ATTACHMENT TWENTY-THREE

Draft CIA (Patuharaheke Te Iwi Trust Board)

McCALLUM BROS LTD

Established 1904

Patuharakeke
TE IWI TRUST BOARD

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DATE: 12 Dec 2025

McCallum Brothers Ltd
747 Rosebank Road,
Avondale, Auckland 1026

Tena koe e Callum,

Re: Patuharakeke Te Iwi Trust CIA related to Bream Bay Te Ākau Fast Track Sand Extraction

We firstly wish to acknowledge McCallum Brothers Limited's (MBL) efforts to engage with the Patuharakeke Te Iwi Trust (PTITB). The parties agreed for PTITB to provide a Cultural Impact Assessment report to be lodged with their FTAA application.

Both parties have experienced delays in the delivery of MBL's technical reports throughout the development and review process of the application. MBL notified PTITB of a lodgement date of 17 December 2026. This has somewhat constrained completion of our comprehensive CIA. Therefore, at this point in time we are in a position to lodge a "Version for Approval by PTITB" Cultural Impact Assessment rather than a "final" version. This is on the proviso that:

1. PTITB reserve the right to make further amendments to this CIA as more information becomes available (eg. updated/final drafts of application material, documentation from other parties etc)
2. This CIA identifies Patuharakeke cultural values, potential effects on those and makes a set of recommendations to inform and guide MBL's application and the EPA Panel process.
3. PTITB are committed to continued engagement with MBL before and/or during the application process from here.

Deborah Harding
Chairperson
Patuharakeke Te Iwi Trust Board

[redacted]

Cultural Impact Assessment Report

Project: Bream Bay Sand Extraction

Applicant: McCallum Brothers Limited

A report prepared for Patuharakeke Te Iwi Trust & McCallum Brothers Limited

December 2025

Final Report

WHETŪ Consultancy Group
BRINGING TWO WORLDS TOGETHER

Patuharakeke
TE IWI TRUST BOARD

Version Number	Document comments	Date
1	First Draft Report Prepared for review and feedback from Patuharakeke Te Iwi Trust.	August 2025
2	Final Report Updated version responding to, and reflecting, the feedback from the Patuharakeke Te Iwi Trust and the report-back hui/wānanga at Takahiwai Marae with Patuharakeke whānau on 8 November 2025.	December 2025

Author: James Whetu

All work contained within this report has been completed for the use of the client, being the Patuharakeke Te Iwi Trust and the Bream Bay Sand Extraction Project Applicant – McCallum Brothers Limited.

Whetū Consultancy Group takes every effort is to ensure that the information, analysis, findings and interventions provided to the client are accurate and reliable.

Executive Summary

This Cultural Impact Assessment report is to respond to, and inform, the consent application prepared by McCallum Brothers Limited for a fast-track project to extract sand from Te Ākau Bream Bay.

The Cultural Impact Assessment report has been prepared by Whetū Consultancy Group with contribution from the Patuharakeke Te Iwi Trust, Patuharakeke whānau, and a team of experts to provide advice to Patuharakeke.

The values and interests of Patuharakeke are outlined in the report, where is it summarised that the Patuharakeke cultural values relevant to the proposed fast-track project are:

- Rangatiratanga / Mana Moana
    - Protecting the customary authority and interests of Patuharakeke in Te Ākau Bream Bay and Whangārei Terenga Parāoa (Whangārei Harbour);
    - Use of Patuharakeke values and mātauranga in resource management processes and in local decision-making;
    - Securing and protecting the rights and interests of Patuharakeke in Te Ākau Bream Bay and Whangārei Harbour, and widely the Poupouwhenua / Takahiwai land area;
    - Patuharakeke Te Iwi Trust upholding its obligations to Patuharakeke hapū, marae and whānau; and
    - Patuharakeke connection with its community (iwi, neighbouring iwi and hapū, and local community)
- Kaitiakitanga
    - Exercise of kaitiakitanga in accordance with Patuharakeke tikanga;
    - Recognise Patuharakeke relationship with Te Ākau Bream Bay and Marine Mammals;
    - Protect and enhance Patuharakeke waahi tapu (areas of significance and importance to Patuharakeke);
    - Application of Patuharakeke kaitiaki monitoring (indicators and standards);
    - Protect the mana and mauri of Tangaroa (waters, seascape, and fisheries and marine mammals); and
    - Proactive response to Climate Change

The report applies the Patuharakeke Hapū Management Plan and the statutory requirements of both Fast-track Approvals Act 2024 and the Resource Management Act 1991 (and relevant regulations and planning documents) as an assessment framework to analyse the resource consent application and to identify the actual and potential cultural impacts (adverse effects) arising from the McCallum Brothers Ltd fast-track proposal.

The objectives of the assessment framework are:

1	Assessments should be made within a Māori worldview from where they came, and the meaning and sense of values are primarily given by Patuharakeke as an iwi authority and hapū in Te Ākau Bream Bay
2	Consultation with Patuharakeke is a requirement of the FTA Act, and for Patuharakeke, the importance of implementing tikanga and application of consultation principles
3	Acknowledge that the proposal is a listed fast-track project under the FTA Act, and that the purpose of the FTA Act is given the greatest weight when considering the consent application
4	Apply a pragmatic and proportional approach and recognise the RMA context for: • a consenting process for a Discretionary Activity, and • D.1 Tāngata Whenua provisions in the Proposed Regional Plan for Northland
5	Protect indigenous biological diversity and historic heritage in the coastal environment of Te Ākau Bream Bay
6	The obligations of the Treaty of Waitangi (Fisheries Claims) Settlement Act 1992 and its regulation Fisheries (Kaimoana Customary Fishing) Regulations 1998
7	The traditional interests and customary activities in Te Ākau Bream Bay, and the pursuit by Patuharakeke to gain protected customary activity recognition through the Marine and Coastal Area (Takutai Moana) Act 2011
8	Tikanga is law and lore
9	Safeguard for present and future generations the mana and mauri of: • ngā atua, with particular consideration to Tangaroa, • waahi tapu and sites and areas of significance to Patuharakeke in Te Ākau Bream Bay • the waters of Te Ākau Bream Bay
10	Make actual provision for the Patuharakeke relationship with Te Ākau Bream Bay (includes the local and surrounding landscapes and environment) and its community
11	Promote and enable the: • exercise of kaitiakitanga, • incorporation of mātauranga alongside western science, and • implementation of tikanga-based practices

12	Opportunities for protection, restoration and/or enhancement of: • waahi tapu and sites and areas of significance to Patuharakeke, • indigenous biodiversity and habitats, • coastal wetlands
13	Consideration of the new and proposed changes to the resource management system, specifically the publication of the Critical Minerals List for New Zealand, and proposed Phase 3 of the Resource Management Act reforms.
14	Encourage pathways to implement partnership, participation, active protection and/or redress

Against this assessment framework, the analysis of the resource application identified information gaps where cultural/mana whenua descriptions and assessment of cultural/mana whenua values were not undertaken or not visible, and where further investigation and/or consideration is encouraged. These are outlined in detail within the report.

In total there are 10 cultural impacts. These are listed below:

<u>Rangatiratanga / Mana Moana</u>

1. Undermining the customary authority of Patuharakeke in Te Ākau Bream Bay
2. Disregard of Patuharakeke customary rights, interests and practices in Te Ākau Bream Bay
3. Minimal consideration of Patuharakeke values, interests and mātauranga in:
   a. Locating the proposed fast-track activity in Te Ākau Bream Bay ,and
   b. In preparing technical reports to inform the design and delivery of the project
4. Disregard to the values and wellbeing of Te Ākau Bream Bay Community

<u>Kaitiakitanga</u>

5. Limited, to non-existent, provisions for Patuharakeke to exercise its kaitiakitanga in accordance with Patuharakeke tikanga
6. Insufficient consideration of Patuharakeke relationship with Te Ākau Bream Bay and Marine Mammals
7. No protection, nor safeguarding, of areas of significance and importance to Patuharakeke
8. Adverse effects on the mana and mauri of Tangaroa
9. Limited, to no, consideration and response to Climate Change
10. Cultural losses and costs to Patuharakeke on (present and future) rangatiratanga and kaitiakitanga and the costs to the Local Community

Also recorded in the report are two positive occurrences with McCallum Brothers Ltd in their consultation and engagement with Patuharakeke.

Based on the identified cultural impacts, the report concludes that as a whole, and in its current form, Patuharakeke are not in a position to support the fast-track proposal to extract sand from Te Ākau Bream

Bay. This position is on the basis that the extent of the adverse effects (and costs) to the Rangatiratanga of, and exercise of Kaitiakitanga by, Patuharakeke, are substantial.

The overarching recommendation to McCallum Brothers Ltd is that the proposed fast-track project is re-located outside of, and away from, Te Ākau Bream Bay. It is viewed by Patuharakeke that, on balance, this is the most appropriate approach to achieve the objectives of the assessment framework.

There will be an adverse effect on the customary authority, and customary rights/interests/practices, of Patuharakeke should the project proceed in its current form. Te Ākau Bream Bay is an area of significance to Patuharakeke.

Also, there are complementary recommendations in addition to this overarching recommendation. These are:

- update and amend the technical assessments to:
    - acknowledge the meaning and sense of contextualises the values of Patuharakeke values in Te Ākau Bream Bay, and
    - give genuine consideration to the views of Patuharakeke on proactive response to climate change.
- update and amend the Market Economics report to wholly identify both the costs and benefits of the project, and response to the peer review comments provided to the Patuharakeke Te Iwi Trust by Cognitus Economic Insight.

On this latter point, Patuharakeke also encourages the Expert Panel to commission a peer review of the Market Economics report.

These complementary recommendations reflect the:

- information gaps, incomplete investigations, and uncertainties for Patuharakeke to be comfortable that the fast-track project will address and manage the adverse effects on Patuharakeke, and
- minimal consideration of Patuharakeke values, interests and mātauranga, including Patuharakeke culture and traditions and relationship with Te Ākau Bream Bay (and Whangārei Harbour and Hauraki Gulf).

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1. Introduction

1.1 Purpose of Report

1.1.1. Whetū Consultancy Group (hereon "Whetū") has been engaged by the Patuharakeke Te Iwi Trust (hereon "Iwi Trust") to support their preparation of a Cultural Impact Assessment report (hereon "CIA report") for a listed fast-track project by McCallum Brothers Limited (hereon "McCallum Bros") to extract sand from Te Ākau Bream Bay.

1.1.2. The fast-track project is identified in Schedule 2 of the Fast-track Approvals Act 2024 (hereon "FTA Act") as the Bream Bay Sand Extraction Project.

The fast-track project is further described and discussed in section 2 of this report, but in summary, it is described in the FTA Act that the project is to "*extract (using a motorised trailing suction dredge) up to approximately 150,000 cubic metres of sand per annum for an initial period of 3 years and up to approximately 250,000 cubic metres per annum thereafter*"[1].

1.1.3. A number of technical reports that will inform the consent/substantive application for the fast-track project were made available for review, however, a planning assessment and assessment of environment effects was absent at time of writing this report.

1.1.4. This CIA report contains the cultural values and assessment of the effects arising from the fast-track project proposed development on those values of Patuharakeke.

1.1.5. A first draft version of the CIA report was sent to the Iwi Trust on 28 August 2025 for review. This report is the Final Draft of the CIA report.

Report Writer

1.1.6. The writer for this report is James Whetu.

1.1.7. James is Director and Principal Planner for Whetū Consultancy Group, a consultancy based in Ngāruawāhia, Waikato.

1.1.8. James is a Full Member with the New Zealand Planning Institute and has over 20 years-experience in the planning profession, and is also an accredited hearings commissioner.

1.1.9. James was invited by the Iwi Trust to assist with the preparation of a CIA report for this fast-track project.

1.1.10. James is also a shareholder of, and advisor to, The Stream which is a digital and technology consultancy that has developed a digital dashboard and kaitiaki app for the Iwi Trust to support Patuharakeke kaitiakitanga.

1.1.11. James has visited Te Ākau Bream Bay / Ruakākā as part of preparing this CIA report.

[1] Schedule 2 of the Fast-track Approvals Act 2024

1.2 Methodology & Assessment Report Context

Methodology

Literature Review

1.2.1 Whetū reviewed documents provided by McCallum Bros to Iwi Trust, these are listed (and reviewed) in section 3 of the report.

1.2.2 Key and relevant legislation, statutory documents and Patuharakeke documents were also reviewed for this report. These are listed in section 4 of this report.

Technical Team - Experts

1.2.3 In addition to Whetū, the Iwi Trust engaged specific technical experts to support the assessment of effects of the fast-track project by peer reviewing McCallum Bros technical reports. These members and expertise of the technical team are listed in section 5 of the report.

1.2.4 Important to note that the charitable organisation Environmental Law Initiative also offered and provided support to the Iwi Trust with understanding of the FTA Act and what it means for Patuharakeke.

Hui/Wānanga with Mana Whenua and Kaitiaki

1.2.5 A hui/wānanga was held at Takahiwai Marae on Sunday 25 May 2025. The Pou Taiao team for the Iwi Trust organised and led the hui/wānanga.

1.2.6 After the pōwhiri, the hōtaka/agenda for the hui/wānanga at Takahiwai Marae was:

a. Scene setting
b. FTA Act context
c. Overview of a CIA report and an outline of the likely framework for the Patuharakeke CIA report
d. Summaries from Technical Team
e. Wānanga/workshop

1.2.7 A second hui/wānanga was held at Takahiwai Marae on 8 November 2025 to report back on the content of the CIA report, with specific focus on the cultural impacts and recommendations.

Context for Assessment Report

1.2.8 This CIA report has been developed to recognise and uphold the values, rangatiratanga and kaitiakitanga of Patuharakeke, that interacts with, and implemented within, the Fast-track Approvals Act 2024 (hereon "FTA Act"), whilst also cognisant of the case law learnings arising out of the Resource Management Act 1991 (hereon "RMA") and the RMA's connection to the FTA Act in granting approvals.

2. Patuharakeke – To Revitalise the Mauri of our Taonga Tuku Iho

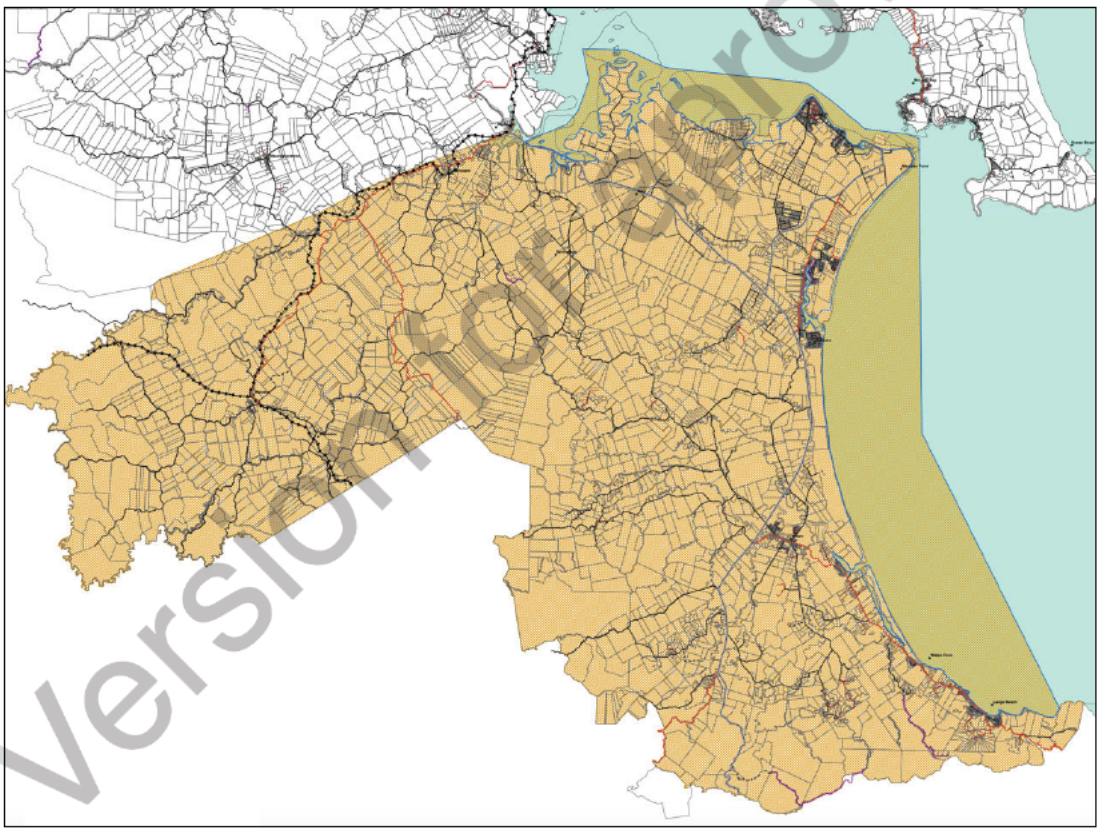
2.1 Patuharakeke & Patuharakeke Te Iwi Trust

Patuharakeke

2.1.1 Patuharakeke is derived from Ngāti Manaia, Ngāi Tāhuhu, Ngāti Wharepaia, Ngāti Ruangaio and Te Parawhau and Ngāti Tū.

> "Prior to Patuharakeke taking the name Patuharakeke the hapū was more generally known as Ngāti Tū with some elements identifying themselves as Te Ākitai and Te Parawhau. All of these hapū have origins in Ngāi Tāhuhu and/or Ngāti Manaia. Patuharakeke are a composite hapū of descent from most major contemporary iwi groups in the north. These include Ngāti Wai, Ngāpuhi nui tonu, Ngāti Whātua and Te Uri o Hau."[2]

2.1.2 The image below provides an illustration of Patuharakeke area of interests.



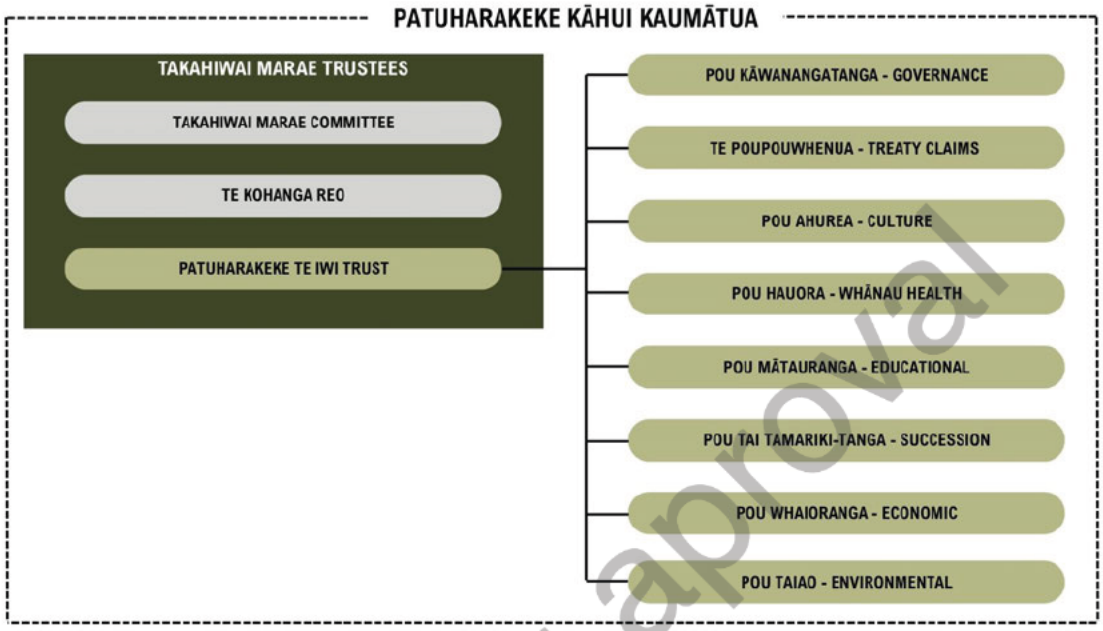
2.1.3 The following pepeha is used to describe the traditional and contemporary associations (includes customary authority) of Patuharakeke with the area:

Ko Manaia Te Maunga | Ko Terenga Parāoa Te Moana | Ko Takahiwai Te Marae | Ko Rangiora Te Tupuna Whare | Ko Patuharakeke Te Hapū

[2] Patuharakeke Hapū Environmental Management Plan 2014, Page 12

Patuharakeke Te Iwi Trust

2.1.4 The organisation representing and protecting the interests of Patuharakeke is the Patuharakeke Te Iwi Trust. Below is an image outlining the governance and organisation structure of the Patuharakeke Te Iwi Trust.



2.1.5 The Patuharakeke Te Iwi Trust sits under the oversight of the Takahiwai Marae Trustees alongside the Takahiwai Marae Committee and the Kōhanga Reo.

2.1.6 There are eight (8) pou for the Patuharakeke Te Iwi Trust. These are:

- Pou Kāwanatanga – Governance
  Make decisions that uphold the values to achieve the vision for Patuharakeke and the community
- Te Poupouwhenua – Treaty Claims
  Provide support of historical claims of breaches of Te Tiriti o Waitangi
- Pou Ahurea – Culture
  Develop opportunities to apply mana whenua cultural design and interpretation to support and express the history of the rohe
- Pou Hauora – Whānau Health
  Provide support for initiatives that improve the health and wellbeing of Patuharakeke whānau and the community
- Pou Mātauranga – Educational
  Develop and implement an education and employment pathway to support Patuharakeke and the community
- Pou Tai Tamariki-tanga – Succession
  Support the expression, innovation and delivery of the next generations to apply their approach to the future of the rohe

- Pou Waioranga – Economic
  Develop opportunities for supporting Patuharakeke economic initiatives
- Pou Taiao – Environmental
  Identify environmental projects and initiatives to support the restoration and enhancement of the environment that supports Patuharakeke goals.

2.1.7 The Patuharakeke Kāhui Kaumātua is the korowai that cover over all the activities of the Takahiwai Marae Trustees (includes Patuharakeke Te Iwi Trust).

2.1.8 The vision and mission statements for the Patuharakeke Te Iwi Trust are:

Vision

"*I ngā rā e hī ika, he kupenga tātai āwhai nuku – If you wish to catch fish, first you need to ensure your net is in good order*"

Mission

To revitalise the mauri of our taonga tuku iho

2.1.9 The vision and mission are supported by the following values:

- **Whakapapa** – The foundation of our framework for managing resources, this demonstrates the relationships between the various elements of the world around us, including human beings.
- **Kaitiakitanga** – Our duty of care and responsibility toward our taonga tuku iho
- **Whanaungatanga** – Building ongoing positive relationships
- **Manaakitanga** – Our ability to care for and sustain our whānau and manuhiri
- **Mātauranga** – To protect, revive, enrich and utilise our knowledge in our capacity as kaitiaki
- **Mana Whenua** – Our right to exercise authority over our rohe and the resources therein
- **Mauri** – Protection of the 'life force' contained in all places, species, minerals, ecosystems in our rohe. It can also be understood as a measure of the health and vitality of those elements.
- **Tikanga** – To retain the traditions of our tupuna in all our operations
- **Pūmau te Wairuatanga** – To protect, revive enrich and utilise our spiritual stability
- **Tino Rangatiratanga** – Our right to exercise sovereignty of our lands, water etc
- **Hapū Rangatiratanga** – Our right to exercise sovereignty of our hapū ownership

2.1.10 Patuharakeke Pou Taiao, the Environmental Group, lead the environmental and consenting/approvals matters on behalf of the Iwi Trust, and are assigned with the responsibility of representing and advocating for the best interests of Patuharakeke on resource management issues.

2.2 Key Patuharakeke Documents

2.2.1 The review and consideration of the following Patuharakeke documents ensures that the CIA report is both mindful and responsive to the journey of Patuharakeke in protecting their rangatiratanga and exercise of kaitiakitanga and tikanga. The documents reviewed are associated with:

- Patuharakeke Treaty of Waitangi claims
- Patuharakeke application for recognised customary rights

Also reviewed was the Patuharakeke Hapū Environmental Management Plan 2014 (hereon "PHEMP") and other Patuharakeke CIA Reports.

Te Tiriti o Waitangi Claims – WAI 745 and WAI 1308

2.2.2 There are two claims[3] with the Waitangi Tribunal (hereon "Tribunal") representing the interests of Patuharakeke, these are:

- WAI 745 by Paki Pirihi (on behalf of the Iwi Trust), and
- WAI 1308 by Ngawaka Pirihi, Paraire Pirirhi, Harry Midwood, Patricia Heperi, Crete Milner and Terrence Pirihi (on behalf of owners of Pukekauri and Takahiwai land-blocks)

2.2.3 Although the two claims by Patuharakeke have yet to be settled, both have been subject to the settlement processes of other claimants (includes iwi) to protect the interest (hapū rangatiratanga and tikanga) or Patuharakeke. Accordingly, the claimants for both claims have been active.

2.2.4 The two claims sit within the Te Paparahi o Te Raki (Northland) Inquiry where around 415 claims sit before the Tribunal.

2.2.5 In 2014, the Tribunal produced the Stage 1 report, and in 2023, a three volume Stage 2 report was produced and published by the Tribunal. The major issues outlined the Stage 2 report are[4]:

- Tino rangatiratanga, kāwanatanga and autonomy: political engagement between Māori and the Crown, including the 1860s rūnanga system and the Crown's relationship with the Kotahitanga movements of the 1880s, 1890s, and the twentieth century.
- The immediate aftermath of the Treaty of Waitangi
- The operation of the Native Land Court and the alienation of Māori land in the 19th and 20th centuries.
- The management of Māori land in the twentieth century, including local government and rating, and public works takings.
- Ownership and management of environmental, water and other non-land resources.

[3] The Patuharakeke Hapū Environmental Management Plan also refers to WAI 504 and WAI 1040, with the latter claim number for the Te Paparahi o Te Raki (Northland) Inquiry

[4] https://www.waitangitribunal.govt.nz/en/inquiries/district-inquiries/te-paparahi-o-te-raki-northland

- Takutai moana/foreshore and seabed.
- Economic development and socioeconomic issues and capability.
- Te reo Māori, wāhi tapu, taonga, and tikanga.
- Specific local issues including the Port of Whangārei/Northport, Marsden Point Refinery, Hauturu (Little Barrier Island) and Hato Petera College – sale of Crown Grants Lands.

2.2.6 Although these issues above apply across all of Northland, and therefore inclusive of Patuharakeke claims, there are specific matters for Patuharakeke which are summarised in the PHEMP:

"The key causes of action to which our Statement of Claim relate include undermining the Tino Rangatiratanga of Patuharakeke through nineteenth century land alienation. The alienation and confiscation of land in Patuharakeke's rohe through actions of the Crown and/or their agents has resulted in less than two percent of land remaining in Patuharakeke ownership. From approximately 100,000 acres including coastal lands stretching from One Tree Point to Mangawhai of around 78,000 acres along the eastern seaboard, now only around 5 acres (2.02 hectares) are held communally by Patuharakeke. This includes Patuharakeke's marae complex, urupa, Kaumatua flats and the old Takahiwai Native School grounds.

- *Confiscation*
  - *The 5000 acre Poupouwhenua block was confiscated by the Crown in late in 1844.*
  - *The underlying purpose of the 'confiscation' was to provide land for settlers*
- *Alienation through Corrupt Crown Purchases*
  - *An excessively low price paid, then would on sell to settlers shortly after at a massive profit margin (eg. Waipu and Ruakaka Blocks)*
  - *The failure to survey boundaries, then taking land in lieu of survey charges*
  - *The failure to provide reserves and breach of promise to ensure 10% of future proceeds would go to Patuharakeke (eg. Waiwarawara block)*
  - *Public works takings right up until the 1960's (eg. Pukekauri Block)*
  - *Busby purchased a large area at Ruakaka and Waipu in December 1839*
- *Twentieth Century Breaches*
  - *Environmental issues, such as the industrialisation of Poupouwhenua and the failure of the Crown to protect natural resources such as freshwater resources, Whangarei Terenga Paraoa and other natural resources and heritage within our rohe.*[5]

[5] Patuharakeke Hapū Management plan 2014, Pages 30-32

Marine and Coastal Area (Takutai Moana) Claim - Recognised Customary Rights

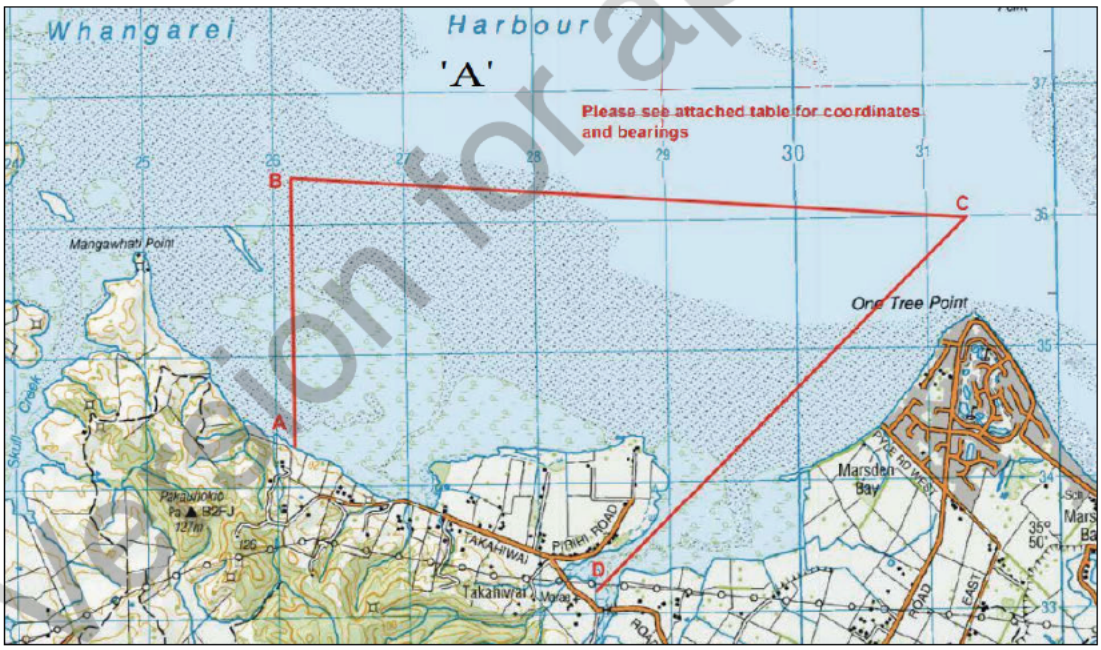
2.2.7 The Iwi Trust have an application with the High Court of New Zealand under the Marine and Coastal Area (Takutai Moana) Act 2011 (hereon "MACA Act") for an order to recognise Customary Marine Title and Protected Customary Rights of Patuharakeke in the common marine and coastal area. The application numbers are:

- MAC-01-01-101 or CIV-2017-485-000281 Patuharakeke Te Iwi (Application for Customary Marine Title)
- MAC-01-01-102 or CIV-2017-485-000286 Patuharakeke (Application for Protected Customary Rights)

Customary Marine Title

2.2.8 The MACA Act explains[6] customary marine title as the recognition of the customary interests of an applicant group for a specified area in the common marine and coastal area in accordance with their tikanga, and exclusively used and occupied by the applicant group since 1840 (without interruption).

2.2.9 The map[7] lodged with the application is below:



2.2.10 The application to the High Court by the Iwi Trust for customary marine title identifies the specified area as:

[6] Section 58 *Customary Marine Title* of the Marine and Coastal Area (Takutai Moana) Act 2011

[7] Map https://www.courtsofnz.govt.nz/assets/5-The-Courts/high-court/high-court-lists/applications-marine-coastal-list/civ-2017-485-000281-patuharakeke-te-iwi/civ2017-485-281patuharakeketeiwitrustmap.pdf

The area to which this application relates is the common marine and coastal area (as defined in s 9 of the Act) adjacent to the historical Takahiwai Block that is bounded:

a. *on the landward side by the line of mean high-water springs;*
b. *on the harbour side by the outer limits of Patuharakeke Te Iwi's rohe moana recognised by the Ministry for Primary Industries ("the rohe moana");*
c. *on the westward side by a line that extends from the coast abutting the northwest corner of Takahiwai 3A1B (35°49'34.0"S, 174°23'45.6"E) north to the outer limits of the rohe moana (35°48'32.4"S, 174°23'45.6"E); and*
d. *on the eastward side by a line that extends from the centre of the bridge on Takahiwai Road crossing the Takahiwai Stream (35°50'18.384"S, 174°25'22.3968"E) northeast to the outer limits of the rohe moana (35°48'48"S, 174°27'06"E).*[8]

Protected Customary Rights

2.2.11 The MACA Act explains[9] protected customary right as an activity, use or practice in the common marine and coastal area that has been exercised since 1840 and continues to be exercised by the applicant group in the present, and is not extinguished as a matter of law.

2.2.12 The application to the High Court by the Iwi Trust outlines[10] the following customary activities undertaken by the Patuharakeke ancestors in their common marine and coastal area:

- non-commercial fishing, including utilising nets and hand lines to catch tāmure (snapper), pātiki (flounder), mangō (shark), inanga (whitebait), kumukumu (red gurnard), pioke (dogfish), parāoa (whale), kahawai, tuna (eel), kanae (grey eyed mullet), wheke (octopus), whai (stingray), aua (yellow eyed mullet), parore (bream);
- non-commercial seeding and harvesting of shellfish, including pipi (kōkota), tio (rock oysters), kōura (freshwater crayfish), kuku (mussels), tipa (scallops), kina, pāua, tuatua (cockles), pūpū, pāpaka (crabs);
- activities related to spiritual practices, such as rāhui;
- planting and cultivating plant species in the application area, including harakeke, pirita (supplejack) and pīngao;
- gathering edible and aquatic plants such as watercress;
- collecting hāngi stones for non-commercial purposes;
- collecting driftwood and other natural resources for non-commercial purposes;
- temporary camp-sites for ceremonial activities in the application area;
- tauranga waka.

[8] Application by Patuharakeke Te Iwi Trust Board (2017), point 4, pages 1-2 https://www.courtsofnz.govt.nz/assets/5-The-Courts/high-court/high-court-lists/applications-marine-coastal-list/civ-2017-485-000281-patuharakeke-te-iwi/civ-2017-485-281.pdf

[9] Section 51 *Meaning of protected customary rights* of the Marine and Coastal Area (Takutai Moana) Act 2011

[10] Application by Patuharakeke Te Iwi Trust Board (2017), point 2, page 1 https://www.courtsofnz.govt.nz/assets/5-The-Courts/high-court/high-court-lists/applications-marine-coastal-list/civ-2017-485-000286-patuharakeke/civ-2017-485-286.pdf

2.2.13 The map[11] below provides an illustration/outline of the specified area for the application:

2.2.14 The application outlines the following reasons why a protected customary rights order is pursued by Patuharakeke:

7. The grounds on which this order is sought are that:

a. Patuharakeke being a coastal group has relied heavily on tāmure (snapper), pātiki (flounder), mangō (shark), inanga (whitebait), kumukumu (red gurnard), pioke (dogfish), paraoa (whale), kahawai, tuna (eel), kanae (grey eyed mullet), wheke (octopus), whai (stingray), aua (yellow eyed mullet), parore (bream), pipi (kōkota), tio (rock oysters), koura (freshwater crayfish), kuku (mussels), tipa (scallops), kina, pāua, tuatua (cockles), pupu, pāpaka (crabs) and wetland food stocks foraged by whānau in the estuaries and coastal margins; and

b. Patuharakeke fishermen sought the deep water fish that were not available around the inner shoreline; and

c. Patuharakeke also undertakes the following activities in common marine and coastal area: the

i. spiritual practices such as rāhui, baptisms, and designating waahi tapu;

ii. planting and cultivating plant species such as harakeke, raupō, muka and watercress; .

iii. weaving and rongoā;

[11] Map https://www.courtsofnz.govt.nz/assets/5-The-Courts/high-court/high-court-lists/applications-marine-coastal-list/civ-2017-485-000286-patuharakeke/civ2017-485-286patuharakeketeiwitrustboardmap.pdf

iv. collecting hangi stones for non-commercial purposes;
v. collecting driftwood and other natural resources for non-commercial purposes;
vi. temporary camp sites for ceremonial activities; and
vii. tauranga waka.

8. Patuharakeke has undertaken these activities listed above mai rā ano (since time immemorial) and continues to undertake these activities in the application area, albeit in some instances using modern equipment, and in accordance with tikanga.

2.2.15 Traditional Research reports inform these two MACA applications. Whetū have reviewed the following reports:

- Ngā Kōrero Tuku Iho o Patuharakeke – Traditional Research Report of Patuharakeke *"Tiaki Tangaroa – Tiaki anō mātou ---- If we look after the sea – the sea will look after us"*
- Ngā Kōrero Tuku Iho o Patuharakeke – Traditional Research Report of Patuharakeke (for the MACA Whangārei Stage 1(b) Hearing Area) "*Me tangoake i te tai ------ Taken up from the sea, or reclaimed from the sea*"

2.2.16 Patuharakeke have an extensive relationship with their common marine and coastal area that encompasses traditional, historical, spiritual, cultural and contemporary associations.

Patuharakeke Hapū Environmental Management Plan 2014

2.2.17 The PHEMP is the environmental management plan for Patuharakeke representing the views and perspectives of Patuharakeke with regards to environmental resource management and fisheries management.

2.2.18 The PHEMP is a statement of Patuharakeke values and aspirations, and prescribes a series of issues, objectives and policies in relation to the environment (including fisheries) and is a living and practical document that will assist Patuharakeke to proactively and effectively engage in and shape current and future policy, planning processes, and resource management decisions.

2.2.19 It states environmental objectives and proposed actions and outcomes that are of priority to Patuharakeke. The relevant policy areas for this proposed fast-track project are outlined in a table included in **Appendix A**.

Draft Climate Change Update 2025

2.2.20 To acknowledge and respond to the increasing changes to weather patterns and climatic conditions, the Iwi Trust have published a draft document that updates the climate change provisions in the PHEMP.

2.2.21 The planning framework for the climate change document is centred around a Te Ao Māori / whakaaro Māori concept of a waka (double hull vessel), a guiding star/whetū, and the appropriate use of mātauranga Māori.

2.2.22 The issues, objectives and policies outlined in the climate change document focus on five (5) areas:

- Hiwi Taha Maui – Mitigation
- Hiwi Taha Matou – Adaptation and Resilience
- Whare – Whanaungatanga
- Hoe Tere – Tino Rangatiratanga
- Rangatiratanga Taiao

Patuharakeke Cultural Impact Assessment Reports

2.2.23 Two CIA reports were reviewed by Whetū with the aim of identifying and understanding the application of Patuharakeke values ad interests (includes rangatiratanga and kaitiakitanga) in resource management processes. The two reports are:

a. Northport Expansion Project - Cultural Effects Assessment (2022)
b. Refining NZ Crude Freight Proposal – Cultural Effects Assessment (2017)

2.3 Patuharakeke Mana Moana Roopu

2.3.1 The Patuharakeke Mana Moana Roopu is a subcommittee of the Iwi Trust Board are gazetted under the Fisheries (Kaimoana Customary Fishing) Regulations 1998, and are mandated to act on our behalf on all matters pertaining to customary fisheries, specifically:

> *6. Power to authorise the taking of fisheries resources for customary food-gathering—A Tangata Kaitiaki may authorise any individual to take fisheries resources managed under the Fisheries Act 1996, other than those resources that are taken in fresh water, for customary food-gathering purposes from within the whole or any part of the area/rohe moana. No customary food-gathering of fisheries resources may take place in the area/rohe moana without an authorisation from a Tangata Kaitiaki*[12].

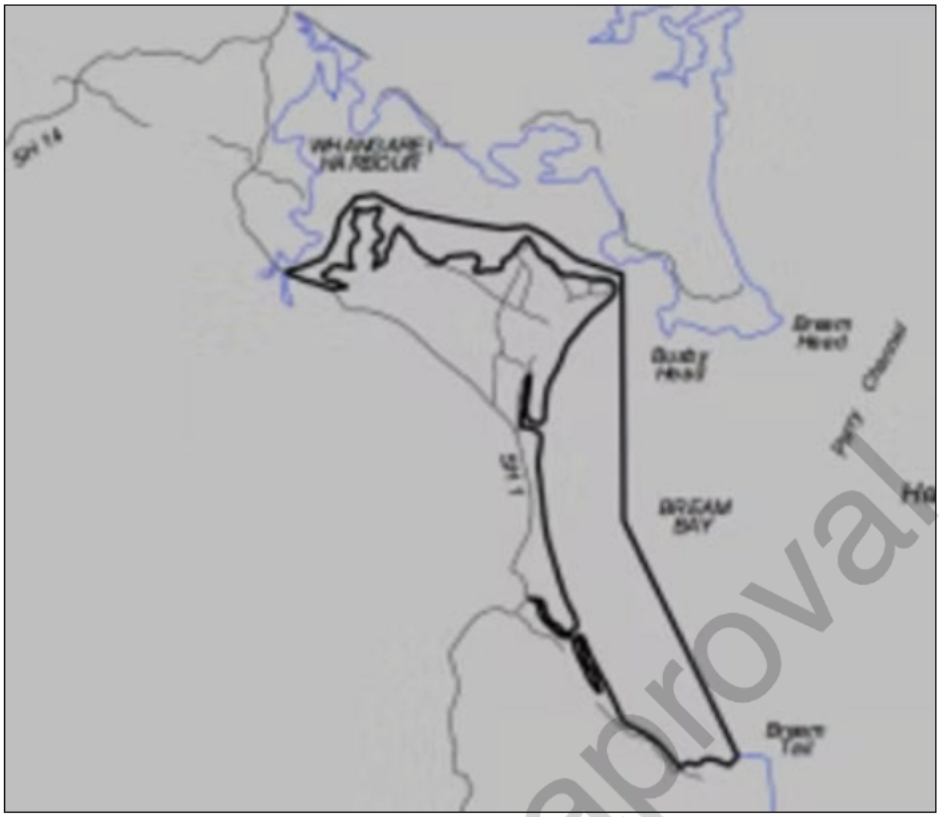
2.3.2 The vision for the Roopu is "A healthy rohe moana that enables us to sustain our whānau and kāinga and manaaki our manuhiri with kaimoana".

2.3.3 The tikanga/management principles for the Roopu are based on:

Kaitiakitanga | Whanaungatanga | Manaakitanga | Integrated Management | Enhancement

2.3.4 The gazetted area/rohe moana, as shown in the image below, is identical to the application area for protected customary activity.

[12] file:///Users/jameswhetu/Downloads/NZGazette62May09.pdf



Combined Rohe Moana - Te Rerenga Paraoa

2.3.5 In 2021, the Minister for Ocean and Fisheries notified, via gazette notice[13], of a combined Rohe Moana for Ngāti Kahu, Te Parawhau, Ngāti Tū and Patuharakeke. This Rohe Moana is referred to as Te Rerenga Paraoa, and links/abuts the Patuharakeke Rohe Moana and extends eastward to the exclusive economic zone (200 nautical miles).

2.4 Mana Whakahono ā Rohe

2.4.1 Mana Whakahono ā Rohe are an instrument of the RMA to assist tangata whenua with their involvement in resource management processes of local government.

2.4.2 In December 2020, the Northland Regional Council and Patuharakeke Te Iwi Trust signed a Mana Whakahono ā Rohe[14] at Takahiwai Marae.

2.5 Commercial Fisheries Interests & Ngātiwai Trust Board

2.5.1 As a hapū of Ngātiwai, the commercial fisheries interests of Patuharakeke are managed by the Ngātiwai Trust Board as the Mandated Iwi Organisation.

[13] https://gazette.govt.nz/notice/id/2021-go2731/pdf

[14] https://www.nrc.govt.nz/media/o2kjxoth/2024-hapu-mwar-adding-te-parawhau-20240429-final-signed.pdf

2.6 Patuharakeke Cultural Values

2.6.1 Patuharakeke cultural values were identified through the review of key Patuharakeke documents and via the wānanga/workshop held on 25 May 2025, and were confirmed by Te Iwi Trust through their review and report back to Patuharakeke on 8 November 2025.

