ATTACHMENT 1

Attachment 1: Functional Need

1. Background

1.1 The NZCPS and PRP seek to avoid reclamations unless there is a functional need for the activity in the proposed location. The purpose of this document is to summarise the various factors that are integral to terminal design and illustrate the clear functional need for the proposed container terminal to be in the proposed location.

2. Terminal design – general

2.1 Successful container terminals focus on reliability, speed of moving of containers, capacity, and their efficient interconnection with other transport modes. The design/layout of a container terminal (including the proximity of the container handling area to the berth face) has a direct effect on operational costs , and therefore competitiveness and viability. It also impacts on emissions and thus environmental effects.

3. Berth length

3.1 Worldwide industry standards[1] indicate that a 3-berth port (like the existing Northport facility) should have a maximum berth occupancy factor (BOF) of 55%. However, Northport has a comparatively high BOF averaging 66% over the last 4 years. This is an indicator of congestion, and a direct result of the existing (constrained) berth length relative to the size and frequency of visiting vessels.

3.2 Northport has traditionally been visited by tramp bulk ships which do not have a fixed schedule and can anchor offshore while they wait for berth space. However, liner services (ships that regularly sail a fixed route and follow a schedule – such as container ships) are increasingly visiting Northport. These ships require guaranteed berth slots to maintain their schedules. Without the requisite certainty, they will simply not visit a particular port and will adjust their schedule accordingly.

[1] Port Designers Handbook, 2018 (Fourth Edition)

3.3 TBA Group has confirmed that a 700m berth length (two berths) is required to handle the predicted (reasonably foreseeable) container volume at Northport (500,000 TEU within the next 50 years) in order to achieve acceptable service times. This provides sufficient berth length for concurrent visits from a 366m and 270m vessel, or a 330m and 300m vessel, or several different combinations of smaller vessels.

4. Berth location and orientation

4.1 The existing Northport configuration consists of a linear berth face located adjacent to natural deep water and a temporary tug facility in the inset area at the eastern end (see **Figure 1** below).[2]

***Figure 1**: Northport berth configuration and proximity to deepwater*

4.2 Alternatives to extending the existing linear face were considered but discounted for the following reasons:

(a) Conflict/incompatibility with existing berth alignment.

[2] Northport hold consents to extend the linear berth and reclaim this area.

(b) Navigation concerns.

(c) Increased dredging requirements.

In summary, the most logical, efficient, and navigationally safe option, and with the least environmental impact from a construction and operational perspective is the linear extension of the existing berth face to the east.

5. Reclamation extent/freight storage area

5.1 Wharf length and the area of land immediately behind it are the two most significant components that underpin the design and capacity of a container terminal. As fixed infrastructure, these two components are very difficult and very costly to alter once built. Consequently, these should be designed for at least the design life of the infrastructure, which is typically a minimum of 50 years.

5.2 A container terminal requires export cargo to be pre-assembled on the port, close to the berth, before the ship arrives.

5.3 Terminal Operating Systems are used to carefully pre-plan yard layouts to maximise discharge and loading operations, while facilitating the short-term storage of import containers for timely dispatch.

5.4 The ideal container handling area behind the berth face typically varies between 10ha and 100ha per berth, with a minimum adjacent handling depth of 300m but preferably up to 700m.[3] The proposed area (13ha) and depth (ranging between 260m-340m) behind the two proposed Northport container berths is at the lowest end of the optimal configuration for a modern two-berth container terminal.

5.5 As container lines are assigned around a shipping schedule, the time in each port has to be calculated and pre-determined. This means that well in advance, the port will know when the ship will arrive, how many containers it needs to handle, and what time the ship needs to sail. The terminal design therefore needs to include a correctly sized terminal area, cranes, and handling equipment to meet the demands of the shipping schedule.

[3] Port Designers Handbook, 2018 (Fourth Edition)

5.6 Storage and handling areas that are distant from the wharf significantly reduce a terminal's efficiency and thus long-term viability. While Northport is located adjacent to circa 700ha of commercial, industrial, and port-zoned land, this land is unsuitable for (full) container storage and handling (export/import) due to its distance from the wharf.

5.7 It will likely be the case that some of that adjacent land is developed over time to perform a useful supporting function for uses ancillary to the expanded container terminal – such as distribution centres, warehouses, car storage and import facilities. Because this land is owned by third parties, Northport is not able to control its use, meaning that development to support a container terminal will likely be organic and responsive to increased throughput over time.

6. National and international examples

6.1 The fundamentals behind terminal design (outlined above) are evident in multiple container terminals in New Zealand and around the world (see aerial images in **Appendix 1**).

6.2 A comparison between these ports and the proposed Northport container terminal is provided in Table 1 below:

Table 1: Comparison with other terminal layouts/dimensions

Port	Berth length[4]	Depth[5]
Northport	700m	300m
Ferguson (Auckland)	960m	350m
Lyttelton (Christchurch)	590m	170m

[4] Many of these ports have additional berthage and associated container handling areas – berth lengths are as shown on Figures 1-7.
[5] Distance from berth face to back of container handling area or centre of handling area if there are adjacent berths.

Centreport (Wellington)	470m	270m
Port of Rotterdam	2,610m	545m
PSA Singapore	2,640m	450m
Port Melbourne	660m	375m

7. Conclusion

7.1 The location, shape and length of the berth face is the determining factor for the location of the terminal. In the Northport case, a linear extension of the existing berth is proposed. This enables access to naturally deep water, and other efficiencies associated within linear berths over quay type structures.

7.2 In order to enable an efficient and viable facility, the container handling and short-term storage area must be located immediately behind the berth face.

7.3 It is not viable to locate the container handling area any greater distance from the berth face, including on land owned by either Channel Terminal Services Ltd or Marsden Maritime Holdings Ltd. Apart from the fact that Northport does not own that land, attempting to design a container terminal in that location would mean that containers could be anywhere between 800m and 1,500m from the berth face. This is simply not viable from a practical or economic perspective. As can be readily seen from the port examples in **Appendix 1**, none have container handling areas anywhere near this distance from the berth face.

7.4 The depth of the proposed container handling area is comparable (and slightly less) than most of the port examples in **Appendix 1**. The area is sufficient to cater for reasonably foreseeable demand over the next 50-year period, with some additional capacity if/when needed. Furthermore, the design achieves a practical 'tie in" with the adjoining land.

7.5 Given the location and design of the existing port (including the berth alignment and proximity to naturally deep water), and the need for container handling areas to be

immediately behind the berth face for efficiency, location of transport connections, and other practical reasons, there is a clear functional need for the terminal to be in the proposed location.

Appendix 1: Port Examples

ATTACHMENT 1

Appendix 1: Example container terminal layouts/dimensions

Figure 1: Ferguson Container Terminal (Auckland)

Figure 2: Lyttelton Port (Christchurch)

Figure 3: Centreport (Wellington)

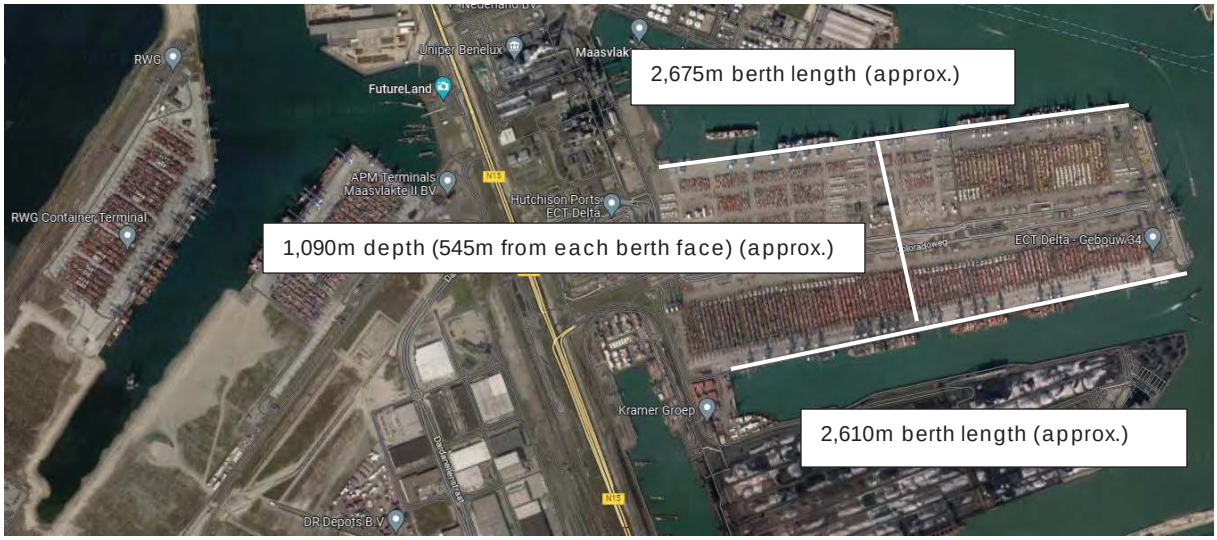


Figure 4: Port of Rotterdam

Figure 5: PSA Singapore

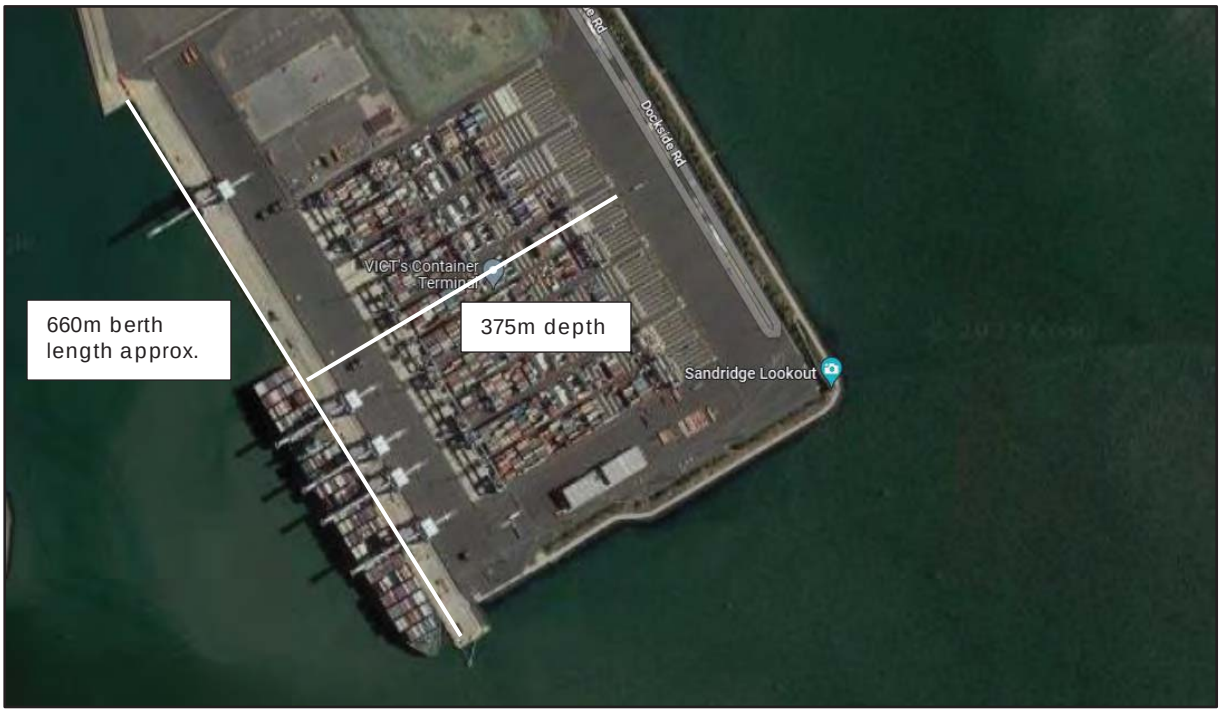


Figure 6: Port Melbourne

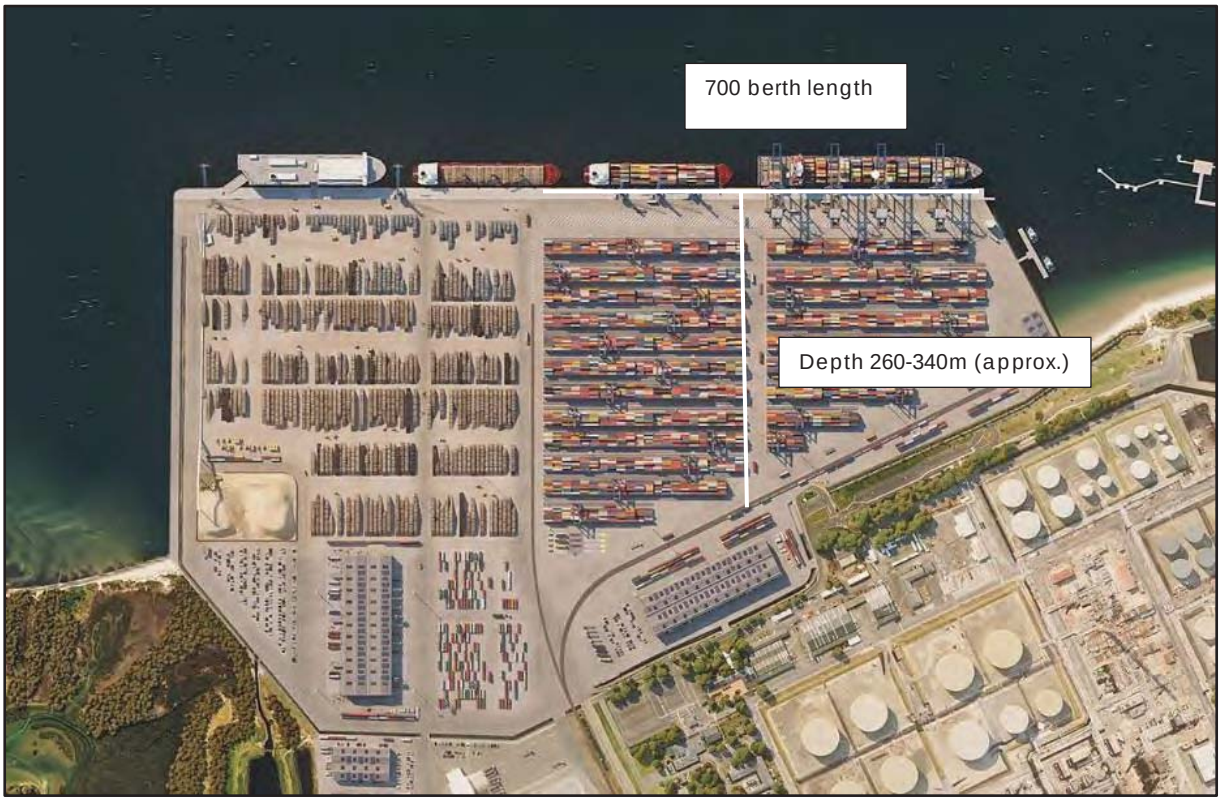


Figure 7: Northport

Figure 8: Port Botany (Sydney)

ATTACHMENT 2

9 February 2023

Brett Hood
Director
Reyburn and Bryant

By email *brett@reyburnandbryant.co.nz*

NORTHPORT EXPANSION PROJECT – AVIFAUNA ROOST PROPOSAL: PROPOSED REGIONAL PLAN RULE ANALYSIS

INTRODUCTION

1. Northport received a request for further information, dated 19 December 2022, relating to its expansion proposal applications ("Expansion Proposal").[1]

2. You have asked us to respond to requests 10(a) and (c):

> *10. Please confirm whether consent is required and/or sought under the following rules of the Proposed Regional Plan….:*
>
> *a) C.1.5.13 Dumping (deliberate disposal) of certain waste in coastal marine area – discretionary activity (regarding the construction of the bird roost via dredged material)*
>
> *…*
>
> *c) C.1.5.14 Other dredging, deposition and disturbance activities and C.1.6.6 Reclamation in significant areas*
>
> - *Please provide further information to support the conclusion that the proposed avifauna roost area meets the PRP's definition of "deposition of material for beneficial purposes". It is unclear how the activity is for the purpose of beach replenishment or renourishment, or for environmental/ecological enhancement (rather than mitigation for the reclamation).*
> - *Please provide a revised assessment of this component of the proposal, confirm the activity status, and if applicable, an assessment against the s104D gateway test.*

3. We summarise our advice below.

[1] APP.005055.38.01 AND LU2200107.

