

Refining NZ Crude Freight Proposal – Tangata Whenua o Whangārei Te Rerenga Paraoa Cultural Effects Assessment

31 August 2017



Pipi Survey at Marsden Bank 2017

This Cultural Effects Assessment Report ("the Report") has been commissioned by Refining NZ Ltd (RNZ) and undertaken by Patuharakeke Te Iwi Trust Board ("PTB") on behalf of Nga Kaitiaki/Tangata Whenua o Whangārei Te Rerenga Paraoa as part of the Tangata Whenua Engagement Process in relation to an application proposal being investigated and prepared by Refining NZ to make modifications to the Whangārei Harbour to allow fully laden Suezmax oil tankers to enter. All Intellectual Property contained in the Report resides at all times with tāngata whenua. Should any person wish to use the Report for any purpose other than that specified herein, the prior written consent of PTB must be obtained. The Report has been prepared in contemplation of Refining NZ making an application for resource consents necessary to enable its proposal, and is able to be relied upon for that purpose.

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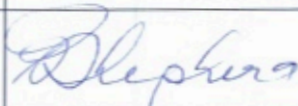

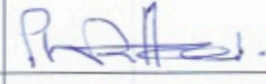
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Executive Summary

This report documents the collective response of Tāngata Whenua o Whangārei Te Rerenga Paraoa in regard to Refining NZ's proposed application to dredge and realign the channel approach to and adjacent to Marsden Point to enable berthing of fully laden Suezmax and the disposal of the dredgings in Bream Bay. Refining NZ have formally engaged with tāngata whenua in relation to the proposal on a regular basis since 2014. Tāngata Whenua have produced a cultural values assessment detailing the cultural relationships, uses and values of the subject site and surrounds in order to inform the scope of the technical studies commissioned by Refining NZ as part of project scoping and design as well as an assessment of alternatives exercise. Key themes arising from the cultural values assessment included:

- The strong interrelatedness of Whāngareī Harbour hapu and iwi and their historic and contemporary association with the harbour through constructs such as whakapapa and ahi kā.
- The relationship to Paraoa/Tohora/Whales.
- Aspects of significant cultural landscapes and seascapes, and wāhi tapu in and around the project footprint.
- The significance of mahinga mataitai in or adjacent to the subject site.
- Current and future tāngata whenua aspirations in relation to rangatiratanga and kaitiakitanga in this location.

An independent review of the technical documents prepared by Refining NZ's consultants was also undertaken at the request of tāngata whenua to identify questions, comments or concerns for consideration prior to the preparation of this Cultural Effects Assessment. The independent technical review identified some key areas of concern, including:

- The economic analysis provided by NZIER, including the overall viability of the refinery in the long term.
- The relationship of the proposed application within the context of climate change and New Zealand's current and future policy over the lifetime of the consents sought.
- The overall health of the harbour and the role of RNZ as a key stakeholder.
- The practical implementation of the responsibility of kaitiakitanga in relation to the harbour.
- The potential impacts of dredging, including disposal of dredgings, eg. in relation to noise, loss of habitat and species, sediment plumes and changes in tidal dynamics.

These steps have informed the development of this Cultural Effects Assessment in conjunction with an assessment framework based on review of relevant iwi planning documents and crucial provisions of the RMA 1991.

In terms of the iwi planning documents, the proposal was found to be inconsistent with iwi and hapu policy, for example;

"The mauri of Whangārei Te Rerenga Paraoa is not to be further compromised by industrial activities at Poupouwhenua and must be protected and enhanced to enable Tāngata Whenua to provide for their social, economic and cultural wellbeing; and that of generations as yet unborn. Further, major dredging programmes are to be avoided."

Tāngata whenua analysis of the proposal in light of the RMA provisions relating to kaitiakitanga concluded that the proposal has the potential to diminish their standing as kaitiaki and have flow on effects on mana, and their spiritual and physical wellbeing.

With regard to Treaty principles, it was considered that the proposal would not strengthen the ability of tāngata whenua to exercise rangātiratanga and could undermine their right to develop in future, and impact on potential outcomes of applications for customary marine title and/or protected customary rights.

Tāngata whenua assessment of potential environmental effects was set within a holistic frame of view and collective experience, particularly in relation to previous developments in the area. The cumulative effects of RNZ's proposal are likely to further contribute to the decline of the harbour ecosystem and some low probability high impact effects identified were considered to be unacceptable.

Tāngata whenua assessment of potential cultural effects concluded that the proposed dredging of Whangārei Te Rerenga Paraoa would not provide for te reo māori me nga tikanga, and cultural and spiritual wellbeing. The mauri of the harbour would continue to be eroded, and subsequently affect values such as kaitiakitanga, mātauranga māori, and mana. These cumulative effects were considered to be significant adverse effects that are unable to be mitigated.

Tāngata whenua assessment of potential social and economic effects as a result of the project was that any perceived positive impacts were unlikely to outweigh the negative ecological and cultural impacts. While existing jobs at the refinery are important to the region, their viability in the long term is uncertain regardless of this project going ahead. The ecological and cultural health of the harbour is considered to be inextricably linked to the economic and social wellbeing of tāngata whenua.

The overall consensus was that the range and magnitude of potentially unacceptable adverse effects meant that managing, mitigating or offsetting the effects would not be possible. When effects occur concurrently and in conjunction with past impacts, the cumulative effects in relation to marine mammals, benthic organisms, coastal processes, kaitiakitanga, and mauri, for example, are significant. Tāngata whenua therefore seek that the proposal in its entirety be avoided (ie. should not

proceed) as it does not align to our cultural values and therefore impacts further on the mauri of Whangārei Te Rerenga Paraoa and Te Akau (Bream Bay). At a hui-a-hapu held on 12th May 2017 the following resolution was passed:

"That nga hapu katoa oppose Refining NZ's Crude Freight Proposal resource consent application/s".

The report does, however make concluding recommendations that Refining NZ be encouraged to continue dialogue with Tāngata Whenua o Whangārei Te Rerenga Paraoa on all aspects of this application. Further, that tāngata whenua and Refining NZ should continue to work together with the objective of *restoring the mauri of Whangārei Te Rerenga Paraoa to support mahinga kai of abundance and diversity that sustains customary use.*

1 Introduction

Refining NZ Ltd ("RNZ") are proposing to undertake works to dredge and realign the channel approach to and adjacent to the Marsden Point refinery complex and to dispose the dredgings at two sites in Bream Bay. This work will enable berthing of fully laden Suezmax oil tankers currently unable to occur due to the draft of these vessels. Patuharakeke Te Iwi Trust Board (PTB) has been commissioned by RNZ to assist in the development of a tāngata whenua engagement strategy and to provide a Cultural Effects Assessment representative of the views of the tāngata whenua of the Whangārei Harbour (hereafter referred to as Tāngata Whenua o Whangārei Te Rerenga Paraoa). Engagement has been active since 2014 and has involved the collation and summarising of perspectives into a Cultural Values Assessment (CVA) report identifying values in relation to the proposal site and surrounds. The CVA report was utilised to identify potential constraints of the various dredge footprint, disposal site and dredging methodology options during RNZ's Multi Criteria Analysis (MCA) exercise. The MCA exercise landed on the preferred options depicted below.

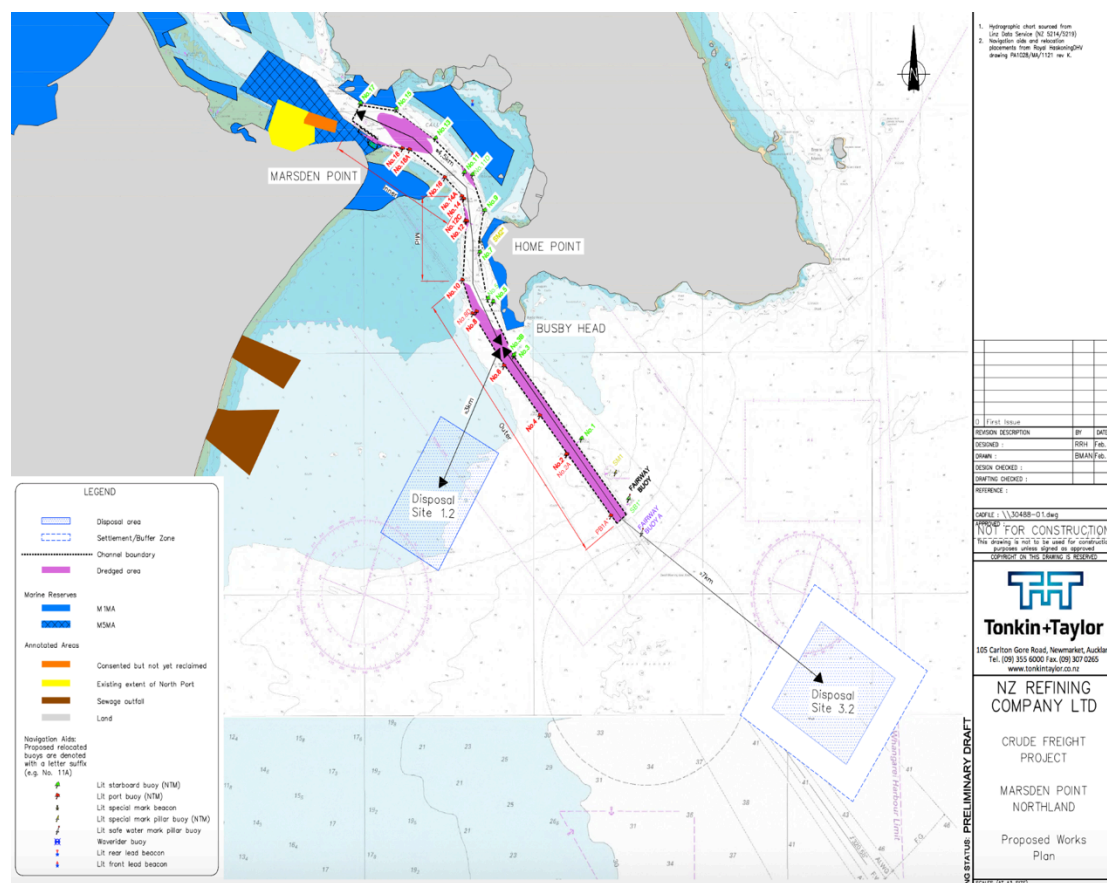


Figure 1: Depiction of Proposal (Tonkin and Taylor Coastal Processes Assessment 2016).

These options involve an expected dredge volume of approximately 3.7 million cubic metres (m³) over 1.95 km². Area 3-2 depicted above is the key marine disposal location (for both capital and maintenance dredge spoil) in up to 45 metres depth of water to the south east of the channel in Bream Bay. Depending on the final disposal method, if sand from the capital dredging is uniformly spread over the area, it will settle at a height of 1.5 metres from the seafloor, however, if a targeted site within Area 3-2 is used, the maximum height of the sand would be around 4 metres in that spot. Area 1-5 depicted above is expected to take less than 5% of dredge spoil and is being kept as an option to replenish sand if lost from the ebb tide shoal area over time.

Various experts have been engaged by RNZ to undertake assessments of effects of the preferred dredging and disposal footprint options with regard to matters such as ecology, marine mammals and coastal processes. The CVA and a subsequent independent technical review of the AEE reports and documentation supplied by Refining NZ has informed the development of section 6 of this report which provides an assessment of the ecological, cultural, social and economic effects of the proposal on Tangata Whenua o Whangārei Te Rerenga Paraoa.

2 Tangata Whenua Engagement

Patuharakeke Te Iwi Trust Board (PTB) have a long standing Memorandum of Understanding (MOU) with RNZ to assist an effective working relationship between the two parties. PTB have a history of providing cultural advice and support to the refinery and both parties strive to engage with one another in the spirit of good faith and transparency. There is also a great deal of experience and capability within Patuharakeke and the wider hapu and iwi of Whangārei Te Rerenga Paraoa with resource and environmental matters, particularly consent applications and developments in and around the harbour. This contemporary management perspective is in addition to the role tāngata whenua have carried out for centuries when discharging their duties as kaitiaki.

The Refinery has actively engaged with tāngata whenua in regard to the proposal and initiated specific consultation with PTB in October 2013. Initial discussions were also held with Ngatiwai Trust Board as Patuharakeke and Ngatiwai have worked collaboratively in the past in relation to RNZ resource consent matters. In early 2014, PTB submitted a Terms of Reference which recommended a pathway for engagement with all potentially affected tāngata whenua around the harbour and framework for a Cultural Effects Assessment (CEA) going forward. Figure 2 below outlines the engagement approach employed in relation to the RNZ proposal.

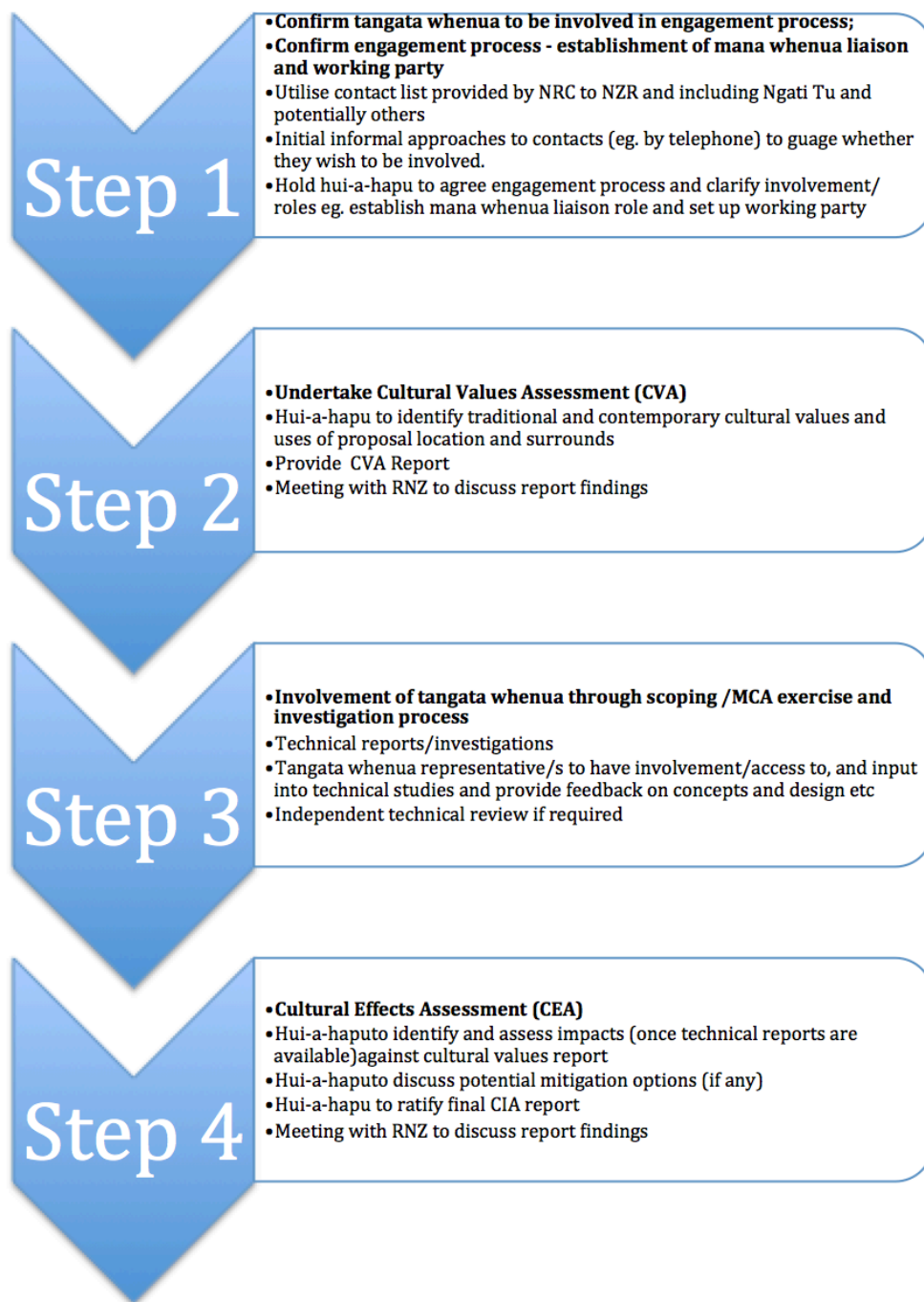


Figure 2: Engagement and Cultural Effects Assessment Roadmap

Confirmation of tāngata whenua to be involved in engagement process involved utilization of the contact list provided by Northland Regional Council (see appendix 1) with additions such as Ngati Tu and Te Uriroroi. As such, the list for contact was determined to be:

- Patuharakeke Trust Board
- Terenga Paraoa Marae
- Toetoe Marae
- Te Waiariki Ngāti Korora Hapū
- Te Taumata Kaumatua o Te Parawhau
- Te Rūnanga o Ngati Whātua
- Ngati Kahu o Torongare Hapū Trust
- Hauauru Trust
- Ngātiwai Trust Board RMU
- Te Rūnanga A Iwi O Ngāpuhi
- Ngati Hine
- Ngati Tu
- Te Uriroroi.

Initial informal approaches (by telephone or email) were made to representatives of these entities to gauge the level of involvement sought. Several, such as Te Rūnanga Ngati Whatua and Te Rūnanga o Ngāpuhi advised they would defer to the hau kainga hapu but would like to be kept abreast of progress via email updates.

An Initial Hui-a-hapu was held at Takahiwai Marae on 17th May 2014 with RNZ in attendance. The kaupapa was introduced and the proposed engagement process was supported unanimously¹. It was agreed that Julianne Chetham of PTB would act as key tāngata whenua liaison and along with Clive Stone of Ngātiwai Trust Board would form the interim working party.

A second hui-a-hapu was held at Ngātiwai Trust Board on 15th July 2014. At the hui the engagement roadmap was reconfirmed by all hapu representatives present. The core working party membership of Clive Stone and Julianne Chetham was also supported.

A third hui-a-hapu took place at Takahiwai Marae on August 15th 2014. The purpose of the hui was to discuss the cultural relationships and values in relation to the RNZ proposal area in order to assist the drafting of a cultural values assessment. Participants workshopped using a matrix methodology to identify relevant tāngata whenua, significant places, and traditional uses as well as contemporary uses and values. This was followed by another hui held at Te Rerenga Paraoa Marae September 19th 2014. RNZ were in attendance to provide an overview of the Crude freight and a question and answer session. Tangata whenua representatives remained to debrief on the next steps for engagement.

¹ Hui Records/Engagement Updates are provided in Appendix 1
Refining NZ Crude Freight Proposal CEA August 2017

At the invitation of Ngāti Kahu o Torongare hapū Trust, RNZ attended a hui at Ngararatunua Marae on November 22nd 2014 to present on their proposal.

On 9 March 2015 a session for tāngata whenua representatives was organized at the Refinery Visitor's Centre to enable discussions with refinery staff and the various technical experts (ie. Ecologist, Marine Mammal expert, Oceanographer) contracted to undertake initial desktop assessments.

A workshop was held on at Northland Regional Council 25th May 2016 where refinery staff and key experts (Ecology and Coastal Processes) provided an update on the research/analysis undertaken to date and findings with a question and answer session for tāngata whenua. Julianne provided an update as to next steps, ie. That the results of all the technical studies were needed in order for tāngata whenua to complete "roadmap" steps 3 and 4, ie. the technical review and cultural effects assessment.

The subsequent hapū workshop was held at Ngatiwai Trust Board on 21st March 2017. At this stage the majority of "AEE" reports had been made available to tāngata whenua. The purpose of the hui was to provide and apprise tāngata whenua of the independent technical review that the core working party had initiated and set dates for upcoming hui to report back the results of the review and initiate hui to inform the CIA/CEA report. The meeting was followed by a preview of RNZ's "Deeper Story" Roadshow container located nearby.

A hui-a-hapū to report back on the findings of the independent technical review was held at Takahiwai Marae on 7th April 2017. Julianne Chetham of PTB and Alison Newell presented to tāngata whenua during the morning session highlighting "gaps" or concerns and potential effects identified during the review process. RNZ staff and key technical experts (Ecology, Marine Mammals and Coastal Processes) attended an afternoon session to summarise the results of the AEE reports and answer questions from the floor.

A hui-a-hapū held at Whangārei Te Rerenga Paraoa Marae on 12th May 2017 enabled tāngata whenua to work through a matrix exercise identifying potential effects on tāngata whenua across the four "wellbeings" (Cultural, Economic, Environmental and Social), the type and level or significance of the potential effect as well as options to avoid, remedy or mitigate effects. The feedback from the hui was utilized to construct section 6 of this CEA. The draft CEA report was circulated to enable the various hapu and iwi representatives to review and provide feedback.

All hui records and the various reports (ie. CVA report, Independent Technical review and this CEA report) have been circulated by email to all

hui attendees throughout the engagement process. The working party members also met on a regular basis with RNZ's project manager and communications manager to get brief updates on how the project was tracking and where the various technical experts were at with their reporting. On the advice of the working party, members of Patuharakeke and Ngātiwai did assist with some initial marine sampling surveys undertaken by Bio researchers and undertake a reconnaissance boat trip over part of the proposal area. The ability to actively participate in surveys was somewhat limited by Health and Safety requirements, time constraints and so forth. Other opportunities for involvement included working party representative attendance at two technical expert caucus meetings, including the Multi Criteria Analysis workshop in June 2016 (discussed further in section 4 below). Several hapu representatives also observed a ship simulation exercise at the NZ Maritime School in Auckland in July 2016.

3 Cultural Values Assessment

A Cultural Values Assessment (CVA)² was completed in January 2015. This collective statement of values relating to Whangārei Te Rerenga Paraoa was prepared in order to inform the scope of the technical studies commissioned by Refining NZ as part of the project design phase, assessment of alternatives, and to inform this CEA.

Through a series of hui Tangata Whenua o Whangārei Te Rerenga Paraoa utilised a tested matrix based methodology based on key cultural safeguards of the RMA³ to firstly identify the relationship of Tangata Whenua o Whangārei Te Rerenga Paraoa to the proposal location and implications for the practice of Kaitiakitanga. Historical material (eg. Northport Hearing evidence and traditional korero of the Whangārei Harbour hapu and iwi) was also been utilized to complete the matrices.

The CVA exercise highlighted the strong interrelatedness amongst hapu and iwi surrounding the Whangārei Harbour and their association with it through whakapapa and centuries of occupation. Tangata Whenua o Whangārei Te Rerenga Paraoa identified through this process as having authority and historical or contemporary interests included:

- Patuharakeke
- Te Parawhau
- Te Parawhau/Toetoe
- Ngati Kahu o Torongare me Te Parawhau
- Te Waiariki
- Ngati Korora
- Ngati Tu
- Te Urioro

² see Appendix 2

³ ie. Section 6(e), 7(a) & 8 of RMA 1991

- Te Kumutu
- Ngatiwai
- Ngapuhi
- Ngati Whatua
- Ngai Tahu
- Ngati Manaia
- Manuhiri (eg. families at Marsden Village - some are 3rd generation)

Other common themes drawn from the CVA indicated that cultural values of most significance and most probability of being affected are:

- Paraoa/Tohora/Whales
- Cultural Landscapes and Seascapes, Waahi Tapu
- Mahinga Mataitai
- Current and future tāngata whenua aspirations in relation to rangatiratanga and kaitiakitanga

The report concluded that Te Wahapu o Whangārei Te Rerenga Paraoa was known to tāngata whenua as a bountiful and rich food basket or 'Pataka'. Historically, all had varying degrees of rights and access to it. The mahinga mataitai, waahi tapu, and cultural landscapes and seascapes remain of utmost significance today and their use still revolves around maintaining customary practices and feeding whanau, hapu and manuhiri as in the past. The layers of mātauranga and management through kaitiakitanga have been stripped back due to a number of factors, such as alienation of rights and access, imposition of government controls, mismanagement, pollution, industrialisation and overfishing. Today's kaitiaki seek increased control over the management of these places and resources. Their desire is to prevent further diminishing of the mauri of the harbour and to enhance and restore the important mahinga kai that remain.

The CVA suggested that going forward RNZ's technical studies would need to consider the potential effects of bringing larger crude oil parcels into the harbour in relation to the mahinga mataitai, taonga species and other sites of significance identified. It was recommended that the tāngata whenua working party maintain a continued role and provision of input during the scoping and undertaking of technical studies required throughout the feasibility and consenting stages of project. The need for RNZ to make provision for an independent technical advisor to review the studies undertaken for the Assessment of Environmental Effects to assist tāngata whenua in understanding potential adverse effects on their values was also raised.

4 Multi Criteria Analysis/Assessment of Alternatives

Where a resource consent application may result in a significant adverse effect on the environment an assessment of possible alternative locations

or methods for undertaking the activity is required be included as part of the AEE.

RNZ utilised a Multi Criteria Analysis (MCA) to assess alternatives to the three key activities arising from their proposal;

- a) The alignment and dimensions (width/depth) of the proposed channel (post dredging) eg;
 - Existing mid-section
 - Straight mid-section (west)
 - Straight mid-section (east)
- b) The proposed location(s) for the spoil disposal, eg
 - Ebb Delta
 - Nearshore
 - Intermediate
 - Land based disposal
 - Beach nourishment
 - Deep water
 - Outside EEZ
- c) The type of dredge to be used and dredge methodology.
 - Trailer (with overflow via central weir)
 - Trailer (actual overflow)
 - Cutter
 - Backhoe
 - Ebb Tide Dredging
 - All Tide Dredging

RNZ sought advice from the various technical experts on whether all appropriate environmental, social, cultural and social aspects had been identified, to confirm the appropriateness of proposed weightings and identify the scale of potential impacts.

Key themes from the CVA were utilised to formulate the cultural aspects of the MCA necessary to understand the potential effects of each of the options. The following cultural aspects were selected by the tāngata whenua working party:

- Kaimoana at Mair Bank
- Kaimoana at Marsden Bank
- Mahinga Mataitai
- Mauri of Harbour
- Cultural Landscapes and Seascapes
- Kaitiakitanga
- Tāonga Species

Weightings were derived from the following scale:

0.5	1	2	3
Minor importance to a small number of stakeholders	Minor importance to a wide range of stakeholders	Moderate importance to stakeholders	Major importance to stakeholders

Notably, tāngata whenua working party representatives gave all aspects a weighting of 3 (major importance). Potential impacts were then ranked based on the consequence scores below;

-1	0	1	2	3
Positive impact on the aspect being considered	Neutral or no impact on the aspect being considered	Minor impact on the aspect being considered or short term moderate impact from which the system can recover	Moderate impact of the aspect being considered	Major negative impact on the aspect being considered

All three options, ie. Channel layouts, disposal locations and dredging methodologies were assessed across the cultural aspects listed above.

In comparison to other panel experts, tāngata whenua representatives generally ranked potential impacts as high for all dredge disposal and channel options. This was due to concern that mataitai areas could be affected by disposal in the ebb delta (Option 1.2) and nearshore disposal (Option 3.2). Overall, land-based disposal (Option 4) or disposal outside the EEZ (Option 7) were preferred. In terms of channel alignment, Option 5 (which required dredging at Home point) was the least preferred. In terms of dredging, ebb tide dredging was favoured over all tide dredging, as was controlling overflow via a central weir, due to the potential decrease in turbidity generated by use of this methodology.

When environmental, social and economic scores were added to the MCA, overall options landed upon by the refinery were options 3.2 and 1.2 for disposal with recommendation to progress land based for beneficial reuse options (Options 4 & 5) where practicable. Overall channel alignment 4.2 was the preferred layout option. Recommendations arising from the MCA with regard to dredge type and methodology suggested finalising the preferred dredge methodology based on the final channel design, but also examining whether ebb tide dredging and/or other measures could be required to reduce impacts from turbidity.

It should be noted that the MCA exercise was premised on the basis of enabling larger tankers to enter the harbour. The initial economic analysis undertaken by Poten and Partners looked at wider options, including;

- a) dredging the access channel and the RNZ berth,
- b) installing a Single Point Mooring (SPM) system in deeper water offshore connected by an underwater pipeline to the refinery, or

c) using a Ship to Ship transfer in deep water to transfer cargo into smaller tankers for final discharge at the refinery.

Options b and c were discounted early on because of financial constraints. Therefore the assessment of alternatives was limited to the various layout, disposal and dredge operations associated with option (a) above. The status quo, ie. “no dredging” was not a consideration in the optioneering process. The results of the MCA exercise were then utilised to allow more specific expert study for the application AEE material.

5 Independent Technical Review

Due to the large number and complexity of background and AEE reports requiring analysis, the tāngata whenua working party commissioned an independent technical review. The review was undertaken by the working party’s preferred providers; Alison Newell (Chartered Ecologist), and Dr Peter Nuttall of the University of the South Pacific. Both Ngatiwai and Patuharakeke have formerly worked extensively with Alison and Peter on various other projects and Cultural Impact Assessments in the past. In conjunction with the working party, they were tasked with reviewing the background and AEE reports and providing a summary report highlighting any key areas of concern or gaps for tāngata whenua to consider in development of this CEA.

A further action of this step was to hold a hui-a-hapu to report back the findings of the review. As mentioned previously, the results of the review were presented and discussed at a hui at Takahiwai Marae, on 7th April 2017 with Tangata Whenua o Whangārei Te Rerenga Paraoa.

The review of the technical documents⁴ supplied identified five key areas of concern:

- a) The economic analysis provided by NZIER, including the overall viability of the refinery in the long term.
- b) The relationship of the proposed application within the context of climate change and New Zealand’s current and future policy over the lifetime of the consents sought.
- c) The overall health of the harbour and the role of RNZ as a key stakeholder.
- d) The practical implementation of the responsibility of kaitiakitanga by Patuharakeke in relation to the harbour.
- e) The potential impacts of dredging, including disposal of dredgings, mainly in relation to;
 - Noise – of dredging and ship movements – both on land and underwater (on marine mammals in particular)
 - Loss of habitat and species (in the dredging and disposal areas)
 - Sediment – plumes during dredging (increased turbidity) and smothering of habitats

⁴ see Appendix 3

- Changes in tidal dynamics – as this could lead to increased erosion in some places

RNZ have since responded to the Independent Technical Review Report with a set of clarifications from the various consultants. The Independent Technical Review Report and associated response is attached to this report as Appendix 3.

6 Cultural Effects Assessment

6.1 Assessment Framework

Potential effects of RNZ's dredging proposal have been assessed within the framework of:

- a) Relevant iwi planning documents; in this case the Patuharakeke Hapu Environmental Management Plan 2014, and Ngātiwai Iwi Environmental Policy Document 2015.
- b) RMA 1991; specifically in relation to:
 - the four-well-beings – environmental, economic, social and cultural values.
 - Part II sections specifically designed to ensure that the various relationships of Māori with taonga, kaitiakitanga and the principles of the Treaty of Waitangi are considered and protected⁵, and
 - Effects on the environment

Various pieces of legislation (the Resource Management Act (RMA), the Local Government Act (LGA), the Fisheries Act, etc include processes for protecting against the effects (also called impacts) of an activity on a range of values. Often these values are grouped under what have become known as the four-well-beings – environmental (or bio-physical), economic, social and cultural values. While there are well recognised tools and processes for assessing effects on most bio-physical matters (such as water quality and quantity, engineering issues, ecological matters, soils, air quality, economic effects and architecture), there are few recognised tools for undertaking assessments on the cultural well-being of tangata whenua.

The RMA includes a number of sections specifically designed to ensure that the various relationships of Maori with taonga, kaitiakitanga and the principles of the Treaty of Waitangi are considered and protected. Applicants for consents or permits under the RMA are required to identify all effects of an activity and then demonstrate that, where adverse effects are identified, the applicant has satisfactorily shown they can avoid, remedy or mitigate such effects. This process is called an AEE or

⁵ Section 6(e), 7(a), 8, RMA 1991

Assessment of Environmental Effects. While the format and content of an AEE is tightly defined in the RMA, the process used to identify cultural effects is not. This lack of definition has often meant that “cultural effects” are narrowly pigeon-holed as matters relating to wahi tapu or heritage. While these matters are critically important, they are only a sub-set of all the effects that an activity might have on tangata whenua and their values.

Effects on the environment are carefully identified in the RMA as including any positive or adverse effect; any temporary or permanent effect; any past, present or future effect; any cumulative effect that arises over time or in combination with other effects regardless of scale, intensity, duration or frequency; any potential effect of high probability and any potential effect of low probability which has a high potential impact.

