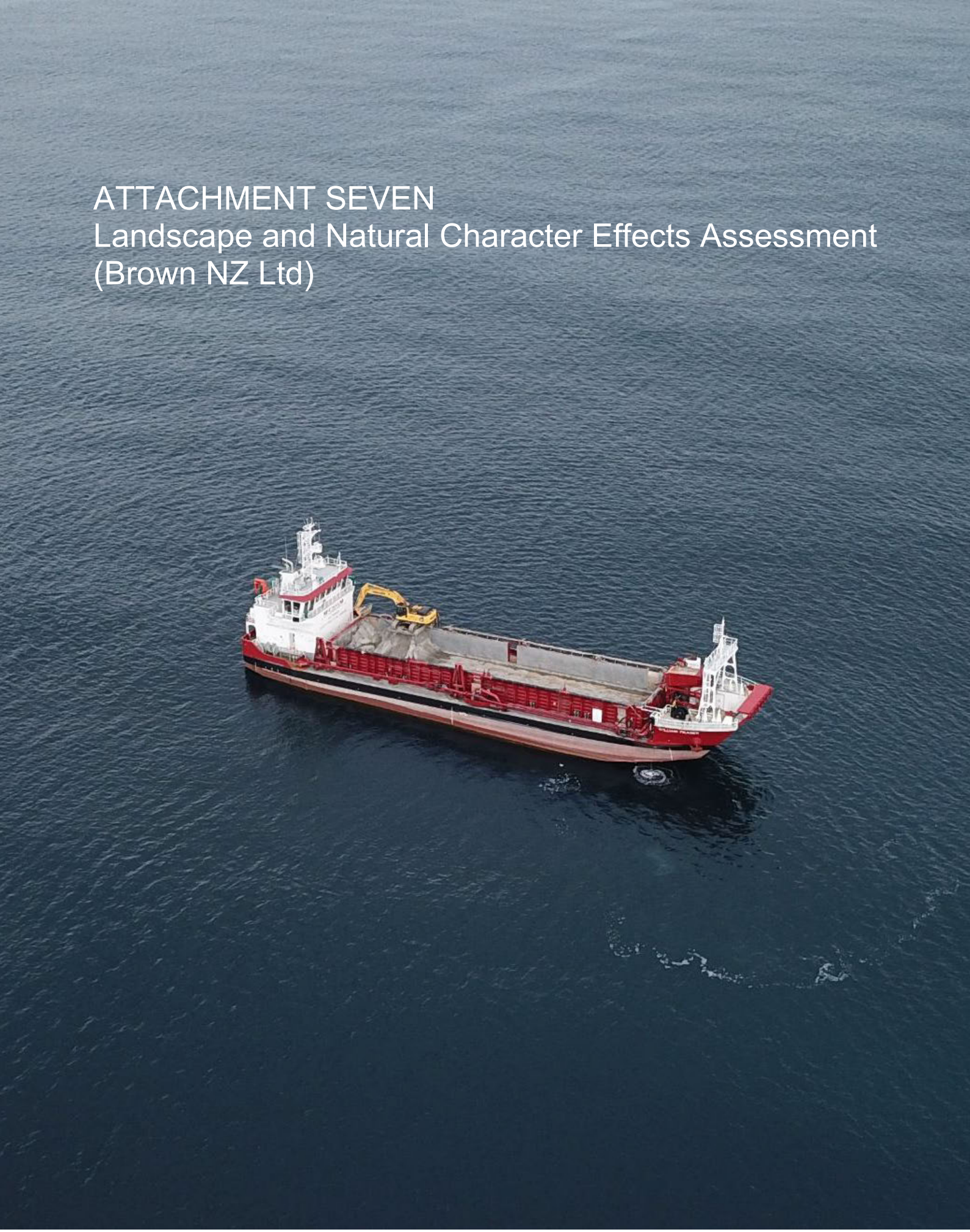
ATTACHMENT SEVEN
Landscape and Natural Character Effects Assessment (Brown NZ Ltd)



McCALLUM BROS LTD
Established 1904

b r o w n

PAEPAE ATUA TE ĀKAU BREAM BAY SAND EXTRACTION PROJECT

LANDSCAPE & NATURAL CHARACTER EFFECTS ASSESSMENT

Prepared For:

McCallum Brothers Limited

Brown NZ Ltd
August 2025

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1. Introduction

1.1 Preliminary Statements

Confidentiality Statement

This report is the intellectual property and confidential information of McCallum Bros Limited (Disclosing Party) and is provided strictly on a confidential basis to the recipient party. In consideration for the Disclosing Party allowing the recipient party access to this report, the recipient party warrants that it will keep and will ensure that its employees, agents and contractors keep the report confidential and will not disclose any of the contents of the report whatsoever.

Code of Conduct Reference for Application Material

Although this is not a hearing before the Environment Court, I record that I have read and agree to comply with the Environment Court's Code of Conduct for Expert Witnesses as specified in the Environment Court's Practice Note 2023 as relevant to preparation of a report for this Fast-Track application. I confirm that this report is within my area of expertise, except where I state that I rely upon the evidence or reports of other expert witnesses lodged forming part of the project's application material. I have not omitted to consider any material facts known to me that might alter or detract from the opinions expressed.

Naming Protocols

McCallum Brothers Limited (MBL) has consulted local iwi Te Parawhau and local hapu Patuharakeke about the proposed sand extraction project. In the course of that consultation process, Patuharakeke advised MBL that Bream Bay should also be called Te Ākau, or 'The Reef', and this convention was adopted for all project reports at that time. Subsequently, Te Parawhau advised MBL that Bream Bay should be named Paepae Atua, which refers to the 'sacred seat' or resting place of the iwi's Atua (God or spiritual deity), with Paepae Atua Bream Bay being viewed as Te Parawhau's gateway to Te Moana nui ā Kiwa (the 'great ocean of Kiwa'). MBL and its project consultants accept that both Maori names have meaning to the local iwi and hapu, and are correct. At this stage, all reports prepared for MBL will continue to use the term Te Ākau Bream Bay in order to simplify the description of the embayed sea and coastline of Bream Bay, but it is accepted that Paepae Atua is an appropriate name for that area, which has particular meaning for Te Parawhau.

1.2 This Assessment

Brown NZ Ltd has been engaged by MBL to assess the landscape and natural character effects of the proposed extraction of sand by vessel – the *MV William Fraser* – from Te Ākau Bream Bay, Northland. The proposed sand extraction operations would be undertaken for up to an average of five days per week (full extraction volume of 250,000 m^3 per annum), and would affect a central part of Te Ākau Bream Bay that lies directly inshore of the current anchoring points for ships waiting to berth at the Channel Infrastructure Storage Facility, and Northport at Marsden Point.

This report addresses the effects of those operations, both in relation to the presence and activities of the *William Fraser*, and the removal of sand from Te Ākau Bream Bay's sea floor. Although the above-surface impacts of extraction on landscape and natural character values are addressed directly in this report, parts of this assessment also rely on input from other specialist experts in coastal processes, geomorphology, hydrology and marine ecology that have been engaged by MBL.

In addition, the assessment has involved direct engagement with Patuharakeke hapū and their Resource Management Unit to help explore those effects from a cultural perspective. In this regard, it is acknowledged that Te Ākau Bream Bay, together with Whangārei Harbour, comprises an important cultural landscape, and such values have a very real bearing on the landscape and natural character effects identified in this report as arising from the proposed sand extraction.

As a result, this report comprises the following sections:

Section 1.	**The Proposed Sand Extraction**
Section 2.	**The Site's Landscape Context and Values**
Section 3.	**The Application's Statutory Framework**
Section 4.	**Landscape, Natural Character & Amenity Effects (In General)**
Section 5.	**The Assessment Process**
Section 6.	**Biophysical Effects**
Section 7.	**Perceived / Experiential Effects**
Section 8.	**Cultural / Associative Effects**
Section 9.	**Statutory Review**
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This review is accompanied by the following graphic attachments:

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2. Executive Summary

McCallum Brother's (MBL'S) proposals for sand extraction are to occur within an application area that is located centrally within Northland's Te Ākau Bream Bay, but 4.7km or more from its margins in water depths of 20 to 30m. The proposed sand extraction would occur 'inside' a series of anchorages that already serve vessels waiting to load and unload goods at Northport and the Channel Infrastructure NZ (CINZ) facilities at Marsden Point, while ships and other vessels in transit – in and out of Whangārei Harbour – are also a feature of Te Ākau Bream Bay's current maritime environment. Even so, the proposed extraction site remains exposed to the settlements of Ruakākā, Waipū (linked to Waipū Cove) and Langs Beach, and a wide range of areas subject to recreational activities – from Home Point to the Ruakākā, Uretiti, Waipū Cove and Langs Beach beachfronts. The northern margins of the Bay are also fringed by Outstanding Natural Landscapes and Features concentrated around the mouth of Whangārei Harbour and Whangārei Heads, while areas of significance to local iwi and hapu are found near Poupouwhenua Marsden Point, the Ruakākā River mouth and Uretiti Beach – among others.

The landscape and natural character effects of the proposed sand extraction activities on these various receiving environments and audiences have been assessed in relation to the three core dimensions of both landscape and natural character:

- Biophysical values;
- Perceptual – experiential values; and
- Associative or community- based values and connections.

This assessment is consistent with the NZILA Landscape Assessment Guidelines document – Te Tangi a te Manu – together with recent case law, the NZ Coastal Policy Statement (2010) and relevant statutory documents.

Much of this assessment inevitably focuses on the perceptual-experiential components of both landscape and natural character, drawing on site visits around the margins of Te Ākau Bream Bay and use of photos of the *William Fraser* taken from representative vantage points on that coastline: at Poupouwhenua Marsden Point (Mair Road), near the Ruakākā Surf Life Saving Club, on Uretiti Beach, and at Waipū Cove. All four locations are subject to significant public recreation, two are near settlements and two are near locations of significance to local hapu, notably including the Te Tahuna Tohora Whale Burial Sanctuary behind Uretiti Beach.

Although the *William Fraser* would be visible for up to 3.5 hour per day (an average of 6% of the time initially, and up to 11% with full extraction) within Te Ākau Bream Bay, a number of factors ultimately limit its visual presence and impact on both the landscape and natural character values of the local coastline. These include:

a) The significant viewing distance to the *William Fraser* vessel and its limited visibility relative to most shoreline locations;

b) The containment of the plume associated with sand extraction and sand filtration to the confines of the undersea area beneath and immediately around the vessel;

c) The close correlation between the proposed sand extraction site and the main navigation channel in and out of Whangārei Harbour, as well as with the ship anchoring points off Te Ākau Bream Bay;

d) The existing commercial and shipping activity that is already present in the embayment.

e) The close visual similarities between the *William Fraser* within the extraction area and working vessels further out to sea – either entering and departing Whangārei Harbour, or at anchor;

f) The limited hours of extraction activity proposed for each day; and

g) The modified nature of most of Te Ākau Bream Bay's coastal margins, which both frame and contextualise views of its sea area.

As a result, the effects identified in relation to Te Ākau Bream Bay's perceptual-experiential values are identified as being of a very low to low order in relation to both landscape and natural character.

In relation to the proposed activity's biophysical effects, significant reliance is placed on the specialist assessments undertaken by Tonkin and Taylor, Metocean Solutions, Bioreserachers and SLR Consulting NZ on effects related to Te Ākau Bream Bay's:

- Coastal Processes and geomorphology
- Hydrology and surf breaks
- Water quality
- Seabed habitats
- Marine mammals

These scientific evaluations consistently identify that the effects of sand extraction on the Bay's biophysical environment and values would be of a negligible to low order, and might even result in a net gain (an improvement) in relation to 'marine debris' effects on marine mammals.

Finally, in relation to effects on associative values, including cultural associations with the Te Ākau Bream Bay's coastline and coastal marine environment, a review has been undertaken of documents prepared by local hapu which address that environment, including the *Patuharakeke Management Plan* (2014). In addition, *Sites of Significance to Māori,* that are identified in the Whangārei District Plan (**Figure 50**), have been visited in the course of this assessment, and a cultural induction, organised by Patuharakeke's Resource Management Unit, was undertaken on the 15th May 2024.

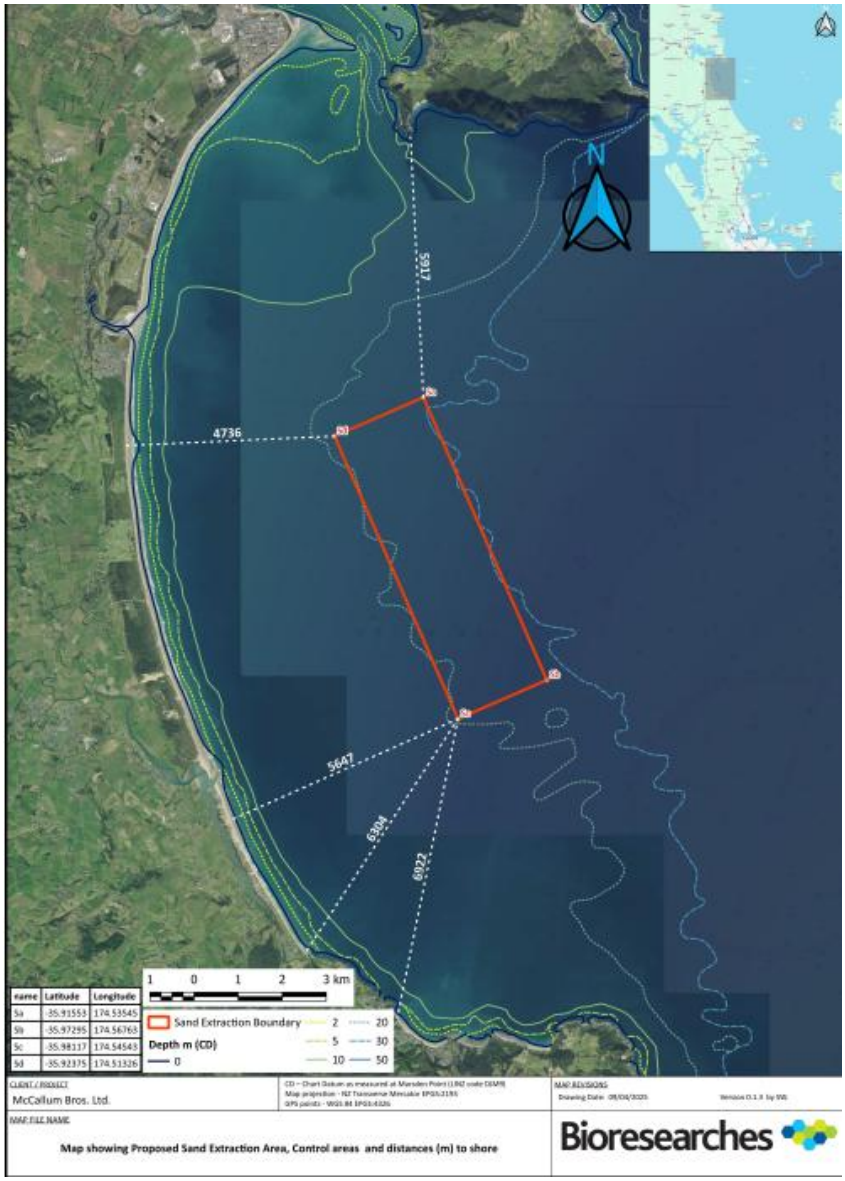
In response to these 'matters', it is considered that MBL's proposed sand extraction activities would remain quite isolated from the sites of significance identified in both the District Plan and *Patuharakeke Management Plan*, as well as in the course of the cultural induction, and the related effects identified in reslation to these sites are of low order. Concerns also raised by iwi about the proposal's biophysical effects on landscape and natural character values have also been considered, but are addressed by the specialist assessments in that area described above, while separate Cultural Impact Assessments are also being prepared for MBL that will explore the issue of effects on local cultural values more directly.

On the basis of the assessment undertaken for MBL, it is therefore considered that the effects identified are typically of a very low to low order, and are consistent with relevant statutory instruments, including the Resource Management Act and the NZ Coastal Policy Statement.

3. The Proposed Sand Extraction Area

MBL's proposed sand extraction would be subject to the following operational conditions:

1. The extraction area boundaries: would be as shown below and in **Figure 1**. The proposed extraction area is 15.4 km^2 (7 km alongshore and 2.2 km across shore): it is directly inshore of 7 anchoring points for oil and fuel tankers, log and cement carriers, and freighters that are centrally located within Te Ākau Bream Bay and would be located at a minimum distance of 4.7 km from the Te Ākau Bream Bay shoreline.



2. The extraction vessel: that will be used for sand extraction in this proposal is the *MV William Fraser* (overleaf), which contains a motorised trailing suction hopper dredge. The vessel is 68m

long with a beam of 16m and a draghead that is 1.6m wide (McCallum Bros Limited, 2019[1]). The *William Fraser* travels at a speed of between 1.5-2.5 knots while extracting sand and a maximum of 9.5 knots when otherwise in transit. It would discharge overflow water under the keel via 6 'moon pools' so that no overflow sediment plume is created around the vessel. The *William Fraser* would typically return to previously extracted locations once every 55 months in the first 3 years, and every 33 months for the remainder of the proposed consent.

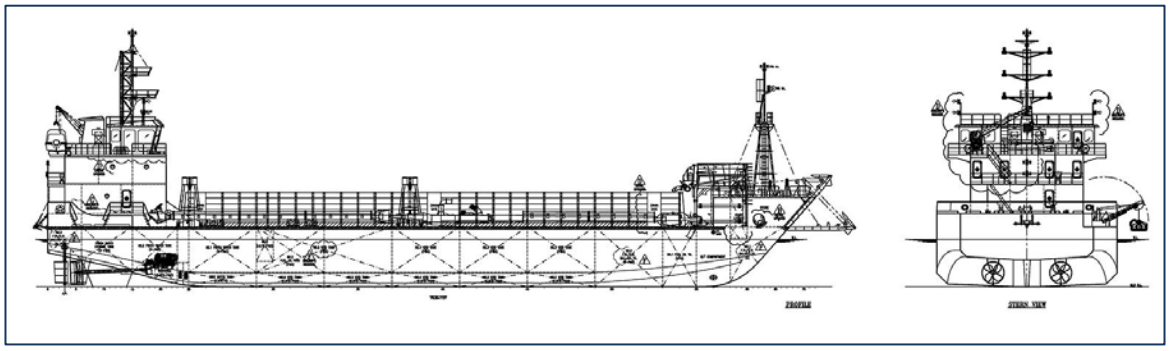
3. Extraction Volumes: extraction would initially be subject to a maximum volume of 150,000 m^3 per annum (at a maximum rate of 15,000 m^3 per month) for 3 years, rising to 250,000 m^3 for the remaining 32 years of the proposed 35-year consent period (at a maximum rate of 25,000 m^3 per month).

4. Extraction timing and duration: the *William Fraser* will operate during following day-time hours for a maximum of 3.5 hours over any one 24-hour period:

    - 1200 to 1800 hours during the months of April to September (inclusive); and
    - 1200 to 2000 hours during the months of October to March (inclusive).

    This regime is designed to minimise the extraction vessels effect on marine mammals and the extraction track is expected to be 11-13km long in the course of each extraction event.

The following diagram shows the profile and layout of the *William Fraser*, and is followed by a photo of the draghead:



Schematic diagram of a trailing suction hopper dredge

It is also important to note that the timing of extraction has been changed from a mainly night-time activity as is undertaken at MBL's extraction consent at Pakiri to one that primarily occurs during daylight hours. This has been introduced to reduce the potential for effects on marine mammals due to underwater noise. Extraction at night-time had the potential to interfere with the rest periods for certain marine mammals and the timing now proposed is aligned with those time periods that are already the "noisiest" within Bream Bay. As such, operating hours are proposed from 12pm to 6pm over the period from April to September, and from 12pm to 8pm during the months of October to March. To further reduce such risks, the maximum daily duration of extraction has been reduced to 3.5 hours, which will also reduce the daily extraction track from 15-20 km down to 11-13 km.