BACKGROUND

4. The Expansion Proposal includes an avifauna roost proposal involving the deposition of sand within an **intertidal area** to the west of the existing port to create additional roosting habitat for variable oystercatcher and NZ Dotterel. The AEE outlines the avifauna roost proposal in detail.[2] It is proposed to be located where there was historically a sand/shell bank. It will augment the existing sandy flood spit feature through deposition of sediments that are similar to those currently present at the site. Sand for the avifauna roost proposal is intended to be sourced from dredged material associated with the Expansion Project and/or maintenance dredging.

PLAN INTERPRETATION PRINCIPLES

5. It is well settled that the meaning of a plan rule, including a regional rule, must be ascertained from its text and in the light of its purpose and its context, with its text including the indications provided in the plan and in the Resource Management Act 1991 ("RMA").[3] As summarised in *Auckland Council v Teddy and Friends Ltd* [2022] NZEnvC 128:[4]

   (a) The context of a rule will include not only its immediate context in the plan, but also any relevant objectives, policies and other methods and, where any obscurity or ambiguity arises, may include other parts of the plan.[5]

   (b) The process of ascertaining the meaning of plans in the particular context of the RMA should also be undertaken in a manner that avoids absurdity or anomalous outcomes, is consistent with the expectations of property owners, and is consistent with practical administration of the relevant rule(s).

ANALYSIS: THE AVIFAUNA ROOST PROPOSAL FALLS SQUARELY WITHIN PROPOSED REGIONAL PLAN RULE C.1.5.11 (RESTRICTED DISCRETIONARY)

6. As identified in the AEE, the avifauna roost aspect of the Expansion Proposal constitutes *"deposition of material for beneficial purposes"* as defined in the Proposed Regional Plan (Appeals Version). It is a restricted discretionary activity under Rule C.1.5.11.[6]

---

2 See for example section 3.11 of the AEE.
3 Legislation Act 2019, Section 10.
4 See paragraphs 10-14 in particular. The Court also stated at [27]: *"[t]he purposive light in which text is to be read and understood cannot be separated from it and so text and purpose must be comprehended together in a unified way rather than treated as dual requirements for a cross-check. Further, the current legislative requirement includes the context of the text, that is, what is with the text. In law, context is everything".* While that decision relates to district rules, the interpretation principles are the same.
5 *Powell v Dunedin City Council* [2004] 3 NZLR 721 (CA) at [30]-[34].
6 AEE page 16 and 255.

7. Below we step through the relevant definition and rule C.1.5.11 (reproduced in **Annexure A**):

(a) The avifauna roost aspect of the Expansion Proposal is *"deposition of material for beneficial purposes"* as defined in the Proposed Regional Plan because:

(i) It is clearly *"[t]he placement of sand, shell, shingle or other natural material (taken from within the coastal marine area) in the coastal marine area or on land..."*

(ii) The *"intended design purpose"* is clearly *"associated with one or more of the following beneficial end uses":*[7]

- *"[B]each replenishment or renourishment".* The intertidal sandy flood spit feature where the material is proposed to be deposited is a "beach"[8] and the intended purpose of the deposition is to "renourish/replenish" that feature to provide additional roosting habitat.

- Without derogating from the above (and while the below analysis focusses on beach replenishment/renourishment), the intended design purpose is also associated with *"environmental or ecological enhancement".* The avifauna roost proposal is ecological enhancement in the form of provision of additional roosting habitat for at risk birds.

The s92 request queries whether the avifauna roost proposal is *"mitigation for the reclamation"* as opposed to beach renourishment/replenishment or ecological enhancement. We consider this is misguided. The determining factor for the purposes of the definition of *"deposition of material for beneficial purposes"* is the *"intended design purpose"* of the deposition/placement of material. In this case, that is beach nourishment/replenishment to create additional roosting habitat (which will constitute ecological enhancement from the *status quo* environment at the proposed roost site.) Wider theoretical analysis regarding where that deposition activity sits in the effects management hierarchy in the context of the wider Expansion Proposal is not informative for the interpretation of the definition.

---

7 Notwithstanding that the relevant test is clearly met in our view, *"associated with"* does not require a particularly strong or direct link; and the design purpose is required to be (and may be) be associated with *"one or more"* of the beneficial end uses listed.

8 The proposed roost area is in the **intertidal** zone, meaning it is clearly within the ordinary meaning of "beach" (which is not defined in the Proposed Regional Plan, the National Planning Standards Definitions Standard, or the RMA).

(ii) It does not come within the three listed exclusions. In particular, it is not:

- *"deposition of dredged material or solid matter for reclamation purposes".* The definition of *"reclamation"* in the Proposed Regional Plan explicitly excludes *"any infilling where the purpose is to provide beach nourishment…"* (see **Annexure A**).[9]

- *"dumping (deliberate disposal) of waste or other matter"* (see paragraph 7(b)(iii) below).

(b) The deposition of sand associated with the avifauna roost proposal satisfies the requirements in Rule C.1.5.11:

(i) As outlined above, it satisfies the definition of *"deposition of material for beneficial purposes".*

(ii) It is clearly *"deposition of material… onto land (including the foreshore and seabed)".*[10]

(iii) While the dredged sand material is *"waste or other matter (as listed in Regulation 4(2) of the Resource Management (Marine Pollution) Regulations 1998)"* it will not be "*dumped".*[11] Purposely forming a carefully and intentionally designed roost area through the careful deposition and shaping of sand does not amount to *"intentional disposal"* of that sand. It is entirely at odds with the meaning of *"disposal"*.[12]

8. For the above reasons, no revised assessment of the avifauna roost component of the proposal is required, nor is an assessment against s104D of the RMA. Rules C.1.5.13,[13] C.1.5.14, and C.1.6.6 do not apply.[14]

---

9 Notwithstanding that clear exclusion, in addition, if beach *"replenishment"/"renourishment"* also constituted *"reclamation"*, this would render Rule C.1.5.11 essentially pointless.

10 The reference in Rule C.1.5.11 to deposited material in the coastal marine area further reinforces the Rule's clear introductory statement that its application extends to deposition within the coastal marine area/foreshore and seabed (not just on land).

11 *"Dumping means,— (a) in relation to waste or other matter, its deliberate disposal…and to dump and dumped have corresponding meanings"* (s2 of the RMA).

12 The Online Collins Dictionary defines disposal as "*the act of getting rid of something that is no longer wanted or needed".* That is the exact opposite of the present context which involves the careful placement/construction of the sand, which is needed and wanted for the intended purpose of beach renourishment/replenishment to create additional roosting habitat.

13 Rule C.1.5.13 (Dumping (deliberate disposal) of certain waste in the coastal marine area – discretionary activity).

14 The heading and introductory/final clauses of Rule C.1.6.6 (Reclamation in significant areas – non-complying activity) make it clear that the rule applies to **reclamation** and associated activities, which – as identified above – explicitly excludes beach nourishment. In addition, application of Rule C.1.6.6 and/or C.1.5.14 (Other dredging,

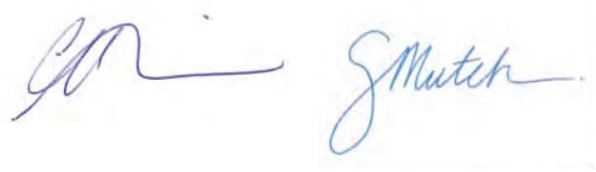
9. The above interpretation is consistent with the Legislation Act 2019 and the extensive body of case law applying to the interpretation of planning provisions. It avoids absurdity or anomalous outcomes, is consistent with the expectations of plan users, and is consistent with practical administration of the relevant rules.

CONCLUSION

10. We are somewhat surprised that the s92 request seeks the information it has with respect to the interpretation of the Proposed Regional Plan rules applying to the avifauna roost proposal. In our view, the avifauna roost proposal falls squarely within Rule C.1.5.11, especially when approached in a sensible and workable fashion. We understand that both you and Phil Mitchell (Partner, Mitchell Daysh), who is also providing planning advice to Northport for its Expansion Proposal and who will be presenting evidence at the hearing, share our view.

11. We trust the above will be sufficient for present purposes. If necessary, we are happy to provide more detailed advice. If needed, we can also address this issue substantively in legal submissions at the hearing.

Yours faithfully
ChanceryGreen



Chris Simmons and Steve Mutch
Partners

Contact: ddi: 09 357 0600
chris.simmons@chancerygreen.com / steve.mutch@chancerygreen.com

deposition and disturbance activities – non-complying) in this context would render Rule C.1.5.11 essentially pointless for any deposition for beach renourishment/replenishment or ecological enhancement.

ANNEXURE A: KEY PROPOSED PLAN PROVISIONS

C.1.5.11 Deposition of material for beneficial purposes – restricted discretionary activity[23]

Deposition of material for beneficial purposes onto land (including the foreshore and seabed) is a restricted discretionary activity, provided that, within the coastal marine area, the deposited material is not waste or other matter (as listed in Regulation 4(2) of the Resource Management (Marine Pollution) Regulations 1998) which is dumped from a ship, aircraft or offshore installation.

Matters of discretion:

1) Volume and location of material to be deposited.
2) Methods used to carry out the activity and timing of the activity.
3) Effects on coastal processes, including effects on the stability of the seabed and nearby shorelines.
4) Effects on the foreshore and seabed associated with the deposition activity.
5) Effects on indigenous biodiversity and aquatic ecosystem health.
6) Effects on tāngata whenua and their taonga.
7) Effects on existing uses and activities undertaken in the area of deposition.
8) Effects on the characteristics, qualities and values that contribute to make any of the following mapped (refer I Maps | Ngā mahere matawhenua) places outstanding or significant:
    a) Nationally Significant Surf Breaks.
    b) Regionally Significant Surf Breaks.
    c) Outstanding Natural Features.
    d) Areas of Outstanding Natural Character.
    e) Site or Area of Significance to tāngata whenua.
    f) Significant Ecological Area.
    g) Significant Bird Area.
9) Effects on the characteristics, qualities and values that contribute to any mapped (refer I Maps | Ngā mahere matawhenua) Historic Area or Site.
10) The positive effects of the activity.

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

- Deposition of material for beneficial purposes onto land (s9(2)).
- Deposition of material for beneficial purposes in, on or under the foreshore or seabed and any incidental disturbance of the foreshore or seabed (s12(1)).
- Discharge of water or sediment into water incidental to the activity (s15(1)).

Deposition of material for beneficial purposes	The placement of sand, shell, shingle or other natural material (taken from within the coastal marine area) in the coastal marine area or on land, where the intended design purpose is associated with one of more of the following beneficial end uses: 1) beach replenishment or renourishment, or 2) environmental or ecological enhancement, or 3) restoration or enhancement of natural coastal defences from coastal hazards. It excludes: 1) deposition of dredged material or solid matter for reclamation purposes, and 2) dumping (deliberate disposal) of waste or other matter, and 3) creation of hard protection structures.

Reclamation	The formation of permanent land located above mean high water springs that was formerly below the line of mean high water springs. Reclamation does not include: 1) land that has risen above the line of mean high water springs as a result of natural processes, including accretion, or 2) any infilling where the purpose is to provide beach nourishment, or 3) structures such as breakwaters, moles, groynes or sea walls.

