estuarine complexes for the length of the Foveaux Strait. Many urupā are located on islands and prominent headlands overlooking the Strait and the surrounding lands and mountains. The rangatira Te Wera, of Huriawa fame, is buried at Taramea (Howells Point), near Riverton. There are two particularly important urupā in Colac Bay, as well as an old quarry site (Tīhaka). From Colac Bay to Wakapatu, the coastal sandhills are full of middens and ovens, considered to be linked to the significant mahinga kai gathering undertaken in Lake George (Uruwera). Urupā are the resting places of Ngāi Tahu tūpuna and, as such, are the focus for whānau traditions. These are places holding the memories, traditions, victories and defeats of Ngāi Tahu tūpuna, and are frequently protected in secret locations.

The mauri of the coastal area represent the essence that binds the physical and spiritual elements of all things together, generating and upholding all life. All elements of the natural environment possess a life force, and all forms of life are related. Mauri is a critical element of the spiritual relationship of Ngāi Tahu Whānui with the coastal area.

Purposes of statutory acknowledgement

Pursuant to section 215, and without limiting the rest of this schedule, the only purposes of this statutory acknowledgement are—

(a) to require that consent authorities forward summaries of resource consent applications to Te Rūnanga o Ngāi Tahu as required by regulations made pursuant to section 207 (clause 12.2.3 of the deed of settlement); and
(b) to require that consent authorities, Heritage New Zealand Pouhere Taonga, or the Environment Court, as the case may be, have regard to this statutory acknowledgement in relation to Rakiura/Te Ara a Kiwa, as provided in sections 208 to 210 (clause 12.2.4 of the deed of settlement); and
(c) to enable Te Rūnanga o Ngāi Tahu and any member of Ngāi Tahu Whānui to cite this statutory acknowledgement as evidence of the association of Ngāi Tahu to Rakiura/Te Ara a Kiwa as provided in section 208 (clause 12.2.5 of the deed of settlement).

Limitations on effect of statutory acknowledgement

Except as expressly provided in sections 208 to 211, 213, and 215,—
(a) this statutory acknowledgement does not affect, and is not to be taken into account in, the exercise of any power, duty, or function by any person or entity under any statute, regulation, or bylaws; and
(b) without limiting paragraph (a), no person or entity, in considering any matter or making any decision or recommendation under any statute, regulation, or bylaw, may give any greater or lesser weight to Ngāi Tahu association to Rakiura/Te Ara a Kiwa (as described in this statutory acknowledgement) than that person or entity would give under the relevant statute, regulation, or bylaw, if this statutory acknowledgement did not exist in respect of Rakiura/Te Ara a Kiwa.

Except as expressly provided in this Act, this statutory acknowledgement does not affect the lawful rights or interests of any person who is not a party to the deed of settlement.

Except as expressly provided in this Act, this statutory acknowledgement does not, of itself, have the effect of granting, creating, or providing evidence of any estate or interest in, or any rights of any kind whatsoever relating to, Rakiura/Te Ara a Kiwa.