2.6.2 Whetū has identified the following Patuharakeke cultural values relevant to the proposed fast-track project:

a. Rangatiratanga / Mana Moana

i. Protecting the customary authority and interests of Patuharakeke in Te Ākau Bream Bay and Whangārei Terenga Parāoa (Whangārei Harbour);

ii. Use of Patuharakeke values and mātauranga in resource management processes and in local decision-making;

iii. Securing and protecting the rights and interests of Patuharakeke in Te Ākau Bream Bay and Whangārei Harbour, and widely the Poupouwhenua / Takahiwai land area;

iv. Patuharakeke Te Iwi Trust upholding its obligations to Patuharakeke hapū, marae and whānau; and

v. Patuharakeke connection with its community (iwi, neighbouring iwi and hapū, and local community)

b. Kaitiakitanga

i. Exercise of kaitiakitanga in accordance with Patuharakeke tikanga;

ii. Recognise Patuharakeke relationship with Te Ākau Bream Bay and Marine Mammals;

iii. Protect and enhance Patuharakeke waahi tapu (areas of significance and importance to Patuharakeke);

iv. Application of Patuharakeke kaitiaki monitoring (indicators and standards);

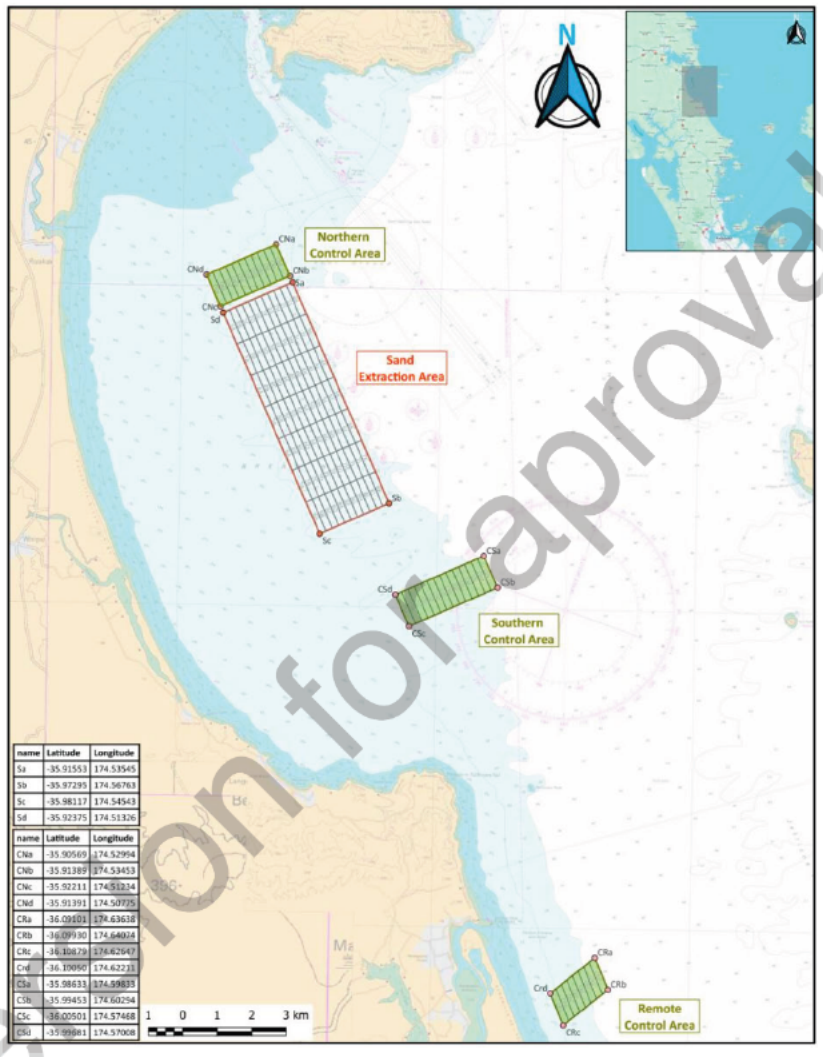
v. Protect the mana and mauri of Tangaroa (waters, seascape, and fisheries and marine mammals); and

vi. Proactive response to Climate Change

3. Fast-Track Project – Sand Extraction in Te Ākau Bream Bay

3.1 Location Information & Surrounding Environment

3.1.1 Below is an image identifying the location of the proposed fast-track project area in Te Ākau Bream Bay.



name	Latitude	Longitude
Sa	-35.91553	174.53545
Sb	-35.97295	174.56763
Sc	-35.98117	174.54543
Sd	-35.92375	174.51326

name	Latitude	Longitude
CNa	-35.90569	174.52994
CNb	-35.91389	174.53453
CNc	-35.92211	174.51234
CNd	-35.91391	174.50775
CRa	-36.09101	174.63618
CRb	-36.09930	174.64024
CRc	-36.10879	174.62647
CRd	-36.10050	174.62231
CSa	-35.98631	174.59835
CSb	-35.99453	174.60254
CSc	-36.00501	174.57468
CSd	-35.99681	174.57008

Sourced from McCallum Bros

3.1.2 Information made available by McCallum Bros outlines that the proposed extraction area will be located 4.7km offshore in water depths of 20-30 meters.[15]

[15] Bioresearches (2025) Assessment of Ecological Effects, Page 1

3.2 Proposal and Application Information

3.2.1 The following information made available by McCallum Bros to the Patuharakeke Te Iwi Trust that have been reviewed by Whetū are:

- Bioresearches Limited
  - Te Ākau Bream Bay Sand Area - 2024 Initial Sand Extraction Assessment February – March 2024, Job No: 67129, Draft V5 dated 7 March 2025;
  - Te Ākau Bream Bay Sand Extraction Project: Assessment of Ecological Effects, Job No: 67129 dated 4 April 2025;
- Boyd, R.O - Assessment of Effects on Fish and Fisheries in Te Ākau Bream Bay dated February 2025[16];
- Brown New Zealand Limited
  - Te Ākau Bream Bay Sand Extraction: Landscape & Natural Character Effects Assessment dated May 2025;
- Market Economics Limited
  - Bream Bay Sand Extraction: Assessment of Economic Effects, Document Reference No: MCBL 004.24 dated 1 May 2024;
  - Te Ākau Bream Bay Sand Extraction: Economic Assessment, Document Reference No: MCBL 004.24 dated 14 August 2025
- McCallum Brothers Limited – Bream Bay Sand Extraction Application – Briefing Paper for Patuharakeke Trust Board dated 28 February 2024;
- MetOcean Solutions Limited
  - Assessment of Effects on Surf Breaks at Bream Bay, Document ID: 0635-05, dated July 2024[17];
- National Institute of Water and Atmospheric Research Limited
  - Sand Extraction in Whanga-a-Tamure Bream Bay: Potential Effects on Seabirds and Shorebirds dated 16 May 2025, NIWA Client Report No: 2024250WN;
- Osbournehay Resource Management Practice
  - Draft Substantive Application for Wildlife Approval "Draft for Consultation"
- SLR Consulting New Zealand
  - Bream Bay Sand Extraction: Water Quality Assessment of Environmental Effects, SLR Project No: 820.030379.00001, Revision: 2, dated 30 September 2024;

[16] On the second page of the report, it is dated April 2025

[17] The Document History table in the report informs that the version 0.6 is dated 14 October 2024

- Te Ākau Bream Bay Sand Extraction: Marine Mammal Environmental Impact Assessment, SLR Project No: 840.030119.00001, Revision: 05, dated 17 April 2025;

- Styles Group Acoustic and Vibration Consultants
  - Assessment of Airbourne Noise Effects – Sand Extraction Te Ākau Bream Bay, dated 3 April 2025, Rev 4;
  - Assessment of Underwater Noise Levels – Proposed Sand Extraction: Te Ākau Bream Bay, dated 10 April 2025, Rev 5;
- Tonkin & Taylor Limited
  - Te Ākau Bream Bay Sand Extraction: Coastal Process Effects Assessment, dated March 2025, Job Number 1093502 v2.0.

3.2.2 A statement from Paul Donoghue[18] was provided regarding his expertise/knowledge on Auckland concrete market and appropriateness of the sand material in Te Ākau Bream Bay for the Auckland market.

3.2.3 Also, an email from McCallum Bros sent to the Iwi Trust (Pou Taiao) on 13 March 2025 outlined broadly the planning provisions and documents considered relevant to the proposed fast-track project. The email was reviewed by Whetū.

In addition to the broad outline of planning matters, McCallum Bros had sent a draft set of proposed conditions of consent[19] for review.

3.2.4 Subsequent to the first draft CIA report being completed, a draft application (including assessment of environmental effects) was sent through to Whetū by the Iwi Trust (Pou Taiao). The draft application[20] was reviewed by Whetū.

There were no new draft set of consent conditions were received by Whetū.

3.2.5 Whetū has relied on the above noted technical reports, and the draft application, to understand the fast-track project being proposed.

3.2.6 A review of the technical documents/reports made available to Whetū, with summaries of those documents included in **Appendix B**.

Proposal Details - Summary

3.2.7 Schedule 2 of the FTA Act describes the Bream Bay Sand Extraction Project as:

[18] Paul Donoghue is a registered engineering associate and employed by Concrete New Zealand.

[19] The document with the draft set of consent conditions that were received and reviewed were dated 17 July 2025

[20] Report Title: Te Ākau Bream Bay Sand Extraction Project – Resource Consent and Wildlife Approval Applications and Assessment of Effect under the Fast-Track Approvals Act 2024 (Draft for Consultation), September 2025

"*extract (using a motorised trailing suction dredge) up to approximately 150,000 cubic metres of sand per annum for an initial period of 3 years and up to approximately 250,000 cubic metres per annum thereafter*"[21].

3.2.8 It is outlined that the mineralogical properties, particle size distribution and lack of silt and other contaminants in Te Ākau Bream Bay are ideal for ready-mix concrete manufacture.[22]

3.2.9 The term of the consent/approval being sought is 35 years, with the McCallum Bros are proposing[23] a two staged approach.

3.2.10 Stage 1 proposes to extract 150,000m³ per annum for the first three (3) years. This equates to 270,000 tonnes over the three year period[24]. It also equates to 14 trips per month between the Port of Auckland and Te Ākau Bream Bay.

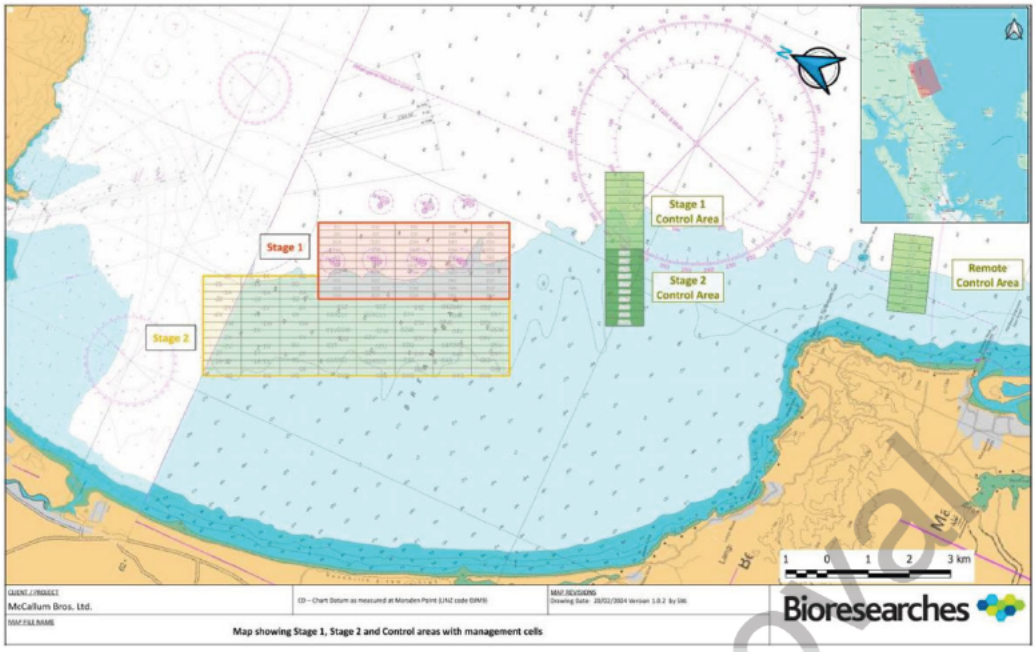
3.2.11 Stage 2 proposes to increase the rate to 250,000m³ per annum for up to 32 years. This equates to 450,000 tonnes over the 32-year period[25]. It also equates to 23 trips per month[26] between the Port of Auckland and Te Ākau Bream Bay.

3.2.12 The maximum extraction volume of 8,450,000m³ is proposed over the 35 year consent period, whereby the extraction area would lower the seabed by an average of 0.55m.[27]

3.2.13 The monthly extraction rate (maximum) is 15,000m³ for Stage 1 (first three years), with monthly rate for Stage 2 (32 years) is 25,000m³. [28]

3.2.14 Below is an image[29] providing context of both the Stage 1 and Stage 2 extraction areas.

[21] Schedule 2 of the Fast-track Approvals Act 2024
[22] Bioresearches (2025) Initial Sand Extraction Assessment, Page 1
[23] Bioresearches (2025) Initial Sand Extraction Assessment, Page 1
[24] Market Economics Ltd (2024) High-Level Assessment of Economic Effects, Sand Market and Outlook, Page 8
[25] Market Economics Ltd (2024) High-Level Assessment of Economic Effects, Sand Market and Outlook, Page 8
[26] SLR Consulting NZ (2025) Marine Mammal Environmental Impact Assessment, Project Description, Page 4
[27] Tonkin & Tayor (2025) Coastal Process Effects Assessment, Executive Summary
[28] Tonkin & Tayor (2025) Coastal Process Effects Assessment, Introduction, Page 1
[29] McCallum Brothers Limited (2024) Bream Bay Sand Extraction Application – Briefing Paper for Patuharakeke Trust Board, Appendix A



3.2.15 The proposed extraction area is a 15.4km² rectangle extending northwest to southeast, and is located 4.7km (at its nearest) offshore in water depths of 20-30 meters.[30]

3.2.16 It is outlined that Stage 2 would only proceed if no significant or unexpected adverse effects identified through monitoring programme of Stage 1.[31]

3.2.17 Sand is to be extracted in the afternoon from 12pm to 6pm (April-September) and from 12pm to 8pm (October-March)[32], with a maximum daily extraction time of 3.5hrs which will limit extraction track length between 11km – 13km per extraction day.[33]

3.2.18 The sand extraction activities involves extracting/sucking material from the seabed, and the pumping of sand slurry, through the use of a Trailing Suction Hooper Dredge (hereon "TSHD")[34]. The vessel/TSHD is referred to as the William Fraser.

3.2.19 The vessel/TSHD leaves the Port of Auckland on the morning of operation/extraction to the Te Ākau Bream Bay extraction site[35]. When the vessel is fully loaded with material, it travels by sea to the Port of Auckland (or other destination ports) for unloading[36].

3.2.20 Sand will meet the future sand supply needs for Northland, Auckland, Waikato and Bay of Plenty regions[37].

[30] Bioresearches (2025) Assessment of Ecological Effects, Introduction, Page 1
[31] Bioresearches (2025) Initial Sand Extraction Assessment, Introduction, Page 1
[32] Bioresearches (2025) Initial Sand Extraction Assessment, Introduction, Page 1
[33] SLR Consulting NZ (2025) Marine Mammal Environmental Impact Assessment, Project Description, Page 4
[34] Bioresearches (2025) Assessment of Ecological Effects, Extraction Activities, Page 3
[35] SLR Consulting NZ (2025) Marine Mammal Environmental Impact Assessment, Project Description, Page 4
[36] Bioresearches (2025) Assessment of Ecological Effects, Extraction Activities, Page 3
[37] Bioresearches (2025) Assessment of Ecological Effects, Introduction, Page 1

3.2.21 Across the documentation, the following management plans were referred to, to support the fast-track project, however none were available for review:

- Sand Extraction Management Plan
- Marine Mammal Management Plan
- Oil Spill Management Plan (or Oil Spill Prevention and Response Plan)
- Light Management Plan
- Waste Management Plan
- Cup Coral Management Plan
- Biosecurity Management Plan

3.2.22 The approvals being sought by McCallum Bros through the FTA Act are:

- Resource Consent (Coastal Permit) for a Discretionary Activity, and
- Wildlife Permit for the following activities:
  - During Sand Extraction and Monitoring: Collect both dead and alive, and preserve, *Sphenotrochus ralphae* and *Kionotrochus suteri* and return to the coastal marine area.

4. Legislative and Regulatory Environment

4.1 Fast-track Approvals Act 2024

4.1.1 The FTA Act was introduced in December 2024. The purpose of the FTA Act is to streamline the approval process for infrastructure and development projects that are deemed to have significant regional or national benefits.

4.1.2 There are a number of statutory requirements that relate to consultation with iwi and consideration of cultural values. Section 7 of the FTA Act states the following:

> ***Section 7 Obligation relating to Treaty settlements and recognised customary rights***
>
> *(1) All persons performing and exercising functions, powers, and duties under this Act must act in a manner that is consistent with—*
>
> *(a) the obligations arising under existing Treaty settlements; and*
>
> *(b) customary rights recognised under—*
>
> *(i) the Marine and Coastal Area (Takutai Moana) Act 2011* (hereon "MACA")*:*
>
> *(ii) the Ngā Rohe Moana o Ngā Hapū o Ngāti Porou Act 2019* (hereon "Ngā Rohe Moana")
>
> *(2) To avoid doubt, subsection (1) does not apply to a court or a person exercising a judicial power or performing a judicial function or duty.*
>
> *(3) In this section, existing Treaty settlements means Treaty settlements that exist at the time the relevant function, power, or duty is performed or exercised (rather than only those that exist at the commencement of this Act).*

4.1.3 Currently, Patuharakeke do not have an individual Treaty settlement, nor do the Patuharakeke Te Iwi Trust hold any recognised customary rights under MACA or Ngā Rohe Moana.

4.1.4 However, Patuharakeke have recognition and obligations under the Treaty of Waitangi (Fisheries Claims) Settlement Act 1992, and its regulation the Fisheries (Kaimoana Customary Fishing) Regulations 1998.

4.1.5 In preparing a substantive application for a listed project, McCallum Bros will need to demonstrate compliance with section 29 of the FTA Act.

> ***Section 29 Pre-lodgement requirements for listed project***
>
> *(1) Before lodging a substantive application for a listed project, the authorised person for the project must—*
>
> *(a) consult the persons and groups referred to in section 11;*

4.1.6 Section 11 of the FTA Act states:

> ***Section 11 Consultation requirements for referral application***
>
> *(1) Before lodging a referral application, the applicant must consult—*
>
> *(a)…*
>
> *(b) any relevant iwi authorities, hapū, and Treaty settlement entities, including—*
>
> *(i) iwi authorities and groups that represent hapū that are parties to relevant Mana Whakahono ā Rohe or joint management agreements; and*
>
> *(ii) the tangata whenua of any area within the project area that is a taiāpure-local fishery, a mātaitai reserve, or an area that is subject to bylaws or regulations made under Part 9 of the Fisheries Act 1996; and*
>
> *(c) any relevant applicant groups with applications for customary marine title under the Marine and Coastal Area (Takutai Moana) Act 2011; and*
>
> *(d) ngā hapū o Ngāti Porou, if the project area is within or adjacent to, or the project would directly affect, ngā rohe moana o ngā hapū o Ngāti Porou;*

4.1.7 The Patuharakeke Te Iwi Trust is:

a. a relevant iwi authority and hapū (section 11(1)(b);
b. an iwi authority and group with a Mana Whakahono ā Rohe in place with the Northland Regional Council (section 11(1)(b)(i);
c. a relevant applicant group with an application for customary marine title (section 11(1)(c))

but is not:

- tangata whenua in the project area that is a taiāpure-local fishery, a mātaitai reserve, or have bylaws in place, nor regulations made under Part 9 of the Fisheries Act (section 11(1)(b)(ii))

4.1.8 McCallum Bros must consult with Patuharakeke.

4.1.9 Schedule 5 of the FTA Act prescribes the approvals process for resource consents. Clause 5 outlines the information requirements for consent applications.

> ***Schedule 5 Approvals relating to Resource Management Act 1991***
>
> ***Clause 5 Information required in consent application***

(1) For the purposes of section 43(3)(a), a consent application must include the following information:

(b) a description and map of the site at which the activity is to occur, including whether the site is within or adjacent to—

(i) a statutory area (as defined in the relevant Treaty settlement Act); or

(ii) ngā rohe moana o ngā hapū o Ngāti Porou; or

(iii) a protected customary rights area under the Marine and Coastal Area (Takutai Moana) Act 2011;

(h) an assessment of the activity against any relevant provisions in any of the documents listed in subclause (2); and

(i) information about any Treaty settlements that apply in the area covered by the consent application, including—

(i) identification of the relevant provisions in those Treaty settlements; and

(ii) a summary of any redress provided by those settlements that affects natural and physical resources relevant to the project or project area; and

(j) a list of any relevant customary marine title groups, protected customary rights groups, ngā hapū o Ngāti Porou (where an application is within, adjacent to or directly affecting ngā rohe moana o ngā hapū o Ngāti Porou), or applicants under the Marine and Coastal Area (Takutai Moana) Act 2011; and

(2) The documents referred to in subclause (1)(h) are the following:

(g) a planning document recognised by a relevant iwi authority and lodged with a local authority.

(3) An assessment under subclause (1)(h) must include an assessment of the activity against—

(a) any relevant objectives, policies, or rules in a document listed in subclause (2);

(b) any requirement, condition, or permission in any rules in any of those documents; and

(c) any other requirements in any of those documents.

(4) A consent application must include an assessment of the activity's effects on the environment that-

(a) includes the information required by clause 6; and

(b) covers the matters specified in clause 7.

4.1.10 As already stated, Patuharakeke do not have a Treaty settlement, nor do the Patuharakeke Te Iwi Trust hold any recognised customary rights under MACA or Ngā Rohe Moana. However, Patuharakeke do have:

- recognition and obligations under the Treaty of Waitangi (Fisheries Claims) Settlement Act 1992, and its regulation the Fisheries (Kaimoana Customary Fishing) Regulations 1998; and
- a hapū environmental management plan (planning document) lodged with Northland Regional Council and other local authorities in the takiwā/area of Patuharakeke.

4.1.11 The PHEMP contains objectives and policies, and requirements[38], that are relevant to the McCallum Bros fast-track project.

4.1.12 Clause 5(4)(a) refers to Clause 6 and Clause 7 in Schedule 5 of the FTA Act regarding information required, and matters to cover, to assess environmental effects. With those clauses in mind, Patuharakeke have interest in the:

a. actual and potential effects on the environment, specifically Te Ākau Bream Bay, and the intended mitigation measures to reduce and/or prevent those effects;
b. risks to the environment, with specific focus on Te Ākau Bream Bay;
c. monitoring methodologies to be applied in the fast-track project;
d. long-term impacts to Patuharakeke protected customary activity(s);
e. social, economic and cultural effects on Ruakākā, and wider, community;
f. effects on aesthetic, recreational, scientific, historical, spiritual and cultural values; and
g. climate change/natural hazard concerns.

4.1.13 In the absence of interpretations/definitions in the FTA Act for environment and effects, the CIA report refers to the interpretations/definitions in the RMA (which are described in the section below).

Decision-Making Process

4.1.14 Section 81 of the FTA Act prescribes the responsibility of the expert panel when deciding whether to grant or decline an approval. Where it relates to RMA/resource consents, section 81(2)(b) and (3)(a) refers clauses 17 to 21 of Schedule 5 of the FTA Act. Clause 17 is outlined below:

4.1.15 Clause 17(1) requires the panel to take into account of various Parts of the RMA, and relevant provisions in any other relevant legislation that directs decision making under the RMA. In giving clarity around the application of Part 2 of the RMA, Clause 17(2)(a) advises that only sections 5, 6 and 7 of the RMA are to be applied.

4.2 Resource Management Act 1991

4.2.1 The RMA provides the statutory framework for assessment and decision-making on the sustainable management of Aotearoa New Zealand's natural and physical resources, and interprets/defines the environment as:

- ecosystems and their constituent parts, including people and communities; and
- all natural and physical resources; and
- amenity values; and

[38] Requirements are those matters in the Patuharakeke Hapū Environmental Management Plan that state "must" and shall" do. These have been identified and outlined in the table included in Appendix A of this report.

- the social, economic, aesthetic, and cultural conditions which affect the matters stated in paragraphs (a) to (c) or which are affected by those matters

4.2.2 Additionally, section 3 of the RMA interprets/defines the term "effect" as:

Section 3 Meaning of effect

In this Act, unless the context otherwise requires, the term effect includes—

(a) any positive or adverse effect; and

(b) any temporary or permanent effect; and

(c) any past, present, or future effect; and

(d) any cumulative effect which arises over time or in combination with other effects—

regardless of the scale, intensity, duration, or frequency of the effect, and also includes—

(e) any potential effect of high probability; and

(f) any potential effect of low probability which has a high potential impact.

4.2.3 Within Part 2 of the RMA are sections 5 – 8:

- Section 5 - Purpose
- Section 6 - Matters of National Importance
- Section 7 - Other Matters
- Section 8 - Treaty of Waitangi

Purpose of the RMA – Sustainable Management

4.2.4 Section 5(2) of the RMA describes sustainable management:

Section 5(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 wellbeing and for their health and safety while—

a) sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and

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

4.2.5 Relevant case law on the purpose of the RMA for this CIA report is the *Environmental Defense Society v New Zealand King Salmon Company Ltd* [2014] NZSC 38.

4.2.6 This Supreme Court decision[39] is considered a significant change in interpretation of the RMA. The Court held that the definition of sustainable management must be read as an integrated whole and the environmental effects described in section 5(2)(a)-(c) must be observed in the course of sustainable management outlined in the section 5(2).

4.2.7 Prior to the Court's decision, an overall broad judgment approach to the economic benefits and environmental effects were applied, however, the Court determined that, although section 5 does not create primacy for environmental protection, in certain circumstances sustainable management may require that particular environments be protected from the adverse effects of inappropriate activities.

4.2.8 Environmental protection is a key component of sustainable management, but no single aspect of "the use, development, and protection" of natural and physical resources in section 5 has overarching authority. Consequently, while specific environmental thresholds may be established to safeguard certain environments from negative impacts, the effectiveness of these measures will be determined on a case-by-case basis to ensure they fulfil the sustainable management objectives of the RMA.

4.2.9 Other key guidance on the interpretation of Part 2 of the RMA from the decision:

- "Avoiding" in section 5(2)(c) has its "ordinary meaning of "not allowing" or "preventing the occurrence of"
- Section 5 be read as a whole, with "while" meaning "at the same time as"
- Sections 6, 7 and 8 "supplement" section 5 by further elaborating on obligations on those administering the RMA.
- "Inappropriateness" in sections 6(a), (b) and (f) should be assessed by reference to what it is that is sought to be protected or preserved.

4.2.10 To support Section 5 of the RMA are Sections 6 - 8 which outline a hierarchy of matters to assist the achievement of sustainable management with Aotearoa New Zealand's natural and physical resources. All matters described in sections 6 – 8 are relevant to Māori as mana whenua/mana moana and as kaitiaki.

Māori Relationship (culture and traditions) with the Environment

4.2.11 Section 6 of the RMA states the following:

> ***Section 6 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:*

[39] Environmental Defense Society v New Zealand King Salmon Company Ltd (2014) NZSC 38

(a) *the preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use, and development:*

(b) *the protection of outstanding natural features and landscapes from inappropriate subdivision, use, and development:*

(c) *the protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna:*

(e) *the relationship of Māori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga:*

(f) *the protection of historic heritage from inappropriate subdivision, use, and development:*

(g) *the protection of protected customary rights:*

(h) *the management of significant risks from natural hazards.*

4.2.12 Reflected above, the RMA provides that "the relationship of Māori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga" and "the protection of historic heritage from inappropriate subdivision, use, and development" are both matters of national importance that must be recognised and provided for.

4.2.13 To "recognise and provide for" requires the decision-maker to make actual provision for these national matters, and signifies priority and greater weight and therefore not reduced when balancing. However protection is not given primacy[40].

4.2.14 It is necessary to identify whether there is a relationship by Māori with the property/area (includes water, sites, waahi tapu and other taonga).

4.2.15 Complementary to section 6(e), and across the RMA, are the inclusion of 'mana whenua', 'tangata whenua' and 'tikanga Māori'. These are defined in the RMA as follows:

- Mana whenua means "customary authority exercised by an iwi or hapū in an identified area"
- Tangata whenua means "in relation to a particular area, the iwi, or hapū, that holds mana whenua over that area"
- Tikanga Māori means "Māori customary values and practices"

4.2.16 Māori perspectives of the world are based on the proposition that the environment is an interacting network of related elements, each having a relationship to the other and to earlier origins[41].

[40] Environmental Defense Society v New Zealand King Salmon Company Ltd (2014) NZSC 38

[41] Durie, M. (1998).Te Mana, Te Kāwanatanga: The Politics of Self Determination. Oxford University Press: Wellington. page 21.

4.2.17 Mātauranga Māori is an integral element of understanding and engaging with and in the Māori world (Te Ao Māori). It spans Māori knowledge, culture, values and worldview[42], and is embedded in the relationships between people and natural resources, and the relationship between people and their bodies of knowledge as mātauranga Māori is explained through kinship/whanaungatanga[43].

4.2.18 The unique relationship and natural order (whakapapa and whanaungatanga) is a basis of the Māori worldview, and in context of Aotearoa New Zealand's resource management regime, is key to understanding, identifying and applying the values and interests of Māori when considering information and evidence on Māori relationship, culture and traditions with ancestral lands, water, sites, waahi tapu and other taonga, as well as their role as kaitiaki.

4.2.19 It is considered that there are two relevant court decision on section of the RMA for this CIA report:

- Port of Tauranga v Bay of Plenty Regional Council 2023,
- Ngāti Maru Trust v Ngāti Whātua Ōrākei Whaia Maia 2020, and
- Ngāti Hokopu ki Horowhitu v Whakatāne District Council 2002

4.2.20 The relevance of the Port of Tauranga (hereon "POTL") court decision, the Environment Court's first interim decision[44] granted resource consent for Stage 1 only, and for Stage 2 directed the POTL, among other directions, to undertake further engagement with local iwi and hapū.

4.2.21 The decision outlines that the primary issues[45] to be determined by the Court were:

(a) whether the proposal recognises and provides for the relationship of Māori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga, which is a matter of national importance; and

(b) how to have particular regard to kaitiakitanga in the circumstances of this case.

4.2.22 The Court found that based on all the evidence, the adverse effects of the current proposal on tangata whenua, considered on their own and cumulatively with the effects of existing Port activities, are significantly adverse[46], and determined that the POTL must provide further evidence to demonstrate that the extent and degree of recognition of and provision for the relationship of tangata whenua with their ancestral taonga[47]. The Court would express that a collaborative approach to the design and management of POTL facilities is capable of producing an acceptable solution to address the issues affecting tangata whenua and provide

[42] Hikuroa, D. (2018). Mātauranga Māori - the ūkaipō of knowledge in New Zealand.
[43] Tuatahi, T. (2011). Ko Aotearoa tēnei: A Report into Claims Concerning New Zealand Law and Policy Affecting Māori Culture and Identity (Waitangi Tribunal Report). At page 105. Retrieved from: https://forms.justice.govt.nz/search/Documents/WT/wt_DOC_68356054/KoAotearoaTeneiTT1W.pdf
[44] Port of Tauranga Ltd v Bay of Plenty Regional Council (2023) NZEnvC 270 dated 13 December 2023
[45] Port of Tauranga Ltd v Bay of Plenty Regional Council (2023) NZEnvC 270 at 575
[46] Port of Tauranga Ltd v Bay of Plenty Regional Council (2023) NZEnvC 270 at 412
[47] Port of Tauranga Ltd v Bay of Plenty Regional Council (2023) NZEnvC 270 at 414 and 618 (3)

for the future of the POTL[48], and that POTL propose a meaningful kaitiaki role for tangata whenua[49].

4.2.23 With regard to the Ngāti Maru Trust court decision and its relevance, the High Court decision for Ngāti Maru Trust v Ngāti Whātua Ōrākei Whaia Maia Ltd[50] emphasised the relevance and importance of looking at cultural effects from an RMA perspective as identified through a tikanga process.

> ….the obligation "to recognise and provide for" the relationship of Māori and their culture and traditions with their whenua and other taonga must necessarily involve seeking input from affected iwi about how their relationship, as defined by them in tikanga Māori, is affected by a resource management decision[51].

4.2.24 In the 2002 Environment Court decision for Ngāti Hokopu ki Hokowhitu v Whakatāne District Council[52], the Court outlined that in the context of assessment against section 6(e), there is a meeting of two worlds[53] and therefore the meaning and sense of cultural values (e.g whakapapa and whanaungatanga) should come from Māori and their Māori world view from where they came[54].

4.2.25 Additionally, with section 6(e), the Court decision states that there needs to be care not to impose inappropriate 'western concepts' when it applies requirement to consider the relationship of Māori with the natural environment.

4.2.26 The Court concluded that to understand Māori values of the landscape and how it affects Māori conduct, one must step deeply inside Māori thinking. One must see the world through Māori eyes, and assess Māori values within a Māori worldview[55].

Kaitiakitanga

4.2.27 Section 7 of the RMA states the following:

> ***Section 7 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:*
> *(aa) the ethic of stewardship:*

[48] Port of Tauranga Ltd v Bay of Plenty Regional Council (2023) NZEnvC 270 at 415
[49] Port of Tauranga Ltd v Bay of Plenty Regional Council (2023) NZEnvC 270 at 618 (2)
[50] Ngāti Maru Trust v Ngāti Whātua Ōrākei Whaia Maia Ltd (2020) NZHC 2768
[51] Ngāti Maru Trust v Ngāti Whātua Ōrākei Whaia Maia Ltd at 73
[52] Ngati Hokopu ki Hokowhitu v Whakatane District Council (2002) 9 ELRNZ 111 (NZEnvC).
[53] Ngati Hokopu ki Hokowhitu v Whakatane District Council at 43
[54] Ngati Hokopu ki Hokowhitu v Whakatane District Council at 46 and 53.
[55] Ngati Hokopu ki Hokowhitu v Whakatane District Council.

(b) the efficient use and development of natural and physical resources:
(c) the maintenance and enhancement of amenity values:
(d) intrinsic values of ecosystems:
(f) maintenance and enhancement of the quality of the environment:
(g) any finite characteristics of natural and physical resources:
(i) the effects of climate change:

4.2.28 Kaitiakitanga is defined in the RMA as the "exercise of guardianship by the tangata whenua of an area in accordance with tikanga Māori in relation to natural and physical resources, includes the ethic of stewardship".

4.2.29 Durie[56] describes kaitiakitanga as the act of guardianship that requires clear lines of accountability to whānau, hapū and iwi and is more frequently associated with obligation rather than authority.

4.2.30 The Waitangi Tribunal report (2012)[57] shares the view regarding the above description, but extends that the description lacks the spiritual dimension that animates the concept and is a product of whanaungatanga, or the intergenerational obligation that arises by virtue of the kin relationship[58]. The Tribunal reports that it is not possible to have kaitiakitanga without whanaungatanga, and vice versa that whanaungatanga creates kaitiakitanga obligations.[59]

4.2.31 Kaitiakitanga is about upholding the care of the ancestors whom are manifested in the landscapes that Māori live within.

4.2.32 In environmental terms, the kaitiaki approach is holistic and provides for restoration of damaged ecological systems, restoration of ecological harmony, increased usefulness of resources, and reduced risk to present and future generations.[60]

4.2.33 The role of kaitiaki is to balance human need with the preservation of the resource and the protection of mauri (the life principle or living essence contained in all things), therefore acting as both benefactor and beneficiary[61]. The role is considerably more significant than simply that of a guardian or steward. It is a vital component in the spiritual and cultural relationship of tangata whenua with their land[62].

4.2.34 There are three relevant court decisions for this CIA report, these are:

- Trans-Tasman Resources Ltd v Taranaki-Whanganui Conservation Board 2021

[56] Durie, M. (1998). Te Mana, Te Kāwanatanga: The Politics of Self Determination. Oxford University Press: Wellington. page 5.
[57] Waitangi Tribunal. (2012). The Stage 1 report on the national freshwater and geothermal resources claim: Wai 2358. Section 2.7. Retrieved from: https://forms.justice.govt.nz/search/Documents/WT/wt_DOC_59941926/Wai2358W.pdf
[58] Waitangi Tribunal. (2012) at page 105.
[59] Waitangi Tribunal. (2012) at page 105.
[60] Matunga, H. P. (1994). The Resource Management Act 1991 and Māori Perspectives. Centre for Māori Studies and Research, Lincoln University.
[61] Hayes, S. (1998). 'Defining Kaitiakitanga and the Resource Management Act 1991', in Auckland University Law Review (Vol 8 1996-1999) at page 893.
[62] Hayes, S. (1998) at page 898.

- Ngāti Maru Trust v Ngāti Whātua Ōrākei Whaia Maia 2020
- Tūwharetoa Māori Trust Board v Waikato Regional Council 2018

4.2.35 In the Trans-Tasman Resources Ltd decision, when considering the interests of iwi the Supreme Court decision[63] referred to the Court of Appeal decision[64] when outlining that:

> "….the interests of iwi with mana moana in the consent area are the longest-standing human-related interests in that place.

4.2.36 As with all interests, they reflect the relevant values of the interest-holder. Those values – mana, whanaungatanga and kaitiakitanga – are relational. They are also principles of law that predate the arrival of common law in 1840."[65]

4.2.37 Furthermore, in considering kaitiakitanga, the Supreme Court asserts:

> "….despite the references to the effects of the proposal on kaitiakitanga and mauri of the marine environment, the DMC did not effectively grapple with the true effects of this proposal for the iwi parties or with how ongoing monitoring could meet the iwi parties concern that they will be unable to exercise their kaitiakitanga to protect the mauri of the marine environment, particularly given the length of the consent and the long-term nature of the effects of the proposal on that environment.[66]

4.2.38 What was required was for the DMC to indicate an understanding of the nature and extent of the relevant interest, both physical and spiritual, and to identify the relevant principles of kaitiakitanga said to apply.[67]"

4.2.39 With regard to kaitiakitanga in the RMA, in Ngāti Maru Trust v Ngāti Whātua Ōrākei Whaia Maia Ltd the court stated:

> [69] It is not possible to be definitive about the scope of the jurisdiction to respond to iwi tikanga-based claims, including claims based on asserted mana whenua, in the abstract. But the operation of s 7(a) dealing with kaitiakitanga is illustrative. Kaitiakitanga is exercised by the hapū or iwi that holds mana whenua over a particular area. As the RMA anticipates, and as this case exemplifies, there will be occasions when there are overlapping iwi interests in the same whenua. Nevertheless, s 7(a) directs that regard must be had to their respective kaitiakitanga. Where the views of those iwi diverge as to the responsibilities of kaitiaki, a decision may need to be made as to which of those views is to apply in the context of that particular application and that may involve evidential findings as to what the iwi consider is required in tikanga Māori.[68]

[63] Trans-Tasman Resources Ltd v Taranaki-Whanganui Conservation Board (2021) NZSC 127
[64] Trans-Tasman Resources Ltd v Taranaki-Whanganui Conservation Board (2020) NZCA 86
[65] Trans-Tasman Resources Ltd v Taranaki-Whanganui Conservation Board (2021) NZSC 127 at 297
[66] Trans-Tasman Resources Ltd v Taranaki-Whanganui Conservation Board (2021) NZSC 127 at 160
[67] Trans-Tasman Resources Ltd v Taranaki-Whanganui Conservation Board (2021) NZSC 127 at 161
[68] Ngāti Maru Trust v Ngāti Whātua Ōrākei Whaia Maia Ltd at 69

4.2.40 The Environment Court decision Tūwharetoa Māori Trust Board v Waikato Regional Council [2018] NZEnvC 93, the Court did not think that ownership was determinative of how it must have regard to kaitiakitanga (section 7(a) of the RMA) and the principles of the Treaty of Waitangi, and found that the association of Māori (in this case Ngāti Tūwharetoa) with land affected by the applications will result in adverse cultural effects.

Treaty of Waitangi / Te Tiriti o Waitangi

4.2.41 On the direction of Clause 17(2)(a) of Schedule 5 of the FTA Act, section 8 of the RMA is not presented herein, however for Patuharakeke, the commitments and promises of/within Te Tiriti o Waitangi are relevant.

4.2.42 As previously stated, Patuharakeke have yet to settle, and therefore do not have a Treaty settlement legislation. Although this may be the current situation for Patuharakeke, Te Tiriti recognises the right of Māori, of Patuharakeke, to plan for and manage their environment. This makes Te Tiriti the principal reference point for all natural resource decision-making rather than a Treaty settlement legislation.

4.2.43 Protecting the values and interests of Patuharakeke are obligations under Te Tiriti.

4.2.44 Also, it is viewed that the Mana Whakahono ā Rohe between the Patuharakeke Te Iwi Trust and the Northland Regional Council has its basis in Te Tiriti with an intent to enable Patuharakeke to participate in the duties, functions and exercise of power it performs in resource management.

4.3 RMA Planning Documents

4.3.1 It is unknown to Whetū whether there are other approvals in addition to resource consents that are sought by McCallum Bros for its fast-track project. For this reason, only RMA Planning documents have been identified and reviewed by Whetū.

Northland Regional Council – Proposed Regional Plan for Northland

4.3.2 The Northland Regional Council (hereon "NRC") has the jurisdiction in the coastal marine environment of Te Ākau Bream Bay, with the Proposed Regional Plan for Northland (hereon "PRPN") outlining the provisions for resource use in the coastal marine environment.

4.3.3 The NRC's website informs that the PNRP replaces the three existing regional plans (Regional Air Quality Plan, Regional Coastal Plan, and Regional Water and Soil Plan) for Northland.

4.3.4 Whetū reviewed the February 2024 version of the PRPN.

4.3.5 The PRPN states that as of 28 June 2023, all appeals before the Environment Court are resolved. However, the NRC website informs that the PRPN is currently not operative, therefore, where relevant, there is potential that some provisions in NRC's Regional Coastal Plan that could still be operative.

4.3.6 The PRPN identifies that the fast-track project is located in the General Marine Zone. There are a number of overlays in proximity to the fast-track project area. Images of these overlays are included in **Appendix C**, with the relevant overlays identified below:

- Across the Te Ākau Bream Bay waters
  - Significant Marine Mammal and Seabird Area
- Along Te Ākau Bream Bay beachline and Ruakākā River outlet
  - Significant Bird Areas
  - Significant Ecological Areas
  - Sites and Areas of Significance to Tangata Whenua
  - Natural Character

4.3.7 Parts/Sections of the PRPN that were reviewed were:

- Part B – Definitions | Whakamāramatanga
- Part C – Rules | Ngā Ture
  - C.1 Coastal Activities
  - C.6 Discharges to Land and Water
- Part D – Policies | Ngā Kaupapa
  - D.1 Tāngata Whenua
  - D.2 General
  - D.4 Land and Water
  - D.5 Coastal
- Part E – Catchments | Ngā Whaitua
- Part F – Objectives | Ngā Whāinga

4.3.8 The review of the PRPN by Whetū is not an attempt to determine the activity status for the proposed fast-track project, but broadly to identify relevant provisions that manage sand extraction activities (and their effects), and cultural values and interests.

4.3.9 After reviewing the PRPN, it is considered that the fast-track project is primarily a dredging and disposal activity in the coastal marine environment.

4.3.10 McCallum Bros have identified Rule C.1.5.13 Dredging, deposition and disturbance activities – Discretionary Activity for the fast-track project. The rule is outlined below:

> ***C.1.5.13 Dredging, deposition and disturbance activities – discretionary activity***
>
> *The damage, destruction or disturbance of the foreshore or seabed, or deposition of material onto the foreshore or seabed, that is not the subject of any other rule of this Plan are discretionary activities, provided they are not in a mapped (refer to Maps | Ngā mahere matawhenua):*
>
> *1) Nationally Significant Surf Break, or*
>
> *2) Outstanding Natural Feature, or*
>
> *3) Area of Outstanding Natural Character, or*

4) Historic Heritage Area or Site, or

5) Significant Ecological Area, or

6) Site or Area of Significance to Tāngata Whenua, or

7) Outstanding Natural Landscape, or

8) Significant Bird Area – Critical Bird Habitats.