ATTACHMENT 3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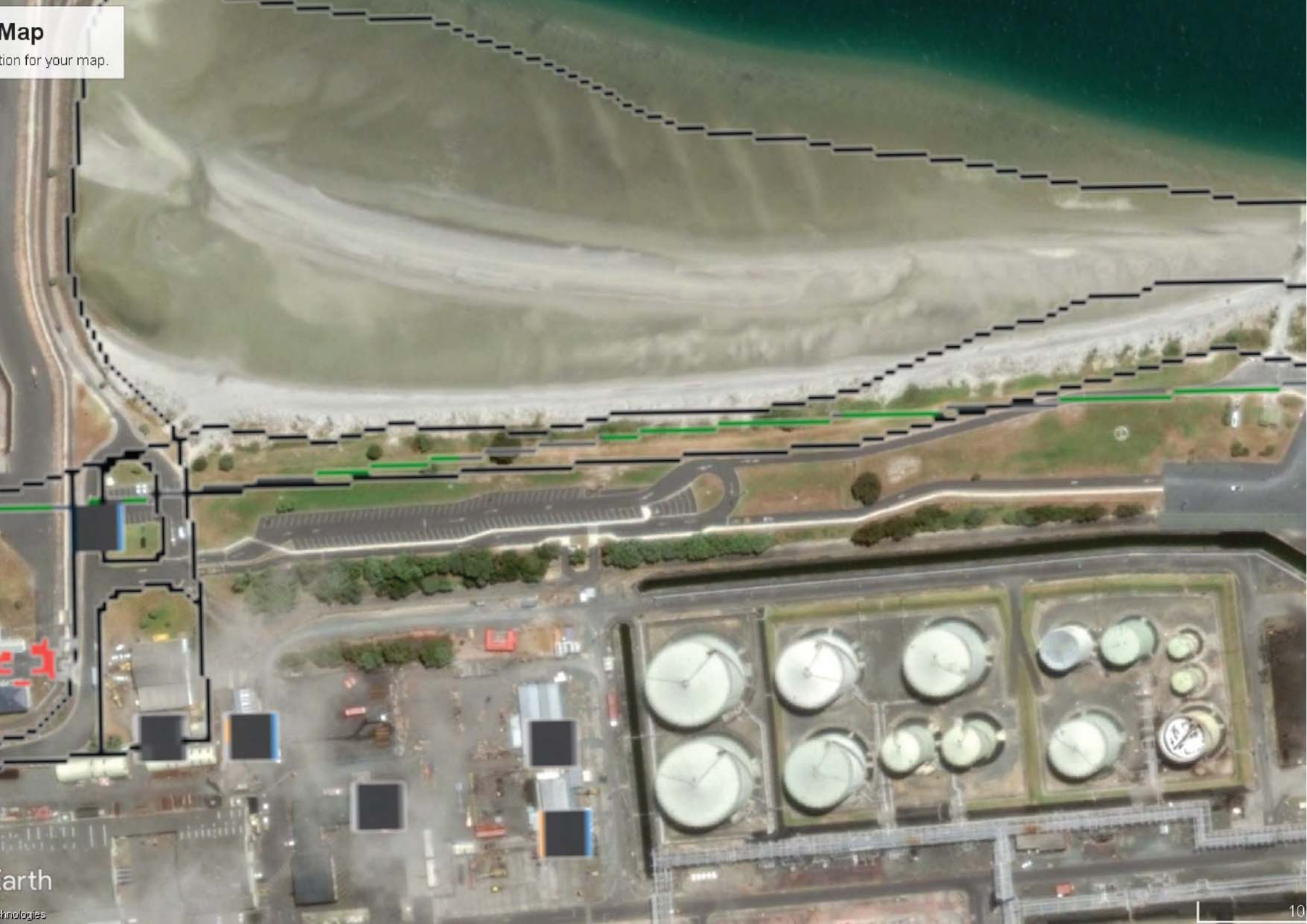
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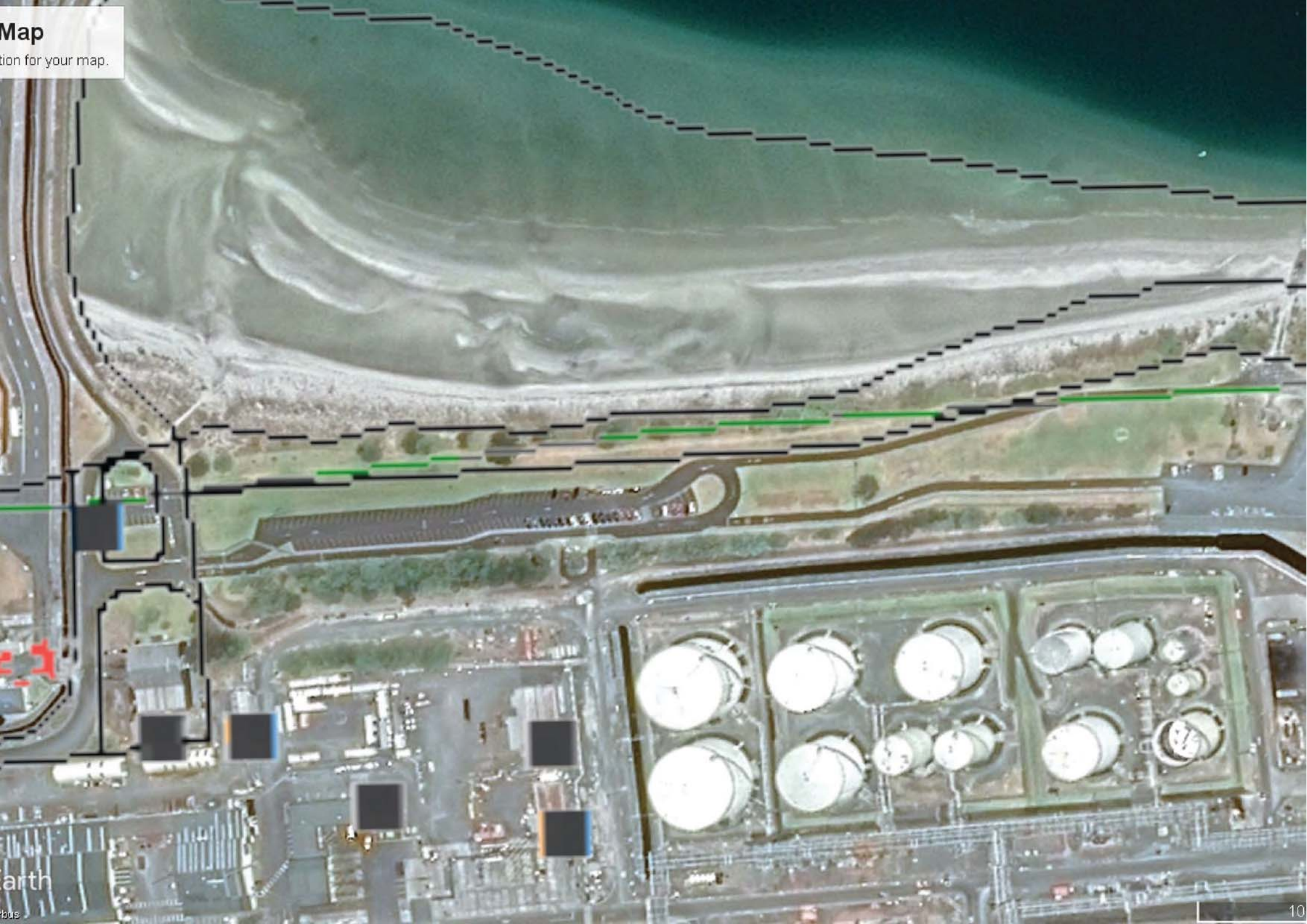
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ATTACHMENT 4

Northland REGIONAL COUNCIL

Local Maps Print

Projection NZTM. Datum NZTM2000.
DISCLAIMER:
The Northland Regional Council cannot guarantee that the information shown is accurate and should not be reused in any manner without proper consultation with its owner.

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February 9 2023

ATTACHMENT 5

MEMO	
ATTENTION	Brett Hood
FROM:	Shane Kelly
CC	
DATE:	10 January 2023
REGARDING	Northport Consent Application: Response to request for further information on ecological matters.

COAST & CATCHMENT
ENVIRONMENTAL CONSULTANTS

BACKGROUND AND SCOPE

Northport have applied for consents related to proposed reclamation and dredging activities around their existing port facilities at Marsden Point. Northland Regional Council (NRC) have requested further information regarding the proposed activities and their potential effects. This memo addresses the marine ecological matters outlines in Items 18 and 60 of the NRC S92 request for further information.

INFORMATION REQUESTS

18. Please clarify how the marine ecology effects conclusions (including cumulative effects) set out within Table 19 of the AEE (section 5.7.14) were reached, and which technical assessments supported those conclusions. Please also provide a table, similar to that of Table 17 of the AEE (section 5.7.13), that summarises the conclusions on cumulative marine ecology effects across the various assessment scales considered. Reason: Table 17 of the AEE (section 5.7.13) sets out conclusions of marine ecology effects, excluding cumulative effects. Table 19 of the AEE (section 5.7.14) sets out conclusions on marine ecology effects, including cumulative effects. These effect conclusions don't change, despite the AEE identifying a range of potential cumulative effects that may arise from the proposal. Further clarification on the technical assessments that informed this position is requested to understand how there is not considered to be any change in effect level when considering cumulative effects on marine ecology. Also, to understand how cumulative effects may differ through the various system scales.

Details related to the cumulative effects assessment are set out in Section 6.5.4 of Appendix 11 in the AEE (Assessment of Marine Ecological Effects). Tables 11 to 19 of that section summarise the factors used to determine the level of effect on the key habitats and features assessed. The conclusions are supported by a wide range of other technical assessments, publications and data. In total, Appendix 11 references 121 technical reports, science publications or other sources of information, and also presents new data from intertidal and subtidal surveys that were conducted to fill specific information gaps.

Sections 6.5.1 and 6.5.2 of Appendix 11 identify a range of activities with the potential to act in a cumulative fashion. Those sections concluded that the disturbance or loss of habitat and biota caused by the combined impacts of dredging and reclamation have the most potential to act in a cumulative fashion and increase the magnitude of effects beyond those of the proposed Northport development. The only relevant activity identified in the vicinity of Northport, with the potential to act in a cumulative fashion to the: consented (but not yet implemented); and,

proposed Northport activities; was consented (but not yet implemented) channel dredging by Channel Infrastructure.

Cumulative impacts on major habitats and features (i.e., those listed in Tables 20 and 21 of Appendix 11) and for activities of particular significance were assessed. For each of these, an assessment was made against, what was considered to be, the most ecologically relevant system. Key factors considered in the assessments where the:

- scale of effect relative to the size of the relevant ecological system;
- the values of the habitats, communities and biota likely to be affected;
- the extent, abundance and/or occurrence of features within the relevant ecological systems; and,
- the potential for recovery.

In relation to the relevant Channel Infrastructure activities, it is important to note:

- They do not include reclamation or stormwater discharges.
- That dredging by Channel Infrastructure is confined to subtidal channel habitat that is devoid of reefs. Consequently, Channel Infrastructure dredging effects on intertidal habitat and subtidal reefs are likely to be negligible.
- Detailed surveys conducted for Channel Infrastructure suggest that the areas consented for their dredging do not contain macroalgae meadows or seagrass.
- Effects on fish are assessed as low because the affected species are mobile and able to utilise other locations.
- No live scallops, pipi or cockles were detected during the 2015 survey of the Channel Infrastructure dredging area (West & Don 2016). However, live mussels were detected at five sampling stations. The occurrence of mussels is addressed in Section 5.1.4.4 of Appendix 11 of the AEE. Briefly, mussel beds around the Harbour Mouth reappeared in 2015 after many years' absence, but were rapidly depleted by overharvesting. Few, scattered clumps of mussels have been observed in recent years. Against that background, the effects of Channel Infrastructure dredging on mussels and other kai moana shellfish are likely to be relatively minor.

Consequently, the Channel Infrastructure activities add no or little additional effects on, or arising from:

- intertidal sediment habitats and macrofauna;
- reclamation on subtidal habitat and benthic macrofauna;
- seagrass;
- macroalgae;
- fish;
- reef habitat;

- kai moana shellfish; or,
- stormwater discharges.

However, the effects of Northport and Channel Infrastructure dredging activities on subtidal habitat and benthic macrofauna could act in a cumulative fashion. Levels of effects for the proposed Northport activities alone, and in combination with Channel Infrastructure activities were ranked from Moderate to High depending on the dredging methods used. Those rankings reflect the high diversity values of the OHEZ benthos and the potential scale of effects. However, the combined effects of the proposed Northport and Channel Infrastructure activities are not expected increase the level of effect beyond "High", because:

- The combined magnitude of effect will not meet the EIANZ "Very High" criteria (Roper-Lindsay et al. 2018) of "*Total loss of, or very major alteration to, key elements/features/ of the existing baseline conditions, such that the post-development character, composition and/or attributes will be fundamentally changed and may be lost from the site altogether; AND/OR Loss of a very high proportion of the known population or range of the element/feature.*"
- Current benthic values in previously dredged areas remain high, despite the past dredging events.
- The effects of the propose dredging will also be temporary. A similar community is expected to develop if seabed substrates are present after the proposed dredging ceases. If similar substrates do not occur, benthic ecological values may be reduced, but they will not be eliminated.
- The assessment of sediment plume effects is considered to be conservative.
- Northport effects are already largely provided for under the current capital and maintenance dredging consent.
- Effects can be diminished by using sequencing to allow for recovery (or partial recovery) in one area before moving to the next, and through adaptive management using real time turbidity monitoring during dredging.

As requested, Table 1 below provides a summary of levels of effects for the most relevant ecological system, and the alternative system considered in the ecological assessment. It is recommended that the most relevant system be used when considering levels of effect. However, it is also noted that the use of the alternative system has little effect on overall outcomes.

Table 1: Effects level rankings for the most relevant ecological system, and the alternative system considered in the ecological assessment. See appended Tables 11 to 19 of Appendix 11 of the AEE, for the rationale used to rank levels of effect for the most relevant system.

Potential effects	Most relevant system	Level of Effect	Alternative system	Level of Effect	Notes on alternative system
Effects on intertidal benthic habitats and macrofauna	Harbour	Moderate	OHEZ	Upper range of Moderate	High values, permanent loss, but relatively small proportion of available habitat affected (1.2 % of intertidal habitat in the OHEZ). The overall abundance of common infaunal taxa will be slightly reduced, but changes to infaunal biodiversity are not expected. Channel Infrastructure activities do not directly affect intertidal habitats.
Effects on kaimoana shellfish	Harbour	Low	OHEZ	Low	Cockles, pipi and scallops and mussels potentially affected. Cockles are ubiquitous in the OHEZ. No harvestable pipi in the detected in the reclamation area or in areas affected by dredging. Few live scallops observed, and measures proposed to minimise effects on them. Past records of mussels, but their occurrence has been greatly diminished by overharvesting.
Effects on subtidal habitat and benthic macrofauna - Reclamation	OHEZ	Moderate	Harbour	Low	Combined reclamation areas comprise a small proportion of subtidal habitats in the Harbour (0.22%). There are few high value features in Northport's proposed reclamation areas. Channel Infrastructure are not carrying out any reclamation.
Effects on subtidal habitat and benthic macrofauna - Dredging	OHEZ	Moderate to High	Harbour	Moderate to High	Moderate proportion of subtidal habitat with high ecological values directly affected (2.3% of the total Harbour subtidal). Effects will depend on the method of dredging. Effects will be temporary. A similar community is expected to develop if seabed substrates are present once the proposed dredging ceases. If that does not occur, ecological values may be reduced, but they will not be eliminated. The effects of Northport dredging are largely provided for under the current capital and maintenance dredging consent. Effects can be diminished by using sequencing to allow for recovery (or partial recovery) in one area before moving to the next.

Potential effects	Most relevant system	Level of Effect	Alternative system	Level of Effect	Notes on alternative system
Effects on seagrass	Harbour	Low	OHEZ	Low	Only small patches of seagrass will be lost. Other large beds occur in the OEHZ. Significant recovery in seagrass extent has occurred over the past two decades. Species displays large fluctuation in extent. Detailed surveys conducted for Channel Infrastructure suggest that the areas consented for their dredging do not contain seagrass.
Effects on macroalgae	OHEZ	Moderate to High	Harbour	Moderate to High	The outer harbour contains soft sediment macroalgae meadows with diverse, but low biomass species assemblages. At Risk species are potentially present in affected areas, but adverse effects on those are likely to be low. Little macroalgae present in the proposed reclamation area, but it is common throughout areas directly and indirectly affected by the proposed (and currently consented) dredging. Distribution has not been accurately determined but are likely to be limited to patchy beds in the mid-outer parts of the harbour. Around 3.36% of the OHEZ directly affected by dredging and reclamation, with the scale and magnitude of indirect effects varying widely depending on the method of dredging. Some uncertainty about the effects of increased light attenuation. Changes to light conditions may alter the composition of the macroalgae community within the dredged area. Potential for risks can be reduced through monitoring and management regimes. Detailed surveys conducted for Channel Infrastructure suggest that the areas consented for their dredging do not contain macroalgae meadows.
Effects on fish	Harbour	Low	OHEZ	Low	Affected species mobile and able to utilise other locations.