Cultural Impact or Effects Assessments are a tool that can be used to identify the effects on a cultural group (in this case the tangata whenua of Whangārei Te Rerenga Paraoa) and their values of a proposed activity as part of the assessment an applicant should undertake when applying for permission to do an activity under a statute.

The following sample matrices have been utilised to prompt discussion during the series of hui and guide preparation of the earlier CVA and this CEA report.

Matrix 1: The relationships between Tangata Whenua and their taonga are identified.

<i>relationships that must be recognised and provided for</i>	<i>subcategory</i>	<i>Ancestral land</i>	<i>Water</i>	<i>Sites</i>	<i>Wahi Tapu</i>	<i>Other Taonga</i>
Maori Culture Traditions						

Matrix 2: Kaitiakitanga - The Hui/workshop is asked to identify any aspects of the knowledge/mātauranga or practice/tikanga that is affected or involved in this proposed activity.

<i>particular regard must be had for</i>	<i>Knowledge of</i>	<i>Practice of</i>
Kaitiakitanga		

Matrix 3: Principles of the Treaty of Waitangi – are these impacted by the proposal.

<i>take into account principles of:</i>	Are these impacted by the proposed development?
Kawanatanga	
Rangatiratanga	
Partnership	
Good Faith	
Hapu development	

Matrix 4: Effects – are categorized and level of significance assessed.

Effects		positive	negative	temporary	Permanent	Past	Present	Future	Cumulative	High probability	Low probability, high impact
Well beings											
	Sub-categories										
Bio-physical	e.g. Land										
	Water										
	Biodiversity										
	Fisheries										
Economic											
Social											
Cultural											

The list of effects identified in section 6.3 below is not set out in any order of priority or importance. They are set out under headings of the four well beings – identified in the RMA, Environmental, Cultural, Economic and Social. Largely these issues are interconnected and overlap and certain environmental effects could just as easily be discussed under the categories of cultural, social or economic wellbeing. Before considering these individual elements, it is important to first contextualise these by looking at the “big-picture”.

Primarily, Tangata Whenua o Whangārei Te Rerenga Paraoa are concerned with ensuring that any activities that have the potential to create further adverse effect on the mauri of Whangārei Te Rerenga Paraoa, Poupouwhenua, mahinga mataitai and our cultural landscapes and seascapes are avoided.

In terms of any adverse effects, tāngata whenua consider that it is they, as Kaitiaki, who have, and will continue to bear ultimate responsibility. The need to ensure that adverse effects are avoided in relation to the current proposal is reinforced by the current diminished health of the resources and ecosystems in this location.

6.2 Iwi Planning Documents

There are two iwi environmental planning documents held by the Northland Regional Council of relevance to RNZ's proposal, the Patuharakeke Hapu Environmental Management Plan 2014 and Te Iwi o Ngātiwai Iwi Environmental Policy Document 2015.

The recently revised publication of the Patuharakeke Hapu Environmental Management Plan⁶ (HEMP) sets out policies relevant to this proposal. Chapter 9 is entitled "Tangaroa" and sets out PTB policy in relation to the coastal environment. It includes covers such matters as foreshore and seabed, oil spill risk, industrial activities at Poupouwhenua, Marine Mammals and customary fisheries.

Some key provisions considered relevant to this kaupapa include:

Section 9.1.1 – Water Quality: Issues

- a) The cultural health of Whāngarei Te Rerenga Paraoa, Bream Bay and our estuaries is adversely affected by:
 - i. Direct discharges of contaminants, including wastewater and stormwater;
 - ii. Sedimentation
 - iii. Diffuse pollution from rural, urban and industrial land use;
 - iv. The cumulative effects of activities.
- b) Patuharakeke are not represented in decision-making over the management of coastal waters in our rohe.

Section 9.1.2 - Objectives

- a) Whāngarei Te Rerenga 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 tāngata whenua.

⁶ <http://patuharakeke.maori.nz/te-taiao-environment/hemp/>
http://www.ngatiwai.iwi.nz/uploads/5/9/0/0/59002899/2015_revised_ngatiwai_iwi_environmental_policy_final_.pdf

Section 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 9.6.1 – Industrial Activities at Poupouwhenua: Issues

- a) Industrial activities at Poupouwhenua have had adverse impacts on the mauri and cultural health of Whangārei Te Rerenga Paraoa and cultural landscapes and seascapes.
- b) There is a need to work closely with NRC, NPC, Northport and Refining NZ to manage effects of industrial activities on the mauri and cultural health of the harbour and the relationship of tāngata whenua to it.

Section 9.6.2 - Objectives

- a) The mauri and cultural health of Whangārei Te Rerenga Paraoa and cultural landscapes and seascapes are not further compromised by industrial activities at Poupouwhenua.
- b) Patuharakeke maintain robust and effective relationships with Northport and Refining NZ and the relevant statutory authorities.

Section 9.6.3 - Policies

- a) NRC will require that Northport and Refining NZ recognise and provide for the relationship of Patuharakeke to Poupouwhenua and the harbour and our aspirations to manage the harbour as mahinga kai, by:
 - i. Ensuring that port activities at all times seek to avoid or minimise pollution in the harbour;
 - ii. ensuring that consents for works or discharges stipulate regular cultural health monitoring by resourced kaitiaki as part of compliance monitoring;
 - iii. Where data shows that there is an adverse effect on water quality then activities must cease;
 - iv. Providing appropriate mitigation and/or compensation where cultural and environmental effects cannot be avoided, (i.e. such funds as for restoration projects);
- b) Major dredging programmes will be avoided and CIA's will be mandatory for any dredging proposal in our rohe moana or coastal waters; and
- c) PTB, NRC, Northport and Refining NZ will work collaboratively to develop a research program to investigate and address how dredging, reclamation, sedimentation and discharges in the harbour are affecting mahinga kai.

Relevant provisions from Ngatiwai Trust Board's policy include:

Water Issues for the Ngatiwai rohe

- Impacts on the mauri of a resource create negative flow-on impacts on other resources, and cause opportunity losses for Ngatiwai people.

Water Objectives for the Ngatiwai rohe

- 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.
- The sustainable management of water, soil and air in a collaborative manner considering all flow on effects.
- The relationship of Tāngata Whenua and their culture and traditions with their ancestral waters is recognised and provided for as a matter of national importance by councils.
- Tāngata Whenua are acknowledged as the kaitiaki of creeks, streams, water bodies, wetlands, swamps, springs, aquifers, thermal waters, estuarine waters and coastal waters within their rohe.

Water Policies for the Ngatiwai rohe

- Tāngata Whenua are the kaitiaki of water in their rohe.

Indigenous fauna Issues for the ngatiwai rohe:

Within the rohe of Ngatiwai the life-supporting capacity of indigenous fauna is being negatively impacted by farming, subdivision, forestry practices and development. This can lead to biodiversity losses.

Indigenous Fauna Objectives for the Ngatiwai rohe

- The maintenance and restoration of natural species.
- The enhancement of endemic and endangered indigenous animals.
- Tāngata Whenua are acknowledged as the kaitiaki of all indigenous animals and their associated ecosystems within their rohe.

Indigenous Fauna Policies for the Ngatiwai rohe

- Indigenous fauna are taonga tuku iho to Tāngata Whenua.
- Tāngata Whenua are the kaitiaki of their indigenous fauna.
- Only after appropriate effective engagement and adequate remediation or mitigation, or safety or security reasons, will Tāngata Whenua support any negative or destructive impacts on their indigenous fauna.

Conclusions

Overall, it is considered that the RNZ dredging proposal is not consistent with the provisions contained in the excerpts from the relevant iwi planning documents outlined above. Namely, this proposal does not provide for fundamental policies, ie. *"The mauri of Whangārei Te Rerenga Paraoa is not to be further compromised by industrial activities at Poupouwhenua and must be protected and enhanced to enable Tāngata Whenua to provide for their social, economic and cultural wellbeing; and that of generations as yet unborn. Further, major dredging programmes are to be avoided."*

6.3 Effects

As stated in section 6.1 above the framework of relevant RMA Part II matters has enabled tāngata whenua to assess:

- the implications of the RNZ dredging proposal for the knowledge and practice of Kaitiakitanga by tāngata whenua over their taonga;
- whether the principles of the Treaty of Waitangi are affected by the RNZ dredging proposal; and
- the ecological, cultural, social and economic ("environmental") effects of the RNZ dredging proposal on tāngata whenua, their values and taonga.

6.3.1 Kaitiakitanga

Section 7(a) of the RMA requires decision-makers to have particular regard to kaitiakitanga in relation to managing the use, development and protection of natural and physical resources. As Kaitiaki, tāngata whenua are responsible for both the knowledge (mātauranga) and the practice (tikanga) of kaitiakitanga in relation to the sustainable utilisation of resources. This relationship is a responsibility rather than a right – a duty they are bound, by both culture and tradition, to maintain. The CVA provides insight as to how historically, the capacity to practice kaitiakitanga has been eroded by the loss of title to large tracts of ancestral land, the industrialisation and development of that land in addition to the progressive introduction of increasing layers of government control over resources and their management.

In the contemporary setting, the resource management framework and and iwi planning documents go some way towards enabling due recognition of the role of tāngata whenua as kaitiaki. In the context of this proposal, engagement and participation of tāngata whenua throughout the resource consent scoping and assessment of effects process can be seen as a contemporary expression of kaitiakitanga.

However, hui participants pointed to the enduring, systematic & systemic loss of knowledge (traditional knowledge including te reo māori me ngā

tikanga) that has occurred post colonisation and may continue to be affected as a result of this proposal.

Matauranga and tikanga can be affected by the loss of access to sites, and species. One impact of land alienation in this rohe has been the loss of the original place names in certain locations. Another example relates to kaimoana species being harder to come by and as a result, key knowledge around gathering locations and harvest practices is not retained. If we are unable to take our tamariki and mokopuna to places we once frequented the knowledge transfer is interrupted. Kaitiaki now rely on a limited number of kaumatua who are able to provide the historical narrative of how mahinga kai and mataitai sites used to be, how abundant they were, the tohu (seasonal signals) of the maramataka (calendar) that showed when to harvest or carry out a particular management response, and the tikanga around harvesting – such as who in the hapu was responsible for what tasks and what the harvest was utilised for. Therefore, in our experience, the decline of marine and terrestrial species, is accompanied by a decline in traditional knowledge in regard to those species, their uses and management practices. This impacts on our duty as Kaitiaki and displaces an important role and function for our tamariki and mokopuna.

If mahinga kai or mataitai sites, such as Mair Bank are further compromised by this proposal, this generation of kaitiaki will struggle to continue the restoration and enhancement they are currently progressing. The duty of kaitiakitanga that is passed down means that today's kaitiaki are accountable⁷ for any impacts on taonga species as a result of this proposal. A common view expressed at hui was that *"Crown agencies, developers and the like may come and go but tāngata whenua will remain here and bear the cultural cost."*

Conclusions

Overall, tāngata whenua consider that RNZ's dredging proposal has the potential to diminish their standing as kaitiaki and will have flow on effects on mana, and their spiritual and physical wellbeing.

6.3.2 Treaty Principles

At present the "Treaty" space in Te Tai Tokerau is a very active one. Some iwi are engaging in direct negotiations with the Crown and many others are currently engaged in the Waitangi Tribunal's Te Paparahi o Te Raki (Northland) inquiry. While any settlement in relation to hapu and iwi of Whangārei is still some way off, future settlement will assist in providing a platform for iwi and hapu growth and revitalisation in Whangārei and in all likelihood will address ownership and management issues in relation to the Whangārei Harbour.

⁷ see engagement update #10 in Appendix 1

Section 8 of the RMA requires taking into account the principles of the Treaty of Waitangi in relation to managing the use, development and protection of natural and physical resources. The use of treaty principles is the subject of ongoing debate amongst tāngata whenua, particularly in a region where adherence to Te Tiriti and He Whakaputanga (the Declaration of Independence 1835) is still considered paramount. The clear message from tāngata whenua is; “we retain rangatiratanga over the whenua, moana, takutai.”

There is no one defined set of treaty principles and there remain differences in opinion as to who is required to apply them in decision-making. Part of the CIA exercise is to consider how the role of tāngata whenua is reflected in decision making related to the RNZ dredging proposal and forthcoming consent applications. Past experience with developments in the rohe has provided little confidence that the interests of hapu and iwi are actively protected.

Treaty Principles such as reasonable cooperation, rangātiratanga, partnership and the principle of mutual benefit are addressed to a point through early and on-going engagement with tāngata whenua in relation to the RNZ dredging proposal. The fact that the tāngata whenua have been the focus for providing a collective impact assessment recognises their rangatiratanga over their traditional lands and waters.

However recognition of these matters is insufficient in our view. If rangātiratanga was more than just a concept, tāngata whenua would be central to decision-making on this resource consent application, thereby enabling active protection of taonga and resources. If partnership was genuinely realised, tāngata whenua would be represented on the governance of the regional council and Refining NZ for that matter. Rangatiratanga has been continually usurped from 1840 onwards starting with the confiscation of Poupouwhenua Block and removal of our rights over the harbour during the 19th and early to mid 20th century through the Crown’s exercise of presumptive ownership, management and control (for example, numerous Harbour Board Vesting and Empowering Acts).

Given that tāngata whenua maintain that they have never relinquished their rangatiratanga over the foreshore and seabed there is still debate amongst hapu and iwi as to whether the Marine and Coastal Areas (Te Takutai Moana) Act 2011 (MACA) is much of an improvement on its predecessor, the Foreshore and Seabed Act 2004. The MACA provides ways for Māori to get legal recognition of their customary rights in te takutai moana, either through an agreement with the government or by a High Court order. Applications were required to be lodged with the High Court or notice given to the Office of Treaty Settlements by April 3rd, 2017. Several Whangārei hapu and iwi groupings including Patuharakeke and Ngatiwai have made applications for either customary marine title and/or protected customary rights that overlap with the RNZ proposal area.

This begs the question: what impact will a 35 year consent period will have on rights and interests of tāngata whenua that are yet to be confirmed via the customary marine title and protected customary activity process under the MACA Act. This act may have outcomes that affect the ownership of resources in the coastal marine area, eg. sand, that could have a direct bearing on RNZ's dredging proposal.

Similarly, the potential effects on Māori customary and commercial fishing rights, as well as interests in the fishing activities of organisations that have a collaborative relationship and/or partnership with Māori is difficult to quantify. Given that customary fisheries in the vicinity of the proposal are already in a severely depleted state, potential cumulative and future effects on customary kaimoana resources were considered adverse and unacceptable.

The development principle is also considered relevant in this case. Tangata whenua have future aspirations for development in the harbour and wider coastal area eg. in ecotourism or potentially aquaculture. Activities that could compound past impacts on our "right to develop" remain areas of concern in relation to the dredging proposal.

Conclusions

Overall, tāngata whenua consider that RNZ's dredging proposal does not strengthen their ability to exercise rangātiratanga and may undermine their right to develop in future, including the potential outcomes of their applications for customary marine title and/or protected customary rights.

6.3.3 Effects on Tangata Whenua Culture and Values

The set of effects identified below is not set out in any order of priority or importance. As previously mentioned they are structured under headings of the four well-beings as identified in the RMA - Environmental, Cultural, Economic and Social. Largely these issues are interconnected and overlap as certain environmental effects could just as easily be discussed under the categories of 'cultural, social or economic' wellbeing.

Past effects of development at Te Wahapu o Whangārei Te Rerenga Paraoa have impacted on the culture and values of tāngata whenua. This collective experience and memory informs the view of iwi and hapu in relation to any activity proposed to be undertaken.

Ecological Effects

The principal ecological concerns raised by tāngata whenua throughout the series of hui, related to adverse effects on the health of the Harbour and Bream Bay, particularly in light of historical impacts such as the construction of Northport.

Taonga Species

Marine Mammals:

The CVA report provided context on the importance of marine mammal species to the cultural identity of tāngata whenua o Whangārei Te Rerenga Paraoa and their relevance in light of the name given to the harbour. The channel into the harbour is considered to be a pathway for whales, and while it is regularly used by pods of dolphins and orca, formerly rare species are once again returning to the harbour. Over the last several years humpback whales have been spotted in the harbour near Marsden Point the Reotahi Marine Reserve, including a mother and calf. At the time of writing, crews of Ngatiwai and Patuharakeke kaitiaki had spent several days flensing a young sperm whale or Paraoa that stranded and unfortunately died on Mair Bank on 30th May. Both Ngatiwai and Patuharakeke have protocols with the Department of Conservation (DOC) that detail procedures for whale strandings and the recovery of resources from marine mammals for cultural harvest purposes. DOC personnel have stated that as populations of these mammals increase we may see a lot more of those species in the area⁸. The increase just over the course of the last few years appears to support this and tāngata whenua want to ensure these taonga, kaitaki and cultural indicator species are protected.

The Cawthron AEE Report identified potential effects on Marine Mammals relating to disturbance for example from underwater noise, and the associated behavioural and physical responses of whales and dolphins. Effects relating to vessel strike and potential entanglements as well as indirect effects on marine mammal habitat and feeding were assessed. Overall the report concluded that effects were less than minor due their temporary nature and could be mitigated through a variety of methods, such as development of a Marine Wildlife Management Plan and other operational guidelines for the dredge vessel including onboard observers.

During the 12th May hui/workshop, tāngata whenua assessment produced an alternative conclusion. Without real certainty around the length of time capital dredging will take and the frequency of ongoing maintenance dredging potential acoustic effects were difficult to assess. The final type of dredge and methodology to be used will also likely make a difference and this appears to be a decision to be confirmed later at the tender stage. However, potential effects on marine mammals were considered to be “low probability high impact” as well as cumulative effects. The Cawthron report refers to “some of the possible consequences of rare events (i.e. vessel collision or entanglement) could have population level effects.” Such an event and subsequent whale or dolphin mortality was considered to be an unacceptable adverse effect. As such, representatives

⁸ <https://www.maoritelevision.com/news/regional/ngati-wai-team-make-preparations-stranded-whale>

were of the view that the significant adverse potential effect could not be mitigated and must be avoided.



Figure 3: Hapu and Iwi Customary Harvest of the Sperm Whale named "Tahuu Potiki at Bream Bay June 4th 2017

Birds:

The quote from a hapu member at the 7th of April hui essentially sums up our relationship with taonga species such as birds;

"I whakapapa to the stingray and penguin"

Bioresearches AEE identified the potential risk on shorebird habitats as high at Mair Bank and low-moderate at Reotahi Bay due to their proximity to the dredge footprint. Overall the risks were concluded to be low. Disruption to birds such as Kororā/Little Penguin and Oi/Grey faced petrel) could occur due to turbidity, lighting, and noise effects during dredging operations. The risk appears to relate to birds commuting between nesting and feeding habitat. An offset is proposed through provision of nesting boxes in the Home Point and Busby Head areas, along with guidelines for lighting of the dredge vessel. The AEE report states "There is no regular monitoring recommended for coastal birds because the major elements of the Project are essentially fixed and there are unlikely to be any opportunities to modify those elements in the event of an adverse effect being recorded, which based on the modelling results and analysis, is considered to be in the low risk category." As such only post dredging monitoring is recommended. The required frequency of post dredge monitoring is unclear from the

documentation, as is whether there would be a requirement following maintenance dredging.

Tangata whenua categorise these potential effects on birds to be cumulative significant adverse effects. Because Mair Bank is considered to be of national importance and is immediately adjacent to the TSHD and berth pocket dredging and is the key feeding habitat for variable oystercatcher in the outer Harbour (Bioresarches, 2017) is it not acceptable that potential effects on them cannot be mitigated. While nesting boxes may have some value for korora and oi, we have been unable to see any relevant mitigation proposed for oystercatcher and other bird species utilising the Mair Bank area.

Benthic Fauna:

The loss of benthic species (of which we are kaitiaki and that are kai for other taonga species) in the dredge footprint area and disposal areas is a major concern for tāngata whenua. Coffey and Associates state:

"when these soft bottom communities are instantaneously buried by a layer of sediment that is too deep for them to migrate up through to reach the new seabed surface, they are smothered and a conservative approach is to assume complete mortality of pre-existing benthos. It is expected that such areas will be recolonised by like communities within a relatively short timeframe (i.e. 12 months after disposal is complete)."

Tangata whenua disagree with the assessment that these impacts are minor and short term - as depending on maintenance dredging they may not recover or may be in continual state of disturbance. Bioresarches (2016) discuss "cascading effects" ie. persistent changes to the population dynamics of benthic invertebrates, resulting from long term deposition of dredge material, can have cascading effects on important fisheries resources that primarily feed on benthic invertebrates." While deposition of maintenance spoil would be a significantly reduced amount of material, it remains unclear as to how much and how often this would be required. Essentially, deposition could continue over the life of the consent. It is assumed that the area of reduced benthic productivity would decrease in a linear fashion over time and disposal locations would vary within the disposal site envelope. However, Kerr and Associate's (2016) baseline survey of disposal sites found that while "the invertebrate community is not especially diverse or abundant when compared to some of the high diversity inner harbour locations... arguably it is representative and significant ecologically in the context of this habitat type and location." Further, perusal of the baseline ecological data (Kerr and Associates, 2016) surveyed at the primary disposal location area 3.2 showed consistent presence of scallops/tipa, an important kaimoana species. As such the potential loss of benthic species, as food for taonga species and including kaimoana species is considered a significant adverse effect.

Coffey and Associates also identified the risk of “Adventive” marine pest species recolonizing disturbed areas. Marine pests such as Mediterranean Fanworm are already established in nearby Marsden Cove and other areas of the Whangārei Harbour. They have proved impractical to eradicate and significant resources are required to control them annually. The potential risk of such species establishing in the dredge footprint and spreading into nearby areas such as the marine reserve at Reotahi is considered a significant adverse effect. Further, the final dredge methodology to be utilised is unclear and can potentially effect turbidity (ie. all tide rather than ebb tide and whether green valve technology will be utilised). It is difficult to determine whether a quicker operation (ie. All tide dredging and no use of a valve) will result in less ecological effect.

Recommendations around mitigation include RNZ making a contribution to a fund for rehabilitation initiatives such as seagrass and shellfish enhancement programmes and ongoing monitoring. However, as with the monitoring of seabirds above, there are unlikely to be any opportunities to modify elements of the dredging and disposal operations in the event of an adverse effect being recorded. We also note that such a method does not represent “mitigation” as such, because the effects cannot be mitigated – this is offsetting or compensation rather than mitigation. The need for offsetting or mitigation is another indication to tāngata whenua that effects will be significant.

Oceanography and Coastal Processes

Met Ocean’s report evaluates the potential physical effects of the channel deepening on the wave, current and sediment dynamics at the harbour entrance, the effects of dredging and disposal on water quality, and the effects of sediment disposal on the receiving environment. When assessing potential changes to the wave climate their report mentions generally subtle changes apart from during infrequent storm events when significant wave height may increase by 5 to 10%. *“The western edge of the channel entrance near Busby Head may occasionally experience an increase of the significant wave height up to 20% (~20cm) during extreme events due to enhanced refraction.... such changes in the wave height fields are expected to be constrained to a limited area of the tidal delta shoal where bottom friction processes dissipate a large fraction of the incident wave energy. The increase of the wave energy during extreme storm events due to the dredging is thus predicted to be inconsequential for the adjacent beaches, sand banks, Marine 1 Management Areas or Marine Reserves.”*

As climate change is predicted to cause higher intensity storm events and surges, tāngata whenua are of the view that RNZ’s proposal could exacerbate these impacts and lead to secondary effects on shoreline erosion. We are not convinced that changes to wave energy will be inconsequential. At several hui, participants queried the numerical computer modeling that has been utilized and at the workshop on 25th

May 2016, Richard Reinen-Hamill acknowledged that “all models have limitations.”⁹ At the 12th May hui, an example was provided of the Lyttleton Port Company’s channel deepening project. A participant had been working with Ngāi Tahu whanui, specifically Rapaki Marae to assess potential impacts of dredging and disposal in that area. The tāngata whenua of the area had concerns in relation to uncertainties around the modeling. Sediment transport had not behaved as anticipated and resulted in sediment moving into mahinga kai areas and a new disposal site was being investigated (Clive Stone, Pers. Comm). Tangata whenua o Whangārei Te Rerenga Paraoa remain of the view that changes to currents as a result of the port reclamation at Poupouwhenua have also adversely impacted mahinga mataitai areas such as Mair Bank.

As such, the possibility of dredging leading to alteration of the beach profile and/or other erosion and accretion processes – particularly in relation to Mair Bank/Marsden Bank is a major concern for tāngata whenua. The Tonkin and Taylor report recognizes “Both the possible on-going removal of sediment from the capital and maintenance dredging and future sea level rise effects may result in increased erosion pressure on Mair Bank as well as on-going shoreline erosion along the open coast beaches adjacent to the ebb tide shoal...as such there is potential for cumulative effects of a continuous removal of sand from the ebb tide delta reducing the net volume stored in the delta that would exacerbate instability of the delta and have an associated adverse effect on the adjacent shoreline.” In recognition of this impact mitigation has been proposed by way of disposal in Area 1-2 to promote onshore drift of sediment to nourish the eroding areas. It is unclear to tāngata whenua whether this action will be guaranteed to arrest erosion/destabilization of Mair Bank – particularly when considered in concurrence with climate change/sea level rise impacts.

Given that the enormous loss of pipi biomass at Mair Bank already threatens the feature’s future stability, any further risk to this site of significance, mahinga mataitai/customary fisheries and important habitat for taonga species such as birds is considered unacceptable. Physical impacts that could increase secondary erosion effects along the northern shoreline, (ie. at Busby head) risk other important kaimoana gathering locations, our cultural landscapes and seascapes and undisclosed waahi tapu (burial caves) along this shoreline. Similarly, these adverse effects are considered unable to be mitigated and unacceptable.

Oil Spill Risk

Oil spill risk is always present because of the presence of the deep water port and refinery jetty. According to Brian Coffey¹⁰ an oil spill could be “catastrophic at any time.” The Rena disaster illustrated how ill-equipped regional councils and Maritime NZ are to deal with significant spills. The Navigatus report reaches the basic conclusion that a possible 19%

⁹ see TW Engagement Update #7 in Appendix 1

¹⁰ see TW Engagement Update #8 in Appendix 1

reduction of vessel movements will reduce this risk. The independent review report (Newell, 2017) queries whether ship numbers will in fact decrease as a result of this consent. While it seems logical that moving to larger parcel sizes will mean fewer ships, a range of factors are in play and we remain uncertain as to whether this argument is valid. While changes to the channel should also create a net improvement in navigational risk, tāngata whenua are cognisant that the last two oil spills at Marsden Point (at Refinery Jetty in 2014 and Northport in 2015) both occurred while the ships were berthed. Regardless of improvements to navigational safety through channel design the risk cannot fully be eliminated (particularly the human error factor). This was illustrated recently when a sea captain having difficulty berthing at Northport was found to be well over the blood-alcohol limit and was arrested.¹¹ Oil spill risk will always remain a concern for tāngata whenua and is considered a low probability high impact potential effect that is unable to be mitigated.

Climate Change

From the outset of consultation in 2014, tāngata whenua raised issues around “the bigger picture”– recognising the need to transition to a low carbon economy and that the oil refinery is a “sunset industry.” In the future the sites closure or transformation will be inevitable. Tāngata whenua question whether the short-term economic benefit of substantial modification to the harbour outweighs the environmental and cultural costs.

The independent technical review report (Newell, 2017) looked at the proposal within the context of NZ’s current and future oil demand and NZ Government policy on GHG emissions and related decarbonisation. We remain of the view that this project does not fit with our broader aspirations in relation to climate change¹² and certainly does assist us in meeting our obligations as kaitiaki and our duty of care to our tamariki and mokopuna yet to be born. We have been reminded that the RMA expressly directs decision makers not to have regard to the effects of discharges on climate change except in the limited circumstances of considering the positive benefits of renewable energy in reducing discharges of greenhouse gases. Regardless, the effects of climate change (section 7(i)) remain a matter for consideration in RMA decision-making particularly when regional councils must consider whether a particular activity is sensitive to climate or may be magnified by climate change ie. in relation to natural hazards.¹³

In general climate change figures utilised through various reports appear outdated and the issue is given a relatively cursory coverage. As mentioned in preceding sections of this report, the physical effects of climate change affecting coastal process, geomorphology, and extreme

¹¹ see http://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=11899392

¹² see section 4.2 of the PTB HEMP

¹³ see: <http://www.qualityplanning.org.nz/index.php/planning-tools/climate-change>

weather events in the context of the deepening of the channel could in turn affect our mahinga mataitai and cultural landscapes and seascapes. These cumulative adverse effects are considered significant.

Conclusions

Tāngata whenua have reached their conclusions in relation to potential environmental effects within the context of a harbour that is already in a degraded state. Many of the technical reports only consider impacts on a small portion of the harbour. Our frame of view looks at Whangārei Te Rerenga Paraoa and Bream Bay in a holistic sense and in light of our collective experience particularly in relation to previous developments in the area. In our view ecosystem health is in decline and the cumulative effects of RNZ's proposal will further contribute to that decline. Effects identified above include low probability high impact effects that are considered to be unacceptable adverse effects. Therefore tāngata whenua are unable to support the proposal based on environmental effects and consider these effects must be avoided.

Cultural Effects

Cultural Landscapes and Seascapes

The proposal has the potential to impact on amenity values on a temporary basis, for example through the operation of the dredge and associated vessels. The harbour is already compromised through shipping and industrial activities in this location and therefore this is considered a temporary and minor effect. However, potential impacts on landscapes and seascapes, for example the form of Mair Bank, Busby Head and other important cultural markers through coastal processes being intensified as a result of dredging would represent a significant adverse effect.

Mauri

Effects referred to above, such as removal of sand out of the system, the loss of benthic community, sediment plumes, and any impacts on tohora and paraoa (whales), for example, contribute to an overall effect on the mauri and cultural health of the harbour/ecosystem as a whole. At hui participants emphasized that tupuna referred to the harbour as an entity, looked upon in much the same way as a human being. Tāngata whenua measure effects on the harbour in the context of past and present effects, as well as the future effects anticipated as a result of the RNZ proposal. The mauri of Whangārei Te Rerenga Paraoa has been seriously diminished as a result of decades of management decisions that tāngata whenua had no part in. From the late 1950's onwards, cement processing fines were dumped into the harbour at Portland, sediment dredged from the main channel was dumped on Snake Bank and at Takahiwai, agricultural run off has become a major issue as were historical failures of the city's sewage treatment plant that saw untreated discharges entering the harbour

regularly and on into the last decade. The Marsden Cove Marina development and reclamation of Northport berths along with existing and future refinery consents, fisheries pressure and future climate change impacts all add to this mix of past, present and future stressors on the harbour.

Mana

As kaitiaki of all natural resources within the rohe, tāngata whenua have a cultural and spiritual responsibility to ensure the mauri of these resources/taonga tuku iho is maintained, protected and enhanced. Due to our inability to manage our own taonga the mauri has been diminished. This has flow on impacts to our mana. For example, our mana as tāngata whenua, is affected by our inability to practise manaakitanga to gather kai moana for the table both for our families and manuhiri (something the people of Whangārei Te Rerenga Paraoa were formerly renowned for). Mana is inter-generational. Decisions that were made during the time of previous generations of kaumatua (whether they were able to participate in their making or not) have caused long-term adverse effect on the ecosystem of the Whangārei Harbour and inevitably this has led to adverse consequences for the mana of this generation of kaumatua. Constraints to our participation today will affect the next generation and continue to transfer onwards to our future tamariki and mokopuna.

Conclusions

At the 12th May Hui a kaumatua summed up the kōrerorero by asking the following question: *"Does the project allow us to provide for the cultural and spiritual protection of the harbour?"* The resounding answer was "no".

The position of tāngata whenua is that the proposed dredging of Whangārei Te Rerenga Paraoa does not provide for te reo māori ngā tikanga, and cultural and spiritual wellbeing. The proposed dredging will continue to erode the mauri of the harbour, and subsequently affect values such as kaitiakitanga, mātauranga māori, and mana. These cumulative effects span the past, present and future and are deemed by the tāngata whenua of the harbour to be significant adverse effects that are unable be mitigated.