[1] https://mccallumbros.co.nz/william-fraser/

The *William Fraser* in transit unloaded

4. The Site's Landscape Context & Values

4.1 Te Ākau Bream Bay

Te Ākau Bream Bay is a large, gently curving bay, centred on an expansive ocean beach that is bookended by Whangārei Harbour and Heads to the north and Paepae-o-Tu Bream Tail, together with the outer Piroa Brynderwyn Range, to the south. The bay is also framed by the Marotere Hen and Chicken and Marotere Islands out to sea, while a rolling sequence of hill country and forest – anchored by the Ruakākā and Mareretu Forests – encloses the coastal plain that extends from Waipū Cove to Marsden Point. This plain is subdivided by two river corridors, focusing on the Waipū River in the south and the Ruakākā River at the centre of both the plain and bay.

As a result, the local landscape's natural structuring elements are readily apparent. As indicated above, these include (**Figures 2-33**):

- The serrated volcanic profile of the hill chain north of Whangārei Harbour that culminates in the forested slopes and ridges of Maunga Raiona Mt Lion, Tāwharau Busby Point and Te Whara Bream Head between the Whangārei Harbour entrance and Ocean Beach. Together with Mounts Taurikura, Manaia and Aubrey, these volcanic peaks frame the entrance to Whangārei Harbour, as well as the flat distal spit at Te Poupouwhenua Marsden Point which marks the northern starting point for the ocean beach stretching, almost unbroken, southwards to Waipū Cove.

- The more rounded, but still distinctive, profile of the Piroa Brynderwyn Hills that defines the southern limit to Te Ākau Bream Bay. Although visually less dynamic and dramatic than the igneous profile of the Whangārei Heads, this sequence of sedimentary hills – again largely covered in native forest, together with some large areas of pine forest and pasture – still acts as the southern gateway to Northland.

- Between these two major 'ranges' the western side of Te Poupouwhenua Marsden Point / Ruakākā / Waipū plain is contained by the less emphatic profile of the hill country under and around the Ruakākā and Mareretu Forests, supported by a more isolated sequence of low hills and valleys that now forms much of the water catchment around the Takahiwai Dam. Again, these inland hills are covered in a matrix of remnant native forest, pines and pasture.

- A sequence of landforms that starts at the edge of Te Ākau Bream Bay with a line of medium-sized primary dunes at the edge of the beachfront stretching from Te Poupouwhenua Marsden Point to Ruakākā, then down to the Waipū River mouth via Uretiti, and finally from Waipū down to the rockier, margins of Waipū Cove and Langs Beach. These transition through a series of lower lying dune fields and former swamps to create the expansive plain that stretches through to the hill country just described. Most of this plain comprises a gently undulating sequence of old dunes, now largely overlain by farmland.

- However, the Ruakākā and Waipū Rivers also wend their way through this plain, creating a series of alluvial terraces and (now) small-scale wetlands that hug their margins – together with

mangroves and salt marsh. They also anchor the two largest settlements within Te Ākau Bream Bay - at Ruakākā and Waipū stretching through to Waipū Cove.

- Out to sea, the Marotere Hen and Chicken Islands combine with the Marotere Islands to break up the open expanse of the Pacific Ocean, assisted by the distinctive profile of Sail Rock (south of Taranga Island) and, more remotely, Te Hauturur-o-Toi / Little Barrier Island, even Aotea / Great Barrier Island on fine days.

The 'glue' between the main ocean beachfronts and the islands just described is, of course, the sea within and beyond Te Ākau Bream Bay. Although Te Ākau Bream Bay comprises a very large, arc-shaped sea catchment that is often exposed to major storm events and cyclonic sea conditions, it does not have the same reputation or appeal as a surf beach as nearby Ocean Beach to the north or Pākiri to the south. Even so, it is regularly pounded by medium-sized waves and the beachfront from Pākiri through to Te Poupouwhenua Marsden Point clearly attests to this with its steeply eroded dune margins (**Figures 6-9** and **14**). Further south, from near Ruakākā to Waipū Cove, signs of beachfront erosion are still clearly evident, but less dramatic (**Figures 15, 22** and **24**).

Focusing more on the cultural layers that overlie Te Ākau Bream Bay's natural 'building blocks', the reserve status of most of the land on and around Maunga Raiona Mt Head, Tāwharau Busby Point and even Home Point (**Figures 4** and **5**) means that the outer Whangārei Heads landscape contrasts very markedly with the former oil refinery, now fuel storage facilities, of the Channel Infrastructure complex at Te Poupouwhenua Marsden Point. Indeed, it also contrasts with the coastal settlement of Urquharts Bay and even the WWII gun emplacements at Home Point, albeit to a more modest degree. Even so, the mouth of Whangārei Harbour marks a point of significant departure from the more natural landscapes of Whangārei Heads into the industrial precincts, then residential development – both at, and south of, Te Poupouwhenua Marsden Point. Indeed, this change is almost as marked as the transition from a series of jagged, bush covered, volcanoes into the swathe of coastal plain that dominates so much of Te Ākau Bream Bay's hinterland.

The combination of the Channel Infrastructure facility and Northport totally dominates the landscape of Te Poupouwhenua Marsden Point, while associated industrial development spread southwards across the coastal hinterland north of Ruakākā to the edge of its commercial centre and main residential area around Te One and Te Kamo Streets. Developments within this area range from the Ruakākā Substation and Daltons Collision Repair Centre to the Marsden Waste Bin and Scrap Metal premises, a swamp kauri recovery operation, the Whangārei Motorcycle Club's dirt track and NIWA's Agricultural Research Centre off Te One Street (**Figures 10-12**). These transition into the Ruakākā Town Centre and Bream Bay College on Marsden Point Road and an adjoining recreation reserve, while housing spreads southwards towards the Ruakākā Racecourse (**Figure 16**), then the dune margins of the Ruakākā River estuary and sea outfall (**Figures 17-19**). South of the river, a second pocket of housing, together with the Ruakākā Beach Holiday Park, are anchored by the local surf lifesaving club and beach (**Figure 20**). This enclave of development is both flanked and contained by a stream tributary that discharges into the Ruakākā River estuary, together with pohutukawa, mangroves and other coastal planting both within and around it, and a rising bank at the edge of Te Ākau Bream Bay's main coastal plain / terrace stretching inland.

South of Ruakākā's settled area, the coastal hinterland of Uretiti is covered in a carpet of low-growing coastal shrubs and groundcovers – including native sedges and grasses, marram, *muehlenbeckia*, and harakeke flax, but also gorse – that carpets an undulating matrix of dunes stretching down to the Waipū

River corridor and mouth. This sequence of landforms is anchored by the Department of Conservation's (DoC) coastal reserve that encompasses most of this area and the adjoining Te Tahuna Tohora whale burial ground. However, it is also interrupted, to a modest degree, by DoC's camping ground behind Uretiti Beach, the Uretiti Recycling centre off Tip Road, and a small sewage treatment plant near Nova Scotia Road and the Waipū River. Much more significant is the Waipū Golf Course's links course off SH1, which is now largely devoid of vegetation, apart from a loose scattering of trees. It also contains some ponds / water features closer to Uretiti Beach, while a narrow strip of low coastal vegetation runs between the course and adjoining beachfront, retaining a limited degree of connection between the more intact reserve areas both sides of this links landscape (**Figures 22-24**).

Open paddocks and farmland again emerge close to the Waipū River, near Nova Scotia Road although mangroves and some pockets of kahikatea still signal the swamp / wetland origins of the low-lying flats closer to the river's course (**Figure 25**). The river mouth then discharges into the Pacific Ocean near the settlement of Waipū and its historic cemetery (**Figures 26** and **27**), flanked by largely intact dune corridors to both the north and south. In fact, the dunes south of the river form an elongated spit landform that impounds a large, shallow, estuary and the Waipū River Mouth Wildlife Refuge. This extends southwards to almost reach the camping ground and café that lie at the core of Waipū Cove. The inland margins of this estuary remain mostly lined by open paddocks and farmland on a large, low-lying flat, but pockets of lifestyle development and stand-alone dwellings have also infiltrated this catchment, both near the cemetery at its northern end, and on the margins of Waipū Cove. This area of development merges with the main body of the Cove, with other housing climbing up onto the main coastal ridge near the estuary, inland of Cove Road (**Figures 29-31**).

A small, rocky headland and pā site next to Waipū Cove's beach facilities effectively terminates the main body of Te Ākau Bream Bay's Ocean beachfront. Together with pohutukawas and other vegetation spread across local reserves, this headland contains the greater bulk of residential development at Waipū Cove, which then re-emerges next to Cove Road within an inland valley to the south. In turn, this is connected with Te Ākau Bream Bay's southern-most enclave of housing at Langs Beach (**Figures 32 & 33**), framed and enclosed by a mixture of rocky, bush-clad headlands, pastoral ridges and pockets of bush that climb inland, into the Piroa Brynderwyn Hills.

The focus for all this development, and the cultural landscape that it gives rise to, is the open waters of Bream Bay. These have a multiplicity of functions, including:

- The accommodation of shipping, primarily associated with Northport and the Channel Infrastructure complex at Te Poupouwhenua Marsden Point;

- Recreational activities associated with the broad sweep of beachfronts down the Ruakākā / Uretiti / Waipū Cove / Langs Beach coastline, but also Smugglers Cove and Home Point across the mouth of Whangārei Harbour; and

- Acting as a key point of visual / aesthetic focus and attention for the pockets of coastal settlement at Ruakākā, Waipū-Waipū Cove and Langs Beach.

In addition to its more utilitarian transport and freight functions, the seascape of Te Ākau Bream Bay offers endless appeal derived from its changing moods and character. These are driven by the Pacific Ocean's tides, the time of day, and ever-changing weather conditions, while the islands within Te Ākau Bream Bay's broad compass add focus and appeal to this landscape – derived as much from their visual

counterpoint with the open expanse of sea that frames them as from their own form and character. Vessels plying their way in and out of Whangārei Harbour or weighing anchor in the Te Ākau Bream Bay 'roads' add another dimension to Te Ākau Bream Bay's visual palette and character. They range from launches, visiting yachts and fishing boats, to the log carriers, freighters and even occasional cruise ships that berth at Northport, and the various fuel tankers (Aframax, Suezmax and Panamax) destined for the Island infrastructure jetties.

To quantify these movements, the following table is extracted from Northport's record of ship movements and cargos in and out of Whangārei Harbour from the end of July to the beginning of September 2024. It shows two fuel deliveries during that period, together with the *Marsden Bay* and the *Aotea Chief* docking five times to take on board cement from the Portland works, while all other movements go through Northport:

Ship Name	ETA	Cargo
Belle Mer	30/07/2024 - 03:00	Fertiliser (Discharge)
Front Vega	31/07/2024 - 17:00	Refined Products (Discharge)
Marsden Bay	01/08/2024 - 12:30	Cement (Load)
CL Pearl Buck	01/08/2024 - 23:00	Refined Products (Discharge)
Berge Rishiri	02/08/2024 - 11:00	Logs (Load)
African Dipper	03/08/2024 - 12:00	Logs (Load)
Takutai Chief	04/08/2024 - 05:00	Containers (Load)
Marsden Bay	05/08/2024 - 02:30	Cement (Load)
Belle Mer	07/08/2024 - 15:00	Logs (Load)
Cook Strait	07/08/2024 - 17:00	Logs (Load)
Aotearoa Chief	08/08/2024 - 12:00	Cement (Load)
Marsden Bay	08/08/2024 - 15:30	Cement (Load)
Takutai Chief	11/08/2024 - 05:00	Containers (Load)
Aotearoa Chief	12/08/2024 - 01:00	Cement (Load)
Lignum Fiber	14/08/2024 - 03:00	Logs (Load)
Takutai Chief	18/08/2024 - 05:00	Containers (Load)
Takutai Chief	25/08/2024 - 05:00	Containers (Load)
Takutai Chief	01/09/2024 - 05:00	Containers (Load)

4.2 Te Ākau Bream Bay at Night-time

At night-time, most of the seaward outlook, and the frequently panoramic views associated with it, are largely lost as the colours and contrast of the daytime landscape are progressively lost, then almost entirely immersed in a blanket of darkness that is spread over most of the sea, coastal headlands, reserves, and rural hinterland that encloses Te Ākau Bream Bay. Even so, pinheads of light are concentrated at Te Poupouwhenua Marsden Point, spreading inland across Northport and the coastal

settlement of Whangārei heads towards Whangārei, as well as around Ruakākā and across the lifestyle matrix and settlements of Waipū, Waipū Cove and Langs Beach.

Consequently, much as Te Ākau Bream Bay would struggle to qualify as a 'dark sky reserve' or sanctuary, most of its night-time landscape remains shrouded in darkness. The clear exceptions to this are primarily those already described. However, the Bay's offshore area is frequently home to vessels either moving in and out of Whangārei Harbour, or at anchor waiting to offload or collect fuel, timber and general freight. The tankers, in particular, are fully illuminated at night-time for obvious safety reasons, as too are cruise ships (much less frequently).

More intermittently, the beam cast by the lighthouse within Lighthouse Bay on Taranga Island (the Marotere Hen and Chicken Islands) also sweeps across the sea visible from the likes of Ruakākā and Waipū Cove, although it is both cyclical – not constant – and much smaller than the combined light wash emanating from vessels at anchor within Bream Bay's roads.

4.3 The Undersea Environment of The Proposed Extraction Area

I have not directly viewed or experienced the undersea environment within and around the proposed sand extraction site. Nevertheless,Discovery Marine Limited (DML) have undertaken bathymetric surveying of the sea floor and have produced a series of scans and sea floor cross-sections, some of which are reproduced in **Figures 34-36**. These reveal a broad, gently-shelving sea bottom (allowing for the vertical exaggeration depicted in the cross sections) that is gently undulating and patinaed by a multiplicity of small-scale high points or 'dimples' and troughs.

In addition to DML's survey findings, and to examine the seabed in more detail, I have reviewed the full range of photographs taken by Bioresearches of the sea floor at sample locations shown in **Figure 37**. In turn, **Figures 38-45** contain photos that are a representative sample of those photos. They reveal a sea floor whose terrain appears gently pock-marked by tidal, wave and sand movements, while its surface comprises broad layers of sand interposed with patches of gravel and seashells. Most of this environment has a sparse, undifferentiated, character and is relatively homogeneous – without any larger-scale ridges, striations or other geomorphic features.

5. The Application's Statutory Framework

5.1 Relevant Statutory Provisions

The application for consent is being lodged under the Fast-track Approvals Act 2024 (FTAA), because the proposal is a listed project in Schedule 2 of the FTAA. The decision making matrix under the FTAA is addressed in the AEE in support of the project. That matrix requires an assessment of actual or potential effects on the environment and identified provisions of the RMA which include s104 and thus include a New Zealand coastal policy statement, a regional policy statement or proposed regional policy statement and a plan or proposed plan.

Te Ākau Bream Bay is subject to the provisions of the Northland Regional Policy Statement (Operative), the Proposed Regional Plan for Northland, the Northland Regional Coastal Plan and the Whangārei District Plan (Proposed), although the latter primarily relates to those parts of the District outside the CMA. The following is a summary of key provisions that are directly pertinent to MBL's proposals, while **Figures 46-50** comprise maps which address key areas associated with the provisions identified.

The Northland Regional Policy Statement

The *Northland Regional Policy Statement* became operative on 9th May 2016. Its Policy 4.5.2 addresses the location of those parts of the coastal environment (including the CMA) and landscapes that are particularly sensitive to new development – stating as follows:

> *The Regional Policy Statement Maps of high and outstanding natural character and outstanding natural features and outstanding natural landscapes identify areas that are sensitive to subdivision, use and development. The maps of these areas identify where caution is required to ensure activities are appropriate.*

Relevant landscape and natural character provisions include the following:

> ***3.14 Natural character, outstanding natural features, outstanding natural landscapes and historic heritage***
>
> *Identify and protect from inappropriate subdivision, use and development;*
>
> *(a) The qualities and characteristics that make up the natural character of the coastal environment, and the natural character of freshwater bodies and their margins;*
>
> *(b) The qualities and characteristics that make up the outstanding natural features and outstanding natural landscapes; …..*
>
> ***4.6.1 Policy – Managing effects on the characteristics and qualities natural character, natural features and landscapes***
>
> *(1) In the coastal environment:*
>
> *a) Avoid adverse effects of subdivision use, and development on the characteristics and qualities which make up the outstanding values of areas of outstanding natural character, outstanding natural features and outstanding natural landscapes.*
>
> *b) Where (a) does not apply, avoid significant adverse effects and avoid, remedy or mitigate other adverse effects of subdivision, use and development on natural*

character, natural features and natural landscapes. Methods which may achieve this include:

(i) Ensuring the location, intensity, scale and form of subdivision and built development is appropriate having regard to natural elements, landforms and processes, including vegetation patterns, ridgelines, headlands, peninsulas, dune systems, reefs and freshwater bodies and their margins; and

(ii) In areas of high natural character, minimising to the extent practicable indigenous vegetation clearance and modification (including earthworks / disturbance, structures, discharges and extraction of water) to natural wetlands, the beds of lakes, rivers and the coastal marine area and their margins; and

(iii) Encouraging any new subdivision and built development to consolidate within and around existing settlements or where natural character and landscape has already been compromised. …….

(3) When considering whether there are any adverse effects on the characteristics and qualities 9 of the natural character, natural features and landscape values in terms of (1)(a), whether there are any significant adverse effects and the scale of any adverse effects in terms of (1)(b) and (2), and in determining the character, intensity and scale of the adverse effects:

a) Recognise that a minor or transitory effect may not be an adverse effect;

b) Recognise that many areas contain ongoing use and development that:

(i) Were present when the area was identified as high or outstanding or have subsequently been lawfully established

(ii) May be dynamic, diverse or seasonal;

c) Recognise that there may be more than minor cumulative adverse effects from minor or transitory adverse effects; and

d) Have regard to any restoration and enhancement on the characteristics and qualities of that area of natural character, natural features and/or natural landscape.

The Proposed Regional Plan for Northland

Under Rule C.1.5.13 of the *Proposed Regional Plan for Northland*, which is yet to become fully operative, dredging activities are a discretionary activity, provided they are not in a mapped

1) Nationally Significant Surf Break, or
2) Outstanding Natural Feature (ONF), or
3) Area of Outstanding Natural Character (ONC), 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 (ONL) ……..

This is the case in relation to the proposed dredging operations. Even so, as a discretionary activity MBL's proposal is the subject of a number of objectives and policies. These include the following:

D.5.24 Dredging, disturbance and deposition activities

Dredging, disturbance and deposition activities should not:

1) cause long-term erosion within the coastal marine area or on adjacent land

D.5.25 Benefits of dredging, disturbance and deposition activities

Recognise that dredging, disturbance and deposition activities may be necessary:

1) *for the continued operation of existing infrastructure, or*
2) *for the operation, maintenance, upgrade or development of Regionally Significant infrastructure*

D.5.31 Managing effects on surf breaks

Have regard to the following effects on mapped Surf Breaks:

1) *effects on the quality or consistency of the Surf Break by considering the extent to which the activity may:*
    a) *change or interrupt coastal sediment dynamics, and*
    b) *change or interrupt swell within the swell corridor including through reflection, refraction or diffraction of wave energy, and*
    c) *change the morphology of the foreshore or seabed, and*
2) *effects on:*
    a) *amenity values, and*
    b) *the feeling of wilderness or isolation.*

F.1.12 Natural Character, Outstanding Natural Features,

Historic Heritage and places of significance to tāngata whenua

Protect from inappropriate use and development:

1) *the characteristics, qualities and values that make up:*
    a) *Outstanding Natural Features in the coastal marine area and in freshwater bodies, and*
    b) *Areas of Outstanding and High Natural Character in the coastal marine area and in freshwater bodies within the coastal environment, and*
    c) *Natural Character in freshwater bodies outside the coastal environment, and*
    d) *Outstanding Natural Landscapes in the coastal marine area, and*
2) *the integrity of Historic Heritage in the coastal marine area, and*
3) *the values of places of significance to tāngata whenua in the coastal marine area and freshwater bodies.*

These provisions reflect the desire to balance development and conservation, with a strong focus on the biophysical values of Northland's coastal environment (including the CMA). This emphasis only changes where surf breaks, natural character values, and outstanding natural features and landscapes (ONFs and ONLs) are addressed, bringing into focus the perceptual and associative values that are also 'part and parcel' of these matters – as discussed in Section 6 of this report.