Potential effects	Most relevant system	Level of Effect	Alternative system	Level of Effect	Notes on alternative system
Effects on reef habitat	Harbour	Positive in medium to long term	OHEZ	Positive in medium to long term	Man-made features that support high value ecological community. The extent of rocky reef is limited in the OHEZ. Community associated with existing rocky revetments will be lost, but they will reform on new revetments. The length of revetment created will be greater than the length lost.
Effects of stormwater discharges	Beyond the mixing zone	Low	All scales beyond the mixing zone	Low	Adverse ecological effects beyond the mixing zone managed through site controls, monitoring and discharge standards.

60. The AEE identifies that the assessment of effects on indigenous biodiversity, in particular the system scales used, have been informed by PRP Policy D.2.18(5). This policy sets out that when assessing the potential adverse effects of the activity on identified values of indigenous biodiversity, a system-wide approach is to be taken to large areas of indigenous biodiversity, such as whole estuaries or widespread bird and marine mammal habitats. The policy recognises that the scale of the effect of an activity is proportional to the size and sensitivity of the area of indigenous biodiversity. Further clarification on how each system scale was selected for the basis of the effects assessment would be helpful to understand how the policy has been applied in this instance.

This matter is covered in Section 6.1 of Appendix 11. For convenience, Section 6.1 is copied below.

6.1 THE SYSTEM

Potential effects are assessed using a system-wide approach, which recognises that the scale of effects from the proposed activities is proportional to the size and sensitivity of the area of indigenous biodiversity. The consolidation, review, and analysis of existing information, together with the data gathered through the rapid intertidal and subtidal video surveys, illustrates that the harbour ecological system is made up of at least four distinct zones:

- the outer harbour and entrance including flood and ebb tide deltas, a channel complex, and relatively narrow intertidal sandflats;
- Pārua Bay, on the northern shore of the harbour, which is a largely enclosed, sheltered, depositional inlet;
- the mid-harbour between the shell bank that historically traversed the main channel and Limestone Island, with its broad intertidal and subtidal flats, and channel system;
- the sheltered upper harbour, that splits into Hātea and Mangapai Rivers which narrow upstream and become increasing influenced by freshwater inputs and adjoining landuses.

Northport sits within the outer harbour and entrance zone (OHEZ, Figure 56): a physically complex zone subject to strong currents with around 610 ha above chart datum and 1,970 ha below chart datum. It contains diverse physical habitats, extensive areas of biogenic habitat (including extensive shell gravel beds, seaweed meadows, seagrass beds, sponges, horse mussels, scallops, and significant beds of other shellfish). This is reflected in the high diversity of ecological taxa in that zone. The coastal margin and central area of this zone almost completely consist of SEAs (and a marine reserve), with areas that have not been mapped as SEAs mainly consisting of subtidal channels (see Figure 13). Therefore, the OHEZ is considered to be a discrete and ecologically significant system, against which the scale of effects from the proposed activities are considered (in addition to the harbour scale).[23]

At Tables 2 and 21 the most relevant system/scale for the assessment of each key effect has been identified, along with the corresponding assessment of the level of effect.

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[23] For completeness in the assessment of effects that follows effects have been assessed at the footprint scale, notwithstanding that this is not the most relevant scale/context.

Figure 56: Outer harbour and entrance zone defined for this assessment, with areas above (intertidal) and below (subtidal) chart datum overlaid (based on LINZ bathymetry data).

Note that, other sections of Appendix 11 feed into Section 6.1. Among other things:

- Section 4 describes the physical characteristics of the harbour. It explains how the morphology of the harbour varies and notes that the outer harbour and entrance are particularly complex, with a series of tidal deltas (i.e., Calliope, Mair, Snake and MacDonald Banks), channel systems, and a seafloor consisting predominantly of gravel shell lag and shelly sand. It shows that intertidal and shallow subtidal sediments in the lower section of the upper harbour, mid-harbour and outer harbour are predominantly sandy. Sediments become more muddy in the upper sections of the upper harbour and Pārua Bay. Water and sediment quality improve down the harbour with worst quality upstream of Port Whangārei and best quality in the outer harbour.

- Section 5 describes the harbour's marine ecological values and uses available and newly obtained information to present the distributions of key ecological features. It shows that the intertidal macrofaunal communities at sites in Marsden Bay were similar to intertidal communities in other parts of the harbour, including communities from sites in the upper, mid and outer harbour. Finer scale intertidal sampling of Marsden Bay is characterised by high benthic diversity with variation along and down the shore, and minor differences between the western and eastern sides of the port. Subtidal sampling also showed that benthic macrofaunal diversity is very high around the port. Section 5 also explains how

seagrass has recovered from past losses, and now covers large parts of the intertidal area in the mid and outer harbour. It uses available information to show or describe the distribution of key kai moana shellfish in the harbour and presents new data for Marsden Bay. It notes that natural reef habitat is limited in the harbour, with most occurring on the northern coastline towards the harbour entrance, and highlights that species assemblages on natural Whangārei reef habitats are typical of those found in north-eastern New Zealand. Section 5 also draws attention to the presence of macroalgal meadows in the outer harbour. It presents available information on their distribution and highlights the potential presence of several "At Risk" species. Section 5 also uses available information to describe the variety of fish that utilise Whangārei Harbour.

- Section 6.2 to 6.4 then provide detailed assessments of the effects of the proposed activities on major habitats and features against the harbour and OHEZ systems, and impact footprints. Finally, Section 6.5 assesses cumulative effects against what is considered to be the most relevant system for each of the major habitats and features.

For the reasons noted earlier, overall outcomes from the cumulative effects assessment were not particular sensitive to whether the harbour or OHEZ system was used in the cumulative effects assessment.

REFERENCES

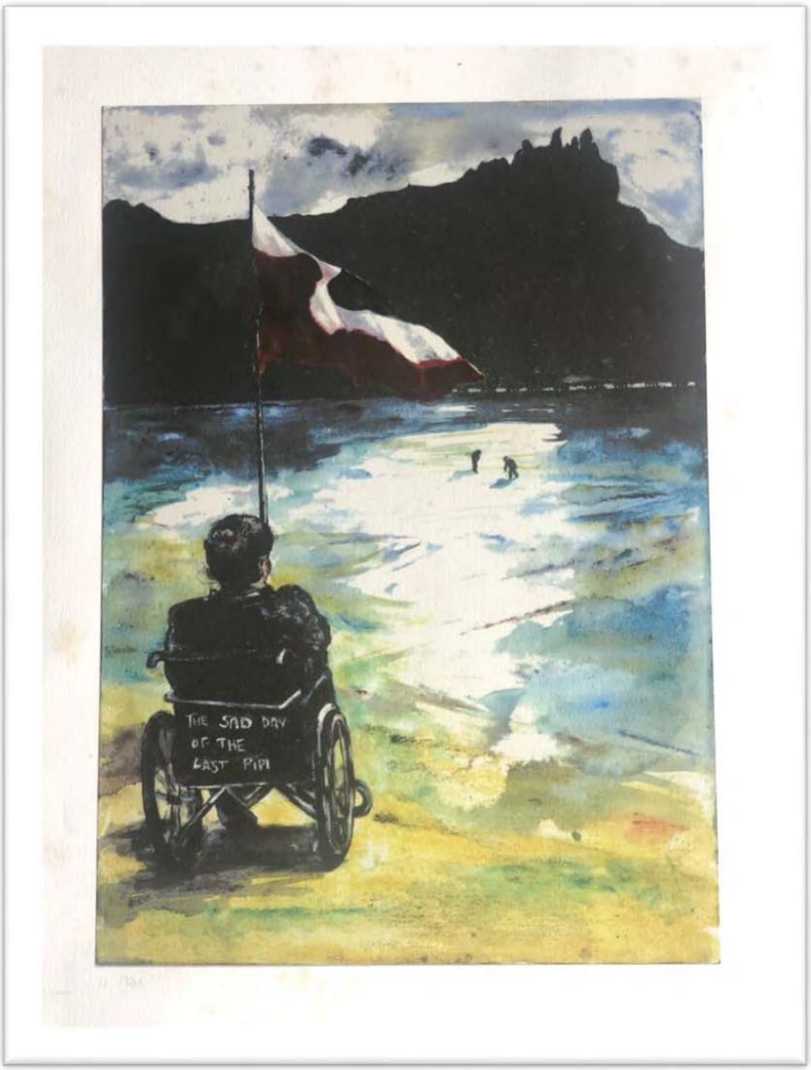
Roper-Lindsay, J., Fuller, S.A., Hooson, S., Sanders, M.D., Ussher, G.T. (2018) Ecological impact assessment. EIANZ guidelines for use in New Zealand: terrestrial and freshwater ecosystems. 2nd edition., Environmental Institute of Australia and New Zealand Inc., Melbourne, Australia. 133 pp.

West, S.A., Don, G.L. (2016) Ecological assessment of dredge area, Whangarei Heads. Client report for ChanceryGreen on behalf of Refining NZ, Bioresearches, Auckland.

ATTACHMENT 6

CULTURAL EFFECTS ASSESSMENT
Northport Expansion Project

Patuharakeke
TE IWI TRUST BOARD



Artwork "The sad day of the last pipi" 2000 - by Carol Peters (author's own). This Cultural Effects Assessment Report ("the Report") has been commissioned by Northport and undertaken by Patuharakeke Te Iwi Trust Board ("PTB") as part of the Mana Whenua Engagement Process in relation to the Northport Expansion Project. The Report has been prepared in contemplation of Northport 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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1. Purpose of this Paper

a) To present a **'Patuharakeke Cultural Effects Assessment'** (CEA)[1] **of the Port Expansion Project proposal by Northport** to PTB Board for their approval. This final CEA is an updated version of the interim CEA prepared in November 2021.

b) To provide a set of initial recommendations from the hapū to Northport and the consenting authorities - Northland Regional Council (NRC) and Whangārei District Council (WDC) arising from the PTB Effects Assessment and the review of the supporting documentation supplied.

Figure 1: Part of the jawbone of Tahuhu Potiki – the sperm whale that beached on Mair Bank in 2017 (photo - Taryn Shirkey)

Whangārei Te Rerenga Parāoa

There are a number of traditions relating to the meaning of the harbour's name that are shared and valued amongst harbour tribes including Patuharakeke. A Ngāpuhi 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. Ngātiwai named the harbour Whangārei-Te Rerenga-parāoa (the gathering place of whales) because whales gathered there to feed during summer.

1.1 Introduction

Northport is situated just to the west of the mouth of the Whangārei Harbour, between the Refining New Zealand site and the entrance to the Marsden Cove Marina. The Port was first proposed in the 1960s and commenced operations, largely as a log port, in 2002. Patuharakeke are mana whenua whenua of the

[1] A Cultural Effects Assessment in this context is an assessment of the potential and actual effects of a proposal, in this case a major expansion of regionally significant port infrastructure, on Patuharakeke and their culture and traditions, including the effects on their relationships with their environment past, present and future.

area Northport operates in and hold ahi kā status over Poupouwhenua/Marsden Point. The Patuharakeke Te Iwi Trust Board ("PTB") represents their interests in matters including *inter alia* environmental and resource management issues.

PTB has an operational relationship with Northport that was recently formalised through a Te Whakahononga Relationship Agreement in 2019 to assist an effective, stronger working relationship between the two parties. PTB have a history of providing cultural and environmental advice and support to Northport and both parties strive to engage with one another in the spirit of good faith and transparency. PTB representatives have also engaged in wider korero with whānaunga hapū and iwi of Whangārei Te Rerenga Parāoa through discussions with Ngātiwai Trust Board representatives and a series of hui with a working party of hapū/iwi technicians set up to engage on this application.

Northport seek multiple resource consents from the NRC and WDC to enable the enable the expansion of Northport's existing facilities to increase freight storage and handling capacity, and support a transition to a high-density container terminal.[2]. The project anticipates expansion of the current activity to comprise an already consented 4th Berth and new consents to enable further expansion of approximately 13 hectares to the east of the current maritime infrastructure to accommodate a container terminal.

While the western reclamation has been removed from the consent applications since the interim CEA was drafted, we are aware it is still on the back burner. The "Issues and Options" Report[3] refers to Northport's decision "*to 'de-couple' the proposed Eastern and Western developments to enable a greater level of focus and consultation. Northport remains of the view that the shipyard and floating drydock project is a nationally significant and regionally strategic project which presents a great opportunity for regional growth while dealing with ship maintenance shortfalls within New Zealand and Australia.*" PTB are cognisant that this decision to decouple likely makes the consenting pathway easier, for both projects.

On the VFG website, Northport state why they consider that this expansion is needed:

> *"To meet the future freight needs and support both Northland and North Auckland's growth, it's clear that Northport must expand. As one of New Zealand's key ports, we must keep up with global shipping trends. That means being able to handle more freight, offer more diverse services and adapt to changing freight need.*[4]

Central to this contention is the assumption that Northport is **Nationally <u>Strategic</u> Infrastructure:**

> *"Northport is New Zealand's northernmost deep-water commercial port. We are the closest port to most international markets and located less than two hours from Auckland, New Zealand's main commercial hub. Our unique position combined with deep-water capabilities means we have a vital role to play in our national economy and global trade."*

We have considered the expansion proposal against the evidence presented by the applicant and then assessed its potential effects on the cultural values of Patuharakeke in the preparation of this report. At Northport's request we presented a draft of the CEA in November 2021 as the applications were intended to be lodged by early December of last year. Due to the fact that planned hui to support this CEA process were seriously impacted by the global pandemic and

[2] see https://visionforgrowth.co.nz/ and https://www.nrc.govt.nz/consents/notified-resource-consents/northport-limited-port-expansion-project-at-marsden-point-joint-notification

[3] Application Material - Appendix 2 Issues and Options Report, pg. 54

[4] https://visionforgrowth.co.nz/

subsequent alert level restrictions restricting the ability to hui at Takahiwai Marae kanohi ki te kanohi, that version was treated as an interim report. The scope of the proposed application has since changed to include only the "eastern" aspects of the proposal at this point in time. PTB have subsequently been able to hold the desired hui and have updated and finalised the CEA taking into account the revised technical reports and application.