Social and Economic Effects

Social

Potential and cumulative impacts identified that could affect the social wellbeing of tāngata whenua included restrictions on public access during dredge operations, and amenity effects relating to noise. These effects will both be temporary. There was debate at hui about the potential level of these type of effects. Due to differing statements through the expert reports about when dredging should be undertaken or restricted due to

noise issues at certain locations it is difficult to ascertain the level of effect. In the above discussion regarding marine mammals there is uncertainty as to whether restrictions on dredging or less restrictions and a shorter dredge timetable will have a lesser effect. Regardless the activity has the potential to impact on the amenity of the local community, including tāngata whenua.

Perhaps of greater significance – is the linkage between the health of harbour ecosystems and the health of our people. Industrialization in Whangārei Harbour has contributed to the inability to harvest kai both for customary purposes and to feed our whanau. Tāngata whenua consider that the health of the harbour and the physical and spiritual health of people are inextricably connected. Any further adverse impacts on marine health will therefore impact our social (and spiritual and cultural wellbeing).

Economic

As with social effects, economic effects are often seen in the context of cumulative effects on ecological and cultural values that can further impact the social and economic wellbeing of tāngata whenua. Much of the evidence provided during the recent rounds of Waitangi Tribunal hearings in Tai Tokerau point to the historical experience of iwi and hapu not sharing in the economic benefits gained from past development of the area.

The NZIER report emphasizes the economic importance of the oil refinery to the region and how the Crude Freight proposal will enable the refinery to stay open longer (when the refinery would otherwise have to close and how much longer it could stay open is not elaborated on). The report discussed a possible loss of 85% of jobs at refinery and the wider impact on Northland should the refinery have to close. Tāngata whenua are clear that the oil industry and consequently processing plants will have a limited lifespan in the future anyway. Ideally, Refining NZ could come up with an alternative sustainable plan to ensure the plant is viable in the longer term.

From the Independent Technical Review undertaken on behalf of tāngata whenua it was not clear whether any positive effects for the local community would directly ensue from consent related works. The Tonkin and Taylor report recognizes that the dredge and crew required for a project of this size would likely have to come from overseas. Works onshore appear to require a very limited workforce. The experience of whanau working at Marsden Point Oil Refinery in recent years has been that many permanent workers have been shifted to contracting companies and many crews working on site appear to be migrants. According to the NZIER report there are currently just over 300 people employed at refinery. The 2016 annual report provided a breakdown of employees and included 16 who identified as Māori and another 26 that identified as

Māori and European/Pakeha or of Māori and Pacific Island ethnicity. None of these staff were senior management and the one director listed as Māori is not from the area. It is unknown how many of the employees are local tāngata whenua.

The NZIER report also raised the costs of future site remediation at the refinery should be forced to close earlier. The remediation costs were estimated to be in the order of \$300 Million and the Crude Freight Project would allow deferring this cost to an unspecified date in the future. This approach does not sit well with tāngata whenua who are uncomfortable with the idea of passing on the costs and burden of site remediation to future generations of kaitiaki to deal with.

Section 6.3.2 in relation to Treaty principles touched on some of the economic aspirations hapu and iwi have in relation to the moana and what impacts a 35 year consent might have on these aspirations. At the time of writing a draft AEE report on commercial fishing impacts had been sighted (Boyd, 2017) and concluded that dredging and spoil disposal activities would have negligible effects on commercial fishing in the area. The study acknowledged that significant commercial cockle and pipi fisheries occurred on Snake and Mair Bank up until around 2012 when they were subsequently closed due to low biomass. The report finds that no impacts on pipi and cockle fisheries at these locations are likely. It does note that there is potential for these fisheries to resume in future if biomass levels recover.

Tāngata whenua have been actively involved with Ministry of Primary Industries, Northland Regional Council, NIWA and industry and other stakeholders in the area in promoting research and monitoring of these fisheries. The results of 2017 community pipi monitoring carried out by Patuharakeke and NIWA is yet to be reported on, but anecdotal observations during the surveys was that juvenile recruitment has improved markedly in comparison to 2016 findings. It is our utmost hope that these fisheries do return to pre-2012 biomass levels and that within the lifetime of this consent beds are in a condition where sustainable commercial harvest is attainable. The proximity of the dredge footprint to this resource and the ongoing loss of sediment remain a concern, primarily in relation to the effects on this very significant mahinga mataitai and customary fishery, but also in relation to its potential as a commercial fishery once again in the future.

Māori own 50% of New Zealand's fishing quota¹⁴ and are heavily involved in aquaculture and will be allocated 20% of any new aquaculture space. Species fished and technology and advances in aquaculture may evolve over the life of this consent and could be constrained by it. Tāngata whenua are particularly interested in aquaculture that utilises mātauranga

¹⁴ <http://www.seafoodnewzealand.org.nz/industry/key-facts/>

māori to enhance kaimoana species. Studies are already underway to investigate opportunities for scallop enhancement in Bream Bay.¹⁵

Any impact on Māori customary and recreational fishing has the potential to flow on to further economic effect on local tāngata whenua as kaimoana sustain and supplement low incomes.

Conclusions

Tāngata whenua reached the conclusion that positive social and economic effects on them as a result of the Crude Freight Project were likely to be negligible as more jobs for locals are unlikely to arise. This will do little to arrest the ongoing drift of our whanau to the urban centres or Australia, a process that continues to weaken the social fabric and cultural identity of marae and kainga. Existing jobs at the refinery are important to the region but their viability in the long term is uncertain regardless of this project going ahead. Potential future constraints to our economic aspirations, for example in the areas of aquaculture or commercial fishing and ecotourism are unable to be discounted. Adverse effects on mahinga mataitai identified earlier can also be expressed as social and economic impacts, effecting the health and economic welfare of tāngata whenua through their inability to gather kai and feed their whanau or manuhiri at the marae. Our perspective is that the economic benefits of the proposal will primarily be restricted to multinational shareholders and do not outweigh the potentially adverse ecological and cultural effects. The social and economic wellbeing of tāngata whenua will in turn be negatively impacted by any ecological and cultural effects.

6 Measures to Avoid, Remedy or Mitigate

Where an activity results in adverse effects on the environment, section 5 of the RMA requires that these be avoided, remedied or mitigated. Case law considers that the ordering of these requirements prescribes a hierarchy – if at all possible effects must be avoided. If this is not possible then they must be remedied. Where they can be neither avoided nor remedied then adequate mitigation measures are required.

Potential mitigation measures were briefly discussed during the 12th May hui. However, the consensus was that overall, the range and magnitude of potentially unacceptable adverse effects meant that managing, mitigating or offsetting the effects would not be possible. The proposal itself is not suitable to apply an adaptive management method, ie. it cannot be staged and then halted if unexpected or more than minor impacts became apparent, or conversely, granted approval to continue to the next stage if effects are negligible.

¹⁵ <https://www.niwa.co.nz/te-kūwaha/research-projects/tipa-variability-and-enhancement-in-tai-tokerau>

The various experts point to a number of minor effects that, in isolation, appear relatively benign. However, when occurring concurrently and in conjunction with past impacts, the cumulative effects in relation to marine mammals, benthic organisms, coastal processes, kaitiakitanga, and mauri for example are significant. Many effects are referred to in the studies as unlikely to occur or temporary/short term in nature and therefore no mitigation measures are suggested. We contend that even if an effect is of a temporary nature, it can represent a low probability but high impact effect. Tāngata whenua therefore seek that the proposal in its entirety be avoided (ie. should not proceed) as it does not align to our cultural values and therefore impacts further on the mauri of Whangārei Te Rerenga Paraoa and Te Akau (Bream Bay). As such, mitigation measures have not been recommended in this CIA report.

At the 12th May hui the following resolution was passed:

"That ngā hapu katoa oppose Refining NZ's Crude Freight Proposal resource consent application/s".

7 Recommendations to the Applicant and Consent Authority

- That the content and recommendations contained in this report be taken into account by Refining NZ and the consenting authority.
- That Refining NZ be encouraged to continue dialogue with Tāngata Whenua o Whangārei Te Rerenga Paraoa on all aspects of this application.
- That Tangata Whenua o Whangārei Te Rerenga Paraoa acknowledge that Refining NZ wish to discuss mitigation options with them and will in good faith undertake an evaluation of any mitigation package presented by the Refinery.
- Regardless of the future direction of this proposal, Tāngata Whenua o Whangārei Te Rerenga Paraoa and Refining NZ (as a good harbour citizen and key part of the community) should continue to work together based on a shared goal that embodies the following:

The restoration of the mauri of Whangārei Te Rerenga Paraoa to support mahinga kai of abundance and diversity that sustains customary use.

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<http://www.qualityplanning.org.nz/index.php/planning-tools/climate-change>

<http://www.seafoodnewzealand.org.nz/industry/key-facts/>

Glossary of Māori Terms

Hapu - sub-tribe	Paraoa - Whale
Iwi - tribe	Pipi - clam
Kai - food	Rahui - restriction or control on an area
Kaimoana - seafood	Rangatiratanga - chieftanship; selfdetermination
Kainga - home, village, settlement	Rongoa - medicinal plants
Kaitiaki - iwi, hapu or whanau group with the responsibility of kaitiakitanga; with reference to the Customary Fishing Regulations 1998 = individuals who can authorise customary fishing	Takutai moana – Foreshore and seabed
Kaupapa - theme, policy	Tangata whenua - people of the land
Kaumātua – elders	Taonga - treasures
Kōrerorero- talking, dialogue	Te Whara - Bream Head
Kutai - mussel	Te Reo – Language, Māori language
Mahinga kai - food and other resources, and the areas they are sourced from	Tikanga - customary values and practices
Mahinga Mataitai - customary seafood gathering site, shellfish bed	Tipa – scallop
Mana - respect, dignity, influence	Tohora – Whale
Manaaki - to take care of	Tohunga - experts
Manaakitanga - hospitality, kindness	Tupuna - ancestors
Manuhuri – visitors	Waahi tapu - places and things that are sacred
Manu Oi - Shearwaters/Mutton Birds	Wairua - spirit
Matauranga – knowledge, body of knowledge	Wananga - seminar, workshop
Mauri - the essential life force of all things, spiritual essence	Whakapapa - genealogy, cultural identity
Mokopuna - grandchildren	Whakatauki- proverb
	Whanau - family
	Whangārei Te Rerenga Paraoa – Whangārei Harbour, Gathering place of Whales, Chiefs

9 Appendices

Appendix 1: Engagement – Hui Records

Request For Iwi Contacts

From:	Greg McNeil		
Applicant	NZR		
Purpose:	Pre app consultation works in CMA		
Location:	Mouth Whāngārei Harbour		
Date Completed:	25 November 2013		
Prepared by:	Rachel Ropiha (Northland Regional Council)		
Contact	Ref	Contact	Ref
Patuharakeke Trust Board P O Box 557 Whāngārei (09) 437 7462 (Juliane Chetham) Have an Environmental Management Plan	J9	Te Waiariki Ngāti Korora Hapū 896 Taiharuru Rd RD 1 Onerahi pererif.mahanga@gmail.com	JB
Terenga Paraoa Marae c/- Taipari Munro 15 West View Crescent Whāngārei 09 438 4061 taipari.munro@slingshot.co.nz Taipari.Munro@acc.co.nz TaipariMunro@wdc.govt.nz	K2	Toetoe Marae C/- Tapa George 38 Toetoe Road Whāngārei n/a	K1
Hauauru Trust C/- Mira Norris 36 Otaika Valley Road RD10 Whāngārei 09 4322798 selwynandmira@gmail.com otaika@xtra.co.nz	J	Te Taumata Kaumatua o Te Parawhau C/- Fred Tito 187 Church Road Whāngārei 09 436 2439 pereritito@gmail.com	J
Ngati Kahu o Torongare Hapū Trust C/- Richard Shepherd 323/15 Pipiwai Road RD 6 Whāngārei 09 435 2965 tamair@clear.net.nz	J9	Te Rūnanga o Ngati Whātua P O Box 1784 Whāngārei (09) 470 0720 tame.terangi@ngatiwhatua.iwi.nz	J

<p>Tania Pene Te Rūnanga A Iwi O Ngāpuhi P O Box 263 Kaikohe (09) 401 0084</p> <p>tania.pene@ngapuhi.org</p>	H	<p>Ngātiwai Trust Board RMU Clive Stone P O Box 1332 Whāngārei 09 430 0939</p> <p>Have an Environmental Management Plan cstone@ngatiwai.iwi.nz</p>	J
<p>Ngati Hine P O Box 36 Kawakawa 09 4041551</p> <p>Have an Environmental Management Plan tui.tirairaka@gmail.com</p>	H		

Crude Freight Hui – Initial Hui Record

17th May 2014

Takahiwai marae

Hapu: Patuharakeke, Parawhau, and Ngati Wai

Refining NZ: Sjoerd Post, Julian Young, Peter Gubb, Greg McNeill, Riaan Elliot, Dave Martin

Purpose:

- Purpose of the hui was to introduce the proposal, agree engagement process and clarify involvement/roles e.g. establish mana whenua liaison role and set up working party.
- Refining NZ attended first part of hui to introduce the crude freight proposal.

Introduction by Sjoerd Post:

- Considering the possibility of bringing bigger shipments of crude oil into Marsden Point.
- The size and type of ship that would be required has regularly brought crude into Marsden Point in the past. Considering bringing these ships back to Marsden Point with a bigger cargo of crude oil on board.
- Proposing dredging and other work on Whangarei harbour and at Refining NZ to ensure that these ships can enter the harbour safely.
- Two key areas for consideration are Fairway Shoal and Home Point (shown on chart at Appendix one). Highlighted these areas because studies in 2005 and 2008 by the oil companies indicated that deepening at Fairway Shoal and widening at Home Point would improve the safety and navigability for shipping.
- Can't rely completely on previous studies, as this proposal is different. As such, we would need to undertake new studies.
- Competivity is key: bringing crude to the refinery in bigger ships means our customers' are more likely to continue making their fuel products here.
- We don't have all the details of the proposal. We consider it appropriate to start the consultation process with Tangata Whenua well before we start any studies to flesh out the details of the proposal.
- Through consultation we will be able to chart a set of the cultural values for Tangata Whenua on the harbour. With that established we will be well placed to work together to develop the details of this proposal.

Key questions from the floor:

1. What is the timetable for the dredging project?

- No formal timetable as such. Consultation with Tangata Whenua first.

2. How many more litres of crude oil would be on board these bigger ships?

Currently shipments typically range from 600,000 to 750,000 barrels. Proposal we are looking at is around a million barrels, but has yet to be decided and is part of continuing discussions with our customers.

3. Can we expect more ships?

- Bigger ships with bigger crude parcels, would mean fewer crude ships. Would improve the economics to have fewer ship deliveries of bigger cargoes.

4. How deep would the new ships be compared to what we see today?

- Ships draft is currently limited to 14.7m.
- We need to work through with our customers, carry out studies to understand what depth is needed for bigger cargoes, and talk through with you as part of the TW engagement process.
- Note that these ships would not be bigger than we have had in the past only deeper as holding more cargo.
- Note that these are not super tankers as used by some of our competitors and which hold 2-3 million barrels.

5. With bigger crude cargoes would you have to improve the process for managing an oil spill?

- We already have management processes in place to respond to an oil spill.
- Will need to look at this (i.e. to ensure these processes remain robust for bigger crude parcels).

6. Is shipping around Home Point unsafe?

- Safety margins are considered adequate for current shipping but the tight turn at Home Point reduces any margin for error.

7. Would Northport benefit too from dredging?

- It is our understanding that log ships, container ships and car carriers sit higher in the water than crude ships.
- Our understanding from speaking with Northport, is that they don't see a need to deepen the harbour for such ships.
- The safety of all shipping would benefit from the proposed straightening of the channel at Home Point.

8. What would be the effect of dredging on the food chain?

- The impact will need to be determined by the studies we propose to carry out.

9. With the growth of greener transport options – would we need to bring in these bigger ships 50 years from now?

- Despite growth in greener options to fossil fuel, we would still need to bring in crude shipments.
- We see a potential future for the refinery in bio-refining – by taking wood waste and applying the same processes (heat, pressure, catalyst).

10. How deep would we need to dredge and would the channel need to be widened?

- Depth will need to be determined by studies.
- We don't think there will be any widening of the channel required. May be some widening at Home Point to accommodate the batter for the sides of the dredge. But until studies are complete we cannot be sure.

11. How far out is the shoal?

- Incorrectly stated 18km (but is actually 9km).

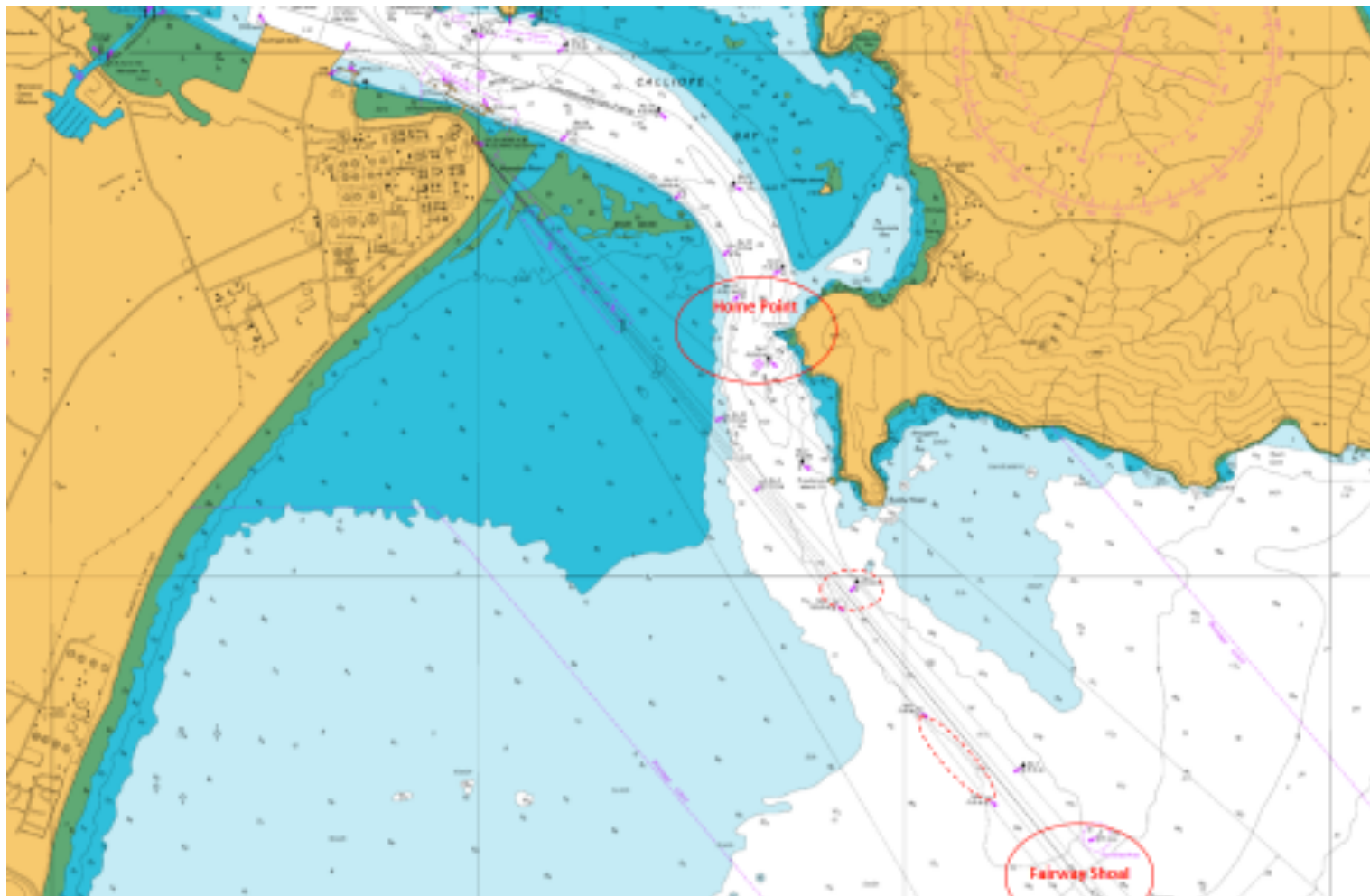
12. Would the refinery consider a model to understand the Mauri Cultural Health similar to what was used with the Rena clean - up/ assessment?

- Question clarified by Julianne Chetham as being about 'cultural indicators', and then explained that this would be worked through as part of the TW engagement process.
- RNZ stated that the TW engagement process would explore all aspects of the proposal with hapu.

Noted by Julianne Chetham that Refining NZ did not have all the answers at this stage as they had come at an early stage to consult, which is seen as best practice.

ENDS

Appendix 1 – Refining NZ Hui Presentation Slide



Refining NZ Crude Freight Project – Update on Tangata Whenua Engagement July 22nd 2014

A. Minutes of a Hui-a-Hapu held at Ngatiwai Trust Board July 15, 2014

I. Agenda

- a) Background
- b) Engagement Process
- c) Cultural Values Assessment
- d) Next steps

II. Mihi Whakatau 10.15am

III. Discussion 10.30am

Juliane Chetham gave a background presentation

Key Topics:

- Pereri -The seabed is essentially a landscape covered in water, when we alter that landscape can cause problems eg. why do Tohora/whales get beached??
- Hona - Other examples of dredging programmes eg. in Auckland Harbour and dredge spoil is dumped suffocating mussel beds further out in the gulf
- Waimarie - Very important to identify correct tangata whenua in regards to this project
- Hona - Global warming impacts must be taken into account
- Waimarie/Mira/Violet - Query about Ngatiwai and mana whenua status – how do they come into the harbour? – Te Warihi's response, through whakapapa and scientific studies have placed them there eg. through carbon dating, tracing artifacts, archaeological sites etc.
- Hona/Clive - Will the consenting process be through the regional council or EPA?
- Violet – process for engagement must be inclusive, they are here to support, tautoko Patuharakeke
- Pereri- Waiariki support the proposed engagement process
- Waimarie/Mira – need to collate research on historical sites in the area – eg. shark fishing grounds at the mouth of the harbour, burial grounds, review whakapapa books. Is it possible to get a budget for a research team to pull some of this historical korero together?
- Clive – have started gathering Northport hearings evidence as it pertains to the values and uses of the area
- Unanimous support for proposed engagement process. Patuharakeke should take the lead on informing the roopu/group going forward. Agreed it is the responsibility of representatives present to take back the information to their wider networks. Pereri would prefer to step back from further hui so long as he is kept informed.
- Next hui will be to identify the cultural values and uses of the site and surrounds. To be held at Takahiwai marae early to mid August, panui to be sent out in coming fortnight.
- Hona closed hui with a karakia at 12.05pm

IV. Lunch

V. Attendees –Refer Attendance Sheet attached

B: Debrief Clive Stone and Juliane Chetham (Interim Working Party)

Roles:

- There was no objection made to Clive and Juliane to continue as interim working party during the presentation. The roopu had decided Ngatiwai should be a part of the process but PTB must lead. As the roopu is in support of the engagement process and all wish to be kept up- to-date via email and agree to next step of CVA hui we can consider stage 1 of the process COMPLETED.

Mana whenua representation:

- Dane had spoken to Tame Te Rangi (Te Runanga o Ngati Whatua) who is not interested in taking part in the process (not within their mandated area). Clive stated Ngapuhi normally don't get involved if Ngatiwai are (eg. capacity is sufficient).

CVA hui preparation

- Clive and Dane will continue to gather and review historical information available to them (eg. Northport evidence Ngatiwai). Juliane has access to Patuharakeke historical documentation. The hui itself will be important for linking together the various info from the different hapu/iwi and populating the matrix with the contemporary uses.
- Several representatives queried whether there was budget for research. Not provided for at this stage. Juliane has asked Mira/Waimarie etc to come back with a projection of hours/costs etc and will discuss with RNZ. This is a potential oversight in the current workplan/budget as Ngatiwai and PTB also need to collate information above and beyond the hours budgeted for hui and report writing. There is a possibility that the CVA may be an ongoing process so we feel that RNZ should not delay any longer in terms of scoping technical studies and wider community consultation as long as Juliane (as liaison) is kept up to date.
- Potential dates for CVA hui Friday afternoon 8th August or the following week 15th August to be circulated to roopu to see which suits. Email has been sent today with dates and minutes for comment.

Logistics

- Clive to send through invoice to PTB for catering and venue hire for 15th July hui
- Juliane has maps and matrices printed for use at CVA hui. PTB have screen, powerpoint etc for use for photos etc.

ATTENDANCE LIST – Refining NZ Crude Freight Proposal hui-a-hapu Ngatiwai Trust Board 15/07/14

NAME	IWI/HAPU/ORGANISATION	CONTACT
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Refining NZ Crude Freight Project – Update on Tangata Whenua Engagement August 21st 2014

A. Minutes of a Hui-a-Hapu held at Takahiwai Marae August 15, 2014 (see panui attached as appendix 1)

I. Agenda

- a) Overview/ Recap
- b) RMA 101, CIA 101
- c) Cultural Values Assessment
- d) Next steps

II. Powhiri 1.30pm

III. Discussion 2.15pm

Juliane Chetham gave a presentation (see attached appendix 2)

Cultural Relationships and values in the proposal area:

- Juliane - Using map and matrix to prompt discussion. Begin by list iwi, hapu that have relationships;
- Who is mana whenua? ahi kaa, hau kainga, Kaitiaki status
- And who were there in the past, who utilized the area etc, and now in present times.
- Patuharakeke, Te Waiariki, Ngati Kau o Torongare, Ngati Wai (discussion, Waimarie, Carmen, Marie, Mira – regarding land blocks ownership how/do Ngatiwai come into harbour – many of us whakapapa to Ngatiwai)
- Eg. Ngai Tahu (all agreed original inhabitants and all of us present whakapapa to them)
- Waimarie – Background to Northport hearings and kaitiaki roopu that was set up. Roopu represents various mana whenua groups (Otaika Toetoe, Patuharakeke, Willy Pohe – Tamaterau, Pakikaikutu; Ngati Kau o Torongare, Te Waiariki, Tangiteroria/Te Parawhau Trust).
- Marie – raised issue of proposed Peach Cove fish farm and opposition to this a few years back. This proposal could also be very significant. Motukaroro marine reserve, issues with that essentially alienation of our customary sites etc

Significant places

- Motu-o-Tauā, the Island of Tauā, the gathering of the whales, who came upon the winds of the ocean.
- Poupouwhenua
- O Tute Paku?? – Home Point. PTB has korero this was the site of Hikurangi's pa. Does anyone else have korero on this?
- Carmen is able to share Piripi Morere's korero on Manaia and the area with Patuharakeke – will set up a meeting with Gil, Jared etc)
- Suggestion that we may also need to (as a group) hikoi to these places...as part of this process
- Clive, others - should we share all our cultural, historic korero with Refining NZ and others? what info do they already have, eg. from historical consents, studies etc, avoid duplication, can they share what they've got?

Contemporary uses, values, relationships

- Pathway of whales, recent visits of Humpback and her calf – a "tohu"
- Scallop beds – Urquharts, Smugglers, right out to channel, Home Point reef, Kina, pipi at Mair, Marsden, Snake Bank, cockle,
- Seagrass re-establishing at Urquharts
- If you are diving out behind Reotahi behind the incoming tide, what effect will dredging have on safety, tidal forces be much faster etc??

- Given the current degradation of the mauri, can the harbour take any more pressure?? What is the threshold
- What is the role of the port, has this any bearing on future container shipping as well as increased crude parcels??

Engagement process.

- All pleased about collaborative approach and facilitation thus far. Great to have an opportunity to work together and re-establish links and share korero.
- Hapu reps raised need to go back and hui with their own networks, go through/collate info etc to gather information required for Cultural values assessment.
- Juliane stated that if resourcing is required for this reps will need to put together a brief and costing. Also we need to “ring fence” or put geographic boundaries around the korero we will focus on, while acknowledging the harbour as a whole, living entity.
- There is a difficulty in defining the cultural relationship without knowing more about the proposal. Eg. exactly where will be affected. We would like to have a kanohi ki te kanohi hui with RNZ, to build trust, share what they’ve got etc. Juliane and Clive to meet with RNZ and set a clear agenda. Suggestion to have the meeting at Terenga Paraoa marae as soon as possible (not week 8 September as there are hearings on).
- In the meantime Juliane will circulate today’s powerpoint/matrix so we can go away and start thinking, talking about it, filling in where possible.

Gilbert closed hui with a karakia at 5.00pm

IV. Attendees –Refer Attendance Sheet attached

V. Actions:

- Debrief and planning/agenda for next hui - Clive, Juliane and RNZ. Monday 25th August
- There is a possibility that the CVA may be an ongoing process so we feel that RNZ should not delay any longer in terms of scoping technical studies and wider community consultation as long as Juliane (as liaison) is kept up to date.
- Potential dates for RNZ and roopu hui at Terenga Paraoa possibly 1st or 3rd week September.

Logistics

- Clive to send through invoice to PTB for catering and venue hire for 15th July hui

Attendance List		
Name	Iwi/Hapu/ Organisation	Contact
Juliane Chetham Gilbert Paki Kare Rata Reece Newton Grant Pirihi Shane Watson Brendon Chetham Ray Wassell Tilly Paki	Patuharakeke	jchetham@gmail.com gilbertp@clear.net.nz krata@xtra.co.nz reecenewton@clear.net.nz gpirihi@slingshot.co.nz bjchetham@yahoo.com williamrwassell@gmail.com

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Refining NZ Crude Freight Project – Update on Tangata Whenua Engagement September 2014

Minutes of a Hui-a-Hapu held at Terenga Paraoa Marae September 19, 2014 (see panui attached as appendix 1)

I. Agenda

- a) Crude Freight Proposal – Overview by Refining NZ
- b) Q&A Session
- c) Cultural Values Assessment - update
- d) Next steps

II. Powhiri 12.00pm

III. Discussion 12.40pm

Note apologies:

Clive Stone, Dane Karapu (Ngatiwai Trust Board), Aileen and Charlie Smith (Patuharakeke)

Introduction and slideshow presentation – Sjoerd Post, Dave Martin

- Hona - Discussion around oil spill risk and response, how often does training occur? – NRC or MSA run these trainings/programmes quite regularly. Mutual aid responses for international incidents.
- Discussion around groundings that occurred using these ships on Fairway shoal 2003/04. Fairway Shoal may have been building up over time? Double-hulled ships slightly deeper draft? The Harbour master and Maritime NZ has done an investigation, RNZ will look into providing these incident report/s.
- Brendon - Does the DUKC system detect changes in hydrology/geomorphology – no but hydrographics are done annually (NPC/Northport). Doesn't take into account seasonal variation – could this occur in future?
- According to reports Harbour hydrology appears very stable. Outline of 2005 Channel study provided.
- Solomon - What is the composition of Fairway Shoal – eg. gravel, sand, shell etc. Geotech sampling to date indicates sand substrate. Home Point area is rock, cobble stones, some boulders (charges may be required to crack the rock for removal if this is deemed necessary through technical studies).
- Waimarie – Ngati Kahu o Torongare, Parawhau as mana whenua have relationships with whales, marine mammals that enter harbour (essentially an undersea valley). What will the impacts be on them eg. noise impacts during works, dredging, blasting etc. Wade Doak has stated that the echo underwater eg. from port activities is very audible – how are cetaceans impacted **[NOTE: include in marine mammal studies for AEE?]**
- Is there any alternative to dredging? Eg. floating docks, oil pipeline etc (single point mooring). RNZ – as part of application must consider alternative such as these – however cost looks prohibitive and potentially greater environmental effects.
- Solomon – where will dredge spoil be disposed of? – RNZ yet to be determined, will be addressed through tech studies, could be used for beach restoration, could possibly SELL it? **[NOTES: so who owns this resource then?, does Northport want it for new berth? Could tech/coastal process studies please assess whether dredged sand deposited eg at point of erosion could then be carried down to settle on Mair and Marsden Bank? What are potential impacts of sand transport on mahinga kai]**
- Waimarie – Q for technical studies - what impact will dredging have on tidal flushing, hydrological flows etc will it increase velocity of flow and sand transport etc?