The Northland Regional Coastal Plan

The *Northland Regional Coastal Plan* remains operative at present. It affirms the core objectives and policies of the Northland RPS, together with sections 6(a) and (b) of the RMA, in relation to the preservation of the natural character values of the coastal environment and protection of outstanding natural features and landscapes within and abutting the CMA. In addition, the Plan addresses Māori, and their cultural values in relation to the CMA, at Sections 11 and 12 of the Plan:

11.4 POLICIES

1. *To recognise and, as far as practicable, provide for the concerns and cultural perspective of tangata whenua with respect to the protection of natural and physical resources (especially seafood) in the coastal marine area.*

3. *Include relevant policies and methods within this Plan to have regard to the effects of activities on sites of cultural significance to Māori within or immediately adjacent to the coastal marine area.*

12.3 OBJECTIVE

2. ***The recognition and protection of sites, buildings and other structures, places or areas of cultural heritage value that exist adjacent to the coastal marine area and may be adversely affected by use and development of the coastal marine area.***

12.4 POLICIES

3. *In assessing the potential effects of a proposed activity to identify whether an activity will have an adverse effect on a known site, building, place or area of cultural heritage value within the coastal marine area or on adjoining land.*

Additionally, the Coastal Plan identifies dredging as requiring a coastal permit, and at Sections 32.1 and 32.2.5 the activity is made subject to a wide range of both general and specific assessment criteria. Those of more relevance to the landscape and natural character effects addressed in this report include the following:

32.1 General Criteria

3. *The extent to which the proposal will add to the cumulative adverse effects of use and development on the coastal environment, including those associated with similar existing uses or developments within the same locality.*

4. *The extent to which cumulative effects on the coastal environment can be minimised.*

9. *The extent to which the proposal may require dredging, reclamation, impoundment, and/or foreshore protection works and structures, and the likely effectiveness of any provisions to avoid, mitigate, or remedy actual or potential adverse environmental effects caused by such activities.*

10. *Any effects of the proposed activity on those in the neighbourhood and, where relevant, on the wider community, including any socio-economic and cultural effects.*

11. *The effect of the proposed activity on the natural character of the site or area within which the activity is proposed and the measures to be undertaken to ensure that natural character will be preserved, particularly in relation to:*

    (a) the topography or bathymetry within the site or area;

    (b) the natural substrate composition within the site or area;

    (c) the natural water and sediment movement patterns;

    (d) the biodiversity of the site or area;

    (e) the biological productivity of the area;

    (f) patterns of distribution and abundance of aquatic plants and animals within the site or area;….

32.2.5 Dredging and Spoil Disposal

5. *The extent to which provision is made for dealing with the likely effects of long-term maintenance dredging.*

6. *Whether the proposed dredging activity is likely to result in increased water turbidity, …….*

8. *Whether the proposed dredging activity will influence natural water and sediment movement patterns and the effect of this on long-term water and sediment quality within the dredged area.*

9. *The extent to which provision has been made to avoid or mitigate the adverse effects of dredging activity and the likely effectiveness of the mitigation measures proposed.*

The Proposed Whangārei District Plan

The *Proposed Whangārei District Plan* (Appeals Version) also addresses the preservation of natural character values within the coastal environment and the protection of outstanding natural features and landscapes. Again, both its provisions and mapped areas of high to outstanding value are aligned with those found in the Northland RPS and related mapping:

The Coastal Environment:

POLICIES

CE-P1 Natural Character, Natural Features, and Natural Landscapes

To protect natural character, natural features and natural landscapes in the Coastal Environment by:

1. *Avoiding adverse effects on the qualities and characteristics of areas identified as Outstanding Natural Character Areas;*

2. *Avoiding significant adverse effects and avoid, remedy, or mitigate other adverse effects on the qualities and characteristics of natural character, natural features and natural landscapes outside Outstanding Natural Character Areas;*

CE-P2 Natural Character of the Coastal Environment outside Outstanding Natural Character Areas

To design development to avoid, remedy or mitigate adverse effects on the natural character, natural features and natural landscapes of the Coastal Environment outside of Outstanding Natural Character Areas, by controlling subdivision, managing the visual effects of buildings and structures, and minimising indigenous vegetation clearance and earthworks.

CE-P3 Assessment of Effects

To assess the scale and significance of effects of subdivision, use and development on the characteristics and qualities of natural character, natural features and natural landscapes in the Coastal Environment by having particular regard to:

1. *The extent of the natural character, natural feature or natural landscape affected:*

2. *The sensitivity of the natural character, natural feature or natural landscape to change, recognising the effects of existing land use:*

3. *The degree of modification, damage, loss or destruction that will result from the activity;*

4. *The duration and frequency of adverse effects;*

5. *Whether adverse effects are reversible or irreversible;*

6. *Whether adverse effects are minor or transitory;*

7. *The potential for spatial or temporal cumulative adverse effects of the proposed activity on its own or in combination with other authorised activities, including permitted activities;*
   ……

Outstanding Natural Features and Landscapes:

POLICIES

NFL-P2Protection

To protect Outstanding Natural Features and Outstanding Natural Landscapes from inappropriate subdivision, use and development, with particular regard to their individual characteristics and qualities.

Furthermore, a series of Tangata Whenua objectives and policies are also found within Part 2 of the Plan. These include the following policies that are more directly pertinent to MBL's proposals:

TWP-P2 Sites of Significance to Māori

To ensure that land use, subdivision and development does not adversely affect Sites of Significance to Māori, or other taonga identified in the District Plan or Hapū Environmental Management Plans.

TWP-P3 Waterbodies

To ensure that indigenous wetlands, estuaries, coastal areas and waterbodies, of significance to tangata whenua, are maintained and enhanced, …….

TWP-P4 Consultation

To ensure effective consultation with, and participation of tangata whenua in resource management processes by:

- *Fostering partnerships and relationships with the tangata whenua of the area;*
- *Avoiding unnecessary conflict on resource management issues;*
- *Recognising and respecting iwi authority and affiliations;*
- *Acknowledging and providing for historical circumstances and their impacts on resource needs;*
- *Respecting tikanga Māori;*
- *Acknowledging the rights of hapū and whanau to speak and act on matters that affect them;*
- *Allowing tangata whenua time for informed assessments of proposals and to determine their responses, consistent with the time constraints in the Resource Management Act 1991;*
- *Encouraging applicants to consult tangata whenua, where appropriate.*

5.2 Key Issues

These provisions pose a range of potential issues for the sand extraction proposal – including:

(a) The avoidance of adverse effects generated by inappropriate activities and developments on the natural character values of ONC Areas identified around the margins of Te Ākau Bream Bay. These areas of heightened sensitivity are concentrated near Maunga Raiona Mt Lion, Tāwharau Busby Point, Te Poupouwhenua Marsden Point and Urquharts Bay at the northern end of Te Ākau Bream Bay, as well as around the Ruakākā River and Waipū River estuaries and mouths, and along the Uretiti and Waipū beachfronts (**Figure 46**).

(b) The avoidance of adverse effects arising from inappropriate activities and developments on the values of the ONLs and ONFs also found around Te Ākau Bream Bay, notably near Maunga Raiona Mt Lion and Tāwharau Busby Point to the north, the outer Piroa Brynderwyn Range to the south, and hill / forest country well inland of both Ruakākā and Waipū (**Figures 47-49**).

(c) The avoidance of significant adverse effects on the natural character values of other parts of Te Ākau Bream Bay's coastal environment.

(d) The avoidance and / or minimisation and amelioration or mitigation of effects in relation to areas and sites of significance to Māori. The Whangārei District Plan (**Figure 50**) indicates that these are concentrated near Tāwharau Busby Point and Home Point, together with Waipū, but the *Patuharakeke Management Plan* (2014) also identifies a large area near Te Poupouwhenua Marsden Point, the Ruakākā River estuary, and Te Tahuna Tohora behind Uretiti Beach, as being significant from a cultural perspective.

In relation to many of these matters, the assessment criteria found in the Northland Regional Coastal Plan are also relevant, notably:

A. Whether the proposed sand extraction would give rise to cumulative adverse effects within the Coastal Marine Area and coastal environment.

B. Whether any direct and cumulative effects generated by sand extraction can be avoided, ameliorated or mitigated – in effect minimised.

C. Whether the proposal would give rise to specific effects on sites and location of cultural significance.

These matters are addressed directly in this report. However, others, that also need to be addressed under the broad umbrella of natural character values and effects, have required the input of other experts and rely to a significant degree on their findings – notably, in relation to Te Ākau Bream Bay's:

- topography / bathymetry;
- natural water and sediment movement patterns;
- ecological values and biodiversity;
- distribution and abundance of aquatic plants and animals; and
- Water quality / turbidity.

6. Landscape, Natural Character & Amenity Effects

Assessments addressing changes to the various landscapes and environments, and the community perceptions of such change, often refer to a range of effects on visual, landscape, natural character and amenity values. The following descriptions of each type of effect are designed to help clarify the focus of such assessment in this report.

Visual 'Effects'

'Visual effects' reflect changes to the visual composition, configuration and character of a locality or landscape, together with the perceived magnitude or scale of such change(s) – in terms of their relative legibility and prominence. However, visual change does not equate with changes to landscape and natural character values, which lie at the core of most 'landscape' assessments.

Visual change, on its own, is devoid of value: it does not affect the character and nature of a landscape or coastal envionment in its own right; but may, on the other hand, contribute to effects on it by making a development or activity that conflicts with the areas's current values more or less visible. Consequently, any evaluation of visibility is simply a 'stepping stone' in the evaluation of landscape and natural character effects. This point is reinforced in section 6.28 of *Te Tangi a te Mana*, the NZILA's Landscape Assessment Guidelines (May 2022), where it is stated that:

> *Pitfalls when assessing landscape efffects include:*
>
> – *Assessing change to views or visibility as an adverse effect*

Landscape Effects

"Landscape" is an all-encompassing term. The NZ Institute of Landscape Architects' Charter (2010) describes "*Landscape*" as being "*the cumulative expression of natural and cultural elements, pattern and processes in a geographical area."* Moreover, the Charter's Preamble offers the following, slightly more fulsome, description of landscapes – as follows:

> *Landscapes are the result of unique combinations of biophysical, cultural and social processes, evolving over time and interwoven with memory, perception and tradition. They include land, water systems and marine areas, and play a vital role in human nurture, fulfilment and in shaping individual and collective identity. Landscapes range from the outstanding and the memorable, to the familiar and commonplace ….*

In addition, *Te Tangi a te Mana* identifies that landscape values comprise three 'layers' of attributes and values:

- *The natural and physical environment*
- *Perceptual*
- *Associative aspects (beliefs, uses, values and relationships)*

In the context of a coastal environment like Te Ākau Bream Bay, landscape effects relate to all three of these landscape dimensions or layers. Moreover, effects on so-called amenity values are inevitably linked to effects on the 'sensory' and 'associative' qualities of a landscape – reflecting the meaning attributed to Amenity Values in the RMA, which describes them as being:

those natural or physical qualities and characteristics of an area that contribute to people's appreciation of its pleasantness, aesthetic coherence, and cultural and recreational attributes.

Indeed, both landscape and amenity values are derived from knowledge, understanding and appreciation of particular locations and landscapes derived from their appearance and aesthetic attributes, naturalness, noise, lighting, smells, and activities – in effect, the fuller spectrum of sensory factors that contribute to perception of an area's character and values. This also brings to the fore matters of identity and the sense of place evoked by a place or landscape.

Natural Character Effects

Natural character effects overlap with landscape effects, but focus primarily on those that impair, or otherwise alter, the naturalness of the coastal environment in terms of its biophysical attributes and perceived naturalness. Policy 13 (2) of the NZ Coastal Policy provides further direction in this regard, by identifying some of the elements / features / characteristics associated with natural character values, including:

(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.

However, these elements and characteristics are not exclusive, and the significance of effects in relation to any one factor (or more) need to be considered with regard to the particular elements, patterns and processes that contribute to the natural character values of any coastal environment. Thus, coastal environments that are highly natural will be much more sensitive and susceptible to the effects of change than those that are already highly developed and modified – or within those where such change is anticipated by relevant statutory instruments.

Cumulative Effects

In addition to the direct effects that developments can generate in relation to specific receiving environments and audiences, cumulative effects need to also be considered. These typically relate to viewing or experiencing a development proposal in one of two ways:

- Either in a dynamic fashion from multiple viewpoints in which the proposal becomes part of a sequence of accumulative change (successional / sequential effects); and / or
- The development proposal becomes part of a sequence of change in which two or more developments of similar character are visible from one or multiple vantage points (simultaneous effects).

It is noteworthy that cumulative effects are referenced several times in the Northland Regional Coastal Plan.

7. The Assessment Process

The assessment of effects in this report is subdivided into three sections addressing:

Biophysical Effects (Section 8):

> In relation to Te Ākau Bream Bay's geomorphology, hydrology, water quality and marine species – primarily marine mammals such as whales, seals and dolphin. This section of the report relies on input from MBL's other experts.

Perceptual Effects (Section 9):

> Focusing on change to the perceived character and values of Te Ākau Bream Bay, both at daytime and night-time. This assessment is undertaken 'in-house' using best practice assessment methods in conformity with *Te Tangi a te Manu*.

Cultural / Associative Effects (Section 10):

> Taking into account discussions and engagement with Patuharakeke hapū, and my review of the *Patuharakeke Management Plan* (2014).

As indicated above, the evaluation of biophysical affects relies very largely on empirical / scientific research and assessment undertaken by other MBL experts. As a result, the assessments of effect in relation to both the biophysical 'layer' of landscape and natural character values are largely derived from a review of scientific findings, such as Tonkin + Taylor's evaluation of coastal process effects.

These findings are integrated with those addressing (any) changes to the perceived naturalness of Te Ākau Bream Bay to reach conclusions about the proposal's effects on natural character. They also contribute to the assessment of landscape effects 'in the round', while the process for assessing effects on perceptual / experiential landscape values as a whole is outlined in Section 8.2 below.

Finally, as also indicated above, the evaluation of effects on the cultural values of Te Ākau Bream Bay – within the rohe of Patuharakeke and Te Parawhau – is assessed, taking into account matters raised in the *Patuharakeke Management Plan* (2014) and the Whangārei District Plan, as well as at a cultural induction run by the hapu for MBL's staff and experts. That induction session occurred on the 15th May 2024 and incorporated discussions with the hapu's Resource Management Unit about Te Ākau Bream Bay's values, a visit to the Te Tahuna Tohora Whale Burial Sanctuary near Uretiti Beach, and further discussions while I took photos of the *William Fraser* at the edge of the proposed sand extraction site on the 16th of May [**Figure 52**: Points (a) and (b)]. The objectives and policies of the *Patuharakeke Management Plan*, and its identification of *Patuharakeke Sites of Significance* (**Figure 51** of this report) are critical to this assessment. Of note, the *Site of Significance Overlay* map identifies Te Poupouwhenua Cultural Area spread across much of Te Poupouwhenua Marsden Point and mahinga mataitai (customary seafood gathering sites) that are delineated in a much more spatially precise manner than the cultural sites shown in the Whangārei District Plan (**Figure 50**).

8. Biophysical Effects

8.1 Introduction

As is indicated in Sections 6 and 7, both Landscape and Natural Character have significant biophysical components. These do not relate to how Bream Bay is viewed and appreciated in a visual / perceptual sense, but rather its biophysical attributes and values – from hydrology and coastal processes to marine ecology, in this instance – together with effects on them. These expectations were first made clear in the NZ Coastal Policy Statement and are now affirmed in *Te Tangi a te Manu* at paragraph 9.06, where the following statement is made:

> *Recognise that natural character is not the same as natural features and landscapes or amenity values and may include matters such as:*
>
> - *natural elements, processes and patterns;*
> - *biophysical, ecological, geological and geomorphological aspects;*
> - *natural landforms such as headlands, peninsulas, cliffs, dunes, wetlands, reefs, freshwater springs and surf breaks;*
> - *the natural movement of water and sediment; …….*

This approach has also been endorsed in recent Board of Inquiry and Environment Court decisions in respect of the Port of Tauranga and sand extraction off Pakiri.

However, these matters require expert scientific analysis, with those analyses contributing to the overall assessment of Landscape effects and (in particular) Natural Character effects. Consequently, this section relies heavily on other specialist assessments to address the biophysical effects of the proposed sand extraction. Those findings then contribute to the overall assessment of landscape and natural character effects.

As indicated in Section 4.3 and shown in **Figures 38-45**, the sea floor of Te Ākau Bream Bay within the proposed sand extraction area mainly comprises a gently undulating sequence of medium to finer grained sands intermixed with patches of broken seashell and gravel. Although this underwater environment contains very low high points and 'ridges' intermixed with troughs, no larger-scale features are apparent. Even so, it remains home to pelagic fish species like snapper, together with sharks (Boyd, 2025), dolphins, and other marine mammal species, as the occasional strandings of whale species within Te Ākau Bream Bay attest to (SLR, 2025). Consequently, the biophysical effects addressed in this section comprise the following:

Coastal Processes & Geomorphology: Addressing changes to the geomorphology and nature of the sea floor, focused primarily on the proposed extraction area, but also the broader profile of Te Ākau Bream Bay's seabed and beachfronts.

Hydrology & Surf Breaks: Concentrating on changes to the water dynamics within Te Ākau Bream Bay and, in particular, any impacts to Te Ākau Bream Bay's surf profile.

Water Quality: Focusing on the extraction plume emanating from the *William Fraser* and any impacts that this would have on Te Ākau Bream Bay water quality.

Seabed Habitats: Pertaining to the ecological values of Te Ākau Bream Bay's sea floor.

Marine Mammals: Addressing the effects that sand extraction would have on whales, dolphins and any other marine mammals either residing within, or visiting, the bay.