1.2 Initial findings and Recommendations

In the Interim CEA we made a number of initial findings and recommended lodgement of the Northport VFG related resource consents applications be delayed at this time. Key reasons for this recommendation remain relevant and are set out below:

a. The proposal will result in permanent significant changes to the environment (including people and communities) including the permanent loss of takutai moana and the creation of new whenua with associated Crown land title and will generate new Crown ownership instruments (easements) in the Coastal Marine Area (CMA). These causal outcomes of the activity, in the absence of a completed Treaty claims process, inclusive of MACA (Marine and Coastal Area (Takutai Moana) Act 2011) processes, have high potential to impact the relationship of mana whenua and Crown. Recent evidence before the Waitangi Tribunal indicates the act of lodgement of these applications will negatively prejudice the current Patuharakeke MACA process[5].

b. The proposal has high potential to result in adverse effects on Poupouwhenua, the cultural values of Patuharakeke and potentially to negatively impact the various relationships of Patuharakeke to its whenua, moana and other taonga as identified at various points in this CEA. No clear or agreed measures to remedy or mitigate such unavoidable impacts is proposed or agreed. There is a lack of monitoring and reporting to kaitiaki of the effectiveness of past measures to mitigate cultural impact from previous consents related to this activity, which in Patuharakeke's experience have fallen well short of delivering any meaningful positive outcomes and must be considered to have failed to be demonstrated to be effective. We would expect, at the least, that a full independent assessment of the appropriateness, adequacy and effectiveness of past mitigation measures will be undertaken, with recommendations for alternative measures, and submitted as a required part of this application.

c. The evidence provided, in particular the economic assessment, does not establish the case that there is a demonstrated need to further expand the port infrastructure beyond its existing consents to meet the reasonably foreseeable **regional** need and as such, the proposed expansion is not the most efficient and effective use of regional resources. Some economic modelling is presented that suggests that there may be a case for greater expansion than is currently consented in the event that it is confirmed that Northport is Nationally Strategic Infrastructure. Determination of this point, while it may be attractive to Northport, is largely beyond Northport's control, being the subject of current national assessment and consultation and the applicants should properly wait the outcome of the national process to determine whether Northport is considered regionally or nationally significant.

d. A large number of core parameters and assumptions have changed since the VFG was first promoted. For example, there is no longer any suggestion that the NZ Navy is intending to relocate

[5] See https://forms.justice.govt.nz/search/Documents/WT/wt_DOC_169463182/Wai%202660%2C%20B148.pdf for further discussion on this point.

to Whangarei and the Minister of Defence has confirmed that there was never any suggestion of the Aotearoa being dry docked or serviced at Marsden Point. The previous central administration's advocacy for a relocation of part of Ports of Auckland Ltd (POAL) to Northport has evaporated. The political positioning since the recent Auckland Mayoral elections demonstrate that is still no clarity on this point. The neighbouring activities of Refining NZ/Channel Infrastructure (CINZ) have gone from predicted expansion of refining and related activities five years ago to a decision to retire and dismantle all refining activity, dramatically downsizing its workforce, greatly reducing its operational footprint and changing the emissions profile of the area. The proposed 4-lane road highway has not been approved for funding while some rail investment has been signalled. NZ is still coming out of a global pandemic with resultant dramatic and unforeseen impact on global and national logistics. Global commentators are saying these impacts are likely to take a number of years to settle down. The NZ Climate Change Commission has released its first findings signalling major changes in national energy use, national transport and logistic chains and ultimately affecting the overall economy. Increasingly this national narrative is including reference to a new role for NZ coastal shipping, however climate reaction does not appear to have been considered in the future Northport design. None of these major shifts in Northport's development scenario are adequality reflected in the current proposal and supporting evidence which remains focused on open-ended growth and not necessarily sustainability or the needs of a decarbonizing economy.

e. There are sizable gaps in the evidence presented to date as detailed within this CEA and independent review but, in particular, related to potential effects of greatly increased maritime discharges, selected use of ecological data for key cultural indicator species, including deficiencies in the evidence for shellfish, avifauna and marine mammals. There is very limited reference to the climate emergency and the potential or actual impact on the proposal from climate change in any of the evidence presented. In the Interim CEA we noted that advancing the application to lodgement in early December 2021 would conveniently mean for Northport that they would be exempt from new requirements coming into effect on 31 December 2021 in relation to greenhouse gas emissions. Previously the RMA expressly prevented regional councils from considering effects on climate change when making rules or assessing consent applications relating to discharges of greenhouse gases. When these provisions were inserted into the RMA (back in 2004) such an approach was considered appropriate given the climate change policy settings in place at that time. Although the lodging of these consents was delayed until October 2022, unfortunately the 31 December 2021 deadline was pushed out and the new changes only came into effect on 30 November 2022. The RMA now allows regional councils, when considering a discharge permit or coastal permit, to consider the climate change effects of discharges into air of greenhouse gases (GHG). This could be considered to affect this application in several ways.

Firstly, there is the need to acknowledge that the receiving environment for any discharges is being increasingly impacted by global warming and therefore the potential for additional discharges to add to the cumulative stress on an ecosystem will be ever increasing. Given the speed of acceleration in climate effects, with the threshold of 1.5 degrees most likely crossed before the consent is actually activated in real time and 2 degrees crossed well within the operating lifetime of the infrastructure, it is the stress on the ecosystem in the future we need to be taking into account here.

For example; the climate emergency is predicted to have a measurable and increasing impact on the sea temperature, level and acidity of the harbour and its ecology within the projected lifetime of the consent, all compounding and accelerating the level of negative stress this ecosystem is functioning within and predicted to have increasingly negative effects on shellfish, avifauna and marine mammals. Increased transport activity associated with growth models projected, in particular large ships such as cruise liners and car carriers and increased large vehicular traffic, is likely to have an impact in regards the greatly increased air emissions from these modes. These cumulative activities will have an impact on GHG emissions that contribute to climate change.

We acknowledge the lack of clear direction from Wellington thus far creates a real problem for applicants, decision-makers and mana whenua and we would all appreciate clarity as to the bounds of the assessment, or how it is to be considered within a broader assessment under section 32 or 104. However, this does not mitigate the need to consider carefully what responding to the climate emergency means in real time as we plan a major inter-generational investment decision for our region.

The RMA changes also speak directly to the emissions deriving from the activity itself and the direct contributions they make to the climate emergency. This application is for a bigger port with increasing sectoral activity, potentially a large increase. Such activity inevitably means more land traffic for which NZ currently has no viable scalable zero emissions fuels or proven electric alternative to diesel trucks and greatly increased maritime traffic, for which there is no current global alternative to heavy fuel oil for large vessels. Such cumulative activities also have potential to impact humans regardless of their additional impact of contribution to global warming. It is disingenuous to claim that the increasing environmental and human exposure to emissions by greatly increased maritime traffic, particularly cruise liners and large international ships, is avoided by calling these normal allowable operating emissions of vessels operating under MARPOL, regardless of the fluctuating number of vessels.

Secondly, regardless of the RMA requirements, NZ action to meet the climate emergency in line with our international commitments, will require dramatic changes to most facets of our economy within the projected lifetime of these consents. The decisions made as a result of these applications will set the course of this piece of regional infrastructure for at least the next generation. Within this timeframe, a national move to a decarbonised economy, including an almost total overhaul of NZ's transport emissions profile is required. Yet the only reference in the evidence to these matters thus far is a possible consideration of an 8% modal shift in the landside transport logistics chain from heavy road to rail. There is, for example, no apparent consideration of what, if anything, the role of increased coastal trade might mean for the design of the port or what impact a regional or national shift to a more circular economy that greatly favoured exporting processed wood products over raw logs might mean for the projected future workload of the port. This expansion is being planned at a time when all major port operators worldwide are reviewing their development option in the context of climate mitigation and preparing to future proof their shoreside investments. However, the climate emergency does not appear to have be a consideration, let alone a driver, in either the design or the demand modelling behind this application. The application is predicated on the logic that a larger port is the best port, not on the question, is the best port for Northland a bigger port?

Thirdly, regardless of the RMA requirements at the time of lodgement, all public actors are now expected to fully consider their roles and responsibilities in response to the climate emergency. While Northport might argue that this is beyond its scope as a commercial entity, such questions are entirely applicable for a key shareholder, the Northland Regional Council. We are certain that as a good and long-term citizen of Whangārei Te Rerenga Parāoa, Northport and its shareholders will want to strive to do all possible to ensure that the port is both climate resilient to the greatest extent possible and fully designed to meet the future sustainable needs of a quickly decarbonising Te Taitokerau economy over the next generation. If this is correct, then it is very unfortunate that this statutory deadline to include consideration of the influences of the climate emergency will be avoided when it is an issue that Northport and all major infrastructure managers will need to address as a central factor in their future planning anyway.

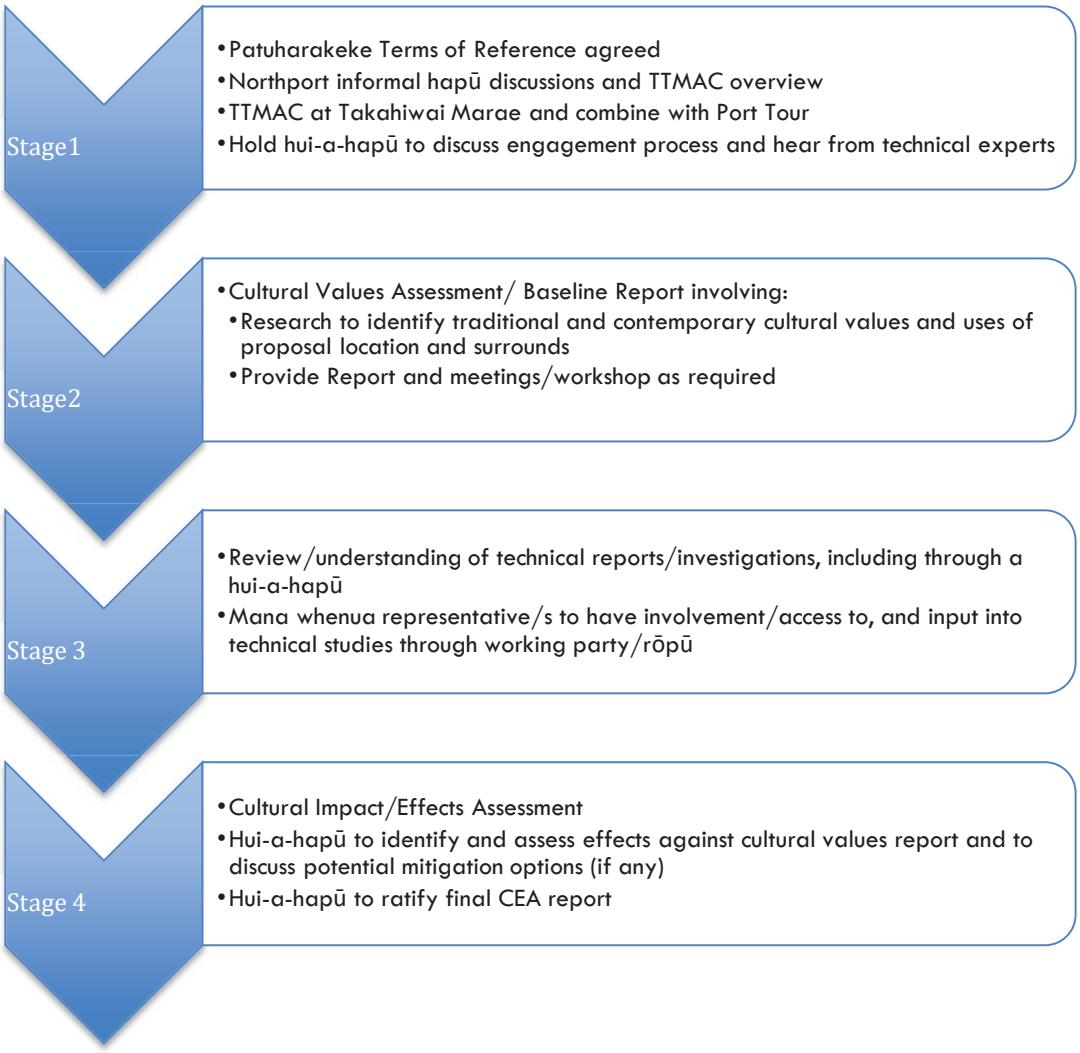
Patuharakeke have been witness to many changes to this environment over many years. The development record since the Poupouwhenua block was taken out of our ownership shows an uneven and chequered record, a boom/bust approach to heavy industrial development and a legacy of a degradation of the mauri of the harbour. We have seen the effects of the timber extraction industry, the pasture and drainage-based agricultural revolution, the limestone industry, the power industry and the refining industry. Each came with the promise of regional economic and employment stability and above all, endless growth. Each has left a detrimental legacy on the health of our harbour and our pataka kai. The climate emergency will eclipse all others and, as the Prime Minster has reminded us, will be the defining issue of our generation. We can longer afford to make mistakes in our future planning and as

such, it would be responsible to fully consider all impacts of the climate emergency in relation to this proposal.

2. CEA Process

As mentioned previously, Northport and PTB have an existing Relationship Agreement. Northport sought advice from PTB on hapū engagement in relation to their Vision For Growth (VFG) in 2018. The diagram below depicts the general process for PTB's engagement and the production of this CEA as agreed between the applicant and PTB.

Figure 1: CEA Process



This report should be read in conjunction with the Cultural Values Assessment completed in April 2020 and the Independent Technical Review of October 2021 attached in Appendix 1 and 2 respectively. Key findings of these reports are summarized in sections 4 and 6 below.

Cultural effects or values are often narrowly pigeon-holed as matters relating to wāhi tapu or heritage, however for Patuharakeke these are only a subset of values or effects associated with a place or activity. In light of the definition of sustainable development in the RMA covering people and communities' social, economic and cultural wellbeing as well as environmental bottom lines, PTB consider the implications of a proposal across all of these wellbeings for Patuharakeke hapū. A matrix methodology is used (see Appendix A) to flesh out matters such as historical, traditional and contemporary relationships, values and uses associated with the Refinery site and surrounds. The matrix is based on the key provisions in Part II of the RMA as follows:

- Recognition and provision for: the relationships between Māori, their culture AND their traditions AND ancestral land, water, sites, wāhi tapu and other taonga that might be affected by the proposal (as per s6(e) RMA);
- Recognition and provision for: the protection of protected customary rights (as per s6(g) RMA);
- Having particular regard to: the implications for the knowledge and practice of Kaitiakitanga by tangata whenua over their taonga of the proposal (as per s7(a) RMA);
- Taking into account: whether the principles of the Treaty of Waitangi are affected by the proposal (as per s8 RMA)[6].