- Waimarie – Seeking a cultural audit (carried out by mana whenua) of mahinga mataitai past and present, maramataka (eg. customary seasonal indicators and practices).
- Dave Martin – outlines ship simulation studies, the issues with the “s bend” at Home Point, how this may require realignment to address safety of turning bay etc.
- Do the Suezmaxx ships have larger engines. [Note can technical assessments look at whether turbidity will be increased/affected by larger ship engines?]
- Where is ballast emptied? RNZ confirmed at sea not in harbour.
- Hona – asked about timeframes for project – seems quite short. RNZ confirmed is indicative only will depend on time taken to do studies and consenting process.
- Waimarie – will the technical studies take climate change and sea level rise into account? And can RNZ confirm whether the refinery land is sinking? – RNZ suggest no evidence of sinking, subsidence but could check with NRC.
- Colin – are there any similar situations where these types of works have been required that we can use as benchmarks or get learnings from. RNZ eg. Lyttleton, Tauranga, Otago, Melbourne mostly much larger works required but some similarities, likely to use same experts to assist technical studies etc.
- Shane – discussion about movement of Mair Bank and whether Northport reclamation has affected its stability eg. geomorphology changing, Riaan – according to NIWA report, southern face is changing northern part remains stable. [Note: technical studies must take into account potential impacts to Mair and Marsden Bank through changes to geomorphology, coastal processes etc]
- Mira – discussed Whangarei Harbour kaitiaki roopu set up as Northport consent condition. Can RNZ have a direct relationship with this group, MOU etc. Juliane suggested going forward through this engagement process we can evaluate that structure and efficacy of the kaitiaki roopu, perhaps we can come up with a better, long term structure. Waimarie supported this.
- Solomon – could proposed WDC RWWTP outfall structure be impacted or have an impact on this proposal? [a possible question for technical experts in scoping studies?]

RNZ LEFT HUI APPROXIMATELY 2.30PM

Tangata Whenua Debrief – Next Steps

- Waimarie will liaise with Juliane to suggest dates for RNZ to come to Ngararatunua.
- Juliane suggested that the cultural audit Waimarie is suggesting might be outside the scope of the CVA/CIA process. However, they can raise directly with RNZ at the hui if separate engagement is required.
- Parawhau, Ngati Tu, Te Wairiki, Te Uriroroi, Ngatiwai wish to continue with collaborative approach lead out by Patuharakeke.
- Juliane has been to NRC archives and researched Northport evidence as well as Patuharakeke files to complete the cultural values/relationships matrix to inform the CVA. She will circulate to group to provide review, corrections, amendments by **October 24th** if possible – aim to complete CVA before November.
- In the meantime Juliane will circulate today's powerpoint along with the Matrix and minutes and welcomes feedback.

Kaumatua closed hui with a karakia at 3.00pm

IV. **Attendees** –Refer Attendance Sheet below:

Attendance List		
Name	Iwi/Hapu/ Organisation	Contact
Juliane Chetham Gilbert Paki Reece Newton Shane Watson Brendon Chetham Trish Newton Colin Newton	Patuharakeke	jchetham@gmail.com gilbertp@clear.net.nz reecenewton@clear.net.nz l.watson@auckland.ac.nz bjchetham@yahoo.com patriciajnewton@hotmail.com
Waimarie Bruce	Ngati Kahu o Torongare/ Te Waiariki/Ngati Korora/ Ngati Taka	wai.bruce@hotmail.com ngatikahuteparawhau@gmail.com
Violet Nathan Mira Norris Daniel Hauraki	Te Parawhau Whangarei Harbour Kaitiaki Roopu Te Parawhau Hapu Authority	marinafletcher12@gmail.com otaika@xtra.co.nz 021363738
Hona Edwards	Te Uriroi	edwardhona@gmail.com
Harry Clark	Ngati Hau (Pehiaweri Marae)	09 4372701
Philip McKibbin	Local resident, Anzac Road	021 2608404

Refining NZ Crude Freight Project – Update on Tangata Whenua Engagement November 2014

Summary Record of a Hui held at Ngararatunua Marae November 22, 2014.

I. Agenda

- a) Crude Freight Proposal – Overview by Refining NZ
- b) Q&A Session
- c) Cultural Values Assessment - update
- d) Next steps

II. Powhiri 2.00pm

III. Cup of tea

IV. Discussion 3.00pm

Introduction and slideshow presentation – Sjoerd Post, Peter Gubb, Dave Martin

Questions/comments arising:

- Is there any alternative to dredging? Eg. floating docks, oil pipeline etc (single point mooring). RNZ – as part of application must consider alternatives such as these – however cost looks prohibitive and potentially greater environmental effects.
- Margie – What are impacts on kaimoana? Previous review by oil companies didn't get as far as considering effects. RNZ advised this will be identified through the technical studies yet to be commenced.
- Winiwini – heard that an "island" may have to be removed, make way for channel. Advised that if work is to be undertaken at Home Point it may involve charges to crack large boulders for removal - if this is deemed necessary through technical studies). Also noted that unlikely we would need to go deeper here, more a case of widening the channel at this point. Awaiting more information from channel study
- Winiwini – what are the risks of oil spill? This is a serious concern but RNZ have a number of systems in place to minimise risk (refer presentation). Advised bigger tankers will mean fewer ship movements – does this reduce risk, there are pros and cons. Will be looked at through technical studies, could possibly be calculated?
- Harry – what is the risk if the Refinery can't go ahead with dredging – ie. To their operations. Whanau will lose employment, economic impacts etc. RNZ advised this project is meaningful in terms of its ongoing competitiveness.
- Louisa - tangata whenua are kaitiaki of Tohora/whales – this is potentially the greatest concern, economic factors cannot outweigh this issue. Hapu have marine mammal experts/tohunga – they must have an opportunity to caucus with the scientists RNZ commission for studies. Hapu wish to have facts and frank korero. Past experience has proven economic and other benefits of development/industrialization for tangata whenua have not come to fruition. Harbour is degraded. Harbour as a whole is impacted eg. right up to Hihiaua.
- Dave – We will look at opportunities to have a workshop with tangata whenua and the technical experts. Tangata whenua can input to their scope of works and also have questions answered regarding impacts etc.
- Waimarie – Seeking a cultural audit, mapping exercise currently underway as part of claims hearings preparation. Are there synergies in these processes?
- Louisa – The Tribunal's report on the Stage 1 Hearings Northland Inquiry has a bearing on this proposal. Should be taken into account. Everything is linked. There will be opportunities to continue updates via the monthly hui at the resource centre (usually the first Sunday of the month).

- Margie – Parawhau will want to see/review all technical reports. RNZ might want to consider presenting to the Whangarei Harbour Catchment Management Group.
- Waimarie – discussed Whangarei Harbour kaitiaki roopu set up as Northport consent condition. They were central to getting the framework into the consent conditions. Is something to think about going forward.
- Ngati Kahu o Torongare will seek ongoing hui/engagement throughout the project phases going forward.
- Juliane to liaise with Hineamaru Lyndon as Ngati Kahu o Torongare's representative to circulate DRAFT Cultural Values Assessment and facilitate feedback. Opportunity to arrange workshop hui if necessary.

Winiwini closed hui with a karakia at 4.45pm

V. Attendees –Refer Attendance Sheet below:

Attendance List		
Name	Iwi/Hapu/ Organisation	Contact
Juliane Chetham	Patuharakeke	jchetham@gmail.com
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Margie Kaye Mira Norris	Te Parawhau Whangarei Harbour Kaitiaki Roopu Te Parawhau Hapu Authority Whangarei Harbour Catchment Management Group	otaika@xtra.co.nz 021363738
Harry Clark	Ngati Hau (Pehiaweri Marae)	09 4372701

Refining NZ Crude Freight Project – Update on Tangata Whenua Engagement March 2015

Summary Record of a Workshop held at Refinery Visitors Centre 9 March 2015.

I. Mihi Whakatau 12.30pm

Ngapo Henare opened with a karakia/welcome

II. Lunch

III. Workshop 1.00pm

Presentations Technical Experts and Q&A Session:

1. Deanna Clement – Marine Mammal Expert, Cawthron Institute, Nelson

- Discussion on recent siting of Humpback in Whangarei Harbour
- Marine mammal study is in data gathering phase, scoping the literature, talking to those with knowledge etc, identifying species that come into the harbour and what are their important habitats particularly for feeding and breeding/nursing.
- What are their sensitivities/vulnerabilities eg. ship strike, seismic surveys, acoustics, quality of dredged material/plumes/suspended sediments and any known impacts and responses
- Reviewing the tourism literature eg. on Bottlenose dolphins etc – University of Auckland Studies and Fieldwork
- It is hard to pinpoint/quantify anthropogenic impacts on marine mammals
- Will be talking with Ingrid Visser and Wade Doak
- Has worked a lot in Lyttleton Port where there is lots of capital maintenance and dredging and yet dolphins frequent there. Water quality here is far superior.
- Mira mentioned the Agnew Report undertaken in 1976 for the Harbour Board. The report documented marine mammals that frequent the Whangarei harbour.
- Wont be undertaking a full on field study, more “opportunistic studies”. The need for longitudinal data – addressed through literature review. Global patterns in marine mammal populations are driven by climate and food resources.

2. Graeme Don – Ecologist, Biosearches.

- Biosearches have carried first baseline ecological survey in 1972 of the area for the Refinery. Have done regular monitoring in the area eg. Marsden Cove and the long term lichen monitoring at the Heads, which is part of the refinery’s consent (air discharges), therefore familiar with the area.
- 2 parts to current survey. Marine survey involves characterizing sediment (samples taken for analysis) eg. grain size, any heavy metals, the biota, organisms on top of the sediment, recreational fisheries species present, seafood resources. Wont be assessing zooplankton. Suggests any sediment disposal sites likely to have initial loss of species/interim period where biomass is low, but will be recolonized over time. Will compare results of surveys with earlier survey work. Sampling strategy involves 107 individual sample sites, will build comprehensive database. Advised to check location of Ruakaka WWTP proposed outfall.
- Home Point – “mini ponar grab” samples will be taken – if this doesn’t provide adequate sample – a diver survey will be undertaken at this location. The grab has 3 go pro cameras attached that go down on the frame. Therefore get 3 underwater shots as well.
- Second part is coastal bird survey. Bird counts will be taken at Mair bank, Taurikura, Urquharts Bay and Ocean Beach.

3. Dr Peter McCombs (Oceanographer– Met Ocean) and Richard Reinen-Hamill (Coastal Engineer, Tonkin and Taylor)

- Are looking at coastal geomorphology, Bathymetry, hydrodynamics etc. Building computer models that will be verified by field data eg. captured by tide gauges etc. Animations will be produced. Can then get an idea of what effects of dredge channel likely to be.

4. Chris Green (Legal Advisor) Chapman Tripp

- Pointed out that experts are independent, need to be relied on eg. for environment court evidence, are commissioned by Refining NZ but any bias would effectively be “career ending” so the community can have faith in their independence.

5. Rob Greenaway (Expert assessing recreation, social issues etc)

- Currently undertaking literature review. Recognises that the harbour and Bream Bay are intensively used for recreational fishing and other leisure activities, will look at scientific data from other experts to make an analysis eg. water quality, turbidity, clarity etc.
- Refining NZ suggest experts can come back and workshop again with tangata whenua when reports are completed. Will be an ongoing process of sharing information.
- Ngapo closed hui with a karakia at 3pm.

IV. Attendees –Refer Attendance Sheet below:

Attendance List		
Name	Iwi/Hapu/ Organisation	Contact
Juliane Chetham Luana Pirihi	Patuharakeke Patuharakeke/ Bream Bay Coastal Care Trust	jchetham@gmail.com lpir@xtra.co.nz
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Refining NZ Crude Freight Project – Update on Tangata Whenua Engagement March 2015
Summary Record of a Workshop held at Northland Regional Council 25 May 2016.

I. Mihi Whakatau 10.00pm

Abraham Witana opened with a karakia/welcome

II. Workshop

Refining NZ gave a presentation (attached).

Presentations Technical Experts and Q&A Session:

1. Brian Coffey – Ecologist

- Discussed baseline monitoring programme and ecological sensitivities
- The dredge footprint and a key question for ecology – what will recolonize the dredged area (vacant niche) after substrate removed. ie. concerns about pest species. However there are controls on release of bilge water but recreational marinas eg. Marsden Cove more of a risk in terms of what is on hulls.
- Discussed monitoring of soft bottom communities. Vibracores were taken indicate that predominantly clean sand, toxicity is not an issue.
- Queries about whether there will be changes to tidal volumes – refer to Richard Reinen-Hamill
- Are there studies elsewhere on these types of projects, ecological changes, can we look for comparisons?
- Brian – outcome oriented monitoring is needed.
- Discussed the east Auckland current and marine mammals, migration paths, noise impacts are taken into consideration in Deanna Clements report, believed any effects will be short term – we can circulate this report (baseline report).
- Query on cumulative impacts and how these will be taken into account. Can be addressed through precautionary approach and recommendations for consent conditions.

2. Richard Reinen-Hamill – Geomorphology/Hydrodynamics

- Discussed Modelling of historic and collected data. All models have limitations.
- Hapu reps highlighted the turbulence at the harbour entrance
- Discussed principles of sediment transport
- Ongoing maintenance dredging can be more of a concern the capital dredging
- Discussed disposal options
- Waimarie discussed ongoing erosion at Busby Head and queried whether it would be exacerbated.
- Hona raised queries as to what impact sea level rise would have. This has been incorporated into the modeling
- Confirmed no dynamite blasting required
- Does this proposal have any relevance to passenger shipping/port activity?
- Dredging on a certain tide – this would be related to ecological management factors

III. Attendees –Refer Attendance Sheet below:

Attendance List		
Name	Iwi/Hapu/ Organisation	Contact
Juliane Chetham Patrick Hilton	Patuharakeke Te Parawhau/Patuharakeke	jchetham@gmail.com patiriki@icloud.com
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Refining NZ Crude Freight Project – Technical Review Hui
Summary Record of a hui held at Takahiwai Marae 7th April 2017.

I. Powhiri 10.30am

Paraire Pirihi opened with a karakia/welcome

II. Workshop

Morning session:

Juliane started with introduction and purpose of the hui. Juliane and Alison ran through a presentation on the review of technical AEE reports.

Questions/Discussion:

- General -Any evidence of impacts from past dredging?
- Aorangi - Where is the risk from spill – northward flow means Te Waiariki would be affected
- Colin - Unclear what the maximum and minimum dredge amounts are that would be allowed. There must be a tolerance level. This could be the “thin edge of the wedge”. Is there a bigger picture or other motive for this proposal?
- Arthur – strong concerns about traditional kai and taonga species – ie. “I whakapapa to the stingray and penguin”....

III. Powhiri for Refining NZ and Technical Experts in attendance, Lunch.

Afternoon session:

IV. Refining NZ presentation (attached).

Refining NZ introduced:

- Dave Martin – Project Manager
- Richard Reinen-Hamill (Tonkin & Taylor) - coastal processes
- Brian Coffey (self employed) - ecologist
- Brian Stewart (BioResearches) – marine biologist
- Diane Clements (Cawthron) – marine mammals
- Chris Simmons (Chancery Green) – legal

Presentations Technical Experts and Q&A Session:

1. David Martin – Project Manager

- Introduction to project – why – want to load Suezmax up – under competitive pressure from refineries overseas – can compete on crude freight costs. Million barrels can be carried so advantage to customers (orders are often around million barrels).
- Tauranga just got consent for 15 million m³ so RNZ application is small compared to other ports.

- 80% of dredging will be in outer section (1 – 4 m depth) and 20% from inner harbour (1 – 2 m depth). There is a lot of accretion around berths so need to take off more.
- Rather than just dredge existing channel (and widen it) have realigned so that you don't need to widen.
- Removing hazard at Home Point by realigning and adding in more navigational markers.
- Environmental risk reduced by having fewer ships (plus improved navigational markers and channel realignment).
- Land disposal – if someone has a good idea and is consented then they will look at that. But want flexibility to deposit all in CMA.

Studies Still to do:

- Commercial Fishing
- Cultural Impact Assessment

2. Richard Reinen-Hamill – Geomorphology/Hydrodynamics

Existing environment – did a review of historic records to understand what has gone on before (back to 18070s) ebb tide delta (Mair Bank) balanced – very stable amount of sand (moves but general shape and where it is has been pretty consistent).

Q: what happens when you disturb that stable system?

A: the throat of the channel is what controls this because impacts on tidal velocities. As the channel gets wider the velocities reduce – Good clean sand of reasonable size (heavy) so drops out sooner – finer sand gets transported out further where velocities are reducing with water depth. MetOceans developed computer model to simulate the tidal processes and flows. Used the model to compare tidal flows and waves and sediment transport processes.

Q; is blue colour on map capital dredging and where is maintenance dredging?

A: blue colour is both – where velocities are slow then will fill in more quickly, where velocities are faster then sand/sediment will be carried away.

Q: Mair Bank is pipi bank and is so close. Surely will have huge impact – not only the dredging but the disposal? Noticed that the photos shown at public roadshow show build up of white sand around Mair Bank – were the pictures taken at high tide or low tide? What about contamination of kai moana?

A: Contaminants include natural ones (i.e. silts and muds) the sampling shows amount of silt in channel is similar to that on ebb tide shoals. Don't want to put fine material where there is coarse materials – so have chosen disposal sites because they are similar to what is being dredged – matching like with like. Lot of processes going on around Mair Bank – the bank is

really unique – is mix of shells and the amount on new shell growth is keeping it where it is. Is movement but broadly stable – sands have moved over the bank in last decade.

Q: Because the live shells are so integral to structure of the bank – what will happen if pipis don't come back? What will mean to structural integrity of Mair Bank?

A: We need to consider what will happen regardless of dredging – sand will sit in the ebb tide delta but if you don't have new shoals it will lower – end up with much deeper (lower) sub-tidal sand bar - you wouldn't have the inter-tidal shell bank. With dredging, most of the wave processes occur in really large waves – normal smaller waves wouldn't make much difference. At Mair Bank (+/- 1% difference). Maintenance dredging requirements are going to increase if Mair Bank lowers.

Q: How does all this movement of sand affect the quality of the pipis?

A: Needs ecologist to answer

Q: Maintenance dredging estimates are quite large variation. So what influences the amount of maintenance dredging required?

A: for example storm like Cyclone Bola would move a lot more sand – so depends on energy experienced – if more stronger storms then more energy in the system to move sediments.

Q: Who owns the sand once it has been dredged and who decides what happens to it?

A: (Chris Simmons) Crown owns the sand/ Takutai Moana Act/MACA.

Q: Could it be sold?

A: McCullum Brothers didn't seem to think it was worth it. To use it for construction they have to sieve it – dredging it from deep water is expensive – so off beaches is \$100/m³ so limited value. Capital dredging is too much volume – more than needed - maintenance dredging could perhaps be more "saleable".

The area around the wharf which has most depth to be removed – only records for last 17 years. Are dredging records from longer back but good annual data for past 17 years.

Q: Locals say sand has built up increasingly in last few years – but do wharves impact this and what impact will there be if more erosion in future? What impact will additional wharves have?

A; Yes increase in sand in last decade is true. Modelling included for consented reclamation. Can't comment on whether the port had an effect or not as they only modelled it with existing and consented port. Likely that sand would accrete between wharves and port.

If deposit in 10m of water depth when there is a bit of a storm then waves will move the sand – only when there is wave energy – will continue the existing processes that are occurring - want to keep sand in the system.

Comments: Impacts of port were huge – Ngati Kahu and Te Wairiki – kaitiakitanga structure is in place and will oppose this proposal. Pipis are moving to other areas. Look at the other options.

Q: Can you clarify whether you are saying that disposal in Area 1.2 is required to counteract erosion?

A: Recommendation would be that at least maintenance dredging is deposited in Area 1.2 to replenish beach/areas that are eroding.

Intensity of wave energy is likely to stay the same or reduce due to climate change during lifetime of consent (predictions are increase in energy of storms on west coast and decrease on east coast)

3. Diane Clements - Marine Mammals:

Utilised data from DOC, Massey University, Ngatiwai & Patuharakeke.

No mammals live and stay in harbour all year round. Do have some that come in and out regularly, and others that migrate past.

Direct impacts: Vessel impacts, noise/sound, entanglement

Indirect impacts: flow on effects because of change to habitats

Not a significant habitat for breeding or feeding. The mammals are working their way up and down the coast – also took data from Bay of Islands and Hauraki Gulf.

Q: Did you do any field surveys? You mentioned data for Bay of Islands and Hauraki Gulf - is that enough?

A: Didn't feel need to do more surveys as have a good idea of what marine mammals are already doing – they change their behaviour so would need to do longer term surveys to be of value – but do have data from a long time ago. Strandings all along the coast shows that they are using the whole coastline. National Museum Te Papa database have stranding data from 1830s – from skeletons, newspapers, etc. Sighting database is not so good as stranding database. Not so many reports.

Q: Would there be more boats now than in the 1830s – how would that affect data?

A; They have the raw "opportunistic" data they can say whether species were there or not. There is data from Whangarei from 1870's.

Q: Would you not need 5 – 10 years of monitoring to determine whether there would be impact?

A: Marine Mammals move through large areas and are so variable – so can be impacted wherever it travels – so looking at what the possible effects could be that affect the population

as a whole not on an individual – is difficult to statistically test so lot of data but doesn't tell us much.

Looking for specific things they are doing – monitoring on how they react/behaviour.

Comment: Tipuna have handed us down observations over hundreds of years through naming – strandings at Ruakaka – we know what that means something is happening with their environment. Will alter their whole landscape and their relationship with us.

Q/comments: Will the excavations enable the taniwha under the refinery to come and go at will instead of being locked under the refinery? If they will not be able to come and go why on earth are we talking to RNZ about a commercial operation? We are coming from different worlds. Taniwha have been trapped since 1963 – my grandparents told me.

4. Brian Coffey – ecology:

The areas that will be disturbed are soft/shell communities – they will recover – are going to be clearing a reasonable amount of site/area – so reasonable amount of seabed that will be removed or smothered. One possibility where lots of boats coming in from overseas and where it has been cleared is recolonisation by invasive species– but don't think that is likely. Concern is for protected areas on hard shorelines that are most vulnerable – so need to make sure excess turbidity needs to be avoided near

Q: 6 – 12 months? What about recovery given maintenance dredging?

A: Quicker recovery in shallower area – so will be recolonized by smaller size/class of opportunistic species.

Q: in worst case scenario how much and how often would maintenance dredging be required?

A: Maintenance dredging - 20 – 25,000m³ every 2 years by wharf – would be placed over small part of Area 1.2 dredging in not likely to be needed before 5 years more likely after 10 years as slower infilling.

Really just smothering with fine sand as low in silt so not a toxicity problem.

Q: How does it effect other species such as fish that feed on the critters?

A: 470 ha affected in total 4.37 km² (reduced benthic production and fish feed over 12 months)

Q: What about impact of an oil spill?

A: would be catastrophic at any time – is already a risk of hydrocarbon spills – but this risk will reduce because removing Home Point risk (channel realignment) and fewer ships.

Q: If ships have larger volume then does more spill?

A: (Refining NZ responded) Ships are compartmentalised and double hulled – so larger ship doesn't mean larger spill.

Q: Access – will ships only be coming in on high tide? Some reports mention all time access?

A: Yes only coming in high tide – will be at wharf for 36 hours but will only come in on high tide – is sufficient depth at wharf for ships to stay any point of tide.

Q: Refinery – do you support all the recommendations being proposed for mitigation?

A: They are relying on experts so will have to review their recommendations and confirm but probably will agree.

Comment:

Recognize all species of tangaroa not just mammals – also have customary title that should be taken into account.

Waimarie – likely to oppose consent application. Expressed desire for Refining NZ to come and meeting with Ngati Kahu o Torongare again (separately).

Refinery Staff and experts left at 15.00pm

5. Next Steps: Juliane

Short timeframe for producing a CIA – ie. End of May

Will need to call a hui in the next fortnight. Objective will be to assess level of significance of impacts. Will use a matrix to work through the information that we have – group it by type of impact and assign significance. Start thinking about mitigation and how we want to be involved/what is appropriate. Eg. Kaitiaki structure/roopu.

Hui record and presentations to be circulated. Key questions we did not get to with Refinery today will be sent through to them in writing for response.

Hui closed at 15:30.

V. Attendees –Refer Attendance Sheet below:

Attendance List		
Name	Iwi/Hapu/ Organisation	Contact
Juliane Chetham Colin Newton Mere Kepa JoAnn Nock Kelly Dixon Alisha Castle	Patuharakeke Dixon & Co Lawyers Dixon & Co Lawyers	jchetham@gmail.com 0275400037 tkep001@gmail.com joannisthere@gmail.com kelly@dixonandcolawyers.com alisha@dixonandcolawyers.com
Mira Norris Selwyn Norris	Te Parawhau/ Whangarei Harbour Kaitiaki Roopu/ Te Parawhau Hapu Authority/ Whangarei Harbour Catchment	otaika@xtra.co.nz 021363738

Te Aroha Niha Tapa George Opania George Donna Tamaki Mehara Tamaki	Management Group	0226370612 09 4397964 opania.george@yahoo.co.nz donnataamaki@gmail.com meharataamaki@gmail.com
Waimarie Bruce- Kingi Isobel Karaitiana	Ngāti Kahu o Torongare/ Te Waiariki/Ngati Korora/ Ngāti Taka Ngāti Tu	Waimarie.kingi@gmail.com ilkaraitiana@gmail.com
Arthur Mahanga Aorangi Kawiti	Ngāti Korora Ngāti Korora/Te Waiariki	Linda.mahanga@northlanddhd.org.nz Kawiti.aorangi7@gmail.com
Franklin Wira	Te Orewai	0210766016
Rowan Tautari Ramari Tautari	Te Whakapiko	rtautari@hotmail.com
Solomon Tipene	Whangarei District Council	solomon@wdc.govt.nz

Refining NZ Crude Freight Project – Technical Review Hui
Summary Record of a hui held at Takahiwai Marae 7th April 2017

I. Powhiri 10.30am

Paraire Pirihi opened with a karakia/welcome.

Morning session:

II. Workshop

Juliane started with introduction and purpose of the hui. Juliane and Alison ran through a presentation on the review of technical AEE reports.

Questions/Discussion:

- General -Any evidence of impacts from past dredging?
- Aorangi - Where is the risk from spill – northward flow means Te Waiariki would be affected
- Colin - Unclear what the maximum and minimum dredge amounts are that would be allowed. There must be a tolerance level. This could be the “thin edge of the wedge”. Is there a bigger picture or other motive for this proposal?
- Arthur – strong concerns about traditional kai and taonga species – i.e. “I whakapapa to the stingray and penguin”

III. Powhiri for Refining NZ and Technical Experts in attendance, Lunch.

Afternoon session:

IV. Refining NZ presentation (attached)

Refining NZ introduced:

- Dave Martin – Project Manager
- Richard Reinen-Hamill (Tonkin & Taylor) - coastal processes
- Brian Coffey (self employed) - ecologist
- Brian Stewart (BioResearches) – marine biologist
- Diane Clements (Cawthron) – marine mammals
- Chris Simmons (Chancery Green) – legal

Presentations Technical Experts and Q&A Session:

1. David Martin – Project Manager

- Introduction to project – why – want to load Suezmax up – under competitive pressure from refineries overseas – can compete on crude freight costs. Million barrels can be carried so advantage to customers (orders are often around million barrels).
- Tauranga just got consent for 15 million m³ so RNZ application is small compared to other ports.
- 80% of dredging will be in outer section (1 – 4 m depth) and 20% from inner harbour (1 – 2 m depth). There is a lot of accretion around berths so need to take off more.
- Rather than just dredge existing channel (and widen it) have realigned so that you don't need to widen.
- Removing hazard at Home Point by realigning and adding in more navigational markers.
- Environmental risk reduced by having fewer ships (plus improved navigational markers and channel realignment).
- Land disposal – if someone has a good idea and is consented then they will look at that. But want flexibility to deposit all in CMA.

Studies still to do:

- Commercial fishing
- Cultural impact assessment

2. Richard Reinen-Hamill – Geomorphology/Hydrodynamics

- Existing environment – did a review of historic records to understand what has gone on before (back to 18070s) ebb tide delta (Mair Bank) balanced – very stable amount of sand (moves but general shape and where it is has been pretty consistent).

Q: What happens when you disturb that stable system?

A: The throat of the channel is what controls this because impacts on tidal velocities. As the channel gets wider the velocities reduce – Good clean sand of reasonable size (heavy) so drops out sooner – finer sand gets transported out further where velocities are reducing with water depth. MetOceans developed computer model to simulate the tidal processes and flows. Used the model to compare tidal flows and waves and sediment transport processes.

Q: Is blue colour on map capital dredging and where is maintenance dredging?

A: Blue colour is both – where velocities are slow then will fill in more quickly, where velocities are faster then sand/sediment will be carried away.

Q: Mair Bank is pipi bank and is so close. Surely will have huge impact – not only the dredging but also the disposal? Noticed that the photos shown at public roadshow show build up of white sand around Mair Bank – were the pictures taken at high tide or low tide? What about contamination of kai moana?

A: Contaminants include natural ones (i.e. silts and muds) the sampling shows amount of silt in channel is similar to that on ebb tide shoals. Don't want to put fine material where there is coarse materials – so have chosen disposal sites because they are similar to what is being dredged – matching like with like. Lot of processes going on around Mair Bank – the bank is really unique – is mix of shells and the amount on new shell growth is keeping it where it is. Is movement but broadly stable – sands have moved over the bank in last decade.

Q: Because the live shells are so integral to structure of the bank – what will happen if pipis don't come back? What will mean to structural integrity of Mair Bank?

A: We need to consider what will happen regardless of dredging – sand will sit in the ebb tide delta but if you don't have new shoals it will lower – end up with much deeper (lower) sub-tidal sand bar - you wouldn't have the inter-tidal shell bank. With dredging, most of the wave processes occur in really large waves – normal smaller waves wouldn't make much difference. At Mair Bank (+/- 1% difference). Maintenance dredging requirements are going to increase if Mair Bank lowers.

Q: How does all this movement of sand affect the quality of the pipis?

A: Needs ecologist to answer

Q: Maintenance dredging estimates are quite large variation. So what influences the amount of maintenance dredging required?

A: For example storm like Cyclone Bola would move a lot more sand – so depends on energy experienced – if more stronger storms then more energy in the system to move sediments.

Q: Who owns the sand once it has been dredged and who decides what happens to it?

A: (Chris Simmons) Crown owns the sand/ Takutai Moana Act/MACA.

Q: Could it be sold?

A: McCullum Brothers didn't seem to think it was worth it. To use it for construction they have to sieve it – dredging it from deep water is expensive – so off beaches is \$100/m³ so limited

value. Capital dredging is too much volume – more than needed - maintenance dredging could perhaps be more “saleable”.

The area around the wharf, which has most depth to be removed – only records for last 17 years. Are dredging records from longer back but good annual data for past 17 years.

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A: Yes increase in sand in last decade is true. Modelling included for consented reclamation. Can't comment on whether the port had an effect or not as they only modelled it with existing and consented port. Likely that sand would accrete between wharves and port.

If deposit in 10m of water depth when there is a bit of a storm then waves will move the sand – only when there is wave energy – will continue the existing processes that are occurring - want to keep sand in the system.

Comment: Impacts of port were huge – Ngati Kahu and Te Wairiki – kaitiakitanga structure is in place and will oppose this proposal. Pipis are moving to other areas. Look at the other options.

Q: Can you clarify whether you are saying that disposal in Area 1.2 is required to counteract erosion?

A: Recommendation would be that at least maintenance dredging is deposited in Area 1.2 to replenish beach/areas that are eroding. Intensity of wave energy is likely to stay the same or reduce due to climate change during lifetime of consent (predictions are increase in energy of storms on west coast and decrease on east coast)

3. Diane Clements - Marine Mammals

- Utilised data from DOC, Massey University, Ngatiwai & Patuharakeke.
- No mammals live and stay in harbour all year round. Do have some that come in and out regularly, and others that migrate past.
- Direct impacts: Vessel impacts, noise/sound, entanglement
- Indirect impacts: flow on effects because of change to habitats
- Not a significant habitat for breeding or feeding. The mammals are working their way up and down the coast – also took data from Bay of Islands and Hauraki Gulf.

Q: Did you do any field surveys? You mentioned data for Bay of Islands and Hauraki Gulf - is that enough?