8.2 Coastal Processes & Geomorphology

Figure 4.9 of Tonkin + Taylor's (T+T) report, *Te Ākau Bream Bay Sand Extraction: Coastal Process Effects Assessment* (2025), usefully identifies the main areas and depths of sediment transport and morphology within Te Ākau Bream Bay – as shown below:

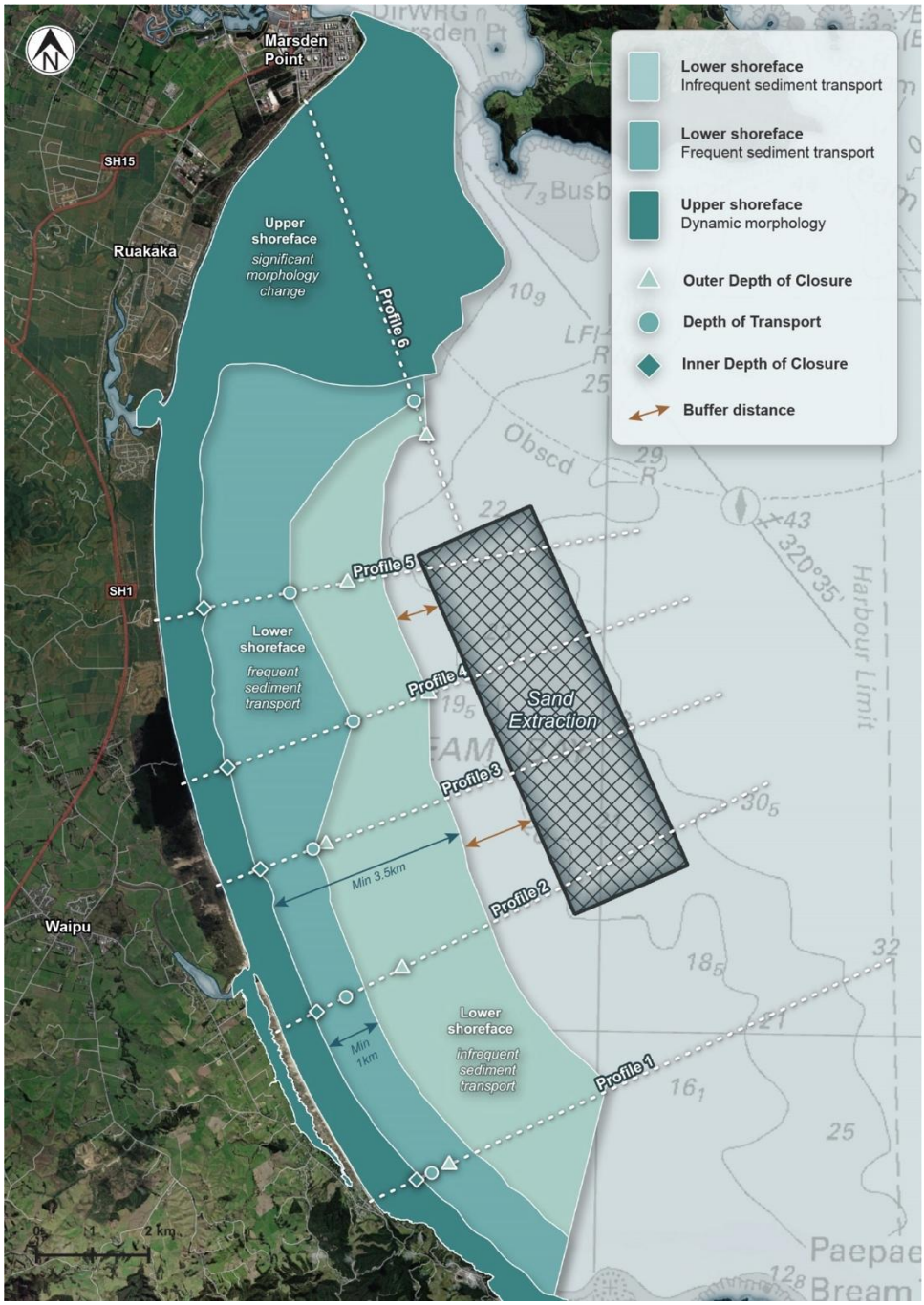


Figure 4-9: Site plan showing the shoreface zones in relation to the sand proposed extraction area.

The main effects associated with sand extraction relate to sediment transport within the area of sand extraction. Even so, the effects of sediment transport both offshore of the extraction footprint and inshore of it – within the upper shoreface and beach 'zones' – are identified as being **negligible** in Section 5.7, providing the extraction activity is suitably managed to prevent trench formation, which is proposed by MBL. Trench formation would only occur with repeated 'tracking' and extraction over the same area. The tracks created by the *William Fraser* with multiple years between extraction from the same area would, in T+T's assessment, have a **low** level of effect on Te Ākau Bream Bay's seabed morphology.

At Section 5.12, T+T's report then shifts its focus to effects on specific locations within Bream Bay, including – from Langs Beach to Mair Bank at the entrance to Whangārei Harbour – and on the basis of this evaluation, T+T's findings are summarised in Table 5.2:

Table 05.21:Summary of effects on the physical coastal environment

Zone	Element	Summary of effect	Effect level
Proposed extraction area	*Waves*	*Very limited change in wave height and direction associated with seabed within the extraction area being 0.55 m deeper.*	***Negligible***
	Hydrodynamics	*The 2% change in depth within the extraction area and uniform extraction are not expected to modify oceanographic currents.*	***Negligible***
	Sediment transport	*Sediment mobility can occur in the extraction area during extreme conditions, with negligible net sediment transport. The activity is not expected to influence sediment transport processes unless trenches are created.*	***Moderate if un-managed*** *to the point that trenches form.* ***Low if managed*** *to avoid trench formation.*
	Morphology	*The activity could lower the seabed by 0.55 m within the extraction area over 35 years if the maximum volume is removed.* *This is not expected to change the overall bedform characteristics within the extraction area, or waves and hydrodynamics.*	***Low*** *within the extraction area due to the extraction method to take small track depths that are managed over the extent of the extraction area.*
Lower shoreface	*Waves*	*No notable change to wave processes on the lower shoreface.*	***Negligible***
	Hydrodynamics	*No change to hydrodynamics is expected on the lower shoreface which is outside of the extraction footprint.*	***Negligible***
	Sediment transport	*Some connectivity between the seaward lower shoreface and the proposed extraction area could be influenced during extreme events, but this is infrequent and unlikely to be consequential.*	***Low***
	Sediment transport	*Some connectivity between the seaward lower shoreface and the proposed extraction area could be influenced during extreme events, but this is infrequent and unlikely to be consequential.*	***Low***
	Morphology	*The lower shoreface is expected to be morphological stable over annual to decadal timescales and is not expected to be altered by the offshore extraction.*	***Low***
Upper shoreface	*Waves*	*Wave processes on the upper shoreface were assessed by MetOcean to potentially be altered by a few cm if the full extraction is achieved.*	***Negligible***

Zone	Element	Summary of effect	Effect level
	Hydrodynamics	*No change to hydrodynamics is expected on the upper shoreface which is outside of the extraction footprint.*	***Negligible***
	Sediment transport	*Sediment transport processes on the upper shoreface are dominated by local extreme conditions and are disconnected from the activity by a 4.7 km distance.*	***Negligible***
	Morphology	*The upper shoreface is a morphologically active zone that is disconnected from the proposed extraction area. Offshore sand is not expected to have a detectable effect in this area.*	***Negligible***
Beach	*All elements*	*No detectable change in physical parameters.*	***Negligible***

Adaptive management measures are proposed by T+T in their recommended conditions (Section 6.3) and, on the basis of their adoption, the report concludes at Section 15.13.1 that Objective 1 of the NZ Coastal Policy Statement would be met, insofar as "*the integrity, form, functioning and resilience of the coastal environment (including both the actual extraction site and the wider area) will not be adversely affected by changes to the coastal processes resulting from the sand extraction.*"

8.3 Hydrology & Surf Breaks

Metocean Solutions report, *Assessment of Effects on Surf Breaks at Te Ākau Bream Bay* (July 2024), addresses the effects of dredging on the surf conditions found at 7 locations within Te Ākau Bream Bay:

- Te Poupouwhenua / Marsden Point
- Ruakākā
- Ruakākā River Mouth
- Waipū River Mouth
- Waipū Cove
- Wairahi Langs Beach
- Langs Bombie

As is stated in Section 2 of the Metocean Solutions' report, the assessment employed a computer model called "SWAN", which took into account a range of site conditions, including changes to the bathymetry of Te Ākau Bream Bay's seabed arising from the proposed trailing suction extraction process and the known seabed conditions between 1979 and 2019. This generated comparative computer models of the sea floor and wave conditions across Te Ākau Bream Bay, both with and without the proposed extraction. On the basis of those 'existing' and 'post-extraction' models, prepared for each surf location, Section 7 of the report goes on to state as follows (pp.54 - 56):

> *The seven surf breaks of interest in this study consist of a combination of sites listed in the New Zealand Surfing Guide Book and the Northland Regional Council online portal.*
>
> *We investigated the change in wave field for typical good surfing events with incoming waves from the NE, E and SE and found generally little variation in terms of wave heights and directions between existing and post-extraction conditions. However, some local variations were generated from the edges of the consent areas (away from the surf breaks of interest), with significant wave height (Hs) and mean wave direction (Dm) changes of up to ±0.04 m and ±1 degree, respectively, during the selected N, NE and SE swell events. This may be significant for shoreline sediment transport but is not significant from a surfing perspective. .....*

Surf quality typically increases with increasing wave height and period, while the effect of changes in wave direction depends on the bathymetry and coastal features in the vicinity of each surf break. In this study, we show that the extraction may lead to a slight increase or decrease in the wave height and surf quality, but these changes would be hard to detect by a surfer. Given the morphology of the coastline (with no sheltered surf breaks or embayments), we consider that the small changes in wave direction are unlikely to affect the surf quality at the seven surf breaks of interest. Changes in wave periods may temporarily slightly deteriorate or improve the surf quality when the mean period Tm decreases or increases, respectively. ……

Based on the worst-case bathymetry change scenarios, the impact on surfability at the seven surf breaks close to the extraction areas was found to be less than minor to negligible. Based on our results, it is unlikely that a surfer on site would be able to perceive a difference (increase or decrease) in wave height or period resulting from the proposed extraction.

The Metocean Solutions findings are unequivocal for all 7 surf spots addressed. Cumulatively, their findings indicate that the proposed sand extraction would have a very low level of impact on the surf found within Te Ākau Bream Bay and the Bay's value as a surfing destination – if any at all.

8.4 Water Quality

SLR Consultants' January 2025 report, *Te Ākau Bay Water Quality Assessment of Environmental Effects*, states in its Executive Summary as follows (p.ii):

This report presents the results of an eight-week sampling campaign conducted between May and June 2024. The purpose was to i) describe the state of ambient water quality in the proposed sand extraction Application Area, and ii) to use the knowledge acquired from previous studies and regional data to inform the assessment of effects on water quality from the proposed sand extraction in Te Ākau Bay (Bream Bay).

In general, water quality results from the targeted eight-week field campaign showed little difference between the proposed Application Area and the southern Reference location. Minor differences were noted between weeks, and between surface water, mid-water and bottom water sample profiles, which were attributed to natural variation.

Addressing water quality in more detail, the report goes on to record in its Conclusions at p. 49 that:

Compared against available regional water quality monitoring under NRC's long term SoE programme, it is expected that the general receiving environment is subject to both spatial and temporal variations to water quality in the open coast. For parameters such as TSS, turbidity, nutrients and metals, these are all highly influenced by a combination of local metocean conditions as well as land-based sources from freshwater inflows.

Water quality in terms of temperature, dissolved oxygen and pH, are subject to larger scale climatic drivers occurring on a global scale. Whilst outside the scope of this assessment, it is apparent that the Te Ākau Bay (Bream Bay) environment may be subject to global changes in pH, primarily due to climate change and wider sea temperature drivers, but this is likely not to become apparent or detectable for decades to come

Addressing the effects of an extraction plume, it is further concluded at p.49 that:

TSS [Total Suspended Sediment] *and turbidity are likely to occur at the water's surface at the point of discharge of any overburden and dredge activity, but rapidly decline back to ambient levels over a short distance from the dredge vessel (i.e. at ~250m, and after reasonable mixing). Further, water quality was reported to return to ambient conditions after 26 minutes of plume sampling – representing a distance traversed of 2000m by the William Fraser. …….*

Any plume generated by proposed sand extraction in Te Ākau Bay (Bream Bay) will be highly localised in terms of the temporal and spatial extent and limited plume intensity. Given the relatively exposed coastal setting of the wider Te Ākau Bay (Bream Bay) environment and natural fluctuations experienced in the bay, it is highly unlikely coastal water quality standards set out in NRCs Policy H.3.3 will be breached. On this basis, the overall level of effects of the proposed sand extraction to water quality in Te Ākau Bay (Bream Bay) are considered to be ***Low*** *to* ***Negligible****.*

These findings summarise an area of complex investigation, but they remain clear in determining that the overall effects associated with sand extraction on Te Ākau Bream Bay's water quality would be of a **negligible** order.

8.5 Seabed Habitats

Bioresearches have undertaken a detailed assessment of Te Ākau Bream Bay's seabed, focusing on its benthic values and the associated effects of dredging. Their report – *Te Ākau Bream Bay Sand Assessment of Ecological Effects* (2025) – starts by describing the current state of the Bay's habitat in terms of its coastal vegetation, benthic macroalgae, benthic fauna, benthic fish, and benthic reptiles. To assess the effects of sand extraction, Bioreserachers has observed the operation of the *William Fraser's* draghead and their report includes the following commentary at pages 21 - 23:

Observation has shown the draghead on the William Fraser creates a profile approximately 100 mm deep and 1.6 m wide, that affects fewer species compared to other drag heads that penetrate deeper. Observations by divers of the extraction tracks immediately post-extraction have recorded Stomatopods surviving the passage of the draghead staying in the sediments and resuming feeding less than 5 minutes after extracting, and predatory gastropods moving into the extracted footprint in search of prey (Figure 7). The larger biota pass through the screens and are returned to the sea.

Figure 7 Survival and migration biota in the extraction track, August 2020 MBL.

The shallow (100 mm) profile has been shown to result in faster recovery times from the disturbance. Dernie et al. (2003) reported that sediment disturbances to deeper depths (200 mm) took more than 107 days to recover, and areas of shallower (100 mm) sediment disturbance took 64 days to recover.

Thus, with some benthic biota surviving the passage of the draghead, the sand extraction does not create areas devoid of life. Observations after sand extraction operations show this method creates a patchwork of disturbed strips, thus the reduction in benthic biota communities does not form large consecutive areas. The removal of sediment in bands creates the opportunity for mobile biota to spread laterally, recolonising the extraction tracks. A large percentage of the hard-shell biota are known to survive passage through the draghead and are returned to the seabed (see Section 5.1.2). Thus, the benthic biota communities on the seabed in the proposed sand extraction area will be in varying states of recovery depending on the time since it was last extracted. ……..

……. Once sand extraction has stopped at the end of the coastal permit then complete recovery is expected to occur. The complexity of some habitats and changes in the benthic environment resulting from extraction can result in total recovery not occurring for many years, the length of time is

dependent on the species. However, the aim is to avoid damaging sensitive biogenic habitats by conducting regular pre-extraction surveys to map sensitive habitats (Bioresearches, 2024) and avoid adverse effects by not extracting in these locations. If the habitat was present, but has naturally disappeared prior to extracting sand, then it is possible that other seabed disturbance activity such as ship anchoring, scallop dredging or bottom trawling, may prevent recolonisation.

In terms of other, related matters, Bioresearches's assessment determines at Section 5.3.2 Bioresearches conclude that:

Any potential effects will be restricted within a limited range from the William Fraser while actively extracting and effects will be temporary (during the period of active extraction) in nature. That is, potential impacts are not considered to have significant impacts on the life cycle or habitats that are important during vulnerable life stages of marine turtles or snakes that occasionally enter Te Ākau Bream Bay (NZCPS policy 11(b)(ii)), nor on habitats where marine reptiles are at the limit of their natural range (NZCPS policy 11(a)(iv)), nor ecological corridors and habitats important to migratory species (NZCPS policies 11(b)(vi) and 11(b)(vi)).

In line with these findings, Table 10, addressing the magnitude of potential ecological effects from sand extraction concludes that most effects in relation to Te Ākau Bream Bay's benthic fauna would be **low**, whereas the effects in relation to fish and marine reptiles would nearly all be **negligible** – with just the estimate of 'food reduction' rating as **low**.

Table 11 then summarises the level of ecological effect incorporating the ecological values (within Te Ākau Bream Bay) and the magnitude of effects for the project – as follows:

Biota	Ecological Value	Effects	Magnitude Of Effects	Level Of Effects
Coastal Vegetation	None	Turbidity	Negligible	Negligible
Benthic Macroalgae	Negligible	Turbidity	Negligible	Negligible
Benthic Fauna	Moderate	Community Structure	Low	Minor
		Survival	Low	Minor
		Turbidity	Low	Minor
Benthic Fish	Low	Noise	Negligible	Negligible
		Entrainment	Negligible	Negligible
		Suspended Sediment	Negligible	Negligible
		Food Reduction	Low	Negligible
Marine Reptiles	Very high	Underwater noise	Negligible	Minor
		Habitat modification	Negligible	Minor
		Vessel strike	Negligible	Minor
		Exposure	Negligible	Minor
		Debris	Negligible	Minor
		Cumulative	Negligible	Minor

Addressing Objective 1 of the NZ Coastal Policy Statement, it is therefore concluded that:

> *The sand extraction will maintain the natural biological processes. No Significant natural ecosystems occur in the sand extraction area, and biodiversity is not expected to be lost. Discharges from the sand extraction vessel are not expected to have significant adverse effects.*

8.6 Marine Mammals

A range of potential effects very similar to those identified by Bioresearches for fish and marine reptiles is found in SLR Consultants' report, *Te Ākau Bream Bay Sand Extraction Marine Mammal Assessment of Environmental Effects* (2025). Those effects – pertaining to noise, ship strike, artificial lighting, and exposure to marine debris and contaminants – would affect a sea area that appears to be regularly visited by seven marine mammal species: bottlenose dolphins, common dolphins, bryde's whales, false killer whales, pilot whales, killer whales, and New Zealand fur seals (p.7 of the SLR report).

The report also notes that the Patuharakeke Te Iwi Trust Board is running the Tohorā (whale) research programme in conjunction with the Far Out Ocean Collective and NIWA to help quantify the presence and location of whales and other mammals within Te Ākau Bream Bay, and the findings of that research are contained in Appendix D of SLR's report.

The report then focuses on the effects that would arise from sand dredging in the Bay, with detailed analysis of the relative sensitivity of different mammalian species to undersea noise, the existing Te Ākau Bream Bay soundscape, that anticipated with the proposed sand extraction. Research into the resting and sleeping patterns of such species as bottlenose dolphins and Bryde's whales are largely responsible for the decision to limit MBL's proposed sand extraction to a maximum of 3.5 hours per day. SLR Consultants' assessment finds that, in comparison to the current environment, the effects of extraction would be most adverse in June, due to the limited number of other commercial vessel movements through Te Ākau Bream Bay over that month. Based on SLR's site-specific assessment and an international literature review, it is therefore determined that (Section 4.2.6, pp.70 and 71):

- *Auditory injury is not expected during sand extraction, and TTS is not predicted beyond 0.5 m; hence physiological impacts are highly unlikely for any species during the proposed sand extraction activities;*
- *Low-level behavioural impacts are limited to 600 m for dolphins and killer whales, and 1.1 km for baleen whales, and medium level behavioural responses (including avoidance behaviours) are only predicted out to c. 230 m from extraction operations. On this basis, individual marine mammals are not expected to avoid Te Ākau Bream Bay on account of the instantaneous behavioural impacts of the proposed extraction, but some avoidance of the area in the immediate vicinity of the* William Fraser *can be expected. Furthermore, as sand extraction will not occur daily, and on the days that it does occur, will be limited to 3.5 hours, there is infrequent potential for behavioural impacts. This coupled with the wide-ranging nature of marine mammals across large home-ranges further reduces the potential for project-related behavioural impacts. In particular, no Bryde's whales have been reported from inside of in the immediate vicinity of the sand extraction area, and while their occasional presence here cannot be dismissed, the sightings information available suggests that in most instances Bryde's whales will occur further offshore in deeper waters of outer Te Ākau Bream Bay;*
- *While the predicted extent of masking is substantially larger than that associated with behavioural impacts, the degree of LSR for all species decreases to 25% at 3 km from the* William Fraser. *However, masking will continue to persist at low levels (<25% LSR) out to c. 7.5 – 12 km (depending on species). Masking will therefore be the most widespread instantaneous impact associated with underwater*

noise from sand extraction. Because of this, further discussion on this impact is provided in the paragraphs below; and

- *The* William Fraser *will be audible through most of Te Ākau Bream Bay for all marine mammal species.*

In keeping with the requirement of NZCPS Policy 11(a) that effects on threatened marine mammal taxa (populations) are avoided, these model results confirm that no population level effects/ impacts are predicted from the instantaneous consequences of underwater noise (e.g. injury, behavioural response and masking), as no injury or mortality will occur as a result of extraction noise.