The CVA along with the technical review of the documentation provided by Northport's consultants (and where available peer reviews from Northland Regional Council's independent experts), then goes on to inform the assessment of effects on Patuharakeke cultural values. Potential effects of Northport's proposal have been assessed within the framework of:

- The four-well-beings – environmental, economic, social and cultural values; and
- Effects[7] on the environment; and
- The Patuharakeke Hapū Environmental Management Plan 2014; and
- Patuharakeke Draft Hapū Strategic Plan focus areas, goals and measures.

The assessment framework also includes categorization of whether effects are positive or adverse, the level of significance of any effects and whether it is possible to avoid, remedy or mitigate, or alternatively, if offsetting or compensation is required. This matrix framework is attached in Appendix 3.

2.1 Information Sources

Review of the technical reports assisted in a broader understanding of potential constraints and impacts on cultural values identified. The reports reviewed are listed in the table below. We make the comment

[6] definitions of the principles of the Treaty given in "*Taking into Account the Principles of the Treaty of Waitangi: Ideas for Implementation of Section 8 of the RMA 1991*" (MfE)

[7] The meaning of effect includes
(a) any positive or adverse effect; and
(b) any temporary or permanent effect; and
(c) any past, present, or future effect; and
(d) any cumulative effect which arises over time or in combination with other effects— regardless of the scale, intensity, duration, or frequency of the effect, and also includes—
(e)any potential effect of high probability; and
(f)any potential effect of low probability which has a high potential impact.

that certain reports refer to earlier versions and it has been challenging to find information on either the Council's or Northport's VFG website (eg. Build Media before and after landscape/viewpoint simulations "BM Viewpoint 1-13" – are referred to in the landscape report as being attached in a separate booklet of images which does not appear to be attached, hydrodynamic modelling reports - the calibration report appears to relate to the Refinery capital dredging consent and is unable to be located).

Investigation/Technical Report[8]	**Organisation**	**Lead Author**
Air Quality 2021 Northport Proposed Eastern Expansion 2022	PDP	Jonathon Harland
Archaeology 2021 Updated 2022	Clough & Associates	Glen Farley
Hydraulic Modelling of the Coastal Waters 2021 Effects of Proposed Reclamation and Dredging Layout on Hydrodynamics 2022	MetOcean Services Limited	Brett Beamsley Berthot & Watson
Marine Ecology (excluding avifauna & marine mammals) 2021 Assessment of Marine Ecological Effects 2022 Peer review of Assessment of Ecological Effects 2022	4Sight Coast & Catchment Cawthron Institute	Mark Poynter Shane Kelly & Carina Sim-Smith Ross Sneddon
Vision for Growth Port Development: Coastal Process Assessment Version 1 (2021) Version 2 (2022)	Tonkin & Taylor	Richard Reinen-Hamill
Avifauna Ecology 2021 Northport Eastern Expansion Coastal Avifauna Assessment 2022	Boffa Miskell	Leigh Bull
Marine Mammals Potential Effects of the Proposed Northport Reclamation on Marine Mammals in the Whangārei Harbour Region 2022	Cawthron Institute	Deanna Clement
Recreation Effects Assessment 2021 Final 2022	Greenaway & Associates	Rob Greenaway
Acoustics 2021 Noise Assessment 2022 Assessment of Underwater Noise Effects 2022	Marshall Day Styles Group	B Lawrence Matt Pine
Transport/Traffic Impact Assessment 2021 Final Version 2022	WSP	Parvez Sheikh

[8] For 2021 reports - unless otherwise stated refers to both western and eastern reports

Investigation/Technical Report[8]	Organisation	Lead Author
Natural Character, Landscape & Visual Amenity 2021 Assessment Of Landscape, Natural Character & Amenity Effects 2022	Brown NZ Limited	Stephen Brown
Economics 2021	Brown, Copeland & Co Ltd	Brian Copeland
Economics (Eastern) 2021 and updated July 2022	M.E	Rodney Yeoman
Assessment of Effects (AEE)	Reyburn and Bryant	Brett Hood
Options Evaluation 2021 Issues and Options Report 2022	Northport	Northport
Draft Management Plans[9]	Enviser	Enviser
NRC Peer reviews/other		
Avifauna Ecology	Beca	Claire Webb
Marine Benthic Ecology	NIWA	Drew Lohrer
Transport	Beca	Dan Jackson
Hydrodynamic, morphology and sediment transport modelling	NIWA	Christo Rautenbach
Economics	NZIER	Peter Clough
Air Quality	NIWA	Suzanne Cawood
Landscape, natural character and amenity effects	Littoralis	Mike Farrow
Underwater Acoustics	SLR	Binghui Li
Terrestrial Acoustics	SLR	Peter Runcie

Table 1: Table of Investigations Reviewed

Patuharakeke was a party and a submitter to previous consent application processes in the 1990's that led to the construction of the current port infrastructure that this proposal now seeks consents to expand further. Those processes found that there was potential for significant adverse cultural impacts arising from the activity and a package of mitigating measures was put in place to address these, including the resourcing over time of a Kaitiaki Rōpū to assist in rebuilding the capacity of the harbour's kaitiaki to engage practically in the future resource management of the natural and physical resources of this locality. Patuharakeke and other kaitiaki of the harbour have long been critical of the monitoring and effectiveness of this measure. We are unaware of any assessment offered in this proposal of the effectiveness or otherwise of this package, a single passing reference to the measures not having lived up to expectation aside. As it is anticipated a further package of measures in regard this proposal may be proposed, in our Interim CEA we strongly recommended that an independent assessment of the monitoring of previous consent conditions (e.g. condition 11) be undertaken **prior** to lodgement of the application. We are not aware of such an assessment having taken place. Alternatively, if the application is accepted without such information, we will assume that the relevant consent authorities already have such information available to them to assess the adequateness of the application.

In related work, between 2014-2017 extensive work was undertaken by PTB and in collaboration with a range of whānaunga hapū and iwi of Whangārei Te Rerenga Parāoa to provide cultural advice to Refining NZ and the relevant consent authorities in response to a proposal to deepen the shipping channel at the entrance to the Whangārei Harbour (other CEA's addressing similar issues have also been produced since e.g. Refinery Reconsenting 2020, Marsden Cove Marina reconsenting 2020). A CVA was undertaken in the course of that process that involved a series of hui-a-hapū where the matrix methodology as described above was used. The cultural values identified in the Refining NZ Dredging CVA/CEA overlap with the

[9] Provided by NRC in 2021

current application, and contribute to this assessment. The CEA process was further informed by an independent review of the consultant reports listed above and a review of additional documents including:

- Northport Crude Freight Proposal – Tangata Whenua o Whangārei Te Rerenga Parāoa Cultural Effects Assessment and other various CEA's produced by PTB
- Northland Port Corp Hearing Evidence from 1997 from various mana whenua submitters
- Patuharakeke Briefs of Evidence to the Waitangi Tribunal: Te Paparahi o te Raki District Inquiry (October 2013 and February 2016)
- PTB MACA evidence
- PTB Customary Fisheries documentation
- Interviews with Kaumatua and other whānau members
- Unpublished Historical Reports prepared by Harry Midwood of Patuharakeke

2.2 List of Hui

The CEA was also informed by hui-a-hapū resourced and attended by Northport and a number of their consultants, a series of Working Party/Rōpū technicians workshops facilitated by Jason Cooper who was contracted by Northport to do so, and ongoing internal PTB hui and hui-a-hapū and meetings with other iwi eg. Ngātiwai Trust Board as set out below:

- Nga Hapū Whaipānga ki Whangarei Te Rerenga Parāoa Hui - 26th November 2020 held at Takahiwai Marae and facilitated by Jason Cooper
- Working Party/Rōpū technicians hui[10] 5th and 24th March 2021, 26th August, 2nd September, 8th October 2021
- Hui-a hapū Saturday 15th May 2021, Barge Park
- PTB Zoom hui 26 July and hui with kahui kaumatua 26th July 2021 (Luana Pirihi's whare)
- Updates at PTB monthly board meeting July 19th, September 15th, October 15th 2021
- Presentation and ratification of findings at Hui-a-hapū (special meeting) PTB AGM 31July 2022
- Meeting with Aperahama Edwards and Huhana Lyndon November, 2021 (Ngātiwai Trust Board), 30th November 2022

3. Description of the Proposal

The main activities to be consented are set out in s 3.1 of the draft Assessment of Effects' (AEE). The eastern extension comprises a reclamation of around 13.8 ha mainly in the CMA with approximately 2 ha occurring within the esplanade reserve. It will extend the wharf an additional 250m eastward for Berth 5 from the already consented Berth 4 extension. Capital and associated maintenance dredging is proposed to enlarge and deepen the existing swing basin, and to enable construction of the extended wharf and tug

[10] Facilitated by Jason Cooper, attendees on most occasions included Juliane Chetham (PTB) Alyx Pivac (Ngātiwai Trust Board), Marina Fletcher, Mere Kepa, Mira Norris (Te Parawhau), Marama Muru Lanning (Sir James Henare Research Centre), Catherine Murupenga-Ikenn (Te Rarawa, Ngāti Kuri/ United Nations Office of the High Commissioner for Human Rights, Indigenous fellow).

berthing facility. Other aspects of the application include stormwater treatment, port side related activity, lighting, construction of a new tug facility, pontoon and bird roosting habitat .

Overall, the resource consent applications lodged by Northport are assumed to be assessed as a discretionary activity, pursuant to both the operative and proposed regional plans. Northport seeks a 35-year term of consent, considering this term to be reasonable and in accordance with Part 2 of the RMA, noting the significant level of investment made, the ongoing level of investment security and flexibility it would provide and in recognition of Northport's good management practices.

Figure 2: "Vision for Growth" photomontage from Northport Website.

3.1 The Existing Environment

We mention existing environment here because in our discussion of baselines from a cultural perspective at hui held for this project, we have constantly been reminded by the applicant's team about "the existing environment" and what they consider is within scope of assessment. PTB always conduct our cultural assessments on the basis of effects as defined in section 3 RMA. **"Ka mua, ka muri"** (often translated as "walking backwards into the future") is a widely known whakatauki that accurately reflects the way we consider kaupapa eg. we should look to the past to inform the future. In our experience, and likewise for this application, past and cumulative effects of the port and other developments at Poupouwhenua do not appear to form part of the planning equation. Patuharakeke are hopeful that the RMA reforms will start to see a shift away from what the Randerson Report called "status quo bias, the report states;

> *"The resource management system has long favoured existing uses and consented activities, protecting them from changes in plans, rules and standards designed to promote better environmental outcomes and to effect change for the benefit of communities. The range of protections of this kind in the system is pervasive with the result that the ability to respond to*

urban growth and the environmental challenges and opportunities we face is seriously impaired."[11]

We also note that the unimplemented Refining NZ (now CINZ) capital dredging consent is highly unlikely to be implemented given the end to refining processes at the refinery. It is doubtful that the Suezmax tankers designed for the transportation of large quantities of crude oil that required the design of a deeper channel will now be required for the terminal operation. In the effects discussion more detail is provided on how existing environment baselines continues to provide a mechanism for the minimising of cultural effects in favour of more of the same.

4. Cultural Values Assessment

The staged approach for this CEA saw preparation of a Cultural Values Assessment (CVA) in 2020 (refer to Appendix 1 of this report). The CVA analysis finds its basis in relevant RMA sections 6(e), 6(g), 7(a) and 8 of the RMA. Specifically, it identifies Patuharakeke relationships to the Northport site and environs, the implications for the knowledge and practice of Kaitiakitanga in relation to the proposal, and matters that have potential to affect the principles of the Treaty of Waitangi.

In its synthesis of information and korero gathered from hui and a number of documented sources, the CVA highlights how Whangārei Te Rerenga Parāoa was known to Patuharakeke and other Whangarei tribes as a bountiful and rich food basket or 'pataka kai'. The mahinga mātaitai, wāhi tapu, and cultural landscapes remain of utmost significance today. Their use still revolves around maintaining customary practices and feeding whānau, hapū 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, subsequent mismanagement, pollution, industrialisation and overfishing. Consequently, today's kaitiaki seek increased control over the management of these places and resources. The key focus is to prevent further diminishing of the mauri or life force of the harbour and to enhance and restore the important māhinga mataitai that remain.

The CVA explained how, in terms of any adverse effects as a result of the port expansion, it is mana whenua who have, and will continue to bear ultimate responsibility and impact for the effects on our environment and will once again lose access to more of the traditional takutai moana. Recommendations included that Northport provide a continued role for PTB throughout the scoping and undertaking of any further technical studies required throughout the consenting stages of project and that Northport engage with our whānaunga hapū and iwi with interests in the harbour. Further specific recommendations included;

a. further landscape assessment from additional viewpoints, this was undertaken by Stephen Brown/Build Media;
b. discussions regarding landscape mitigation concepts – we note the "pocket park" concept has now been proposed was developed without our input (this is discussed further below);
c. kaitiaki participation in any marine mammal and avifauna surveys/assessments – no marine mammal surveys were undertaken, however members of our Taiao team/whanau did participate in the Korora survey/s of the revetment and the setting out of hydrophones;
d. support for further longitudinal studies on the geomorphology and shellfish populations of Patangarahi Snake Bank – through our Relationship Agreement initiatives, Northport have agreed to fund an PTB Taiao Unit led baseline survey of the cultural health of Patangarahi next year, however PTB are clear this work relates to past and current impacts of the Port and other stressors on Snake Bank and should not be considered mitigation for the subject application;

[11] See https://environment.govt.nz/assets/Publications/Files/rm-panel-review-report-web.pdf pp156

e. investigation of use of an holistic economic modelling approach that takes cultural values into account –Northport and its consultants have not discussed this recommendation with us.

5. Options Evaluation Report

PTB were critical of Northport providing a copy of an "Options Evaluation Report" to review on 15 October 2021 which was prepared post design. The report provides historical background to Northport and contained a Multi Criteria Analysis (MCA) for the western and eastern proposals. There were no cultural criteria included in the MCA. tables. Patuharakeke have previously been involved in MCA processes for large projects, notably the Refining NZ capital dredging proposal and Waka Kotahi/NZTA's Port Marsden Highway to Whangārei 4-laning project. In those examples, hapū representatives sat alongside other technical experts and participated in the scoring process and the MCA exercise was completed many months prior to finalisation of the design. The MCA undertaken includes consideration of effects on subtidal and intertidal ecology, avifauna, marine mammals and amenity. Apart from structural matters, other considerations appear to be primarily business or operational. For reasons we will explain later in this report, we generally do not concur with the conclusions of the ecological reports and consider this scoring likely to be downplayed. Ecological effects are interlinked with cultural effects, eg. on kaitiakitanga, whakapapa and harvest of kaimoana for example. However, other key effects on Patuharakeke culture and Treaty Rights arising from the reclamation itself, ie the alienation of yet more ancestral whenua (in this case papamoana or takutai moana) and extinguishment of acknowledgement and redress in relation to these rights either through a Waitangi Tribunal finding (eg. Stage 2 Report Paparahi o Te Raki[12]or through recognition of Customary Marine Title and/or Protected Customary Rights under the MACA are absent from the alternatives evaluation.