A: Didn't feel need to do more surveys as have a good idea of what marine mammals are already doing – they change their behaviour so would need to do longer term surveys to be of value – but do have data from a long time ago. Strandings all along the coast shows that they are using the whole coastline. National Museum Te Papa database have stranding data from 1830s – from skeletons, newspapers, etc. Sighting database is not so good as stranding database. Not so many reports.

Q: Would there be more boats now than in the 1830s – how would that affect data?

A: They have the raw “opportunistic” data they can say whether species were there or not. There is data from Whangarei from 1870's.

Q: Would you not need 5 – 10 years of monitoring to determine whether there would be impact?

A: Marine mammals move through large areas and are so variable – so can be impacted wherever they travels – so looking at what the possible effects could be that affect the population as a whole not on an individual – is difficult to statistically test so lot of data but

doesn't tell us much. Looking for specific things they are doing – monitoring on how they react/behaviour.

Comment: Tipuna have handed us down observations over hundreds of years through naming – strandings at Ruakaka – we know what that means is something is happening with their environment. Will alter their whole landscape and their relationship with us.

Q: Will the excavations enable the taniwha under the refinery to come and go at will instead of being locked under the refinery? If they will not be able to come and go why on earth are we talking to RNZ about a commercial operation? We are coming from different worlds. Taniwha have been trapped since 1963 – my grandparents told me.

A: Unable to answer as is a cultural/spiritual matter.

4. Brian Coffey – Ecology

- The areas that will be disturbed are soft/shell communities – they will recover – are going to be clearing a reasonable amount of site/area – so reasonable amount of seabed that will be removed or smothered.
- One possibility where lots of boats coming in from overseas and where it has been cleared is recolonisation by invasive species– but don't think that is likely.
- Concern is for protected areas on hard shorelines that are most vulnerable – so need to make sure excess turbidity needs to be avoided near these habitats.

Q: 6 – 12 months? What about recovery given maintenance dredging?

A: Quicker recovery in shallower area – so will be recolonized by smaller size/class of opportunistic species.

Q: in worst case scenario how much and how often would maintenance dredging be required?

A: Maintenance dredging - 20 – 25,000m³ every 2 years by wharf – would be placed over small part of Area 1.2 dredging in not likely to be needed before 5 years more likely after 10 years as slower infilling. Really just smothering with fine sand as low in silt so not a toxicity problem.

Q: How does it effect other species such as fish that feed on the critters?

A: 470 ha affected in total 4.37 km² (reduced benthic production and fish feed over 12 months)

Q: What about impact of an oil spill?

A: Would be catastrophic at any time – is already a risk of hydrocarbon spills – but this risk will reduce because removing Home Point risk (channel realignment) and fewer ships.

Q: If ships have larger volume then does more spill?

A: (Refining NZ responded) Ships are compartmentalised and double hulled – so larger ship doesn't mean larger spill.

Q: Access – will ships only be coming in on high tide? Some reports mention all time access?

A: Yes only coming in on high tide – will be at wharf for 36 hours but will only come in on high tide – is sufficient depth at wharf for ships to stay any point of tide.

Q: Refinery – do you support all the recommendations being proposed for mitigation?

A: They are relying on experts so will have to review their recommendations and confirm but probably will agree.

Comment: Recognize all species of tangaroa not just mammals – also have customary title that should be taken into account.

Comment: Waimarie - likely to oppose consent application. Expressed desire for Refining NZ to come and meeting with Ngati Kahu o Torongare again (separately).

Refinery Staff and experts left at 15.00pm

5. Next Steps: Juliane

- Short timeframe for producing a CIA – i.e. End of May
- Will need to call a hui soon to keep to timetable as Refinery want to lodge end of May. Objective will be to assess level of significance of impacts. Will use a matrix to work through the information that we have – group it by type of impact and assign significance. Start thinking about mitigation and how we want to be involved/what is appropriate e.g. Kaitiaki structure/roopu.
- What days suit for hui – Friday's were supported.
- Hui record and presentations to be circulated. Key questions we did not get to discuss with Refinery today will be sent through to them in writing for response.

Hui closed at 15:30.

V. Attendees

Attendance List		
Name	Iwi/Hapu/ Organisation	Contact
Juliane Chetham Colin Newton Mere Kepa JoAnn Nock Kelly Dixon Alisha Castle Alison Newell	Patuharakeke Dixon & Co Lawyers Dixon & Co Lawyers Sailing for Sustainability Ltd	jchetham@gmail.com 0275400037 tkep001@gmail.com joannisthere@gmail.com kelly@dixonandcolawyers.com alisha@dixonandcolawyers.com alison@s4sfiji.com
Mira Norris Selwyn Norris Te Aroha Niha Tapa George Opania George Donna Tamaki Mehara Tamaki	Te Parawhau/ Whangarei Harbour Kaitiaki Roopu/ Te Parawhau Hapu Authority/ Whangarei Harbour Catchment Management Group	otaika@xtra.co.nz 021363738 0226370612/ tearohamatangi@yahoo.com.au 09 4397964 opania.george@yahoo.co.nz donnatamaki@gmail.com meharatamaki@gmail.com
Waimarie Bruce- Kingi Isobel Karaitiana	Ngāti Kahu o Torongare/ Te Waiariki/Ngati Korora/ Ngāti Taka Ngāti Tu	Waimarie.kingi@gmail.com ilkaraitiana@gmail.com
Arthur Mahanga Aorangi Kawiti	Ngāti Korora Ngāti Korora/Te Waiariki	Linda.mahanga@northlanddhhb.org.nz Kawiti.aorangi7@gmail.com
Franklin Wira	Te Orewai	0210766016
Rowan Tautari Ramari Tautari	Te Whakapiko	rtautari@hotmail.com
Solomon Tipene	Whangarei District Council	solomon@wdc.govt.nz

Refining NZ Crude Freight Project – Effects Assessment Hui

Summary Record of a hui held at Whangarei Terenga Paraoa Marae 12th May 2017

I. Mihi Whakatau 10.00am

II. Workshop

Juliane started with introduction and purpose of the hui. Provided a table of effects (see appendix) grouped under the four wellbeings (cultural, environmental, social and economic) with type and level of effects, mitigation proposed by refinery experts and suggestions re possible mitigation.

Discussion:

Importance of working through an assessment (matrix) exercise to ensure our CEA is robust.

Most attendees had pre-read the table and were in agreement. However wanted clarity on collective position. The hui was clear the overall position is to oppose due to adverse and unacceptable potential effects across the range of wellbeings – particularly when viewed in the context of past and cumulative effects.

Mere Kepa – need to establish a clear position ie. We should not offer up any mitigation recommendations at this stage, these effects cannot be mitigated.

Pari – A key question is “does this project enable the protection of our cultural and spiritual values?” if the answer is no then the position is clear.

Mere - Te reo maori me nga tikanga need to be better reflected in the table.

Clive – provided example of his recent trip to Lyttleton where he had been supporting Rapaki Marae on Banks Peninsula in relation to port dredging project there. Modelling of sediment plumes had proved incorrect and sediment was moving back into the inlet, as such the port was having to evaluate alternative disposal sites.

Mira – the harbour is an entity/a person.

Juliane – we are still going to be here in 35 years when consent lapses. As kaitiaki we will be held accountable.

Mere - Our collective memory is important. Eg. Portcorp etc

Relevance of MACA applications and who owns sand.

Motion:

“That nga hapu katoa oppose Refining NZ’s Crude Freight Proposal resource consent application/s”. Pari/Aorangi (passed with 1 Abstention: Clive Stone – needed to first seek direction from Ngatiwai Trust Board).

Hui was clear we were still a collective moving forward.

Aorangi advised Refining NZ were coming to provide an overview of the proposal to Te Waiariki on June 10th.

III. Next Steps: Juliane

- Circulate table updated with today's comments to attendees.
- Circulate final CEA draft for ratification – intention is to get sign off from hapu entity's (Pereri)

Hui closed at 1.00pm

III. Attendees

Attendance List		
Name	Iwi/Hapu/ Organisation	Contact
Juliane Chetham Mere Kepa	Patuharakeke	jchetham@gmail.com tkep001@gmail.com
Mira Norris Tapa George Opania George Pari Walker Benjamin Pittman	Te Parawhau	otaika@xtra.co.nz opania.george@yahoo.co.nz pariwalker@hotmail.com pittman.benjamin@gmail.com
Pereri Mahanga Aorangi Kawiti Violet Slade Hone Tana	Ngāti Korora/Te Waiariki/ Ngati Takapari	Kawiti.aorangi7@gmail.com pererif.mahanga@gmail.com violetgoughsade@gmail.com rangikorero.jt@gmail.com
Clive Stone	On behalf of Ngatiwai Trust Board	clivestone0@gmail.com

Appendix: Refining NZ Ltd: Crude Freight Proposal – Collaborative Cultural Effects Assessment Workshop 12/5/17: Draft Table of Effects

EFFECT	TYPE OF EFFECT	LEVEL OF EFFECT	RNZ TECHNICAL EXPERTS PROPOSED MITIGATION	COMMENT
Ecological				
<p><i>Marine Mammals</i></p> <p>Marine Mammals Disturbance (behavioural/physical responses eg. (noise)</p> <p>Marine Mammal Vessel Strike</p>	<p>Cawthron Report – low likelihood (nil to de minimis)</p> <p>Low probability, high impact</p>	<p>Significant Adverse Effects - avoid</p> <p>Unacceptable adverse effect</p>	<p>Based on dredging methodology</p> <p>Marine Wildlife Management Plan (in consultation with DOC)</p> <p>Informative Monitoring Plan, observer on dredge</p>	
<p><i>Birds</i></p> <p>Potential risk on shorebird habitats identified as high at Mair Bank and low-moderate at Reotahi Bay, disruption of birds</p>	<p>Future, cumulative</p>	<p>Significant Adverse Effects - avoid</p>	<p>Bioresearches Recommendations:</p> <p>Post dredging bird surveys -</p>	

<p>(Kororā/Little Penguin and Oi/Grey faced petrel) due to turbidity (plume), lighting, noise etc during dredging operation as they commute between nesting and feeding habitat and potential collision risk with dredge vessel</p> <p>Mair Bank is considered to be of national importance, is immediately adjacent to the TSHD and berth pocket dredging and is the key feeding habitat for variable oystercatcher in the outer Harbour (Bioresarches). While stating high risk they don't outline any effects or mitigation.</p>			<p>Offset - provision of nesting boxes, Home Point, Busby Head areas</p> <p>Guidelines for lighting of vessel (Lighting Audit)</p>	
<p><i>Benthic Fauna</i></p> <p>Loss of benthic species (of which we are kaitiaki and that are kai for other species) in dredge footprint area during capital and maintenance dredging (and frequency of maintenance dredging is unknown/unclear</p>	<p>Future, cumulative adverse impact</p>	<p>Unacceptable adverse effect</p>	<p>Coffey recommendation. ie: fund/contribution to rehabilitation initiatives – specifically mentions seagrass and shellfish enhancement</p>	<p>Disagree with Ecological assessment – depending on maintenance dredging may not recover or will be</p>

<p>Risk of “Adventive” marine pest species recolonizing disturbed footprint</p> <p>If they establish – very hard to get rid of – could they spread into nearby areas?</p>	<p>Future cumulative adverse impact</p>	<p>Significant Adverse Effects - avoid</p>	<p>Part of recommended monitoring (drop camera and grab samples post impact).</p> <p>Unclear dredge methodology ie. To reduce turbidity – all tide rather than ebb tide and is a green valve required? Increase time and costs for them, does a quicker operation result in less ecological effect??</p>	<p>in continual state of disturbance. Perhaps could be considered minor if the harbour and surrounds was in a pristine condition – but degraded state means significant cumulative effect</p> <p>As above</p>
<p><i>Coastal Processes</i></p>				

<p>Possibility of alteration to coastal processes, beach profile, erosion, accretion – particularly in relation to Mair Bank/Marsden Bank. Tonkin and Taylor report recognizes <i>“Both the possible on-going removal of sediment from the capital and maintenance dredging and future sea level rise effects may result in increased erosion pressure on Mair Bank as well as on-going shoreline erosion along the open coast beaches adjacent to the ebb tide shoal. As such there is potential for cumulative effects of a continuous removal of sand from the ebb tide delta reducing the net volume stored in the delta that would exacerbate instability of the delta and have an associated adverse effect on the adjacent shoreline”</i> – proposed mitigation is disposal in Area 1-2.</p>	<p>Future cumulative adverse impact</p>	<p>Unacceptable adverse effect</p>	<p>Proposed mitigation is disposal in Area 1-2.</p> <p>Promotes onshore drift of sediment but is this guaranteed to arrest erosion/destabilization of Mair Bank – particularly in light of climate change/sea level rise impacts?</p> <p>Annual Bathymetric modeling programme for 5 years after capital dredging operation.</p>	
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<p><i>Oil Spill Risk</i></p> <p>Oil spill risk always present and according to Brian Coffey any oil spill would be “catastrophic”. Further, Maritime NZ, authorities are not equipped to deal with a large spill, it could take weeks for equipment/resources from overseas to arrive.</p>	<p>Low Probability, High impact</p>	<p>Significant Adverse effect</p>	<p>Lower oil spill risk in reports is tied to less vessel movements – but will this actually be the case? Would RNZ consider limiting # of vessels?</p> <p>What contingency/bond is in place now –if any?</p> <p>Can NRC’s Oil spill response programme be improved and how can Refining NZ assist with that?</p>	
<p><i>Climate Change</i></p> <p><i>Not addressed in their reports</i></p> <p>Bigger Picture – refinery is a sunset industry and will it ever</p>	<p>Future, Cumulative</p>	<p>Significant Adverse Effects - avoid</p>		

<p>be able to compete with SE Asian mega refineries? Does economic benefit of substantial modification to the harbour outweigh the environmental, cultural cost??</p> <p>Climate change data/figures utilised through various reports are outdated and may mean effects/risk is greater.</p> <p>Refinery's assertion that GHG emissions will be reduced as a result of this project questioned</p> <p>Where is their low carbon transmission plan and real assessment of alternatives?</p>				
Cultural				
<p><i>Mauri</i></p> <p>Removal of sand out of system, loss of benthic community, plume in water column – overall effect on health/mauri of harbour/ecosystem as a whole</p>	<p>Already a past impact, heavily degraded/ diminished mauri, cumulative and future</p>	<p>Significant /unacceptable adverse effect??</p>	<p>How do you mitigate this? Can it even be mitigated?</p>	<p>Avoid</p>

	impacts			
<i>Anchorage, Fishing sites etc</i> Loss of access to sites during capital dredging?	Temporary, future, cumulative	Minor??		
<i>Kaimoana/Customary Fisheries</i> How will the ability to manage and harvest customary fisheries be affected? Ie. If the activity exacerbates net sediment loss in ebb tide shoal/affects Mair Bank Scallop beds – impact of disposal (check Coffey reports/sampling) In turn affects ability of hau kainga to manaaki their manuhiri, feed their whanau, can result in diminished mana?? Affects of people	Future, cumulative adverse impact	Significant /unacceptable adverse effect??	Coffey - fund	Are these effects even able to be mitigated? Kaimoana stocks already in perilous position in the vicinity eg. Mair Bank Avoid
<i>Kaitiakitanga</i> Knowledge (matauranga) and	Past effects, present,	Significant /		

<p>practice of (tikanga) kaitiakitanga can be affected by loss of access to sites, species (loss of matauranga). This proposal adds to the past and existing impacts on kaitiakitanga -makes our job now as kaitiaki harder,</p> <p>What about the potential impacts on taonga species, species we are kaitiaki of, species we whakapapa to?? We are responsible, we will be held accountable – not RNZ?</p> <p>Impacts on future generations</p>	<p>future, & cumulative adverse effects</p>	<p>unacceptable adverse effect??</p>		<p>Avoid</p>
<p><i>Te Ao Māori</i></p> <p><i>Te Reo Māori</i></p> <p><i>Tikanga</i></p>	<p>Past effects, present, future, & cumulative adverse effects</p>	<p>Enduring, systematic & systemic loss of Te Maori me nga tikanga, world view, customs etc</p>		<p>Avoid</p>
<p><i>Cultural Landscapes and</i></p>	<p>Temporary ie. Barge and associated vessels</p>	<p>Minor</p>		

<p><i>seascapes</i></p> <p>Potential to impact on amenity values and “cultural landscapes/seascapes”-</p> <p>Eg. potential exacerbation of loss of Mair Bank – loss of identifier/marker</p>	<p>operating</p> <p>BUT any impacts on landform eg. Mair Bank, Busby Head etc from coastal processes – potential cumulative adverse impacts</p>	<p>Significant & unacceptable adverse effect??</p>		<p>Avoid</p>
<p><i>Te Tiriti o Waitangi</i></p> <p><i>He Whakaputanga</i></p> <p><i>Rangatiratanga</i></p> <p>The impact a 35 year consent period will have on Māori rights and interests that are yet to be confirmed via the customary marine title and protected customary activity process under the Marine and Coastal Area (Takutai Moana) Act 2011</p>	<p>Past, present, future, cumulative adverse</p>	<p>Significant Adverse Effects - avoid</p>		<p>Rangatiratanga has been usurped by confiscation of Poupuwhenua block and successive councils, policy,</p>

<p>(MACA Act).</p> <p>Also future going on precedent elsewhere eg. Waikato River – likely co-management arrangement over harbor and harbour catchment plan – would this be affected?</p> <p>The impact on Māori customary and commercial fishing rights, as well as interests in the fishing activities of organisations that have a collaborative relationship and/or partnership with Māori. As well as future aspirations for development eg. ecotourism or maybe aquaculture??</p> <p>In an RMA context – have the principles of the Treaty been addressed through this proposal?</p> <p>Who owns the sand? – any</p>				<p>development, harbour board etc</p>
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disposal of sand to markets/land				
Social				
<i>Public Access</i> Restrictions on access? During dredge operations	Temporary	Minor??		
<i>Amenity/Noise</i> Noise - Proposed consent conditions relating to when dredging should be undertaken/restricted, noise management plan, etc vary throughout document	Temporary	Minor??	Dredge methodology and operation/code of practice	
<i>Health of our people</i> Industrialization in Whangarei Harbour has contributed to inability to harvest kai Health of harbour and health of people inextricably connected. Any further adverse impacts on marine health will impact our social (and spiritual and cultural	Past, future, cumulative adverse effect	Significant Adverse Effects - avoid		Can this even be mitigated?

wellbeing)				
Economic				
<p><i>Fisheries, Kaimoana</i></p> <p>The impact on Māori customary and commercial fishing Potential impacts flow on to loss to local tangata whenua as kaimoana sustain/supplement low incomes as well</p> <p>The impact a 35 year consent period will have on Māori rights and interests that are yet to be confirmed via the customary marine title and protected customary activity process under the Marine and Coastal Area (Takutai Moana) Act 2011 (MACA Act). Eg. Future development of hapu ecotourism and aquaculture ventures could be impacted by this proposal</p>				<p>We are still waiting for commercial fishing assessment (potential effect on tribal commercial fisheries interests ??)</p>
<i>Employment</i>	Past effects – little economic benefit to			Currently just over 300 people

<p>Unclear whether any positive effects for local tangata whenua will ensue from consent related works possible employment/business for local contractors</p> <p>How many of the new workers will be from either Whangarei, Northland or NZ versus overseas?</p> <p>Threat – if no dredging then 85% loss of jobs at refinery impacting Northland – but this will happen regardless – perhaps further into the future if Refining NZ doesn't come up with an alternative sustainable plan. Is the refinery financially viable in the long term anyway?</p> <p>Fewer ships could mean less use of tugboats and shore-side workers – so how does this</p>	<p>tangata whenua from industrialisation at Poupouwhenua.</p> <p>Less than minor/minor effect if Refinery will close anyway at unspecified date in future?</p>	<p>Likely nil positive effect</p> <p>Likely nil positive effect</p>		<p>employed at refinery. In the 2016 annual report the breakdown of employees included 16 who identified as Maori another 26 that identified as Maori and European/Pakeha or Maori and PI. None of these staff were senior management and the 1 director listed as Maori (is not local iwi). Unknown how many of these are local tangata whenua.</p>
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potential dis-benefit compare to the referred to external benefit?				
<i>Bigger Picture</i> Climate Change - RNZ Low Carbon Transition Plan, change to renewables/ biofuels etc Who pays for future site remediation costs at refinery? (estimated to be \$300 Million)	Present, future, cumulative Future, cumulative	Significant Adverse Effects - avoid		

Appendix 2: CVA

CULTURAL VALUES ASSESSMENT REPORT:

REFINING NZ LTD – CRUDE FREIGHT PROPOSAL



This Cultural Values Assessment Report (“the Report”) has been commissioned by Refining NZ and undertaken by Patuharakeke Te Iwi Trust Board (“PTB”) on behalf of Nga Kaitiaki/ Tangata Whenua o Whangarei Te Rerenga Paraoa as part of the Tangata Whenua Engagement Process in relation to an application proposal being investigated and prepared by Refining NZ to make modifications to the Whangarei Harbour to allow larger oil tankers to enter. All Intellectual Property contained in the Report resides at all times with tangata whenua. Should any person wish to use the Report for any purpose other than that specified herein, the prior written consent of PTB must be obtained. The Report has been prepared in contemplation of Refining NZ making an application for resource consents necessary to enable its proposal, and is able to be relied upon for that purpose.

CULTURAL VALUES ASSESSMENT:

Of Refining NZ Limited's Proposal to make Modifications to the Whangarei Harbour to allow Larger Freight Parcels/Oil Tankers to enter the Harbour.

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Whangarei-te-rerenga-parāoa

There are a number of traditions relating to the meaning of the harbour's name.

Ngati Wai named the harbour Whangarei-te-rerenga-parāoa (the gathering place of whales) because whales gathered there to feed during summer.

A Ngapuhi interpretation is that the harbour was a gathering place for chiefs where they would strategise before heading off to do battle with the southern tribes.



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1. PURPOSE OF THIS PAPER

- a) To present a ‘**Tangata Whenua o Whangarei Te Rerenga Paraoa Cultural Values Assessment**’ to Refining NZ.
- b) This paper will inform the scope of the technical studies to be commissioned by Refining NZ as part of the project design phase and preparation of an Assessment of Effects for consent application purposes.
- c) This paper will form part of the overall tangata whenua engagement process for this proposal and inform the Cultural Effects Assessment.

2. INTRODUCTION

Refining NZ (“RNZ”) are exploring the possibility of undertaking works in the Coastal Marine Area to improve maneuverability of ships in the entrance to the Whangarei Harbour and to allow ships with larger cargoes of crude oil access to the site. At this point they are in a pre-planning stage and a number of investigations will need to be undertaken prior to resource consent applications being made, if RNZ decide to progress to that stage. Parallel to the various biophysical (and other) studies that are required is the need to act in good faith (and as per statutory requirements) to appropriately recognize and address the concerns of tangata whenua that have relationships to the harbour and surrounds, and specifically the harbour entrance, Te Wahapu o Whangarei Te Rerenga Paraoa.

Patuharakeke hold mana whenua status over Poupuwhenua/Marsden Point and the Patuharakeke Te Iwi Trust Board (“PTB”) have a long standing Memorandum of Understanding (“MOU”) with RNZ to assist an effective working relationship between the two parties. PTB have a history of providing cultural advice and support to the refinery and both parties strive to engage with one another in the spirit of good faith and transparency. There is also a great deal of experience and capability within Patuharakeke and the wider hapu and iwi of Whangarei Te Rerenga Paraoa with resource and environmental matters, particularly consent applications and developments in and around the harbour. This contemporary management perspective is in addition to the role tangata whenua have carried out for centuries when discharging their duties as kaitiaki.

The Refinery wishes to engage with tangata whenua in regard to the proposal and have initiated specific consultation with PTB in October 2013. Initial discussions were also held with Ngatiwai Trust Board as Patuharakeke and Ngatiwai have worked collaboratively in the past in relation to RNZ resource consent matters. In early 2014, PTB submitted a Tangata Whenua Engagement Process Terms of Reference which recommended a pathway for engagement with all potentially affected tangata whenua around the harbour and framework for a Cultural Impact Assessment (“CIA”) going forward.

2.1 Engagement Process

PTB suggested RNZ should retain responsibility and ownership of the proposal/application and should not outsource the tangata whenua consultation component of the work to a professional consultant. Instead, as mana whenua and MOU partner, PTB would endeavor to work alongside

RNZ to assist with facilitation of engagement and brokering of relationships with their whanaunga from neighbouring hapu and iwi with interests in the area.

Cultural effects on Maori (and their values, culture and taonga) are not defined in the Resource Management Act 1991 (RMA) and have generally been poorly defined in terms of best practice. This lack of definition has often meant that “cultural effects” are narrowly scoped and “pigeon-holed” or reduced as matters relating only to wahi tapu or heritage seen in a “past tense” sense rather than understanding its continuous nature incorporating current events or activities as well as past. While these matters are critically important, they are only a sub-set of all the effects that a proposal might have on tangata whenua, their values and environmental concerns.

Tangata Whenua o Whangarei Te Rerenga Paraoa have used a tested matrix based methodology based on the cultural safeguards of the RMA that concentrates on firstly identifying the relationship of Tangata Whenua o Whangarei Te Rerenga Paraoa to the proposal site and implications for the practice of Kaitiakitanga. These matters are discussed in section 5 of this report.

3. OUTLINE OF THE PROPOSAL

According to RNZ, the business environment in which they are operating has become challenging in recent times. Factors such as increased competition from other refineries in the Asia Pacific region, a general overcapacity in global refining have decreased margins and resulted in ongoing quarterly losses. RNZ have commenced a number of initiatives to reduce costs and create efficiencies on site, including constructing the Continuous Catalyst Regeneration Platformer (CCR) or “Te Mahi Hou” project which is currently underway and will increase production while improving energy efficiency and significantly reduce emissions. It is envisaged that bringing in bigger crude oil parcels would lift margins and improve competitiveness for the refinery.

Crude cargo arrivals to the Marsden Point Jetty are typically via Aframax class tankers for both Middle East and Far East origin crude oil. In addition larger Suezmax class tankers have also occasionally visited from the Middle East although not fully loaded due to current port draught constraints. Their usage and cargo size fell away following two near grounding incidents that occurred in 2003 in close succession at Fairway Shoal, prompting the Harbour Master to reduce the port operating draught and limit more fully loaded Suezmax ships from entering the harbour. A Dynamic Under Keel Clearance (DUKC) system which was installed and has been in operation since 2004 to ensure safe under keel clearance of ships can be maintained when entering the harbour. Studies in 2005 and 2008 by the oil companies indicated that deepening at Fairway Shoal would be required to restore previous port operating draught and potentially widening Home Point to improve safety and navigability for shipping (refer to Figure 1).

After discussion with its customers RNZ would again like to again explore the option of deepening the harbour to enable fully laden Suezmax class ships to bring crude from the Middle East and West Africa. They propose going deeper than looked at by the oil companies back in 2005 to more fully load Suezmax and ensure they are capable of taking crude in larger parcel sizes. This would improve overall crude freight economics and improve RNZ’s competitiveness compared to alternative overseas suppliers.

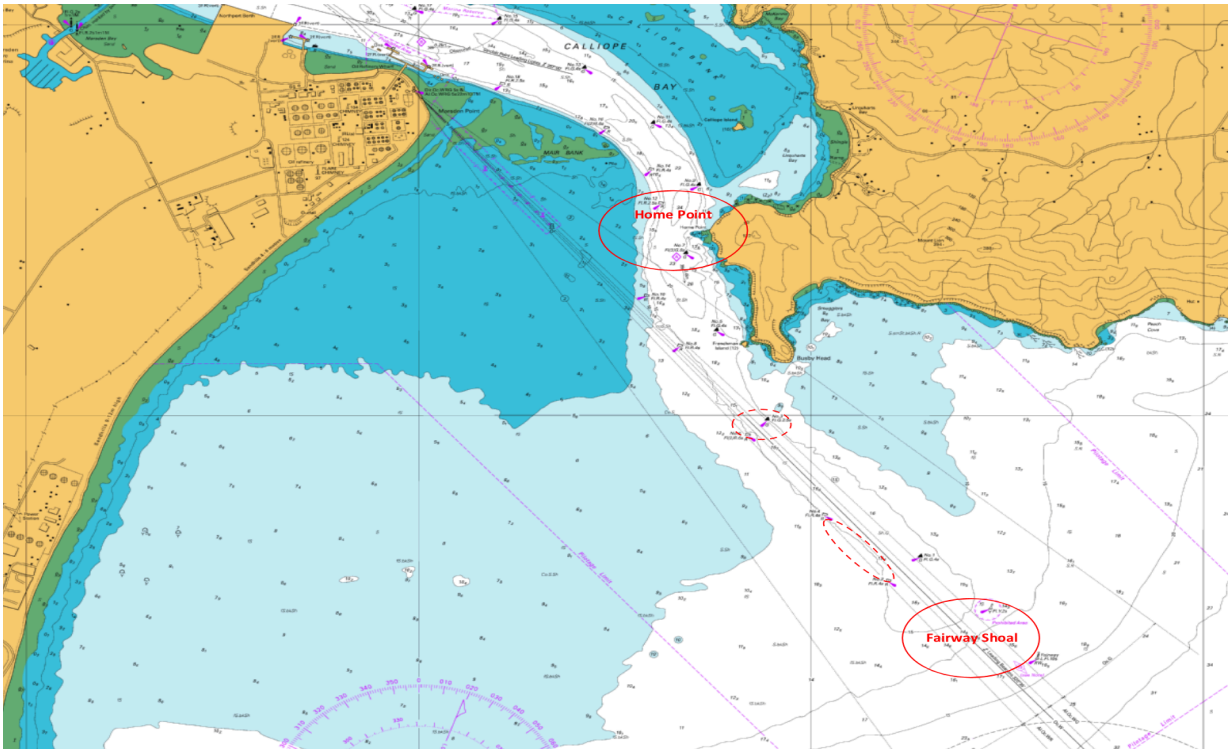


Figure 1: The entrance to Whangarei Harbour depicting Fairway Shoal and Home Point

3.1 Proposed Project Steps

As previously mentioned Refining NZ are in the early preliminary phase of scoping the project and commissioning technical studies that will form the basis of their Assessment of Environmental Effects if they decide to progress to applying for resource consent. RNZ have agreed that engagement with tangata whenua should be ongoing, throughout the various phases of the project. The figure below depicts the project steps.

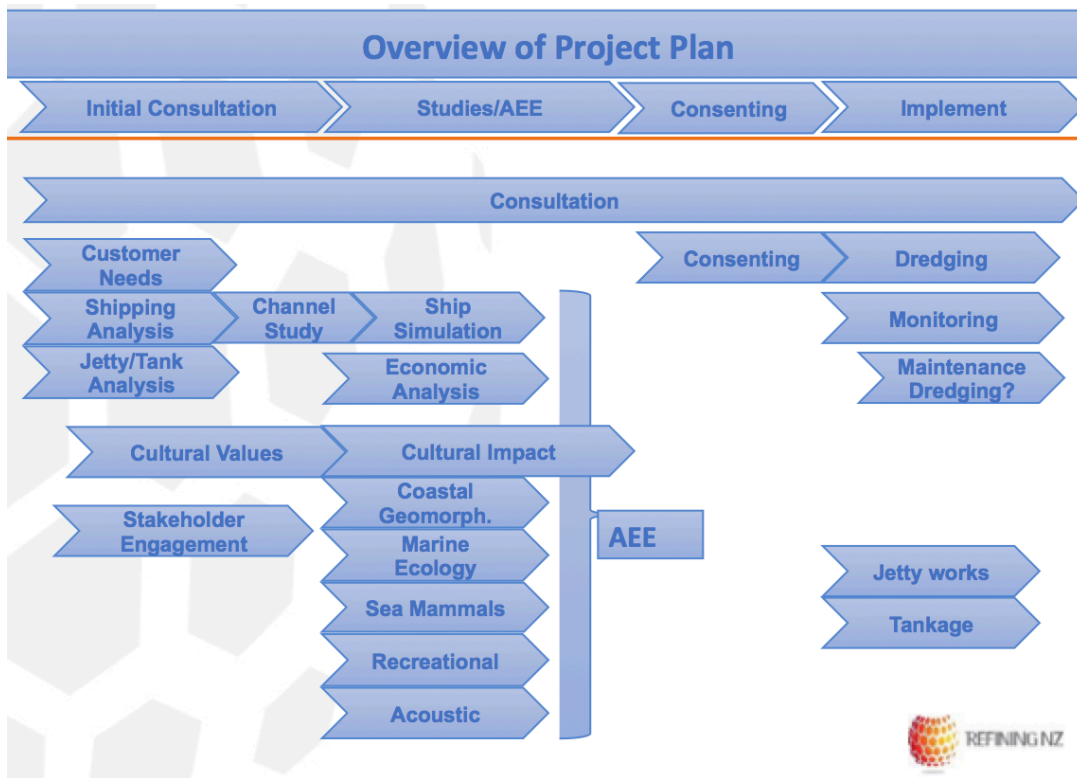


Figure 2: Proposed Project plan

4. Cultural Values Assessment Methodology

This Cultural Values Assessment (CVA) aims to identify tangata whenua values through their relationships with the resources or site (and surrounds) subject to the dredging proposal. A series of collective hui were held and a matrix methodology was used (see Appendix A). The matrix is based on the key provisions in Part II of the RMA as follows:

- The relationships between Maori, their culture AND their traditions AND ancestral land, water, sites, waahi tapu and other taonga that might be affected by the proposal (as per s6(e) RMA);
- The implications for the knowledge and practice of Kaitiakitanga by tangata whenua over their taonga of the proposal (as per s7(a) RMA);
- Whether the principles of the Treaty of Waitangi are affected by the proposal (as per s8 RMA)¹.