The ongoing (albeit intermittent) nature of the proposed sand extraction activities introduces a long-term change to the soundscape of Te Ākau Bream Bay. However, high level changes are confined to the immediate extraction area and the remainder of the embayment will only be subject to ***negligible*** *or* ***small*** *soundscape changes. ..... The noise level required to elicit long-term avoidance is unknown for marine mammals; however, because predicted soundscape changes are* ***small*** *or* ***negligible*** *for most of Te Ākau Bream Bay, widespread displacement and* ***long-term habitat use changes are considered to be unlikely.*** [My emphasis]

Overall, it is estimated that the underwater noise effects on marine mammals would be (1st bullet point, p,74) **very low** for all species, while Table 11 (pp.76-79) iindicates that soundscape effects arising from sand extraction in relation to most marine mammals would be **negligible**, rising to a **low** level for bottlenose dolphins, NZ fur seals, southern right whales and leopard seals.

Turning away from noise, SLR Consultants also address potential effects associated with habitat modification, prey availability, ship strike, entanglement, and contamination. These effects are summarised in Tables 13, 14 and 15 as typically being **negligible** to **very low**, although in Table 13 – addressing habitat modification – this rises to **low** for bottlenose dolphins.

Thus, at p.118 of the SLR report it is concluded that "*The results of this assessment found that with the adoption of the recommended mitigations, the overall level of effect from the proposed sand extraction ranges from* ***net gain*** [in relation to marine debris] *to* ***low****.*"

8.7 Summary

Table 1, below, summarises the ratings for biophysical (landscape and natural character) effects derived from the expert assessments undertaken by Tonkin + Taylor, Metocean Solutions, SLR Consultants and Bioresearches.

Table 1. Biophysical Effects

Viewpoints:	Biophysical Landscape Effects:
Coastal Processes / Geomorphological Effects	Negligible to Low
Hydrological Effects	Very Low
Water Quality Effects	Negligible to Low
Sea Floor Ecological Effects	Negligible to Low
Effects on Sea Mammals	Net gain to Low

9. Perceived / Experiential Effects

9.1 The Evaluation Steps

This component of the wider assessment of landscape and natural character effects has been undertaken in four stages:

1) Identification of those catchments / receiving environments, key viewpoints and related audiences exposed to the proposed sand extraction site;
2) Evaluation of the landscape values currently associated with the setting around the proposed extraction site, as experienced through views towards / of it;
3) Analysis of the relative visibility of the extraction process from a range of viewpoints (and various receiving environments) – as a precursor to addressing actual effects; and
4) Evaluation of the perceived **landscape** and **natural character** effects that would be generated in relation to the various receiving environments and audiences exposed to the sand extraction operations – taking into account Points 2) and 3) above.

9.2 Receiving Environments & Audiences

As indicated in **Figure 1**, the proposed sand extraction process would occur within a site at the centre of Te Ākau Bream Bay. As a result, the *William Fraser* would be visible undertaking sand extraction, and either entering or leaving Te Ākau Bream Bay, from a wide range of receiving environments, including:

- The shorelines of Tāwharau Busby Point / Home Point, Te Poupouwhenua Marsden Point, Ruakākā, Uretiti, Waipū – Waipū Cove and Langs Beach;
- The reserves associated with Tāwharau Busby Point / Home Point, the Ruakākā River mouth, Uretiti Beach and the Waipū River mouth and estuary;
- Te Tahuna Tohora whale burial ground;
- The Waipū Golf Course;
- The Uretiti (DoC) Camping Ground;
- The coastal settlements of Ruakākā, Waipū Cove and Langs Beach;
- Lifestyle and farm properties near these settlements, including those stretching down from the Waipū River mouth to Waipū Cove;
- More remote farm properties on the edge of the Piroa Brynderwyn Range and the foothills near the Ruakākā and Mareretu Forests; and
- Vessels, both within Te Ākau Bream Bay and entering or leaving Whangārei Harbour – including yachts, launches, recreational and working fishing boats, fuel tankers and log and cement carriers.

The audiences associated with these receiving environments and vantage points include:

- Beach users – from Smugglers Bay to Langs Beach;
- Residents of Ruakākā, together with those living on lifestyle properties and farms on more elevated ground within the very broad catchment of Te Ākau Bream Bay;
- Users of the reserves behind the main beachfronts fronting Te Ākau Bream Bay;
- Users of the Uretiti Camping Ground;
- Golfers on the Waipū Golf Course;
- Recreational Boaties;
- Tourists on the occasional liner docking at Northport; and
- Occupants of working maritime vessels visiting Te Poupouwhenua Marsden Point, North Port and the Port of Whangārei.

9.3 Assessment Viewpoints & Criteria

Assessment Viewpoints

In order to examine the effects associated with sand extraction, four viewpoints have been employed (shown in **Figure 52**):

Viewpoint A: **The Mair Road Beach Car Park**

Viewpoint B: **The Ruakākā Surf Life Saving Club Beach Lookout**

Viewpoint C: **The Uretiti Camping Ground Beachfront**

Viewpoint D: **The Waipū Cove Beachfront Reserve**

The assessment for these viewpoints has been undertaken using existing photos that capture views towards the sand extraction site and the *William Fraser* located at its near margins – as shown in **Figure 52**. **Figures 53-60** then show the views from these vantage points in two forms:

- As panoramic views comprising four 50mm photos stitched together: these show Te Ākau Bream Bay and key reference points (such as Maunga Raiona Mt Lion and Paepae-o-Tu Bream Tail) – both with the *William Fraser* visible and with the vessel removed from those same panoramas; and
- As single-frame 50mm photos that focus more directly on the *William Fraser*.

These different images and formats are useful as they:

- Show the *William Fraser* as clearly as possible relative to each vantage point – in the single-frame photos;
- Show important landscape features around the *William Fraser* that help to locate both it and the extraction site within Te Ākau Bream Bay – in the panoramic images;
- Show the *William Fraser* both within a more narrowly focused view (single-frame) and within the broader, more natural, context of Te Ākau Bream Bay's wider seascape and margins (panoramas); and
- Offer a comparison between the panoramic views both with and without the *William Fraser*, to help evaluate its visibility and the degree of influence that it would exert over its maritime landscape setting while operating within Te Ākau Bream Bay.

It is important to note, however, that photographs have accepted limitations as surrogates for 'real life' views of any landscape: they are not 3-dimensional, they are impacted by the weather and time of day (lighting conditions), and their resolution is significantly less than that of the human eye (eyes are estimated to have a resolution of 576,000,000 pixels[2] compared with the 60,000,000 pixels captured in my original photos of the *William Fraser* and the lower resolution of the panoramas provided – to keep their file sizes manageable for printing and export. In turn, printed material has much less resolution than screen images. Consequently, this assessment does not rely on **Figures 53-60**; instead, its findings are much more contingent on the site visits undertaken to Te Ākau Bream Bay – particularly on the 16th of May 2024, when the *William Fraser* was located as shown in **Figure 52**.

Assessment Criteria

In assessing the extent and nature of such effects for each viewpoint, the following checklist of assessment factors / criteria has been employed:

A. Existing Values:

1) *Perceived Biophysical Values: derived from landforms, vegetation cover, marine body, human elements: buildings / structures / activities*

2) *Other Experiential Values:*
   - *aesthetic value*
   - *legibility / memorability*
   - *expressiveness*
   - *naturalness / intactness*
   - *ephemeral / transient values*
   - *coherence*
   - *shared and recognised values*
   - *significant cultural locations / sites / associations*
   - *Te Ākau Bream Bay's identity and sense of place*

B. Visibility:

3) *Relative to the visibility scale described below – influenced by:*
   - *Viewing distance to the vessel & extraction site*
   - *Their relative elevation*
   - *The natural orientation of views / outlook for the viewpoint*
   - *Weather / light conditions*

C. Perceptual Landscape & Natural Character Effects:

4) *Any effects in relation to* Te Ākau *Bream Bay's perceived biophysical characteristics and values: in particular, those of its seascape*

5) *Any effects in relation to* Te Ākau *Bream Bay's other experiential values*

[2] Roger M Clark, 2019: https://clarkvision.com/articles/eye-resolution.html

In addressing the visibility of the *William Fraser* and associated dredging operations, the following scale has been employed:

Level 1. *The William Fraser barely registers as a component of Te Ākau Bream Bay's seascape.*
Level 2. *The William Fraser is visible but is not readily apparent.*
Level 3. *The William Fraser is visible and can be differentiated from both its visual 'backcloth' and surrounds.*
Level 4. *The William Fraser is clearly visible and has appreciable visual presence.*
Level 5. *The William Fraser is obvious and is a prominent feature of sea views out across Te Ākau Bream Bay*
Level 6. *The William Fraser is highly visible and is a dominant feature of local sea views*
Level 7. *The William Fraser is very prominent and an overly dominant feature of Te Ākau Bream Bay's seascape*

Although all of the criteria outlined above have been considered in assessing the effects of the proposed sand extraction in Te Ākau Bream Bay, the descriptive analysis for each viewpoint found in Section 9.4 often abbreviates the process to focus on those matters of particular relevance to each viewpoint.

Effects Rating Scale

The effects ratings in relation to each viewpoint are 'scored' in accordance with the following rating scale (Table 1), which is consistent with the 7-point scale outlined in section 6.39 of *Te Tangi a te Manu*, as shown below:

In relation to this scale, it is important to note that the 'guidelines' comment as follows in relation to the magnitude and meaning of some key RMA terms that address effects:

6.39 - *'More than minor' can be characterised as 'moderate' or above.*
- *'Minor' adverse effects means some real effect, but of less than moderate magnitude and significance. ..... 'Minor' can be characterised as 'low' and 'low-moderate' on the 7-point scale.*
- *'Less than minor' means insignificant. It can be characterised as 'very low' and overlapping with 'low' on the 7-point scale.*

6.42 *Significant adverse effect means of major magnitude and importance. A significant effect can be characterised as 'high' or 'very high' on the 7-point scale.*

9.4 Viewpoint Evaluations

The following tables summarise the assessment of effects for each viewpoint, together with the wider receiving environments found around each of them.

Viewpoint A. **Mair Road Beach Car Park** (Figures 53 & 54)

Existing Values: Looking seaward from the Mair Road car park, an elevated panorama is afforded out across the northern end of Te Ākau Bream Bay, with Mt Lion, Home Point and Tāwharau Busby Point prominent to the left, while the Marotere Hen and Chicken Islands and Paepae-o-Tū Bream Tail – often accompanied by Little Barrier Island – lend a degree of containment and definition to a sea area that is otherwise expansive, reaching far out into the Pacific Ocean. The dune crest that the car park sits on trails away from the car park, both towards the Channel Infrastructure storage facility and its industrial margins to the north, and a broader expanse of dunes to the south – although this area is largely covered in a mixture of weeds, pines (mainly old shelterbelts) and low level, native regrowth, it is still capped by the outline of an array of industrial structures, stacks, transmissions lines and even smoke plumes extending northwards from Ruakākā (**Figures 8-11**). In addition, the dune faces next to the car park still show clear signs of the erosion generated by the exceptionally heavy rains on the 31st of January 2023 and Cyclone Gabrielle soon afterwards.

More positively, the beachfront at the foot of dunes remains a much more appealing feature of the local coastline, while the forested slopes of a steeply angled Maunga Raiona Mt Lion and Mt Taurikura, together with the rather more flat-topped profile of Mt Manaia, provide a highly attractive and distinctive 'frame' for views out to Te Ākau Bream Bay. Even so, the deep turquoise and indigo blue of its expansive sea area provide the main focus for attention from this viewpoint, merging with the more distant plane of the Pacific Ocean. The curving nature of the beachfront and its dune backdrop reinforces this focus, while ever changing moods are generated by the tide, time of day, weather and light conditions. Together with the more intermittent arrival of surf driven in from deep offshore, these add more transient and dynamic qualities to Te Poupouwhenua Marsden Point's coastal domain and landscape.

As a whole, therefore, this is a landscape of contrasts, within its dramatic and highly natural concoction of open seas, surf, volcanic peaks and native forest contrasting with the array of industrial structures and weed-strewn dunes that frame views out across Te Ākau Bream Bay – albeit in a somewhat oblique fashion. Stepping down onto the adjoining beachfront helps to reduce the sense of engagement with the industrial areas that hem Te Poupouwhenua Marsden Point's coastline in, but not entirely so; while the dramatic erosion of its primary dunes in early 2023 has created scarring of a quite different kind that has yet to begin healing.

Overall, therefore, views from Viewpoint 1 (and nearby) embrace an area that displays a high level of visual drama and appeal, together with highly variable levels of perceived naturalness. Although such values are more emphatic in relation to views across the mouth of Whangārei Harbour and out across the centre of Te Ākau Bream Bay, the local coastline's composite values remain at a moderate-high level overall.

Visibility: The single-frame photo taken from this viewpoint (**Figure 54**) reveals the *William Fraser* nearly 8km away, on, or very close to, the sea/sky edge. It appears slightly smaller than the more distant freight anchored to its right – noticeably shorter and

slightly lower. However, in the panorama taken from the same location – again showing the *William Fraser* at Location (a) – the visual presence of both vessels is diminished somewhat by the greater arc and spread of that view (**Figure 53**).

This contrasts with the situation apparent on the 16th of May 2024, in which the *William Fraser*, and indeed all of Te Ākau Bream Bay, appeared to have slightly more resolution, detail and depth than is depicted in the single-frame image of **Figure 54** (for the reasons outlined above).

On balance, it is my opinion that the *William Fraser* would sit closest to Level 2 on the visibility scale described above. Although visible, the vessel would be less than obvious or 'readily apparent', which equates to a **low** level of visibility.

Landscape Effects: Te Ākau Bream Bay is a maritime environment and landscape that is subject to the regular passage of sea vessels – from pleasure craft to fuel / product tankers – through its outer reaches, to and from Whangārei Harbour. Some of those vessels also utilise the anchoring points within Te Ākau Bream Bay's 'roads' – directly offshore of MBL's proposed extraction area, including some tankers that are over 3-4 times the length of the *William Fraser*. As indicated in **Figures 53** and **54**, the vessel would have an appearance similar to, or smaller than, that of a small freighter or log carrier using the Bay's anchoring points – taking into account the dredge's closer proximity to Te Poupouwhenua Marsden Point's shoreline. Moreover, as is indicated in Northport's roster of ships passing into and out of Whangārei Harbour (Section 4.1) this is hardly a rare situation: cargo ships, log and cement carriers, and tankers pass in and out of Whangārei Harbour, and anchor off it, on a regular basis – on most days of some weeks. Consequently, the maritime function and nature of Te Ākau Bream Bay is already well established.

Furthermore, the actual process of sand extraction is such that sea water spillage occurs via the *William Fraser's* moon pools, under its keel, and not over its sides. Consequently, the plume created by the combination of suction extraction and filtering of the extracted sand would be confined to the immediate undersea environment around the vessel. It would not be visible at all over nearly 8km from the Mair Road car park, or coastal locations in its general vicinity.

Finally, the *William Fraser's* operations would be limited to a maximum of 3.5 hours of dredging per day, while its profile and colouring would be broadly aligned with that of other vessels transiting in and out of Whangārei Harbour and Te Poupouwhenua Marsden Point, or waiting to do so.

As such, the *William Fraser* and its operations would have a quite limited impact on:

- The coastline's perceived naturalness and the intactness of those parts of the local landscape that retain a high natural content – the sea area, islands and most of its residual dune systems, but also the hill country and forest areas that enclose Te Ākau Bream Bay near Home Point, Tāwharau Busby Point and Maunga Raiona Mt Lion to the north, and the outer reaches of the Piroa Brynderwyns and Paepae-o-Tū Bream Tail to the south;
- The seascape's aesthetic value, legibility, expressiveness (of its formative values and processes), and transient values;

- Te Ākau Bream Bay's overall sense of cohesion – again, underpinned by the structure of its expansive sea area, islands, headlands and beach margins; and
- Te Ākau Bream Bay's identity and sense of place.

At the same time, it is recognised that Viewpoint A is encompassed by the Te Poupouwhenua Cultural Area identified as being a Site of Significance by Patuharakeke at Marsden Point, together with the Koutu Mahinga Mataitai, which includes the distal spit and the harbour banks off it. Yet, the *William Fraser* would operate some 8 km or more from this area, whereas other vessels would pass directly by it while entering or leaving Whangārei Harbour. In effect, the *William Fraser* would remain a quite remote component of the maritime landscape that has few direct implications for either cultural site, although in absolute terms it would add, cumulatively, to maritime activity within Te Ākau Bream Bay.

Taking all of these factors into account, it is my opinion that the proposed sand extraction would do little to alter the character and perceived values of the coastal / marine landscape experienced from Viewpoint 1 and nearby parts of the Te Ākau Bream Bay's coastal environment. Overall, it would have a **low** level of effect.

Natural Character Effects: The presence of the *William Fraser* off Te Ākau Bream Bay's coastline would subtly increase the presence of maritime activity within its marine environment. Notwithstanding this, no other effects – in relation to the coastline's surf, water quality, bathymetry and beach profile, or its ecology and habitat values – would be apparent from this vantage point or nearby.

At the same time, Te Poupouwhenua Marsden Point fuels storage facility and other industrial development on the edge of northern Ruakākā exert a degree of influence over the local coastline, while the movement of shipping and other vessels in and out of Whangārei Harbour, as already described, is a 'given' that further impacts the locality's perceived naturalness.

Together these factors indicate that, even though the *William Fraser* and its operations would be visible from the end of Mair Road, they would have a **low** level of impact on the natural character of the coastal environment around it.

VIEWPOINT B. **The Ruakākā Surf Life Saving Club Lookout** (Figures 55 & 56)

Existing Values: Like Viewpoint A, the open expanse of Te Ākau Bream Bay's sea area, merging with that of the Pacific Ocean taken centre stage from locations near the surf lifesaving club and beach lookout. Again, such views are framed by the jagged outline in Mt Lion, and Te Whara Bream Head to the north, while a much more distant Paepae-o-Tū Bream Tail, the Marotere Islands, and the Marotere Hen and Chicken Islands – flanked by Sail Rock – are scattered across the far horizon. Even so, the panoramic openness of the sea remains a defining feature of views from this quarter, much like views from the rest of its Te Poupouwhenua Marsden Point/ Ruakākā / Uretiti shoreline. Closer to this vantage point, the Bay's deep blue and turquoise waters are also framed by Ruakākā's expansive beachfront, which arcs both left and right of the lookout, while a mixture of marram grass, spinifex, and *muehlenbeckia* carpets the moderate-sized dunes in the immediate foreground.

Although a sizeable pocket of Ruakākā's residential area south of the Ruakākā River lies directly behind this vantage point, the dune corridor behind the beach acts as a clear line of demarcation between the beachfront and settlement. As a result, there is less of the sense of incursion – mainly by Marsden Point's industrial elements – that is so apparent around Viewpoint 1. Furthermore, the beach dunes are more intact, less ravaged by the erosion that accompanied 2023's weather events. Instead, Ruakākā's beachfront retains a feeling of being largely intact, relatively natural, and strongly focused on the more natural qualities of its beachfront and seascape.

As a result, the landscape exposed to Viewpoint 2 has a significant level of appeal and value – at a high level overall – notwithstanding its close proximity to part of Ruakākā's settled area.

Visibility: This viewpoint brings beach users closer to the proposed sand extraction area and related vessel activities than any of the other viewpoints employed in this assessment – very close to the 4.7km minimum separation distance described in Section 3 of this report. Consequently, with the *William Fraser* located at Point (a) and side-on to this viewpoint, it is more clearly detailed than when assessed from Viewpoint A. Looking out over the flat expanse of intervening sea the *William Fraser* now appears similar in height to the previously mentioned, freighter at anchor, although still somewhat shorter. It is, however, more sharply defined.

On the other hand, it still remains quite distant and sits very close to the horizon, as opposed to within Te Ākau Bream Bay's water area – reflecting its 4.7km plus distance from the beach lookout. Again, referencing the visibility scale described above, it is my assessment that the *William Fraser* is '*visible and can be differentiated from both its visual 'backcloth' and surrounds'*. However, it doesn't reach the point of being sufficiently clear or obvious that it has '*significant visual presence*' – either when viewed on site or via the photos taken on the 16th May 2024.