For the avoidance of doubt this rule covers the following RMA activities:

- *Destruction, damage or disturbance of any foreshore or seabed or the deposition of material in, on or under the foreshore or seabed (s12(1)).*
- *Discharge of water or sediment into water incidental to the activity (s15(1)).*

4.3.11 As a Discretionary Activity, the relevant objectives and policies in the PRPN that were identified and reviewed by Whetū are identified are below:

- F.1.2 Water quality
- F.1.3 Indigenous ecosystems and biodiversity
- F.1.4 Fish passage
- F.1.5 Enabling economic well-being
- F.1.8 Use and development in the coastal marine area
- F.1.9 Tāngata whenua role in decision-making
- F.1.10 Natural hazard risk
- F.1.11 Improving Northland's natural and physical resources
- F.1.12 Natural Character, Outstanding Natural Features, Historic Heritage and places of significance to tāngata whenua
- F.1.14 Hazardous substances and contaminated land

4.3.12 The D.1 Tāngata Whenua policies were reviewed.

- Policy D.1.1 When an analysis of effects on tāngata whenua and their taonga is required
- Policy D.1.2 Requirements of analysis of effects on tāngata whenua and their taonga
- Policy D.1.3 Affected persons
- Policy D.1.4 Managing effects on places of significance to tāngata whenua
- Policy D.1.5 Places of significance to tāngata whenua

4.3.13 A number of other relevant policies in Part D of the PRPN were also identified and reviewed.

4.3.14 It is outlined[69] in the PRPN that when considering an application for resource consent, regard must be had to D.1 Tāngata Whenua policy provisions in the PRPN (alongside other relevant objectives and policies), but where there is conflict, the more directive policy(s) shall prevail.

Northland Regional Policy Statement

[69] Part D of the Proposed Regional Plan for Northland, Application of objectives and policies, Page 230

4.3.15 The Northland Regional Policy Statement (hereon "RPS") provides an overview of the resource management issues for the Northland region, and outlines objectives, policies and methods to achieve integrated management of the natural and physical resources in the region.

4.3.16 The RPS was made operative 14 June 2018.

4.3.17 The RPS identifies eight (8) significant resource management issues for the Northland region. These issues are stated below:

1. Fresh and coastal water
2. Indigenous ecosystem and biodiversity
3. Economic potential and social wellbeing
4. Regional form
5. Issues of significance to tangata whenua – participation in resource management
6. Issues of significance to tangata whenua – natural and physical resources
7. Natural hazards
8. Natural character, features/landscape and historic heritage

4.3.18 The descriptions/explanations for Issue 5 and Issue 6 are outlined below:

Issue 2.5 Issues of significance to tangata whenua – participation in resource management

The following issues have been identified by iwi authorities as regionally significant as they relate to tangata whenua participation in resource management:

(a) There is inadequate provision for the early and effective participation of tangata whenua as partners in regional council resource management decision-making processes affecting natural and physical resources;

(b) The lack of recognition and provision for the sustainable management of Māori land and returned Treaty settlement assets by tangata whenua;

(c) Current use of Māori land may not provide for the sustainable social, cultural, economic and environmental wellbeing of tangata whenua. In particular, the importance and role of marae and papa kāinga has not been acknowledged in the past by the regional and district councils;

(d) Mātauranga Māori is not sufficiently recognised and used in the ongoing management and monitoring of natural and physical resources; and

(e) The inclusion of Māori concepts, values and practices within resource management processes is frequently limited and ineffective.

Issue 2.6 Issues of significance to tangata whenua – natural and physical resources

The following issues have been identified by iwi authorities as regionally significant as they relate to the state of, and pressures on, natural and physical resources:

(a) The decline of the mauri of natural resources (in particular water and land). (See also Issue 2.1 – Fresh and coastal water);

(b) The decline of mahinga kai, particularly kai moana harvesting sites, is impacting on the ability of tangata whenua to feed their whanau and manaaki manuhiri. (See also Issue 2.1 – Fresh and coastal water);

(c) Some tangata whenua in rural areas are drinking untreated water from streams and rivers. (See also Issue 2.1 – Fresh and coastal water);

(d) Land use and development can lead to damage, destruction and loss of access to wāhi tapu, sites of customary value and other ancestral sites and taonga which Māori have a special relationship with. (See also Issue 2.8 – Significant natural areas, features / landscapes and historic heritage);

(e) The loss of indigenous biodiversity, particularly where it negatively impacts on the ability of tangata whenua to carry out cultural and traditional activities. (See also Issue 2.2 – Indigenous ecosystems and biodiversity);

(f) The impacts of climate change. (See also Issue 2.7 – Natural hazards); and

(g) The use of genetic engineering and the release of genetically modified organisms in the environment.

4.3.19 There are a number of objectives in Part 3 of the RPS address these two issues.

4.3.20 Also identified above are the relevant policies that implement the objectives, there are tangata whenua policies in Part 3 of the RPS address these two issues.

New Zealand Coastal Policy Statement 2010

4.3.21 The New Zealand Coastal Policy Statement (hereon "NZCPS") applies to the coastal environment and came into effect on 3 December 2010.

4.3.22 There are seven (7) objectives and 29 policies. All objectives are viewed by Whetū as relevant to this fast-track, with the following policies (identified by Whetū) also being relevant:

- Policies
  - Policy 1 Extent and characteristics of the coastal environment
  - Policy 2 The Treaty of Waitangi, tangata whenua and Māori heritage
  - Policy 3 Precautionary approach
  - Policy 4 Integration
  - Policy 6 Activities in the coastal environment
  - Policy 11 Indigenous biological diversity (biodiversity)
  - Policy 12 Harmful aquatic organisms
  - Policy 13 Preservation of natural character
  - Policy 15 Natural features and natural landscapes
  - Policy 17 Historic heritage identification and protection
  - Policy 22 Sedimentation
  - Policy 23 Discharge of contaminants
  - Policy 24 Identification of coastal hazards

- Policy 29 Restricted Coastal Activities

National Policy Statement for Indigenous Biodiversity

4.3.23 The National Policy Statement for Indigenous Biodiversity (hereon "NPS-IB") applies to indigenous biodiversity in the terrestrial environment throughout Aotearoa New Zealand.

4.3.24 The objective of the NPS-IB is to maintain indigenous biodiversity such that there is at least no overall loss indigenous biodiversity. To achieve this objective, there are four focai:

- through recognising the mana of tangata whenua as kaitiaki of indigenous biodiversity
- by recognising people and communities, including landowners, as stewards of indigenous biodiversity
- by protecting and restoring indigenous biodiversity as necessary to achieve the overall maintenance of indigenous biodiversity, and
- while providing for the social, economic, and cultural wellbeing of people and communities now and in the future.

4.4 Other Matters

4.4.1 This section responds to the directive from central government for Crown Minerals, as well as the proposed Phase III RMA Reforms.

Critical Minerals List of New Zealand

4.4.2 In January 2025, the Ministry of Business, Innovation and Employment released a list of minerals identified as essential to New Zealand's economy and technological needs. Aggregate & Sand was identified on the list.

4.4.3 There are no mandated actions, however it is acknowledged that the published list does serve as a guide for policy and investment decisions.

Phase III RMA Reforms

4.4.4 In March 2025, a draft Blueprint to replace the RMA was published. Of particular note that may be of relevance to this fast-track project is the proposed amendment to the NZCPS, specifically Policy 6 and Policy 8, to make it easier to consent priority activities in the coastal environment (including in areas of important coastal value).

4.4.5 Also proposed is the amendment to the NPS-IB to improve the consent pathway for quarrying and mining.

Treaty of Waitangi (Fisheries Claims) Settlement Act 1992

4.4.6 Section 4 of the FTA Act informs that reference to Treaty settlement Act in the Act includes Treaty of Waitangi (Fisheries Claims) Settlement Act 1992 (hereon "Fisheries Settlement Act") and secondary legislation that gives effect to section 10 of the Fisheries Settlement Act and Part 9 of the Fisheries Act 1996.

4.4.7 The purpose of the Fisheries Act 1996 is to provide for the utilisation of fisheries resource while ensuring sustainability.

- Ensuring Sustainability means:
  - Maintaining the potential of fisheries resources to meet the reasonably foreseeable needs of future generations, and
  - Avoiding, remedying or mitigating any adverse effects of fishing on the aquatic environment
- Utilisation means conserving, using, enhancing and developing fisheries resources to enable people to provide for their social, economic and cultural well-being.

4.4.8 The Fisheries Settlement Act gives effect to Māori fisheries rights, and:

- make better provision for non-commercial traditional and customary fishing rights and interests, and
- better provision for participation in the management and conservation of New Zealand fisheries.

5. Patuharakeke Approach & Assessment Framework

5.1 Patuharakeke Technical Team

Members and Expertise

5.1.1 In addition to Whetū, the Iwi Trust engaged specific technical experts to support the assessment of effects of the fast-track project by peer reviewing McCallum Bros technical reports.

5.1.2 The experts engaged by Patuharakeke, and their speciality, are:

- Dr Tom Brough[70] – Marine Mammals and Sea
- Professor Dr Karin Bryan[71] – Coastal Processes
- Dr Richard Bulmer[72] – Marine Benthic Ecology
- Dr Drew Loher[73] – Marine Benthic Ecology
- Dr Darren Parsons[74] – Marine Ecology
- Dr Richard Meade[75] - Economics

5.1.3 Also, because of the newness with participation in the FTA Act, the charitable organisation Environmental Law Initiative offered and provided support to the Iwi Trust in their understanding of the FTA Act and what it may mean for Patuharakeke.

[70] Marine Ecologist, Quantitative Modeller with NIWA https://niwa.co.nz/people/tom-brough
[71] Professor at the University of Auckland https://profiles.auckland.ac.nz/karin-bryan
[72] Marine Ecologist with Tidal Research https://www.tidalresearch.co.nz/about
[73] Marine Ecologist, Strategy Manager – Coasts & Estuaries with NIWA https://niwa.co.nz/people/drew-lohrer
[74] Marine Ecologist, Principal Scientist with NIWA https://niwa.co.nz/people/darren-parsons
[75] Economist, Principal Economist at Cognitus Economic Insight https://www.cognitus.co.nz/about

Peer Review Comments

Peer Review by Dr Tom Brough

5.1.4 The report peer reviewed:

- SLR Consulting Limited - Te Ākau Bream Bay Sand Extraction: Marine Mammal Environmental Impact Assessment, SLR Project No: 840.030119.00001, Revision: 05, dated 17 April 2025;

5.1.5 Key matters commented on by Dr Brough:

- The report makes good use of the available information and rightly recognises the importance of Te Ākau Bream Bay for marine mammal taonga, and is largely accurate.
- The report correctly notes the key species of concern, which are primarily coastal bottlenose dolphins and Bryde's whales, acknowledging that common dolphins, false killer whales, pilot whales, killer whales, New Zealand fur seals and leopard seals being reasonably common.
- Acoustic data collected as part of the assessment confirms recent findings from vessel-based surveys by Patuharakeke/NIWA/Far Out that bottlenose dolphins and Bryde's whale have high occurrence (daily in the case of dolphins).
- Notes that dolphin detections were so frequent that they filtered out detections that were longer than 1 minute in duration, under the assumption that these were made from groups/individuals outside of Te Ākau. But Dr Brough outlines that this is a very big assumption and not at all routine, so it is likely that dolphins are even more regular in the area than their data suggest.

5.1.6 Key points identified in the peer review of impact assessment:

- On underwater acoustic/noise impacts:
    - Underwater acoustic was rightly pointed out as the most significant impact.
    - In peer reviewing the assessment, Dr Brough outlines the good use of extensive acoustic modelling to understand magnitude and likelihood of impacts, and opines that the acoustic analysis seems very well done, but still views that there are gaps in the impact assessment.
    - Questions the relevance of using a Canada study on killer whales for threshold inputs on bottlenose dolphins.
    - Outlines whether there is an opportunity to determine foraging behaviour of bottlenose dolphins from using acoustic data that was collected.
    - Opines that daily detections of dolphins within the area would suggest that species is frequently within radius of extraction area rather than temporary.
    - Comments that Te Ākau Bream Bay is a hot spot for several species, and therefore cannot preclude that species are only in Hauraki Gulf, Bay of Islands

and Te Ākau Bream Bay. Dr Brough queries that because there is no evidence that there are other areas outside of these three, whether the assessment should also consider the threat and impact to these species should one of their known areas (e.g Te Ākau Bream Bay) is impacted.

- Questions the view that species are already habituated to high vessel noise levels. Dr Brough considers this logic somewhat flawed as there is no way to know how many animals/species may have been present in the absence of a stressor.

- On habitat modification (fish and benthic ecology), Dr Brough is of the view that there are potentially some limitations with the assessment because the characterisation of the habitat in the operational area is potentially incomplete.
- Dr Brough considers impacts of marine mammals from ship strikes are likely minimal.
- On the report's assessment on potential cumulative impacts, Dr Brough considers that there should be recognition to the fact that several species are currently less abundant than historically recorded and sourced in mātauranga (e.g tohorā were highly abundant).

5.1.7 On the proposed mitigation measures within the report, based on the 'informational purposes only' approach, Dr Brough comments that there needs to be an active pursuit of the proposed Marine Mammal Monitoring programme by SLR Consulting.

Peer Reviews by Professor Dr Karin Bryan

5.1.8 The report peer reviewed:

- Tonkin & Taylor Limited - Te Ākau Bream Bay Sand Extraction: Coastal Process Effects Assessment, dated March 2025, Job Number 1093502 v2.0.

5.1.9 Key findings by Professor Bryan:

- The methodology by Tonkin & Taylor is robust.
- The proposed activity is in a closed system
- It is noted that a control site will be left untouched, but shares the view that the sand may also be coarser in this control site, and therefore may not be so easily mobilised. Professor Bryan considers that the control area will need to be re-assessed to be similar to the proposed activity area.
- Although the activity and its impacts will be noticeable in the proposed extraction area of Te Ākau Bream Bay, it will not be noticeable on the coastline
- Agrees that there will be no effects on waves
- Informs that the core data shows that there is some silt /silty sand in the extraction area. The report refers to a geotechnical assessment report in Appendix B, but the report was not included. Professor Bryan suggests that it might be worth looking at it to see how many more of the cores haves silt/silty sand in them.
- The outer depth of closure can be within the extraction zone but its need to check in more detail the justification of using the Depth of Transport rather than the Depth of Closure.

- Lastly, Professor Bryan outlines that it is not clear how deep the Holocene sand is. What is the total size of the resource relative to how much they plan to extract?

Peer Reviews by Dr Drew Loher & Dr Richard Bulmer

5.1.10 The report peer reviewed were:

- Bioresearches Limited - Te Ākau Bream Bay Sand Extraction Project: Assessment of Ecological Effects, Job No: 67129 dated 4 April 2025.

Dr Drew Loher Comments

5.1.11 Key findings by Dr Loher:

- Sampling was thorough—lots of observations/samples.
- 'Clean' uncontaminated sandy/shelly sediment (very little mud)—low likelihood of plumes and resuspension of contaminants during bottom disturbance by dredge.
- Diversity is moderate-to-high. The shelly material in the sediment and the reasonably deep water (low wave disturbance) likely contributes to the higher diversity relative to inshore ~10 m. The diversity is not likely confined to the dredge area.
- Presence of sensitive taxa (NIWA 2013)
- No brachiopods found in the proposed extraction area. One brachiopod was recorded in the southern control near the eastern margin in a dredge tow from monitoring cells K and L. (but seeing brachiopods with drop-cam would be hard). Brachiopods are sometimes found attached to a carrier shell (Xenophora neozelanica), and these were observed in a few locations across the area.
- Horse mussels, 1-30m², found a number of times across the area. Where present, there were 1 or 2 individuals per sample. Despite fitting into the NIWA 2013 definition of "bed", they do not report finding beds of Atrina in the main report.
- Cup corals—"A total of 9 individual stony corals, from 7 grab samples, absolutely protected under the Wildlife Act (1953) were found alive within the proposed sand extraction area, an additional 3 individuals were detected in the now discontinued Stage 1 proposed sand extraction area around the 4 anchorages east of the proposed sand extraction area, with a further 1 in the control areas."
- Live stony corals are shown by the red symbols in Figure 25. Report implies that they would survive the dredging and be returned to the seabed.
- Scallop and Atrina beds were once abundant there. The law around historical disturbance and what you can consider when addressing 'cumulative effects' is tricky.

Dr Richard Bulmer Comments

5.1.12 On the matter of progressing onto Stage 2, Dr Bulmer puts forward a few questions on activities after monitoring information determines that there are no significant adverse effects:

- What happens if there are adverse impacts?

- How are adverse impacts quantified/identified? If adverse impacts occur it may be that it takes longer than 3 years to be detected (e.g. effects on surf breaks, sand supply to dunes, marine ecology).
- How are the dredge conditions managed to ensure compliance? History of non-compliance was raised in the Pākiri sand mining decision. If non-compliance occurs, what is the outcome?

5.1.13 Similarly with ecological values in the area, although overall the macroalgae and benthic habitat and fauna survey appears extensive, Dr Bulmer has the following questions:

- What about historically, e.g. scallops/horse mussels/coral?
- What about future recovery of scallops/horse mussels?
- Overall the macroalgae and benthic habitat and fauna survey appears extensive.

5.1.14 After reviewing the Bioresearches 2020 report:

- Analysis appears to have been done using a 2.5mm and 9mm mesh screen, although it is unclear. What happens to all the individuals less than 9mm?
- Unclear what size material is retained as "sand". Anything less than 2.5mm? noting that macrofauna exist below 2.5mm in size (such as juvenile shellfish) and what is their fate if they end up in the sand aggregate?
- Unclear whether individuals are returned back at the point of the draghead (seafloor) or discharged in the upper waters (and therefore may be predated or fail to successfully resettle in transit).
- The survivorship of different size of individuals for Dosinia species and Myadora striata (clam species) was assessed. Some smaller organisms could recolonise within a year, but other larger species could take up to 10 years or more to recover (e.g. Atrina, scallops).

5.1.15 On the report's overall assessment, Dr Bulmer notes that the cumulative effects are likely to be negligible but in his view it doesn't appear to provide a summary of what they might be, and only talks about cumulative effects in the context of marine reptiles. The area is impacted by a range of factors (including presumably previously been dredged for scallops) which means that many larger slow growing species have probably been lost, however species like scallops may recover with time now that the fishery has been closed.

5.1.16 Dr Bulmer comments that robust consent conditions to detect potential adverse impacts and ensure compliance will be important, and take time to review and consider, and expresses that a monitoring plan was not provided with the report.

5.1.17 In closing, Dr Bulmer outlines that he generally agrees that the overall impact of the proposed sand mining on benthic ecology is likely to be on the lower end given the scale of the proposed dredge area and the fact that the area no longer has high densities of large slower growing benthic biota (such as atrina, scallops, coral etc). However, with that said, Dr Bulmer is of the

view that sandmining will have a negative impact on the benthic ecology (at least within the sand mining dredge area) and may contribute to inhibited recovery of large benthic biota in the future, particularly now that the scallop fishery has been closed with the intension of supporting recovery.

5.1.18 Dr Bulmer expresses that a more thorough assessment of the potential impacts of sand mining on scallops, including the impact on scallop recovery, would be useful.

Peer Review by Dr Darren Parsons

5.1.19 The report peer reviewed:

- Boyd, R.O - Assessment of Effects on Fish and Fisheries in Te Ākau Bream Bay dated February 2025;

5.1.20 On fish and shellfish communities in Te Ākau Bream Bay:

- Demersal fish trawl surveys were used to describe a diverse community dominated by snapper (tāmure). Insights about differences in fish abundance for Te Ākau Bream Bay compared to other areas are not able to be derived from these surveys due to limited recent survey coverage in Te Ākau Bream Bay and seasonal restrictions.
- Pelagic species observations (e.g., jack mackerel, blue mackerel, kahawai, trevally) are based on aerial surveys used by the purse seine fleet, which are not accepted as reliable abundance indices, but notes that they offer insight into species presence.

5.1.21 On commercial and non-commercial fishing activity in Te Ākau Bream Bay:

- The commercial fishing data utilised are outdated (2007–2013) and of low resolution, limiting their relevance.
- Tāmaure/Snapper does dominate the demersal finfish fisheries, with trawling and Danish seining restricted in parts of the application area, but bottom longlining permitted throughout.
- Pilchard purse seining, which occurs in Te Ākau Bream Bay, is not addressed in the report.
- Non-commercial catch is also dominated by snapper and kahawai, but recent and detailed data sources such as the National Panel Survey and boat ramp surveys were not utilised. Estimating displaced catch from the sand extraction area could help quantify impacts but has not been done.

5.1.22 On potential impacts of sand extraction on fisheries resources and fishing:

- Dr Parsons identified that noise effects on fish are expected to be temporary because fish will resume normal behaviour/feeding after the noise has ceased. However, he queries that if sand extraction is frequent, this might imply near constant disturbance within or immediately adjacent to the sand extraction area. In his view, the potential displacement caused by this disturbance has not been quantified.

- With water quality/suspended sediment, in response to the conclusion that only minor increases in total suspended sediment would occur, and fish are well adapted dynamic environments, Dr Parsons outlines that scallops, particularly juvenile scallops, are sensitive to sediment, so it is not clear if this has been fully assessed, especially given the low existing biomass of scallops.
- In response to the conclusion that fish are mobile and could avoid the suction head, Dr Parsons does not support this view and comments that it seems very unlikely for scallops to not be impacted (e.g physical/direct mortality).
- Suggests that on the consideration of availability of benthic fauna as food for fishes that it would be useful to estimate the annual loss of benthic productivity that could have alternatively been available as food for fish. Dr Parsons comments that given the recent instances of malnourished snapper in this region (milky white flesh syndrome), it is clear that resources are limited, which would be exacerbated by any further loss of benthic productivity, which could not be compensated for by displacement of fish to other areas.

Peer Review by Dr Richard Meade

5.1.23 The report peer reviewed:

- Market Economics Limited - Te Ākau Bream Bay Sand Extraction: Economic Assessment, Document Reference No: MCBL 004.24 dated 14 August 2025

5.1.24 Dr Meade's peer review comments are attached as **Appendix E** to this report.

5.2 Assessment Framework

5.2.1 As outlined in section 1.2 of this report, the assessment framework for this CIA report draws from the PHEMP and the statutory requirements of both the FTA Act and the RMA (and its regulations) to analyse the potential consent application and to identify the actual and potential cultural impacts (adverse effects) arising from the McCallum Bros fast-track project.

5.2.2 The objectives of the framework for assessing the McCallum Bros fast-track project are:

1	Assessments should be made within a Māori worldview from where they came, and the meaning and sense of values are primarily given by Patuharakeke[76] as an iwi authority and hapū in Te Ākau Bream Bay.

[76] Ngāti Hokopu ki Hokowhitu v Whakatāne District Council 2002

2	Consultation with Patuharakeke is a requirement[77] of the FTA Act, and for Patuharakeke, the importance of implementing tikanga[78] and application of consultation principles[79].
3	Acknowledge that the proposal is a listed fast-track project under the FTA Act, and that the purpose of the FTA Act is given the greatest weight when considering the consent application[80].
4	Apply a pragmatic and proportional approach[81] and recognise the RMA context for: • a consenting process for a Discretionary Activity, and • D.1 Tāngata Whenua provisions in the Proposed Regional Plan for Northland
5	Protect indigenous biological diversity[82] and historic heritage[83] in the coastal environment of Te Ākau Bream Bay.
6	The obligations of the Treaty of Waitangi (Fisheries Claims) Settlement Act 1992 and its regulation Fisheries (Kaimoana Customary Fishing) Regulations 1998[84].
7	The traditional interests and customary activities in Te Ākau Bream Bay, and the pursuit by Patuharakeke to gain protected customary activity recognition through the Marine and Coastal Area (Takutai Moana) Act 2011.
8	Tikanga is law and lore[85].
9	Safeguard for present and future generations the mana and mauri of: • ngā atua, with particular consideration to Tangaroa[86], • waahi tapu and sites and areas of significance to Patuharakeke in Te Ākau Bream Bay[87]

[77] Section 11 of the Fast-track Approvals Act 2024

[78] Ngāti Maru Trust v Ngāti Whātua Ōrakei Whaia Maia Ltd

[79] Patuharakeke Te Iwi Trust Guide to Consultation, and Consultation Principles developed through case law

[80] Clause 17(1) of Schedule 5 of the Fast-tracks Approval Act 2024

[81] Te Rūnanga o Ngati Whātua v Auckland Council 2024 NZHC 3794

[82] Policy 11 of the New Zealand Coastal Policy Statement

[83] Policy 17 of the New Zealand Coastal Policy Statement

[84] Recognises the Rohe Mana Moana of Patuharakeke

[85] Trans-Tasman Resources Ltd v Taranaki-Whanganui Conservation Board

[86] Patuharakeke Hapū Environmental Management Plan, Policy 8.1.4 of Northland Regional Policy Statement, and D.1.5 of the Proposed Regional Plan for Northland

[87] Section 6(f) of the Resource Management Act 1991, Patuharakeke Hapū Environmental Management Plan, and Policy 8.1.2 of Northland Regional Policy Statement, and D.1.1 and D.1.5 of the Proposed Regional Plan for Northland

	• the waters of Te Ākau Bream Bay[88]
10	Make actual provision for the Patuharakeke relationship with Te Ākau Bream Bay (includes the local and surrounding landscapes and environment)[89] and its community[90].
11	Promote and enable the: • exercise of kaitiakitanga[91], • incorporation of mātauranga alongside western science[92], and • implementation of tikanga-based practices[93]
12	Opportunities for protection, restoration and/or enhancement of: • waahi tapu and sites and areas of significance to Patuharakeke[94], • indigenous biodiversity and habitats[95], • coastal wetlands[96]
13	Consideration of the new and proposed changes to the resource management system, specifically the publication of the Critical Minerals List for New Zealand, and proposed Phase 3 of the Resource Management Act reforms.
14	Encourage pathways to implement partnership, participation, active protection and/or redress[97].

[88] Patuharakeke Hapū Environmental Management Plan, New Zealand Coastal Policy Statement, Northland Regional Policy Statement, and Proposed Regional Plan for Northland

[89] Section 6(e) of the Resource Management Act 1991

[90] Patuharakeke Te Iwi Trust Vision, Mission and Values and Patuharakeke Hapū Environmental Management Plan

[91] Section 7(a) of the Resource Management Act 1991, Policy 8.1.2 of Northland Regional Policy Statement, and Proposed Regional Plan for Northland

[92] Policy 8.1.3 of Northland Regional Policy Statement, and Proposed Regional Plan for Northland

[93] Patuharakeke Hapū Environmental Management Plan, Policy 8.1.4 of Northland Regional Policy Statement, and Proposed Regional Plan for Northland

[94] Patuharakeke Hapū Environmental Management Plan, Policy 4.4.2 of Northland Regional Policy Statement, and Proposed Regional Plan for Northland

[95] National Policy Statement for Indigenous Biodiversity, Policy 4.4.1 and Policy 4.7.1 of Northland Regional Policy Statement, and Proposed Regional Plan for Northland

[96] New Zealand Policy Statement, Policy 4.4.1 of Northland Regional Policy, and Proposed Regional Plan for Northland

[97] Te Tiriti o Waitangi, Section 8 of the Resource Management Act 1991, Northland Regional Policy Statement, and Proposed Regional Plan for Northland

6. Patuharakeke Impact Assessment Statements

6.1 Patuharakeke Cultural Impact Statements

6.1.1 A practice in New Zealand's resource management is to understand and address (management measures such as mitigation, remedy, avoidance, and offset) all effects on the environment. The Resource Management Act 1991 defines the environment as:

(a) ecosystems and their constituent parts, including people and communities; and

(b) all natural and physical resources; and

(c) amenity values; and

(d) the social, economic, aesthetic, and cultural conditions which affect the matters stated in paragraphs (a) to (c) or which are affected by those matters

6.1.2 Technical reports are commissioned and prepared by suitably qualified persons to advise and suggest measures to manage (mitigate, remedy, avoid and offset) the identified effects/impacts of a proposal.

6.1.3 A cultural impact assessment states the impacts of a clearly defined proposed activity against the associations, interests, rights, values and perspectives of Patuharakeke.

6.1.4 The cultural impact statements are distinguished under two themes:

- Rangatiratanga / Mana Moana, and
- Kaitiakitanga

6.1.5 The term Rangatiratanga and Mana Moana here is intended to capture the mana (the authority) of Patuharakeke to make their own decisions to maintain, protect, and sustain the health and well-being of, and their relationship with, the local environment and its community.

6.1.6 Kaitiakitanga means guardianship, protection, preservation or sheltering. Further to this, the exercise of kaitiakitanga by Patuharakeke is based on the traditional Māori world view of observation, feel (physical and spiritual), knowledge/experience, and insight.

As asserted in the Tūwharetoa Māori Trust Board v Waikato Regional Council 2018 court decision, ownership is not necessary to exercise kaitiakitanga.

6.1.7 In a contemporary setting, Patuharakeke kaitiakitanga is also achieved through a digital dashboard to observe the environment (and activities) in accordance with tikanga/mātauranga Māori, and access/source monitoring data and visualise it in both western science and mātauranga Māori platforms.

6.1.8 Section 6.4 Overall Position states the position of Patuharakeke Te Iwi Trust.

6.2 Effects on Patuharakeke Rangatiratanga / Mana Moana

Adverse Cultural Impact #1 – Recognition of Patuharakeke Customary Authority & Interests

6.2.1 The adverse cultural impact is the undermining the customary authority of Patuharakeke in Te Ākau Bream Bay.

6.2.2 The FTA Act does not define, nor have an interpretation, for Rangatiratanga, Mana Whenua or Mana Moana, however the RMA and Fisheries Act 1996 do have a definition/interpretation for Mana Whenua. It is described as meaning "customary authority exercised by an iwi or hapū in an identified area".

6.2.3 Through traditional and contemporary occupation, Patuharakeke have traditions and practices that span generations in all of Te Ākau Bream Bay, and into the Whangarei Harbour along the coastline of Marsden Point, One Tree Point, and Mangawhati Point.

6.2.4 Protecting the customary authority and interests of Patuharakeke in Te Ākau Bream Bay and Whangārei Harbour is of significant importance to Patuharakeke.

6.2.5 The customary authority of Patuharakeke in Te Ākau Bream Bay is recognised[98], and yet to be recognised under MACA and via settlement of Treaty of Waitangi Claim WAI 745 and WAI 1308.

6.2.6 The proposed sand extraction area is in close proximity to, potentially partially within, the Rohe Moana of Patuharakeke. The Rohe Moana of Patuharakeke has been formally in existence, via gazette notice (publicly notified), since 2009.

6.2.7 Patuharakeke can issue customary authorisations within the Rohe Moana.

6.2.8 The protection of established Patuharakeke rights[99] and interests[100] in the Rohe Moana is paramount to Patuharakeke.

6.2.9 The extent of the Rohe Moana is shown in the image at section 2.3.4 of this report, with the geographical co-ordinates (WGS84 datum) contained in the gazette notice.

6.2.10 Additionally, it is important to also recognise the combined Rohe Moana *Te Rerenga Paraoa* with Ngāti Kahu, Te Parawhau and Ngāti Tū which was gazetted in 2021. The proposed sand extraction area is within this Rohe Moana.

6.2.11 To address this cultural impact, the recommendation to McCallum Bros is to re-consider the location of the proposed sand extraction area in Te Ākau Bream Bay due to:

a. its proximity to, and potentially within, the Rohe Moana of Patuharakeke, and

[98] Under the Treaty of Waitangi (Fisheries Claims) Settlement Act 1992 via gazette notice and regulation 9 of the Fisheries (Kaimoana Customary Fishing) Regulation 1998.

[99] To exercise Patuharakeke tikanga and culture and traditions

[100] To exercise kaitiakitanga in accordance with Patuharakeke tikanga

b. it being located within the combined Rohe Moana Te Rerenga Paraoa.

It is viewed that this recommended action best upholds the obligations of the Fisheries Settlement Act.

6.2.12 Whetū are of the view that relevant provisions in the PRPN associated with this adverse cultural impact are contained D.1 Tangata Whenua:

- D.1 Tāngata Whenua
  - Policy D.1.1 When an analysis of effects on tāngata whenua and their taonga is required
  - Policy D.1.2 Requirements of analysis of effects on tāngata whenua and their taonga
  - Policy D.1.3 Affected persons
  - Policy D.1.4 Managing effects on places of significance to tāngata whenua
  - Policy D.1.5 Places of significance to tāngata whenua

6.2.13 Objective 3.12 Tangata whenua role in decision outlined in the RPS also recognises the role of Patuharakeke in decision-making where it affects their taonga, with the following policies implementing this objective:

- Policy 8.1.1 Tangata whenua participation
- Policy 8.1.2 The Regional and district council statutory responsibilities
- Policy 8.1.3 Use of Mātauranga Māori
- Policy 8.1.4 Māori concepts, values and practices

6.2.14 Additionally, the NPS-IB requires the recognition of Patuharakeke as kaitiaki of indigenous biodiversity, and the efforts of Patuharakeke to protect and restore its taonga in, and in proximity to, Te Ākau Bream Bay.

6.2.15 The customary authority of Patuharakeke to assess and determine how to maintain, protect, and sustain the health and well-being of, and relationship with, Te Ākau Bream Bay is currently not appropriately provided for by McCallum Bros.

Adverse Cultural Impact #2 – Recognition of Patuharakeke Customary Rights, Interests and Practices

6.2.16 The adverse cultural impact is the disregard of Patuharakeke customary rights, interests and practices in Te Ākau Bream Bay.

6.2.17 An aspect of the Fisheries Settlement Act is to make better provision for non-commercial traditional and customary fishing rights and interests, and better provision for participation in the management and conservation of New Zealand fisheries.

6.2.18 Although specified as part of the Patuharakeke MACA application for protected customary rights, section 2.2.12 of this CIA report provides a list of those non-commercial traditional and customary fishing rights and interests in the Rohe Moana of Patuharakeke.

6.2.19 This established customary right provides a sense of food security and subsistence to Patuharakeke, whist complementary reducing living costs, and more importantly, ensures nutritional needs.

6.2.20 Alongside fisheries related activities are non-fisheries activities practiced within (and beyond) the Rohe Moana, these are tauranga waka and rāhui. Accordingly, the customary rights, interests and practices of Patuharakeke in Te Ākau Bream Bay also includes access to, and passage across the waters of, Te Ākau Bream Bay.

6.2.21 Policy 2 of the NZCPS requires the consideration of the principles of Te Tiriti o Waitangi, tangata whenua and Māori heritage in the coastal environment, with the following parts of Policy 2 relevant for this cultural impact:

(a) recognise that tangata whenua have traditional and continuing cultural relationships with areas of the coastal environment, including places where they have lived and fished for generations

(d) provide opportunities in appropriate circumstances for Māori involvement in decision making, for example when a consent application or notice of requirement is dealing with cultural localities or issues of cultural significance, and Māori experts, including pūkenga, may have knowledge not otherwise available;

(e) take into account any relevant iwi resource management plan and any other relevant planning document recognised by the appropriate iwi authority or hapū and lodged with the council, to the extent that its content has a bearing on resource management issues in the region or district; and

(i) where appropriate incorporate references to, or material from, iwi resource management plans in regional policy statements and in plans; and

(ii) consider providing practical assistance to iwi or hapū who have indicated a wish to develop iwi resource management plans;

(f) provide for opportunities for tangata whenua to exercise kaitiakitanga over waters, forests, lands, and fisheries in the coastal environment through such measures as:

(i) bringing cultural understanding to monitoring of natural resources;

(ii) providing appropriate methods for the management, maintenance and protection of the taonga of tangata whenua;

(iii) having regard to regulations, rules or bylaws relating to ensuring sustainability of fisheries resources such as taiāpure, mahinga mātaitai or other non commercial Māori customary fishing.

6.2.22 It is viewed that the proposed fast-track project will have a detrimental adverse impact on Patuharakeke present, and future, customary rights, interests and practices in Te Ākau Bream Bay.

6.2.23 Consistent with the recommendation to McCallum Bros outlined above, the proposed fast-track project should not be located in Te Ākau Bream Bay, or any coastal waters within the rohe of Patuharakeke.

6.2.24 The Iwi Trust will continue to pursue on behalf of Patuharakeke hapū, marae and whānau to protect and restore in its entirety, and pursue and secure through its claims, the customary rights, interests and practices of Patuharakeke in Te Ākau Bream Bay and Whangārei Harbour.

Adverse Cultural Impact #3 – Patuharakeke Values, Interests and Mātauranga

6.2.25 The adverse cultural impact is the minimal consideration of Patuharakeke values, interests and mātauranga in locating the fast-track project in Te Ākau Bream Bay, and secondly, minimal consideration (includes avoidance) of those values in the technical reporting that informs the design and delivery of the fast-track project.

6.2.26 The *Ngāti Hokopu ki Horowhitu v Whakatāne District Council* decision in 2002 reminds that assessments should be made within a Māori worldview from where they came, and in Te Ākau Bream Bay, the meaning and sense of those values should be given by Patuharakeke as an iwi authority and hapū in Te Ākau Bream Bay.

6.2.27 The technical reports for the fast-track project that were reviewed[101] have all ultimately been presented on a foundation of western science (or western perspective), with each expert outlining their assessments and opinions accordingly to that worldview. This comment is not a judgment, nor discouragement, of the assessments and opinions, but an important matter to highlight.

6.2.28 The perspective and science (pūtaiao) for Patuharakeke has its basis in Te Ao Māori, so there will be difference in views (and values) to the information contained within the technical reports.

6.2.29 It is acknowledged that the technical reports were prepared prior to this CIA report being prepared, however, the values and interests of Patuharakeke are known via the PHEMP and could have been addressed or accommodated.

6.2.30 The PHEMP articulates the values of Patuharakeke as it relates to specific natural resources, resource use/activities, and resource management issues.

- 1.6 Cultural Framework
- 1.8 Tangata Whenua Planning Tools
- 2. Relationships
- 3.1 Recognition of Kaitiakitanga
- 3.2 Te Tiriti o Waitangi
- 3.3 Kaitiaki Monitoring Tools
- 4.2 Climate Change
- 8. Waahi Tapu me Waahi Taonga
- 9.1 Coastal Water Quality
- 9.2 Foreshore and Seabed
- 9.3 Access to the Coastal Environment
- 9.7 Marine Mammals
- 9.8 Customary Fisheries

[101] Technical reports are identified in section 3.2, and briefly summarised in Appendix B, of this CIA Report.

6.2.31 The PHEMP contains a body of knowledge/mātauranga built over many generations, and provides a level of insight that could have been considered prior to the involvement of Whetū and preparation of this CIA report.

6.2.32 The first interim decision of the Environment Court for the Port of Tauranga development refers to the 'clash of cultures' and ultimately takes a holistic approach, or 'wide lens', to enable the Court to understand how to recognise and provide for the relationship of Māori and their culture and traditions with ancestral lands, water, sites, waahi tapu and other taonga.[102]

In the same manner, Patuharakeke promotes the 'widening of the lens' to McCallum Bros. Examples of widening the lens are the:

- The extent of the assessment area. It does not consider Patuharakeke culture, traditions and relationship with, and worldview of, the waters of Te Ākau Bream Bay, and
- Western science solely qualifying the state of the environment being assessed.

6.2.33 The assessment area for the proposed fast-track project limits the culture, traditions of Patuharakeke, and its relationship with the waters of Te Ākau Bream Bay, Whangārei Harbour and Hauraki Gulf, because the Patuharakeke worldview is that they are connected.

6.2.34 The technical reports and their assessments focus only on a small footprint/area in Te Ākau Bream Bay. This small portion cannot provide sufficient information on the cultural health and mauri (as sought by Patuharakeke) of Te Ākau Bream Bay.

6.2.35 Additionally, it is contested by Patuharakeke that the current state of the immediate environment in Te Ākau Bream Bay is in good health (as stated in the technical reports).

It is important to Patuharakeke that this perspective/view outlined in these reports do not become the benchmark for this fast-track project going forward.

6.2.36 The kōrero tuku iho and mātauranga of Patuharakeke informs that historically the state of the environment in Te Ākau Bream Bay was in a far better state.

The values, interests and mātauranga of Patuharakeke ultimately places Te Ākau Bream Bay in an environmental/coastal waters condition that is not captured and considered in the technical reports.

6.2.37 Although the technical reports inform that effects are manageable and traverse a spectrum of negligible to minor effects on the Te Ākau Bream Bay environment, for Patuharakeke the proposed fast-track project does not avoid the adverse effects on the spiritual, historical and cultural significance and importance of the Te Ākau Bream Bay environment to Patuharakeke.

6.2.38 An example is with the marine mammal cumulative effects assessment. The assessment should recognise that several species are less abundant today when compared historically both in record and in mātauranga/kōrero tuku iho.

[102] Interim Decision Port of Tauranga v Bay of Plenty Regional Council at [75]

6.2.39 Another example is with the Landscape and Visual Effects Assessment (hereon "LVEA"). The values of Patuharakeke are multi-dimensional and should not be reduced to just cultural/associate values.

Patuharakeke values can, and should, inform all three LVEA values/factors (physical, associative and perceptual values).

6.2.40 As already articulated in section 2 and Appendix A of this CIA report, Te Ākau Bream Bay has cultural and traditional significance to Patuharakeke.

6.2.41 After reviewing the draft proposed consent conditions were reviewed, there are no measures to provide for the application of mātauranga Māori in the fast-track project.

6.2.42 In the RPS, Policy 8.1.3 *Use of Mātauranga Māori* gives direction that the NRC shall provide opportunities for the use and incorporation of mātauranga Māori in decision-making, management, implementation and monitoring of natural resources.

In the PRPN, Policy 8.1.3 is considered to be provided for in *Policy D.1.2 Requirements of an analysis of effects on tāngata whenua and their taonga*, specifically D.1.2(6):

> *If analysis of the effect of an activity on tāngata whenua and their taonga is required in a resource consent application, the analysis must:*
>
> *(6) incorporate, where appropriate, mātauranga Māori*

6.2.43 Based on the current form of the proposal, in addition to the recommendation for McCallum Bros to re-consider the location of the proposed sand extraction area in Te Ākau Bream Bay, it is considered appropriate and applicable that McCallum Bros update and amend their technical assessments to acknowledge the meaning and sense of contextualises the values of Patuharakeke values in Te Ākau Bream Bay.

This recommendation is consistent with the 2002 Environment Court decision for Ngāti Hokopu ki Hokowhitu v Whakatāne District Council.

6.2.44 The Iwi Trust are of the view that there is a role for Patuharakeke values and mātauranga to be considered and applied in the sustainable management of Te Ākau Bream Bay and wider the coastal environment.

Adverse Cultural Impact #4 – Te Ākau Bream Bay Community

6.2.45 The FTA Act has removed the standard public participation process in proposals where its scale and scale have substantial effects on the environment and its community.

6.2.46 In Te Ākau Bream Bay, Patuharakeke and community are intertwined together through intergenerational occupation in shared spaces (e.g coastal marine environment) and also in coming together to maintain, protect, and sustain the health and well-being of the local environment.

A relevant example of active connection in the community are the collaborative activities with the Bream Bay Coastal Care Trust.

6.2.47 As an exercise of its rangatiratanga, the Iwi Trust (and widely Patuharakeke hapū, marae, and whānau) takes a role and responsibility to manaaki (care for and sustain) the health and wellbeing of its community in its rohe/takiwā.