The AEE now lodged with the application includes an Evaluation of Alternatives which appends an updated "Issues and Options Report" (Application material Appendix 2). This report now contains no MCA and remains focused on business and operational arguments as to the rationale for the proposed expansion. We remain of the view that this assessment is deficient in terms of an alternatives assessment and is unable to be relied upon for RMA decision-making.

We take this opportunity to also comment on a paper titled "Northport: the case for expansion - the social, economic and strategic benefits"[13], on Northport's VFG website. It appears to be aimed at garnering support for the proposal through the submission process. It includes a section on Mana whenua which to our knowledge was done without any consultation with mana whenua. It refers to August 2021 newspaper quotes from PTB and Ngātiwai Trust Board spokespeople voicing concerns about impacts of job losses on whānau at the Refinery as a result of the transition to a terminal. These are taken out of context and imply that mana whenua would or should support the proposed expansion. There is no mention of the findings of the CVA or interim CEA in the document and it has the potential to be misleading.

6. Independent Technical Review

PTB contracted an independent consultant to undertake a technical review of the application and the supporting evidence available in 2021. The review undertaken by Dr Nuttall is located in Appendix 2. The review raised numerous questions and identified a number of shortcomings in the evidence provided. It does not assess the revised reports accompanying the lodged application and therefore covers the

[12] https://waitangitribunal.govt.nz/inquiries/district-inquiries/te-paparahi-o-te-raki-northland/
[13] https://visionforgrowth.co.nz/resources/documents/The-case-for-expansion.pdf

proposed western reclamation which is not subject of the current application. Many of his comments remain relevant however, and are discussed below in relation to specific effects on Patuharakeke that have been identified.

7. Effects on Patuharakeke 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 wellbeings 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 Poupouwhenua have impacted on the culture and values of Patuharakeke. This collective experience and memory informs the view of the hapū in relation to any proposed activity. Korero from interviews and hui (listed above) has also informed the effects assessment. Further analysis against the framework of the HEMP[14] and our Draft Hapū Strategic Plan[15] is included. The Hapū Strategic Plan categorises the four wellbeings into further subsets, and identifies strategic pou or pillars that will underpin the plan. These are:

- Pou Hauora – Whānau health
- Pou Taiao – Environmental
- Pou Whaioranga – Economic
- Pou Ahurea - Culture
- Pou Mātauranga - Educational
- Pou Tai Tamariki-tanga – Succession

A Matrix methodology (Appendix 3) was employed for the effects assessment exercise and also identifies appropriate HEMP methods and strategic pou goals that can address effects where mitigation is considered necessary. These matters are discussed further in section 6.

7.1 General Comments

A broad suite of reports have been prepared and these are reviewed as below. Five common shortcomings were identified as generic to many of the reports:

a. Temporal baselines, where referred to, were generally short-term and recent - at best incorporating no more than two or three decades of data. The ecology related reports in particular are contextualised with reference to change only over recent time.
b. Geographical baselines considered were generally tightly constrained to the immediate location of the activity and not properly placed in their context within the harbour catchment.
c. Identification of effects are constrained to those created by the landside activities proposed to be enabled and generally only the construction activity phase of these. Actual or potential effects from increased maritime activity enabled by the proposal are not considered.

[14] https://patuharakeke.s3.ap-southeast-2.amazonaws.com/public/website-downloads/Patuharakeke-Hapu-Environmental-Management-Plan-December-2014.pdf?vid=3

[15] prepared through a series of hui-a-hapū in 2019-2020

d. The effects from the proposed activities of this specific proposal are not generally contextualised in relation to other activities in this locality and therefore potential for effects from this activity to be cumulative with others in the same locale is not fully considered.
e. The impact on both the proposed infrastructure and the surrounding hinterland of the increasing effects of the climate emergency (increasing sea levels, acidification, sea temperature, increased intensity of future weather events, etc) have not been taken into consideration. The term 'climate change' does not appear in most reports. This is most concerning in reference to the ecological and economic reports which are entirely mute and agnostic on this point, whereas fast accelerating adverse trends over time are projected by most science, including over the proposed lifetime of the consents.

7.2 Environmental Effects

7.2.1 Ecological Effects

Patuharakeke have a number of concerns with the conclusions reached in the various ecological assessments prepared by Northport's consultants. These mainly relate to the narrow temporal baselines assessed/employed /and the definition of existing environment. We remain concerned that this application acts from the assumption that the current receiving environment for the proposal is in an overall 'healthy' condition, that the current ecological baseline is static and not situated in an overall declining historic trend and there is no acknowledgement that the pressures on this environment can be expected to continue to negatively increase as both development pressure and the effects of the climate emergency build over time. This only increases our concerns to the manner in which adverse effects are watered down when placed in the context of the wider harbour. We have not commented on them in great detail here but the narrow scope seems to preclude the consideration of the effects that operation of an expanded port will have, such as increased marine biosecurity and oil spill risks, as a result of greatly increased shipping traffic. These potential effects present significant risk to cultural values such as the mauri of our mātaitai.

It needs to be acknowledged from the outset that all cultural monitoring indicators or tohu associated with Poupouwhenua are in decline, some much more marked than others. Kutai, kōkota, tuatua, hūai – for which we were once famed and were once abundant in this locality - are now largely absent from the tables of our wharekai. As hau kainga we are no longer able to manaaki our manuhiri with the sustainable harvest of our own marine resources, an indictment on our ability to practice kaitiakitanga in line with our management aspirations for our rohe moana. Given this, we cannot concur with the expert findings which point to a variety of similar habitat and species being available elsewhere in the harbour including significant numbers of cockle and pipi.

Looking to the future, the lack of expert discussion over the expected changes to this ecology over the projected lifetime of the consent are of particular concern. Patuharakeke is watching the growing climate emergency with increasing alarm. We note the latest science from the International Governmental Panel on Climate Change (IPCC), United Nations Environment Programme (UNEP) and others that we are currently on a track for global warming of 2.7 degrees celsius by the end of this century and that regional variations mean the likely local impact on parameters such as ocean temperature and acidity could well be significantly higher.

These ecological changes are likely to be of an unprecedented scale, this is after all completely new territory for any of us. What this will mean for the ecology of the harbour is uncertain, but we have to assume that it will result in changes and challenges for many of the subjects of evidence to this application

– shellfish, wafer quality, avifauna and marine mammals being prime examples. However, the evidence examined is largely silent on these matters. For us as ahi kā and tāngata tiaki, numerous questions arise. At what level of ocean acidification is shellfish spawning and recruitment affected? Will a further sea temperature increase of 1 degree affect the ability of kororā to feed their chicks? 2 degrees? Will it affect the migration of birds that currently roost at Poupouwhenua? Will increasing ocean warming mean that Parāoa, come closer to shore in search of kai, strand in distress, or will they be pushed further away from our shores?

Marine ecology

In his peer review for NRC, Drew Lohrer states;

> "*Poynter seems to argue that there is plenty of similarly diverse habitat near the Whangarei Harbour entrance and therefore there will be no overarching impact to permanently destroying some of it. I strongly disagree with this statement for two reasons. First, I think the Whangarei Harbour / Bream Bay entrance area is relatively unique in New Zealand; few other harbours navigable to large vessels have an estuarine mouth channel with diverse shell-armoured sediments, very clear water, and high abundances of birds, rays and marine mammals using both subtidal and intertidal habitats. Second, the assumption that there is 'plenty' of similarly biodiverse habitat in the areas is likely faulty. The area of habitat that will be permanently eliminated under the proposed plan currently supports high biodiversity and contributes to the overall functioning of the system ("an integral part of, and contributor to, the wider harbour and local coastal ecology and marine food web"). Moreover, the 'parts' of the broader ecosystem that will be eliminated may be disproportionally important relative to their area. Thus their losses could have unexpectedly adverse impacts*."

Patuharakeke also disagree with this "system-wide approach" taken by the applicant's consultants and espoused in the AEE (e.g. pg. 10) as responding to Policy D2.18(5) being used to dilute direct and cumulative adverse effects so they are "less than significant when considered at this scale. The AEE provides little in the way of assessment of other integral policies such as D2.18(1) a & b that are specific to the coastal environment and require avoidance of adverse effects on indigenous taxa that are listed as Threatened or At Risk (in this case avifauna), habitats assessed as significant using the assessment criteria in Appendix 5 of the Regional Policy Statement; and avoiding of significant adverse effects and avoiding, remedying or mitigating other adverse effects on areas of predominantly indigenous vegetation, habitats of indigenous species that are important for recreational, commercial, traditional or cultural purposes, and indigenous ecosystems and habitats that are particularly vulnerable to modification – such as eelgrass and spawning and nursery areas.

From a mana whenua perspective, Whangārei Te Rerenga Parāoa is always considered holistically, but not in a way that compares to the technical assessments undertaken for the applicant. For Patuharakeke, the harbour is a living entity. One would not suggest that amputating a foot is a minor procedure because the remaining body parts and organs remain intact. Moreover, if the person in this analogy was diseased and malnourished, a surgeon would be unlikely to recommend the operation proceed. No hapū and iwi of Whangārei Te Rerenga Parāoa consider any part of it to be in a healthy state.

The state of the harbour has been a consistent concern reiterated by mana whenua in previous resource consent processes, in evidence before the Waitangi Tribunal, in regional policy and plan hearings processes and the like.[16] Iwi and hapū submitters explained at the initial port hearings that pipi and kōkota

[16] e.g. see section 15, page 41 Te Paparahi o Te Raki (Wai 1040) Regional Inquiry Tribunal Statement of Issues for Stage 2; https://waitangitribunal.govt.nz/assets/Documents/Publications/wt-te-paparahi-o-te-raki-statement-of-issues-stage-2.pdf

beds were going to be obliterated by the reclamation. We had hoped these would return to the west of the existing reclamation but as evidenced by the surveys supporting the application these beds have never re-established to a point that would support customary or recreational harvest. The decline of the Poupouwhenua mahinga mātaitai (Mair and Marsden Banks) east of the eastern reclamation and our ongoing efforts to protect it by way of legislative closure or rāhui has been well documented. The questions we raised at the Refinery capital dredging hearings about the effect of reclamation and dredging impacts on shellfish spat dispersal and settlement are yet to be answered, although we note that Drew Lohrer's comments[17] support this concern.

> *"The hugely productive adult pipi beds once present on Mair and Marsden banks have dwindled, changes in along-shore currents following the construction of Northport may have blocked the secondary transport of juvenile pipis and contributed to their population declines on the banks. I am concerned both by the loss of potential pipi settlement habitat in intertidal areas to the east and west of Northport due to reclamation, and by the more acute angle of the proposed western revetment (Figure 2-6), which I believe will trap post-settled juvenile and adult pipi even more effectively than the current structure does."*

Patuharakeke are ahi kā responsible for kaitiakitanga in the portion of the harbour subject to the permanent loss of habitat. We have spoken at length in previous CEA's about intergenerational impacts on mana, mātauranga and tikanga. This is another example of erosion of those values and practices. Essentially, Northport's ecologists are suggesting that our whānaunga hapū around the harbour will uphold these values on our behalf, that their rohe moana will provide refuge, food and mates for our displaced taonga species.

As mentioned, our evidence before the Waitangi Tribunal, successive CIA's, submissions, our HEMP and Rohe Moana Management activities (under the Fisheries Act) has consistently maintained that the ecological values of the harbour are severely degraded and at tipping point. Contrary to the project ecologist's findings, from a cultural perspective, the lack of keystone taonga species such as pipi/ kōkota, and hūai/cockles, in either harvestable amounts and/or sizes, clearly demonstrates an ailing ecosystem and diminished mauri. The assessments by 4sight and Coast and Catchment fail to recognise the special nature of this site and ecological sequences, connectivity and the fact that this area to be reclaimed is a scarce remnant of what was once there. Poupouwhenua Mātaitai (Mair/Marsden Banks) has been subject to a combination of customary rāhui and S186A (Fisheries Act) closures for a decade and is yet to recover. Commercial hūai harvest on Patangarahi (Snake Bank) also ceased a decade ago. Our recent surveys in conjunction with NIWA as described in the CVA highlight that while there are reasonable abundances at Patangarahi, very few individuals were of harvestable size. The hūai at Patangarahi were formerly the largest in the harbour.

In 2021 a second rohe moana was gazetted in the Whangārei Harbour adjoining our existing one and essentially "shoring up" the entire harbour.[18] At the same time Ngāti Tu, NIWA, NRC, Fisheries NZ and Patuharakeke, met to discuss the plight of the tipa/scallop fishery nationwide and the mounting pressure on Whangārei and Bream Bay, in particular remaining Urquharts Bay stocks as a result of collapse in Pēwhairangi (Bay of Islands) and rāhui in East Coromandel and Whangaroa. The once plentiful tipa beds around Takahiwai and One Tree Point are virtually gone, pockets remain between Patangarahi and McDonald Bank and near Parua Bay, but Urquharts until recently was still in a relatively healthy state despite being subject to increasing harvest pressure every season. Our rohe moana committees supported

[17] See section 3.1.4 Northport Ltd expansion proposal: Review of marine benthic ecology effects assessment Prepared for Northland Regional Council. June 2021

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

either part or all of the Whangārei Harbour scallop fishery to be closed in order to preserve this bed as a form of ūkaipō (nursery). These species are not only taonga because they are important kaimoana species, but because of their role in the whakapapa – Te Tini ā Tangaroa, providing food and habitat functions for myriad other species. This impacts on mauri and has flow on effects on kaitiakitanga. Since drafting the Interim CEA last year, Northland's scallop fishery has been closed to commercial and recreational take by Minister Parker under s11 of the Fisheries Act in the face of a serious decline and to allow them to recover.[19] The closure came into effect in April 2022 and is indefinite. Customary harvest is still provided for, however in recognition of the ongoing decline of this taonga in recent years, Patuharakeke's Rohe Moana Committee have not been issuing customary permits (for this and a range of other species) for a number of years. We note that Cawthron Institute has provided a peer review letter (Application Appendix 12, pg. 2), disagreeing with the recommendation by Coast and Catchment to relocate scallops from the project footprint. The reviewer makes this assessment based on the patchy distribution of scallops and believes it to be unwarranted due to the fact that scallops are actively targeted for recreational take within the harbour and occur in likely greater densities across large expanses of the lower harbour outside the potentially affected zone. The peer review by Cawthron is dated October 2022 and PTB can put little weight on it because the author appears to be ignorant of or unconcerned by, the current state of scallops in Whangārei Harbour including the closure.