The matrix attributes were used to prompt discussion at the hui and the table populated through the korero gathered. Historical material (eg. Northport Hearing evidence and traditional korero of the Whangarei Harbour hapu and iwi has also been utilized to complete the matrix table. Subsequently (during later stages of engagement - the Cultural Impact Assessment proper) tangata whenua will assess whether these safeguards of the RMA have been met.

¹ The matrix summarising "How are the principles of the Treaty affected by this proposal" will be completed as part of the Cultural Impact Assessment following completion of the technical studies

5. RELATIONSHIP OF TANGATA WHENUA TO THE PROPOSAL SITE

5.1 Tangata Whenua o Whangarei Te Rerenga Paraoa

What became obvious during the hui was the interrelatedness amongst those hapu and iwi in attendance. Their relationship with the harbour and their status as tangata whenua is not held in isolation to other tangata whenua. The mana of many hapu and iwi that hold relationships with the harbour must be acknowledged. Therefore, not only the Hau Kainga in the direct vicinity of the site, but all those whanau, hapu and iwi linked both by whakapapa and physically and spiritually by the harbour are deemed to be potentially affected by the proposal, which even then, may not be an exhaustive list.

Through the series of hui held through May – September 2014, a comprehensive list was developed of hapu and iwi that have interests in and around the proposal location. These relationships vary, for example; all are tangata whenua; some are mana whenua; ahi kaa; hau kainga; kaitiaki; some have seasonal rights or rights of passage; some are ancient tribes that were there historically but no longer reside there today, or have been subsumed into modern tribes; and some are 3rd generation manuhiri that moved into the area during the “Think Big” era (eg. construction of the Marsden Power Station); and finally some have relationships as customary fishers or hold title (or tupuna formerly held title) to the adjacent land. This ancestral ownership extends into the marine and coastal area and any development in the takutai moana requires adequate recognition of the longstanding rights and interests of mana whenua in relation to the foreshore and seabed. Tangata Whenua o Whangarei Te Rerenga Paraoa consider themselves the owners of the foreshore and seabed with respect to the proposal area as they were on the 6th of February 1840. This title has never been relinquished. The list is as follows:

- Patuharakeke
- Te Parawhau
- Te Parawhau/Toetoe
- Ngati Kahu o Torongare me Te Parawhau
- Te Waiariki
- Ngati Korora
- Ngati Tu
- Te Uriroroi
- Te Kumutu

- Ngatiwai
- Ngapuhi
- Ngati Whatua

- Ngai Tahu
- Ngati Manaia

- Manuhiri (eg. families at Marsden Village - some are 3rd generation)

The various tangata whenua of Whangarei Te Rerenga Paraoa all have relationships with the proposal location. The relationship of these hapu was considered against the various categories listed in sections 6(e), and 7(a) of the RMA 1991: that is to say the relationship of tangata whenua and their culture and traditions with the Whangarei Te Rerenga Paraoa, the harbour entrance and greater Bream Bay, sites and waahi tapu and other taonga of that vicinity; and their status as kaitiaki and practitioners of kaitiakitanga in regard to those resources.

The results from the matrix used in this exercise are recorded in Appendix A. This record was used as a prompt to wider debate at the second and third hui on the interrelationships and connectivity of these matters – a theme that pervaded all discussion and was considered by participants to be more important than any individual matter. The interconnecting themes of *mauri* or life force on the one hand and concept of the harbour as a whole and living entity - are woven through all matters concerning the relationship of Tangata Whenua o Whangarei Te Rerenga Paraoa to the proposal location and surrounds. After working through the matrix, the participants were able to identify a wider range of indicators of the cultural relationships and values. These are discussed in more detail below.

5.2 The Relationship of Tangata Whenua o Whangarei Te Rerenga Paraoa and their Culture and Traditions with their Ancestral Lands, Water, Sites, Waahi Tapu, and other Taonga

The naming of water systems and land features is but one way that tangata whenua demonstrate the depth and closeness of their long traditional relationship with the proposal site and surrounding area. The waterways, and ranges and peaks that surround them are named by the resident hapu in pepeha; as they were by their tupuna and, as the current generation intends they will be referred to by their mokopuna for all time to come. Tribal whakatauki and waiata provide further rich descriptives of the relationship of the people with this place and their historical ties to all resources within the area.

5.2.1 Paraoa/Tohora/Whales

The name given to the harbour – “Whangarei Te Rerenga Paraoa” is associated with different meanings according to various tribal traditions. A well known korero is that the name given to this place signifies that it was a gathering place of chiefs of Ngapuhi—the word ‘paraoa’ being a metaphor for chiefs. Ngatiwai tradition states that the harbour was a passing or gathering place for whales². This is corroborated in the Marsden Point Port hearing evidence where it is referred to as a “Riu” or passageway for Tohora, and was mentioned on numerous occasions by hui participants during the recent series of hui. Whales have a special place in Patuharakeke tradition, they are seen as a kaitiaki or guardians and tribal korero states that the people named and called to known and favoured sea mammals and also chanted them back out to safety during strandings. Moreover, Whales are seen as an indicator of cultural health. Therefore the rare recent visit of a Humpback Whale to Reotahi Marine Reserve earlier this year was seen as a positive sign. The harbour also supports regular visits by pods of Orca and Dolphins that frequent the Whangarei coastline.

² From “A history of Ngati Wai” by Morore Piripi (from oral transcripts)

Concerns were voiced at hui about the potential for this project to modify the passageways of the whales and other marine mammals. The seabed was likened to a sub marine map and kaumatua wondered whether altering it could be a causal factor in marine mammal strandings. Clearly, tangata whenua consider that potential effects on Marine Mammals should form part of any assessment of effects carried out by Refining NZ in support of this proposal.



Figure 3: Humpback at Whangarei Harbour Entrance July 2014 (Photo by Ingrid Visser).

5.2.2 Cultural Landscapes and Seascapes, Waahi Tapu

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 the Takahiwai and Pukekauri ranges. Islands include Taranga and Marotiri (Hen and Chickens), Motukaroro, while Taurikura and Pou Ewe are just some of the rocks and reefs of traditional spiritual and cultural importance.

These principal sites are related in historical korero by the late Ngatiwai kaumatua Morere Piripi³ of Whangaruru as set out below:

Manaia was the captain of the Māhuhu-ki-te-rangi canoe. Several of the hapu and iwi listed above such as Ngati Wai, Patuharakeke and Te Waiariki have lineage that traces back to this ancestor. Manaia resided at many places along the coast from Rawhiti and south to Whangarei Heads. He also spent time at Taranga Island when trouble came to him and his people.

³ Morere Piripi Piripi, M. (1961). *A history of Ngati Wai*. From oral transcripts held by The National Library of New Zealand. See: <http://teahou.natlib.govt.nz/journals/teahou/issue/Mao37TeA/c14.html#c14-9Appendix>

At one time Manaia was building a bridge (known as Pou Ewe⁴) so that he and his people could cross the river to Poupouwhenua (Marsden Point). He warned people that they were not to come while work was in progress. However Manaia's daughter disregarded the warning and climbed onto the bridge one night and his work was spoilt. So he killed his daughter and threw her into the water. Manaia's daughter still lies there. When the tide recedes the hair will part and spread outwards and a stone will be seen. This stone is she, metamorphosed by Manaia (Taurikura Reef).



During Manaia's residence in the area, he went to fish, and caught the fish by its anus, which is considered a bad omen. Manaia found that his wife had been unfaithful with Paeko and thus began to pray, as did Paeko. Manaia, his children, wife and Paeko were turned into stone by the gods, where they can still be seen in their commanding position today at the top of the ridge.

Another traditional korero describes the migration north of Puhi⁵. When he came he rowed directly along the coast till he reached Whangarei. Outside Whangarei, Manaia was staying at Te Whara. The reason why this place was called Te Whara is that Manaia seeing Puhi on the hill, cautioned him with these words:

'Kei whara koe e Puhi i nga tai e haruru na.' - *'You may meet with disaster from the tides that thunder there O Puhi'.*

Whara in this instance is interpreted as disaster or injury. The place Manaia was referring to was Taiharuru meaning "thundering tides".

It was also at Te Whara that one of Manaia's wives was gathering kaimoana on the shore. On seeing Puhi and his companions she turned her backside towards them. So Manaia's tohungas bewitched her, and she remained standing there as a stone. Hence the place where she stood was called *'Te Wahine iti a Manaia'*, translated as 'the lesser wife of Manaia' and colloquially known as the Old Woman.

Figure 4 - Manaia⁶

⁴ Northland Port Corp Hearing Evidence of Mitai Paraone Kawiti 1997

⁵ Puhi captain of Mataatua canoe and a founding ancestor of Ngapuhi

⁶ This carving by Te Warihi Hetaraka depicts Manaia, captain of the *Māhuhu-ki-te-rangi* canoe. It is situated at the government office of Work and Income in Whāngārei.

Besides the strong associations with the tupuna Manaia, there are important linkages through whakapapa and land ownership to the ancestor Torongare and the 19th century chiefs Pohe and Tirarau. As such these sites are of high cultural significance to Ngatiwai, Ngati Kahu o Torongare, Te Waiariki and Parawhau along with Patuharakeke and others. There are approximately 50 registered archaeological sites including pa sites, terraces, middens and ditches in the Bream Head and Busby Head Scenic Reserves between Urquharts Bay and Ocean Beach (Carpenter, 2012), evidencing the significant historical use and occupation of the area. 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.

In the general vicinity of Te Wahapu o Whangarei Te Rerenga Paraoa there are a number of sites where specific locations cannot be revealed due to their cultural sensitivity. Earlier Northland Port Corporation Hearing evidence⁷ 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*

Poupouwhenua comprised some 3000 acres and was the original area name for the land area that included the Refining NZ site. It was subsequently confiscated for deeds done by another tribe, however the underlying purpose of the 'confiscation' was to provide land for settlers. This location was an extremely important tauranga waka and was occupied frequently by various war parties stopping there to prepare for battles further south. Preparations included training, and discussions of tactical warfare. The number of war parties, varied between small groups of 20 to 50 to some numbering in the thousands (Clarke, 2001:2).

Besides providing physical sustenance, Whangarei Te Rerenga 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. The foredune at Poupouwhenua was formerly a significant source of pingao – a plant used to weave nets specifically used to catch small kaimoana ika such as Piper.

5.2.3 Mahinga Mataitai

Tangata whenua therefore identify a rich tapestry of signifiers of their traditional relationship with the proposal area. This includes the relationship of Whangarei Te Rerenga Paraoa and

⁷ Northland Port Corp Hearing Evidence of Jan Dobson 1997

Bream Bay as a bountiful and rich food basket or 'Pataka'.

The whenua on both sides of the harbour entrance hosted seasonal migrations of descendants from in and around Whangarei Te Rerenga Paraoa and related inland hapu (for example Te Kumutu from Mangakahia) in order to harvest kaimoana during the summer months. Some areas of continued occupation were established with cultivation areas. According to Patuharakeke elders, prior to the construction of the Refinery, a massive Mussel bed covered the takutai adjacent to the site, from the edge of the channel in to shallow water and running from Mair Bank along to the Port Jetty. This was widely utilized for customary and recreational harvesting and was a "jewel in the crown" of a harbour abundant with resources. Much of the area along the foreshore and dunes between the Marsden Point Wharf and Refinery Jetty was used as a nohoanga regularly by Patuharakeke and other whanaunga from the Whangarei area up until the development of the site began to restrict this practice in the 1960's.

Other key traditional mahinga mataitai and fishing grounds include Patangarahi ("Snake Bank") which was, and remains a tahuna (bank) for pipi and cockles. Another significant traditional site was known as Patupo. There were a number of tahuna Kuaka (sandbanks where Godwits fed and rested on their migratory journey). This particular one was at Marsden Point. Kuaka or Godwits are considered to be a kaitiaki and an indicator of cultural health in this area. They also feature prominently in Ngai Tahu mythology and tradition and are considered to have guided the path of the ancestral migration to Aotearoa from Hawaiki. The hapu listed above shared seasonal rights over these resources as well as Parera (Ducks), Manu Oi (Shearwaters/Mutton Birds) and Kopua Mango or Shark Fishing Grounds that were located at the entrance to the harbour.

Rauri or Blacksmiths Creek was the site of the seasonal eel weir and pa harakeke farmed and cultivated by Patuharakeke. This was also a large and important pipi bank (where timber port is today). A number of other important Mahinga Mataitai were located at Marsden Bay, McDonald Bank, Mair Bank, Marsden Bank, Calliope Bank and Urquharts Bay, along the coastline from Reotahi to Taurikura as well as Smugglers Bay, Peach Cove and Bream Bay. Species harvested at these various locations and habitats included pipi, kokota, tio, koura, kina, paua, tuatua and kutai. Hi inga ika were also common at these locations, mullet and flounder were generally sought further up the harbour but snapper, tarakihi, gurnard, trevally, kahawai and kingfish were all common in these areas and at the Three Mile reef fishing ground. Hapuku were also traditionally fished at this reef and at Taranga (Hen Island). Some of these locations, such as Mair Bank, also have an important role to play in providing structural stability for the harbour entrance and therefore provide significant ecosystem services.

The waters of Whangarei Terenga Paraoa and Bream Bay are a taonga gifted by the tupuna of these tribes which today's kaitiaki have a duty to conserve and protect for their mokopuna. These waters once teemed with kaimoana such as those species listed above. However, since colonisation, more than a century of poor management practices has seen an immense decline in marine species as a result of degraded water quality, habitat loss and harvest pressure. The decline of kaimoana species, is accompanied by a decline in traditional knowledge in regard to those species, their uses and management practices. This impacts on the duty of tangata whenua as Kaitiaki and displaces an important role and function for their tamariki and mokopuna. Their mana as tangata whenua, is further diminished by an inability to practise manaakitanga to gather kai moana for the table both for their families and manuhiri. Not only

does this impact on the cultural wellbeing of Tangata Whenua o Whangarei Te Rerenga Paraoa, but it has economic consequences, as it restricts the ability of whanau to put kaimoana on the table, a practice that has always supplemented low incomes. Therefore the RNZ's technical information gathering exercise will need to be cognisant of the fact that the harbour ecosystem, and our mahinga mataitai listed above in particular, are already in a significantly degraded state. The desire of Tangata Whenua o Whangarei Te Rerenga Paraoa is to restore key mahinga kai and any activity that causes further deterioration will be unacceptable.

5.2.4 Contemporary Cultural Relationships

The hapu of Whangarei Te Rerenga Paraoa also retain a contemporary cultural relationship with the site and its surrounds. Mana whenua, mana moana and mana tangata are based on historical connection and whakapapa, however the modern descendants of those ancestors see this as a living and contemporary relationship and not only as a traditional or historic memory.

The marae at Takahiwai continues to hold its dominant position in the landscape and is a living and dynamic institution in continual use as a cultural centre for the surrounding district. Ahi kaa is maintained through the continued and unbroken residence of families of direct descendants domiciled on ancestral land. Such families maintain practices such as maintenance of the ancestral house as a living and vibrant institution and 'entity', the gathering and harvesting of traditional foods, the maintenance of the urupa and guardianship of tikanga associated with both place and people. Tangata whenua still rely on the use of a wide range of species from both land and water as part of their customary relationship – including kai and rongoa.

Other hapu and whanau residing outside the immediate area of Patuharakeke also participate in these practices demonstrating the continued cultural, social and physical linkages to their traditional rohe and area of origin. These linkages are maintained not only by story telling, whakapapa, wananga, waiata and whaikorero but also through the interaction with the physical environment within the proposal location.

5.2.5 Relationship through Kaitiakitanga

As Kaitiaki, Tangata Whenua o Whangarei Te Rerenga Paraoa are responsible for both the knowledge (matauranga) and the practice (tikanga) of kaitiakitanga in relation to resources. This relationship is a responsibility rather than a right – a duty kaitiaki are bound to by both culture and tradition to maintain. This relationship and obligation has been in place since time immemorial and the continuous connection to the whenua and moana enabled development of a sophisticated resource management paradigm. Tangata Whenua o Whangarei Te Rerenga Paraoa are highly cognisant of the cost of the historical period of colonisation on both aspects of kaitiakitanga. There has been a large historical loss of knowledge of kaitiakitanga – both the "whys" and "hows" – as a result of colonisation.

Prior to the Treaty, kaitiakitanga was THE resource management system for controlling the effects of people on the environment. However, rather than an indigenous resource management system, kaitiakitanga was often seen by the early missionaries and many of their followers as akin to practicing witchcraft or devil worship. The Tohunga Suppression Act 1907 also had an enormous effect on the practice and transference of kaitiakitanga to subsequent generations.

The capacity to practice kaitiakitanga has been further eroded over subsequent decades by the loss of title to large tracts of ancestral land (for example Te Poupouwhenua, Manaia and Taurikura Blocks among others) and the progressive introduction of increasing layers of government control over resources and their management. – Land ownership laws, western science, fisheries controls, harbour boards, reserve and wildlife legislation and more recently district and regional councils, departments of conservation and heritage agencies all have largely competing priorities to tangata whenua and have impacted on the ability to effectively practice kaitiakitanga in its pure form (that is the right to action management practices which would ensure the ongoing viability of species management and preservation). Conversely, it has been the tight-knit character and isolation of the small communities of these areas that have seen kaitiakitanga maintained in the face of these external pressures. Further, it has been the sheer volume of industry on their ‘doorstep’ that has further mobilized these hapu to assert their rights and responsibilities regarding kaitiakitanga.

Tangata Whenua o Whangarei Te Rerenga Paraoa are committed to ensuring that today’s Kaitiaki will play a significant future role in the monitoring and protection of the health of the harbour catchment and the effects of developments such as this dredging proposal on the health of its ecosystems.

5.2.6 Contemporary Kaitiakitanga in Whangarei Te Rerenga Paraoa

In addition to the continual practice of kaitiakitanga, all hapu and iwi listed in section 5.1 above have developed capacity and capability to operate as resource management technicians in the contemporary resource management space. This is in addition to their While kaitiakitanga still involves the use of traditional practices and matauranga maori, it also requires working knowledge of resource management policy and planning and western science techniques. Tangata Whenua o Whangarei Te Rerenga Paraoa demonstrate their kaitiakitanga through a variety of means, including customary fisheries management and monitoring, marine mammal research and management, cultural heritage monitoring, provision of advice (eg. Cultural Impact Assessments), and via participation in local and central government agency consultation processes.

Patuharakeke, for example have a Mana Moana committee (that includes kaitiaki from several other hapu around the harbour). The roopu mana moana is seeking to develop collaborative partnerships with all relevant agencies, scientific bodies, developers and the wider community to develop and implement a rohe moana management plan to restore the health of their mahinga kai. In recent years Patuharakeke have undertaken a series of surveys of the mahinga kai areas in Bream Bay and the Ruakaka and Waipu estuaries using a “Coastal Cultural Health Index”⁴. The aim is to seek support and resources to continue these surveys on a regular and ongoing basis. The mana moana committee has also collaborated with NIWA and other science providers to carry out biomass surveys of pipi on Marsden and Mair Banks during 2012 and 2014.

⁴ see <http://www.repoconsultancy.maori.nz/cultural.environmental.monitoring.php>

Ngatiwai Trust Board are also active in the marine space with their marine mammal research and have also been involved extensively in archaeological research, surveys and monitoring at Whangarei Heads and in undertaking cultural impact assessments in the area.



Figure 5: Patuharakeke CCHI Survey Marsden Bank

Ngati Kahu o Torongare have advised that they are in the process of developing a cultural audit project that includes Te Wahapu o Whangarei Terenga Paraoa that will involve mapping and monitoring using the traditional mātāuranga māori around the maramataka. Ngati Kahu and Parawhau also have active resource management technicians who engage in RMA processes such as developing CIA's for specific projects and undertaking historical research.

Tangata Whenua o Whangarei Te Rerenga Paraoa advocate for the health of these taonga on a continual basis through district and regional council processes, through their relationships with Industry and Developers in the area and other Crown and Non-Government Agencies and groups. The revitalisation of these relationships as Kaitiaki is seen as vital to the future aspirations as the recognised managers and owners of such resources.

5.2.7 The Whangarei Harbour Kaitiaki Roopu

In the early 1990's Northland Port Corporation began consultation with tangata whenua regarding their proposal to build a Timber Port at Marsden Point. However, the period leading up to resource consent hearings in 1997 was fraught with issues, particularly around consultation, differing ideas of what constitutes consultation, and an inaccurate list of iwi and hapu to consult with. The process ended up being quite divisive and caused rifts and distrust between hapu and iwi that are still being repaired more than a decade on. Condition 11 of the resource consent provided a mechanism to set up a kaitiaki roopu made up of representatives from various hapu around the harbour. It required the consent holder to make annual fund

payments to the Northland Regional Council (NRC) over 10 years. The funds were to be administered by the Northland Regional Council and allocated after consultation with a kaitiaki group established by NRC. The purpose of the fund was to enable improvements to the health of the Whangarei Harbour, and the study and/or mitigation of the effects of the port development on waahi tapu, taonga, and other features of special interest to tangata whenua, for example:

- Re-seeding shellfish beds
- Study of New Zealand Dotterel nesting/roosting/feeding areas
- Creating new feeding habitat for new Zealand Dotterel
- concerns of tangata whenua.

Construction of the port commenced in October 2000 and it opened for operations in June 2002. In 2001 the NRC acted to implement the condition 11 and the Kaitiaki Roopu was established, consisting of representatives of Patuharakeke, Te Waiariki/Ngati Korora, Te Parawhau, Toetoe and Ngati Kahu o Torongare. At the time, there was a genuine belief held by tangata whenua that the environmental mitigation fund would assist in building capacity as kaitiaki and promoting the participation of tangata whenua in the management of the harbour. In practice, the vast majority of funds have been allocated to crown research institutes such as NIWA. PTB estimate that only 4% was spent directly on tangata whenua led projects, 4% was allocated to “iwi expenses” for Kaitiaki Roopu hui, and 3% of studies included indirect tangata whenua involvement (Chetham, 2013).

Patuharakeke, Toetoe and Parawhau whanau were invited to take part in seagrass restoration trials and cockle reseeded initiatives. While these did benefit the harbour, kaitiaki involvement tended to be tokenistic, one-off and un-resourced. Tangata whenua driven proposals (eg. to undertake a cultural audit of the harbour using matauranga maori) were met with resistance from the consent holder and have not yet been realised. The general view of kaitiaki following more than a decade of administering this fund is that the mitigation offered by the fund doesn't come close to compensating for the loss and degradation inflicted upon the harbour and upon mana whenua, mana moana. In theory, the concept of a kaitiaki roopu working together to identify and implement research and management opportunities is an excellent one and makes sense in light of the shared relationships with the harbour. In this case of the current harbour fund this has not yet come to fruition. There was however, much discussion about the kaitiaki Roopu during the hui and it is still seen as a mechanism that has merit and allows for the collaboration of the numerous hapu with interests in the harbour. There is an expectation that an improved structure and process could be explored through this engagement process.



Figure 6: Pipi - CCHI Survey Marsden Bank

6. CONCLUSION AND RECOMMENDATIONS

This report has utilized korero gathered from a series of hui and a number of documented sources to describe the traditional and contemporary cultural relationships of Tangata Whenua o Whangarei Te Rerenga Paraoa with the proposal site and surrounds. It illustrates that these relationships remain well established, entrenched and easily demonstrated and acknowledged.

Te Wahapu o Whangarei Te Rerenga Paraoa was known to all hapu and iwi listed in this report as a bountiful and rich food basket or 'Pataka'. Historically, all had varying degrees of rights and access to it. The mahinga mataitai, waahi tapu, and cultural landscapes and seascapes remain of utmost significance today. These cultural areas of significance are depicted in the map attached as Appendix B at the end of this report. Their use still revolves around maintaining customary practices and feeding whanau, hapu and manuhiri as in the past. The layers of matauranga and management through katiakitanga have been stripped back due to a number of factors, such as alienation of rights and access, imposition of government controls, mismanagement, pollution, industrialisation and overfishing. Today's kaitiaki seek increased control over the management of these places and resources. Their desire is to prevent further diminishing of the mauri of the harbour and to enhance and restore the important mahinga kai that remain.

In terms of any adverse effects as a result of this proposal, it is tangata whenua who have, and will continue to bear ultimate responsibility. Therefore they are concerned with ensuring a precautionary approach is taken with any activities that have the potential to create further adverse effects. RNZ's technical studies will need to take these factors into account. These studies will need to consider the potential effects of bringing larger crude oil parcels into the harbour in relation to the mahinga mataitai, taonga species and other sites of significance discussed in this report. To that end it is recommended that the tangata whenua working party have a continued role and provide input during the scoping and undertaking of technical studies

required throughout the feasibility and consenting stages of project. This involvement could include:

- Tangata whenua working party representatives attending meetings with RNZ and consultants as necessary to facilitate understanding of the data gathering process,
- A workshop where tangata whenua are able to meet the RNZ consultants undertaking the technical studies and discuss the scope and methodology to be employed for said studies, along with raising any key concerns or areas of interest,
- Tangata Whenua “Observers” being present during the fieldwork component of relevant technical studies,
- Tangata whenua conducting own surveys, for instance a dive survey off Home Point once the extent of modification in this area is known.

Finally, it is recommended that RNZ make provision for an independent technical advisor or review of the studies undertaken for the Assessment of Environmental Effects to assist tangata whenua in understanding potential adverse effects on their values. This Cultural Values Assessment and any independent technical report produced for tangata whenua can then inform the CIA that is to be developed. The engagement so far between RNZ and Tangata Whenua o Whangarei Te Rerenga Paraoa has been positive and productive. It will be essential to maintain an open and transparent dialogue to build this relationship going forward.

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8. GLOSSARY

Atua - god, deity	Patiki – flounder
Hapu - sub-tribe	Paraoa - Whale
Harakeke – flax	Pingao - golden sand sedge
Hi inga ika - fishing grounds (also called tauranga ika)	Pipi - clam Rahui - restriction or control on an area
Ika - fish	Rangatira - chief, leader
Iwi - tribe	Rangatiratanga - chieftanship; selfdetermination
Kai - food	Rongoa - medicinal plants
Kaimoana - seafood	Takutai moana – Foreshore and seabed
Kainga - home, village, settlement	Tangaroa - god of the sea
Kaitiaki - iwi, hapu or whanau group with the responsibility of kaitiakitanga; with reference to the Customary Fishing Regulations 1998 = individuals who can authorise customary fishing	Tangata whenua - people of the land
Karakia - prayer, incantation, ceremony	Taniwha kaitiaki - supernatural beings valued as a protective guardians
Kaupapa - theme, policy	Taonga - treasures
Kaumatua - elders	Tauranga waka - canoe landing site
Kina - sea urchin	Te Whara - Bream Head
Koiwi tangata - human bones	Tikanga - customary values and practices
Kokata – shellfish	Tio – oyster
Kopua Mango - shark fishing grounds	Tipa – scallop
Koura - crayfish	Tohora – Whale
Kutai - mussel	Tohunga - experts
Mahinga kai - food and other resources, and the areas they are sourced from	Tuaki - cockle
Mahinga Mataitai - customary seafood gathering site, shellfish bed	Tuatua - shellfish
Mana - respect, dignity, influence	Tupuna - ancestors
Manaaki - to take care of	Turangawaewae - a person's right to stand on particular land and be heard on matters affecting that place and their relationship to it.
Manaakitanga - hospitality, kindness	Urupa - burial site
Manaia – Eponymous ancestor and Mountain	Ingoa wahi - place names
Manawhenua - those who have customary authority	Waahi taonga - places and things that are treasured and valued
Manuhuri – visitors	Waahi tapu - places and things that are sacred
Manu Oi - Shearwaters/Mutton Birds	Waiana koiwi - underwater burial caves, ledges
Matariki - Mt Lion	Wairua - spirit
Matauranga – knowledge, body of knowledge	Waka - canoe
Maunga - mountain	Wananga - seminar, workshop
Mauri - the essential life force of all things, spiritual essence	Whakapapa - genealogy, cultural identity
Mokopuna grandchildren	Whakatauki- proverb
Nohoanga - seasonal occupation sites, places where food is gathered	Whanau - family
	Whangarei Te Rerenga Paraoa – Whangarei Harbour, Gathering place of Whales, Chiefs
	Whare tupuna - ancestral meeting house

Pa - fortified settlement site
Pa harakeke - flax garden
Papaka – crab
Parera - Duck

Whenua - land

APPENDIX A: REFINING NZ CRUDE FREIGHT PROPOSAL – TANGATA WHENUA RELATIONSHIP MATRIX

<i>relationships that must be recognised and provided for</i>	<i>subcategory</i>	<i>Ancestral land</i>	<i>Water</i>	<i>Sites</i>	<i>Wahi Tapu</i>	<i>Other Taonga</i>
Maori	<p>Mana Whenua Tangata Whenua Kaitiaki Whanau Ahi Kaa Hau Kainga Hapu Iwi</p> <p>Patuharakeke Te Parawhau Te Parawhau/Toetoe Ngati Kahu o Torongare me Te Parawhau Te Waiariki Ngati Korora Ngati Tu Te Uriroi Te Kumutu</p> <p>Ngatiwai Ngapuhi Ngati Whatua</p> <p>Landowners Customary Fishers</p> <p>Maori non-mana whenua eg. Families at Marsden Village (3rd generation)</p>	<p>Mana Whenua Rangatira Kaitiaki</p> <p>Ancient tribes: Ngai Tahuhu Ngati Manaia</p>	<p>Mana Moana Rangatira Kaitiaki</p> <p>“Te Ahiupupurangi puta noa ki te Wahapu o Terenga Paraoa”</p> <p>The proposal affects the gazetted rohe moana of Patuharakeke and traditional rohe moana of tangata whenua groups</p> <p>Mahinga Mataitai are adjacent to the site eg. pipi beds, scallop beds, fishing sites</p> <p>Dune Lakes were traditionally a resource for harvesting of waterfowl, tuna, flax, weaving materials etc</p> <p>Shared seasonal rights: Patunga Kuaka, Parera, Kopua Mango, Manu Oi</p>	<p>kaitiaki for all heritage sites and sites of significance within the proposal area eg. middens (recorded or unrecorded)</p> <p>“Riu” or passageway for Tohoro/whales. “what happens if their passageways are modified? Are changes to their undersea ‘maps’ a reason why they are getting lost and beaching themselves??”</p> <p>Tauranga waka</p>	<p>Kaitiaki Connections to the water including tapu</p>	<p>Kaitiaki of all taonga eg. marine species, kaimoana, tohoro,</p> <p>Tohoro have a kaitiaki role</p>

Culture		<p>The relationship with ancestral land (whenua) gives meaning to “tangata whenua”</p> <p>Adverse effects on the mana of the land and the mana of the sea reflect on the mana of the people</p>	<p>Ability to manaaki manuhiri, reciprocity (give, take, receive) results from relationship with moana</p> <p>Those with Mana whenua, mana moana will bear ultimate responsibility for the health of the harbour and Bream Bay</p>	<p>Dune Lakes were often a respository for taonga/ artefacts</p> <p>Te Whara, Home Point, Taranga, Manaia – very significant cultural landscape and seascape</p> <p>Motu-o-Tauā, the Island of Tauā, the gathering of the whales, who came upon the winds of the ocean.</p>	<p><i>Our histories tell of:</i> <i>Places where:</i></p> <ul style="list-style-type: none"> • <i>bathing and healing rituals were enacted;</i> • <i>bodies were washed and bones prepared for final internment;</i> • <i>warriors gathered to strategise;</i> • <i>a powerful tohunga recited karakia to avenge his wife;</i> • <i>an aging chief bathed and prophesized the future (Te Ikanui)</i> • <i>battles occurred</i> • <i>war canoes gathered; and;</i> • <i>an ancestor called to a favoured sea mammal</i> • <i>our tupuna chanted the whales to safety</i> 	<p>Histories and stories</p> <p>Taonga raranga sites</p> <p>Natural material, dyes/paru for weaving etc</p> <p>Pingao used specifically to make piper nets was gathered in poupouwhenua, Rauiri areas</p>
Traditions		<p>Gathering of pingao and other resources to weave etc for nets (eg. for Piper)</p> <p>Sustainability maintained through kaitiakitanga – colonization has diminished role of kaitiaki – poor health of harbour cost of development</p> <p>Vehicles for building capcity and enabling</p>	<p>Traditional mahinga mataitai and fishing grounds:</p> <p>Patangarahi – a tahuna pipi , cockles (Snake Bank)</p> <p>Patupo – a tahuna Kuaka or sandbank at Marsden Point;</p> <p>Blacksmiths Creek - Rauiri, Te (Tarawiri) – the seasonal eel weir and flax plantation farmed and cultivated by Patuharakeke. This was</p>	<p>Traditional Toka or rocks and reefs for fishing, were named and known</p> <p>Home Point – Pa of tupuna/ Rangatira Hikurangi</p> <p>Motu Taua – Kukupa’s pa. “the gathering of the Whales” – the meeting place for Ngapuhi chiefs to gather and strategise for battle.</p>		<p>Dunes are a Respository for Tohora bones</p>

		<p>kaitiakitanga – such as the kaitiaki roopu – need to be thoroughly evaluated – they haven’t worked in practice....</p>	<p>also an important pipi bank (where timber port is today); Mahinga Mataitai at: McDonald Bank Mair Bank Marsden Bank Calliope Bank/Urquharts Coastline from Reotahi to Taurikura Mussell/Kutai beds formerly along Marsden Point to site of Refinery Jetty Smugglers, Peach Cove Hapuka Grounds – Taranga Island 3 mile reef fishing ground</p>	<p>Waka taua would assemble in places like Smugglers Bay, Poupouwhenua before going up to Motu Tawa</p> <p>Taurikura – Korero around Manaia’s daughter”</p> <p>Tangata whenua wish to develop cultural monitoring tools/audit/programme based on maramataka, matauranga maori.</p>	
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Matrix 1.2 Kaitiakitanga

<i>particular regard must be had for:</i>	<i>Knowledge of</i>	<i>Practice of</i>
Kaitiakitanga	<p>Has been diminished through inability to practice – loss of resources and access to them... eg.</p> <p>Western knowledge has dominated matauranga.</p>	<p>The loss of mahinga mataitai, kaimoana through industrialization, (reclamation, dredging), pollution, biosecurity risks, poor fisheries management etc etc has affected the ability to practice kaitiakitanga. Eg. mataitai under Northport reclamation, Motukaroro marine reserve – alienated) Mair and Marsden Banks severely threatened.</p> <p>What is the status of the mauri of “Te Ahiupupurangi puta noa ki te Wahapu o Terenga Paraoa” (the harbour and Bream Bay)? Warnings of tangata whenua at</p>

Knowledge still held/maintained by kaumatua/kuia and reflected in the tikanga of the people today

Northport hearings went unheeded. All said we will lose Mair Bank, Snake Bank etc – this has come to pass. Kaitiaki Roopu was supposed to mitigate address desire to restore mauri – projects have been positive but have not addressed decline, and NIWA and other agencies have had true benefit of funding while kaitiaki capacity and capability has not been built.