6.2.48 The vision and mission of the Iwi Trust is driven by the following values:

- **Whakapapa** – The foundation of our framework for managing resources, this demonstrates the relationships between the various elements of the world around us, including human beings.
- **Kaitiakitanga** – Our duty of care and responsibility toward our taonga tuku iho
- **Whanaungatanga** – Building ongoing positive relationships
- **Manaakitanga** – Our ability to care for and sustain our whānau and manuhiri
- **Mātauranga** – To protect, revive, enrich and utilise our knowledge in our capacity as kaitiaki
- **Mana Whenua** – Our right to exercise authority over our rohe and the resources therein
- **Mauri** – Protection of the 'life force' contained in all places, species, minerals, ecosystems in our rohe. It can also be understood as a measure of the health and vitality of those elements.
- **Tikanga** – To retain the traditions of our tupuna in all our operations
- **Pūmau te Wairuatanga** – To protect, revive enrich and utilise our spiritual stability
- **Tino Rangatiratanga** – Our right to exercise sovereignty of our lands, water etc
- **Hapū Rangatiratanga** – Our right to exercise sovereignty of our hapū ownership

6.2.49 These values, such as manaakitanga and whanaungatanga, encourages and enables Patuharakeke and the community to come together and learn from each other, and collectively pursue the duty to care for our environment (kaitiakitanga and stewardship).

6.2.50 The relationship with, and interests of, the Te Ākau Bream Bay community is important to Patuharakeke.

It is with this mind that this adverse cultural impact is identified.

6.2.51 The disregard of, or minimising, the interests of the Te Ākau Bream Bay community is not acceptable to Patuharakeke.

6.2.52 The manner in which the FTA Act reduces the involvement of the Te Ākau Bream Bay community in feeding into the fast-track project, erodes the efforts of, and the continued pursuit by, the Iwi Trust (and Patuharakeke hapū, marae, and whānau) to revitalise the mauri of our taonga tuku iho.

6.2.53 In the absence of community level engagement, Patuharakeke recommend to McCallum Bros to re-consider their location of the proposed sand extraction area in Te Ākau Bream Bay if they are choosing not to consult and engage with the community.

6.2.54 The recommendation takes on board the POTL interim decision outlining the applicability of consultation principles, and the nature of developers/resource users to be a good neighbour to those affected.

6.2.55 Patuharakeke believe that there is a role for the Te Ākau Bream Bay community in this proposed fast-track project.

Positive Feedback #1 – Consultation with Patuharakeke Te Iwi Trust

6.2.56 To respect the efforts of McCallum Bros, it is important to record the positive activities of McCallum Bros in their consultation and engagement with the Patuharakeke Te Iwi Trust.

6.2.57 The engagement by McCallum Bros are consistent with the Iwi Trust's Guide to Consultation, as well as the consultation principles, derived from case law, that define good consultation.

6.2.58 McCallum Bros have supported the Iwi Trust to engage with Patuharakeke hapū, marae and whānau through information sharing, and scheduling.

6.3 Effects on Patuharakeke Kaitiakitanga

Adverse Cultural Impact #5 – Exercise kaitiakitanga in accordance with Patuharakeke tikanga

6.3.1 Kaitiakitanga is fundamental to the relationship between Patuharakeke and the environment.

6.3.2 In absence of an interpretation for kaitiakitanga in the FTA Act, the RMA defines kaitiakitanga as the "exercise of guardianship by the tangata whenua of an area in accordance with tikanga Māori in relation to natural and physical resources, includes the ethic of stewardship".

6.3.3 The RMA interprets Tikanga Māori as "Māori customary values and practices".

6.3.4 To maintain balance, the co-existence of Patuharakeke with its environment is through practices such as tapu and rāhui to either moderate, conserve, and/or prohibit activities that bring harm (adversely impact) the values and interests of Patuharakeke. This is an exercise of tikanga that Patuharakeke pursue with this fast-track project proposed by McCallum Bros.

6.3.5 In the Trans-Tasman Resources Court of Appeal decision, tikanga Māori defines and governs the interests of Māori (in this case) Patuharakeke in the taonga protected by the Treaty and is therefore an integral strand of the common law of New Zealand[103].

6.3.6 This adverse cultural impact relates to the limited, and non-existent, provision for Patuharakeke to exercise its kaitiakitanga in accordance with Patuharakeke tikanga in the fast-track project.

6.3.7 By not recognising the Mana Moana/customary authority of Patuharakeke (as stated in Adverse Cultural Impact #1), Patuharakeke are of the view that in its current form, the fast-track project

[103] Trans-Tasman Resources Ltd v Taranaki-Whanganui Conservation Board (2020) NZCA 86 at [177]

does not provide an appropriate setting for Patuharakeke to exercise its kaitiakitanga in accordance with Patuharakeke tikanga.

6.3.8 As a demonstration of Patuharakeke kaitiakitanga, the Ropu Mana Moana leads customary fisheries activities, the monitoring of taonga (i.e pipi monitoring), and have actively sought and enacted closures since 2018 with current closure enacted until 28 June 2026.

6.3.9 A real concern is that the fast-track project will have adverse impacts on Patuharakeke customary practices, and hapū/marae/whānau confidence in gathering kaimoana. Such impact will undermine Patuharakeke tikanga, and could potentially impact the transfer of intergenerational knowledge if Patuharakeke are having to compromise its values.

It is the view of Patuharakeke that intergenerational loss can occur if habitat or access are degraded over time.

6.3.10 The draft consent conditions document currently do not propose any cultural mitigation measures that enable Patuharakeke to be involved in the proposed fast-track project.

This also reflected in the minimal consideration of Patuharakeke values, interests and mātauranga (Adverse Cultural Impact #3) in the technical reports, resulting in no recommendations being put forward.

6.3.11 As already stated above, it is acknowledged that the technical reports were prepared prior to this CIA report being prepared, however, the customary authority, rights, interests and practices of Patuharakeke are known, as well as its values, and could have been addressed or accommodated.

6.3.12 The values, interests and mātauranga affirms what matters to Patuharakeke which includes the natural character and landscape/seascape of Te Ākau Bream Bay, the ecological health and biodiversity, and amenity. In the coastal marine environment, Patuharakeke champions a precautionary approach, which is consistent with the NZCPS and PHEMP.

6.3.13 In the absence of the technical reports assessing effects on Patuharakeke, Patuharakeke are taking a precautionary approach with this fast-track project because there is actual and potential significant adverse cultural impacts.

6.3.14 The uncertainty in the fast-track project for Patuharakeke relate to:

- Monitoring in Stage 1 – What if there is a lag in adverse effects being detected within the 3-year window (Stage 1) before progressing into Stage 2?
- Dolphins within radius of extraction area – The filtering of dolphins detection and assumption that dolphins were outside of Te Ākau Bream Bay (extraction area);
- Control Site & Extraction Area – Sand consistency (whether the sand is coarser;
- Information and assessment contained in the geotechnical report;
- Outdated Information – Commercial fishing data was from 2007 – 2013;

- Incomplete Characterisation/Profile of the fish and benthic habitat/ecology therefore potential limitation in assessment;
- Future recovery of scallops – noting that juvenile scallops are sensitive to sediment;

6.3.15 Additionally, there are unknowns (includes information gaps) in the fast-track project for Patuharakeke. These are:

- Transition from Stage 1 to Stage 2. What qualifies as "no significant adverse effects" during monitoring of Stage 1?
- How are dredge conditions being managed to ensure compliance? If non-compliance occurs, what is the outcome/consequence?
- Distinguishing between sand and any macrofauna that are 2.5mm and smaller, and what happens if macrofauna end up in sand aggregate?
- Marine Mammal assessment should also consider threat and impact to marine mammal species should one of their known areas (e.g Te Ākau Bream Bay) is impacted;
- More thorough assessment of scallops and recovery would be helpful
- Appropriateness to use aerial surveys for pelagic species observations

6.3.16 For this reason, there is uncertainty whether Patuharakeke are able to exercise their kaitiakitanga in Te Ākau Bream Bay.

6.3.17 Patuharakeke want to avoid the intergenerational loss of kaimoana in Te Ākau Bream Bay, this includes avoiding further degradation and diminishing quality of coastal waters which can reduce shellfish habitat and compromise fish behaviour.

The risks to customary and traditional fisheries resources and waahi tapu are currently not considered and therefore are not provided for in the fast-track project.

6.3.18 After reviewing the technical reports, it is important that the proposed mitigation measures ensure that there are feedback loops and consideration of Patuharakeke concerns/comments, which includes the use of management plans to adapt and respond to those concerns/feedback/comments.

6.3.19 It is with this concern (risk and uncertainty) in mind that Patuharakeke are of the view that in its current form, the strengthening of kaitiakitanga in the fast-track project is best achieved by recommending to McCallum Bros that it finds another location for its sand extraction proposal.

In its current form, the project is not suitable as an activity in Te Ākau Bream Bay.

6.3.20 Objectives in the PRPN that were identified by McCallum Bros are:

- F.1.2 Water Quality
- F.1.3 Indigenous Ecosystems and Biodiversity
- F.1.4 Fish Passage, and

- F.1.12 Natural Character, Outstanding Natural Features, Historic Heritage and Places of Significance to Tāngata Whenua

6.3.21 Whetū are of the view that Objective F.1.9 Tāngata Whenua Role in Decision-Making should be included in the planning assessment.

6.3.22 Also, in addition to D.1 Tāngata Whenua provisions in the PRPN, the other relevant provisions in the PRPN are:

- D.2 General
  - Policy D.2.3 Climate change and development
  - Policy D.2.4 Adaptive management
  - Policy D.2.14 Resource consent duration
  - Policy D.2.16 Managing adverse effects on Historic Heritage
  - Policy D.2.18 Managing adverse effects on indigenous biodiversity
  - Policy D.2.20 Precautionary approach to managing effects on significant indigenous biodiversity and the coastal environment
- D.4 Land and Water
  - Policy D.4.1 Maintaining overall water quality
  - Policy D.4.2 Industrial or trade wastewater discharges to water
  - Policy D.4.4 Zone of reasonable mixing
  - Policy D.4.6 Discharge of hazardous substances to land or water
- D.5 Coastal
  - Policy D.5.24 Dredging, disturbance and deposition activities
  - Policy D.5.25 Benefits of dredging, disturbance and deposition activities
  - Policy D.5.26 Dumping (deliberate disposal) of dredge spoil and other waste material
  - Policy D.5.27 Underwater noise

Adverse Cultural Impact #6 – Patuharakeke relationship with Te Ākau Bream Bay and Marine Mammals

6.3.23 This adverse cultural impact is about the intimacy of the relationship that Patuharakeke have with Te Ākau Bream Bay (and wider) and with Marine Mammals, and how the fast-track project in its current form has not appropriately recognised this intimate relationship.

Ko Manaia Te Maunga | Ko Whangārei Terenga Parāoa Te Moana | Ko Takahiwai Te Marae | Ko Rangiora Te Tupuna Whare | Ko Patuharakeke Te Hapū

6.3.24 Expressed in the above pepeha/saying, the land/whenua (includes mountain/maunga and marae) and coastal waters is a statement of belonging, and describes the living embodiments of the relationship Patuharakeke hapū members have with the waters in Te Ākau Bream Bay (and wider) and Marine Mammals.

6.3.25 Te Ākau Bream Bay is an extension of the body of water referred to in the pepeha as Whangārei Terenga Paraoa.

6.3.26 The coastal waters of Te Ākau Bream Bay are inseparable to the lands, mountains and freshwater that sit within the Patuharakeke rohe. They do not exist independently. For Patuharakeke they are interconnected in whanaungatanga.

6.3.27 The Trans-Tasman Resources Court of Appeal decision acknowledges and refers to whanaungatanga (alongside kaitiakitanga) as a relationship between affected iwi and the natural environment, and not just as physical resources but as entities in their own right (e.g ancestors, gods, whānau), and the need to meaningfully engage with the affected iwi and with the concept of whanaungatanga[104].

6.3.28 The karakia at the start of the PRPN[105] recognises, and provides a description of, the whanaungatanga.

He karakia ki ngā atua	*A prayer to Māori gods*
Ko Rangi Ko Papa	*There is Rangi, There is Papa*
Ka puta	*Then the birth*
Ko Rongo Ko Tāne Māhuta	*Of Rongo, Of Tāne Māhuta*
Ko Tangaroa Ko Tūmatauenga	*Of Tangaroa, Of Tūmatauenga*
Ko Haumietiketike Ko Tāwhirimātea	*Of Haumietiketike, Of Tāwhirimātea*
Ko Rūamoko	*Of Rūamoko*
Tokona te Rangi ki runga	*Separate the sky above*
Te Papa ki raro	*And the land below*
Ka puta te Ira Tāngata	*Humanity is born*
Ki te Whai Ao	*Into the physical world*
Ki te Ao Mārama	*The world of light*
E rongo whakairia ake ki runga	*Let peace be raised back above*
Tūturu whakamaua kia tina! Tina!	*Bind us together*
Haumi e, hui e! Tāiki e!	*Let it be so*

6.3.29 Accordingly, the Patuharakeke relationship with Te Ākau Bream Bay cannot be understood without reference to the whole. With this in mind, the proposed sand extraction area is not just in Te Ākau Bream Bay, it is within the rohe of Patuharakeke.

6.3.30 For Patuharakeke, the fast-track project is not a bespoke development (and use of natural resources). It is one development among a number of developments in the rohe of Patuharakeke.

6.3.31 The PHEMP informs[106] that the cultural health of Whangarei Terenga Parāoa and Te Ākau Bream Bay are directly adversely affected by:

- Direct discharges of contaminants

[104] Trans-Tasman Resources Ltd v Taranaki-Whanganui Conservation Board (2020) NZCA 86 at [174]

[105] Proposed Regional Plan for Northland, Page 3.

[106] Patuharakeke Hapū Environmental Management Plan at Page 70

- Sedimentation
- Diffuse pollution rural, urban and industrial land use
- Reclamation, drainage and degradation of coastal wetlands
- Cumulative effects of activities

6.3.32 Note the reference to land based activities/effects in the above points.

6.3.33 The proposed fast-track project to extract sand from within Te Ākau Bream Bay (e.g vessel, noise, night lighting and seabed alteration) has the potential to degrade/minimise the cultural/associative, aesthetic and perceptual values that connect Patuharakeke to Te Ākau Bream Bay and wider environment.

6.3.34 On Patuharakeke relationship with marine mammals, the name Whangārei Terenga Parāoa means the meeting place of whales. The specific whale referred to are sperm whales (Parāoa). Parāoa are highly regarded by Patuharakeke, and are symbolic in Patuharakeke of chiefly status.

6.3.35 Marine mammals have a special place in Patuharakeke culture and tradition that is continued today and are treated as whānau/kindred. Sightings are still common.

6.3.36 As a result, Patuharakeke will advocate for the protection of marine mammals and their right to a healthy environment where there is no pollution discharged into Te Ākau Bream Bay. In relevance to the McCallum Bros fast-track project, is also noise pollution, ship strikes (although determined minimal), and the disturbance and reduction of food resources.

6.3.37 In the SLR Consulting Ltd report, its states that underwater acoustic/noise effects are the most significant impact. This impact is a significant concern to Patuharakeke.

6.3.38 Another concern is that marine mammals cannot 'ping' if the seabed is disturbed.

6.3.39 Patuharakeke disagree with the marine mammal assessment that marine mammals are already habituated to high vessel noise.

6.3.40 The intimacy of the relationship is reflected in the urupā/burial grounds for whales/tohorā (and other marine mammals) at Te Ākau Bream Bay, and by the proximity of Takahiwai Marae to Whangārei Harbour (Whangārei Terenga Parāoa).

6.3.41 The fast-track project compromises the pursuit[107] by Patuharakeke to increase numbers of healthy marine mammals inhabiting and migrating through its coastal waters and harbour. For this reason, safeguarding marine mammals is of significant importance to Patuharakeke.

6.3.42 Patuharakeke again recommend to McCallum Bros that it re-considers locating this fast-track project in Te Ākau Bream Bay.

[107] Objective 9.7.2(a) of the Patuharakeke Hapū Environmental Management Plan, Page 80

Adverse Cultural Impact #7 – Protection and Safeguard Areas of Significance to Patuharakeke

6.3.43 The adverse cultural impact is that there is no protection, nor safeguarding, of areas of significance and importance to Patuharakeke.

6.3.44 There are two distinct areas :

1. Whangārei Terenga Parāoa, and
2. Reefs

6.3.45 As explained above in Adverse Cultural Impact #6, the Whangārei Harbour (and the abutting/continuously flowing waters of Te Ākau Bream Bay) is referred to in pepeha and kōrero tuku iho as Whangārei Terenga Parāoa. An area of significance and importance to Patuharakeke.

6.3.46 Also of importance to Patuharakeke are the reefs in Te Ākau Bream Bay as they embody the traditional associations. Attached as **Appendix F** is a map identifying the location of the reefs.

6.3.47 Although the technical reports inform that effects are manageable and traverse a spectrum of negligible to minor effects on the Te Ākau Bream Bay environment, for Patuharakeke the proposed fast-track project does not avoid the adverse effects on the spiritual, historical and cultural significance and importance of the Te Ākau Bream Bay environment to Patuharakeke.

6.3.48 Patuharakeke recommend to McCallum Bros it re-considers locating this fast-track project in Te Ākau Bream Bay.

Adverse Cultural Impact #8 – Mana and Mauri (the Realm) of Tangaroa

6.3.49 Tangaroa embodies the waters, fish and bird life, marine mammals, seabed, seascape, and the air space above.

6.3.50 The realm of Tangaroa is a living connection of whakapapa and whanaungatanga that Patuharakeke recognises in its tikanga and exercise of kaitiakitanga, and shapes how Patuharakeke use, protect and makes decisions in Te Ākau Bream Bay.

6.3.51 This adverse cultural impact is about Tangaroa as its own living being/entity and embodiment, and not just a resource. It is a living presence and source of life, therefore the fast-track project must recognise its mana and mauri.

6.3.52 Although Tangaroa is not its own legal personhood, like the Whanganui River, Patuharakeke bestow Tangaroa as having the same rights and responsibility as a living being.

6.3.53 There will be negative impacts and potential adverse risks to the mana and mauri of Tangaroa. Although the technical reports inform that effects are manageable and traverse a spectrum of negligible to minor effects, the effects to Tangaroa will occur.

For example, the disturbance to seabed, and potential coastal water quality issues, will have a direct impact on the mauri of Tangaora.

6.3.54 With regards to the LVEA, as shared earlier, the values of Patuharakeke are multi-dimensional and should not be reduced to just cultural/associate values.

6.3.55 The seascape of Te Ākau Bream Bay underpins the identity of Tangaroa. The biophysical and perceived/perceptual characteristics and attributes of Tangaroa need to be considered.

6.3.56 A concern for Patuharakeke is the industrialisation of/in Te Ākau Bream Bay and Whangārei Harbour, where the characteristics and attributes (biophysical, perceptual and cultural/associative) of Tangaroa disappear over time and within a 35-year period.

6.3.57 The extension of industrial activities at Marsden Point / Northport into Te Ākau Bream Bay will diminish the mana and mauri of Tangaroa.

6.3.58 Patuharakeke recommends to McCallum Bros that it re-considers locating this fast-track project in Te Ākau Bream Bay.

Adverse Cultural Impact #9 – Response to Climate Change

6.3.59 The impacts arising from climate change is a real issue and risk to Patuharakeke that requires genuine consideration.

6.3.60 The resource management issues with climate change for Patuharakeke are:

- Climate change will impact the cultural, economic, social and environmental wellbeing of Patuharakeke,
- The magnitude, nature and timing of these on Patuharakeke, and Patuharakeke taonga tuku iho, have not been assessed,
- There is a failure by the Northland Regional Council to proactively lead mitigation of carbon emissions within Northland,
- There is a lack of preparedness planning for adaptation to the effects of climate change within Tai Tokerau and Aotearoa as a whole.

6.3.61 Further outlined in the PHEMP, "*most modelling sees our rohe with increasing average temperatures, increasing annual rainfall, increased severe weather events and significant sea level rise*"[108].

6.3.62 The Draft Climate Change Update 2025 to the PHEMP, which is available of the Patuharakeke website, outlines, categorises and bring awareness to further climate change related issues:

- 3.1 Hiwi Taha Mauī – Mitigation
    - The extent of greenhouse gases/fossil fuel being emitted
    - Any planned transition (or outline whether such technology exist) away from greenhouse gases/fossil fuel use

[108] Patuharakeke Hapū Environmental Management Plan, Page 37

    - Ability for the fast-track project to respond to new climate change related data/information
- 3.2 Hiwi Taha Matau – Adaptation & Resilience
    - Transition plan away from the industrialisation of Whangārei Harbour, Marsden Point/Northport, and Te Ākau Bream Bay
    - Identifying resources, habitats and ecosystems in Te Ākau Bream Bay that are key to protecting effects of climate change
    - Measures to manage the risk of new and existing pest species
- 3.3 Whare – Whanaungatanga
    - Willingness to co-design adaptation and resilience methods
- 3.4 Hoe Tere – Tino Rangatiratanga
    - What are the threats to Patuharakeke taonga (e.g fisheries and reefs) and the ability for Patuharakeke to take action to preserve those taonga in, and in close proximity to, the proposed sand extraction area.

6.3.63 Threats to people/communities and Patuharakeke taonga are a genuine concern for Patuharakeke, and a proactive response to climate change is promoted and sought by Patuharakeke.

With this concern in mind, it is likely that climate change related events will occur within the 35-year duration of the proposed fast-track project.

6.3.64 Accordingly, in its current form, the proposal has not considered the views of Patuharakeke on climate change. It is considered appropriate and applicable that McCallum Bros update and amend their technical assessments to give genuine consideration to the views of Patuharakeke on climate change.

Adverse Cultural Impact #10 – Costs to Patuharakeke and Local Community

6.3.65 There are three parts to this adverse cultural impact:

- The cultural loss/cost to Patuharakeke
- The cost to the local community, and
- Appropriate identification and consideration of the costs arising from the project

6.3.66 In his peer review, Dr Meade opines that there is potential cultural cost/loss to Patuharakeke as a result of a loss of rangatiratanga ("control") over the marine area and environs[109], and that there is a corresponding economic value to that cultural cost/loss.

[109] Cognitus Economic Insight (2025) Te Ākau Bream Bay Fast-Track – Patuharakeke Te Iwi Trust Bard Specialist Memo, Section 4.4 Cultural Costs/Losses are Likely to be Material using Established Value Economic Metrics from Relevant Domains, page 22

6.3.67 For Patuharakeke, it is viewed that there is a likelihood that the customary right of Patuharakeke to take fisheries resources for customary food-gathering (i.e provision for food security and subsistence to Patuharakeke) will be impacted by the proposed fast-track project.

The established customary right supports the livelihoods (includes reducing living costs) of Patuharakeke whānau, hapū and iwi.

6.3.68 Dr Meade points out in his analysis of Market Economics assessment, their analysis considers only the benefits of the project, and ignores its costs and adverse effects[110], and informs that there are established metrics commonly applied in economic assessments to measure the economic value of avoiding different levels of pain and suffering.

6.3.69 Adverse Cultural Impacts #1 - #9 set out the cultural impacts/costs/losses to Patuharakeke. All reflect pain and suffering to Patuharakeke. These should be considered by McCallum Bros as part of the economic assessment in determining significant benefits of the project.

6.3.70 It is viewed[111] by Dr Meade that these cultural costs are material and potentially large enough to completely offset the asserted benefits of the project.

6.3.71 On the second matter, the cost to the local community (includes Patuharakeke) is in regard to whether there are any benefits arising from the proposed fast-track project for the community.

6.3.72 The Market Economics report, and the supporting statement of Mr P Donaghue, refer to the economic opportunities that will arise from the fast-track project for Auckland. There is no assessment/consideration on what the economic or significant regional benefit to Northland (or the Te Ākau Bream Bay communities) are.

6.3.73 In this regard, Dr Meade responds to Market Economics assessment on the benefits of the project, and counters[112] that the asserted benefits are economically immaterial and not significant, and that the asserted benefits for Northland are very minor and insignificant, with the benefits narrowly distributed exclusively to Auckland.

6.3.74 In the absence of any assessment by Market Economics that inform on the extent of the economic impacts on the values of Patuharakeke and the Te Ākau Bream Bay community, it is difficult to support their assessment that the proposed fast-track project will deliver a positive and beneficial contribution to the Patuharakeke community, the Te Ākau Bream Bay community, and the Northland region.

6.3.75 On the third matter, this is an extension on the costs to the local community.

[110] Cognitus Economic Insight (2025) Te Ākau Bream Bay Fast-Track – Patuharakeke Te Iwi Trust Bard Specialist Memo, Section 5 Conclusion, page 25.

[111] Cognitus Economic Insight (2025) Te Ākau Bream Bay Fast-Track – Patuharakeke Te Iwi Trust Bard Specialist Memo, Section 1.4 Summary of Main Conclusions, points 11.10.1, page 5.

[112] Cognitus Economic Insight (2025) Te Ākau Bream Bay Fast-Track – Patuharakeke Te Iwi Trust Bard Specialist Memo, Section 1.4 Summary of Main Conclusions, points 11.6 and 11.7, pages 4-5.

It is acknowledged that the purpose of the FTA Act is "to facilitate the delivery of infrastructure and development projects with significant regional or national benefits", however clause 7(a) in Schedule 5 of the FTA Act advise that an assessment of environment effects must cover "any effects on the people in the neighbourhood and, if relevant, the wider community, including any social, economic and cultural effects".

6.3.76 Sand extraction activities of the Te Ākau Bream Bay seabed will have a negative impact on the benthic ecology in the extraction area, which will give rise to material costs and adverse effects have a cost on local amenity, and an environmental cost.

6.3.77 Dr Meade outlines[113] in his peer review analysis that there are omitted costs in the Market Economics assessment.

6.3.78 Across the three parts of this adverse impact, overall Patuharakeke are of the view that the proposal requires an enhanced level of assessment that wholly identifies both the costs and benefits of the project.

6.3.79 Therefore, in addition to the recommendation that McCallum Bros re-considers locating this fast-track project in Te Ākau Bream Bay, Patuharakeke recommends that a peer review of the Market Economics' report is sought by the Expert Panel.

Positive Feedback #2 – Patuharakeke Cultural Impact Assessment Report

6.3.80 The Iwi Trust acknowledges McCallum Bros's support to prepare this CIA report.

6.4 Overall Position

6.4.2 As a whole, and in its current form, the Iwi Trust are not in a position to support the fast-track project proposed by McCallum Bros.

6.4.3 The primary issue is that the fast-track project should not be located in Te Ākau Bream Bay. The reasons are outlined in the cultural impact assessment in 6.2 and 6.3 of the report, with the primary recommendation of Patuharakeke encouraging McCallum Bros to re-consider locating the proposed fast-track project in Te Ākau Bream Bay.

6.4.4 In total there are 10 cultural impacts. These are listed below:

<u>Rangatiratanga / Mana Moana</u>

1. Undermining the customary authority of Patuharakeke in Te Ākau Bream Bay
2. Disregard of Patuharakeke customary rights, interests and practices in Te Ākau Bream Bay
3. Minimal consideration of Patuharakeke values, interests and mātauranga in:
    a. Locating the proposed fast-track activity in Te Ākau Bream Bay ,and

[113] Cognitus Economic Insight (2025) Te Ākau Bream Bay Fast-Track – Patuharakeke Te Iwi Trust Bard Specialist Memo, Section 4.2 Omitted Costs include Possible Environmental Costs/Risks and Lost Local Amenity, page 19

b. In preparing technical reports to inform the design and delivery of the project

4. Disregard to the values and wellbeing of Te Ākau Bream Bay Community

Kaitiakitanga

5. Limited, to non-existent, provisions for Patuharakeke to exercise its kaitiakitanga in accordance with Patuharakeke tikanga
6. Insufficient consideration of Patuharakeke relationship with Te Ākau Bream Bay and Marine Mammals
7. No protection, nor safeguarding, of areas of significance and importance to Patuharakeke
8. Adverse effects on the mana and mauri of Tangaroa
9. Limited, to no, consideration and response to Climate Change
10. Cultural losses and costs to Patuharakeke on (present and future) rangatiratanga and kaitiakitanga and the costs to the Local Community

6.4.5 Also, the CIA report records two positive occurrences with McCallum Bros.

6.4.6 It is acknowledged by Whetū that Patuharakeke do not have the power to "veto" against (right to reject) the McCallum Bros fast-track project.

Recommendations

6.4.7 The position of Patuharakeke is one of opposition to the proposed fast-track project.

This position is on the basis that the extent of the adverse effects (and costs) to the **Rangatiratanga** and exercise of **Kaitiakitanga** are substantial.

6.4.8 Accordingly, the overarching recommendation to McCallum Bros is that the proposed fast-track project is re-located outside of, and away from, Te Ākau Bream Bay.

It is viewed by Patuharakeke that, on balance, this is the most appropriate approach to achieve the objectives of the assessment framework.

6.4.9 There will be an adverse effect on the customary authority, and customary rights/interests/practices, of Patuharakeke should the project proceed in its current form. Te Ākau Bream Bay is an area of significance to Patuharakeke.

6.4.10 In addition to this overarching recommendation, complementary recommendations are also put forward. These are:

- update and amend the technical assessments to:
    i. acknowledge the meaning and sense of contextualises the values of Patuharakeke values in Te Ākau Bream Bay. This recommendation is consistent with the 2002 Environment Court decision for Ngāti Hokopu ki Hokowhitu v Whakatāne District Council, and

ii. give genuine consideration to the views of Patuharakeke on proactive response to climate change.

- update and amend the Market Economics to wholly identify both the costs and benefits of the project, and response to the peer review comments provided by Cognitus Economic Insight.

6.4.11 On this latter point, Patuharakeke also encourages the Expert Panel to commission a peer review of the Market Economics report.

6.4.12 These complementary recommendations reflect the:

- information gaps, incomplete investigations, and uncertainties for Patuharakeke to be comfortable that the fast-track project will address and manage the adverse effects on Patuharakeke, and
- minimal consideration of Patuharakeke values, interests and mātauranga, including Patuharakeke culture and traditions and relationship with Te Ākau Bream Bay (and Whangārei Harbour and Hauraki Gulf).

6.4.13 In the absence of the these information gaps and assessment of adverse effects on Patuharakeke (values, interests and mātauranga), it is considered that there are also a number of planning provisions (e.g PRPN, Northland RPS, NZCPS and NPS-IB) that have not been identified and assessed by McCallum Bros.

7. Conclusion

7.1 Closing Comments

7.1.1 The fundamental concerns for Patuharakeke is that the proposed fast-track project by McCallum Bros to extract sand from Te Ākau Bream Bay is located in a coastal marine environment that is of significance and importance to Patuharakeke.

7.1.2 The customary authority of Patuharakeke in Te Ākau Bream Bay are established, with the pursuit by Patuharakeke to further secure it customary rights, interests and practices in Te Ākau Bream Bay (and widely Whangārei Harbour and Hauraki Gulf) through available channels (e.g Waitangai claim and MACA processes).

7.1.3 These rights, interests and practices for Patuharakeke reinforces historical, traditional, cultural, and spiritual associations with the coastal marine environment, and provides a sense of food security and subsistence to Patuharakeke, whist complementary reducing living costs, and more importantly, ensures nutritional needs.

There is a substantial cost/loss to Patuharakeke.

7.1.4 The recommendation to McCallum Bros to re-consider locating its project (in its current form) outside of, and away from, Te Ākau Bream Bay, is viewed by Patuharakeke as the best approach to safeguard the relationship, culture and traditions with Te Ākau Bream Bay.

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Environmental Defense Society v New Zealand King Salmon Company Ltd (2014) NZSC 38

Puke Coal Ltd v Waikato Regional Council [2014] NZEnvC 223

Tuwharetoa Māori Trust Board v Waikato Regional Council (2018) NZEnvC 93

RJ Davidson Family Trust v Marlborough District Council (2018) NZCA 316

Ngāti Maru Trust v Ngāti Whātua Ōrākei Whaia Maia Ltd (2020) NZHC 2768

Trans-Tasman Resources Ltd v Taranaki-Whanganui Conservation Board (2020) NZCA 86

Trans-Tasman Resources Ltd v Taranaki-Whanganui Conservation Board (2021) NZSC 127

Port of Tauranga Ltd v Bay of Plenty Regional Council (2023) NZEnvC 270

Legislation

Fast-Track Approvals Act 2024 and Resource Management Act 1991

Treaty of Waitangai (Fisheries Claims) Settlement Act 1992

Documents received from the McCallum Brothers Limited

Bioresearches Limited

- Te Ākau Bream Bay Sand Area - 2024 Initial Sand Extraction Assessment February – March 2024, Job No: 67129, Draft V5 dated 7 March 2025;
- Te Ākau Bream Bay Sand Extraction Project: Assessment of Ecological Effects, Job No: 67129 dated 4 April 2025;

Boyd, R.O - Assessment of Effects on Fish and Fisheries in Te Ākau Bream Bay dated February 2025[114];

Brown New Zealand Limited, Te Ākau Bream Bay Sand Extraction: Landscape & Natural Character Effects Assessment dated May 2025;

Market Economics Limited, Bream Bay Sand Extraction: Assessment of Economic Effects, Document Reference No: MCBL 004.24 dated 1 May 2024;

McCallum Brothers Limited – Bream Bay Sand Extraction Application – Briefing Paper for Patuharakeke Trust Board dated 28 February 2024;

MetOcean Solutions Limited, Assessment of Effects on Surf Breaks at Bream Bay, Document ID: 0635-05, dated July 2024[115];

National Institute of Water and Atmospheric Research Limited, Sand Extraction in Whanga-a-Tamure Bream Bay: Potential Effects on Seabirds and Shorebirds dated 16 May 2025, NIWA Client Report No: 2024250WN;

Osbournehay Resource Management Practice, Draft Substantive Application for Wildlife Approval "Draft for Consultation"

SLR Consulting New Zealand

- Bream Bay Sand Extraction: Water Quality Assessment of Environmental Effects, SLR Project No: 820.030379.00001, Revision: 2, dated 30 September 2024;
- Te Ākau Bream Bay Sand Extraction: Marine Mammal Environmental Impact Assessment, SLR Project No: 840.030119.00001, Revision: 05, dated 17 April 2025;

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- Assessment of Airbourne Noise Effects – Sand Extraction Te Ākau Bream Bay, dated 3 April 2025, Rev 4;
- Assessment of Underwater Noise Levels – Proposed Sand Extraction: Te Ākau Bream Bay, dated 10 April 2025, Rev 5;

Tonkin & Taylor Limited, Te Ākau Bream Bay Sand Extraction: Coastal Process Effects Assessment, dated March 2025, Job Number 1093502 v2.0.

Supporting Statement from Paul Donoghue

[114] On the second page of the report, it is dated April 2025

[115] The Document History table in the report informs that the version 0.6 is dated 14 October 2024

Appendix A: Patuharakeke Hapū Management Plan 2014

Patuharakeke Hapū Environmental Management Plan 2014

Part II – Participation in Resource Management Planning and Decision-Making		
2. Relationship		
2.6 Issues	Current relationships are limited in their provision for the full participation of Patuharakeke as equal partners in decision making processes affecting natural and physical resources in our rohe.	Page 21
2.7 Objectives	a) Patuharakeke will strengthen and establish ongoing meaningful relationships with our neighbours, community, developers and agencies to ensure we are appropriately acknowledged as kaitiaki of our rohe. b) Patuharakeke will have a partnership role in resource management planning and decision-making within our rohe.	Page 21
2.8 Policies	a) PTB will endeavour to keep hapu and whanau informed of all issues affecting the development and management of our natural, physical and heritage taonga. For significant issues, PTB will always advocate for these issues to be brought back to the marae for korero and hui, and will provide regular, open consultation through hui between PTB, and our hau kāinga and whānau whānui. b) PTB will endeavour to ensure that Patuharakeke participate in the decision-making processes of government agencies that affect us and our resources and are engaged on all issues of concern to us. c) Patuharakeke will wananga and work collaboratively with other hapu and iwi to share skills, learning, knowledge, experiences and opportunities. Patuharakeke will consider invitations to participate in multi stakeholder working parties on a case by case basis. d) PTB will continue to advocate for the recognition of Patuharakeke as a Treaty partner in all multi-stakeholder processes involving the management and development of natural, physical and heritage resources within our rohe. Patuharakeke will consider all requests to join multi- stakeholder processes on a case by case basis. e) Patuharakeke will continue to work collaboratively and positively with all community groups and stakeholders whose policies and initiatives contribute to the sustainable management and enhancement of resources within our rohe. Patuharakeke will consider all requests to join multi-stakeholder processes on a case-by-case basis.	Pages 21 - 23

	h) PTB will, to the best of our capacity, monitor all applications for development initiatives within our rohe. i) PTB will direct developers to the appropriate point of contact for their proposal. PTB will enter into consultation with all developers to assist in ascertaining the actual or potential effects of the development proposals on Patuharakeke, our values and our environment. Where any development initiative has the potential to impact on our values or resources, PTB will request that the developers bring their initiatives to the marae for the consideration of the hau kainga. j) PTB will ensure that adequate measures to avoid, remedy or mitigate any adverse effects on Patuharakeke, our values and our environment are identified for developers and council prior to development proceeding. k) PTB will, to the best of our capacity, monitor all developments once commenced to ensure that they do not result in adverse effects and that they are completed in accordance with the conditions of their consent. n) Patuharakeke will actively participate in the management of our taonga – our involvement should be sought at the commencement of all management, planning and monitoring processes. o) Agencies and other parties should be cognisant of the lack of capacity and resources for PTB to participate in contemporary planning and policy processes. Where consultation or participation in agency processes involves a cost to Patuharakeke, these should be borne by the relevant agency. Where consultants or contractors undertake consultation on behalf of agencies, the contract for service should specify the need for the contractor to consult directly with Patuharakeke on a professional basis.	
2.9 Methods	<u>Relationships with Developers</u> e) PTB will establish a Patuharakeke RMU to work with all responsible developers in our rohe and to facilitate dialogue and engagement with our marae community, hapu and land owners. f) PTB will continue to advocate that all potential developers should seek to enter into direct engagement with us in regard to their proposals at the earliest possible stage of the development. g) PTB will enter into agreements with responsible developers to clearly specify the involvement of Patuharakeke in the development process. Where this involvement includes a cost to the marae or hapu, PTB will insist that all reasonable costs are borne by the developer. h) Patuharakeke will develop protocols covering protection of all waahi tapu and other heritage sites and values in regard to development initiatives and will seek to have these protocols adopted as standard consent conditions for all consents granted within our rohe.	Page 24
Part III – Resource Issues		

3. Kaitiakitanga		
3.1 Recognition of Kaitiakitanga		
3.1.1 Issues	b) There is a lack of direct and effective Patuharakeke involvement, as the kaitiaki, in the sustainable management of our ancestral taonga, including water, soil, minerals, air, indigenous flora and fauna and our heritage.	Page 28
3.1.2 Objectives	a) Patuharakeke are acknowledged as the kaitiaki of all resources within our rohe and are actively involved in the decision-making, management, monitoring and enhancement of those resources including water, soils, mineral, air, flora and fauna and heritage. b) The relationship of Patuharakeke and our culture and traditions with our ancestral taonga is recognised and provided for as a matter of national importance by Councils and other statutory agencies. c) Mātauranga Patuharakeke or traditional Patuharakeke environmental knowledge is acknowledged, protected and utilised.	Page 28
3.1.3 Policies	a) Patuharakeke are recognised as the kaitiaki of all resources, including water bodies, energy, soils, minerals, air, flora, fauna and heritage, in our rohe. d) Use will be made of relevant Mātauranga Patuharakeke/traditional Patuharakeke environmental knowledge and practice in management and decision-making associated with all resources, including water bodies, soils, minerals, air, flora, fauna, energy and heritage. The intellectual property rights associated with that knowledge will be respected and protected. e) PTB are an interested and potentially affected party to any notified and non-notified resource consent application within our rohe concerning or potentially affecting any resource because of our special relationship with these taonga. When PTB is involved in setting conditions for a consent, the applicant or council will resource PTB to regularly monitor and review those conditions.	Page 28
3.1.4 Methods	a) PTB requests that all statutory agencies with responsibility for management of all resources recognise Patuharakeke as kaitiaki within our rohe. PTB will monitor all agencies' current and proposed policies to ensure that this happens. PTB also request that all relevant statutory agencies: i. Actively promote engagement with tangata whenua as being best practice to resource consent or permit applicants pre-application; ii. Require that all resource consent or permit applications concerning or potentially affecting all resources, including water bodies, soils, minerals, air, flora, fauna and heritage, be lodged with a PTB Cultural Impact Assessment approved by Patuharakeke as the relevant tangata whenua. Suggested consent conditions should be included in the assessment;	Pages 28 - 29

	iii. Notify PTB of any resource consent or permit application concerning or potentially affecting all resources, including water bodies, soils, minerals, air, flora, fauna and heritage and provide adequate time and resourcing for PTB to respond in an informed manner; iv. Provide PTB with copies of any infringement or abatement notices or details of Environment Court proceedings within our rohe. b) PTB, councils and other agencies and stakeholders will work together to ensure there is ongoing provision of opportunities to instil traditional values and knowledge in our rangatahi through involvement in restoration projects and customary mahinga kai practices.	
3.2 Te Tiriti o Waitangi		
3.2.1 Issues	a) There is a lack of proper recognition of and provision for, Te Tiriti o Waitangi as the basis for the relationship between Patuharakeke and local government.	Page 32
3.2.2 Objectives	a) Te Tiriti o Waitangi forms the basis of the relationship between Patuharakeke and local government.	Page 33
3.2.3 Policies	a) Te Tiriti o Waitangi is an agreement between Patuharakeke tupuna and the Crown, but in contemporary times Treaty obligations also sit with local government in addition to central government agencies. b) The articles of Te Tiriti o Waitangi should be given effect to in accordance with the significance of the treaty to Māori as the founding document of the nation. c) In giving effect to Te Tiriti, government agencies and local authorities must recognise and provide for kaitiakitanga and rangatiratanga. As the tangata whenua who hold manawhenua in our rohe, Patuharakeke interests in resource management extend beyond 'generic' stakeholder or community interests.	Page 33
3.2.4 Methods	Section 2.9(e) – (h)	Page 24
4. Ranginui		
4.2 Climate Change		
4.2.1 Issues	a) Climate Change will impact the cultural, economic, social, and environmental wellbeing of Patuharakeke. b) The magnitude, nature and timing of these effects on Patuharakeke and our taonga tuku iho have not been assessed.	Pages 37 - 38

	d) There is a lack of preparedness planning for adaptation to the effects of climate change within Tai Tokerau and Aotearoa as a whole.	
4.2.2 Objectives	a) Our Patuharakeke hapu and whanau community have sufficient information to allow us to plan for the effects of climate change. b) The potential impacts of climate change on Takahiwai marae, papakainga, and other sites of significance are identified and Patuharakeke are enabled to proactively develop responses and strategies for adapting to or accommodating those changes. e) Climate change is an integral part of community-based integrated catchment management planning led by tangata whenua.	Page 38
4.2.3 Policies	b) PTB require that the relevant local authorities and agencies recognise and provide for the potential effects of climate change on resources and values of importance to Patuharakeke, for example: i. effects of sea level rise on our coastal marae and waahi tapu, including urupā; ii. increased salination of rivers and estuaries, affecting mahinga kai resources and customary use; iii. warming of oceans and effects on marine ecosystems, including those on the sea floor; iv. changes to the amount of rainfall, and effects on aquifer recharge; v. changes to the habitats of indigenous flora and fauna, including taonga species; vi. increased pressure on already failing infrastructure; vii. changes in tourism (especially eco-tourism markets); viii. increased transportation costs and energy costs (the end of cheap oil and security of supply); ix. health impacts (e.g. tropical diseases) e) Restoration planning for wetlands and lagoons must take into account the potential for future sea level rise associated with climate change.	Pages 38 - 39
4.2.4 Methods	a) Patuharakeke will work proactively with all agencies and individuals who are seeking positive and pragmatic solutions and responses to climate change. b) PTB will seek funding and support from appropriate agencies and stakeholders to examine the risks climate change poses, our vulnerability and adaptive strategies we can take to protect our community, values and taonga tuku iho. c) PTB will not support to any development proposals in the coastal environment where climate change poses an undue risk.	Page 39
8. Waahi Tapu me Waahi Taonga		
8.1 Issues	a) Ongoing damage, destruction and mismanagement of waahi tapu and areas or sites of significance that contribute to, or are a part of, our cultural landscape and seascape. b) Areas or sites of customary value are often limited to western definitions, such as “archaeological”.	Page 63