As such, it is considered that the *William Fraser* and associated activities has a **low-moderate** level of visibility, similar to that of small sized freighters at anchor within the Te Ākau Bream Bay 'roads' or transiting in and out of Whangārei Harbour.

Landscape Effects: As described in relation to Viewpoint A, the Te Ākau Bream Bay landscape already contains maritime elements and activities that include cargo ships, log and cement carriers, fuel tankers, and other vessels – with most of the working ships being very significantly larger than the *William Fraser* (**Figure 55**). Even when at anchor further offshore than MBL's proposed sand extraction area, these vessels would typically appear larger than the vessel or – at worst – similar in scale to it. Furthermore, as described above, the *William Fraser* would remain quite physically remote, and the plumes generated by extraction and sand filtering would be temporary and localised, mostly under and around the vessel. They would be impossible to see from 4.7 km away or close to that distance.

Although the *William Fraser* would be more visible than when looking from Viewpoints A and C, it would still be a relatively small-scale component of the Te Ākau Bream Bay seascape that largely fits in with the existing sequence of shipping either entering or departing Whangārei Harbour and anchoring within the outer bay. The closer proximity of the vessel would make its smaller profile appear more comparable with that of small sized cargo ships who already visit Whangārei and Te Poupouwhenua Marsden Point, and would sharpen some of its visible detail (**Figure 56**); however, it would have much the same visual tenor as those vessels.

As such, the *William Fraser* would have little impact on the level of modification and human activity apparent within Te Ākau Bream Bay. Again, therefore, it would have little or no impact on:

- The perceived coastal / maritime qualities of Te Ākau Bream Bays seascape;
- Its perceived naturalness and the intactness – with any effects largely confined to a shipping lane that is already regularly used;
- The seascape's aesthetic value, legibility, expressiveness, and transient values;
- Its overall sense of cohesion; and
- Te Ākau Bream Bay's identity and sense of place.

It is also noted that Figure 4 of the Patuharakeke Management Plan (**Figure 51**) shows part of the Ruakākā River mouth, and the Ruakākā Estuary Mahinga Mataitai area overlapping with Viewpoint B. In reality, this Site of Significance appears to have been quite loosely cast beyond the estuary and river mouth to also embrace an area of housing and development next to both. Regardless, it is unlikely that the extraction operations proposed some 4.7km or more from the Mahinga Mataitai area would appreciably affect the estuary and its outflow to the ocean – or, indeed, perception of both.

Again, any changes to the cultural values of Te Ākau Bream Bay derived from the proposed sand extraction would be concentrated within its broad sea area, and part of the Bay that is already subject to maritime uses. There would be no appreciable impact on those values more directly associated with Viewpoint B and the area around the Ruakākā River mouth or estuary.

Viewpoint B lies closer to the proposed extraction site and Point (a) employed on the 16th May than any other viewpoint. As a result, views from it offer a 'worst case' perspective of the proposed vessel and related activities. Yet, it remains clear that the *William Fraser* would have a very limited impact on the maritime landscape of Te Ākau Bream Bay. At the same time, the extraction process would

be masked by the undersea nature of the dredging process, of sea water discharges from the *William Fraser*, and the viewing distance from this vantage point. Overall, therefore, it is my assessment that the proposed dredge and sand extraction would have a **low to low-moderate** level of perceptual effect.

Natural Character Effects: As for Viewpoint A, the profile of the *William Fraser*, and its related activities, when viewed from near the Ruakākā Surf Life Saving Club would subtly reinforce the presence of shipping and maritime activity within the CMA. Moreover, as indicated above, it would be slightly closer to this viewpoint and would have marginally more visual presence.

Again though, any 'other effects', in relation to the coastline's surf, water quality, bathymetry, and ecological / habitat values, would be all but impossible to discern, while the suburban development near the surf club and beach also affect perception of this environment in its totality – even though it is devoid of the industrial development that is found within Te Ākau Bream Bay's hinterland further north.

Overall, therefore, the *William Fraser* would be marginally more intrusive (than in relation to Viewpoint A), but it would not appreciably alter the balance between natural and cultural (human) elements found within and near the Ruakākā shoreline, or its level of naturalness overall. As such, it would still have a **low** level of impact on Te Ākau Bream Bay's natural character values.

VIEWPOINT C. **The Uretiti Camping Ground Beachfront** (Figures 57 & 58)

Existing Values:

The Uretiti Beach and its primary dune margins offer views that are very similar to those described in relation to Viewpoint B – again focusing on an expansive sea area that merges seamlessly with the Pacific Ocean, but for the dotted islands spread across that interface and Te Ākau Bream Bay's loose visual framing by Whangārei Heads / Te Whara Bream Head and a lower-lying, seemingly more distant, Paepae-o-Tū Bream Tail (**Figure 24**). Again, Te Ākau Bream Bay's expansive beachfront is a key feature of this landscape, sweeping across the 'base' of the sea area just described to link it with Uretiti's large dune corridor.

Yet, that dune sequence and the backshore area which encloses the landward sides of Viewpoint C is quite different to those flanking Viewpoints A and B. Recovering from historic vegetation clearance and now covered by a mixture of marram, muehlenbeckia, karo and other native shrubs, together with gorse, pampas and a range of weed species – but few human structures – it has the feeling of being more wild and remote, and more untrammelled by human activity, than those other vantage points. As a result, the local landscape also conveys the feeling of being more natural and cohesive, from its backshore area near SH1 to the open ocean just described – notwithstanding the dune system's slow ecological recovery and the presence of the (hidden) camping ground nearby.

In addition to these values, Te Tahuna Tohora is located in close proximity to this viewpoint, adding a layer of cultural significance to the coastal landscape around this viewpoint.

As a result, this part of Te Ākau Bream Bay's shoreline landscape rates highly in terms of its landscape values. With a more intact, natural and endemic regime of vegetation cover, it would undoubtedly rate very high, but the still transitional nature of the backshore area ultimately limits it to a high level of appeal and value overall.

Visibility:

Looking out to sea from this viewpoint, the *William Fraser* at Point (a) is marginally more distant than when viewed from south Ruakākā, but its profile can still be differentiated from the seascape around it – in similar fashion to the freighter at anchor to its right. As for Viewpoint B, views towards the *William Fraser* pick up much of its detail, but it also remains lower and shorter than the anchored freighter, and it appears to sit right on the far horizon. As such, it has much the same level of visibility as when viewed from Viewpoint B and is more apparent than when looking seaward from Viewpoint A – both when evaluated on site and via the photos taken on the 16th of May 2024.

Consequently, it again has a low-moderate level of visual presence: it is clearly legible, but is not large enough to be '*readily apparent'.*

Landscape Effects:

Most of the perceptual landscape changes and effects associated with the operation of the *William Fraser* within Te Ākau Bream Bay would be much as outlined in relation to Viewpoint B. This includes the nature and magnitude of such changes – which are aligned with existing maritime traffic through Te Ākau Bream Bay and its 'roads' – assisted by the relative scale of the *William Fraser* and the limited frequency and duration of its daytime activities in Te Ākau Bream Bay. In

absolute terms, the *William Fraser* would increase the quantum of vessel movements through the Bay, but in reality, its daytime extraction activities would be so constrained that any such cumulative effects would be very small scale and wholly incremental.

It is also acknowledged that the Te Tahuna Tohora – Patuharakeke's sacred whale burial ground – lies close to Viewpoint C. As for Viewpoint B, though, at this Site of Significance the sand extraction area and dredge operations would occur some 4.7 km or more from both the viewpoint and Te Tahuna Tohora. Moreover, the proposed sand extraction area would still be focused on part of Te Ākau Bream Bay that is more closely associated with maritime vessels and their movements already. Taking into account these quite disparate findings, it is my assessment that the proposed sand extraction would have a **low to very low level** of effect on the perceived landscape values of Te Ākau Bream Bay in general.

Natural Character Effects: The *William Fraser* would have much the same level of visual presence and prominence when viewed from this vantage point as from the Ruakākā Surf Life Saving Club. Furthermore, in contrast with both Viewpoints A and B, most of the coastline around Uretiti Beach and Te Tahuna Tohora is dominated by re-emerging shrubland and dunes, with few human structures and development apparent – apart from the nearby campground. This creates a much more natural setting around the beachfront, stretching out across Te Ākau Bream Bay to embrace the Marotere Hen and Chicken Islands and Sail Rock, as well as inland, across the dune corridor that rises up towards SH1.

Again, however, the 'secondary effects of sand extraction would remain difficult, if not impossible to discern – in respect of the coastline's surf, water quality, bathymetry, and ecological / habitat values. The overall interplay and balance between natural and cultural landscape components within the coastal environment would be little altered, with any such modification almost exclusively focused on the *William Fraser* and the additional 'shipping movements' that it would give rise to. This change would remain incremental and of a **low** order – from a natural character standpoint – overall.

VIEWPOINT D. **The Waipū Cove Beachfront Reserve** (Figures 59 & 60)

Existing Values: Looking seaward from near the southern end of Te Ākau Bream Bay, all the seascape components described in relation to Viewpoints A-C are once more apparent, although this viewing angle is more strongly focused on Taranga Island at the southern end of the Marotere Hen and Chicken Island, together with the distinctively vertical profile of Sail Rock. The volcanic relief of Whangārei Heads still encloses the northern end of the Bay, albeit somewhat remotely, but the southern end of Waipū Cove's beachfront is also marked by the rising landform of a headland and former pā site that flanks both the beach and a stream feeding into it much more directly and emphatically (**Figure 30**).

The headland's enclosure of the beach is reinforced by a line of pohutukawa that merge with a more complex matrix of native forest species away from the beachfront. These also wrap around the back of the beach reserve and Cove Road, helping to reduce the road's incursion into the beachfront, together with that of the car parking area and the Waipū Cove Café next to it. The pohutukawa also provide an attractive backdrop to the beach area, reinforcing its seaward orientation. Consequently, even though the beach's naturalness is further diminished by its ablution block, the mown grass sward of its reserve and the adjoining surf lifesaving club merging with a motor camp, it provides an important and popular foundation for views to, and a sense of connection with, Te Ākau Bream Bay's sea area.

This counterpoint does little to reduce Waipū Cove's appeal as a coastal destination, so that even though the local landscape lacks some of the more natural qualities associated with Viewpoint C, the general outlook to, and focus on, Te Ākau Bream Bay's open waters remain powerful and highly appealing – in similar fashion to views from near the Ruakākā Surf Life Saving Club. Additionally, the proximity to the former pā site atop the adjoining headland, adds a cultural dimension to this viewing quarter. Again, therefore, the landscape values associated with this viewpoint remain at a high level.

Visibility: Viewed from this location, the *William Fraser* at Point (b) is appreciably more distant than in views from near the Ruakākā Surf Life Saving Club and Uretiti Beach – some 7.1km to the north. Its detail is harder to distinguish and – although lit up more by the sun's angle relative to the vessels lee side – it also appears appreciably smaller than the freighter to its left, which has shifted from an anchored position to approaching the mouth of Whangārei Harbour.

As a result, the *William Fraser* has an appearance and level of visibility more akin to that described in relation to Viewpoint A than Viewpoints B or even C: typically, it would be '*visible but less than readily apparent*' or obvious. This is considered to equate to a low level of visibility. As for the three preceding viewpoints, this reflects assessment of the vessel both in the course of the site visit on the 16th May and evaluation with the photos taken that same day.

Landscape Effects: Viewpoint D is, like Viewpoint A, the most remote of the four viewpoints relative to both the proposed sand extraction area and the *William Fraser* on the 16th of May [at Point (b)]. In addition, views towards both are canted more to the north, focusing on Whangārei Heads and Te Whara Bream Head, although they also

clearly reveal the island of Taranga, and Sail Rock as vertical outlier to it. Within both **Figures 59** and **60**, the *William Fraser* (at the nearest edge of the proposed dredging site) and the freighter entering Whangārei Harbour to its left appear remote and small-scale – effectively dwarfed by the broad reach of the Bay and the array of more significant natural features that structure its seascape, including its sea area. As for the other viewpoints, the vessel would appear to be confined to that part of the Bay which is already subject to frequent, sometimes daily, marine traffic and vessels that are typically much larger than the *William Fraser*.

The frequency and duration of its daytime operations would also be limited, to the point where the vessel's movements – additional to those which already occur within the Bay – would be barely discernible. Moreover, the associated extraction activity would be entirely hidden from view: mostly underwater and well beyond the bounds of human sight or even assisted viewing.

As a result, the *William Fraser* – typically appearing to be a small cargo ship – would do little to change or erode the existing character and values of Te Ākau Bream Bay, including:

- Its perceived coastal / maritime character and qualities;
- Its perceived naturalness and the intactness;
- Its aesthetic value, legibility, expressiveness, and transient values;
- Its overall sense of cohesion; and
- Te Ākau Bream Bay's identity and sense of place.

Consequently, in a similar vein to Viewpoint A, the lower end of Waipū Cove's beachfront would be little affected by the proposed sand extraction operation. At worst, it would subtly compound the presence of shipping within part of Te Ākau Bream Bay that is already a transit route for vessels in and out of Whangārei Harbour and an anchoring area for vessels typically much larger than the *William Fraser*. Accordingly, it is my assessment that any perceived effects in relation to the characteristics and landscape values of Te Ākau Bream Bay would be of a **low** order.

Natural Character Effects: This viewpoint is flanked by a local reserve and its ablution block, together with car parking and other facilities, a nearby camping ground, a café, and the main road between Waipū and Mangawhai. Consequently, even though it also lies close to a headland (a former pā site) and line of pohutukawa, the local environment is heavily influenced by human structures and activities already.

Once more, the *William Fraser* is visible from this vantage point, but as indicated above has a quite low level of visibility – some 6km or more from Waipū Cove's beachfront. In addition, the effects associated with sand extraction – from plumes in the water column to any impact on surf breaks and Te Ākau Bream Bay's bathymetry ecology – would be impossible to 'read' from this viewpoint. As such, both vessel and its sand extraction activities would have a **negligible** impact on the perceived naturalness of Te Ākau Bream Bay and Waipū Cove's beachfront. Any effects in relation to natural character values would be of a **very low** order.

9.5 Other Vantage Points

Viewpoints A-D capture views that are representative of the major beachfronts and settlements – Ruakākā and Waipū Cove – exposed to the proposed sand extraction area. Even so, both the southern and northern extremes of Te Ākau Bream Bay's exceptionally large, physical and visual catchments lie outside the areas represented by the viewpoints.

Turning first to the southern end of those catchments, Langs Beach lies south of Waipū Cove, separated from it by a short sequence of rocky headlands and scarps that begin at the headland and pā site described next to Viewpoint D. The sizeable coastal community of Langs Beach would – like Waipū Cove's beach area – be exposed to the *William Fraser* and its sand extraction site operating well north of it (**Figures 32 & 33**). However, the settlement's main beach is even further from both than Viewpoint D. As such, any landscape and natural character effects attributable to Langs Beach would be of a very low order, in all likelihood negligible.

At the opposite end of Te Ākau Bream Bay's extensive seascape, Tāwharau Busby Point (**Photo 3, Figure 5**) and Smugglers Cove would also offer quite distant views to the *William Fraser* and extraction area – over a distance similar to that from both to Viewpoint A (Mair Road). However, the southern side of Tāwharau Busby point, extending through to Home Point (**Photo 4, Figure 5**), is already exposed to ships passing close by through Te Poupouwhenua Marsden Point's navigation channel, together with most of the Channel Infrastructure facility, Northport and some of the industrial development extending through to Ruakākā. In a comparative sense, views of a distant vessel (*William Fraser)* – 8km or more away – would have a minor impact on this extremely varied and, in places, heavily modified, coastal environment / landscape.

The outlook from Smugglers Cove (**Figure 4**) and the western side of Tāwharau Busby point are, in contrast, sheltered from most of the development just described. Instead, they focus on the spectacular matrix of volcanic landforms, native forest, and a ruggedly beautiful coastline that unfold through to Te Whara Bream Head. Yet, relative to both, the proposed sand extraction site is much more oblique than the open waters and outlook at their 'front door', while large tankers and other shipping regularly traverse the sea passage in front of this ONL on their way to and from Whangārei Harbour. Again, therefore, the *William Fraser* – operating a significant distance away, and oblique to the sea views just described – would have a very limited impact on Tāwharau Busby Point and Smugglers Cove. At worst, it would affirm the passage of vessels past both on a regular basis, but would not be close enough or obvious enough to erode the core (perceived) landscape values associated with this stretch of outstanding coastline.

9.6 Key Findings

Table 2, overleaf, summarises the effects ratings for Viewpoints A-D and other locations (set out above) that would be exposed to MBL's sand extraction operations.

Table 2. Perceptual / Experiential Effects

	Contributing Factors:		Effects:	
Viewpoints:	**Existing Values:**	**Visibility:**	**Landscape:**	**Natural Character:**
A. The Mair Rd Beach Car Park	Moderate-High	Low	**Low**	**Low**
B. The Ruakākā Surf Club Lookout	High	Low-Moderate	**Low to Low-Moderate**	**Low**
C. The Uretiti Camping Ground Beachfront	High	Low-Moderate	**Vey Low to Low**	**Very Low**
D. The Waipū Cove Beachfront Reserve	High	Low	**Low**	**Very Low**
Langs Beach	Moderate-High	Low	**Very Low**	**Very Low**
Tāwharau **Busby Point & Smugglers Cove**	Very High	Low	**Very Low**	**Very Low**

The limited scale of the effects identified is primarily derived from the following factors:

1. The limited visibility of the *William Fraser* relative to most shoreline locations;

2. The containment of the plume associated with sand extraction and sand filtration to the confines of the undersea area beneath and around the vessel, to the point where it would be difficult to see even from other vessels close to the *William Fraser*;

3. The close correlation between the proposed sand extraction site and the main navigation channel in and out of Whangārei Harbour, as well as with the ship anchoring points off Te Ākau Bream Bay;

4. The existing commercial and shipping activity that is already present in the Bay;

5. The close visual similarities between the *William Fraser* within the extraction area and working vessels further out to sea: even though the vessel would operate closer to Te Ākau Bream Bay's coastline, it would also be much smaller than the tankers, cargo ships and cement or log carriers either entering and departing Whangārei Harbour, or at anchor;

6. The limited hours of extraction activity that could occur each day; and

7. The modified nature of most of Te Ākau Bream Bay's coastal margins, which both frame and contextualise views of its sea area.

In terms of section 6.39 of *Te Tangi a te Manu*, this means that the effects of the proposed extraction activity would typically be 'less than minor' rising to 'minor' for Viewpoint B.

Importantly, the *William Fraser* would typically operate further offshore than is depicted in **Figures 53-60**. The photos taken on the 16th of May 2024 represent the extraction at points either closest to Viewpoints A-D or very nearly so (in the case of Viewpoint A). Regardless, the *William Fraser* and its extraction operations would do little to change the nature of the Te Ākau Bream Bay landscape and maritime activities within it. For the most part, it would affirm a status quo in which shipping movements are 'part and parcel' of Te Ākau Bream Bay's character and those movements have a quite limited impact on the Bay's key natural features, including the Home Point to Te Whara Bream Head coastline, Te Ākau

Bream Bay's offshore islands, and the ocean beaches and dune corridors of Te Poupouwhenua Marsden Point, Ruakākā, Uretiti and Waipū to Waipū Cove.

Having said this, it is recognised that the extraction activity could conceivably have some level of impact on several Sites of Significance to local iwi identified in the *Patuharakeke Management Plan*, including Te Tahuna Tohora, the Marsden Point Poupouwhenua Cultural Area, and the Ruakākā Mahinga Mataitai. These are addressed in more detail in Section 10 of this report, which addresses Effects on Associative Values.