Tangata whenua

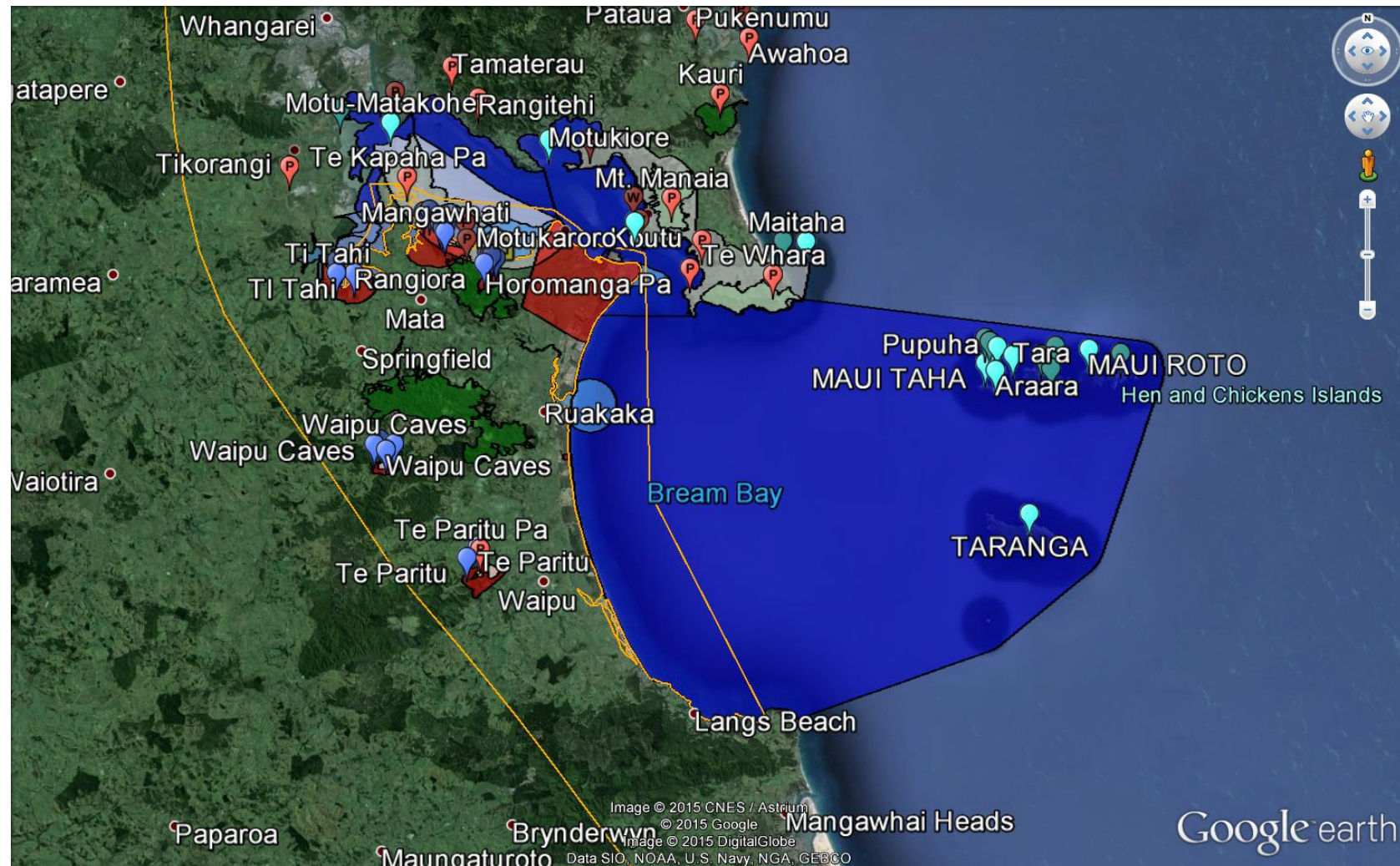
For adverse effects- liability remains with tangata whenua regardless of RMA, agency roles.

Kaitiakitanga remains subservient to government management practices/processes.

Marae/hapu still attempt to maintain kaitiakitanga e.g. Through Patuharakeke HEMP, Rohe Moana Management Plan, Whangarei Harbour Kaitiaki Roopu and hapu resource management entities/technicians

Not conservation but sustainability focused. Precautionary approach – bottom line

APPENDIX B: MAP OF CULTURALLY SIGNIFICANT AREAS – TE WAHAPU O WHANGAREI TERENGA PARAOA



Appendix 3: Independent Technical Review and RNZ Response

HUI OUTCOMES AND TECHNICAL REVIEW OF REFINING NZ DOCUMENTS SUMMARY FOR CRUDE SHIPPING PROJECT

for

Patuharakeke Te Iwi Trust Board



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Date: April 2017



Purpose of Report

Refining NZ (the applicant) has commissioned a suite of technical reports to inform an assessment of effects to support a proposed application for resource consents to dredge and realign the channel approach to and adjacent to the Marsden Point refinery complex and the disposal of the dredgings in the CMA. This work will enable berthing of fully laden Suezmax oil tankers, currently not available due to the draft of these vessels.

As part of the Tangata Whenua engagement being undertaken by Refining NZ, Patuharakeke Te Iwi Trust Board (Patuharakeke) has contracted a review of the technical documents, the results of which were presented and discussed at a hui at Takahiwai Marae, on 7 April 2017 of Tangata Whenua o Whangarei Te Rerenga Paraoa.

Refining NZ staff and technical experts joined the hui in the afternoon and presented giving an overview of the proposal, and summaries of the AEE reports on coastal processes, ecology and marine mammals. This provided an opportunity for the hui participants to raise questions and comment on the material presented.

This report provides a summary of the key questions resulting from the review of the technical documents and raised in the hui for consideration by Refining NZ and will inform the Cultural Impact Assessment being undertaken by Patuharakeke.

Overview

There are a broad suite of issues arising from the review of the technical documents supplied which we advise Patuharakeke seek further information and clarification on from Refining NZ. In general terms however, there appear five key areas of concern:

- The economic analysis provided by NZIER, including the overall viability of the refinery in the long term.
- Related to this is the relationship of the proposed application within the context of climate change and New Zealand's current and future policy over the lifetime of the consents sought.
- The overall health of the harbour and the role of Refining NZ as a key stakeholder.
- The practical implementation of the responsibility of kaitiakitanga by Patuharakeke in relation to the harbour.
- The potential impacts of dredging, including disposal of dredgings.

Economic Analysis

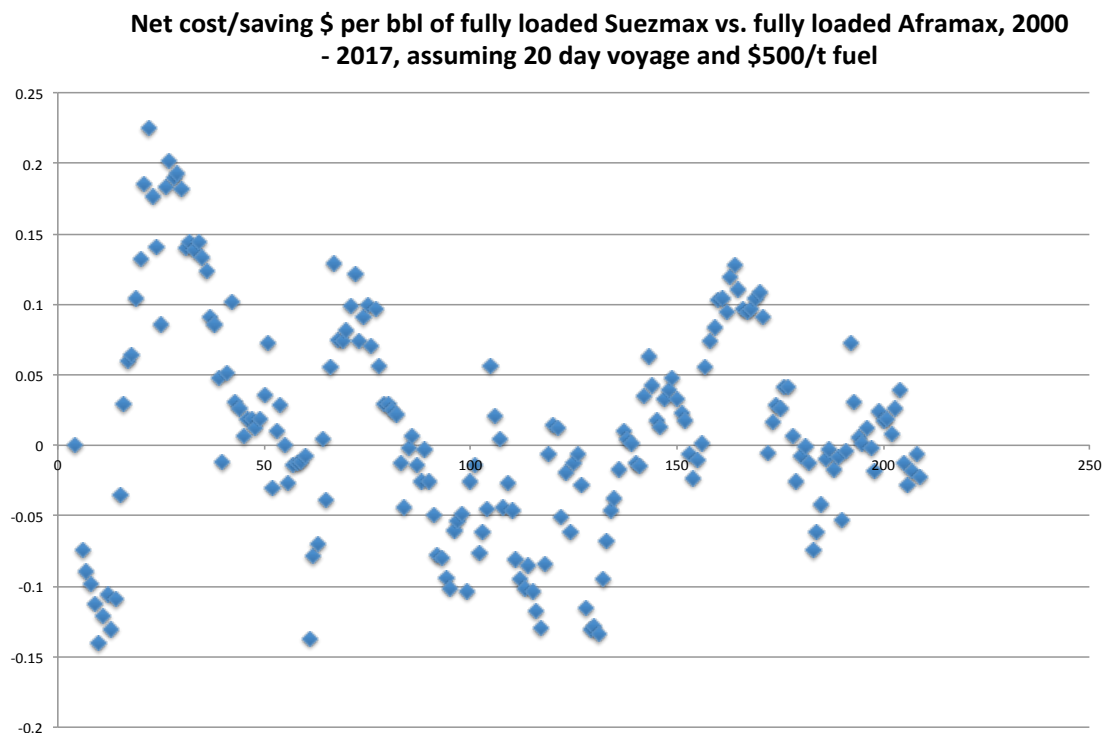
An economic assessment report has been provided by NZIER. The basis for Refining NZ's application to dredge is the assertion that this will result in a reduction in costs to the refinery by reducing transport costs by allowing for bigger ships (Suezmax), which can currently only enter partially laden, to berth fully laden. Refining NZ argue that this would decrease the transport costs for the refinery and its customers of importing crude oil from overseas by having fewer shipping movements at lower cost delivering more crude.

The analysis appears seriously flawed in several regards. At best it is not robust, and in several instances, especially in regard to the analysis of transport costs, appears factually incorrect and is misleading about the potential benefits, and especially the conclusion that reduced numbers of ships equates to reduced Greenhouse Gas (GHG) emissions. Full analysis of the report is hampered by the lack of depth and base data, assumptions and calculations provided in the economic assessment to support the assertions made.

We note that our findings at this stage are preliminary given the scope of the review we have been requested to undertake. We have, however, had the benefit of advice from colleagues at University College London, widely considered as leading experts in this field.

Firstly, the cost of transport is one of a number of key factors that make up the cost of refinery operations and the resultant profit of the refinery. There appears an assertion that transport cost is the key determinant of overall economic viability for the refinery. The assessment concludes that the proposed dredging will result in cost savings of USD 0.61/barrel. It is not clear whether these savings are predicted as an average over the lifetime of the proposed consent or in the immediate near future.

There are multiple key factors that affect the cost of crude transport to Marsden, many of which appear to have been ignored by NZIER. Such factors include freight rates, which have been historically highly volatile, and ship speed, which strongly influences ship fuel consumption and therefore is a key factor in tanker day rates. If we use actual day rate charter prices for the past 17 years (obtained from Clarkson's) and fuel prices (which the charterer pays) at an assumed rate of USD 500/tonne we can model the transport costs of Aframax versus Suezmax over identical routes. The resulting graph shows that there are many points in time (negative numbers) when Aframax would have achieved significantly greater savings than Suezmax. Based on this initial calculation, which provides an "apples for apples" comparison of ships sailing identical voyages, the average savings assessed are conservatively USD 0.01/barrel not the USD 0.61/barrel arrived at by NZIER. We accept that closer analysis and additional data sets may vary this calculation, however the point remains that there is a difference of a factor of 60 in the potential savings between this and the NZIER assessment.



Given that the assessment on return on investment for dredging calculations is inherently based on these projected savings we suggest they are probably highly questionable and could result in no actual savings in transport costs from dredging and in some scenarios increased costs.

It is noted that only limited and insufficient data is given on the projected source of the crude that would be carried by the Suezmax tankers. Currently it appears some very limited loadings are being

sourced from West Africa, Russia or the Middle East aboard Suezmax tankers. If larger or more regular shipments are envisaged from these sources, then they will likely be travelling more than twice the distance compared to the Aframax (which appear mostly to source from Asia). This means that the Suezmax are at sea for longer, burning more fuel and generating more GHG emissions, so distance travelled and vessel speed are critically important to both transport cost and GHG emissions. For example, the distance from Singapore to Marsden is approximately 5,800 nautical miles; from Qatar to Marsden is just over 8,000 nautical miles, Nigeria to Marsden is approximately 10,000 – 14,000 nautical miles (depending on route taken) and assuming that both ship types are likely to be travelling at 15 knots this means 16 days at sea for an Aframax and anywhere between 27 and 40 days for a Suezmax from Nigeria or 22 days from Qatar.

The assessment also assumes the current global availability of Suezmax tankers to service a Marsden destination is assured. We again note the 35-year life of the proposed consent. In the past decade shipping generally, and oil tankers in particular, have undergone extreme highs and lows in terms of capacity, availability and day rate charters. Nobody predicted an end to the oil price or shipping boom prior to 2006 or that current over-capacity would exist today. It appears somewhat short-sighted to predict that ships of this size will be available for this route over the next 35 years and the entire profitability argument is hinged on this assumption.

It could be that it is just as effective to continue to use Aframax ships, but newer and more efficient ones, steaming at lower speeds and achieve the same or greater transport cost improvements without the need to dredge. We would be happy to provide additional analysis and modelling on these points in the future.

Along with the global availability of ships other factors such as the NZ exchange rate and day charter rates are also influential and remain volatile. The current work in the International Maritime Organisation in regard to future regulation of emissions from ships will also be significant in determining future transport cost and thus the future financial viability of the refinery. International shipping itself has to reach zero carbon emissions by 2040 if we are to stay within 2°C of global warming¹ and aim at no more than 1.5°C (we are already at 1.1°C of global warming²). We note the recent comprehensive study prepared for the Danish Ship Owners Association and being submitted under the current IMO Roadmap meetings that modelling to achieve Paris Agreement targets assuming shipping was ascribed a “fair share” of reductions burden, would entail the almost complete decarbonisation of shipping early in the second half of this century. These “bigger picture” factors have not been fully addressed or considered. This could mean that even if the dredging of the channel were to go ahead, the refinery may still not be financially viable in the medium to long term.

We also note the concerns which were discussed at some length in the morning session of the hui, regarding the projections of cost associated with any future remediation of the site and the basis for the economic assumption implied that failure to undertake this dredging programme would almost automatically mean the closure of the refinery and/or its transition to a transit port. We would expect to see a far greater justification for these conclusions. The economic importance of the refinery to the region and the harbour residents is well understood. There is no disputing that it is a significant employer in the region. However, without sounder evidence, the argument that future viability hinges almost exclusively on this application appears couched as a “veiled threat”. The economic benefit has been highlighted, however negative effects on local employment (e.g. reduced

¹ <http://www.lr.org/en/news-and-insight/news/LR-and-SCC-release-Low-Carbon-Pathways-2050-study.aspx> and Smith, T.W.P., Traut, M., Bows-Larkin, A., Anderson, K., McGlade, C. and Wrobel, P. “CO₂ Targets, Trajectories and Trends for International Shipping”. University College London and University of Manchester 12th May 2015.

² http://library.wmo.int/opac/doc_num.php?explnum_id=3414

ship movements would assumedly require less pilot/tug boat/stevedore hours) and the outsourcing of high skill work such as dredge operations) has not been mentioned or only cursorily.

In regards to the findings presented on costs of potential remediation of the site, assumedly in the event of a downscaling or abandonment of the current operations, we would like to see a more detailed assessment. However no rationalisation of the \$300 million figure has been provided and it is unclear on what basis this was calculated. While there may be a saving to current balance sheets through depreciation of deferred expenditure, the physical reality is that remediation of the site will eventually be required and that the actual costs of such work are unlikely to diminish over time. This was raised in the hui, with concerns being expressed that the cost of remediation would be left to the next generations to deal with.

Given the above, our recommendation is that Refining NZ reconsider the economics of dredging more fully taking into account the variables that influence transport cost, and consider alternative options (beyond the options of alternative mooring and lightering approaches) for ensuring their longer term viability. We discuss the climate change related aspects below. However, it may be that in developing a long term strategy (or at least a strategy covering the proposed 35-years of consent) that Refining NZ needs to consider developing a low carbon transition plan for its operations in light of a range of options as to where NZ's energy demands could be within this time horizon.

Finally in regards to the economic assessment and in context of seeking long-term sustainable management of the resources within Patuharakeke's rohe, we would also have liked to have seen more work on the sustainable use of dredge material. This however appears to have been discarded as a consideration prematurely. We note that Patuharakeke, Ngatiwai and other Te Tai Tokerau iwi have been involved in numerous consents for sand extraction from the CMA and while we can understand that this is not a core activity of the refinery and that proper analysis may show it to be economically unviable, it does seem ironic to be considering consents for disposal of sand on the one hand and receiving applications for reclaiming sand extraction of sand on the other eg. Pakiri etc.

Climate Change

Given the nature of the refinery's operations and products this application needs to be considered squarely in terms of effects of climate change over the lifetime of the consent. The issue arises under two broad headings: physical effects of climate change affecting coastal process, geomorphology, ecosystem health and extreme weather events; and secondly within the context of NZ's current and future oil demand and NZ Government policy on GHG emissions and related decarbonisation.

In regards to the first, we note that there is some scattered reference throughout the technical reports to the increasing effects of climate change and related sea level rise and weather volatility. Of greatest concern is the reliance by several technical experts on the increasing scale of effect on what are now out-dated projections. In some examples reference is being made to 2008 MfE guidelines and in others to the findings of the 2014 IPCC report. We note that the IPCC report was based on data from 2012 and prior, and is considered by the IPCC authors as extremely conservative. A range of recent publications by leading experts, for example on the rate of Antarctic melt, suggest that climate change effects could increase more dramatically and in much short timeframes than previously considered. Even if, in RMA terms, this is a low probability scenario, we have to conclude that the results could be significant. There can be no question of the increasing impacts of acidification on marine ecosystems, which will only exacerbate the stress that current harbour ecosystem health is already under. Leading weather scientists and modellers, for example at NOAA and NASA, are currently divided on the likely impact of climate change on Pacific weather patterns which could also affect predominant swell and wave patterns affecting the north east coast of NZ.

However we find that there is so far only limited consideration of these matters in the technical reports reviewed.

In regards to the second point, this must be viewed in the context of the 2016 Paris Agreement to which NZ is a signatory and has made a Nationally Determined Contribution (NDC). It is noted that the Paris Agreement calls for regular review and increasing ambition of NDCs over time, the next formal milestone being the Facilitative Dialogue in 2018. It is highly likely that there will be increased pressure on NZ to consistently increase its current level of ambition and this would be advanced under a change of political leadership in the future. NZ's current energy policy calls for gradual reduction and a move towards decarbonisation of all forms of energy within the economy. We note however that the analysis provided by Refining NZ only considers a scenario of steady increase in oil demand and it is our opinion that a number of future scenarios should correctly be modelled to reflect potential change given the 35-year timeframe sought for these consents. We also note the tension between the cost saving argument presented (i.e. a reduction in number of ship movements) and the projected rate of increase in energy demand, which would see ship movements increase over time to in excess of existing numbers.

Given that the current economic analysis provided is couched in terms of local, regional and national benefit and given the age of the refinery asset and the limitations of product that it can accept and on-sell, it may well be that in overall terms, and in the context of international climate change policy, the refinery is best considered as a "stranded asset" and that there may be greater national benefit in a scenario of importing refined product in smaller ships direct from source. We raise this as illustrative of the need for greater analysis and are not favouring this as a preferred position at this point.

Overall Health of the Harbour

At the time of the last major dredging and reclamation consents sought by the then Northland Port Corporation, a range of submissions alleged that the overall health of the harbour was already poor and in decline. The actual area under consideration as being impacted by the proposed consents varies from report to report but in general terms is quite narrow and limited to the mouth of the harbour. We note the strong preference of Tangata Whenua to a catchment-based approach, which is reinforced by most ecological management best practice. There are a number of ways in which harbour health trend could be determined. We are a little surprised at the lack of any comprehensive analysis of this, especially given the potential and promise of the mitigation measures put in place in previous consents.

However, if we use the indicator of mahinga kai, the dramatic fall in size, abundance and health of resident shellfish populations within the vicinity of the area of consent would appear to attest to this negative trend. The decline in pipi in particular has not been attributed to any one specific cause, but anecdotal evidence is that this could be due to cumulative impacts and/or loss of habitat of spat, which has meant that no or little natural juvenile recruitment has occurred on Mair and Marsden banks.

Many of the technical reports only consider impacts on a small portion of the harbour. In addition there are already existing consents (such as North Port) that have yet to be fully implemented which also impact on the health of the harbour and should be taken into account as cumulative impacts. What seems relatively apparent is that there is little evidence in increase in harbour ecosystem health over time, especially when contrasted with the historical record. While there is some limited evidence of improvement in some indicators (such as recolonisation of small areas of sea grass) this is likely indicative of the significant length of time to recover from previous activities in the catchment.

Practical Application of Kaitiakitanga

Previous consents for the North Port development provided for involvement of Tangata Whenua in harbour restoration, administered by NRC through the Whangarei Harbour Health Improvement Fund. How effective was this?

Tangata Whenua have consistently called for greater recognition and practical participation in all aspects of work related to the restoration of the health of their harbour. While this has been acknowledged in legislation, policy and the opinion of all stakeholders, the reality is that the effective practice of kaitiakitanga by the kaitiaki is highly limited. This can be evidenced in the authorship of the various technical reports prepared for Refining NZ for these consents. If kaitiakitanga was being fully and actively practised then we would have expected a reasonable proportion of the technical reports relating to the harbour and its health to have been sourced from the kaitiaki. Achievement of this was certainly a desired outcome by Tangata Whenua from the Whangarei Harbour Health Improvement Fund and it appeared an objective that had general support. There are likely multiple explanations as to why it did not eventuate. However, a more pragmatic, practical and robust approach is required now and into the future if effect is to be adequately given to the practice of kaitiakitanga.

Are there more effective ways for Refining NZ as a major stakeholder and Tangata Whenua to work together to achieve the overall goal of improving the health of the harbour? We would expect the cultural impact assessment that Patuharakeke will produce to offer firm guidance in this regard. We would point to the highly successful partnership models that have been employed in other harbours such as Whangaroa/Raglan where committed multi-stakeholder processes with full partnership of kaitiaki and Tangata Whenua have resulted in dramatic improvements to harbour ecosystem health.

Potential Impacts of Dredging and Disposal of Dredgings

The technical reports reviewed conclude that there are a range of potential impacts of dredging and disposal of the dredgings, but these are assessed mostly to be either of no or less than minor impact. The impacts of most relevance relate to:

- Noise – of dredging and ship movements – both on land and underwater (on marine mammals in particular)
- Loss of habitat and species (in the dredging and disposal areas)
- Sediment – plumes during dredging (increased turbidity) and smothering of habitats
- Changes in tidal dynamics – this could lead to increased erosion in some places

Most of these effects are assessed as minor and temporary, as long as the newly dredged channel does not infill quicker than expected. However, we note that the need for maintenance dredging is possible within a 2 – 20 year timespan. Obviously earlier or more frequent maintenance dredging is likely to have greater impact on recolonisation and stability.

Impacts on recreation, landscape, archaeology, natural character, are considered unlikely given the existing industrial nature of Marsden Point and the current use of the harbour by other commercial shipping activities.

Some of the reports recommend limits on dredging to mitigate potential impacts (e.g. no dredging in the inner harbour north of No.18 Buoy when wind is not from the north or at night/weekends, no dredging when a marine mammal is within 50m), which may mean that capital dredging takes longer than the 6 months proposed.

Some impacts that the AEE reports determine will be either minor or positive are dependent upon there being fewer ships coming in to the refinery. For example risk of oil spills is assessed as being lower than current levels on this rationale. We question that the intent is to keep ship movements to below current levels throughout the lifetime of the consents, which would be needed to support

this assertion, however a resource consent condition limiting the number of ship movements to only a certain number a year would be one way to alleviate this concern. So this means that there is no guarantee of reduced risk of oil spills, reduced GHG emissions, etc. as these are all contingent on fewer ships.

Key Issues/Concerns Raised in Hui

- Concern that the dredging might not result in the continued viability of the refinery and that the dredging would have been undertaken for no reason – or that the dredging is to allow for other activities not currently being disclosed by Refining NZ (ulterior motive?). How long would the refinery stay open if dredging went ahead – can Refining NZ guarantee that would be for lifetime of the consents sought?
- The need to consider more longer term options to ensure the on-going provision of employment at Marsden, including use of biofuels and other low carbon alternatives to crude oil refining. What guarantee is there that work resulting from the dredging would go to locals?
- Lack of holistic consideration of the harbour and the impacts of this proposal given the other activities and impacts already experienced in the harbour – tangata whenua have a different “world view” to Refining NZ and western science. Need to take a longer timeframe perspective.
- Health of the kai moana and the potential for dredging and disposal to result in shellfish and fish moving to other locations affecting Tangata Whenua’s ability to provide for their cultural/customary practice rights.
- Desire for kaitiaki to be more actively involved in monitoring and improving health of the harbour and the need to reconsider engagement due to failure of mechanisms such as the Whangarei Harbour Health Improvement Fund.
- Potential impacts on marine life that they are guardians of, including pipi, stingray and other taonga species.
- How does the decline in pipi affect the stability of Mair bank? And how does this relate to the changes in currents and tidal flows modelled? What happens if the pipi don’t recover? Concerns over the erosion already being experienced that need to be addressed regardless of the proposed dredging.
- If the existing channel doesn't meet international guidelines then shouldn't that be remedied regardless of the dredging proposal? If a major oil spill did occur who would be responsible for paying for the clean up?

Conclusions

The commentary above covers the major areas arising from review of the technical documents supplied by Refining NZ and our interpretation of the concerns voiced by Tangata Whenua and our discussions with representatives of Patuharakeke. The list is not to be considered exhaustive and we stress the initial nature of our findings. A more comprehensive “blow by blow” analysis of the reports has been provided separately to Patuharakeke to inform development of their cultural impact assessment which we understand to be the next step in the Tangata Whenua engagement process. We also note that this review has been undertaken specifically for Patuharakeke and should not be considered definitive of the views of all Tangata Whenua with relationship to the harbour.

Technical Documents Reviewed

Phase I Reports:

- Bioresearches, *A Review of Literature on the Marine Natural Environment of the Whangarei Heads, Bream Bay and its Adjacent Coastline*, December 2015.
- Bioresearches, *Coastal Bird Survey (February - March 2015)*, June 2015.
- Bioresearches, *Coastal Bird Survey (November 2015 - March 2016)*, May 2016.
- Bioresearches, *Existing Environment Assessment - Ecology of the Dredge Area - Whangarei Heads*, September 2016.
- Bioresearches, *Preliminary Ecological Assessment of Potential Dredge Spoil Disposal Areas*, June 2016.
- Brian T. Coffey and Associates, *Complementary Literature Review*, February 2016.
- Cawthron Institute, *Phase 1 Preliminary Review of Potential Dredging Effects on Marine Mammals in the Whangarei Harbour Region*, November 2015.
- Greenaway & Associates, *Harbour Deepening Recreation Literature Review*, 2015.
- Kerr & Associates, *Baseline Benthic Survey - Channel Adjacent Areas Report*, November 2016.
- Kerr & Associates, *Baseline Ecological Survey - Disposal Areas 1.2 and 2.2 and Reference Areas*, November 2016.
- Kerr & Associates, *Baseline Photographic Survey - Three Mile Reef*, June 2016.
- Styles Group, *Short-term Passive Underwater Acoustic Survey of Whangarei Harbour Entrance and Marsden Point - Preliminary Investigation*, November 2015.
- Tonkin & Taylor, *Stage 1 Geomorphology and Baseline Report*, August 2015.

Phase II Reports:

- Bioresearches, *AEE Report Coastal Birds Consultation Draft*, March 2017.
- Brown NZ Ltd, *Marsden Point Crude Shipping Project: Landscape Assessment*, March 2017.
- Cawthron Institute, *Marine Mammals Assessment Consultation Draft*, March 2017.
- Clough & Associates, *Marsden Refinery Whangarei Harbour Dredging: Archaeological Assessment Draft for Public Consultation*, December 2016.
- Coffey & Associates, *Assessment of Marine Ecological Effects Excluding Seabirds and Marine Mammals*, February 2017.
- Greenaway & Associates, *Recreation and Tourism Effects Assessment Consultation Draft*, March 2017.
- MetOcean Solutions, *Establishment of Numerical Models of Wind, Wave, Current and Sediment Dynamics*, February 2017.
- MetOcean Solutions, *Predicted Physical Environmental Effects from Channel Deepening and Offshore Disposal*, February 2017.
- Navigatus Consulting, *Environmental Spill Risk Assessment for Proposed Tanker*

Operations Associated with Engineered Channel - Consultation Draft, February 2017.