8.2 Objectives	a) The protection and enhancement of areas or sites of customary value. b) All councils implement more appropriate provisions for cultural landscapes under their cultural and heritage responsibilities, such as the development and implementation of cultural landscape strategies.	Page 63
8.3 Policies	a) The recording of our cultural landscapes and seascapes, will be supported by Councils. c) Our cultural landscapes and seascapes should be afforded at least as high a priority as other landscape values when being considered as part of any process under the RMA, the Conservation Act, the Reserves Act or the LGA. d) Preparation of landscape assessments for resource consent applications and similar processes should be done in conjunction with PTB RMU to ensure that the cultural aspects of the landscape are given full recognition alongside other values such as natural character and amenity values. e) Monitoring of effects on cultural landscapes and waahi tapu (including marine cultural heritage) within our rohe is the responsibility of the ahi kaa and kaitiaki. This should be reflected in all relevant consent conditions. This function should be formally transferred to PTB RMU as mana whenua and resourced appropriately. f) Any areas and sites of customary value that contribute to, or are a part of our cultural landscape must be defined by Patuharakeke. h) The original names of all parts of our rohe as named by our tupuna should be used in all maps, charts, plans and other records. i) The advice and input of Patuharakeke should be sought and observed in the naming of any new places or features within our rohe. j) PTB, in conjunction with agencies and stakeholders, will encourage the use and representation of Māori culture (e.g. tikanga, markers, symbols, names, design) in public open space and the built environment when appropriate, including but not limited to: a. (a) Markers and designs as deemed appropriate. b. (b) Naming of features, roads, reserves, or buildings. k) To support the use of interpretation as a tool to recognise and provide for the relationship of Patuharakeke to particular places, and to incorporate Patuharakeke culture and values into landscape design. l) The interpretation of our values and history is best provided by Patuharakeke, and PTB RMU should be commissioned and resourced to provide this service. m) PTB will ensure any use of names, and other cultural interpretation in such instances will require internal discussion with the relevant whanau and the Patuharakeke taumata prior to any decision being made.	Page 65
8.4 Methods	Cultural Landscapes and Seascapes	Pages 66 -68

	a) PTB RMU will request that councils and other relevant agencies afford cultural landscape and seascape values at least as high a priority as other landscape values when preparing plans and policies and when considering landscape values during resource consent processes. <u>Waahi Tapu</u> f) PTB RMU will investigate and prioritise becoming certified as a registered collector of artefacts under the Protected Objects Act 1975. Any museum that knowingly accepts unearthed taonga tuturu (such as adzes, sinkers or carvings) discovered within our rohe must pass such taonga to PTB once registration has occurred and ownership is finalised. <u>Access to Sites of Significance</u> g) Patuharakeke must have unrestricted access to waahi tapu and other places of cultural significance on Crown land within our rohe. <u>Patuharakeke Tikanga Tuturu</u> j) To require that the use and representation of Māori culture as per Policy 8.3 (h-m) above, involves and is endorsed by, Patuharakeke as the tangata whenua when it occurs within our rohe. k) To require that any interpretation or information relating to Patuharakeke history, values, traditions or place names is agreed to and approved by PTB RMU.	
9. Tangaroa		
9.1 Coastal Water Quality		
9.1.1 Issues	a) The cultural health of Whangarei Terenga Paraoa, Bream Bay and our estuaries is adversely affected by: i. Direct discharges of contaminants, including wastewater and stormwater; ii. Sedimentation iii. Diffuse pollution from rural, urban and industrial land use; iv. Reclamation, drainage and degradation of coastal wetlands; and v. The cumulative effects of activities.	Page 70
9.1.2 Objectives	a) Whangarei Terenga Paraoa, Bream Bay and our estuaries are precious taonga and the home of myriad species and are respected for their taonga value above all else. b) The mauri and cultural health of the harbour, Bream Bay and our estuaries is protected and enhanced in ways that enable Patuharakeke to provide for our physical, social, economic and cultural wellbeing. c) Patuharakeke have a leading role in managing, monitoring and enhancing coastal water quality in our rohe. e) Coastal water quality standards relevant to Patuharakeke are developed and implemented by agencies and monitored by kaitiaki.	Page 70

9.1.3 Policies	a) Coastal water quality is required to be consistent with protecting and enhancing customary fisheries, and with enabling Patuharakeke to exercise their customary rights and safely harvest kaimoana. b) Patuharakeke will participate fully in any decision-making over the management of coastal waters in our rohe. c) Decision-makers will ensure that economic costs do not take precedence over the cultural, environmental and intergenerational costs of degrading coastal water quality. d) The discharge of human effluent, treated or untreated, directly to coastal waters is culturally repugnant. All direct discharges of pollutants or contaminants (wastewater, industrial, storm water and agricultural) to coastal waters should be avoided and existing discharges ultimately eliminated. e) PTB will oppose any new consent applications seeking the direct discharge of contaminants to coastal water, or where contaminants may enter coastal waters. g) NRC will implement rigorous controls restricting the ability of boats to discharge sewage, bilge water and rubbish in our harbour, estuaries and coastal waters. h) Councils and other relevant agencies will recognize and support the use of cultural monitoring and assessment tools by Patuharakeke to compile base line data and assess the state of coastal water resources, including but not limited to: v. Cultural Audits; vi. GIS Mapping of harbour, estuaries and mahinga kai; vii. Cultural Health Index; and viii. the use of customary management tools for protecting freshwater values.	Pages 70 - 71
9.1.4 Methods	a) Councils and Patuharakeke will together jointly develop integrated catchment management strategies including mechanisms for allocating water and monitoring for all waterbodies in our rohe. c) PTB will take positive action to enhance our coastal water quality and will develop and implement a monitoring programme using cultural health indicators and other assessment tools as needed. d) PTB will advocate for the enhancement of coastal water quality and will work with any party promoting or implementing positive actions in this regard. PTB request statutory authorities to: i. ensure that coastal water quality standards in our rohe are set based on the elevated standard of water quality we want to achieve, as opposed to establishing a minimum lower standard that we can degrade to; ii. promote and provide incentives for the rehabilitation, enhancement and protection of estuarine areas and coastal margins; iii. develop a strategy to deal with sedimentation by identifying the key sources and activities; implementing effective controls on those activities; and promoting indigenous reforestation, riparian margin enhancement and soil conservation as measures to address sedimentation in our harbour and	Page 71

	estuaries; iv. prevent the discharge of liquid waste (e.g. stormwater, sewage and farm effluent) to coastal waters; v. unrestricted stock access to coastal margins is prevented; vi. Where data shows that there is an adverse effect on coastal water quality then activities must cease; and vii. resource consents for works stipulate regular cultural health monitoring by appropriately resourced kaitiaki as part of compliance monitoring. e) PTB, councils and other agencies with responsibilities in the coastal marine area will formalise a programme of cultural health monitoring of the health of the Whangarei Harbour, Bream Bay and Estuaries in our rohe. The programme will be carried out by katiaki and focus on matters such as: i. Quality of mahinga kai habitat; ii. Species diversity and abundance; iii. Water quality; and iv. Suitability of traditional mahinga kai areas for customary use	
9.2 Foreshore and Seabed		
9.2.1 Issues	a) The historical loss of our foreshore and seabed rights has resulted in adverse cultural, environmental, social and economic impacts on Patuharakeke. These are perpetuated in the contemporary context by the lack of appropriate statutory recognition of our customary rights over the foreshore and seabed.	Page 73
9.2.2 Objectives	a) Recognition of, and appropriate provision for the longstanding rights and interests of Patuharakeke in relation to the foreshore and seabed.	
9.2.3 Policies	b) Patuharakeke will continue to seek ways to express our customary rights and interests over particular sites and areas within our takutai moana (eg. see policies in section 9.8.3 of this plan).	
9.2.4 Methods	a) PTB's Treaty of Waitangi claims progression committee will continue to pursue these matters as set out in our amended statement of claim inter alia before the Waitangi Tribunal.	
9.3 Access to the Coastal Environment		
9.3.1 Issues	a) Patuharakeke access to the coastal marine area and customary resources has been reduced and degraded over time.	Page 74
9.3.2 Objectives	b) Customary access is protected and enhanced.	Page 74
9.3.3 Policies	a) Customary access to the coastal environment is a customary right, not a privilege, and must be recognised and provided for independently from general public access.	Pages 74 – 75

	b) Policies and plans prepared by statutory agencies must recognise the rights of access that Patuharakeke have: v. to all waahi tapu: vi. for the harvesting and collection of kai; vii.to taonga prized for traditional, customary and cultural uses; and viii. for the purposes of kaitiaki/cultural health monitoring. d) PTB will oppose coastal land use and development that results in the further loss of customary access to the coastal marine area, including any activity that will result in the private ownership of the foreshore.	
9.3.4 Methods	a) Patuharakeke will continue to advocate that agencies recognise and provide for these policies. c) Patuharakeke will take opportunities to educate the community about our cultural values in relation to the coast and encourage attitudinal change. d) Councils issuing consents that could affect customary access will include consent conditions to protect and enhance customary access. e) PTB will continue to lobby our agency partners and local business and industry to seek funding for a kaitiaki monitor to patrol Ruakaka beach and other important areas on a fulltime basis. We envisage a kaitiaki monitor would undertake the following types of activities: i. Monitoring of kaimoana beds and adherence to any fishing restrictions; ii. Coastal cultural health surveys; iii. Monitoring of sites of cultural significance; iv. Monitoring of wildlife; v. Observation of any dog or horse bylaws; vi. Education and advocacy with general public.	Page 75
9.7 Marine Mammals		
9.7.1 Issues	a) The habitat of marine mammals is facing immense human-induced pressures.	Page 80
9.7.2 Objectives	a) Increased numbers of healthy whales and dolphins inhabiting and migrating through our coastal waters and harbour b) A strong partnership between DOC and Patuharakeke with regard to the management of marine mammal strandings and cultural harvest in our rohe. c) Revival of matauranga and tikanga associated with marine mammal strandings and cultural use.	Pages 80 - 81
9.7.3 Policies	a) The cultural, spiritual, historic and traditional association of Patuharakeke with marine mammals, and the rights to exercise rangatiratanga and kaitiakitanga over marine mammals is guaranteed by Te Tiriti o Waitangi.	Page 81
9.7.4 Methods	a) Patuharakeke will continue to advocate for a clean and healthy marine environment for marine life, including dolphins and whales.	Page 81

	d) Patuharakeke will continue to work collaboratively with Ngatiwai and other hapu and iwi to build knowledge and understanding with regard to the cultural harvest of stranded marine mammals.	
9.8 Customary Fisheries		
9.8.1 Issues	a) Increasing pressure on the kaimoana resources in our rohe as a result of: i. Discharges to the coastal marine area and harbour, and impacts on coastal water quality; ii. Harvesting pressure; iii. Lack of awareness among visitors of the importance of our harbour, bays and estuaries as mahinga kai; iv. industrial activities; and v. Biosecurity risk. b) There is a need to implement appropriate tikanga-based management tools for protecting and enhancing the marine environment and customary fisheries.	Page 83
9.8.2 Objectives	a) That there is diversity and abundance of mahinga kai in our rohe moana, the resources are uncontaminated and healthy, and Patuharakeke have unimpeded access to them. b) The role of Patuharakeke as kaitiaki of the coastal environment and sea is recognised and provided for in coastal and marine management. c) Traditional and contemporary mahinga kai sites and species within our rohe moana, and access to those sites and species, are protected and enhanced. d) Our rohe moana is protected through tikanga-based management of fisheries. e) Te rohe moana o Patuharakeke is managed as a mahinga kai and mataitai, first and foremost.	Page 83
9.8.3 Policies	a) Agencies and stakeholders will support the protection and enhancement of our rohe moana through tikanga-based customary fisheries management tools, and supported by matauranga Maori and western science, including: i. Mataitai; ii. Rahui; and iii. Tangata tiaki/kaitiaki. b) Agencies and stakeholders will support the development of an ongoing monitoring scheme by Patuharakeke using Cultural Health Indicators ('CHI') to assess the health of our rohe moana. c) To continue to jointly investigate and implement kaimoana reseeding projects in the rohe moana where traditional stocks are degraded either through the Whangarei Harbour Health Improvement Fund/Kaitiaki Roopu or another mechanism. d) PTB will continue to develop and establish sound research partnerships with NRC, Crown Research Institutes, government departments, universities and other organisations to address issues of importance to tāngata whenua regarding the management of our rohe moana.	Page 84

	e) NRC will require protection or restoration mechanisms such as bonds, levies and mitigation funds as consent conditions for any application with the potential to adversely impact our rohe moana. f) NRC will require that water quality in the harbour, our bays and estuaries is such that Patuharakeke can exercise customary rights to safely harvest kaimoana. g) PTB will continue to work with local authorities to develop appropriate policies and rules to implement and enforce measures to improve coastal water quality (for example as set out in policies 9.1.3 and 9.6.3 of this plan).	

Appendix B: Review of Technical Reports

Below are summaries of the technical reports that were reviewed.

Bioresearches – Initial Sand Extraction Assessment

The report is an ecological investigation of the proposed sand extraction area in Te Ākau Bream Bay to quantify the biota present within the area.

The report outlines that initial seabed monitoring survey was completed in February-March 2024, and that a comprehensive program has been developed to assess the benthic fauna and physical seabed environment.[116]

Informs that the expectation is that sand dredging will occur in an alongshore direction, with the vessel roughly following a predetermined dredge path of 8km by 2.2km.[117]

The report describes the two methods to the investigation (Geomorphological Features, and Benthic Monitoring), with results and discussion presented across the following areas:

- Seabed Morphology
- Surficial Sediment Particle Size
- Surficial Sediment Quality
- Benthic Biota

The report concludes that:

> "*Grain size consisted of sand to gravelly sand with low proportions of silt and clay. Contaminants were present in low concentrations. These two aspects of sediment characteristics are an advantage for sand extraction: the low mud content, means very little fine sediment is available to form suspended sediment visible plumes behind the dredging vessel, significantly limiting the duration and extent of any visible plume, therefore a limited negative effect on water clarity; contaminants are not likely disperse to other areas during sand extraction as a result of the coarse sediment grain sizes, and as the concentrations were lower than the threshold values for adverse effects on ecosystems, not adverse effects are expected.*
>
> *While the biota in the proposed sand extraction area has a high diversity of taxa. The biota consisted of nationally and locally common species, with no "At Risk" species. The detection of a few stony corals does not increase the ecological value of the area as these species are very small, solitary, and do not form complex habitats.*
>
> *The biotic composition and abundance of biota in the proposed sand extraction area and the three control areas varies statistically significantly with depth. When the proposed sand extraction area is*

[116] Bioresearches (2025) Initial Sand Extraction Assessment, Executive Summary, Page ii

[117] Bioresearches (2025) Initial Sand Extraction Assessment, Methods, Page 3

divided by alongshore cell groupings of similar depths, the biotic composition and abundance of biota in the proposed sand extraction area and the three control areas were statistically significantly different. For the controls to act as indicators of the natural variation in the biotic communities they should ideally cover the pre-effect range of variation in the potential impact sites. The northern and southern controls provide data sufficient to cover the range of data in the proposed sand extraction area. The differences between the proposed sand extraction area and the northern and southern control areas could lead to issues with comparing differences over time. No alternative control areas are obvious."[118]

Bioresearches – Assessment of Ecological Effects

The assessment report informs that it is an ecological impact assessment (hereon "EIA") and has been undertaken in accordance with the Environment Institute of Australia and New Zealand guidelines and best practice methodology.[119]

The EIA further informs the following on methodology:

a. The scale at which values and effects are assessed has major implications for values and effects assigned.

b. For the assessment of ecological values, the 'zone of influence', or 'ZOI', refers to all land, water bodies and receiving environments that could be potentially impacted by the project. It includes the Project Site and any environments beyond the Project Site where 'indirect effects' such as discharges, noise etc may extend. The extent of the ZOI depends on: species, communities and ecosystems likely to be affected; and the temporal and spatial scale of potential effects on them.

c. For the EIA, the spatial scale of the effect is the area of sand extraction.

d. Ecological values of sites, species, habitats, communities or ecosystems are ranked from "very high" to "negligible".

e. The magnitude of effect have been ranked from "very high" to "negligible", with criteria for determining the magnitude of the effect on the marine environment in Table 2 of the EIA.

f. The level of effect has been determined by combining the value of the ecological feature, and the rating for the magnitude of effect.

[118] Bioresearches (2025) Initial Sand Extraction Assessment, Conclusions, Page 53

[119] Bioresearches (2025) Assessment of Ecological Effects, Ecological Impact Assessment Methodology, Page 5

The ecological values identified[120] and assessed[121] in the EIA are:

Habitat Value	Overall Ecological Value	Justification	Effects	Magnitude of Effects	Level of Effects
Coastal Vegetation	None	No coastal vegetation including seagrass present or likely to be influenced by the sand extraction.	Turbidity	Negligible	Negligible
Macroalgae	Negligible	Very little macroalgae present within the proposed sand extraction area.	Turbidity	Negligible	Negligible
Benthic Habitat and Fauna	Moderate	Species adapted to the high energy environment. Benthic fauna was sparse but moderately diverse. Benthic community has ecological function as a food resource for the fish community.	Community Structure	Negligible	Negligible
			Survival	Negligible	Negligible
			Turbidity	Negligible	Negligible
Benthic Fish	Low	Species that frequent the area are locally common, present within the Hauraki Gulf area. Most species are widely distributed around New Zealand.	Noise	Negligible	Negligible
			Entrainment	Negligible	Negligible
			Suspended Sediment	Negligible	Negligible
			Food Reduction	Negligible	Negligible
Marine Reptiles[122]	Very High	Four turtles classed as 'Vulnerable' or with higher IUCN Red List[123] status but rarely present.	Underwater Noise	Negligible	Minor
			Habitat Modification	Negligible	Minor
			Vessel Strike	Negligible	Minor
			Exposure	Negligible	Minor
			Debris	Negligible	Minor
			Cumulative	Negligible	Minor

[120] Bioresearches (2025) Assessment of Ecological Effects, Ecological Values, Pages 9 - 18

[121] Bioresearches (2025) Assessment of Ecological Effects, Magnitude of Effects of Sand Extraction on Biota, Pages 19 - 46

[122] Marine reptiles identified are marine turtles and marine snakes

[123] World Conservation Union 1996 Red List of Threatened Animals

Overall, the EIA estimates that, at most, the level of effects for Stage 1 will be low within the sand extraction area but negligible in the wider Te Ākau Bream Bay[124].

On Stage 2, the EIA states:

> "*If no significant or unexpected adverse effects such as loss of important species, more than minor reduction in benthic biota population, ecologically significant changes in grain size composition, arising from the extraction are identified through a monitoring programme that cannot be avoided, remedied or mitigated, then the consent proposes to increase the extraction rate to a maximum of 250,000m³ per annum over the same extraction area, for the remainder of the consent. MBL have stated they plan to distribute the extraction spatially evenly within the proposed sand extraction area and this will be mandated should consent be granted. Details of how the spatial distribution of extraction will be managed is defined in the Sand Extraction Management Plan*."[125]

It is estimated by Bioresearches that the magnitude of effects from Stage 2 will be similar to Stage 1.

SLR Consulting NZ Ltd – Marine Mammal Environmental Impact Assessment

The report assesses the potential impacts of the proposed sand extraction activities on marine mammals, with the structure of the report presented in the following manner:

- Description of Existing Environment
  - Acoustic Monitoring
- Environmental Impact Assessment
- Summary of Findings

The report informs[126] that the purpose of the report is to:

- evaluate the available marine mammal data that exists in relation to Te Ākau Bream Bay and surrounds and describe what is known about marine mammal occurrence and habitat use in and around the sand extraction area; and
- undertake a robust assessment of actual and potential environment impacts of the planned sand extraction activities, including the proposed mitigation measures

Section 3 Description of Existing Environment outlines[127] that the approach draws from the reporting of marine mammals in the project area and surrounds. Section 3 also acknowledges that because marine mammals have extensive home-ranges, the distributional data that was assessed to establish a baseline understanding of potential marine mammal presence in the project area was across a broad spatial scale[128];

[124] Bioresearches (2025) Assessment of Ecological Effects, Level of Ecological Effects, Page 47
[125] Bioresearches (2025) Assessment of Ecological Effects, Level of Ecological Effects, Page 47
[126] SLR Consulting NZ (2025) Marine Mammal Environmental Impact Assessment, Introduction, Page 1
[127] SLR Consulting NZ (2025) Marine Mammal Environmental Impact Assessment, Description of Existing Environment, Page 5
[128] Figure 3 on page 8 of the report illustrates spatial scale

Other key matters noted in section 3 of the report:

- There is an absence of any long-term project specific baseline monitoring for marine mammals in Te Ākau Bream Bay, therefore nine (9) data sources were analysed[129]. Although the data sources are 'best available information', the report identifies the limitations of data sources;
- From this analysis, the report advises that three (3) categories are created - 'Likely', 'Possible', and 'Unlikely';
- While 34 marine mammal species are known from the region, the available data suggest that only seven (7) species commonly visit Te Ākau Bream Bay and the immediate surrounds[130]. Those species are:
    - Bottlenose Dolphins
    - Common Dolphins
    - Bryde's Whales
    - False Killer Whales
    - Pilot Whales
    - Killer Whales, and
    - New Zealand Fur Seals
- Other species that are expected to be present but less frequently in Te Ākau Bream Bay are: Leopard Seals, Southern Right Whales, Humpback Whales, Bule Whales, Sei Whales, Sperm Whales, Dwarf Minke Whales, and Gray's Beaked Whales. The report outlines that these species could have some exposure to the impacts that extent beyond the immediate extraction area[131]. An assessment[132] for each of 15 species outlined the following:
    - Species threat classification
    - Ecological considerations
    - Likelihood and frequency of occurrence, and
    - Seasonal trends
- Report refers to the acoustic assessments prepared by Styles Group (which is discussed later in this CIA report), as well as the tohorā research undertaken in the area by NIWA in partnership with the Patuharakeke Te Iwi Trust. The findings[133] of the research that the SLR Consulting Report notes are:
    - Revealed high species diversity encountered, and that sea surface temperature was consistently an important predictor of species distribution,
    - Common dolphins had highest rates of occurrence,
    - The area is an important foraging habitat for Bryde's whales,

[129] SLR Consulting NZ (2025) Marine Mammal Environmental Impact Assessment, Description of Existing Environment, Pages 5 - 6
[130] SLR Consulting NZ (2025) Marine Mammal Environmental Impact Assessment, Description of Existing Environment, Page 7
[131] SLR Consulting NZ (2025) Marine Mammal Environmental Impact Assessment, Description of Existing Environment, Page 7
[132] SLR Consulting NZ (2025) Marine Mammal Environmental Impact Assessment, Description of Existing Environment, Pages 13 - 20
[133]SLR Consulting NZ (2025) Marine Mammal Environmental Impact Assessment, Description of Existing Environment, Pages 23 - 27

- Coastal bottlenose dolphins are present in most months of the year, indicating a high degree of residency,
- Oceanic bottlenose dolphins and false killer whales (and sometimes long-finned pilot whales) were regularly encountered foraging together in the warmer months, however most sighting occurred offshore. Calves of both species were also present,
- Other species identified were New Zealand fur seals and killer whales. A single blue whale sighting offshore was recorded.

The framework/methodology is outlined[134] in section 4 Environmental Impact Assessment, with the following explained:

- Assigning Ecological Value (Very High – High – Moderate – Low)
- Assessing Magnitude of Potential Impacts (Very High – High – Moderate – Low – Negligible – Positive)
- Overall Level of Impact
    - Likelihood of Consequence Occurring (Very High – High – Moderate – Low – Negligible)
    - Magnitude of Potential Impact (Very High – High – Moderate – Low – Negligible - Positive)
- Relationship between Overall Level of Impact and Acceptability

The potential impacts on marine mammals identified and assessed[135] in the report, will arise from the following activities:

- Underwater Noise
- Habitat Modification
- Ship Strike
- Exposure to Contaminants
- Marine Debris
- Entanglement
- Artificial Lighting
- Cumulative Impacts

Table 20 Summary of Assessment Findings[136] outlines that the potential underwater noise impact on marine mammals is of note, and the other identified potential adverse impacts are on a negligible to moderate scale.

Should proposed mitigations are adopted by McCallum Bros, the overall level of impact is from net gain to low.

[134] SLR Consulting NZ (2025) Marine Mammal Environmental Impact Assessment, Environmental Impact Assessment, Pages 32 - 37
[135] SLR Consulting NZ (2025) Marine Mammal Environmental Impact Assessment, Environmental Impact Assessment, Pages 37 - 95
[136] SLR Consulting NZ (2025) Marine Mammal Environmental Impact Assessment, Environmental Impact Assessment, Pages 96 - 97

The report also outlines the features[137] of the vessel/TSHD that support minimising environmental impacts.

R O Boyd – Assessment of Effects on Fish and Fisheries

The report describes the fisheries resource and commercial and non-commercial fishing activities in Te Ākau Bream Bay, with the report acknowledging Patuharakeke and Te Parawhau are kaitiaki of the rohe but outlining that the report does not address Māori customary interests and utilisation of fish and shellfish[138];

Key matters from the report are:

- Commercial and non-commercial fishing is widespread throughout the coastal waters of Te Ākau Bream Bay[139],
- Key characteristic of most marine fishery resources is their mobility and ability to move, migrate and disperse. Mobility means that both spatial distribution and local abundance in an area of interests are often most reliably determined through repeated observations over time[140].
- The presence of each species is strongly associated with its preferred habitat and available food. The seabed in the extraction area is comprised mainly of unconsolidated soft sandy sediments, and the benthic organisms that live within or on the surface of these soft substrates are a source of food for many of the demersal fish species found in the area[141].
- Several decades of data from fisheries research bottom trawl surveys in Hauraki Gulf and Te Ākau Bream Bay indicate a wide range of demersal fishes are present, dominated by tamure/snapper, therefore overall principal demersal fishes are common, widespread and typical[142].
- Commercial fishery context and non-commercial fishery context in Te Ākau Bream Bay are explained in the report.

Where the report outlines its assessment of potential effects on fisheries, it identifies four areas:

- Acoustics (section 5.1)
- Water Quality/Suspended Sediment (section 5.2)
- Physical Impact/Direct Mortality (section 5.3), and
- Effect on Availability of Benthic Fauna as Food for Fishes (section 5.4)

R Boyd advises that potential effects/impacts are negligible to low, and concludes that there is no evidence from more than 20 years of trawl surveys that threatened species are present[143].

[137] SLR Consulting NZ (2025) Marine Mammal Environmental Impact Assessment, Project Description, Page 3
[138] Boyd, R (2025) Assessment of Effects on Fish and Fisheries, Introduction, Page 2
[139] Boyd, R (2025) Assessment of Effects on Fish and Fisheries, Introduction, Page 3
[140] Boyd, R (2025) Assessment of Effects on Fish and Fisheries, Fish and Shellfish Fauna of Te Ākau Bream Bay, Page 4
[141] Boyd, R (2025) Assessment of Effects on Fish and Fisheries, Fish and Shellfish Fauna of Te Ākau Bream Bay, Page 4
[142] Boyd, R (2025) Assessment of Effects on Fish and Fisheries, Fish and Shellfish Fauna of Te Ākau Bream Bay, Page 8
[143] Boyd, R (2025) Assessment of Effects on Fish and Fisheries, Summary and Conclusions, Page 16

No recommendations are presented in the report.

NIWA – Seabird and Shorebird Assessment

The report presents NIWA's assessment of potential effects on seabirds and shorebirds, and informs that the objectives[144] of the report are to;

1. Summarise the seabird and shorebird assemblage that is likely to occur in the vicinity of the proposed sand extraction area, and along the shore adjacent to the proposed sand extraction area;
2. Identify potential effects of sand extraction activity on seabirds and shorebirds, and
3. Assess the likely impact of potential effects of sand extraction activity on seabirds and shorebirds.

In the report's consideration of seabird and shorebird assemblage in the area, the following was outlined[145]:

- The Proposed Regional Plan for Northland has identified
  - Ruakākā and Waipū estuaries and Whangārei Harbour as significant ecological marine areas, along with the waters of Taranga Hen Island and Marotere Chicken Islands and Tawhiti Rahi and Aorangi Poor Knights Islands;
  - The northern part of Te Ākau Bream Bay, including the proposed sand extraction area, is part of the Significant Marine Mammal and Seabird Area;
  - Taranga Hen Island and Marotere Chicken Islands and Tawhiti Rahi and Aorangi Poor Knights Islands are also classified as Significant Bird Areas.
- All indigenous/native birds are fully protected under the Wildlife Act 1953, with the National Policy Statement for Indigenous Biodiversity aims to maintain indigenous biodiversity across Aotearoa New Zealand such as no overall loss;
- Identified species likely in Te Ākau Bream Bay, and their conservation status (e.g at risk – declining).

The reports identifies the following potential effects[146] on seabirds and shorebirds, with an assessment[147] provided therein:

- Potential Effect #1 - Loss of terrestrial breeding habitat
- Potential Effect #2 - Exclusion from at-sea habitat
- Potential Effect #3 - Reduced prey abundance or prey availability
- Potential Effect #4 - Interaction with the sand extraction vessel

[144] National Institute of Water and Atmospheric Research Ltd (2025) Potential Effects on Seabirds and Shorebirds, Background, Page 9
[145] National Institute of Water and Atmospheric Research Ltd (2025) Potential Effects on Seabirds and Shorebirds, Seabirds and Shorebirds in Te Ākau Bream Bay, Pages 9 - 18
[146] National Institute of Water and Atmospheric Research Ltd (2025) Potential Effects on Seabirds and Shorebirds, Potential Effects of Sand Extraction at Te Ākau Bream Bay on Seabirds and Shorebirds, Pages 18 - 23
[147] National Institute of Water and Atmospheric Research Ltd (2025) Potential Effects on Seabirds and Shorebirds, Assessment of Potential Effects on Seabirds and Shorebirds, Pages 23 - 33

- Potential Effect #5 - Loss of fuel of oil from the extraction vessel
- Potential Effect #6 - Noise

The report also refers to (or recommends) a light management plan (because it is in the Ministry for Primary Industry guidelines) and an oil spill management plan. These plans were not in the report.

The report concludes that the proposed fast-track project will have a less than minor impact (with some negligible effects), and will pose a low risk, on seabirds and shorebirds.

Although there are recommendations scattered in the assessment(s) of potential effects within the report, there were no clear set of recommendations presented.

Tonkin & Taylor – Coastal Process Effects Assessment

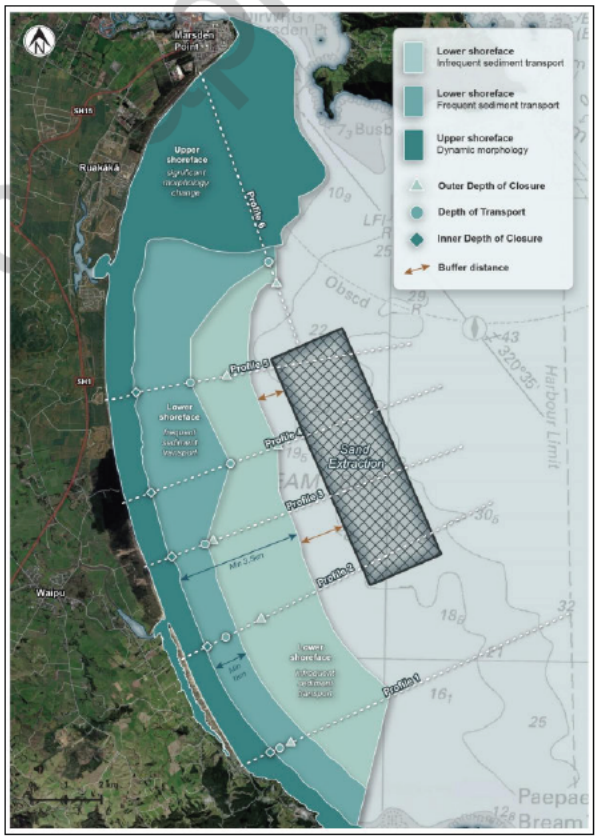
The report provides an assessment of the potential impacts on coastal processes and landforms in Te Ākau Bream Bay, and outlines that the fast-track project's intention is to be located sufficiently seaward of the beach and at sufficient depth to have negligible direct or indirect effects on coastal processes and landforms[148].

The assessment seeks to confirm that the proposed fast-track project is undertaken in the offshore zone, with negligible connectivity to beach processes.

The report provides context on bathymetry, sediments, water levels, wind and wave climate, and coastal change[149] in Te Ākau Bream Bay, and subsequently outlines assessment of sediment transport potential[150].

As shown in the image below, the effects assessment traverses three zones[151]:

- Zone 1 Upper Shoreface
- Zone 2 Lower Shoreface – Frequent Sediment Transport
- Zone 3 Lower Shoreface – Infrequent Sediment Transport



In its explanation within the effects assessment, the report covers a number of areas, including climate change, and concludes (in Table 5.2[152])

[148] Tonkin & Tayor (2025) Coastal Process Effects Assessment, Executive Summary
[149] Tonkin & Tayor (2025) Coastal Process Effects Assessment, Background Information, Pages 10 - 39
[150] Tonkin & Tayor (2025) Coastal Process Effects Assessment, Assessment of Sediment Transport Potential, Pages 40 - 58
[151] Tonkin & Tayor (2025) Coastal Process Effects Assessment, Executive Summary
[152] Tonkin & Tayor (2025) Coastal Process Effects Assessment, Assessment of Effects on Coastal Processes, Pages 73 - 74

that the level of effects on coastal processes and landforms in Te Ākau Bream Bay

- outside of the extraction area as low to negligible, and
- within the proposed sand extraction area is moderate to negligible.

The report recommends monitoring to confirm and validate the findings of the assessment, and to ensure the avoidance and formation of trenches, and early indication of seabed lowering on the lower shoreface[153].

SLR Consulting NZ – Water Quality Assessment of Environmental Effects

The report assesses the potential impacts of the proposed sand extraction activities on marine water quality and includes results of an eight-week investigation conducted between May and June 2024[154] to[155]:

- Describe the state of ambient water quality in the vicinity of proposed sand extraction area
- Undertake a robust assessment if actual and potential environmental effects of the proposed sand extraction activities including recommendations of mitigation measures to ensure that effects to marine water quality from the project can be managed to acceptable levels

The report also outlining some assumptions[156], these are:

a. Sand characteristics are very similar between Pākiri and Bream Bay;
b. Ambient water quality (physicochemical as well as nutrient quality) is very similar between Pākiri and Bream Bay;
c. There is no discernible source of contaminants adjacent to the proposed application area that are identified as significantly contributing to reduced benthic quality and/or contributing to water column effects;
d. The same vessel William Fraser is proposed to be used – thus the same assumptions regarding dredge operations and discharge of overburden, are applicable to operation in Bream Bay; and
e. Resultant plume generation and behaviour (spatial and temporal extent) is likely to be similar in Bream Bay, as described for the Pākiri Embayment.
f. The southern reference area will remain a true reference location for the purpose of this water quality assessment, and is assumed not to be subject to potential plume effects during proposed sand extraction activities.

Key matters from the report are:

- Identified and assessment two relevant regional plan policies[157]
  - Policy H.3.3 Coastal water quality standards, and

[153] Tonkin & Tayor (2025) Coastal Process Effects Assessment, Recommended Conditions and Monitoring, Page 76
[154] SLR Consulting NZ (2024) Water Quality Assessment of Environmental Effects, Description of the Existing Environment, Page 15
[155] SLR Consulting NZ (2024) Water Quality Assessment of Environmental Effects, Introduction, Page 8
[156] SLR Consulting NZ (2024) Water Quality Assessment of Environmental Effects, Introduction, Page 10
[157] SLR Consulting NZ (2024) Water Quality Assessment of Environmental Effects, Relevant Regional Plan Policies, Page 11

- Policy H.3.4 Coastal sediment quality guidelines

- Lists the features[158] of the TSHD that will assist minimising the environmental effects
- Identifies two main methods[159] by which suspended sediments are potentially discharged into the receiving waters, these are:
  - Over-sized material and excess water volume that does not pass through the screen system is delivered into pipework that discharges into the fore port side moon pool; and
  - Sediment laden water that is delivered to the hopper flows over the weir boards and into one of six moon pools that are located fore, mid or aft of the hopper.
- Informs that it was not feasible undertake a trial dredge and plume assessment in Te Ākau Bream Bay, so the report draws from the reporting for the Pākiri Embayment on this matter[160];
- To acquire sufficient site specific water quality data, an eight-week field sampling campaign was performed with the intent of understanding/describing the ambient state of water quality[161];
- Key considerations[162] for the assessment, and the results[163], are:
  - Effects of sand extraction activities to receiving environment quality in relation to suspended sediment and resulting turbidity plumes anticipated to be generated in the water column;
  - Effects of sand extraction on ambient water column pH;
  - Effects of sand extraction activities to other general water quality, including physicochemical parameters (electrical conductivity (EC), dissolved oxygen (DO, temperature), nutrients (nitrogen and phosphorous) and biological parameters (chlorophyl-a); and
  - Effects of disturbance of the seabed floor on water column quality, in regard to mobilisation of potential contaminants.
- The assessment informs that the overall risk of effects on general water is low to very low[164], and that through the utilisation of TSHD, effective confining of plume will ensure effects are minimal, and that the fast-track project will not incur any adverse effects to other water quality parameters[165].

The report advises that no specific mitigation measures are required to reduce potential effects, it does outline that in line with good international industry practice, the following measures[166] are undertaken:

[158] SLR Consulting NZ (2024) Water Quality Assessment of Environmental Effects, Project Description, Page 13
[159] SLR Consulting NZ (2024) Water Quality Assessment of Environmental Effects, Project Description, Page 14
[160] SLR Consulting NZ (2024) Water Quality Assessment of Environmental Effects, Description of the Existing Environment, Pages 16 - 17
[161] SLR Consulting NZ (2024) Water Quality Assessment of Environmental Effects, Bream Bay Ambient Water Quality, Page 20
[162] SLR Consulting NZ (2024) Water Quality Assessment of Environmental Effects, Project Description, Page 12
[163] SLR Consulting NZ (2024) Water Quality Assessment of Environmental Effects, Assessment of Effects, Pages 36 - 46
[164] SLR Consulting NZ (2024) Water Quality Assessment of Environmental Effects, Assessment of Effects, Page 46
[165] SLR Consulting NZ (2024) Water Quality Assessment of Environmental Effects, Mitigation and Monitoring, Page 47
[166] SLR Consulting NZ (2024) Water Quality Assessment of Environmental Effects, Mitigation and Monitoring, Page 47

- All project associated vessels to have and implement a waste management plan compliant with the International Convention for the Prevention of Pollution from Ships (1973/1978) (Marpol 73/78) and its Annexes;
- An Oil Spill Prevention and Response Plan to be produced and implemented prior to sand extraction;
- All project associated vessels to work to Maritime New Zealand standards and the International Maritime Organisation (IMO) standards; and
- There are no additional specific monitoring recommendations with respect to water quality.

Styles Group Acoustic and Vibration Consultants – Assessment of Airbourne Noise Effects

The report provides an assessment of the airborne noise effects, with a focus on:

- Noise level predictions of sand extraction activities (via noise modelling software)
- An assessment of noise levels against rules in the Proposed Regional Plan for Northland, and
- Recommend noise management measures and conditions

The noise control requirements in the Proposed Regional Plan inform that from Monday to Sunday, noise limits are 55dB (from 7am to 10pm) and 45dB (from 10pm to 7am)[167].

It is outlined that the noise measurements were performed in a variety of meteorological and swell conditions to provide an accurate and comprehensive description of the noise environment[168]. The ambient measurements show that the noise levels at the coastal interface fluctuate considerably depending on wind and swell conditions[169].

In undertaking their assessment, Styles Group considered the groups identified with the noise sensitivity activity definition of the Proposed Regional Plan, and included recreational beach users, walkers, land-based anglers and horse riders[170]. The findings[171] of their assessments are:

- Noise effects on beach users:
  - When the wind speeds are zero or close to zero, the ambient noise levels on the beach are at its lowest, with predicted noise levels on the beach at 12-13dB;
  - Noise from the TSHD will unlikely be heard from the beach.
- Noise effects on closest noise sensitive activities:
  - The predicted noise level at closest dwelling(s) will be less than 12dB.
- Noise effects on avifauna (birds):
  - Although not avifauna experts, the level of noise on the shoreline and the level of sound generated by bords communicating on the shoreline and back-dune areas, is unlikely to disturb or impeded communication amongst birds.

[167] Styles Group Ltd (2025) Assessment of Airborne Noise Effects, Noise Standards, Page 4
[168] Styles Group Ltd (2025) Assessment of Airborne Noise Effects, Ambient Noise Measurements, Page 8
[169] Styles Group Ltd (2025) Assessment of Airborne Noise Effects, Ambient Noise Measurements, Page 10
[170] Styles Group Ltd (2025) Assessment of Airborne Noise Effects, Assessment of Noise Effects, Page 11
[171] Styles Group Ltd (2025) Assessment of Airborne Noise Effects, Assessment of Noise Effects, Pages 11 - 13

The fast-rack project will comply with noise requirements and therefore no recommendations are presented in the report

Styles Group Acoustic and Vibration Consultants – Assessment of Underwater Noise Effects

The report provides an assessment of the underwater noise effects, with the purpose of demonstrating the nature and extent of noise emissions and quantify the spatial extent of various acoustic-related effects on marine fauna within Te Ākau Bream Bay. With that said, the report informs that underwater noise effects on various animal groups are not contained in the report but instead addressed in other specialist report (e.g marine mammals)[172].

As a two-staged proposal, the report comments that from an underwater noise effects perspective, an increase by 100,000m³ will lead to an increase in number of trips per month, and therefore changes in cumulative noise exposure for marine mammals[173].

There are five (5) noise effects categories[174], these are:

- Physiological Effects – Includes the risk of auditory injury and temporary threshold shift or hearing loss.
- Behavioural Effects – Includes a large range of effects from small changes such as vigilance, brief interruptions to activity and minor changes that will not have a significant impact when intermittent over short time frames, to medium sized behavioural changes that are increasingly likely to have negative consequences on an individual by increasing disruptions to essential behaviours.
- Masking Effects – the interference of a biologically important signal by an unimportant noise that prevents the listener from properly perceiving the signal.
- Audibility – Means that an animal may hear the noise
- Anthrophony/Soundscape Changes

The results of the investigation on marine mammals, fishes and invertebrates, kororā/little penguins, and sea turtles are presented in the report[175].

- With physiological effects, there is no risk to auditory injury or temporary threshold shift for marine mammals beyond 0.5m from the TSHD during extraction;
- With behavioural effects, from the TSHD during extraction:
  - small behavioural responses in baleen whales (including Bryde's whales) could occur at up to 1115m;
  - small behavioural responses could be possible within 596m for delphinids and 700m for pinnipeds;

[172] Styles Group Ltd (2025) Assessment of Underwater Noise Levels, Assessing Levels of Acoustic-Related Effects, Page 10
[173] Styles Group Ltd (2025) Assessment of Underwater Noise Levels, The Site and Proposal, Page 8
[174] Styles Group Ltd (2025) Assessment of Underwater Noise Levels, Assessing Levels of Acoustic-Related Effects, Page 11
[175] Styles Group Ltd (2025) Assessment of Underwater Noise Levels, Results, Pages 24 - 29

- medium behavioural responses in pinnipeds and delphinids could occur within 203m and 227m.