10. Associative / Cultural Effects

10.1 Introduction

While the northern end of Te Ākau Bream Bay mainly comprises a working, industrial landscape anchored by Te Poupouwhenua Marsden Point, much of Waipū, Waipū Cove and Langs Beach now consists of residential / lifestyle communities drawn by the magnet of Te Ākau Bream Bay's sea, offshore islands, beaches and a raft of other natural elements. This attraction reflects the atavistic and generalised (cross-cultural) appeal of landscapes which are natural and, in many cases, coastal – an appeal that is in large part confirmed by the past research of Professor Simon Swaffield and John Fairweather[3] (Lincoln University) in different parts of NZ, albeit primarily in relation to the naturalness dimension of landscape values.

Unfortunately, though, it remains much more difficult to ascertain exactly what connections the local Te Ākau Bream Bay community has with the landscape that it resides in, even if the Waipū Scottish Migration Museum casts a somewhat historic, colonial light on the area. It is therefore hardly surprising that the Museum's website preamble[4] states that it sets out to tell, "*the story of the Nova Scotian migrations from Scotland to Nova Scotia in 1819, then to Australia and New Zealand from 1853 under the leadership of the Rev Norman McLeod. Waipū was the main settlement area for the pioneers, but branches of the families also settled in Leigh, Kauri and Whangārei Heads and Auckland. ….*"

Even so, the Te Whara Bream Head Scenic Reserve and the Busby Scenic Reserve remain the joint repositories of multiple archaeological sites; in particular middens that typically pre-date colonial occupation of the area. DoC's *Bream Heritage Assessment* (June 2012)[5] then goes on to precis the history of the locality, both during that pre-colonial period and during its transition into the 20th Century – as follows (p.8):

> *Bream Head/Te Whara is located at one end of an important series of landmarks for Maori, stretching from Te Whara on the east coast and across the Taurikura Ridge, Manaia and Mt Aubrey, to Ripiro Beach on the west coast. The Maori presence in the vicinity of Whangārei Heads goes back to the time of first settlement of New Zealand approximately 800 years ago and numerous midden sites contain moa bone and egg remains as well as seal bone (both species were heavily exploited in the first phase of settlement), and archaic-style artefacts made from stone and bone.*
>
> *The Te Whara/Bream Head area is significant to Ngatiwai, Ngati Kahu, Te Waiariki and Parawhau and other local and more distant iwi/hapu, particularly those descended from the Ngaitahuhu Tribe, who used to occupy the Whangārei area, and the ancestor Manaia who settled at Whangārei Heads. Ngati*

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3 ***Public Perceptions of Outstanding natural Landscapes In The Auckland Region, Research Report No. 273,*** *John R Fairweather, Simon R Swaffield, David G Simmons. 2004*

Understanding Visitors' Experiences In Kaikoura Using Photographs Of Landscapes & Q Sort. Report No. 5. *John R Fairweather, Simon R Swaffield, David G Simmons. 1998*

Understanding Visitors' And Locals' Experiences Of Rotorua Using Photographs Of Landscapes & Q Sort. Report No. 13. *John R Fairweather, Simon R Swaffield, David G Simmons. 2000*

Visitors' And Locals' Experiences Of Westland, New Zealand. Report No.23*. John Fairweather, Bronwyn Newton, Simon R Swaffield, David G Simmons. 2001*

Public Perceptions Of Natural And Modified Landscapes Of The Coromandel Peninsula, New Zealand. Research Report No. 241*. John R Fairweather, Simon R Swaffield. October 1999*

4 https://www.kotuia.org.nz/organisation-pages/org-page-3050/

5 https://www.doc.govt.nz/documents/conservation/historic/by-region/northland/bream-head-heritage-assessment.pdf

Kahu know the area as Kaione, referring to the paraoa (foam) drifting on to the onepu (sand), which was collected along the seashore and used for medicinal purposes.

In November 1769 James Cook sailed along this coastline and named several landmarks including Bream Bay and Bream Head (after a successful fishing expedition where the crew of the Endeavour caught a large number of snapper, which Cook considered to be similar to the European bream), the Hen and Chickens and Poor Knights Islands.

At the time of the earliest European exploration of the North Island's east coast, the Whangārei Harbour and surrounds was noted by Samuel Marsden among others for its large population, supported by the local marine resources and extensive gardened areas. Marsden met the chief of the Whangārei Heads hapu of Te Parawhau, Wehi Wehi, while the latter was living at Taurikura, north of Bream Head. Other notable visitors include George Clark and the Rev. Henry Williams, and the former's 1825 journal provides the first reference to the area being known as Wara.

By the late 1820's however the area had been depopulated by inter-tribal warfare and introduced disease. In the 1830's the first European settlement of the Whangārei Heads area began. Gilbert Mair purchased 10,000 acres at Whangārei Heads from a chief called Te Tao in October of 1839, although the paramount chief Te Tirarau also had a claim on the block. He paid £150 pounds in goods for the so-called Taurikura Block of 414 acres at the southern end of Whangārei Heads. Ultimately the Crown reduced Mair's claim following the Treaty of Waitangi in 1840, and the Taurikura Block was subsequently sold to John Logan Campbell and William Brown…….

…… The claim was investigated in 1844 by Land Commissioner Edward Godfrey. Mair appeared before the Land Claims Commission with the usual evidence for the transaction including the testimony of Pohe and Ware. Mair noted that Tirarau had a claim to the land which Mair intended to settle, and that a settler named Mitchell had buildings on the land. At this time, the Crown refused to grant a claim to Mair as Tirarau and several others had a strong claim in the land which hadn't been addressed, and because Mair had already sold his claim to another, J. J. Bernard, for £650. ……..

Subsequently, the area was broken up into the Manaia and Taurikura Blocks, with the formation of a settlement at Urquharts Bay. In relation to the area's historic and cultural significance, the *Te Ākau Bream Bay Heritage Assessment* also contains the following commentaries (pp.25 and 26):

Historic Significance

Bream Head is significant as an intensively settled pre-European Maori archaeological landscape, and for the early Maori/European observations and interactions by early explorers, missionaries and settlers. There are a large number of sites recorded across the reserves suggesting the location and the resources it had to offer were highly valued by Maori in the prehistoric period.

Cultural Significance

Te Whara is of the highest cultural significance to Ngatiwai, Ngati Kahu, Te Waiariki and Parawhau along with other iwi of the Whangārei area, and further afield. The landscape has strong associations with the ancestor Manaia, and 19th century Whangārei chiefs Pohe and Tirarau.

However, the Te Ākau Bream Bay Reserve is not just known for its layers of occupation and settlement: Home Point is also the site of the Te Ākau Bream Bay Gun Battery, which is the only remaining example of WWII defence structures in the Whangārei area. Constructed in 1942, the 5-inch gun emplacement only ever fired three shots and was operational until November 1943. Despite this short period of 'activity', the remaining emplacement, together with its 'spotting mural', remain relics of an important period in NZ's history.

Returning therefore to the present-day and focusing more specifically on the cultural values of the area, there are two main hapu in the Te Ākau Bream Bay: Patuharakeke and Te Parawhau. Patuharakeke's

rohe is strongly focused on Whangārei Harbour and the margins of Te Ākau Bream Bay. The hapu is actively involved in coastal management within that coastal environment, much of it focusing on the management and conservation of marine mammals and the exercise of kaitaiki over whale and dolphin strandings in Te Ākau Bream Bay. This includes the management of Te Tahuna Tohorā.

Te Parawhau's rohe overlaps with much of this coastal area, but also embraces the Whangārei Heads coastline out to Tāwharau Busby Point, most of the northern side of Whangārei Harbour, and Te Ākau Bream Bay's offshore area, as far south as Bream Tail Paepae-o-tū. Te Parawhau are presently seeking customary marine title over all of the Te Ākau Bream Bay area.

In terms of cultural and associative values, the *Patuharakeke Management Plan* of 2014 remains a key document that sets out to describe specific cultural associations that a key part of the Te Ākau Bream Bay / Marsden Point / Takahiwai community has with the local landscape, including description of the values that are intrinsic to those associations. These lay the foundation for directive policies also set out in the management plan that seek to protect both the values of Te Ākau Bream Bay's landscape – viewed through a Patuharakeke cultural lens – and the hapū's connections with that landscape. Patuharakeke's interpretation of local landscape values is further expanded on in the *Patuharakeke Trust Board Cultural Values Assessment Report* (2019) for the proposed Berths 4 and 5 at Northport, while the Northland Regional Council has produced a series of worksheets that outline the values attached to sites, areas and landscapes of significance to local iwi, including one that addresses the Ruakākā Estuary Mihinga Mataitai. These are further explored in 10.3 and 10.4.

Other reports that address the coastal and marine values of the area include the *Waipū Estuary SEA Assessment* (2021), prepared by the Northland Regional Council, and the *Baseline Surveys Of Marine Megafauna In Te Ākau Bream Bay To Support Kaitiakitanga - Tere Tohorā, Karanga Tangata* (2024), prepared by NIWA and the Far Out Ocean Research Collective. Patuharakeke also made a significant contribution to both of these reports. However, they are less directly relevant to the landscape and natural character matters focused on in this assessment and/or raise matters already described in the reports already cited.

10.2 The Patuharakeke Management Plan (2014)

Although the *Patuharakeke Management Plan* is a non-statutory document, it nevertheless remains important in relation to addressing the associative / cultural effects that the proposed extraction would have on the landscape of Te Ākau Bream Bay. As indicated in Section 5.1, the Management plan is also linked to Whangārei District Plan Policy TWP-P2. The Management Plan was also reviewed prior to undertaking the 'cultural induction', described in Section 7, on the 15th of June 2024. The Management Plan contains several strategies and policies relevant to MBLs proposal, particularly in Sections 3, 8 and 9. These include the following:

> ***3. KAITIAKITANGA***
>
> *Kaitiakitanga is fundamental to the relationship between Patuharakeke and the environment. As Kaitiaki, Patuharakeke are responsible for both the knowledge (matauranga) and the practice (tikanga) of kaitiakitanga in relation to resources. This relationship is an intergenerational responsibility rather than a right – a duty we are bound by culture, tradition and whakapapa to maintain. These duties are based upon the ultimate aim of protecting mauri; and secondly, the obligation to ensure the legacy we leave to our mokopuna is a healthy environment.*

8. WAAHI TAPU ME WAAHI TAONGA

This section covers issues associated with our cultural heritage: sites, resources, traditions, knowledge, and landscapes of significance to Patuharakeke. This includes waahi tapu, mahinga kai and other sites of significance, and the traditional and contemporary landscapes in which they occur.

Waahi tapu and sites of significance are considered to be a most precious taonga to Patuharakeke. These sites place Patuharakeke in our rohe over a long period of time. As such, the destruction of any site of significance is of great concern to our hapu. These historical "footprints" become increasingly important and sacred and confirm the korero that has been passed down over generations. Through colonisation and land alienation, large scale physical destruction of waahi tapu and other sites of significance occurred. Together with the loss of access to them and thereby knowledge of them (in many cases) has had far reaching impacts on Patuharakeke. ……..

8.4 Patuharakeke Sites of Significance Mapping

PTB RMU will complete the mapping of the cultural landscapes and waahi tapu (including marine cultural heritage) within our rohe through the Sites of Significance mapping project (SOSM). Once this exercise is completed, we require councils to adopt this overlay on their own planning maps and to work with PTB RMU to develop adequate policy for the protection and management of these landscape and heritage values. …….

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.

8.2 Objectives

a) The protection and enhancement of areas or sites of customary value.

8.3 Policies

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.

9. TANGAROA

9.1 Coastal Water Quality

Patuharakeke lament the ongoing deterioration of the health of our water systems and in particular, the impact that this is having on our kaimoana and mahinga kai in the Whangārei Harbour and Bream Bay areas. Despite numerous statutory requirements and undertakings, the role of Patuharakeke as kaitiaki, tangata whenua and Treaty Partner in the management of these taonga remains tokenistic and diminished.

The status of our food basket has become critical. Our once pristine waterways are now clogged and suffocated by the silt of uninterrupted urban and rural development with their associated nutrient, pesticide, herbicide and industrial pollutants. Dumping of dredge spoil and cement fines discharged from the Portland cement works during the latter half of last century destroyed extensive seagrass beds in the harbour. These beds provided essential habitat for shellfish and finfish species. Widespread encroachment of mud and mangroves has displaced oyster beds and degraded the formerly white sandy beaches of Takahiwai and Ruakākā and Waipū estuaries. Pipi, kutai, cockle/tuangi, pupu and scallops/tipa were among the taonga species that were casualties of this mismanagement (Chetham, 2013). ……..

9.1.2 Objectives

a) Whangārei 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.

d) The management of coastal water quality in Te Tai Tokerau occurs on an integrated catchment basis and is led by tangata whenua.

e) Coastal water quality standards relevant to Patuharakeke are developed and implemented by agencies and monitored by kaitiaki.

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.

Section 9.4 of the Management Plan addresses offshore 'mining' and expresses quite vehement opposition to further activities of that kind within its rohe moana. However, the focus for these policies is oil and gas exploration and extraction, not the type of sand extraction proposed by MBL. Moreover, while issues associated with past dredging – notably within Whangārei Harbour for Northport, the former oil refinery and the Portland cement works – are cited as having had a major impact on mahinga kai, these areas of considerable sensitivity are physically removed from MBL's site in Te Ākau Bream Bay. Similarly, the Management Plan strategies for Te Poupouwhenua Cultural Area at Marsden Point concentrate on managing the additional / cumulative effects of both existing and any future industrial development at Te Poupouwhenua Marsden Point.

Contrasting with these issues, Section 9.7 of the Management Plan addresses Marine Mammals and introduces the subject as follows:

> *Whangārei Terenga Paraoa translates as "the meeting place of the whales". Whales have a special place in Patuharakeke tradition, they are seen as a kaitiaki or guardians and tribal korero states our tupuna named and called to known and favoured sea mammals and also chanted them back out to safety during strandings. After being hunted to the point of collapse last century they have recovered only to be at risk from marine pollution (heavy metals, toxins, plastics etc), noise pollution, boat strike, harassment from some tourist operators and boat operators, set nets and other commercial fishing practices, plummeting food resources, and the effects of sonar to name a few.*
>
> *There are a number of theories as to why marine mammals strand, but it seems likely to be at least partially due to the increasing human-induced pressure their habitat is under. Our affinity and spiritual connection with whales and dolphins means Patuharakeke as kaitiaki have a foremost responsibility to advocate for the protection of these intelligent and majestic creatures. Whilst whale strandings are a sad occasion for Patuharakeke, they provide us with a valuable opportunity to revive matauranga associated with the preparation of whalebones for carving and obtaining other resources such as oil/ spermaceti. …….*

Related objectives and policies then promote an increase in marine mammal numbers within Te Ākau Bream Bay's coastal waters and Whangārei Harbour, although most related policies then focus on whale strandings and Patuharakeke's right to exercise rangatiratanga and Kaitiakitanga over whales and dolphins that have died within its marine rohe. In addition, Objective 9.3.2 advocates for 'healthy dune and beach ecology', together with the protection of 'natural character and amenity'.

10.3 The Patuharakeke Trust Board CVA - Northport (2019)

At p.15 of the CVA, under the heading *5.2.2 Cultural Landscapes, Seascapes and Waahi Tapu*, it is explained that:

> *Several important markers in the area that form the cultural landscape and seascape include maunga such as Manaia, Matariki (Mt Lion), Te Whara (Bream Head) and other islands, reefs and rocks such as Motu Karoro, Taurikura, Motu Tapu (Calliope Island), Motu Panamaia - all have beliefs associated with them that are integral to our histories.*
>
> *Traditional korero related to these sites was described in detail in the Refinery Crude Freight Proposal CVA15. Other important sites in the vicinity of Northport include;*
>
> - *Ngaungara (High Island in McGregors Bay) – traditional korero relates that Ngati Manu fishers were stranded here on the rising tide after Ngāti Kahu o Torongare took their waka and they were rescued by Patuharakeke people;*
> - *Otarakaihae (Mt Aubrey) – there is an assumption that this name which refers to jealousy is likely associated with the korero around Manaia and his wife's lover Paeko;*
> - *Horomanga – the large pa of the Ngai Tahuhu paramount chief Hikurangi – which sits above Urquharts wharf).*
>
> *Besides the strong associations with the tupuna Manaia, these sites bear important linkages through whakapapa and land ownership to the ancestor Torongare and the 19th century chiefs Pohe, Tirarau, Whakaariki and Motutara. As such these sites are of high cultural significance to Ngatiwai, Ngati Kahu o Torongare, Te Waiariki and Parawhau along with Patuharakeke and others.*
>
> *On the southern side of the harbour the Takahiwai and Pukekauri, Kukunui and Piroa (Brynderwyn) ranges circle the landscape and the seascape is dominated by the tahuna or sand banks that are known not only for their significance as markers, but as mahinga mātaitai/kaimoana gathering places. These include Poupouwhenua/Mair and Marsden Bank, Patangarahi/ Snake Bank, Calliope Bank, McDonald Bank, and Tahuna Patupo (a historical Kuaka gathering spot).*
>
> *Further, Patuharakeke held kohatu mauri (mauri stones) that were imbued with meaning and signify our ancient lineage to tupuna, whenua and moana. While there were historically a number of kohatu mauri throughout our rohe, the only one that remain with the hapū was set on the banks of Ruakaka Estuary in an alcove and is thought to have provided guidance in the traditional management of our rohe moana …….*
>
> *According to kaumatua there are also unrecorded waahi tapu such as Waiana koiwi - underwater burial caves and ledges, the locations of which cannot be disclosed. Earlier Northland Port Corporation Hearing evidence speaks of places where:*
>
> - *bathing and healing rituals were enacted;*
> - *bodies were washed and bones prepared for final internment;*
> - *warriors gathered to strategise;*
> - *a powerful tohunga recited karakia to avenge his wife;*
> - *an aging chief bathed and prophesized the future;*
> - *battles occurred;*
> - *war canoes gathered; and*

- *an ancestor called to a favoured sea mammal*

Besides providing physical sustenance, Whangārei Terenga Paraoa and its tributaries supported the spiritual and cultural practices of the various hapu. Specific parts of creeks or rivers were set aside for baptisms (eg. Rauiri/Blacksmiths Creek), while others were used for teaching children to swim and yet more places were renowned for their curative powers. Lakes and wetlands in the dune systems were harvest sites for tuna (eel) and waterfowl. Harakeke and muka and other plants used for weaving, and rongoa were also sourced there. Often sites such as these were used as a repository for taonga as well.

It is important to note, however, that even though the area encompassed in this assessment extends as far south as the current settlement of Ruakākā, the majority of sites and locations of significance that are referred to above, sit within and near the margins of Whangārei Harbour, or on the edge of Te Ākau Bream Bay, some 4.7 kms or more from the proposed sand extraction area.