- Navigatus Consulting, *Navigational Risk Assessment of Channel Designs - Consultation Draft*, December 2016.
- NZIER, *Economic Assessment of Channel Deepening at the Marsden Point Refinery*, February 2017.
- Poten & Partners, *Crude Shipping Alternatives Marsden Point*, August 2016 (in Tonkin & Taylor *Mid-point Multi-criteria Alternatives Assessment Report*).
- Royal Haskoning DHV, *Shipping Channel Concept Design Report*, November 2016.
- Royal Haskoning DHV, *Technical Memo*, August 2016 (in Tonkin & Taylor *Dredging & Disposal Options Summary Report*).
- Styles Group, *Whangarei Harbour Entrance and Marsden Point Channel Realignment and Deepening: Assessment of Environmental (Airborne) Noise Effects*, February 2017.
- Tonkin & Taylor, *Coastal Processes Assessment*, February 2017.
- Tonkin & Taylor, *Dredging and Disposal Options Synthesis Report*, February 2017.
- Tonkin & Taylor, *Mid-point Multi-criteria Alternatives Assessment*, December 2016.

Other Documents Reviewed:

- APEC *Energy Demand and Supply Outlook – 5th Edition New Zealand* (p.123 – 131).
- EIA *World Energy Outlook 2016*
- Ministry for Primary Industries, *Biomass survey and stock assessment of pipi (Paphies australis) on Mair and Marsden Bank, Whangarei Harbour, 2010*, June 2013.
- Ministry of Business, Innovation & Employment, *Unlocking our energy productivity and renewable potential, the New Zealand Energy Efficiency and Conservation Strategy 2017-2022*, December 2016.
- Ministry for the Environment, *New Zealand's Sixty National Communication under the United National Framework Convention on Climate Change and the Kyoto Protocol*, 2013.
- Ministry of Transport, *Future demand: how could or should our transport system evolve in order to support mobility in the future?* November 2014.
- Ministry of Transport, *A Low-Carbon Transport Future* <http://www.transport.govt.nz/futures/stories/the-future-of-low-carbon-transport/>
- New Zealand Government, *Draft Government Policy Statement on Land Transport 2018/19 – 2027/28*, February 2017.
- New Zealand Government, *New Zealand's Action on Climate Change*, September 2016.
- New Zealand, *Submission under the Paris Agreement New Zealand's Nationally Determined Contribution*.
- New Zealand, *Submission to the ADP, New Zealand's Intended Nationally Determined Contribution*, 7 July 2015.
- New Zealand, *Submission to the ADP Addendum to New Zealand's Intended Nationally Determined Contribution*, 25 November 2015.

- New Zealand Government, *New Zealand Energy Strategy 2011-2021 Developing our energy potential and the New Zealand Energy Efficiency and Conservation Strategy 2011-2016*, August 2011.
- NIWA, *Pipi survey at Marsden Bank, Whangarei Heads*, May 2012.
- NIWA, *Investigation into the decline of pipi at Mari Bank, Whangarei Harbour*, June 2014.
- NZ Business Council for Sustainable Development, *A Sustainable Energy Future for New Zealand by 2050: A Business View*.
- Pawley, *Population and biomass survey of pipi (Paphies australis) on Mair Bank, Whangarei Harbour*, 2014.
- Pawley, *Population and biomass survey of pipi (Paphies australis) on Mair Bank, Whangarei Harbour*, 2016.
- Refining NZ, *Annual Report 2016*.
- Royal Society of New Zealand, *Transition to a low-carbon economy for New Zealand*, April 2016

Refining NZ response to “Hui Outcomes and Technical Review of Refining NZ Documents Summary for Crude Shipping Project” dated April 2017

Thank you for your comments as outlined in the Technical Review. We have raised these comments with the relevant independent experts and our responses to the key issues raised by that review are set out below.

Economic Analysis

The purpose of the NZIER economic report was to provide an assessment in relation to the Resource Management Act’s requirements on the economic consequence of deepening the channel to Marsden Point refinery, including:

- Value of additional work and spending on channel deepening;
- Direct economic benefit of accessing larger ships; and
- Strategic interest in improved competitiveness and longevity of the refinery operation.

By default, the NZIER report assumes continuation of current shipping patterns and continued dominance of oil products in transport in New Zealand, in the short to medium term, while acknowledging longer term changes may occur. It is not intended as detailed proposal cost/benefit analysis which is an internal matter for Refining NZ and is instead focussed on external effects on the economy and environment.

Freight benefits

The NZIER analysis was informed by a freight study performed by Poten & Partners, a United States based company with a long history in providing tanker brokerage and consultancy services. The Poten & Partners study performed an in-depth and robust analysis of the freight savings considering many aspects and variables mentioned within the Technical Review. We have included a copy of this report to provide further background on this matter (noting its results have been adjusted for additional throughput following the Te Mahi Hou unit commissioning). Poten & Partners note within their report that:

“Marine transportation costs benefit from strong economies of scale:

- *The costs of building a larger vessel are proportionally cheaper than building smaller vessels;*
- *The number of crew members of a larger vessel is very similar to the crew of a smaller vessel reducing the cost per tonne of cargo carried;*
- *Fuel costs per tonne of cargo carried are significantly lower on larger vessels”.*

The report goes on to analyse the shipping classes and markets and gives guidance on the likely benefits that could accrue from the crude shipping proposal. We take confidence from the Poten and Partner’s analysis, given their specialist knowledge in these markets and that their results conservatively align with Refining NZ’s own internal analysis and feedback from our customer oil companies.

We have difficulty commenting on the Technical Review’s alternative freight savings analysis without further specific detail. We do note however that:

- The NZIER report uses NZ\$ 0.61/barrel, not US\$ as referred to in the Technical Review, as an indicative average over the short to medium lifetime of the consent, held constant in real terms;
- It is unclear exactly which Clarkson's dataset was used and if/how overage was taken into account;
- A 20 day voyage assumption is very short considering the bulk of our cargoes we are targeting are ex the Middle East, which typically represent ~50% of the refineries total crude diet. We also assume that both the journey to Refining NZ and the return journeys have been accounted for (doubling the total journey time). We also note that apparently 15 knots is considered a fast assumption for typical tanker speeds even when fuel prices are low; and
- The Technical Review's US\$0.01/barrel difference between Aframax and Suezmax looks improbably small in view of substantial new orders for Suezmax or larger vessels which reflect expectation of economies of scale.

Based on the modelling and the best information to hand, Poten & Partners and Refining NZ are confident that there are material savings to be made by accommodating larger crude parcels.

Additional benefits

The NZIER report also briefly mentions that Refining NZ's customers could *"take advantage of crude sourcing and trading benefits that may accrue from access to more commonly traded larger parcel sizes"*. Larger standard sized crude parcels are more easily traded creating additional value for our customers as noted by Poten & Partners within their report:

"Another distinguishing characteristic of Suezmax tankers is its typical cargo size: One million barrels. Traditionally, this one million barrel cargo size has made it easy to buy, sell and/or hedge Suezmax cargoes, which has made this vessel class popular with traders, who want the option to trade their cargoes."

Greater access to standard sized crude parcels gives our oil company customers greater flexibility and priority in terms of cargo loadings and also at times, discounts over less standard parcel sizes. While quantifying the value of these trading and sourcing benefits is difficult, given that Refining NZ is not in the crude oil trading business, our customers have confirmed that there is additional value to be gained. Enabling and supporting our customers to do business in a manner they are used to with other refineries capable of taking the proposed cargo size, is of strategic value to Refining NZ

Contribution to Refinery Sustainability

The review suggests that an assertion is made that crude transport cost is a key determinant for Refining NZ's economic viability.

NZIER has confirmed that their analysis is not predicated on the assumption that failure to dredge would automatically lead to closure of the refinery or its conversion to an import terminal. NZIER advise that it is based on the recognition that Marsden Point is a relatively small refinery on a world scale and that failure to realise potential economies (such as lower crude delivery costs) increases the disadvantages it faces against increasing competition from products refined at scale in other countries. Ultimately this increases the likelihood of potential closure or transformation at some time in the future, but the timing of that is far from certain.

The NZIER report does not set out to predict when it might be, but does consider the present value effects of varying longevity of the operation that could result from larger loads staving off the threat to the refinery's competitiveness.

NZIER clearly state within their report that *"RNZ faces increasing competition from larger refineries in Asia, which has been attributed with the closure of several Australian refineries of similar scale to Marsden Point. In the absence of channel deepening it will be more difficult to maintain competitiveness and continue to operate at its current level."*

This is underlined on the Deeper Story website (www.deeperstory.co.nz) under the heading "Keeping jobs in Northland":

"New Zealand's demand for fuel is met by product made at Marsden Point and fuel imported from overseas. To keep Marsden Point running - and jobs in Northland - our fuel products need to be of the highest quality and cost competitive with imports. Bigger cargoes would reduce the cost of transporting crude oil to the refinery. The proposed changes will help us keep pace with imports from increasingly competitive Asian "mega-refineries"."

These statements are true and accurate and we believe that they have been consistently and clearly communicated throughout our consultation on this proposal.

Refining NZ is continually pursuing improvement initiatives to maintain or lift its operational and environmental performance and improve its competitiveness. This is evidenced by a history of capital investment in the refinery which since 2005 amounts to around \$760 million. The proposed crude shipping proposal direct freight savings alone are a significant contributor to Refining NZ's ongoing competitiveness as well as providing strategic benefit, as mentioned above.

Future Suezmax Availability and Suitability

Poten & Partners has advised that oil tankers have been around since the end of the 19th century when oil started to move from supply to demand areas. Since then global oil demand has grown to approximately 100 million barrels per day, the majority of which is moved by sea on oil tankers. The current fleet (1st April 2017) consists of 474 Suezmax tankers (with an additional 81 under construction).

The tankers that are currently on order will be delivered over the next three years and have an expected lifespan of 25 years. While there is a continued demand for oil, there will be a requirement for ships to move it and economies of scale, in terms of ship size, will likely prevail. Poten & Partners therefore believes it is a relatively safe assumption that there will be Suezmax ships around for the next 35 years.

The Technical Review also suggests using newer more efficient Aframax travelling at slower speeds as an alternative to utilising Suezmax. Poten & Partners notes that *"Vessel operators try to maximize the efficiency of the vessel by optimizing the speed of the vessel where possible. In recent years, this has often resulted in slowing down the vessel during the ballast leg as the fuel savings outweighed the longer voyage time."* The tanker market is always balancing the cost of fuel versus the voyage time and associated costs. While we agree that the use of newer more efficient ships will improve shipping economics this will also apply to Suezmax class vessels. We believe economies of scale will

still prevail and support the proposed benefits. We repeat that enabling fully laden Suezmax will provide our customers with additional crude sourcing and trading benefits as outlined above.

Shipping Emissions and IMO MARPOL Regulations

NZIER notes that the Paris Accord set international emission reduction targets that countries signed up to, but did not place specific requirements on each country or sector. There is, as yet, no firm basis on which to assess the economic effects of such changes or the effectiveness of the Paris Accord. The comments on climate changing emissions refer to aspirational targets rather than officially agreed requirements. NZIER notes that it is inefficient to expect a single company to pursue these in the absence of comprehensive national policy that aims at spreading the marginal cost of emission abatement across all industries and activities.

Further, it is our understanding that regulations on international shipping pursuant to the Paris Agreement, have not been decided and remain a ‘work in progress’. For as long as there is international trade and commerce it is expected that shipping will continue to be required. Over the longer term it is likely they will convert to lower carbon intensive methods such as biofuels or Hydrogen fuel cells, and/or seek carbon offsetting measures. In either case this will come at a cost to shipping companies that will be passed onto the market. We believe economies of scale will continue to prevail between shipping classes thereby supporting the proposal objectives and Refining NZ’s ability to remain competitive.

Poten & Partners also notes in their 2015 report that:

“Additionally, new environmental regulations affecting the shipping industry in the coming years (in 2020 or 2025) will force owners to burn significantly more expensive Marine Gas Oil (MGO) instead of the cheap Heavy Fuel Oil (HFO) they are currently using or alternatively perform expensive modifications to the vessel to reduce sulphur emissions. The expectation is that a significant part of the fleet will switch to the more expensive fuel, which will favor the economies of scale of Suezmaxes over Aframax tonnage.”

Poten & Partners has reconfirmed this expectation in recent discussions and agree that the proposed changes should only improve the overall economics and objectives of the proposal.

In any event, we also note that while an important issue in itself, greenhouse gas emissions is not directly relevant to the crude shipping proposal RMA application. The RMA expressly directs decision makers not to have regard to the effects of discharges on climate change except in the limited circumstances of considering the positive benefits of renewable energy in reducing discharges of greenhouse gases.

Refinery Viability in a Decarbonised Shipping World

Refining NZ’s processing income (which is charged to its customers for refining the crude oil into finished products) is based on the effective landed cost of crude oil and finished products. Should shipping costs significantly increase due to future regulation these costs would apply equally to the transport of crude oil and supply of alternative finished product imports. As such, Refining NZ’s margin is protected and potentially enhanced given the economies of scale of crude oil imports compared to finished product imports. We do not believe that the future cost of shipping will have an impact on the refinery viability. The same increase in the shipping cost of crude on Suezmax ships

applies equally to finished oil products imported from overseas refineries on smaller ships, with reduced economies of scale. Again, the economies of scale supports the case for enabling fully laden Suezmax vessels.

Greenhouse Gas Emissions

Refining NZ receives crudes from various origins, but predominantly from the Middle East and Far East oil fields. Whilst it is acknowledged that the absolute shipping cost of a cargo of crude oil from the Far East is likely to be lower than one originating in the Middle East (by virtue of its proximity to Marsden Point), Middle East crudes remain attractive to Refining NZ's customers because of their relatively lower purchase cost. This allows the refinery to derive a greater 'refining margin' from these crudes (i.e. receive a higher processing income), although there is an operational limit to the quantity of Middle East crude that the refinery is able to process.

For freight saving and greenhouse gas comparisons it has been assumed that the regional crude diets will largely remain similar to today, representing a consistent quality of crude diet, keeping the refinery optimally loaded. This being the case, the Aframax shipments currently originating in the Middle East, West Africa and Russia are expected to shift to Suezmax vessels in the future on these same routes. This means that less bunker fuel will be consumed in the future to deliver the same quantity (and quality) of crude oil as today. Therefore NZIER's suggestion that this will result in a greenhouse gas reduction seems to be a reasonable conclusion.

NZIER notes that: *"With or without the channel deepening project, change in the sources of crude due to regional pricing could lead to switching sources to longer routes with higher emissions (e.g. substituting supplies from West Africa or Middle East for those from Asia), but other things being held constant, larger loads reduce the emissions per barrel transported"*.

Typically the absolute cost of crude and its relevant qualities will be the drivers of regional crude selections as opposed to crude freight differentials. While NZIER states that this proposal *"could also enable Refining NZ's customers to adjust their slate of crudes from different source regions"* and *"Increasing accessibility of Suezmax to Marsden Point would enable greater access to West African crudes"*, we do not foresee large scale changes to regional crude supply patterns as these crudes are generally more difficult to process because of their poorer qualities. In our view, leveraging economies of scale to use less fuel to deliver the same amount crude oil is a net positive outcome for the environment.

While greenhouse gas emissions is an important issue in itself, it's not directly relevant to the crude shipping proposal. As noted above, the RMA expressly directs decision makers not to have regard to the effects of discharges on climate change except in the limited circumstances of considering the positive benefits of renewable energy in reducing discharges of greenhouse gases.

Remediation Costs and Employment

On the cost of potential site remediation and employment implications of conversion to an oil terminal, the NZIER report relies on information supplied by Refining NZ, which in turn has been based on its own experience and Australian refinery closures. Specifically, the NZIER report considers the present value benefit of deferring site remediation further into the future, considering remediation cost in constant dollar terms. NZIER disagrees with the Technical Review's assertion that remediation costs are unlikely to diminish over time, given the likelihood of technical

improvements in remediation of the sort that have enabled mining to become increasingly effective at recovering trace quantities of materials from previously worked over spoils.

The NZIER report considers the reduction in direct employment and contractors at Marsden Point should the site convert from a refinery to an import terminal. NZIER considered employment associated with changes in the number of ship movements (e.g. pilotage) to be relatively small by comparison with that at the refinery. The report does not predict how shipping movements change in the long term, given this could be attributed to a range of factors such as demand growth or decline, loss of refinery competitiveness or technological change.

Sand Extraction Alternatives

The Technical Review includes a desire for more detailed assessment on the sustainable use of the dredge material. We agree that the dredged material is a potential resource and have included capacity in the consent for beneficial use for other activities by others. However, the disposal areas at the two marine disposal sites are designed to take the full volume and this a prudent approach in the situation where the size of the resource is greater than the expressed need. This does not preclude other parties from utilising this resource and Refining NZ would welcome discussions with potential users of the resource.

Climate Change

Physical Effects of Climate Change on Coastal Processes

We have discussed the questions raised in the Technical Review with Tonkin and Taylor and a response is set out below:

There is a range of possible futures in terms of sea level rise and climate variability. However, over the next 35 years (to around the middle of the century) the rate of sea level rise and anticipated change to storm intensity etc. are generally not as significant as the period from 2055 to 2100 (refer figures 1 and 2 below from the Parliamentary Commissioner for the Environment, 2015). The sea level rise rates to the middle of the century are projected to be similar to or up to double the rate of sea level rise that has occurred over the last 100 years (around 17 cm), while rates between 2055 and 2100 could be more than five-fold the rates of sea level rise observed over the last 100 years.

Changes in erosion and inundation potential resulting from sea level rise, have been assessed and mapped. These effects increase with increasing sea level rise.

Projections of sea level rise by middle of century

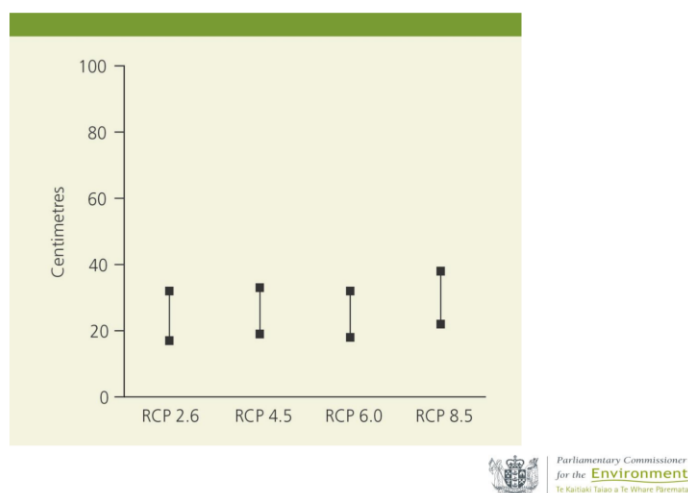


Figure 1 Projections of sea level rise by the middle of the century

Projections of sea level rise by end of century

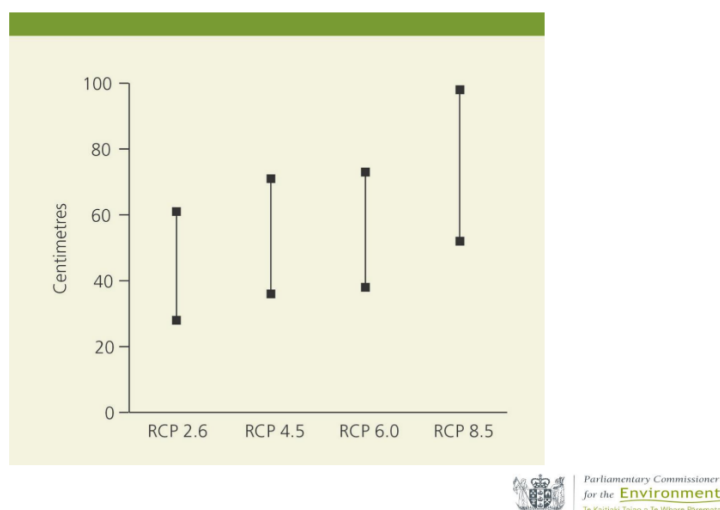


Figure 2 Projections of sea level rise by the end of the century

The issue to consider for the current application is the effects of the proposal on the existing and future environment. With very little effect identified in the present day, the dredging and disposal operation is not likely to have more significant effects with increased sea levels and variability. That is not to say increased sea level and variability will not have an effect on the wider system, including the harbour and the ecosystem. It could also potentially affect the operation of Refining NZ. Paradoxically, increased sea level rise might have the consequence of reducing the need, or the amount of maintenance dredging. This would further reduce the longer term effects of the channel deepening proposal.

New Zealand's Current and Future Oil Demand and Greenhouse Gas Policies

The Technical Review suggests that *"a number of future scenarios should correctly be modelled to reflect potential change given the 35-year timeframe sought for these consents"*.

NZIER has advised that their Economics report section 2.3, draws on a single scenario based on published MBIE forecasts. This avoids cluttering the report with extraneous material that in an RMA

setting would be regarded as speculative and not informative. NZIER has relied on MBIE to have sorted through alternative futures in publishing its central forecast.

Refining NZ is acutely aware of the potential impact of future de-carbonisation on transport fuels. The company continuously monitors information and announcements from sources within NZ and around the world to gain an understanding of any developments taking place that may impact on future transport fuel demand (and hence the need for refinery processing capacity). The refinery also uses scenario planning techniques to identify business risks and opportunities, exploring the likely impacts on the company from a future scenario unfolding. The Energy Scenarios developed by the BusinessNZ Energy Council are a good example. These are not predictions, but credible assessments of what might happen to energy demand in a future world. Based on that combination of information, Refining NZ remains optimistic that there will be a need for its services for many years to come, and remains willing to consider investments in projects with considerable lifespans.

It is worth noting that Refining NZ produces around 70% of New Zealand's transport fuels today, with the remaining 30% of the country's fuel products imported. It is therefore imperative that Refining NZ remains 'the supplier of choice' to its customers, so that when NZ's transport fuel demand starts to decline sometime in the future, the refinery continues to be fully utilised whilst import volumes are reduced. This requires the company to continue with its relentless pursuit of improved efficiencies so that it remains competitive with its customer's alternate supply options – finished product imports from overseas.

Overall Health of the Harbour

We acknowledge the concern that hapu and iwi have for the overall health of the harbour.

Modelling Extent

Tonkin and Taylor has advised that the hydrodynamic modelling included the entire harbour as well as Marsden Bay to make sure all potential effects on the hydrodynamics and possible changes in flow were considered. With that modelling Tonkin and Taylor was able to assess possible changes in tidal current and water levels over the entire Whangarei Harbour. The modelling showed no significant change to tidal currents beyond Snake Bank, so overall effects related to hydrodynamics are low. The relatively small changes within the harbour is due to there being no significant change to the throat of the harbour's cross-sectional area, with the greatest changes occurring on the lower (deeper) slopes of the ebb tide delta, which is more a depositional area.

Existing Harbour Health

Expert ecologists engaged by Refining NZ have undertaken a comprehensive assessment of the existing environment. This includes a detailed and thorough analysis of published material on water quality, ecological habitats, species distribution and health. That research also draws on information from other disciplines such as coastal processes, and the cultural values assessment provided by Tangata Whenua.

In order to supplement and field-test that research, Refining NZ commissioned a range of surveys, to sample benthic organisms, ascertain indicative species diversity and density (including of indicator species), test sediment properties including potential contamination, analyse both hard- and soft-bottomed shoreline habitats, and to widen the understanding of the size and abundance of shellfish populations. Armed with this data the ecologists have developed a detailed understanding of

harbour health in the context of those areas of Whangarei Harbour and Bream Bay (shown in Figure 2 of the AEE).

When considering the actual and potential effects against that existing environment, the various experts (particularly the coastal engineers and ecologists) have considered the future effects of resource consents which are as yet unimplemented. This includes specifically the Northport 'Berth 4' consent, and Whangarei District Council's consent for the proposed Ruakaka wastewater outfall structure. Where appropriate, the cumulative effects of these third party activities, together with the effects of the crude shipping proposal, have been considered and assessed.

Practical Application of Kaitiakitanga

Refining NZ acknowledges and supports the important role of Tangata Whenua in the Whangarei district generally, and in particular in the harbour and surrounds. To that end, we have worked hard to foster and strengthen our relationship with Tangata Whenua, illustrated by our Memorandum of Understanding with Patuharakeke.

In recognition of the relationship, considerable effort has been made throughout this proposal to keep Tangata Whenua informed, and actively involved where practicable. A series of hui has been held right from the inception of the proposal. Draft reports have been provided to Tangata Whenua ahead of these being made public and provided to third parties. Further hui have been held to discuss the findings and recommendations of those draft reports. Tangata Whenua have been informed of proposed studies and field work, and given the opportunity to input. Tangata Whenua have been involved in the following:

- preparing a cultural values assessment and cultural impact assessment for the proposal;
- accompanying the consultants undertaking ecological sampling; and
- acting as a marine mammal observer on board the vessel carrying out seismic surveys.

You have made the suggestion that "a reasonable proportion of" the expert technical reports should have been sourced from the kaitiaki. While we have outlined above the various proactive steps taken to involve Tangata Whenua in the work undertaken, ultimately Refining NZ is required to demonstrate it has adequately assessed the effects associated with its proposal. In order to do that, it has commissioned a range of independent, qualified and experienced experts across a range of disciplines. While efforts were made to use local providers where possible, ultimately the best person/firm was selected for each discipline, in order to ensure that the most robust information was collected and to give Refining NZ, Tangata Whenua, the local community and ultimately the consent authority, confidence that the assessments are appropriate. That said, Refining NZ has commissioned Patuharakeke Trust Board to undertake an assessment of cultural effects (in consultation with other iwi/hapu) and provide a cultural impact assessment. As part of that process, Refining NZ has contributed to the costs of independent expert consultants to assist, interpret and assess the various other draft expert reports prepared.

Ultimately, Refining NZ is very willing to engage proactively with Tangata Whenua, and to listen – and respond where necessary, to any feedback. Through this process, Refining NZ has heard that Tangata Whenua wish to be more actively involved in practical and technical work to ascertain harbour health.

Potential Impacts of Dredging and Disposal

Maintenance Dredging

While we note the impact of maintenance dredging, this is likely to be of much smaller volumes and area compared to the initial capital dredging campaign.

We also note that the Technical Review questions the proposed 35 year consent period with concerns about the effects, should the refinery close for any reason. Tonkin and Taylor notes that the proposed dredging and disposal does not include physical structures to modify or change the tidal flows or wave action. Further, they advise that if maintenance dredging was stopped due to it no longer being necessary, they would anticipate the previously dredged areas to slowly infill, restoring levels to be in equilibrium with the tidal flows and wave action (recognising that due to increased sea level rise and increased tidal flows, the equilibrium situation may well be different from the present day equilibrium).

Dredging Duration

The Technical Review suggests that the proposed night time noise restrictions on the inner channel section may extend dredging durations. This is unlikely to be an issue given 80% of the dredging is in the outer channel section. This allows the dredge to relocate to this section of the channel at night where noise restrictions do not apply.

Some downtime has also been allowed for in the calculations of possible durations to account for other unforeseen issues. We remain confident that our suggested duration is realistic.

Number of Ship Movements

The proposal does not seek to limit the number of ship movements. This is not part of this application. Moving to larger parcel sizes, as proposed, will always mean fewer ships compared to using smaller parcel sizes as we do today. It follows that there will be a net reduction in navigational/environmental risk and emissions compared to the counterfactual case of using existing cargo sizes.

Refining NZ does not have any current plans for significant capacity increases and suggests that this would be unlikely given the levels of investment required and market trends. Supplying around 70% of New Zealand's total transport fuels demand ensures Refining NZ remains fully utilised and ensures it can sustain current and future demand swings.

Key Issues and Concerns

Refinery Viability

As mentioned above, we believe the crude shipping proposal will provide material benefits that will support Refining NZ to remain competitive with imports.

Scenario planning confirms our confidence that there will be a need for our services for many years to come, and hence, our willingness to consider investments in proposals with considerable lifespans, such as this proposal. Refining NZ has no ulterior motive in terms of its crude shipping proposal and has been transparent about the drivers behind the proposal.

Employment

One of the key ways we can ensure continued jobs at the refinery is by remaining competitive through projects such as the crude shipping proposal. Refining NZ regularly reviews its strategic plans and takes into consideration future technologies such as biofuels. We engage with other stakeholders seeking to work with renewable energies, and continue to seek out opportunities that are economically viable.

We are always supportive of using local resources for related activities as identified, where this makes sense to do so, however, there is no guarantee that work resulting from the dredging would go to locals. We are open to using New Zealand based dredging providers where they have the capability and experience. Typically though, dredging companies capable of taking on a job of this scale are based offshore.

Holistic Consideration

Refining NZ and the independent experts fully acknowledge that Tangata Whenua have a different perspective when considering issues relating to the harbour – a perspective that include a range of cultural issues, historical and spiritual connections to the harbour and surrounds and the landforms and species that reside within.

The ecological assessments attempt, where appropriate, to include consideration of the cultural effects: such as identifying mahinga kai areas of importance to Tangata Whenua; and recognising the cultural affiliation with marine mammal species. Having done so, those assessments reach conclusions about the level of actual and potential effects. Notwithstanding those ecological assessments, Refining NZ has also commissioned a cultural impact assessment. That cultural impact assessment should be read together with the range of other expert reports prepared, to gain a more holistic understanding of the effects associated with this proposal.

Kai moana Impacts

Dr Brian Coffey has specifically considered the physicochemical and ecological impacts within the dredge and disposal footprint. There are a number of points to make in this respect. First, the areas affected are spatially confined: a total of 4.37km² is affected, the majority of which is in the outer channel and disposal area 3-2. The affected areas are not known to be areas within which significant customary practices occur. Second, the effects within this differ according to species: many species are mobile, and will simply exhibit avoidance behaviour during dredge operations (although anecdotally, there is evidence that some finfish species will be attracted immediately following disposal in order to feed on the organisms exposed). Other species will be smothered, and for that reason, Dr Coffey has assumed complete mortality within those areas. Third, the effects will be relatively short term: the directly affected areas are expected to recover within 6-12 months. Taking all of these factors into account, Dr Coffey's conclusion is that effects will be minor to moderate and will be addressed by proposed mitigation measures.

Kaitiaki Involvement

We acknowledge Tangata Whenua's desire to be actively involved in monitoring and improving the health of the harbour.

We acknowledge Tangata Whenua's concerns about the potential impacts on marine life. We believe that a significant amount of work has been undertaken to understand the surrounding environment and to assess any potential ecological effects.

Mair Bank

Our understanding is that the stability of the Mair Bank intertidal region is largely dependent on the shell hash, and as such, is potentially under threat from previously identified pipi die-off. While a concern, this is a separate issue to the crude shipping proposal. We can arrange a separate discussion on this subject if that is required. We agree that this is an important issue regardless and have been working cooperatively with Patuharakeke and others on this issue.

Current Channel and Spill Risk

We agree that the proposed channel configuration is an improvement on the current channel configuration, and note that it becomes more important as cargo sizes increase. Any question about the existing channel configuration is more a matter for the Harbourmaster to consider and respond to.

Refining NZ is committed to the long-term health of the environment. While every effort is taken to avoid the situation of a major spill incident, there always remains some element of risk. To that extent, the courts are clear that the RMA is not a 'no risk' statute. The opinion of the technical experts including the Harbourmaster is that the crude shipping proposal will reduce navigation risk compared to the existing situation.

Marine oil spills are responded to in accordance with the oil spill response strategy prepared by Maritime NZ. In the event of a Tier 3 spill, that response is nationally led and co-ordinated by Maritime NZ. Refining NZ has a dedicated oil spill response vessel, equipment and staff ready to respond. Staff are appropriately trained and regularly liaise and exercise with oil spill response teams from the Northland Regional Council and Maritime NZ. The costs of responding to an oil spill are derived by Maritime NZ from the Oil Pollution Levy, which is collected from the industry.

We hope that our response answers the questions and concerns raised in the Technical Review.

ENDS