- Medium behavioural responses in baleens could not be determined. Likewise, small behavioural responses in fishes, invertebrates, kororā/little penguin, and sea turtles were unable to be determined.
- With auditory masking effects,
  - baleen whales are generally the more sensitive of animals compared to other marine mammals, with the lowest level of auditory masking effects on baleen whales could occur within 16.2km from the TSHD during extraction. These effects are determined negligible by the Styles Group;
  - pinnipeds could be affected within 2.02 – 2.66km, however with delphinids (who are less sensitive to auditory masking effects) where small effects could occur within 933m and medium effects could occur within 170m;
  - low level effects can be expected on common triplefins and New Zealand bigeye within 333m to 607m;
  - low-medium effects on kororā/little penguins and sea turtles could occur within 135m and 185m.
- With audibility effects,
  - ranges in pinnipeds was the highest of all animal groups, at approximately 18.6km – 18.9km;
  - range for baleen whales is at 18km, and 10.4km for delphinids;
  - range for fishes and invertebrates were calculated at 2.8km (for fishes) and 189m (for invertebrates);
  - range for kororā/little penguins is 5.9km and 4.8km for sea turtles.

With regard to the changes to Te Ākau Bream Bay's anthrophony/soundscape, the report informs that given the proposed sand extraction is a new activity that will be present over the next 35-years, it will be a new source of long-term anthropogenic noise, therefore cumulative effects must be considered[176]. The activities may increase monthly noise levels by up to 2dB outside of the extraction area.

No recommendations are presented in the report.

Market Economics Ltd – Assessment of Economic Effects

The report is an economic assessment that provides a high-level assessment of the proposed fast-track project to address its ability to deliver significant regional or national benefits. It provides a high-level estimates of the:

- sand market and the demand-supply outlook, and

[176] Styles Group Ltd (2025) Assessment of Underwater Noise Levels, Results, Page 29

- potential benefits associated with enabling sand extraction at Te Ākau Bream Bay

The report informs that:

- economic growth is in part related to urban development and expansion, meaning that the ability to cater for increase in population and economic outputs is heavily reliant of, and directly linked to, the availability of sand[177], includes quality and quantity.
- There is a relationship between population and ready-mix concrete, and has uses in landscaping, industrial applications, turf and golf, equestrian activities, and beach renourishment[178].
- The ability of the market to deliver sand is crucial. Auckland's sand market is heavily reliant on the Kaipara based sand resource[179].
- Within the Auckland market there are three sources of sands; Land based sources, River based sources, and Marine sourced[180].
- The current annual demand of sand in the Auckland market is in the order of 866,000 to 880,000 tonnes[181].
- The proposed fast-track project in Te Ākau Bream Bay will add a sizable resource to the Auckland sand market and will alleviate pressures on the supply market[182].

The direct benefit of the proposed fast-track project is associated with the construction sector. The construction sector is regionally significant as it generates $8.7bn of the GDP, equal to 6.1% of Auckland City's total of the GDP[183].

The report concludes that the presence of the sand resource in Te Ākau Bream Bay and the ability to utilise it sustainably contributes significantly to the economic wellbeing of Aucklanders.

Paul Donoghue – Statement in Support

Mr Paul Donoghue's statement is presented as expert witness, with acknowledgment of the Environment Court's code of conduct for expert witnesses.

Mr Donoghue outlines his professional background regarding marine sand resource and insight of the Auckland concrete market, as well as present his assessment on the suitability of the sand resource in Te Ākau Bream Bay.

Other possible sources of sand to the Auckland (i.e in the Auckland, Waikato and Northland regions) are identified and considered by Mr Donoghue.

[177] Market Economics Ltd (2024) High-Level Assessment of Economic Effects, Sand Market and Outlook, Page 3
[178] Market Economics Ltd (2024) High-Level Assessment of Economic Effects, Sand Market and Outlook, Page 3
[179] Market Economics Ltd (2024) High-Level Assessment of Economic Effects, Sand Market and Outlook, Page 7
[180] Market Economics Ltd (2024) High-Level Assessment of Economic Effects, Sand Market and Outlook, Page 5
[181] Market Economics Ltd (2024) High-Level Assessment of Economic Effects, Sand Market and Outlook, Page 4
[182] Market Economics Ltd (2024) High-Level Assessment of Economic Effects, Sand Market and Outlook, Page 9
[183] Market Economics Ltd (2024) High-Level Assessment of Economic Effects, Significant Benefits, Page 12

The statement informs that marine sand resource make up the majority of the sand supply in the Auckland region.

Brown NZ Ltd – Landscape and Visual Assessment

This report provides an assessment of effects on the landscape and natural character of Te Ākau Bream Bay from the proposed fast-track project.

The structure of the report addresses

- Proposal – Sand Extraction
- Landscape Context and Values
- Statutory Framework
- Explanation on Type of Effects & Assessment Process
- Assessment of Effects
    - Biophysical Effects
    - Perceived / Experiential Effects
    - Associative / Cultural Effects
- Conclusion

Section 4 of the report provides an outline[184] and description of the landscape and values, which includes:

- Te Ākau Bream Bay as a curved bay centred on an expansive ocean
- The serrated volcanic profile north of Whangārei Heads (includes Maunga Raiona Mt Lion and Maunga Manaia etc), and entrance between Ocean beach and Te Poupouwhenua Marsden Point;
- Profile of Piroa Byrnderwyn Hills
- The hill country under and around the Ruakākā and Mareretu Forests
- Dunes at the edge of the beachfront stretching from Te Poupouwhenua Marsden Point to Ruakākā
- The Ruakākā and Waipū Rivers
- The Marotere Hen and Chicken Islands, combined with Maroterer Islands and out to the ocean, with the distinct profile of Sail Rock and Te Hautututu-o-Toi/Little Barrier Island.

Brown viewed/reviewed survey findings and photographs collected by other specialist to understand undersea environment of the proposed extraction area[185].

The report identified[186] and assessed[187] the relevant provision in both the Northland Regional Policy Statement and Proposed Regional Plan for Northland.

[184] Brown NZ Ltd (2025) Landscape and Visual Assessment Report, The Site's Landscape Context & Values, Pages 10 - 14
[185] Brown NZ Ltd (2025) Landscape and Visual Assessment Report, The Site's Landscape Context & Values, Page 14
[186] Brown NZ Ltd (2025) Landscape and Visual Assessment Report, The Application's Statutory Framework, Pages 15 - 20
[187] Brown NZ Ltd (2025) Landscape and Visual Assessment Report, Statutory Review, Pages 62 - 63

The type of effects being assessed were described[188] in the report (Visual Effects, Landscape Effects, Natural Character Effects, and Cumulative Effects), with the assessment of effects subdivided into three areas:

- Biophysical Effects[189] (Biophysical components/attributes and values)
    - Coastal Processes & Geomorphology (Negligible to Low Effects)
    - Hydrology & Surf Breaks (Very Low Effects)
    - Water Quality (Negligible to Low Effects)
    - Seabed Habitats (Negligible to Low Effects)
    - Marine Mammals (Net Gain to Low Effects)
- Perceptual Effects[190] (Receiving environments & audiences)
    - Viewpoint A: The Mair Road Beach Carpark
        1. Existing Values (Moderate-High Effects)
        2. Visibility (Low Effects)
        3. Landscape (Low Effects)
        4. Natural Character (Low Effects)
    - Viewpoint B: The Ruakākā Surf Lifesaving Club Beach Lookout
        1. Existing Values (High Effects)
        2. Visibility (Low-Moderate Effects)
        3. Landscape (Low to Low-Moderate Effects)
        4. Natural Character (Low Effects)
    - Viewpoint C: The Uretiti Camping Ground Beachfront
        1. Existing Values (High Effects)
        2. Visibility (Low-Moderate Effects)
        3. Landscape (Very-Low to Low Effects)
        4. Natural Character (Very Low Effects)
    - Viewpoint D: The Waipū Cover Beachfront Reserve
        1. Existing Values (High Effects)
        2. Visibility (Low Effects)
        3. Landscape (Low Effects)
        4. Natural Character (Very Low Effects)
    - Langs Beach
        1. Existing Values (Moderate-High Effects)
        2. Visibility (Low Effects)
        3. Landscape (Very Low Effects)

[188] Brown NZ Ltd (2025) Landscape and Visual Assessment Report, Landscape, Natural Character & Amenity Effects, Pages 22 - 23
[189] Brown NZ Ltd (2025) Landscape and Visual Assessment Report, Biophysical Effects, Pages 25 - 33
[190] Brown NZ Ltd (2025) Landscape and Visual Assessment Report, Perceived/Experiential Effects, Pages 34 - 50

4. Natural Character (Very Low Effects)

- Tāwharau Busby Point & Smugglers Cove
  1. Existing Values (Very High Effects)
  2. Visibility (Low Effects)
  3. Landscape (Very Low Effects)
  4. Natural Character (Very Low Effects)

- Cultural/Associative Effects[191]
  - Identifies Patuharakeke and Te Parawhau as hapū with values and interests in Te Ākau Bream Bay, with the PHEMP identified and referred to, and assessed, in this assessment
  - Informs that the PHEMP focuses on key cultural sites that are concentrated down the margins of Te Ākau Bream Bay, within Whangārei Harbour, and further inland
  - Outlines that the proposed fast-track project could conceivably have effects on several fronts on the cultural landscape but determined low level of effect
  - The ecological effects are assessed as being negligible to low.
  - The effects on coastal waters and landforms are negligible

The report concludes that the effects on landscape and natural character of Te Ākau Bream Bay from the fast-track project are considered to be acceptable.

No recommendations are presented in the report

MetOcean Solutions Ltd – Assessment of Effects on Surf Breaks

The report is a desktop study of the potential impact of the proposed fast-track project on local surf breaks in terms of surf-ability and potential wave attenuation/dissipation, specifically whether there will be bathymetric changes on nearshore surf-ability.

Seven surf breaks of interest were identified and assessed, these sites are:

1. Marsden Point Beach
2. Ruakākā
3. Ruakākā River Mouth
4. Waipū River Mouth
5. Waipū Cove
6. Langs Beach
7. Langs Bombie

[191] Brown NZ Ltd (2025) Landscape and Visual Assessment Report, Cultural/Associative Effects, Pages 51 - 61

MetOcean investigated the effects on surf-ability of waves based on extracting the total proposed volume over the full term of the consent areas with no replenishment of sand infilling the area (considered worst-case scenarios as they cause maximum changes in bathymetry)[192].

Based on worst-case scenario, the potential effects are less than minor to negligible, and that it is unlikely that a surfer would perceive a difference (increase or decrease) in wave height.

Planning Matters (includes Proposed Consent Conditions) & Draft Application for Wildlife Approval

As stated earlier, no planning assessment, nor an assessment of environment effects, was provided for review, however, an email from McCallum Bros was sent to the Iwi Trust (Pou Taiao) on 13 March 2025 identified planning documents and planning provisions considered relevant to the proposed fast-track project. These are:

- Proposed Regional Plan for Northland
  - Objectives F.1.2, F.1.3, F.1.4, and F.1.12
  - Rule C.1.5.13
- New Zealand Coastal Policy Statement
  - Objectives 1 – 7
  - Policies 2, 3, 6, 11, 13, 15, 16 and 23
- National Policy Statement for Indigenous Biodiversity
- Northland Regional Policy Statement
  - Objectives 3.2, 3.4, 3.5, 3.6, 3.10, and 3.14
  - Policies 4.6.1, and 5.2.1

In the addition to these planning documents, the email also identified the following iwi environmental management plans:

- Te Iwi o Ngātiwai Iwi Environmental Policy Document 2007
- Patuharakeke Hapū Environmental Management Plan 2014, and
- Te Uriroroi Hapū Environmental Management Plan /Whatitiri Hapū Environmental Plan

<u>Proposed Consent Conditions</u>

A draft set of consent conditions for RMA approvals was provided for review. There were 41 conditions proposed in the document.

Key matters in the document:

- In Condition 3, consent/approval lapses in 12 months from date of granting (unless given effect to), and consent expires in 35-years;

[192] MetOcean Solutions Ltd (2024) Assessment of Effects on Surf Breaks at Bream Bay, Summary, Page 49

- Condition 6 enables the review of consent conditions where adverse effects on the environment are identified, and where significant unanticipated adverse effects identified via the sand extraction monitoring report (SEMR);
- Condition 7 outlines that the authorised activities are not an exclusive right of occupancy in the extraction area of Te Ākau Bream Bay, and that general public or persons are not excluded from the extraction area;
- Condition 8 outlines instructions to receive and manage complaints
- Condition 12 states the requirement of the following management plans:
    - Biosecurity Management Plan (Condition 15)
        - Includes Ballast water Management Plan
        - Address biofouling management
        - Address staff training
    - Cup Coral Management Plan (Condition 16)
    - Environmental Monitoring Management Plan (Condition 17)
        - Programme that:
            a. Provide baseline ecological and bathymetric information
            b. Identify exclusion areas, and benthic ecological or bathymetric changes
            c. Verify underwater noise modelling
        - Pre-sand Extraction Assessment Report, and reporting for SEMR
        - Must be reviewed every 5 years
    - Marine Mammal Management Plan (Condition 18)
        - Outline measures to minimise underwater noise and minimise risk of ship strikes
        - Staff training
    - Sand Extraction Operation Plan (Condition 19)
    - Lighting Management Plan) (Condition 20)
- Condition 22 outlines sand extraction volume over the two stages (1 & 2) and prescribes when stage 2 can commence (Condition 22(i) and (ii));
- Conditions 25 - 27 are conditions regarding responses to presence of marine mammals, interactions with seabirds, and sighting of marine reptiles;
- Condition 28 states hours of operation (1200 to 1800 during April to September; and 1200 to 2000 during October to March);
- Condition 31 requires an Oil Spill Contingency Plan (approved by Maritime New Zealand);
- Conditions 32 and 33 requires a record of each extraction event, and reporting to Northland Regional Council;
- Conditions 34 and 35 outline the requirements for Pre-sand Extraction Assessment Reports;

- Condition 36 is the requirement for SEMR;
- Conditions 37 – 40 are conditions regarding recording/logging of marine mammals sightings and incidents, and interactions with seabirds and marine reptiles;
- Condition 41 provides for any changes to methodology and activity via a certification process.

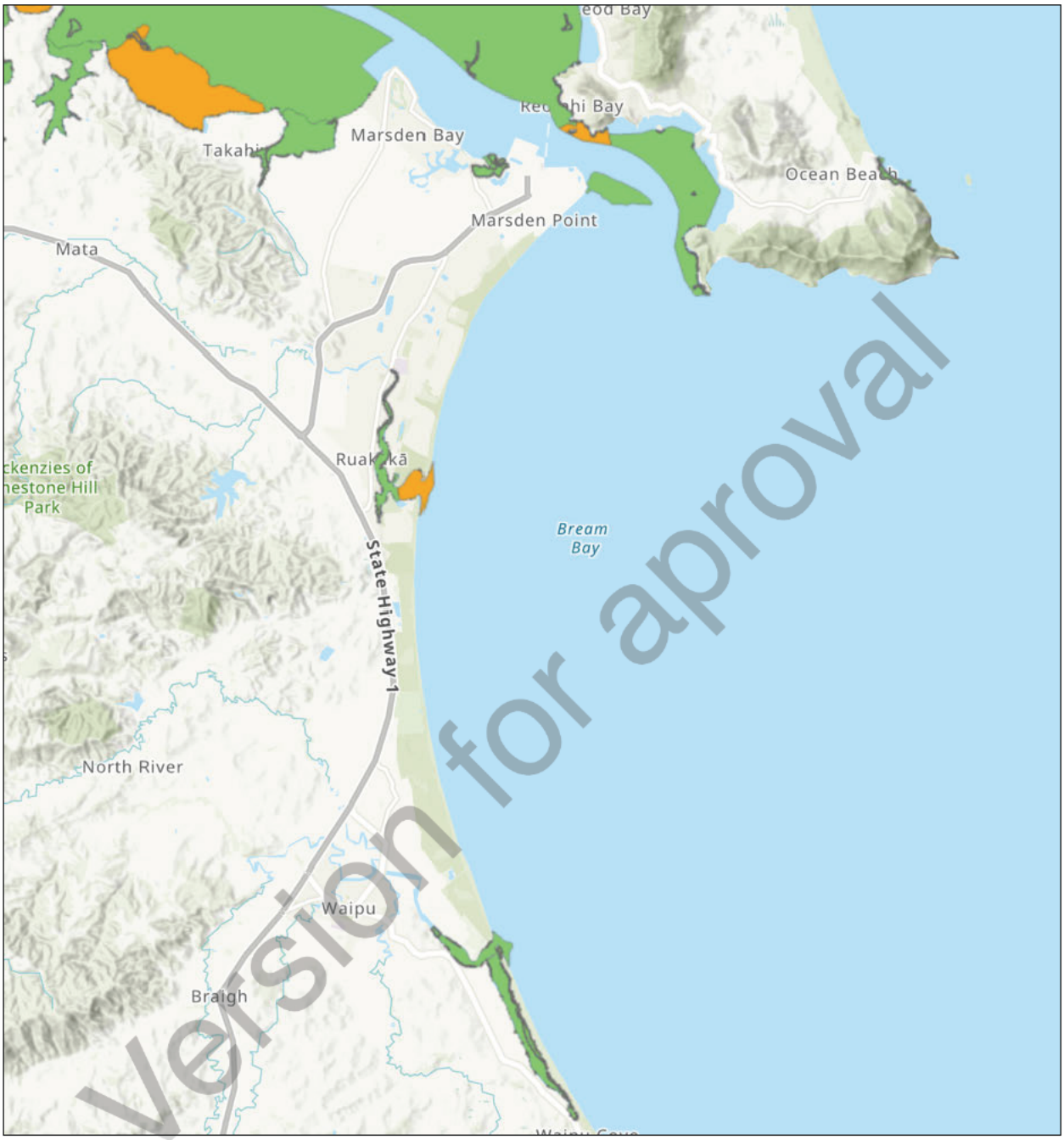
A map showing proposed sand extraction area is attached as Attachment 3 to the document.

Included as Attachment 5 is the Environmental Monitoring Management Plan (identified in Condition 17).

Draft Application for Wildlife Approval

A draft application was made available for review.

Appendix C: Maps – Proposed Regional Plan for Northland



Proposed Regional Plan for Northland - Natural Character

Proposed Regional Plan for Northland – Sites and Areas of Significance to Tangata Whenua

Proposed Regional Plan for Northland – Ecological Areas

Proposed Regional Plan for Northland – Significant Bird Areas

Appendix D: RMA Planning Document Provisions

Proposed Regional Plan for Northland

Objectives and Policies

6.4 Recognising Tangata Whenua Values

To acknowledge and provide for the kaitiaki role of Tangata Whenua when assessing proposals for subdivision, use and development.

- TW-O7: Treaty of Waitangi
  To ensure that the principles of the Treaty of Waitangi are taken into account in all aspects of resource management within the South Waikato District.
- TW-P1: Recognise and provide in decision-making for the relationship of Māori and their culture and traditions with their ancestral lands, water, sites, wāhi tapu (sacred sites), and other taonga (treasures), including by improving public access to rivers and other waterways.
- TW-P2: To achieve the objectives of the Waikato River Vision and Strategy within the catchment area identified on the planning maps by plan provisions relating to:
  - building setbacks adjacent to waterways
  - managing the effects of large-scale land use change
  - earthworks and silt control d) activities on the surface of water
  - esplanade reserves/strips
  - landscape protection
- resource consent applications and in reviewing, changing and administering the district plan.
- TW-P7: Identify sites of cultural, traditional, and spiritual significance to Māori, including cultural landscapes and ensure appropriate protection is provided to them through agreed plan making and resource consenting processes.

9.1 Historic Heritage

- HH-O1: To identify and retain historic heritage so as to contribute to the heritage, character and amenity values of the District.
- HH-O2: To conserve the cultural and heritage values of the site, while enabling primary production and other activities in a rural location

9.2 Sites and Areas of Significance to Māori

- SASM-O1: To recognise and provide for the cultural, spiritual, economic and social values of tangata whenua when managing the District's natural and physical resources.
- SASM-O2: Acknowledge and provide for the kaitiaki role of tangata whenua when assessing proposals for subdivision, use and development.
- SASM-P2: Recognise and provide in decision-making for the relationship of Māori and their culture and traditions with their ancestral lands, water, sites, waahi tapu (sacred sites), and other taonga (treasures), including by improving public access to rivers and other waterways.
- NATC-P6: To implement the Objectives of the Vision and Strategy for the Waikato River by managing subdivision and land-use within areas with natural values and located within the

River catchment in a way that restores and protects the health and wellbeing of the Waikato River, including by:

- requiring building setbacks from waterways
- creating esplanade reserves or strips
- managing activities within natural areas

Northland Regional Policy Statement

Relevant Objectives and Policies

Historical and Cultural Values

HCV-O1 – Historic and cultural heritage

Sites, structures, landscapes, areas or places of historic and cultural heritage are protected, maintained or enhanced in order to retain the identity and integrity of the Waikato region's and New Zealand's history and culture.

HCV-P1 – Managing historic and cultural heritage

Provide for the collaborative, consistent and integrated management of historic and cultural heritage resources. Improve understanding, information sharing and cooperative planning to manage or protect heritage resources across the region.

HCV-P2 – Relationship of Māori to taonga

Recognise and provide for the relationship of tangata whenua and their culture and traditions with their ancestral lands, water, sites, waahi tapu and other taonga.

HCV-P3 – Effects of development on historic and cultural heritage

Manage subdivision, use and development to give recognition to historic and cultural heritage and to integrate it with development where appropriate.

New Zealand Coastal Policy Statement

The New Zealand Coastal Policy Statement (NZCPS) is a national policy statement under the Resource Management Act 1991 ('the Act'). The purpose of the NZCPS is to state policies in order to achieve the purpose of the Act in relation to the coastal environment of New Zealand.

Objectives

Objective 1

To safeguard the integrity, form, functioning and resilience of the coastal environment and sustain its ecosystems, including marine and intertidal areas, estuaries, dunes and land, by:

- maintaining or enhancing natural biological and physical processes in the coastal environment and recognising their dynamic, complex and interdependent nature;
- protecting representative or significant natural ecosystems and sites of biological importance and maintaining the diversity of New Zealand's indigenous coastal flora and fauna; and

- maintaining coastal water quality, and enhancing it where it has deteriorated from what would otherwise be its natural condition, with significant adverse effects on ecology and habitat, because of discharges associated with human activity.

Objective 2

To preserve the natural character of the coastal environment and protect natural features and landscape values through:

- recognising the characteristics and qualities that contribute to natural character, natural features and landscape values and their location and distribution;
- identifying those areas where various forms of subdivision, use, and development would be inappropriate and protecting them from such activities; and
- encouraging restoration of the coastal environment.

Objective 3

To take account of the principles of the Treaty of Waitangi, recognise the role of tangata whenua as kaitiaki and provide for tangata whenua involvement in management of the coastal environment by:

- recognising the ongoing and enduring relationship of tangata whenua over their lands, rohe and resources;
- promoting meaningful relationships and interactions between tangata whenua and persons exercising functions and powers under the Act;
- incorporating mātauranga Māori into sustainable management practices; and
- recognising and protecting characteristics of the coastal environment that are of special value to tangata whenua.

Objective 4

To maintain and enhance the public open space qualities and recreation opportunities of the coastal environment by:

- recognising that the coastal marine area is an extensive area of public space for the public to use and enjoy;
- maintaining and enhancing public walking access to and along the coastal marine area without charge, and where there are exceptional reasons that mean this is not practicable providing alternative linking access close to the coastal marine area; and
- recognising the potential for coastal processes, including those likely to be affected by climate change, to restrict access to the coastal environment and the need to ensure that public access is maintained even when the coastal marine area advances inland.

Objective 5

To ensure that coastal hazard risks taking account of climate change, are managed by:

- locating new development away from areas prone to such risks;
- considering responses, including managed retreat, for existing development in this situation; and
- protecting or restoring natural defences to coastal hazards.

Objective 6

To enable people and communities to provide for their social, economic, and cultural wellbeing and their health and safety, through subdivision, use, and development, recognising that:

- the protection of the values of the coastal environment does not preclude use and development in appropriate places and forms, and within appropriate limits;
- some uses and developments which depend upon the use of natural and physical resources in the coastal environment are important to the social, economic and cultural wellbeing of people and communities;
- functionally some uses and developments can only be located on the coast or in the coastal marine area; • the coastal environment contains renewable energy resources of significant value;
- the protection of habitats of living marine resources contributes to the social, economic and cultural wellbeing of people and communities;
- the potential to protect, use, and develop natural and physical resources in the coastal marine area should not be compromised by activities on land;
- the proportion of the coastal marine area under any formal protection is small and therefore management under the Act is an important means by which the natural resources of the coastal marine area can be protected; and
- historic heritage in the coastal environment is extensive but not fully known, and vulnerable to loss or damage from inappropriate subdivision, use, and development.

Objective 7

To ensure that management of the coastal environment recognises and provides for New Zealand's international obligations regarding the coastal environment, including the coastal marine area.

Policies

Policy 1 Extent and characteristics of the coastal environment

(1) Recognise that the extent and characteristics of the coastal environment vary from region to region and locality to locality; and the issues that arise may have different effects in different localities.

(2) Recognise that the coastal environment includes:

(a) the coastal marine area;
(b) islands within the coastal marine area;
(c) areas where coastal processes, influences or qualities are significant, including coastal lakes, lagoons, tidal estuaries, saltmarshes, coastal wetlands, and the margins of these;
(d) areas at risk from coastal hazards;
(e) coastal vegetation and the habitat of indigenous coastal species including migratory birds;
(f) elements and features that contribute to the natural character, landscape, visual qualities or amenity values;
(g) items of cultural and historic heritage in the coastal marine area or on the coast;
(h) inter-related coastal marine and terrestrial systems, including the intertidal zone; and

(i) physical resources and built facilities, including infrastructure, that have modified the coastal environment.

Policy 2 The Treaty of Waitangi, tangata whenua and Māori heritage

In taking account of the principles of the Treaty of Waitangi (Te Tiriti o Waitangi), and kaitiakitanga, in relation to the coastal environment:

(a) recognise that tangata whenua have traditional and continuing cultural relationships with areas of the coastal environment, including places where they have lived and fished for generations;
(b) involve iwi authorities or hapū on behalf of tangata whenua in the preparation of regional policy statements, and plans, by undertaking effective consultation with tangata whenua; with such consultation to be early, meaningful, and as far as practicable in accordance with tikanga Māori;
(c) with the consent of tangata whenua and as far as practicable in accordance with tikanga Māori, incorporate mātauranga Māori1 in regional policy statements, in plans, and in the consideration of applications for resource consents, notices of requirement for designation and private plan changes;
(d) provide opportunities in appropriate circumstances for Māori involvement in decision making, for example when a consent application or notice of requirement is dealing with cultural localities or issues of cultural significance, and Māori experts, including pūkenga2, may have knowledge not otherwise available;
(e) take into account any relevant iwi resource management plan and any other relevant planning document recognised by the appropriate iwi authority or hapū and lodged with the council, to the extent that its content has a bearing on resource management issues in the region or district; and
    (i) where appropriate incorporate references to, or material from, iwi resource management plans in regional policy statements and in plans; and
    (ii) consider providing practical assistance to iwi or hapū who have indicated a wish to develop iwi resource management plans;
(f) provide for opportunities for tangata whenua to exercise kaitiakitanga over waters, forests, lands, and fisheries in the coastal environment through such measures as:
    (i) bringing cultural understanding to monitoring of natural resources;
    (ii) providing appropriate methods for the management, maintenance and protection of the taonga of tangata whenua;
    (iii) having regard to regulations, rules or bylaws relating to ensuring sustainability of fisheries resources such as taiāpure, mahinga mātaitai or other non commercial Māori customary fishing; and
(g) in consultation and collaboration with tangata whenua, working as far as practicable in accordance with tikanga Māori, and recognising that tangata whenua have the right to choose not to identify places or values of historic, cultural or spiritual significance or special value:
    (i) recognise the importance of Māori cultural and heritage values through such methods as historic heritage, landscape and cultural impact assessments; and
    (ii) provide for the identification, assessment, protection and management of areas or sites of significance or special value to Māori, including by historic analysis and archaeological survey

and the development of methods such as alert layers and predictive methodologies for identifying areas of high potential for undiscovered Māori heritage, for example coastal pā or fishing villages.

Policy 3 Precautionary approach

(1) Adopt a precautionary approach towards proposed activities whose effects on the coastal environment are uncertain, unknown, or little understood, but potentially significantly adverse.

(2) In particular, adopt a precautionary approach to use and management of coastal resources potentially vulnerable to effects from climate change, so that:

(a) avoidable social and economic loss and harm to communities does not occur;
(b) natural adjustments for coastal processes, natural defences, ecosystems, habitat and species are allowed to occur; and
(c) the natural character, public access, amenity and other values of the coastal environment meet the needs of future generations.

Policy 4 Integration

Provide for the integrated management of natural and physical resources in the coastal environment, and activities that affect the coastal environment. This requires:

(a) co-ordinated management or control of activities within the coastal environment, and which could cross administrative boundaries, particularly:
    (i) the local authority boundary between the coastal marine area and land;
    (ii) local authority boundaries within the coastal environment, both within the coastal marine area and on land; and
    (iii) where hapū or iwi boundaries or rohe cross local authority boundaries;
(b) working collaboratively with other bodies and agencies with responsibilities and functions relevant to resource management, such as where land or waters are held or managed for conservation purposes; and
(c) particular consideration of situations where:
    (i) subdivision, use, or development and its effects above or below the line of mean high water springs will require, or is likely to result in, associated use or development that crosses the line of mean high water springs; or
    (ii) public use and enjoyment of public space in the coastal environment is affected, or is likely to be affected; or
    (iii) development or land management practices may be affected by physical changes to the coastal environment or potential inundation from coastal hazards, including as a result of climate change; or
    (iv) land use activities affect, or are likely to affect, water quality in the coastal environment and marine ecosystems through increasing sedimentation; or
    (v) significant adverse cumulative effects are occurring, or can be anticipated.

Policy 6 Activities in the coastal environment

(1) In relation to the coastal environment:

(a) recognise that the provision of infrastructure, the supply and transport of energy including the generation and transmission of electricity, and the extraction of minerals are activities important to the social, economic and cultural well-being of people and communities;

(b) consider the rate at which built development and the associated public infrastructure should be enabled to provide for the reasonably foreseeable needs of population growth without compromising the other values of the coastal environment;

(c) encourage the consolidation of existing coastal settlements and urban areas where this will contribute to the avoidance or mitigation of sprawling or sporadic patterns of settlement and urban growth;

(d) recognise tangata whenua needs for papakāinga, marae and associated developments and make appropriate provision for them;

(e) consider where and how built development on land should be controlled so that it does not compromise activities of national or regional importance that have a functional need to locate and operate in the coastal marine area;

(f) consider where development that maintains the character of the existing built environment should be encouraged, and where development resulting in a change in character would be acceptable;

(g) take into account the potential of renewable resources in the coastal environment, such as energy from wind, waves, currents and tides, to meet the reasonably foreseeable needs of future generations;

(h) consider how adverse visual impacts of development can be avoided in areas sensitive to such effects, such as headlands and prominent ridgelines, and as far as practicable and reasonable apply controls or conditions to avoid those effects;

(i) set back development from the coastal marine area and other water bodies, where practicable and reasonable, to protect the natural character, open space, public access and amenity values of the coastal environment; and

(j) where appropriate, buffer areas and sites of significant indigenous biological diversity, or historic heritage value.

(2) Additionally, in relation to the coastal marine area:

(a) recognise potential contributions to the social, economic and cultural wellbeing of people and communities from use and development of the coastal marine area, including the potential for renewable marine energy to contribute to meeting the energy needs of future generations:

(b) recognise the need to maintain and enhance the public open space and recreation qualities and values of the coastal marine area;

(c) recognise that there are activities that have a functional need to be located in the coastal marine area, and provide for those activities in appropriate places;

(d) recognise that activities that do not have a functional need for location in the coastal marine area generally should not be located there; and

(e) promote the efficient use of occupied space, including by:

(i) requiring that structures be made available for public or multiple use wherever reasonable and practicable;
(ii) requiring the removal of any abandoned or redundant structure that has no heritage, amenity or reuse value; and
(iii) considering whether consent conditions should be applied to ensure that space occupied for an activity is used for that purpose effectively and without unreasonable delay.

Policy 11 Indigenous biological diversity (biodiversity)

To protect indigenous biological diversity in the coastal environment:

(a) avoid adverse effects of activities on:
(i) indigenous taxa that are listed as threatened or at risk in the New Zealand Threat Classification System lists;
(ii) taxa that are listed by the International Union for Conservation of Nature and Natural Resources as threatened;
(iii) indigenous ecosystems and vegetation types that are threatened in the coastal environment, or are naturally rare;
(iv) habitats of indigenous species where the species are at the limit of their natural range, or are naturally rare;
(v) areas containing nationally significant examples of indigenous community types; and
(vi) areas set aside for full or partial protection of indigenous biological diversity under other legislation; and

(b) avoid significant adverse effects and avoid, remedy or mitigate other adverse effects of activities on:
(i) areas of predominantly indigenous vegetation in the coastal environment;
(ii) habitats in the coastal environment that are important during the vulnerable life stages of indigenous species;
(iii) indigenous ecosystems and habitats that are only found in the coastal environment and are particularly vulnerable to modification, including estuaries, lagoons, coastal wetlands, dunelands, intertidal zones, rocky reef systems, eelgrass and saltmarsh;
(iv) habitats of indigenous species in the coastal environment that are important for recreational, commercial, traditional or cultural purposes;
(v) habitats, including areas and routes, important to migratory species; and
(vi) ecological corridors, and areas important for linking or maintaining biological values identified under this policy.

Policy 12 Harmful aquatic organisms

(1) Provide in regional policy statements and in plans, as far as practicable, for the control of activities in or near the coastal marine area that could have adverse effects on the coastal environment by causing harmful aquatic organisms to be released or otherwise spread, and include conditions in resource consents, where relevant, to assist with managing the risk of such effects occurring.

(2) Recognise that activities relevant to (1) include:

(a) the introduction of structures likely to be contaminated with harmful aquatic organisms;
(b) the discharge or disposal of organic material from dredging, or from vessels and structures, whether during maintenance, cleaning or otherwise; and whether in the coastal marine area or on land;
(c) the provision and ongoing maintenance of moorings, marina berths, jetties and wharves; and
(d) the establishment and relocation of equipment and stock required for or associated with aquaculture.

Policy 13 Preservation of natural character

(1) To preserve the natural character of the coastal environment and to protect it from inappropriate subdivision, use, and development:
(a) avoid adverse effects of activities on natural character in areas of the coastal environment with outstanding natural character; and
(b) avoid significant adverse effects and avoid, remedy or mitigate other adverse effects of activities on natural character in all other areas of the coastal environment; including by:
(c) assessing the natural character of the coastal environment of the region or district, by mapping or otherwise identifying at least areas of high natural character; and
(d) ensuring that regional policy statements, and plans, identify areas where preserving natural character requires objectives, policies and rules, and include those provisions.

(2) Recognise that natural character is not the same as natural features and landscapes or amenity values and may include matters such as:

(a) natural elements, processes and patterns;
(b) biophysical, ecological, geological and geomorphological aspects;
(c) natural landforms such as headlands, peninsulas, cliffs, dunes, wetlands, reefs, freshwater springs and surf breaks;
(d) the natural movement of water and sediment;
(e) the natural darkness of the night sky;
(f) places or areas that are wild or scenic;
(g) a range of natural character from pristine to modified; and
(h) experiential attributes, including the sounds and smell of the sea; and their context or setting.

Policy 15 Natural features and natural landscapes

To protect the natural features and natural landscapes (including seascapes) of the coastal environment from inappropriate subdivision, use, and development:

(a) avoid adverse effects of activities on outstanding natural features and outstanding natural landscapes in the coastal environment; and
(b) avoid significant adverse effects and avoid, remedy, or mitigate other adverse effects of activities on other natural features and natural landscapes in the coastal environment; including by:

(c) identifying and assessing the natural features and natural landscapes of the coastal environment of the region or district, at minimum by land typing, soil characterisation and landscape characterisation and having regard to:
  (i) natural science factors, including geological, topographical, ecological and dynamic components;
  (ii) the presence of water including in seas, lakes, rivers and streams;
  (iii) legibility or expressiveness—how obviously the feature or landscape demonstrates its formative processes;
  (iv) aesthetic values including memorability and naturalness;
  (v) vegetation (native and exotic);
  (vi) transient values, including presence of wildlife or other values at certain times of the day or year;
  (vii) whether the values are shared and recognised;
  (viii) cultural and spiritual values for tangata whenua, identified by working, as far as practicable, in accordance with tikanga Māori; including their expression as cultural landscapes and features;
  (ix) historical and heritage associations; and
  (x) wild or scenic values;
(d) ensuring that regional policy statements, and plans, map or otherwise identify areas where the protection of natural features and natural landscapes requires objectives, policies and rules; and
(e) including the objectives, policies and rules required by (d) in plans

Policy 17 Historic heritage identification and protection

Protect historic heritage in the coastal environment from inappropriate subdivision, use, and development by:

(a) identification, assessment and recording of historic heritage, including archaeological sites;
(b) providing for the integrated management of such sites in collaboration with relevant councils, heritage agencies, iwi authorities and kaitiaki;
(c) initiating assessment and management of historic heritage in the context of historic landscapes;
(d) recognising that heritage to be protected may need conservation;
(e) facilitating and integrating management of historic heritage that spans the line of mean high water springs;
(f) including policies, rules and other methods relating to (a) to (e) above in regional policy statements, and plans;
(g) imposing or reviewing conditions on resource consents and designations, including for the continuation of activities;
(h) requiring, where practicable, conservation conditions; and
(i) considering provision for methods that would enhance owners' opportunities for conservation of listed heritage structures, such as relief grants or rates relief.

Policy 22 Sedimentation

(1) Assess and monitor sedimentation levels and impacts on the coastal environment.

(2) Require that subdivision, use, or development will not result in a significant increase in sedimentation in the coastal marine area, or other coastal water.

(3) Control the impacts of vegetation removal on sedimentation including the impacts of harvesting plantation forestry.

(4) Reduce sediment loadings in runoff and in stormwater systems through controls on land use activities.

Policy 23 Discharge of contaminants

(1) In managing discharges to water in the coastal environment, have particular regard to:

(a) the sensitivity of the receiving environment;
(b) the nature of the contaminants to be discharged, the particular concentration of contaminants needed to achieve the required water quality in the receiving environment, and the risks if that concentration of contaminants is exceeded; and
(c) the capacity of the receiving environment to assimilate the contaminants; and:
(d) avoid significant adverse effects on ecosystems and habitats after reasonable mixing;
(e) use the smallest mixing zone necessary to achieve the required water quality in the receiving environment; and
(f) minimise adverse effects on the life-supporting capacity of water within a mixing zone.

(2) In managing discharge of human sewage, do not allow:

(a) discharge of human sewage directly to water in the coastal environment without treatment; and
(b) the discharge of treated human sewage to water in the coastal environment, unless:
    (i) there has been adequate consideration of alternative methods, sites and routes for undertaking the discharge; and
    (ii) informed by an understanding of tangata whenua values and the effects on them.

(3) Objectives, policies and rules in plans which provide for the discharge of treated human sewage into waters of the coastal environment must have been subject to early and meaningful consultation with tangata whenua.

(4) In managing discharges of stormwater take steps to avoid adverse effects of stormwater discharge to water in the coastal environment, on a catchment by catchment basis, by:

(a) avoiding where practicable and otherwise remedying cross contamination of sewage and stormwater systems;
(b) reducing contaminant and sediment loadings in stormwater at source, through contaminant treatment and by controls on land use activities;
(c) promoting integrated management of catchments and stormwater networks; and
(d) promoting design options that reduce flows to stormwater reticulation systems at source.

(5) In managing discharges from ports and other marine facilities:

(a) require operators of ports and other marine facilities to take all practicable steps to avoid contamination of coastal waters, substrate, ecosystems and habitats that is more than minor;
(b) require that the disturbance or relocation of contaminated seabed material, other than by the movement of vessels, and the dumping or storage of dredged material does not result in significant adverse effects on water quality or the seabed, substrate, ecosystems or habitats;
(c) require operators of ports, marinas and other relevant marine facilities to provide for the collection of sewage and waste from vessels, and for residues from vessel maintenance to be safely contained and disposed of; and
(d) consider the need for facilities for the collection of sewage and other wastes for recreational and commercial boating.

Policy 24 Identification of coastal hazards

(1) Identify areas in the coastal environment that are potentially affected by coastal hazards (including tsunami), giving priority to the identification of areas at high risk of being affected. Hazard risks, over at least 100 years, are to be assessed having regard to:

(a) physical drivers and processes that cause coastal change including sea level rise;
(b) short-term and long-term natural dynamic fluctuations of erosion and accretion;
(c) geomorphological character;
(d) the potential for inundation of the coastal environment, taking into account potential sources, inundation pathways and overland extent;
(e) cumulative effects of sea level rise, storm surge and wave height under storm conditions;
(f) influences that humans have had or are having on the coast;
(g) the extent and permanence of built development; and
(h) the effects of climate change on:
    (i) matters (a) to (g) above;
    (ii) storm frequency, intensity and surges; and
    (iii) coastal sediment dynamics; taking into account national guidance and the best available information on the likely effects of climate change on the region or district.

Policy 27 Strategies for protecting significant existing development from coastal hazard risk

(1) In areas of significant existing development likely to be affected by coastal hazards, the range of options for reducing coastal hazard risk that should be assessed includes:

(a) promoting and identifying long-term sustainable risk reduction approaches including the relocation or removal of existing development or structures at risk;
(b) identifying the consequences of potential strategic options relative to the option of 'do-nothing';
(c) recognising that hard protection structures may be the only practical means to protect existing infrastructure of national or regional importance, to sustain the potential of built physical resources to meet the reasonably foreseeable needs of future generations;
(d) recognising and considering the environmental and social costs of permitting hard protection structures to protect private property; and

(e) identifying and planning for transition mechanisms and timeframes for moving to more sustainable approaches.

(2) In evaluating options under (1):

(a) focus on approaches to risk management that reduce the need for hard protection structures and similar engineering interventions;
(b) take into account the nature of the coastal hazard risk and how it might change over at least a 100-year timeframe, including the expected effects of climate change; and
(c) evaluate the likely costs and benefits of any proposed coastal hazard risk reduction options.

(3) Where hard protection structures are considered to be necessary, ensure that the form and location of any structures are designed to minimise adverse effects on the coastal environment.

(4) Hard protection structures, where considered necessary to protect private assets, should not be located on public land if there is no significant public or environmental benefit in doing so.

National Policy Statement for Indigenous Biodiversity

Objectives and Policies

2.1 Objective

(1) The objective of this National Policy Statement is:

(a) to maintain indigenous biodiversity across Aotearoa New Zealand so that there is at least no overall loss in indigenous biodiversity after the commencement date; and

(b) to achieve this:

(i) through recognising the mana of tangata whenua as kaitiaki of indigenous biodiversity; and
(ii) by recognising people and communities, including landowners, as stewards of indigenous biodiversity; and
(iii) by protecting and restoring indigenous biodiversity as necessary to achieve the overall maintenance of indigenous biodiversity; and
(iv) while providing for the social, economic, and cultural wellbeing of people and communities now and in the future.

2.2 Policies

Policy 1: Indigenous biodiversity is managed in a way that gives effect to the decision making principles and takes into account the principles of the Treaty of Waitangi.

Policy 2: Tangata whenua exercise kaitiakitanga for indigenous biodiversity in their rohe, including through:

(a) managing indigenous biodiversity on their land; and
(b) identifying and protecting indigenous species, populations and ecosystems that are taonga; and
(c) actively participating in other decision-making about indigenous biodiversity.

Policy 3: A precautionary approach is adopted when considering adverse effects on indigenous biodiversity.

Policy 4: Indigenous biodiversity is managed to promote resilience to the effects of climate change.

Policy 5: Indigenous biodiversity is managed in an integrated way, within and across administrative boundaries.

Policy 6: Significant indigenous vegetation and significant habitats of indigenous fauna are identified as SNAs using a consistent approach.

Policy 7: SNAs are protected by avoiding or managing adverse effects from new subdivision, use and development.

Policy 8: The importance of maintaining indigenous biodiversity outside SNAs is recognised and provided for.

Policy 9: Certain established activities are provided for within and outside SNAs.