10.4 The Te Iwi o Ngatiwai Iwi Environmental Policy Document (2007)

As indicated above, the Ngatiwai Trust Board's *Te Iwi o Ngatiwai Iwi Environmental Policy Document* largely comprises a series of issues, objectives, policies and methods that are listed under each area of concern to the iwi – much as in a district plan – from minerals to landscapes and customary materials. Three matters are particularly relevant to MBL's proposals from a landscape and natural character perspective: minerals, water, indigenous fauna and landscapes. The following are objectives and policies drawn from those sections of the policy document:

Water:

Objectives:

- *The mauri of water and soil is protected and enhanced in ways which enable Tāngata Whenua to provide for their social, economic and cultural wellbeing; and that of generations as yet unborn.*
- *The life-supporting capacity of creeks, streams, water bodies, wetlands, swamps, springs, aquifers, thermal waters, estuarine waters and coastal waters enables optimum health and wellness for all Tāngata Whenua; those they host within their rohe; their plants, animals and other whanaunga.*

Policies:

1. *Tāngata Whenua promote innovative, sustainable management practices concerning water. All natural water has value and sustains some form of natural life in the environment. Water is a sacred resource to Tāngata Whenua, to be given the highest level of protection.*
10. *All activities concerning or potentially affecting creeks, streams, water bodies, wetlands, swamps, springs, aquifers, thermal waters, estuarine waters and coastal waters within a water catchment will be managed in an integrated way on a catchment basis.*

Methods:

34. *All resource consent applications concerning or potentially affecting water quality must be lodged with a Tāngata Whenua Impact Assessment written by the relevant Tāngata Whenua. Suggested consent conditions will be included in the assessment.*

Indigenous Fauna:

Objectives:

- *The maintenance and restoration of natural species.*
- *The enhancement of endemic and endangered indigenous animals.*
- *Tāngata Whenua traditional environmental knowledge in relation to animals is appropriately acknowledged and utilised*

Policies:

5. *Indigenous fauna are taonga tuku iho to Tāngata Whenua.*
6. *Tāngata Whenua are the kaitiaki of their indigenous fauna.*

Methods:

1. *All resource consent applications concerning or potentially affecting indigenous plants and animals must be lodged with a Tāngata Whenua Impact Assessment written by the relevant Tāngata Whenua. Suggested consent conditions will be included in the assessment.*

Landscapes:

Objectives:

- *The relationship of Tāngata Whenua and their culture and traditions with their ancestral lands, water, sites, Wāhi tapu and other taonga is recognised and provided for as a matter of national importance by councils.*
- *The protection of areas or sites of customary value.*

Policies:

3. *The areas and sites of customary value which contribute to or a part of Ngatiwai cultural landscape must be defined by Tāngata Whenua.*
4. *Any decisions made in regard to the definition of areas or sites of customary value to Ngatiwai or within Ngatiwai territory must be made in accordance with Tāngata Whenua.*

Methods:

3. *Only after appropriate effective engagement and adequate remediation or mitigation, or for safety or security reasons, will Tāngata Whenua support any negative or destructive impacts on their cultural heritage.*
4. *which contribute to or a part of Ngatiwai cultural landscape Areas or sites of customary value which contribute to or a part of Ngatiwai cultural landscape, must not be impacted upon negatively without the express written approval of Tāngata Whenua.*
17. *All resource consent applications concerning or potentially affecting areas and sites of customary value will be lodged with a Tāngata Whenua Impact Assessment written by the relevant Tāngata Whenua. Suggested consent conditions will be included in the assessment.*

Many of the objectives, policies and methods contained in the policy document also focus on Ngatiwai's involvement in various planning processes and the use of their traditional knowledge to address issues such as impacts on the quality and mauri of coastal waters and indigenous fauna species. Overall, though, it remains more generic in its approach to strategies and policies for Northland's coastlines and not as specific as the Patuharakiki Management Plan or Patuharakiki's Northport report in relation to the values of Te Ākau Bream Bay.

10.5 The Ruakākā Estuary Mahinga Mataitai (NRC)

The *Ruakākā Estuary Mahinga Mataitai Assessment* is relatively brief, but it contains a section that directly focuses on the landscape significance of the Te Ākau Bream Bay coastline for Patuharakeke and other iwi:

Why is the site, area or landscape significant?

Traditional significance:

Resource use:

- *The salt marsh areas in the southern arm of the estuary were harvest sites for harakeke, muka and other plants used for weaving and rongoa (healing and medicinal purposes).*
- *Manu harvest areas, including Kuaka (Godwit) customary harvesting in and around the intertidal area.*
- *Hangi stones were collected at river outlets. Travel and communication linkages:*
- *The Ruakaka River historically provided important transportation routes. These trade and transport networks served a major social and political function in maintaining the linkages from one hapū to the next. For Patuharakeke, acting as kaitiaki (guardian of the resources and taonga) and kaimanaaki (host), this helped entrench its recognition as a means of maintaining its viability as a hapū holding mana over its rohe. Area of mana moana for fisheries and other rights:*
- *Significant kaimoana (and other taonga species) harvesting and management area used historically and to this day by Patuharakeke as mana moana. Implementation of traditional management measures:*
- *Rāhui are still practiced in contemporary times when drownings occur at Ruakaka.*

Cultural significance:

Implementation of concepts such as kaitiakitanga and manākitanga:

- *Patuharakeke consider the waters of Ruakaka Estuary to be a taonga gifted by tupuna that they as kaitiaki have a duty to conserve and protect for future generations. Patuharakeke continue to carry out duties as kaitiaki of these Mahinga Mataitai.*
- *Patuharakeke tupuna harvested kai moana as a common act of kaitiakitanga and manākitanga. The Rohe Moana Management Plan sets out intentions to recover depleted stocks and ensure future capacity to provide taonga kai moana to manaaki manuhiri at hui and tangihanga on the marae and on the tables of whanau homes.*
- *Patuharakeke have consistently carried a kaitiaki role as; beach ambassadors, kaitiaki customary Permit Issuers, Honorary Fisheries Officers, Monitors and surveyors, and managers of areas of concern.*
- *Patuharakeke are active in monitoring mahinga kai, including via a 5-year Community Pipi and Cultural Health Monitoring Programme currently underway at Ruakaka Estuary. This programme is funded through the Whangārei Harbour Health Improvement Fund. The monitoring employs cultural health indicators alongside joint surveys with research organisations such as NIWA. These activities serve as a clear expression of kaitiakitanga.*

Of the matters identified above, perhaps that of most relevance to the MBL proposal is that of kaimoana management and harvesting. In this regard, the proposed extraction operations would stay well clear of any shellfish banks or grounds, but could conceivably reduce both the presence and quantity of fish found within the waters of Te Ākau Bream Bay through impacts on the seabed's habitat and associated food resources.

However, in relation to these matters, Bioresearchers' assessment – *Te Ākau Bream Bay Sand Assessment of Ecological Effects* (2025) – indicates that the effects of the proposed sand extraction on benthic ecology, habitats and fish would be of a negligible to minor order (Section 8.5, above).

10.6 Te Parawhau's Cultural Landscape of Paepae Atua

Much of the analysis, above, references studies and documents either prepared by or involving, the hapu of Patuharakeke. However, Te Ākau Bream Bay sits within the larger rohe of Te Parawhau and, as is explained at the beginning of this report, encompasses a large maritime and terrestrial domain that stretches from Bream Head to Paepae O Tū Bream Tail, across the Brynderwyns, and up through the Maretu Forest to just north of Whangārei. In discussions with kaumatua Pari Walker, Mira Norris and Selwyn Norris, accompanied by Georgina Olsen (Landscape Architect, Landform Consulting Ltd), representing Te Parawhau on the 13th of August, it was made clear that Paepae Atua is a spiritually significant domain that stretches from the mouth of Whangārei Terenga Paraoa (Whangarei Harbour) southwards to Te Pae O Tū (Bream Tail), and out to Taranga (the Hen and Chicken Islands). Its coastline includes:

- **Rauiri**: the coastline of Whangārei Harbour around One Tree Point and Marsden Cove stretching out to Marsden Point's distal spit
- **Poupouwhenua**: the open coastal plain south of Rauiri also includes the northern Ruakaka coastline and much of Marsden Point
- **Uretiti**: the extensive, open beachfront and dune coastline south of the Ruakaka River
- **Waipū**: the area and coastline around the settlement of Waipū, trethcing through to Waipū Cove and Langs Beach
- **Te Pae o Tū**: Bream Tail

As described by Te Parawhau's kaumatua, this area is considered to be highly important to the iwi, and is "*under the protection and guardianship of its Hapū rua wāhine* (women of strength)*, our ancestral wāhine to* (warrior women) *who stand vigil over the moana and whenua. Their wairua extends across this rohe, and they are nourished by Te Wai Ū o Te Ata Kura—the sacred breastmilk that sustains the mauri, abundance of kai, and wellbeing of the harbour and surrounding taiao. The protection of this area is not symbolic—it is active, ancestral, and intergenerational. The whenua and moana are not separate from us; they are part of our whakapapa, our Hapū identity, and our obligations as kaitiaki*"[6].

Importantly, Te Parawhau's cultural values are also identified as being grounded in 'five pou' that guide the iwi's responsibilities and relationships with the taiao (the natural world, environment, and nature):

Pou / Uara Ahurea:	Description:
Mana Atua	The realm of the Atua. Upholds spiritual integrity, sacredness, and tikanga.
Mana o te Wai	The realm of Tangaroa and Maru. Protects the mana and mauri of all water. Ensures Te Mana o te Wai is upheld through restoration, protection, and appropriate use of waterways, wetlands, puna wai (aquifer), and aquatic ecosystems.

[6] As described in an email received from Georgina Olsen on the 13th of August.

Pou / Uara Ahurea:	Description:
Mana Whenua	The realm of Papatūānuku. Only Papatūānuku holds the mana of the whenua. This pou recognises the whakapapa of the whenua, and the rights and kaitiakitanga obligations of hapū to ensure land use reflects hapū uara ahurea, histories and whanaungatanga, including connections of all living things and relationships to each other.
Mana Ao Tūroa	Refers to the space in between Ranginui and Papatūānuku (the environment). Ensures ecological integrity, biodiversity, and resilience is upheld.
Mana Tāngata	Supports the people, wellbeing, and community participation.

From Te Parawhau's perspective, these pou guide the way in which the environment of Paepae Atua Bream Bay should be managed and their response to MBL's project will reflect this. However, at the time of discussions with the iwi's representatives and the preparation of this report, Te Parawhau had yet to determine its stance in relation to the sand extraction project.

10.7 Cultural Landscape Effects Evaluation

Most of the *Patuharakeke Management Plan* appears to focus on key cultural sites that are concentrated down the margins of Te Ākau Bream Bay, within Whangārei Harbour, near Te Ākau Bream Bay Scenic Reserve or further inland (such as around Takahiwai Marae), whereas other matters – such as those pertaining to coastal processes, water quality, and the ecological health of Te Ākau Bream Bay's waters – require specialist evaluation. As a result, there is limited room for a traditional 'landscape interpretation' of effects.

Furthermore, MBL's proposed sand extraction site appears to sit within a spatial void that is not directly associated with Patuharakeke's Sites of Significance, while the proposed activity is not directly subject to any of the objectives and policies found within the *Patuharakeke Management Plan* and the *Ruakākā Estuary Mahinga Mataitai Assessment* which instead appear to largely focus on managing effects associated with customary kai gathering grounds (for the most part, harbour and estuarine banks), and the ecological health of Te Ākau Bream Bay more generally.

Having said this, there remains a level of association between the Management Plan's *Sites of Significance* and the proposed extraction area, insofar as the activity of sand extraction would be visible from parts of the Te Poupouwhenua Cultural Area, the Ruakākā Mahinga Mataitai and Te Tahuna Tohora Cultural (Whale Burial) Area. Furthermore, Te Parawhau's rohe extends across all of the proposed sand extraction site, and even though that iwi has yet to directly address or raise any concerns about MBL's sand extraction proposals, the 'five pou' and related principles set out above imply that the project could conceivably have effects that are of concern for both Patuharakeke and Te Parawhau. The following comprise summaries in relation to some of the key issues identified in this regard.

Te Ākau Bream Bay's Ecological Health:

The coastal area off the Ruakākā Estuary is of significance in relation to Te Ākau Bream Bay kaimoana resource, while MBL's proposal also remains obliquely subject to 'provisions' that address effects on water quality, marine mammals and beach / dune geomorphology. As a result, the key effects that MBL's

proposals could have on the cultural landscape of Te Ākau Bream Bay appear to be closely aligned with those addressed under the umbrella of 'biophysical effects' in Section 8, above, ie. those pertaining to:

- Coastal Processes / Geomorphological effects;
- Hydrological effects;
- Water Quality Effects;
- Seabed Habitat Effects;
- Effects on Marine Mammals; and
- Effects on Fisheries

The expert findings in relation to these effects are summarised in Table 1 of Section 8.7. These indicate that in virtually every case the proposed sand extraction would give rise to effects that are of a negligible to low order. In particular, the risks of vessel strike for pilot whales and other marine mammals are considered to be low, given the slow track and linear direction of most extraction activities, while any effects on fish habitat would also be of a low magnitude, having a negligible level of effect on those same habitats.

Overall, therefore, the ecological effects of the proposed extraction on Te Ākau Bream Bay's are assessed as being of a negligible to low order.

The Bay's Landforms, Beaches & Surf Breaks:

Moreover, the beachfronts of Ruakākā, Uretiti, Waipū and Langs Beach are the spaces and landforms perhaps of most importance from an iwi and public standpoint, together with the coastline's renowned surf breaks. However, T+T's assessment is that MBL's proposal would have a negligible impact on Te Ākau Bream Bay's hydrology, sediment transport and geomorphology. Metoceans assessment on surf (2025) also demonstrates that the proposed sand extraction would have a negligible effect on all of the key surf locations identified in the Proposed Regional Plan For Northland. Even the effects identified more generally for Te Ākau Bream Bay's proposed extraction zone and lower shoreface (T+T 2025) would only rise to a low level in some instances – with most remaining at the negligible level.

For the most part, therefore, the effects of MBL's proposal on coastal waters and landforms would be negligible, as they would be in relation to wave action and surf breaks.

Landscapes and Sites of Significance to Iwi:

For the population at large within Te Ākau Bream Bay, the nature and magnitude of effects is expected to be much as identified in relation to Viewpoints A-D, Langs Cove, Tāwharau Busby Point-Smugglers Cove and the 'Other Vantage Points' assessed in Sections 9.4 and 9.5, above.

In relation to Patuharakeke, the degree of interaction and 'engagement' between the *Patuharakeke Management Plan's* Sites of Significance and the proposed extraction operation would also be tenuous, for the reasons discussed in Section 9.4-9.7 of this report. Furthermore, none of the significant landscapes or waahi tapu sites described in the *Northport CVA* would be directly affected by the proposed sand extraction. Instead, it would remain relatively isolated, or at the very least remote – some 4.7km or more offshore of those sites that remain particularly meaningful to Patuharakeke. Although there would still be awareness of the *William Fraser* and its operations, it would essentially be peripheral to most of those sites. As a result, it is considered that the proposed sand extraction would typically have a low level of effect in relation to most of the 'cultural landscape' found on and near the margins of Te Ākau Bream Bay, Te Poupouwhenua Marsden Point and Te Whara Bream Head.

11. Statutory Review

Based on the key statutory matters identified in Section 5.2, above, the following is a summary of key issues that I consider need to be addressed in relation to MBL's proposed sand extraction – in particular, whether the proposal would:

a) Adversely affect the natural character values of ONC Areas within and around Te Ākau Bream Bay.

b) Adversely affect the values of the ONFs and ONLs also found within and around Te Ākau Bream Bay.

c) Avoid having a significant adverse effect on the natural character values of other parts of Te Ākau Bream Bay's coastal environment.

d) Avoid adversely affecting sites of cultural significance to Māori and / or minimise, ameliorate or mitigation any such effects on those sites.

e) Give rise to cumulative adverse effects in the coastal environment and / or whether these can be avoided, ameliorated or mitigated.

The following are brief responses to these matters, based on the preceding assessment:

Would the proposal adversely affect the natural character values of ONC Areas within and around Te Ākau Bream Bay?

Analysis:

The proposed sand extraction would have no impact on the ONC, or even HNC Areas identified within Te Ākau Bream Bay and Whangārei Harbour.

Would the proposal adversely affect the values of the ONFs and ONLs found within and around Te Ākau Bream Bay?

Analysis:

The proposed sand extraction would not affect the values of the ONFs and ONLs identified in and around Te Ākau Bream Bay, more specifically at the northern and southern extremes of the Bay and well inland of it.

Would the proposal avoid having a significant adverse effect on the natural character values of other parts of Te Ākau Bream Bay's coastal environment?

Analysis:

No significant adverse effects have been identified that might erode the natural character values of those parts of Te Ākau Bream Bay outside its ONC Areas.

Would the proposal avoid adversely affecting sites of cultural significance to Māori and / or minimise, ameliorate or mitigation any such effects on those sites?

Analysis:

Although the proposed sand extraction would be visible, to varying degrees from Patuharakeke's Te Poupouwhenua area at Marsden Point, its Ruakākā River Mahunga Mataitai and Te Tahuna Tohora, this would be over viewing distances that start at more than 8km for the first of these sites and more than 4.7km from the latter two. For the reasons summarised in Section 9.5, above, it is considered that the proposed operations would do little to change the broad character and generally perceived values of Te Ākau Bream Bay and, as a result, the effects identified in relation to these Sites of Significance are typically of a low order

Would the proposal give rise to cumulative adverse effects in the coastal environment and / or whether these can be avoided, ameliorated or mitigated?

Analysis:

Although the presence of the *William Fraser* within Te Ākau Bream Bay would inevitably increase the frequency and presence of ship activities in its water area, the limited scale of the vessel (relative to most existing ships transiting to and from Northport or the Channel Infrastructure jetties) and the frequency of current shipping movements would limit such additional / cumulative effects to a low level. Importantly, it is not considered that the presence of the *William Fraser* within Te Ākau Bream Bay marine environment and landscape on a regular basis would give rise to an appreciable change to their intrinsic character or values.

12. Conclusions

Based on this assessment, it is concluded that the landscape and natural character effects generated by the proposed sand extraction would typically be of a low order. Furthermore, they would remain below the 'significant effects' threshold in relation to the preservation of natural character values under Policy 13(1)(b) of the NZ Coastal Policy Statement and Section 6(a) of the Resource Management Act (1991).

As a result, the effects identified are considered to be acceptable from a landscape and natural character standpoint.

Stephen Brown
BTP, Dip LA, FNZILA

[redacted]

Luke Davis
Environmental Manager
McCallum Group
[redacted]
13th January 2026

MEMO: **Cultural Impact Assessments Prepared by Ngātaiwai and Patuharakeke**

Kia ora Luke,

I have now read and reviewed the CIAs prepared for the Ngātiwai Trust Board and Patuharakeke Te Iwi Trust that were provided by you in December 2025. In particular, I have reviewed those sections addressing the landscape values of Paepae Atua Te Ākau Bream Bay, and effects on them. I note that the Ngātiwai CIA is very broad-brush and doesn't appear to address any of the matters raised and discussed in my assessment. The draft CIA prepared for the Patuharakeke Te Iwi Trust raises a number of matters relating to my assessment, and the following table outlines my response to those matters. Reflecting on them, I do not consider that any changes to my Assessment are required at this stage in response to the CIAs. Having said this, the following are some very brief comments in relation to some of the matters identified in the draft CIA prepared for the Patuharakeke Te Iwi Trust:

P.5: ***7. No protection, nor safeguarding, of areas of significance and importance to Patuharakeke.***	Comment: This may well be true from the hapu's standpoint, but I have identified and discussed Areas of Significance to Patuharakeke that are identified in its Management Plan of 2014, and otherwise at various points in my report – notably on pages 24 and 42, and Section 10 within my report, and in Figures 51, 61 and 62 appended to it.
p.*61:* ***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).***	Comment: In undertaking my assessment of landscape effects, comment was requested in relation to the landscape and visual effects of the proposed extraction (which included the provision of all graphic material, such as photos of William Fraser in Bream Bay). However, no such response was provided by Patuharakeke to this material. To the extent that it was possible without input from Patuharakeke, my assessment does address values and effects in relation to the biophysical, associative and perceptual dimensions of landscape.

p.64: ***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***.	Comment: The Patuharakeke Management Plan (2014) is extensively quoted in Section 10.2 of my report, together with the CVA for Northport (2019) in Section 10.3, the Ruakaka Estuary Mahinga Mataitai Assessment in Section 10.5. These are reviewed and evaluated - as a whole - in the Cultural Landscape Effects Evaluation of Section 10.7. It is noteworthy that no specialist peer review of Landscape Effects appears to have been undertaken on behalf of Patuharakeke.
p.69: ***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***	Comment: These are not identified as being significant in The Patuharakeke Management Plan and were not raised in discussions with the hapu. Appendix F, which is referred to as showing the location of the reefs of Te Akau Bream Bay, is unfortunately not attached to the CIA (at least, the version that I have received).

Please contact me if any further review of the CIAs and related comments are required.

Ngā mihi nui / regards,

Stephen Brown
BTP, Dip LA, Fellow NZILA