Policy 10: Activities that contribute to New Zealand's social, economic, cultural, and environmental wellbeing are recognised and provided for as set out in this National Policy Statement.

Policy 11: Geothermal SNAs are protected at a level that reflects their vulnerability, or in accordance with any pre-existing underlying geothermal system classification.

Policy 12: Indigenous biodiversity is managed within plantation forestry while providing for plantation forestry activities.

Policy 13: Restoration of indigenous biodiversity is promoted and provided for.

Policy 14: Increased indigenous vegetation cover is promoted in both urban and nonurban environments.

Policy 15: Areas outside SNAs that support specified highly mobile fauna are identified and managed to maintain their populations across their natural range, and information and awareness of highly mobile fauna is improved.

Policy 16: Regional biodiversity strategies are developed and implemented to maintain and restore indigenous biodiversity at a landscape scale.

Policy 17: There is improved information and regular monitoring of indigenous biodiversity.

Appendix E: Cognitus Economic Insight – Specialist Memo

cognitus economic insight®

Te Ākau Bream Bay Fast-Track

Patuharakeke Te Iwi Trust Board Specialist Memo

Economics

Dr Richard Meade

5 December 2025

Contents

1. Introduction

1.1 Scope of this Memorandum

1. I have been asked by Te Pou Taiao o Patuharakeke Te Iwi Trust Board (**Patuharakeke**) to assess the economic analysis (**the Analysis**) provided by M.E Consulting on behalf of McCallum Bros Limited (**the Applicant**) in support of the Applicant's application (**the Application**) for approval to mine marine sand in Te Ākau Bream Bay (**the Project**).

2. In particular, I have been asked whether, in my opinion as an expert economist, the Analysis credibly and robustly demonstrates that the Project results in significant regional or national benefits as required under the Fast-track Approvals Act 2024 (**FTA**), and whether there are material adverse effects arising from the Project either not or inadequately accounted for in the Analysis.

1.2 Background, Experience and Code of Conduct

3. I am a professional economic consultant and researcher with 33 years' experience in providing economic and/or financial analysis and advice. My primary professional role is as Principal Economist at Cognitus Economic Insight, an economic consulting and research practice I founded in 2002. Since 2023 I have also been an Adjunct Associate Professor at Griffith University, and was appointed a Lay Member of the High Court for Commerce Act matters in 2024. In June I retired after being on the organising committee of the Law & Economics Association of New Zealand for 10 years, having been president for three years, and Auckland vice president for six years.

4. Prior to founding Cognitus, I was an investment banker with Credit Suisse First Boston (1992-1998), through which I was a valuation and corporate finance specialist. I have also taught undergraduate and MBA finance and/or corporate finance for Victoria University of Wellington in New Zealand and Hong Kong multiple times, and completed a graduate-level course in finance as part of my PhD (further details below).

5. I have also been a Research Principal at the New Zealand Institute for the Study of Competition and Regulation (2001-2011), and a Senior Research Fellow at Auckland University of Technology (2015-2025). In addition to teaching finance or corporate finance, I have also lectured in industrial organisation and/or environmental economics at Auckland University of Technology and University of Auckland multiple times.

6. I hold the following qualifications: a PhD (awarded with Distinction) in industrial organisation and regulation, as well as an MPhil and MSc in economic theory and econometrics, all from Toulouse School of Economics. I also hold a BSc (Hons, First Class) in statistics and operations research (including papers in economics and finance), a BSc in statistics and operations research, and a BCA in economics and finance, all from Victoria University of Wellington.

7. I belong to multiple professional and academic associations, including the Law & Economics Association of New Zealand (Member), Competition Law & Policy Institute of New Zealand (Member), Asia-Pacific Industrial Organisation Society (Member), New Zealand Association of Economists (Member), New Zealand Institute of Forestry (Ordinary Member), and the Australian Centre for International Commercial Arbitration (Associate Member).

8. Relevant examples of my work for this exercise include:

   8.1. Providing economic advice to a company with international mining interests;

   8.2. Undertaking numerous and often-times complex financial evaluations;

   8.3. Applying the total economic value (**TEV**) framework for describing and categorising the full range of economic values that attach to a given activity or resource, and also non-market valuation (**NMV**) techniques for ascribing monetary values to product or service attributes that are not traded in markets and hence which lack identifiable market prices;

   8.4. Co-authoring a study prepared for Te Puni Kōkiri on the economic value of recognising and protecting Māori taonga;

   8.5. Providing expert economic evidence (including for multiple landmark cases) in the High Court, Waitangi Tribunal, and Environment Court – including regarding Māori cultural losses;

   8.6. Undertaking various studies for the Ministry for the Environment and/or Māori peak bodies on climate change policy and the transition to net zero in multiple sectors, and in particular how it affects Māori landowners (especially given the strong primary sector interests of Māori, and the cultural and socio-economic importance of whenua Māori);

   8.7. Assisting Māori peak bodies with their engagement with the Ministry for the Environment regarding the reform of the RMA (under both the previous and current

governments), including a particular focus on Māori rights and interests in freshwater;

8.8. Undertaking research on how land use is affected when land provides cultural services as well as commercial value, as well as research more broadly on the role of cooperative ownership in affecting business viability and behaviour; and

8.9. Providing independent expert economic evidence in relation to applications made under the FTA, including two (other than this one) in relation to natural resource extraction.

9. I confirm that I have read the Environment Court Practice Note 2023 – Code of Conduct for Expert Witnesses (**Code**), and have complied with it in the preparation of this memorandum. I also agree to follow the Code when participating in any subsequent processes, such as expert conferencing, directed by the Panel. I confirm that the opinions I have expressed are within my area of expertise and are my own, except where I have stated that I am relying on the work or evidence of others, which I have specified.

1.3 Documents Reviewed

10. In preparing this memorandum, I have reviewed the following:

10.1. A fast-track approval application prepared by McCallum Bros Limited dated 2 May 2024 (**Substantive Application**);

10.2. A draft report by M.E Consulting dated August 2025, *Te Ākau Bream Bay Sand Extraction: Economic Assessment* (**M.E Report**);

10.3. Sections 5 and 6 of a cultural impact assessment prepared by Whetu Consulting dated 5 December 2025 (**CIA Report**); and

10.4. Other documents and materials as referenced throughout this report.

1.4 Summary of Main Conclusions

11. In the following sections I set out my detailed assessment of the Analysis. By way of summary, it is my opinion that:

11.1. The Analysis overstates Auckland's future needs for concrete (and hence sand) because it:

11.1.1. Incorporates a strong business-as-usual (**BAU**) bias regarding the "concrete intensity" of future Auckland growth and development – assuming that past concrete consumption per capita will apply to future population growth; and

11.1.2. Overstates the criticality of marine sand sources like Kaipara and Te Ākau Bream Bay, and likewise overstates the unsuitability of alternative sources (e.g. manufactured sand, Waikato sand).

11.2. The Analysis does not provide a comprehensive cost-benefit analysis (**CBA**) of the Project's net benefits (accounting for relevant costs, including opportunity costs, and adverse effects):

11.2.1. Instead, it presents only a partial and one-sided CBA, considering only Project benefits and not all relevant costs and adverse effects;

11.2.2. This inherently overstates the Project's asserted benefits;

11.3. As an important matter of methodology, the Analysis applies an inappropriate discount rate when converting annual Project benefits asserted to arise over the Project's 35 year life into their present value (**PV**):

11.3.1. This alone overstates the asserted Project benefits by more than 100%.

11.4. Even if the asserted Project benefits had been appropriately valued, they represent a vanishingly small share of regional or national GDP, so cannot be said to be "significant" as required under the FTA.

11.5. Importantly, the Analysis does not assert that without the Project Auckland will be unable to meet its future concrete needs – rather it assumes those needs will be met even if the Project does not proceed:

11.5.1. Instead, the asserted Project benefits relate to avoided direct transport costs, and avoided environmental and social costs, compared with Auckland's needed sand instead being sourced from Kaipara.

11.6. The Analysis asserts various other Project benefits that are either second-order (e.g. supply chain resilience), mis-stated (e.g. deadweight loss from transport cost pass-through), or arguable (e.g. resting on an overstatement of the level of sand required for high-strength concrete):

11.6.1. In any case, all such asserted benefits are shown to be economically immaterial, and hence not "significant".

11.7. The Project's only asserted benefits for the Northland region constitute a very minor share of overall benefits, and are insignificant at the regional (and hence national) level.

11.8. The Analysis lacks transparency and replicability, which is reason alone to question whether it establishes that the Project will result in significant regional or national benefits.

11.9. The Project's benefits are narrowly distributed, and will accrue almost exclusively to Auckland.

11.10. By contrast, the Project will give rise to material costs and adverse effects to Te Ākau Bream Bay residents – including possible environmental costs and lost local community amenity values, and also cultural costs:

11.10.1. Based on indicative order of magnitude analysis, those cultural costs are shown to be material, and potentially large enough to completely offset the Project's asserted benefits – resulting in negative net Project benefits, i.e. net Project disbenefits.

12. In conclusion, it is my opinion that:

12.1. The Analysis inherently overstates the Project's asserted benefits by considering only Project benefits while ignoring relevant Project costs and adverse effects;

12.2. The Analysis further and materially overstates the Project's asserted benefits – by more than 100% – due to its inappropriate choice of discount rate;

12.3. That said, even if the asserted Project benefits ignoring relevant costs and adverse effects had been properly measured, they are so low as to be economically immaterial at a regional level, let alone at the national level;

12.4. There are material costs and adverse effects attributable to the Project – including cultural costs – that the Analysis has not considered at all:

12.4.1. Based on indicative, order of magnitude modelling presented here, those omitted costs and adverse effects could constitute a large share of the asserted Project benefits, or even result in net Project disbenefits;

12.5. Hence, the Application's purported benefits have not been credibly and robustly established, and certainly not to the level of demonstrating significant regional or national benefits as required under the FTA.

2. Overstated Importance of Concrete for Meeting Auckland's Future Growth and Development Needs

13. In terms of qualitative reasons offered in support of the Application in the Analysis,[1] the importance of concrete for meeting Auckland's future growth and development needs is overstated (in both the factual and counterfactual used in the Analysis – hence netting out in the quantitative analysis) – meaning the importance of non-Kaipara sand sources like Te Ākau Bream Bay is also overstated – due to:

13.1. Embedding a strong BAU bias in terms of the "concrete intensity" of future Auckland growth and development by assuming that past concrete consumption per capita will apply to future population growth;[2]

13.2. Overstating the criticality of marine sand sources like Kaipara and Te Ākau Bream Bay due to their relative attractiveness for manufacturing high-strength concrete – and overstating the unsuitability of alternative sources (e.g. manufactured sand, Waikato sand) – given high-strength concrete – as shown below – constitutes a minority application of sand (meaning the lion's share of sand demand, for other applications like low-strength concrete or turf, does not hinge on access to marine sand).

14. Regarding the former, increasing housing density, building technology/process change, and emissions reductions policies mean the amount of concrete required per "unit" of growth and development will (due to fundamental economic drivers) and will need to (due to emissions reductions policies) fall relative to historical levels.

[1] For example, the M.E Report at paras 1-3.

[2] M.E Report at paras 57-62.

15. For example, according to the New Zealand Infrastructure Commission, the amount of concrete used for roading will necessarily decline as New Zealand implements policies to reduce its greenhouse gas emissions, including those from transport-related infrastructure.[3]

16. Moreover, to meet its global emissions reduction commitments, New Zealand will need to decarbonise the building and construction sectors, with buildings accounting for 15% of New Zealand's 2018 emissions,[4] and half of those emissions embodied in buildings themselves (rather than from the use of those buildings)[5] – with caps on building emissions anticipated for future emissions reductions plans under the Climate Change Response Act.[6]

17. This will necessitate less carbon-intensive concrete, but also less "per application" concrete use overall – e.g. a lower "concrete intensity" in home construction:

    17.1. The New Zealand concrete sector itself points to reductions in concrete use as part of the sector's plan to achieve a transition to net-zero emissions;[7]

    17.2. Its global representative body likewise points to significant and more ambitious efficiencies possible in concrete usage – i.e. better use of concrete through improved design is predicted to save 22% of CO_2 emissions by 2050;[8]

    17.3. Building technologies like "waffle slabs" are increasingly used instead of traditional concrete slabs in home building, which requires less concrete per slab;[9]

[3] https://media.umbraco.io/te-waihanga-30-year-strategy/j54irnae/ina-model-technical-report-for-draft-plan.pdf, at p. 15.

[4] https://www.mbie.govt.nz/dmsdocument/23616-emissions-reduction-plan-building-and-construction-initiatives-proactiverelease-pdf, at para 14.

[5] https://www.mbie.govt.nz/dmsdocument/23616-emissions-reduction-plan-building-and-construction-initiatives-proactiverelease-pdf, at para 32.

[6] https://www.building.govt.nz/assets/Uploads/getting-started/building-for-climate-change/whole-of-life-embodied-carbon-assessment-technical-methodology.pdf, at p. 3.

[7] https://concretenz.org.nz/page/2050_roadmap.

[8] https://gccassociation.org/concretefuture/getting-to-net-zero/.

[9] https://www.tidyslabs.co.nz/learn/waffle-slabs-and-ribraft-foundations-explained.

17.4. Techniques such as post-tensioned concrete can allow for thinner and longer spans than traditional reinforced concrete, requiring less concrete per application;[10] and

17.5. The New Zealand timber industry has invested heavily in engineered timber products, which represent a sustainable alterative to concrete in certain applications.[11]

18. Furthermore, as housing becomes more intensive in Auckland – e.g. moving to three-storey (terraced) townhouses – the amount of concrete per dwelling will become less.

19. All of these considerations point to a reduced per capita demand for concrete relative to historical levels:

19.1. Since the Analysis assumes that future per capita consumption will reflect historical demand levels, this implies a strong BAU bias that necessarily overstates Auckland's future concrete (and hence sand) demand;

19.2. In turn, this means the necessity of accessing marine sand in Te Ākau Bream Bay to meet Auckland's future growth and development needs – as asserted in the Analysis – is necessarily overstated.

20. For reasons set out below, the Analysis also overstates the necessity of marine sand as opposed to its alternatives due to high-strength concrete – for which marine sand is argued to be more suitable – constituting only a minority share of overall sand demand.

3. Critiques of the Applicant's Analysis of Whether the Project Produces Significant Regional or National Benefits

3.1 Only a Partial and One-Sided Version of Cost-Benefit Analysis has been Applied – Inherently Overstating Project Benefits

21. Regarding the Project's quantitative benefits, following Treasury guidance, and based on my own assessment – for the purposes of sound economic decision-making – any assessment

[10] https://learnwithseu.com/post-tensioned-concrete-vs-reinforced-concrete/.

[11] https://www.mbie.govt.nz/dmsdocument/23616-emissions-reduction-plan-building-and-construction-initiatives-proactiverelease-pdf, at para 19.4.

of whether the Project gives rise to significant regional or national benefits as required under the FTA necessarily requires a CBA:

21.1. Such a CBA measures the net benefits of an undertaking like the Project, being the total incremental benefits of the Project, less its total incremental costs (including opportunity costs, and both indirect costs and benefits as well as direct ones), appropriately adjusted for time and risk, and allowing for any salient distributional impacts.

22. Failing to account for all relevant costs of the Project, and assessing only its gross benefits, risks socially-harmful decisions being reached:

22.1. For example, if a project with large gross benefits but low net benefits were fast-tracked, that could displace a similar project that has lower gross benefits but higher net benefits – the latter project adds most to New Zealand's wellbeing, so is the one more likely to meet the "significant regional or national benefits" test that lies at the heart of the FTA's purpose;

23. Indeed, Treasury – as steward of limited public finances, and charged with ensuring those finances are used efficiently and equitable to maximise social welfare (i.e. national benefits) – argues for the use of CBA as follows:[12]

23.1. "[A]ll advice that is aimed at helping decision-makers make a decision, should adopt a CBA framework as an organising principle"; and

23.2. Investment in systematic CBA is justified whenever decisions impact on large numbers of people.

24. While CBA is the most appropriate technique for assessing the Project's regional or national benefits (net of any relevant costs and adverse effects) in quantitative terms, the Analysis inherently overstates the Project's benefits by presenting only a partial and one-sided CBA, as it:

24.1. Presents only asserted Project benefits (i.e. costs that are asserted to be avoided if the Project proceeds, and hence which in principle qualify as benefits);[13]

[12] Treasury, 2015, *Guide to Social Cost Benefit Analysis*, July, at p. 39.

[13] For example, M.E Report at paras 32 and 110-117.

24.2. Ignores possible opportunity costs or other adverse effects (e.g. environmental, community and cultural costs) caused by the Project – see further below.

3.2 Asserted Benefits have been Overstated by More than 100% Solely due to Inappropriate Choice of Discount Rate

25. The Analysis further overstates the Project's asserted benefits by applying the wrong Treasury-sourced discount rate when computing their PV – i.e. when converting the Project's annual benefits over its 35 year life to a current value:

25.1. The M.E Report asserts it is following Treasury guidance by discounting the Project's future benefits using Treasury's published "social rate of time preference" (SRTP);[14]

25.2. However, that Treasury guidance states that when a project is mainly commercial in nature (as the Project clearly is, given 67% of the asserted benefits relate to avoided direct transport costs, which are a private commercial benefit),[15] then the appropriate discount rate is the "social opportunity cost" (SOC);[16]

25.3. Since the SOC is much higher than the SRTP,[17] as shown below in Table 1, the PV of the Project's benefits as asserted in the Analysis is 115% higher – i.e. more than double – than what it would be had the correct discount rate been applied.[18]

[14] M.E Report, at para 32.

[15] M.E Report, at para 32, using 258.2 / 383.1 = 67.4%. Such transport savings will principally accrue to the Applicant in the form of higher profits, and/or lower input costs (and hence higher profits) to the Applicant's customers.

[16] https://www.treasury.govt.nz/sites/default/files/2024-10/treasury-circular-2024-15.pdf, at paras 13-16.

[17] https://www.treasury.govt.nz/sites/default/files/2024-10/treasury-circular-2024-15.pdf, at para 6.

[18] In fact, both such discount rates are described in the relevant Treasury guidance as "public sector discount rates", since they apply to public sector projects. The Applicant is a private company, and the Project is clearly private in nature, in which case a private sector discount rate is applicable, for private benefits such as direct transport cost savings at least. In this memorandum, the SOC is taken to be a reasonable proxy for such a rate.

3.3 Asserted Project Benefits are Not Regionally or Nationally Significant

26. At a more fundamental level, the Project benefits quantified in the Analysis – even if they had not been overstated due to ignoring relevant costs and applying an inappropriately-low discount rate – cannot be said to be regionally or nationally "significant" as required under the FTA:

    26.1. As shown in Table 1 (with calculation details provided in Appendix A), even when considering the Project's asserted benefits over its entire 35 year life (as converted to PV terms), the resulting PV of asserted benefits represents at most one quarter of one percent – i.e. 0.24% at very most (0.11% when using the correct discount rate) – of Auckland's $158 billion annual GDP;[19]

    26.2. Likewise, even when considering the Project's asserted benefits over its entire 35 year life, the resulting PV of asserted benefits represents at most just under one tenth of one percent – i.e. 0.09% at very most (0.04% when using the correct discount rate) – of New Zealand's current $415 billion annual GDP.[20]

27. More importantly, since the PV of asserted Project benefits derives from 35 years of benefits, while Auckland or New Zealand GDP are annual amounts (i.e. representing just a single year of regional or national income respectively), it is more appropriate to compare asserted Project benefits expressed on an *annualised* basis with annual GDP figures when assessing significance of those benefits:

    27.1. While the Analysis does not present details of annualised benefits over the entire Project life, and presents insufficient detail for annualised benefits to be calculated precisely, as shown in Table 1 it is possible based on the data presented to produce a close approximation of such annualised benefits;

    27.2. Doing so reveals that the Project's asserted benefits amount to just $15.3m per annum of annualised benefit (see Appendix A);

    27.3. Even without comparing that figure to Auckland's or New Zealand's annual GDP, *a priori* that amount must surely struggle to meet any test of "significance"; and

[19] https://qem.infometrics.co.nz/auckland/economic/gdp.

[20] https://qem.infometrics.co.nz/new-zealand/economic/gdp.

Table 1 – Summary of Asserted Project Benefits, Alternative Calculations, and Significance of Benefits

	PV Calculations for Different Treasury Discount Rates						As Share of 2025 Regional GDP++			As Share of 2025 National GDP++		
	M.E Report:		Meade (Approx.):									
	Treasury SRTP***	Benefits Share	Treasury SOC^	% Change (SOC vs SRTP)	% Change (SRTP vs SOC)	Implied Annual Benefit (Approx.)+	Asserted PV at SRTP***	Meade PV at SOC^	Implied Annual Benefit+	Asserted PV at SRTP***	Meade PV at SOC^	Implied Annual Benefit+
Asserted Benefits* Included in Main M.E Report Summaries (Present Value over 35 Years, as at 2025, $m)**												
- Avoided direct transport costs	258.2	67%	120.2	-53%	115%	10.3	0.16%	0.08%	0.01%	0.06%	0.03%	0.00%
- Avoided shadow price of carbon	34.4	9%										
- Avoided health-related costs	78.2	20%										
- Avoided social costs	12.2	3%										
	383.1	100%	**178.3**	**-53%**	**115%**	**15.3**	**0.24%**	**0.11%**	**0.010%**	**0.09%**	**0.04%**	**0.004%**
Asserted Benefits Not Included in Main M.E Report Summaries (Present Value over 35 Years, as at 2025, $m)												
- Avoided costs of using manufactured sand^^	85.4		39.8	-53%	115%	3.4	0.05%	0.03%	0.00%	0.02%	0.01%	0.00%
- Avoided "deadweight loss" of extra transport cost pass-through^^^	51.6		24.0	-53%	115%	2.1	0.03%	0.02%	0.00%	0.01%	0.01%	0.00%
- Avoided extra cement and associated emissions costs of using Waikato sand#	7.3		3.4	-53%	115%	0.3	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
- Avoided direct transport and social costs of using Waikato sand##	58.8		27.4	-53%	115%	2.4	0.04%	0.02%	0.00%	0.01%	0.01%	0.00%
- Extra Northland GDP###	3.1		1.4	-53%	115%	0.3	0.03%	0.01%	0.00%	0.01%	0.01%	0.00%
	206.2		**96.1**			**8.4**						

* Of Project, relative to Kaipara only Auckland sand supply.
** As summarised at paras 32 and 142 of M.E Report - other asserted Project benefits not included in this summary.
*** Social Rate of Time Preference - to be used for mainly non-commercial public sector projects.
^ Social opportunity cost - to be used for mainly commercial public sector projects.
^^ As summarised at para 148 of M.E Report.
^^^ As summarised at para 154 of M.E Report.
# As summarised at paras 159-160 of M.E Report. Adding $4m for extra cement cost, and $3.3m for added emissions cost.
As summarised at para 163 of M.E Report.
As summarised at para 173 of M.E Report.
+ Computed as level annual amount which if received over 35 years produces the M.E Report PV using Treasury's SRTP as discount rate.
++ Share of absolute GDP (i.e. not contribution to rate of growth in GDP). All figures shown to 2 decimal places only.

27.4. The fact that this annualised benefit equates to just one hundredth of one percent (i.e. 0.01%) of Auckland's current GDP, and to just four thousandths of one percent (i.e. 0.004%) of New Zealand's current GDP clearly demonstrates that the Project – if it proceeds – would make no material impact on either the Auckland regional economy, or the national economy (i.e. that level of contribution is essentially rounding error, and would not be missed at the regional or national level if it did not arise).

28. Note, that the above comparisons between Project benefits and either Auckland or New Zealand GDP are presented in absolute terms – i.e. the above percentages express asserted Project benefits as a share of the dollar value of GDP – not how much the Project adds to GDP growth rates:

28.1. Hypothetically, adding 0.01% to Auckland's or New Zealand's annual GDP growth rates (as opposed to dollar values) may or may not constitute a significant benefit for FTA purposes;

28.2. However, the analysis of Project significance presented above does not show this type of growth-related benefit, and nor does the Analysis itself claim such a benefit.

3.4 Asserted Project Benefits do not Purport to Include the Value of Concrete to Auckland, Just the Value of Supplying Concrete to Auckland at Lower Cost

29. The Analysis points to the importance of the Auckland economy for the national economy, the importance of infrastructure to the Auckland economy, and the importance of concrete (and hence sand) for Auckland's infrastructure and other growth needs:[21]

29.1. However, even setting aside the strong BAU bias identified above regarding the assumed "concrete intensity" of future Auckland growth and development, and the unnecessary bias towards sand types used for high-strength concrete also identified above, the essential point is that the Analysis does not assert that Auckland's needs for concrete will not be met if the Project does not proceed;

[21] For example, M.E Report at paras 1-3.

29.2. Rather, the Analysis assumes that Auckland's future concrete (and associated sand) needs *will* continue to be met over the Project's 35 year life *even if the Project does not proceed*;[22]

29.3. As such, the Project's actually quantified benefits are not asserted in the Analysis to include enabling Auckland growth and development that would otherwise not occur, absent the Project, but rather that Auckland's growth and development would be realised with lower direct transport, environmental and social costs (as quantified in the Analysis as asserted Project benefits).[23]

3.5 Second-Order Project Benefits are Asserted, But Also are Not Significant

30. The Analysis further asserts that "[e]nabling sand extraction in Te Ākau Bream Bay will provide supply chain resilience and avoid concentration risks associated with having a significant share of Auckland sand originate from one source [i.e. Kaipara]":[24]

30.1. However, while the Project may or may not "provide supply chain resilience and avoid concentration risks" – given other sand sources such as Waikato sand and manufactured sand are likely to be suitable (see below) for the bulk of Auckland's concrete requirements – these other asserted benefits are not quantified in the M.E Report, and at most can only be second-order benefits if they arise at all (i.e. perhaps avoiding temporary periodic interruptions to supply over a 35 year project life);

30.2. Indeed, since the Analysis assumes that Auckland's future needs for concrete (and hence sand) will continue to be met regardless of whether or not the Project proceeds, and the asserted benefits of meeting those needs at lower cost than they would otherwise be fail to reach any plausible threshold of "significance" (as demonstrated above, and required under the FTA), these second-order asserted benefits must also fail to reach that significance threshold.

3.6 Other Project Benefits are Asserted, But Also are Not Significant, or Mis-Stated

31. While the Analysis includes the PV of certain cost savings (direct transport costs, environmental and social costs) in its main summaries of asserted Project benefits (i.e.

[22] M.E Report, at paras 110-117.

[23] M.E Report, at paras 32 and 113.

[24] M.E Report, at para 181.

"Total avoided costs (benefits)",[25] it also discusses and quantifies various other heads of asserted Project cost savings or benefits without including them in those main summaries, i.e.:

31.1. Avoided costs of using manufactured sand;[26]

31.2. Avoided "deadweight loss" of extra transport cost pass-through;[27]

31.3. Avoided extra cement and associated emissions costs of using Waikato sand;[28]

31.4. Avoided direct transport and social costs of using Waikato sand;[29] and

31.5. Extra Northland GDP (and employment).[30]

32. Regarding the potential for manufactured sand to substitute for marine sand, the Analysis stresses that manufactured sand is not a complete replacement for marine sand, mainly due to its limitations in high-strength concrete.[31] However, the Analysis indicates that:

32.1. High-strength concrete accounts for 50-60% of concrete poured;[32]

32.2. Manufactured sand can replace the PAP7 portion of fine aggregate in concrete,[33] which constitutes 21% of high-strength (30 MPa concrete);[34] and

32.3. 25-30% of sand demand is for non-concrete uses.[35]

33. Taken together, this means that only around 28-36% of total sand demand is required for high-strength concrete, calculated as follows:

[25] M.E Report, at paras 32 and 142.

[26] M.E Report, at para 148.

[27] M.E Report, at para 154.

[28] M.E Report, at paras 159-160.

[29] M.E Report, at para 163.

[30] M.E Report, at para 173.

[31] For example, M.E Report, at paras 80-83.

[32] M.E Report, at para 42;

[33] M.E Report, at para 88.

[34] M.E Report, at para 86.

[35] M.E Report, at para 59.

33.1. Concrete demand represents 70-75% of total sand demand, since 25-30% of sand demand is for non-concrete uses;

33.2. Approximately at least, high-strength concrete represents 70% x 50% = 35% to 75% x 60% = 45% of total sand demand (before substituting PAP7 content with manufactured sand), since high-strength concrete accounts for 50-60% of concrete poured; and

33.3. Approximately at least, high-strength concrete represents just 35% x (1 - 0.21) = 28% to 45% x (1 - 0.21) = 36% of total sand demand (after substituting PAP7 content with manufactured sand), since the 21% of concrete constituted by PAP7 can be replaced with manufactured sand.

34. As such, the scope for manufactured sand to substitute for marine sand would appear to be much greater than the Analysis suggests:

34.1. Since manufactured sand is relatively new in New Zealand (the Analysis acknowledges that it is already used commercially), its potential to grow economically and become cost-competitive with marine sand over the next 35 years – especially for uses other than high-strength concrete – has not been captured in the Analysis;

34.2. In any case, as shown in Table 1, and for the reasons set out above, the asserted value of avoiding any extra costs of using manufactured sand is in no sense "significant" – representing less than one hundredth of one percent – i.e. less than 0.01% – of Auckland (and hence also of New Zealand) GDP when expressed on an annualised basis.

35. The avoided "deadweight loss" of extra transport cost pass-through is asserted in the M.E Report to reflect Treasury CBA guidance:[36]

35.1. However that Treasury guidance clearly states that the relevant "deadweight loss" arises when projects are financed using general taxation,[37] due to economic distortions created from taxes such as income taxes or consumption taxes;

[36] M.E Report, at para 154, and Treasury publication cited at footnote 84.

[37] New Zealand Treasury, 2015, *Guide to Social Cost–Benefit Analysis*, at pp 15-16.

35.2. While some share of some of Auckland's future concrete-related developments might be financed via central government contributions funded by general taxation, the vast majority will be funded either privately (e.g. by housing developers and their clients) or by local government (via property rates):

35.2.1. Property rates, being based on relative land values instead of choices by economic decision-makes (e.g. workers, consumers), are not distortionary like income or consumption taxes, and private funding does not involve tax-funding, so in neither of these cases should deadweight loss arise – either at all, or to a material degree.

36. Hence, like the Analysis' inappropriate adoption of the SRTP instead of the SOC as the discount rate relevant to converting the Project's asserted 35 years of benefits to PV terms (see above), this use of deadweight loss to represent a further Project benefit involves a less than faithful application of the relevant Treasury guidance:

36.1. In any case, as shown in Table 1, these asserted benefits represent less than one hundredth of one percent – i.e. less than 0.01% – of Auckland (and hence also of New Zealand) GDP when expressed on an annualised basis.

37. Likewise, Table 1 shows that the asserted benefits of avoided extra cement and associated emissions costs of using Waikato sand, and of avoided direct transport and social costs of using Waikato sand, are also economically immaterial, representing less than one hundredth of one percent – i.e. less than 0.01% – of Auckland (and hence also of New Zealand) GDP when expressed on an annualised basis.

3.7 Only Asserted Project Benefits for Northland are Also Not Significant

38. The GDP and employment benefits asserted for Northland in the Analysis are notable because they represent the only claimed benefits of the Project for Northland.

39. However, as for the other asserted benefits just discussed, and setting aside the fact that insufficient detail has been provided in the Analysis to test the asserted figures, Table 1 shows that this asserted benefit is also economically immaterial, representing less than one hundredth of one percent – i.e. less than 0.01% – of Northland (and hence also of New Zealand) GDP when expressed on an annualised basis.

40. Likewise, the asserted benefit of an extra 51 job-years in Northland (again, impossible to test due to insufficient detail having been provided),[38] equates to an extra 51 / 35 = 1.5 jobs per year, which represents just 0.0015% of Northland's 101,400 labour workforce in 2024, so is clearly immaterial.[39]

3.8 Asserted Project Benefits are Narrowly Distributed

41. Further to the question of the "significance" of the asserted Project benefits, and setting aside the reasons set out above for why they have been overstated by more than 100% (i.e. are more than double what they ought to have been calculated to be, assuming they are otherwise relevant and correct), it is also relevant for the FTA test of "significant regional or national benefits" to consider how the asserted benefits are likely to be distributed.

42. As noted above, 67% of the asserted benefits relate to the value of avoided direct transport costs:

    42.1. These are private benefits, representing the increase in the Applicant's profits and firm value if those cost savings are not passed on to the Applicant's customers; and/or

    42.2. They are private benefits enjoyed by the Applicant's customers to the extent some or all of those cost savings are passed on by the Applicant.

43. Either way, these are private benefits enjoyed by either just the Applicant, or by the Applicant and a relatively small number of its Auckland customers:

    43.1. They are not, for example, more widely-enjoyed regional benefits – e.g. a significant increase in highly-paid Auckland jobs, etc;

    43.2. As such, it is questionable whether this lion's share of the claimed Project benefits – even if they were more economically material – would squarely constitute the sorts of regional (or national) benefits sought under the FTA.

[38] M.E Report, at para 173.

[39] https://infoshare.stats.govt.nz/SelectVariables.aspx?pxID=7e491955-b55d-4b6f-8755-aa52bae5d014.

44. The remaining asserted benefits – i.e. avoided environmental and social costs – are likely to be more widely enjoyed in the Auckland region, though for the reasons set out above are not economically material.

3.9 The Analysis Lacks Transparency and Replicability

45. Finally, the quantitative analysis in the Analysis is unduly non-transparent, essentially requiring the figures presented to be accepted on trust:

    45.1. Better practice is to provide sufficient detail – and copies of models used – so results can be replicated and tested.

46. The fact that this level of transparency and replicability has not been provided in the Analysis is by itself reason to questions whether it can be relied upon for satisfaction of the relevant FTA test of significant regional or national benefits (net of adverse effects).

4. The Analysis Fails to Account for Relevant Costs and Adverse Effects

4.1 Project Benefits Accrue Almost Entirely to Auckland, While Costs and Adverse Effects Accrue Almost Exclusively to Te Ākau Bream Bay

47. The asserted Project benefits, be they what they may, accrue almost exclusively to the Auckland region, while only a tiny amount relative to the asserted benefits (0.8%) accrue to Northland:

    47.1. However, it is Northland that is most likely to suffer any increased costs or adverse effects of the Project – which costs and adverse effects the Analysis has not addressed at all (and hence, as discussed above, presents only a partial, one-side, CBA at best).

4.2 Omitted Costs Include Possible Environmental Costs/Risks and Lost Local Amenity Values

48. These costs include possible environmental harms due to the Project – e.g.:

48.1. Negative impacts on the benthic ecology in the extraction area, and possible inhibited recovery of large benthic biota (e.g. scallops, horse mussels, corals) in the future;[40] or

48.2. Possible damage to the Project's sand extraction vessel (e.g. due to storms and/or collisions), the *William Fraser*, resulting in possible fuel spills.

49. They also include diminution of local residents' amenity values – e.g. further degradation of the Te Ākau Bream Bay coastal marine environment, even if this arises just to residents' knowledge of trawling activities being undertaken on a regular and consistent basis:

49.1. A sense of the order of magnitude of this effect can be provided using New Zealand research indicating that the value of a home having "attractive immediate surroundings" is c. 10% of house value;[41]

49.2. Further, based on prominent New Zealand research on values attaching to land,[42] I estimate that the value households attach to the existence of land-based amenities (such as attractive immediate surroundings) is c. 40% of the full value they attach to those amenities;

49.3. With median house prices in Te Ākau Bream Bay being c. $850,000,[43] the total value a local household might attach to the existence of attractive immediate surroundings (i.e. the absence of sand mining activities in the immediate coastal marine area) can be approximated as 10% x 40% x $850,000 = $34,000;

49.4. Applying Treasury's 2% discount rate for mainly social projects, and assuming the relevant amenity values arise annually as a level perpetuity, the implied annualised benefits per Te Ākau Bream Bay household of not being aware of sand mining in the immediate coastal marine area can be approximated as $34,000 x 2% = $680/household/year;

[40] CIA Report, at sections 5 and 6.

[41] Bourassa, S., Hoesli, M. and J. Sun, 2005, "The Price of Aesthetic Externalities', *Journal of Real Estate Literature*, 13:2, 165-188.

[42] Patterson and Cole, 2013, *'Total Economic Value' of New Zealand's Land-Based Ecosystems and their Services.*

[43] https://rwbreambay.co.nz/news/how-the-bream-bay-market-is-evolving-in-2025.

49.5. With 924 private dwellings in the Te Ākau Bream Bay area, this implies a potential cost to local residents of simply knowing that sand mining is occurring in their local coastal marine area is in the order of $680 x 924 = $0.6 million per annum;

49.6. Since the annualised claimed benefits amount to $15.3 million per annum, this loss of amenity value alone could account for c. 4% of those benefits (though practically all of those benefits accrue to the Auckland Region, while all of the amenity value losses accrue to local Te Ākau Bream Bay residents).

4.3 Omitted Costs Include Cultural Costs/Losses

50. Omitted costs further include the loss of cultural values suffered by Patuharakeke asmana whenua and kaitiaki of the people and natural resources of Te Ākau Bream Bay. As identified in the CIA Report, Patuharakeke have identified a range of unmitigated adverse cultural impacts relating to the Project, namely:[44]

> "Rangatiratanga / Mana Moana
>
> 1. Undermining the customary authority of Patuharakeke in Te Akau Bream Bay
>
> 2. Disregard of Patuharakeke customary rights, interests practices in Te Akau Bream Bay
>
> 3. Minimal consideration of Patuharakeke values, interests and mātauranga in:
>
> (a) locating the proposed fast-track project in Te Akau Bream Bay, and
>
> (b) in preparing technical reports to inform that design and delivery of the project
>
> 4. Disregard to the values and wellbeing of Te Ākau Bream Bay Community
>
> Kaitiakitanga
>
> 5. Limited, to non-existent, provisions for Patuaharakeke to exercise its kaitiakitanga in accordance with Patuharakeke tikanga
>
> 6. Insufficient consideration of Patuharakeke relationship with Te Ākau Bream Bay and Marine Mammals
>
> 7. No protection, nor safeguarding, of areas of significance and importance to Patuharakeke
>
> 8. Adverse impacts on the mana and mauri of Tangaroa
>
> 9. Limited to no consideration and response to Climate Change
>
> 10. Cultural losses and costs to Patuharakeke on (present and future) rangatiratanga and kaitiakitanga, and the costs to the Local Community."

[44] CIA Report, at section 6.

4.4 Cultural Costs/Losses are Likely to be Material using Established Value Economic Metrics from Relevant Domains

51. While deferring to the CIA Report for detail of each of these heads of cultural loss, here the possible orders of magnitude of the economic value of broad headings of "loss of rangatiratanga" and "frustration of exercise of kaitiaki duties" are explored, to provide a counterpoint to the asserted Project benefits expressed in annualised terms, namely $15.3m as discussed above (see also Table 1).

52. The loss of rangatiratanga includes cultural values such as:[45]

    52.1. Protecting the customary rights and activities achieved under the Treaty of Waitangi (Fisheries Claims) Settlement Act 1992, and its regulation the Fisheries (Kaimoana Customary Fishing) Regulations 1998; and

    52.2. Securing and protecting the rights and interests of Patuharakeke in Te Ākau Bream Bay and Whangārei Harbour, and in the Poupouwhenua/Takahiwai land area.

53. In economic terms, this can be characterised as a loss of present and future "control" over the marine area and environs affected by the Project. In the finance literature there is evidence from academic research published in a leading field journal regarding "equity control premiums" (ECPs) which could be used to provide an order of magnitude estimate of the value of lost control rights:

    53.1. ECPs are the additional value that acquirors of company shares are prepared to pay for those shares in order to secure a controlling stake in the underlying companies (meaning they can then exercise control over the direction of the company – which in this context could be interpreted as exercising control over collectively-owned traditional resources, such as Te Ākau Bream Bay).

54. A prominent study comparing ECPs across a large sample of countries finds an average ECP of 14%, and a median ECP of 11%, in each case with these percentages applying to underlying commercial asset value:[46]

[45] CIA Report, at section 2.6.

[46] Dyck, A. and L. Zingales, 2004, "Private Benefits of Control: An International Comparison", *Journal of Finance*, LIX(2), April, 537-600.

54.1. The underlying commercial asset value – here, the value of the marine sand proposed to be extracted – can be approximated as the PV of the economic profits of extracting that sand (net of any taxes and royalties paid, and all operational and capital costs);

54.2. This implies that the underlying commercial asset value could be approximated as the PV of that share of the Applicant's economic profits that can be attributed to the proposed sand mining, with the value of Patuharakeke's lost control equating to 11-14% of that value (applying the ECP percentages above).

55. The Applicant's profits are not publicly available, and nor are they disclosed in the Analysis, but the methodology and evidence described above provides a sense of the possible order of magnitude of the costs of loss of rangatiratanga suffered by Patuharakeke as a consequence of the Project.

56. To provide a more concrete example (no pun intended), the FTA and Project affect Patuharakeke's ability to discharge their duty as kaitiaki on behalf of present and future generations (as well as to Te Ākau Bream Bay itself) to protect their associations, wāhi tapu, and customary rights and practices in Te Ākau Bream Bay as exercised in their Rohe Moana (i.e. defined customary fishing area) for those present and future generations:

56.1. Research undertaken for Te Puni Kōkiri, co-authored by the author, characterises such a frustration of Patuharakeke to exercise its duties as kaitiaki as a form of "pain and suffering".[47]

57. In New Zealand, there are established metrics commonly applied to measure the economic value of avoiding different levels of pain and suffering – for example in transport CBAs undertaken by the Ministry of Transport[48] (and by wider government agencies, using Treasury's "CBAx" database of standard values to be used in public sector CBAs)[49]:

57.1. These levels of pain and suffering range from death, through to serious injuries, and minor injuries;

[47] Roskruge et al., 2022, *Understanding the Economic Value of Māori Taonga: A Scoping Study*, report prepared for Te Puni Kōkiri.

[48] For example, see Te Manatū Waka – Ministry of Transport, 2023, *Social cost of road crashes and injuries: Methodology and user guide*, April.

[49] https://www.treasury.govt.nz/publications/guide/cbax-spreadsheet-model.

58. Notably for present purposes, a "minor injury" is defined to be an injury that "causes discomfort or pain to the person injured",[50] which is generic enough to encapsulate the sort of pain and suffering of Patuharakeke due to the FTA and the Project frustrating the exercise of their kaitiaki obligations:

    58.1. As noted in the M.E Report, the current value used in public sector CBAs for the economic value of avoiding a minor injury is $280,400/person/injury event.[51]

59. Supposing for illustrative purposes, and to be highly conservative, that just 1% of that amount – i.e. $2,804 – represents an annual cost to each of the 579 Māori residents in Te Ākau Bream Bay,[52] then this implies a total annual cultural loss to those Māori residents of $1.6m:

    59.1. The PV of that annual loss assuming it continues over the 35 year life of the Project – this time correctly calculated using Treasury's SRTP (since the loss is inherently non-commercial) – is $40.7m (see Appendix B).

60. Hence, this category of cultural loss alone could easily account for 1.6 / 15.3 = 10.5% of the estimated annual value of the Project's asserted benefits:

    60.1. If a less conservative share of the widely-used minor injury value metric was applied – e.g. 10% instead of 1% – then the annual loss to Māori residents in Te Ākau Bream Bay would be $16m, which would fully offset the estimated annual value of the Project's asserted benefits ($15.3m).

    60.2. Likewise, if this metric was applied to a wider Māori population – i.e. all members of Patuharakeke and other iwi in Te Ākau Bream Bay including those that are non-resident – that too would mean the annual cultural losses experienced would in aggregate account for material share (i.e. likely much greater than 10.5%) of the estimated annual value of the asserted Project benefits.

[50] https://www.transport.govt.nz/assets/Social-cost-of-road-crashes-and-injuries-methodology-and-user-guide.pdf.

[51] M.E Report, at para 140.

[52] Based on the 2023 Census, https://tools.summaries.stats.govt.nz/places/SA2/bream-bay.

4.5 Conclusions Regarding Omitted Costs (Including Cultural Costs) and Adverse Effects

61. Taken together, possible environmental losses, losses of local amenity value, and cultural losses (i.e. loss of control, and frustration in exercising kaitiaki obligations) are likely to constitute material and significant costs and adverse effects, potentially sufficient to outweigh the asserted Project benefits – i.e. resulting in negative net benefits (at a national level – subtracting Northland costs and adverse effects form Auckland benefits):

    61.1. The Analysis has not considered or attempted to evaluate any of these possible costs or adverse effects arising due to the Project;

    61.2. This means the Project's assessed benefits are at best *gross* benefits, and therefore not a reliable indicator – even assuming those benefits had been properly assessed and were significant – of significant regional or national benefits.

5. Conclusions

62. In conclusion, it is my opinion that:

    62.1. The Analysis inherently overstates the Project's asserted benefits by considering only Project benefits while ignoring relevant Project costs and adverse effects;

    62.2. The Analysis further and materially overstates the Project's asserted benefits – by more than 100% – due to its inappropriate choice of discount rate;

    62.3. That said, even if the asserted Project benefits ignoring relevant costs and adverse effects had been properly measured, they are so low as to be economically immaterial at a regional level, let alone at the national level;

    62.4. There are material costs and adverse effects attributable to the Project – including cultural costs – that the Analysis has not considered at all:

        62.4.1. Based on indicative, order of magnitude modelling presented here, those omitted costs and adverse effects could constitute a large share of the asserted Project benefits, or even result in net Project disbenefits;

    62.5. Hence, the Application's purported benefits have not been credibly and robustly established, and certainly not to the level of demonstrating significant regional or national benefits as required under the FTA.

Richard Meade (PhD, Toulouse School of Economics)

Principal Economist

Bream Bay Fast-Track Application - Discount Rate Sensitivity Analysis for Claimed Total Cost Savings

Dr Richard Meade, Cognitus Economic Insight, richard.meade@cognitus.co.nz

Version : 4 December 2025, 14h10

Assumptions

Annual total cost savings (2025$m)	15.30	<<< calculated as total PV divided by sum of annual discount factors

Discount rate - Real Pre-Tax, per Treasury 2024 Guidance:

SRTP - Years 1-30	2.0%	
SRTP - Years 31-35	1.5%	
SOC	8.0%	<<< Treasury guidance indicates this is relevant discount rate (for mainly commercial public sector commercial projects)

Source: https://www.treasury.govt.nz/sites/default/files/2024-10/treasury-circular-2024-15.pdf

ME Consulting's reported PV of total cost savings (2025$m)	383.1	<<< ME Consulting Report, p. 36

	At SRTP	*At SOC*	*Change*	
Calculated PV of total cost savings	383.1	178.3	-53%	<<< using appropriate discount rate more than halves claimed PV of savings

Annual Discount Factors

Year	SRTP DF	SOC DF
1	0.9804	0.9259
2	0.9612	0.8573
3	0.9423	0.7938
4	0.9238	0.7350
5	0.9057	0.6806
6	0.8880	0.6302
7	0.8706	0.5835
8	0.8535	0.5403
9	0.8368	0.5002
10	0.8203	0.4632
11	0.8043	0.4289
12	0.7885	0.3971
13	0.7730	0.3677
14	0.7579	0.3405
15	0.7430	0.3152
16	0.7284	0.2919
17	0.7142	0.2703
18	0.7002	0.2502
19	0.6864	0.2317
20	0.6730	0.2145
21	0.6598	0.1987
22	0.6468	0.1839
23	0.6342	0.1703
24	0.6217	0.1577
25	0.6095	0.1460
26	0.5976	0.1352
27	0.5859	0.1252
28	0.5744	0.1159
29	0.5631	0.1073
30	0.5521	0.0994
31	0.5439	0.0920
32	0.5359	0.0852
33	0.5280	0.0789
34	0.5202	0.0730
35	0.5125	0.0676

Bream Bay Fast-Track Application - Illustrative Cultural Loss Estimates

Dr Richard Meade, Cognitus Economic Insight, richard.meade@cognitus.co.nz

Version : 29 September 2025, 17h10

Assumptions

WTP to avoid discomfort and pain of minor injury	280,400	<<< $/event, per ME Report, para 141.
Portion of WTP per person per year for frustration of rangatiratanga, kaitiakitanga and other cultural imperatives	1%	<<< Illustrative only - highly conservative given WTP is for minor injuries.
Implied WTP/person/year	2,804	<<< Use this for annual loss estimates per person (assume constant in real terms)
Number of Māori affected	579	<<< Bream Bay Māori population per SNZ Quick Stats - conservative: ignores non-resident mana whenua
Implied total annual cultural loss (Bream Bay Māori only), $m	1.6	<<< Assume constant in real terms.

Discount rate - Real Pre-Tax, per Treasury 2024 Guidance:

SRTP - Years 1-30	2.0%	<<< Treasury guidance indicates SRTP is relevant discount rate (for mainly non-commercial public
SRTP - Years 31-35	1.5%	sector commercial projects)

Source: https://www.treasury.govt.nz/sites/default/files/2024-10/treasury-circular-2024-15.pdf

Calculations

Calculated PV of cultural losses over 35 years in $m	40.65

Annual Discount Factors

Year	SRTP DF
1	0.9804
2	0.9612
3	0.9423
4	0.9238
5	0.9057
6	0.8880
7	0.8706
8	0.8535
9	0.8368
10	0.8203
11	0.8043
12	0.7885
13	0.7730
14	0.7579
15	0.7430
16	0.7284
17	0.7142
18	0.7002
19	0.6864
20	0.6730
21	0.6598
22	0.6468
23	0.6342
24	0.6217
25	0.6095
26	0.5976
27	0.5859
28	0.5744
29	0.5631
30	0.5521
31	0.5439
32	0.5359
33	0.5280
34	0.5202
35	0.5125

ATTACHMENT TWENTY-THREE

MBL's response to the Draft CIA (Patuharakeke Te Iwi Trust Board)

McCALLUM BROS LTD

Established 1904

McCallum Bros Limited (MBL) appreciates the opportunity to engage with the Patuharakeke Te Iwi Trust Board (PTITB), Te Pou Taiao (TPT) Environmental Unit, and the McCallum Bros Sand Mining Rōpū in reviewing Patuharakeke's technical assessment feedback on MBL's resource consent application to extract sand from Te Ākau (Paepae Atua, Te Paepae-o-Tū, Whanga-a-Tamure, and Bream Bay).

MBL acknowledges and respects the expertise of all contributors and views this process as a collaborative learning journey focused on transparency, shared understanding, and ensuring that all questions are appropriately addressed.

This document provides a comprehensive response to Patuharakeke's technical assessment feedback on the following reports:

1. *Te Ākau Bream Bay Sand Extraction: Coastal Processes Effects Assessment* by Eddie Beetham (Tonkin + Taylor);
2. *Te Ākau Bream Bay Sand Extraction Marine Mammal Environmental Impact Assessment* by Helen McConnell (SLR Consulting New Zealand); and
3. *Assessment of Effects on Fish and Fisheries in Te Ākau Bream Bay* by Rick Boyd (Independent Fisheries Scientist).

In relation to Patuharakeke's technical assessment feedback on the Assessment of Ecological Effects by Simon West (Bioresearches), MBL is awaiting direction from Patuharakeke as to whether they have further questions or can confirm that the feedback provided at the hui on 6 October 2025 sufficiently addresses their queries and can be accepted for inclusion in the CIA.

MBL is of the view that this is the remaining outstanding deliverable required for Patuharakeke to complete their CIA in relation to the McCallum Bros Bream Bay Sand Extraction Project.

Tonkin + Taylor on behalf of McCallum Bros Limited

Response to review comments by Professor Karin Bryan for Patuharakeke

Prepared by Dr Eddie Beetham, Tonkin + Taylor

ID	Comment	Response	Action
1	MBL propose a control site which is left untouched. Fig 3-4 shows that profile site (profile 1) is quite different. The sand is also coarser in the control and so may not be so easily mobilised.	The site at Profile 1 does have coarser sediment and lower wave energy. This is not the only site where independent monitoring will occur. Monitoring will also be undertaken outside the extraction area: - On the 5 shoreface profiles - Within a 100 m distance of the extraction boundary on the north, south and landward side - At the northern control area	No change to report
2	The core data shows that there may be some silt /silty sand in the extraction area. The Appendix B Geotech report is not there. It might be worth looking at it to see how many more of the cores have silt/silty sand in them.	Details in geotech report attached as appendix.	MBL to pass on the Geotech report
3	The outer depth of closure can be within the extraction zone.....need to check in more detail the justification of using the DoT rather than the DoC.	The outer DoC is sensitive to minor changes in wave height and period. The application of this equation is not well suited to a profile with such as extended lower shoreface as we have at Bream Bay. It is not surprising that the DoC equation interpcets areas much landward and slightly seaward of the mean. That is why we applied the DoT methods, which is based on improved sediment transport physics. The annual DoT never enters the extraction area. The maximum of the annual DoT points aligns with the 45-year average DoC, providing confidence the that the 45-year point is useful.	Clarified the assessment gives more weight to the DoT, and that DoC sensitivity is an expected limitation of that formula in this type of embayed environment.
4	It is not clear to me how deep the Holocene sand is. What is the total size of the resource relative to how much they plan to extract?	Based on geotechnical information the Holocene sand is at least 2.8 m but clear contact with Pleistocene coloured sand was not made.	Section 5.3 of the report has been updated to provide more information on resource depths and volumes.

SLR Consulting New Zealand on behalf of McCallum Bros Limited

Response to Patuharakeke Feedback: Summary of environmental impacts on marine mammals from proposed sand mining in Te Ākau by Tom Brough – NIWA

Prepared by Helen McConnell (MSc), SLR Consulting New Zealand

Thank you for taking the time to review the draft Marine Mammal Environmental Impact Assessment report for the Te Ākau Bream Bay Sand Extraction Project ('the report'). The feedback that you provided has assisted us in refining the report. The manner in which we have addressed the key points that were raised is outlined below.

Marine mammal community

Key point 1: Acoustic data collected as part of the assessment confirms recent findings from vessel-based surveys by Patuharakeke/NIWA/Far Out that bottlenose dolphins and Bryde's whale have high occurrence (daily in the case of dolphins). Dolphin detections were so frequent that they filtered out detections that were longer than 1 minute in duration, under the assumption that these were made from groups/individuals outside of Te Ākau. This is a VERY big assumption and not at all routine, so it is likely that dolphins are even more regular in the area than their data suggest.

MBL Response:

The acoustic data that MBL has collected is certainly useful in understanding the rates of occurrence of cetaceans in the bay. When considered in conjunction with the vessel-based survey data presented in Brough et al. (2024), it is clear that Te Ākau Bream Bay is used most days by bottlenose dolphins. Acoustic monitoring is ongoing, and we will have further data available for inclusion in the report shortly.

In terms of filtering the detection data, the report states that events **less** than 1 minute duration were filtered to limit detections of dolphins beyond Te Ākau Bream Bay. However, this is not entirely accurate, and the report has been updated in accordance with the italicised information provided by Styles Group below (and incorporated into Pine, 2025) which suggests that only individuals on the periphery of the detection range would have been missed. Despite this, the assessment has been conducted on the basis that dolphins could be in the vicinity of the sand extraction area on a daily basis; hence the precise detection rate and filtering method is not specifically consequential to the assessment findings. In particular, the monitoring was not designed to quantify the duration of time animals were in the bay, rather it was designed to detect presence within a limited detection radius, which has been estimated to be approximately 5 km (pers. comm. Matt Pine, Styles Group).

To filter the delphinid dataset of highly likely false positives, candidate events were defined as those containing a minimum of three detections occurring within a 20-minute window from the last detection. This detection count threshold is designed to control for false positives triggered by extraneous noise sources, such as sediment entrainment or mooring noise, which may be misclassified by the deep-learning algorithm.

This filtering method is robust for monitoring the presence or absence of odontocetes. Delphinid species are highly vocal, emitting whistles, burst pulses, and echolocation clicks at high rates. Consequently, as individuals or groups transit the monitoring area, they are highly likely to produce multiple vocalizations. The large detection radius of omnidirectional hydrophones in open-water environments further increases the probability of capturing these multiple signals.

A limitation, however, is the potential for missed detection events. This can occur if an individual passes tangentially or through a narrow segment of the hydrophone's detection range, minimizing the time spent within the monitored area and thus the opportunity for multiple vocalizations to be recorded.

Underwater acoustic impacts

Key point 2: Acoustic impacts on behaviour for bottlenose dolphins and Bryde's whales are likely the most notable impacts of the proposed activity. The thresholds used to characterise the zone over which these impacts occur have been pooled from various studies. The key input for bottlenose is from a study on killer whales' response to shipping traffic in Canada. The relevance for Te Ākau and for bottlenose dolphins should be questioned, and in particular, there is no mention of adaptation of this threshold to suit sensitive age demographics/groups. Bottlenose dolphins in Te Ākau almost always have calves, and these groups have heightened sensitivity to acoustic impacts, which is not accounted for here to my knowledge.

MBL Response:

In the absence of dose-response functions for bottlenose dolphins the underwater acoustic modelling (Pine, 2025) utilised empirical data from killer whales (from Joy et al., 2019) to establish thresholds against which the zones of behavioural response for bottlenose dolphins were predicted. While equivalent data for bottlenose dolphins would no doubt be ideal, in lieu of this, the killer whale data was used as a conservative alternative. In particular, killer whales have better low-frequency hearing than bottlenose dolphins (hearing sensitivity peaks at 30 kHz for killer whales compared to 45 kHz for bottlenose whales); hence the base levels used in the dose-response function are conservative (i.e. the base levels used in the dose-response function would not be lower for bottlenose dolphins than killer whales).

In terms of assessing impacts on calves, Styles Group are unaware of any studies that directly provide hearing data on neonates for free-ranging dolphins. However, dolphins (like most mammals) definitely demonstrate age-related hearing loss (Houser & Finneran, 2006). In addition, sex-related variation in the onset of hearing loss has also been described for captive bottlenose dolphins, namely earlier onset of high-frequency hearing loss in males compared to females.

While the age-related data certainly suggests that calves will have heightened sensitivity to underwater noise, there are no published thresholds that could specifically be modelled to differentiate behavioural response zones for this (or any other) demographic. The hearing thresholds used by Pine (2025) are averages over all demographic groups (sexes/ages), noting that the onset distance reported for 0 - 25% probability of behavioural response might better predict the effects zone for neonates (refer to the table presented in response to Key point 4 below).

Key point 3: Bottlenose dolphins have high rates of foraging in Te Ākau – a behaviour that has been shown to be impacted by dredging. Using the acoustic data collected by this study, there could be an opportunity to determine when/where this behaviour is more often carried out and to include this in the risk assessment.

MBL Response:

The report discusses international studies that assess behavioural responses of cetaceans in the presence of moving vessels and active dredge vessels. Several studies have reported decreases in foraging behaviours in the presence of chronic vessel noise, and further examples of these have been added to Section 4.2.5 of the report (e.g. Wisniewska et al., 2018; Sorensen et al., 2023; Tennessen et al., 2024). However, and with regard to potential effects of dredging on foraging behaviours, Pirotta et al. (2013) reported that in Aberdeen Harbour, Scotland increased dredge intensity was linked to declines in the regular occurrence of foraging bottlenose dolphins. The authors of this study concluded that underwater noise, in combination with suspended sediment could reduce foraging efficacy which resulted in dolphin groups moving to alternative foraging patches when dredging intensity was high. While dredge type was not specified in this study, the authors refer to 'dredging boats' and the purpose of dredging here was primarily to maintain the harbour's navigation channel. On this basis, it seems likely that this study involved a Trailing Suction Hopper Dredge (TSHD) for which effects can vary considerably dependant on the vessel size, the size of the area to be dredged, the depth of the extraction track, and the scheduling and duration of the operations. In particular, it is not uncommon for harbour dredging campaigns to run 24 hours a day seven days a week during active operations. Unfortunately the authors did not specifically quantify what they mean by 'high intensity', but did state that intensity was expressed as the proportion of time operations were carried out, noting that during parts of the study period dredging boats were present and active during all observations.

Conversely, the proposed operations will be restricted to a maximum period of 3.5 hours per extraction day, and extraction will not occur daily (14 trips per month in the first three years of operations, and 23 trips per month for subsequent years). The intermittent nature of the effect means that even if animals spend extended periods in and around the extraction area, they will only intermittently be exposed to potential project effects. Furthermore, several studies (as discussed in the report) have concluded that dredging activities have not resulted in long-term avoidance of habitat by various dolphin species (Bossley et al., 2022; Weaver, 2021; Diederichs et al., 2010).

While the monitoring results could theoretically be interrogated further to discriminate echolocation clicks, the scope of work for the acoustic monitoring component of the project did not extend to include this additional analysis. Instead, the report assumes that bottlenose dolphins will certainly forage in Te Ākau Bream Bay, and foraging in the vicinity of the proposed extraction area is likely.

Acoustic monitoring

Key point 4: It is stated that animals will only temporarily be within the radius of acoustic masking/behavioural change. This implies that animals never stay put, but if there are discrete patches of habitat that are used for certain behaviours (like most populations have), they certainly stay in one place. Daily detections of dolphins within the area would suggest this species may daily be within this radius.

MBL Response:

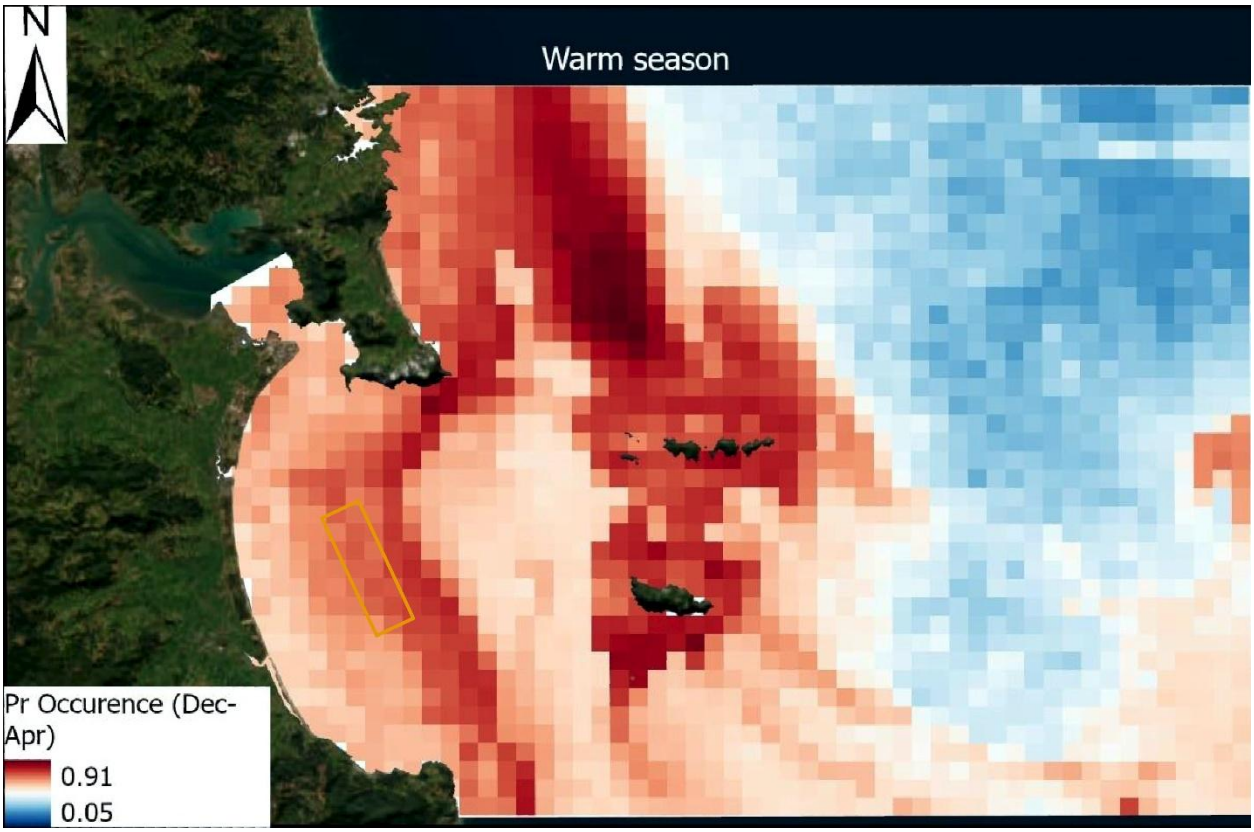
For dolphins, the distance at which behavioural responses and acoustic masking are predicted by modelling (Pine, 2025) are provided in the table below. Noting that 1) low-level behavioural responses represent minor changes in behaviour, including increased vigilance and brief interruptions to activities, 2) moderate-level behavioural responses represent increasing disruptions to essential behaviours, e.g. reduced foraging success, impaired social interactions and decreased reproductive success, and 3) a listening space reduction (LSR) of 25% represents 'low-level' masking that is unlikely to overwhelm masking release mechanisms by animals (following Pine, 2025).

Species	Response	Distances (m) at which some probability of an individual responding to the noise from the TSHD (m) is predicted			
		75%	50%	25%	0%
High Frequency Functional Hearing Group E.g. bottlenose dolphin, common dolphin, killer whale, pilot whales, false killer whales, sperm whales, & beaked whales.	Low-level behavioural response	173	192	241	596
	Moderate-level behavioural response	130	141	164	227
	Listening space reduction (masking)	170	933	2,500	8,307

In terms of ecological significance, moderate-level behavioural responses (which are only predicted to occur out to 227 m from the *William Fraser*) and LSR reductions of >25% (which are predicted to occur out to 2.5 km from the *William Fraser*) represent the radius of instantaneous noise effects that are likely to be ecologically meaningful to dolphins during active sand extraction. It is important to recognise that this zone of effects is directly linked to operational noise; hence, only exists while the William Fraser is actively extracting in the bay. For each extraction day this is restricted to a maximum period of 3.5 hours, and extraction will not occur daily (14 trips per month in the first three years of operations, and 23 trips per month for subsequent years). The intermittent nature of the effect means that even if animals spend extended periods in and around the extraction area, they will only intermittently be exposed to project noise. Furthermore, the *William Fraser* will be moving; hence, if animals are relatively stationary in a discrete habitat patch, then exposure of individuals will be temporary as the vessel passes them as it moves along an extraction track.

Section 3.3 of the report states that Te Ākau Bream Bay is considered as important/core habitat for semi-resident bottlenose dolphins that exhibit high levels of site fidelity to the bay, and that the embayment is known to provide foraging habitat for this species. In addition, the acoustic monitoring reported long detection events for dolphins in the vicinity of the proposed sand extraction area (see Section 3.2.1 of the report). While the full distributional range of these semi-resident dolphins is unknown, Brough et al. (2024) states that 'It is highly likely individuals from the study area migrate between adjacent areas along the north-east coast including the Te Pēwhairangi/Bay of Islands, Aotea/Great Barrier Island and the Hauraki Gulf'. Despite this, the report acknowledges that animals don't utilise their home ranges equally, and that hot spots of occurrence do occur. Brough et al. (2024) clearly demonstrate this for Te Ākau Bream Bay, and in particular, hot spots of bottlenose

dolphin occurrence within the bay are presented in Figure 14 of the report. This map (reproduced from Brough et al., 2024 and replicated below for convenience) identifies several hotspots for bottlenose dolphins in and around Te Ākau Bream Bay, including one that extends across the entire length of the central embayment along the outer boundary of the proposed sand extraction area from December to April.



Despite the sand extraction area occurring on the periphery of this hot spot of dolphin occurrence, the associated zone of intermittent underwater noise effects (i.e. out to 2.5 km) is relatively small compared to the overall foraging range of this species both within and beyond Te Ākau Bream Bay. For highly mobile apex predators, that forage in dynamic coastal habitat, the overall portion of habitat that is intermittently affected by underwater noise, and the magnitude of associated effects, is considered to be low (as described in Section 4.2.8 of the report).

Section 4.2.8 of the report has been amended to make specific reference to the hot spot of dolphin occurrence that extends across central Te Ākau Bream Bay on the outer boundary of the proposed sand extraction area.

Furthermore, the acoustic modelling (that underpins the assessment findings of the report) took a conservative approach, particularly in terms of the methodology used to predict the zones of potential behavioural response for delphinids (see Appendix E of Pine (2025); also refer to the MBL response to Key Point 2 above).

Key point 5: The minimal impacts from acoustic (and most other impacts) are often backed up by an argument around the extraction area and/or Te Ākau being only a small part of a population's wider

range. While it is true that most species will range much further afield, stating that the area is only a small proportion of a home-range suggests all areas within an animal's range are equal – when this is rarely the case. The available information suggests Te Ākau is a hotspot for several species that is likely used disproportionately more often than other areas. For Bryde's whales and bottlenose dolphins, the three key areas of importance are the Hauraki Gulf, Bay of Islands and now, Te Ākau. There may be important areas elsewhere, but we don't have evidence for this. So, that one of the three key hotspots for these two threatened species may face degradation from this activity should be recognised and incorporated into the assessment. Likewise, for false killer whales – Te Ākau is the only place in temperate oceans worldwide where the species can be regularly encountered close to shore.

MBL Response:

See MBL response to Key Point 4 above. The report describes 'hot spots' of occurrence for bottlenose dolphins to indicate that animals don't utilise their home ranges equally. Some amendments have been made to Section 4.2.8 of the report to better represent this topic. In addition to bottlenose dolphins and following the findings of Brough et al. (2024), the report also acknowledges that hot spots of occurrence for Bryde's whales also occur in and around Te Ākau Bream Bay (see Figure 13 of the report).

Numerous mitigations by design have been incorporated into the MBL proposal to minimise further habitat degradation. In terms of the potential effects of the proposed activity on marine mammals, the following project design components are the most influential:

- Setting a maximum daily extraction time of 3.5 hours;
- Restricting operations to the afternoons and early evenings to avoid disturbance of resting animals;
- Setting limits on the volume of sand to be extracted annually to moderate the number of extraction days per month; and
- Maintaining a low operational and transit speed.

In addition, a comprehensive suite of mitigations are specifically proposed to further reduce the specific potential impacts on marine mammals. A summary of these mitigations is provided in Section 5 of the report.

To address the emerging information from Brough et al. (2025) that suggests that bottlenose dolphins may utilise Te Pēwhairangi/Bay of Islands, Hauraki Gulf, and Te Ākau Bream Bay disproportionally more often than other areas of coastal habitat along the northeastern coast of New Zealand, additional content has been added into the cumulative effects section of the report (Section 4.9). Likewise, for Bryde's whales, recent information from University of Auckland (2025) has been added to Section 4.9 of the report indicating that the distribution of Bryde's whales appears to be shifting away from its traditional hotspot in the inner Hauraki Gulf, and it is possible that Bryde's whales may have an increased presence in the offshore waters of Te Ākau Bream Bay through time.

Regarding false killer whales, Brough et al. (2024) map sightings locations of this species in and around Te Ākau Bream Bay, clearly indicating that most sightings occurred in offshore waters of the study area (i.e. around or beyond the Hen and Chicken Island group) during summer and autumn. While a small number of sightings occurred in nearshore waters of the embayment, species

distribution models reflect a clear bias towards the outer bay and waters beyond the Hen and Chicken Island group (high probability of occurrence here compared to a low-moderate probability of occurrence in central Te Ākau Bream Bay in the vicinity of the sand extraction area).

While the northeastern coast of New Zealand is unique in seasonally supporting this false killer whales in waters that are relatively coastal compared to the deep offshore waters that they are more typically associated with on a global scale (Zaeschmar et al., 2014), their preferred seasonal distribution in and around Te Ākau Bream Bay lies well offshore from the outer boundary of the proposed sand extraction area.

Key point 6: The report often suggests animals that are present are already 'habituated' to high vessel noise levels and thus further increases in the stressor will have less of an impact. I consider this logic somewhat flawed as; there is no way to know how many animals may have been present in the absence of a stressor – potentially sensitive individuals have already moved elsewhere. For example, some bottlenose dolphins continue to live in the Bay of Islands despite high levels of vessel impacts on behaviour and the overall population having declined significantly. That a small number of individuals seem to be tolerant of the stressor is not a basis for a healthy population. In addition, there are many studies that show animals will 'put up with' strongly negative stressors if there are biological reasons to do so (i.e., high foraging opportunities) that often come with chronic (i.e., long term) costs to individual fitness.

MBL Response:

Examples presented in Section 4.2.5 of the report demonstrate that:

- While the potential for behavioural disruption (particularly avoidance) and the possible consequent temporary displacement of threatened species from the proposed sand extraction activities in Te Ākau Bream Bay cannot be dismissed, neither can they be assumed a guaranteed outcome; and
- While compensatory strategies will likely be employed to combat potential masking effects, impacts on individuals and populations will likely be dependent on the energetic trade-offs between remaining in the face of disturbance or leaving for alternative habitat.

Further to this, Sections 4.2.6 and 4.9 of the report have been amended to reflect the individual variation in sensitivity to underwater noise that likely occurs in marine mammals (i.e. some individuals will be more sensitive to disturbance than others). However, on the basis that 1) there are several examples of habituation to underwater noise in marine mammal species (e.g. Dracott et al., 2022; Mills et al., 2023; Mills et al., 2024), and 2) much of coastal New Zealand is subject to anthropogenic underwater noise yet marine mammals maintain a presence in these environments, habituation to intermittent underwater noise from the proposed sand extraction activities is probable over permanent habitat displacement. It is however noteworthy that Bejder et al. (2009) cautions that habituation should not be interpreted to imply a complete absence of detrimental consequences. Section 4.2.6 of the report has been amended to reframe this premise.

Additional content has also been added to Sections 3.3, and 4.9 to expand on the potential drivers of bottlenose dolphin population decline from neighbouring Te Pēwhairangi/Bay of Islands. While Brough et al. (2025), notes that vessel disturbance has not been directly linked to the ongoing decline of the local population at Te Pēwhairangi/Bay of Islands, conversely, neither has it been dismissed.

In keeping with the proposition that vessel disturbance could be implicated in this reported population decline, cumulative underwater noise effects (i.e. soundscape change) modelling formed a critical part of the MBL assessment process for marine mammals.

Key point 7: That bottlenose dolphins from Te Ākau likely migrate throughout the north-east coast is held up as a reason for the impact being minimal. However, we have shown that many individuals have very high site fidelity (i.e., are almost always seen) in Te Ākau, so movements are likely less common which increases risk. Additionally, this same population faces vessel-related impacts (particularly noise) in all the key hotspots (BOI, HG, Te Ākau) – surely adding additional noise to one location where the population seems to be doing ok is a bad idea for ongoing population health.

MBL Response:

See MBL response to Key Point 4 and 5 above.

In addition, site fidelity rates are based on the photo-identification results presented in Brough et al. (2024) as follows:

- A total of 149 distinct individuals were identified over 21 different sightings events;
- 73% of these distinct individuals were encountered on more than one occasion; and
- 40% were encountered in more than one year.

These statistics have been added to Section 3.2.2. of the report to help quantify rates of residence. Furthermore, a note has been added to Section 4.9 of the report to indicate that cumulative risk will be higher for those individuals with the highest rates of occurrence in Te Ākau Bream Bay; noting that a cautious approach is warranted and a Marine Mammal Monitoring Programme will be implemented to ensure that any soundscape change resulting from the proposed sand extraction activities is no greater than 3 dB; hence cumulative effects from project-related underwater noise will be restricted.

Habitat modification

Key point 8: From the other review of impacts assessment (fish and benthic ecology) it seems there are some issues which those reports where the ability of the researchers to characterise the importance of the operational area may be limited (particularly for fish). These issues need to be addressed before impacts of habitat modification can be characterised.

MBL Response:

Further work has been done in terms of the potential habitat modification and food web effects of the project, a brief summary of the implications for marine mammals is provided below:

The waters of the northeast coast of New Zealand are used by over 30 marine mammal species; however, only seven of these commonly visit Te Ākau Bream Bay (bottlenose dolphins, common dolphins, killer whales, false killer whales, pilot whales, Bryde's whales, and New Zealand fur seals). The foraging ecology of these common visitors vary widely and with the exception of Bryde's whales, typically include both demersal and pelagic prey (primarily fish and squid, see the summary of foraging ecology for marine mammals presented in Table 12 of the report). In particular, demersal fish and pelagic planktivorous fish are important contributors to the diet of some marine mammals, including the semi-resident population of bottlenose dolphins in Te Ākau Bream Bay.

While temporary elevations of turbidity and suspended sediment from the proposed activities could theoretically affect primary production, which could have flow-on effects for planktivorous fish, elevations in turbidity associated with the project will be 1) spatially limited (to a footprint approximately the width of the vessel and up to 2 km from the vessel), and 2) temporally limited (with turbidity reducing to background levels within 26 - 60 minutes). For these reasons, the magnitude of effects of the proposed activity on water quality and turbidity have been assessed as negligible. It follows that turbidity effects on primary production will also be negligible. Hence, effects of the project on pelagic planktivorous fish populations that contribute to the diet of some marine mammals, are expected to be minimal.

In addition, Bioresearches (2025) concluded that at most the proposed sand extraction would result in a low magnitude of effects on fish, and that fish would not be adversely affected through loss of benthic prey associated with seabed disturbance that will occur during the proposed sand extraction.

In summary, 1) detectable flow-on effects to marine mammals that target pelagic planktivorous fish are highly unlikely; and 2) detectable flow-on effects to marine mammals that target demersal fish are also highly unlikely.

Furthermore, all marine mammal species expected in and around Te Ākau Bream Bay are highly mobile and have home-ranges that are large compared to the area that will be subject to direct project-related effects (elevated turbidity and benthic disturbance) and have alternative foraging habitat readily available both inside and beyond Te Ākau Bream Bay.

Cumulative impacts

Key point 9: Under this section there needs to be reference to the fact that several species are currently far less abundant than historically, and that coastal communities (particularly manawhenua) strive to restore coastal habitats such that species may again thrive in this area. In particular, mātauranga suggest tohorā/southern right whale were highly abundant in Bream Bay, likely more so than other areas north of the Hauraki Gulf. Similar with migrating humpback whales. Adding new stressors into the environment is likely to severely limit these ambitions that may also hold commercial opportunities (through tourism) for local communities in the future as populations recover.

MBL Response:

Section 3.2 of the report identifies that both humpback and southern right whales are undergoing a phase of recovery following the cessation of historic commercial whaling. A comment has been added to Section 4.9 of the report to reflect the aspirations of many for improved species recovery, noting that the most significant potential single impact that has been identified is that of the addition of underwater noise from extraction operations. Because of this, a Marine Mammal Monitoring Programme will be implemented to ensure that any soundscape change resulting from the proposed sand extraction activities is no greater than 3 dB; hence cumulative effects from project-related underwater noise will be restricted.

Key point 10: Vessel related stressors are the key known threat to bottlenose dolphins in NZ, including for this population in the Bay of Islands. Introducing additional threats into one of the few areas where the species seems to be doing well is misguided.

MBL Response:

Section 4.9 acknowledges that the proposed sand extraction operations represent an additional form of disturbance to bottlenose dolphins. However, and as noted earlier, a Marine Mammal Monitoring Programme will be implemented to ensure that any soundscape change resulting from the proposed sand extraction activities is no greater than 3 dB; hence cumulative effects from project-related underwater noise will be restricted.

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Rick Boyd on behalf of McCallum Bros Limited

Response to review comments by Dr Darren Parsons for Patuharakeke

Prepared by Rick Boyd (MSc), Independent Fisheries Scientist

Question 1: If available, please provide a more up to date and higher spatial resolution summary of commercial fishing in the wider Bream Bay area and the application zone in specific?

MBL response:

More detailed and recent information on the spatial distribution of commercial fishing is not available. While such information is required to be provided to Fisheries New Zealand by commercial fishers, it is not available to the public due to strict confidentiality provisions in the Official Information Act and Privacy Act. Figures 14 to 19 in the Assessment of Effects on Fish and Fisheries report contains the most recent commercial fishery spatial data released by Fisheries New Zealand. Discussions with the fishing industry indicate that there has been little change in the fishery since Fisheries New Zealand released these maps.

Question 2: Please conduct an analysis to estimate the % of the recreational fishery survey stratum"BRE" that the application zone represents and the approximate catch tonnage that might be displaced due to sand mining?

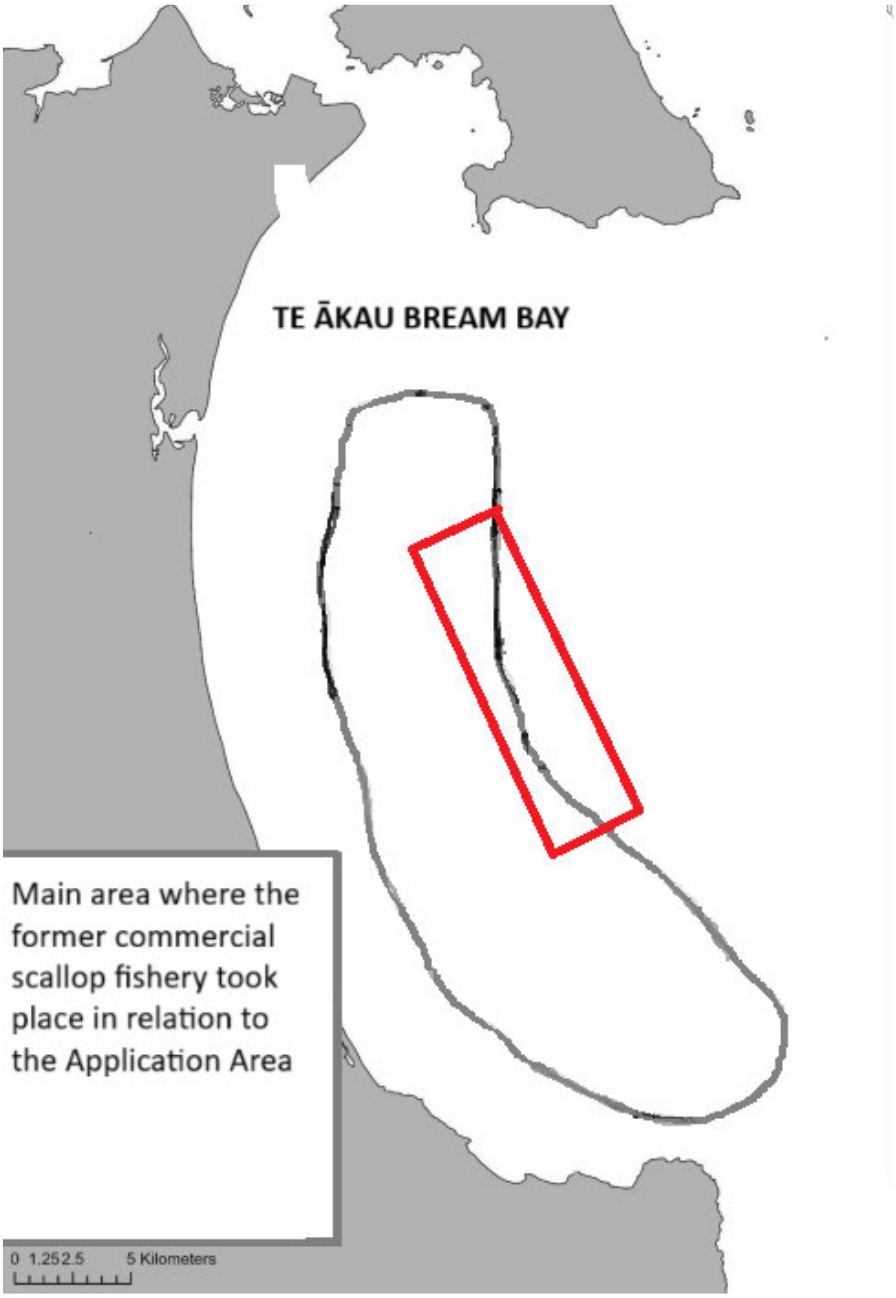
MBL Response:

Based on the information shown in Figure 20 of my report, my estimate is that less than 2% of the non-commercial/recreational fishery catch in Te Ākau/Bream Bay is taken from within the Application Area. I note that no recreational shellfish gathering is known to occur within the Application Area. Any displacement of fishes around active dredging is expected to be low and temporary. It is expected that some fish will be attracted to feed on any biota that are returned to the water from the discharge during active dredging. Pelagic fishes that are found in Te Ākau/Bream Bay such as kahawai, araara (trevally), haku (kingfish), hautere (mackerels) and mōhimōhi (pilchard) have large home ranges. For context, the 15.4km^2 extraction area is approximately 0.385% of the wider Tīkapa Moana – Te Moananui-a-Toi (Hauraki Gulf) assuming a total Tīkapa Moana – Te Moananui-a-Toi (Hauraki Gulf) area of approximately 4,000km^2.

Question 3: Please provide spatial information (i.e., a map) on the location of the former commercial scallop fishery in Bream Bay relative to the application zone?

MBL Response:

The figure below shows the main areas where the former commercial scallop fishery operated in relation to the Application Area. Commercial scallop densities varied within this area from year – in some years parts of the area were not economic to dredge. Some experimental dredging by commercial vessels occurred outside of this area.



Question 4: Please estimate the annual loss of benthic productivity (invertebrates etc…) that could have alternatively been available as food for fishes if there was no sand mining (by combining the biomass of benthic fauna that could be eaten by fish based on sampling data with the estimated mortality rates of benthic fauna that are extracted and released and finally multiplied by the annual area where extraction will occur)?

MBL Response:

This question asks for a level of information that cannot be realistically or practically obtained with current fisheries research tools. Fish are highly mobile and the benthic ecosystem is dynamic.

Populations of benthic organisms will quickly repopulate the seabed so any reduction of biomass as potential food for fishes will be localised and temporary.

In practical terms, the answer to this question can be found in Bioresearches Assessment of Ecological Effects (Section 6). We know the proportion of benthic biota that will be affected by extraction activities and therefore temporarily unavailable as a food source until recovery occurs. Consequently, the answer is that a percentage of the Application Area seafloor will experience a temporary reduction in benthic productivity and associated food availability until natural recovery progresses.

The Application Area represents only a small proportion of Te Ākau Bream Bay. Given that fish are mobile and forage over wide areas including areas adjacent to active sand extraction, the ecological implications of this temporary loss are expected to be very small.

Question 5: Please provide the evidence used to come to the conclusion that direct mortality of scallops will be limited by their ability to avoid the suction dredge (given that they are largely sessile)?

MBL Response:

Adult scallops are capable of swimming in short, rapid bursts to evade predators or find new feeding grounds, covering distances of up to a few meters in a single movement. They propel themselves by suddenly closing the shell to shoot water from its hinge. Scallops can move a short distance (1-2 metres at a time, and up to 5 meters in several bursts to avoid predators), but they soon tire and cannot effectively move large distances.

Vision

Scallops have good vision. They have a ring of up to 200 tiny, brilliant blue eyes, each about a millimetre in diameter, arranged along the edge of their mantle.

- Unlike human eyes that use a lens to focus light, scallop eyes use a concave, parabolic mirror made of guanine crystals at the back of the eye, much like a reflecting telescope. This unique structure helps focus light effectively in an underwater environment.
- Each eye has two retinas. One retina provides a sharp image of the central field of view, and the other a better view of the periphery. This gives them a wide and relatively clear view of their surroundings.
- Their primary use for vision is as an "early warning" threat detection system. They are highly sensitive to changes in light intensity and moving shadows, which helps them detect approaching predators like starfish or crabs and initiate an escape response (swimming away by clapping their shells).

Movement Capability

- Scallops use jet propulsion for movement by rapidly clapping their shells together, forcing water out from the corners of the hinge.

- In a single, energy-intensive swimming or "jumping" burst, a scallop might travel a distance of up to 4 or 5 meters horizontally and up to 1 meter off the seabed before needing several hours to rest.
- This movement is primarily a defence mechanism to escape predators (like sea stars or an approaching dredge), and is not used for large-scale migration.

In summary, scallops will see and feel the approaching suction head will be able to avoid it.

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R O Boyd, November 17 2025.