The proposed western (no longer part of this current application) and eastern reclamations and dredging of the turning basin results in what one kuia referred to as the "reconstructing of Whangārei Te Rerenga Parāoa" (Mere Kepa, pers comm., 2 September 2021). This has obvious impacts as to what this means from a cultural landscape perspective. Effects identified from an ecological perspective, include the modification of Patangarahi (the ongoing erosion of the toe of Snake Bank) has the potential for adverse effects on the hūai population. The importance of hūai on Snake Bank is considerably elevated due to the decrease in edible sized cockle beds in Marsden Bay and One Tree Point, which we have seen decline steadily post construction of Northport and Marsden Cove Marina.

The reclamation and dredging will result in significant adverse effects by way of destruction of the benthic community and permanent loss of habitat and food source for taonga species including fish, marine mammals and birds. Re-establishing seagrass beds and macroalgal beds will be smothered. Seagrass is an important nursery habitat for taonga species such as juvenile snapper and the benefits of benthic habitat (including seagrass meadows and the sediment itself) for carbon sequestration is just being realised but the rate of carbon sequestration is estimated at up to 100 times faster in coastal vegetation than in terrestrial forests.[20] Patuharakeke are currently participating in an MBIE funded case study with NIWA looking at carbon sequestration via Aotearoa's estuarine environments which involves case studies including in Whangārei Te Rerenga Parāoa.

The creation of new rock revetments are seen as positive for reef habitat; *"Given that: the existing revetment is an artificial construction; recovery will gradually occur; and more habitat will be created than lost; the effect*

[19] see https://gazette.govt.nz/notice/id/2022-go1122;
https://www.mpi.govt.nz/dmsdocument/49072-Review-of-sustainability-measures-for-scallop-SCA-1-and-SCA-CS-for-2022
https://www.nzherald.co.nz/northern-advocate/news/recreational-and-commercial-scallop-fishing-closed-in-northland/URQU6AHOWDEMJNTSV72NGEWKY4/

[20] https://niwa.co.nz/news/muddy-sinks

of reclamation on reef habitat and biota is assessed as positive in the medium to long term at all scales" (Coast & Catchment, pg.10). This does not take into account the fact that invasive species such as Mediterranean fanworm (first discovered in Aotearoa in 2008) have proliferated in the nearby Marsden Cove Marina since the original revetment structure was created and colonised primarily by native species (fanworm were recorded in earlier 4sight surveys on the Port revetment). The new and larger revetment will create prime real estate for colonisation by fanworm[21] and increase the risk of it becoming established at Reotahi / Motukaroro Marine Reserve.

The importance of what remains and our ability to restore it is heightened due to the effects of the climate crisis that we are already seeing now, with rising sea temperatures contributing to diseases and die offs, storm damage affecting habitats, acidification and coastal squeeze. As per Dr Nuttall's review, these future effects have not been canvassed by Northport's experts.

Avifauna

As described previously, manu, like other taonga species are precious to Patuharakeke for a variety of reasons. They are often considered kaitiaki in their own right - in the traditional sense of the word, e.g. Kuaka (godwits) as described in the CVA and of course the Tūkaiaia pūrākau is central to Ngātiwai tradition and cultural identity. Shore and seabirds in particular are strongly associated to mātauranga Māori, particularly the maramataka as seasonal tohu and indicators of cultural health or mauri. The Refinery capital dredging CEA featured this quote from a hui-ā-hapū attendee; "*I whakapapa to the stingray and penguin*" which continues to illustrate our relationship with all taonga species.

In regard to effects on avifauna, a range of our concerns are covered in paragraphs 39-45 of Dr Nuttall's review. Notwithstanding the findings of the updated avifauna report from Boffa Miskell, our concerns remain. Mitigation has now been proposed to address effects on variable oystercatcher and NZ dotterel in particular. We discuss the proposed mitigation further below.

While these manu species are generally in decline as evidenced by their threat status, shore and wading bird communities have endured in this location in spite of] industrial development. In fact, the presence of these complexes, e.g. the port and refinery, in conjunction with wildlife refuges and the physical characteristics of the southern entrance to Whangārei Te Rerenga Parāoa, creates in our view a unique habitat for shorebirds (within the context of the harbour). This is because sections of the area are off limits to dogs and human activity typically associated with residential activities does not occur. Unlike the situation on the eastern Bream Bay Coast, this stretch of beach is not subject to disturbance by motorbikes and other vehicles which are restricted by the presence of existing structures such as the port and refinery jetty and the port zone and associated regulations. Parts of the port and refinery landward holdings (eg. Refinery/ CINZ stormwater basin and Marsden Maritime Holdings paddocks) support dotterels, red billed gulls and other significant and at risk taonga species.

We asked a question of Ms Bull at the May 2021 hui-ā-hapū regarding the potential displacement effects should a shifted population of shore birds relocate into adjacent areas with existing populations. Her reply was that surrounding populations are not at carrying capacity so any displaced birds can be absorbed. As mana whenua mana moana knowing our harbour intimately, we do not agree that there is a wealth of other similar habitat nearby that these birds can merely shift to. Marsden Cove and One Tree Point are highly modified residential areas prone to high disturbance through people, unregulated access for cats

[21] See for example https://www.marinebiosecurity.org.nz/sabella-spallanzanii/ and https://www.nrc.govt.nz/our-northland/story/?id=71879#:~:text=They%20can%20be%20found%20in,harbours%20including%20Whang%C4%81rei%20in%20Northland.

and dogs, municipal stormwater discharges, and high recreational boat, jetski and other traffic. The coarser sands and deep channel Drew Lohrer refers to as the "outer Whangarei Harbour System" and surrounding land uses is distinctly different from Marsden Cove and One Tree Point. The latest avifauna assessment now acknowledges this stating *"The overall Moderate level of effect from permanent habitat loss on New Zealand dotterel and variable oystercatcher is associated with the permanent loss of high tide habitat the proportion of the local populations utilising the high tide roost area, and the relative scarcity of such habitat in the wider Whangarei Harbour"* (pg. 51). The survey results, as shown in Figures 5, 7, 10 and 13 of the report for example, demonstrate to us that our taonga species prefer habitat either in or in close proximity to the proposal area, outnumbering birds in the expanded survey locations (eg. One Tree Point) in both species' diversity and abundance. Like our tupuna before us who treasured Poupouwhenua as a nohoanga and mātaitai rich in kaimoana and manu species, these birds rely on this extremely special location that has qualities and characteristics that cannot be found or replicated elsewhere in the harbour.

The mapped Proposed Regional Plan (pRP) Significant Bird Areas (SBA's) are illustrated in the Draft AEE and we note that they coincide with the formerly proposed western reclamation, however on the eastern side this overlay only covers Poupouwhenua Mātaitai (Mair and Marsden Banks). Notwithstanding some of the limitations of the bird survey work, the surveys demonstrate what mana whenua already knew, that birds don't recognise lines on maps and are distributed throughout the port area and proposed expansion on both sides. The pRP rules relating to mapped Significant Ecological Areas (SEA) (as well as SBA and Significant Marine Mammal and Sea Bird Areas (SMMSB) are currently under appeal however we understand the maps are resolved as they are currently mapped. There was also an appeal seeking that SEA, SBA and any areas that meets assessment criteria of Appendix 5 of the RPS are all treated the same under the coastal rules although we are unsure of the outcome of that appeal at present. In our view, the entire proposal site meets the Appendix 5 RPS criteria for significance.

We are not convinced by the use of harbour wide population estimates for manu including threatened and at risk species which appears to downplay the potential level of effect on avifauna to moderate at most for only two species. Data constraints and limitations to the population estimates (pg 7) are acknowledged by Boffa Miskell and they conclude that *"the direct effect of permanent habitat loss associated with the eastern reclamation cannot be avoided, nor remedied or mitigated" due to the nature of the activity (reclamation) which will permanently remove all existing habitat beneath the proposed project footprint"* (pg 49).

The assessment then suggests the loss of this high tide habitat, particularly for variable oystercatcher and dotterel is deemed a "moderate" effect and offers mitigation by way of a constructed sandbank to provide high tide roosting habitat on the western side of the port. Dr Bull considers the creation and maintenance of this roost will alleviate the level of effect to low for these two species. Mr Reinen-Hamill, in his coastal processes assessment (pg. 4) describes it as mitigation for the area of around 20,800m2 of high tide beach lost due to the eastern reclamation. The design features are set out in Dr Bull's report (pg. 68) and include an initial footprint of approximately 4,573 m2 and an area of approximately 2,703 m2 above MHWS; a crest RL of 3.4 m above chart datum, providing approximately 0.6 m above MHWS; and a final crest area of approximately 120m x 10m.

Without debating the merits of the high tide roost proposal (PTB have not been consulted or had any input into the design) we are confused by the basic numbers. How can an area of about two thousand square metres come close to mitigating the loss of 20,800m2? We are confused by statements like the effects of the reclamation cannot be avoided, remedied or mitigated on one hand, and then a wholly inadequate area of artificially created habitat then being offered as mitigation on the other. This does not correspond to the continuum of the effects management hierarchy, and even if we were getting into an offsetting conversation, which Boffa Miskell seem to think we don't need to, this proposal would certainly not achieve a no-net loss situation. There is nothing in the updated Avifauna assessment that has caused us to reconsider the position put forward in the interim CEA with respect to effects on our manu.

Marine Mammals

The CVA outlined the importance of the presence of whale and dolphin species in Whangārei Te Rerenga Parāoa as a tohu or indicator species of ecological health and mauri that is interconnected to the cultural health and wellbeing of the environment and mana whenua. As well as whales being kaitiaki in the true sense of the word, their presence is also a measure of our ongoing duties as tangata tiaki in striving to protect and nurture the environment. The naming of the harbour clearly illustrates the historical and traditional importance of whales within our rohe moana and this includes 'riu' or passageways within the harbour and Bream Bay and beyond. The technical review by Dr Nuttall outlines potential gaps in Dr Clement's analysis, namely that effects considered are primarily constrained to construction related activities without consideration of the potential effects of increased ship movements associated with the Port expansion; that impacts of climate crisis related effects on marine mammals were not considered, and that noise effects on species other than marine mammals were not assessed. We have also discussed Dr Clement's assessment with Tom Brough, a Marine Ecologist from NIWA and the Far Out Ocean Research Collective who has raised concerns in relation to the limitations of using the DOC sightings dataset to make specific assertions about the use of Whangārei Harbour or Te Akau / Bream Bay by marine mammal species. Further concerns also exist for assertions made regarding the level of behavioural impacts, factors influencing acoustic impacts, factors influencing ship strike impacts, ecological effects of habitat and prey species, alongside significant assumptions made regarding the lack of coinciding/cumulative impacts.

> "*Without having any measure of how often sighting opportunities occur, in relation to other areas, it is not possible to say whether the harbour is important, or not, for marine mammals using these data sets*" (Pers. Comms. Tom Brough September 2021).

Also, due to the opportunistic nature of the DOC sightings database, little can be said about the use of the harbour and wider Bream Bay area, until systematic surveys are conducted. Furthermore, DOC sightings database includes significant biases to locations where research and commercial tourism occur, and therefore may have little value in this context. Dr Clements has acknowledged these limitations to the data (Clements pg. 7, Appendix 14 of application material). The assertion that Whangārei Harbour is not considered unique or ecologically important for any marine mammal species is also not backed up by any data or evidence and is contrary to mana whenua historical evidence and manifest in the translation of our name for the Harbour - Te Rerenga Parāoa - the gathering place of the Parāoa (sperm whale). Further to this point, stating that species continue to use the area despite ongoing development activities is not evidence for lack of impact.

With regard to ship strike impacts, the statement that port-related commercial ships have a low probability of encountering a migrating whale is unable to be proven from the current opportunistic data, while migration routes, distributions (migratory or resident) and seasonality of visiting marine mammals can only be established with accuracy through systematic surveys. Without appropriate investigations to determine the location of critical habitat for marine mammals, suggestions that the area is or isn't important such as claims of the area being "not considered unique or important for feeding, resting or nursing" is conjecture. Local whānau and community regularly witness pods of orca hunting stingray at Marsden Cove and humpbacks often with their calves at One Tree Point as shown below.[22] Patuharakeke consider these visits will continue to rise as whale populations bounce back (eg. humpbacks globally following cessation of whaling) and as was

[22] See also https://www.nzherald.co.nz/northern-advocate/news/northland-orca-hunt-stingrays-in-whangarei-harbour/AXS6ZXWCWML364OCXOCVA7K6IA/

seen (anecdotally) during Covid lockdowns and that the harbour should be in a state that can support the return of these taonga and provide safe habitat.

In a period where we have noticed marine mammals returning, the potential for noise levels to be elevated in the harbour for up to 3.5 years (Clements, pg. 3 Appendix 14 of application material) is significant. We note the Underwater Noise assessment suggests that noise effects will not extend beyond the harbour entrance (Pine, pg 15) but this could result in marine mammals avoiding the harbour (Clements, pg. 23 Appendix 14 of application material).

There has been no direct assessment of the distribution of marine mammal prey within the wider harbour, or within the proposed reclamation and dredging footprint . Therefore, the contention that there is 'no unique feeding habitat in the proposed areas' is unsubstantiated. Similarly, without a detailed study of the comparative prey availability between the habitat lost to the reclamation and the 'nearby habitat of similar biotic composition' it is incorrect to state that the loss of such habitat will be negligible.

Figure 3: Humpback off One Tree Point Boat Ramp September 2021 (photo by Les King).

Orca and bottlenose dolphins are in serious trouble and the collapse of the population in the Bay of Islands shows the huge impact of human disturbance on their behaviours. To our minds, the fact that marine mammals are exposed to a variety of anthropogenic stressors elsewhere in their range is good reason to exercise additional caution in the appraisal of additional threats from these proposals. That there is limited knowledge on how cumulative stressors combine to impact marine mammals is no reason not to assume such impacts don't occur. These matters will all be compounded by the effects of the climate crisis.

The updated assessment of noise effects includes now includes effects on fish as well as marine mammals . During the recent Pakiri Offshore sandmining hearings, Dr Craig Radford of Auckland University presented evidence on noise effects of dredging on a range of fish and invertebrates.[23] He describes how marine

[23] See https://onedrive.live.com/?authkey=%21AC%5FLv0%5FT2sCTAtU&cid=943FC6A80B823296&id=943FC6A80B823296%2118250&parId=943FC6A80B823296%2115898&o=OneUp and

mammals only make up a small fraction of the marine animals that would potentially be affected by increased noise pollution both during and in transit to the activity. Benthic animals are also not as mobile as marine mammals and cannot simply swim away if disturbed by noise being generated. Dr Radford considered acoustic assessments should also consider ground roll or substrate-borne vibrations generated when noise producing structures come into contact or close proximity to the seafloor (e.g. dredge apparatus). This source of noise is particularly important for marine animals that live in and on the substrate, such as bivalves and crabs. Research has shown that substrate-borne vibrations can cause both behavioural (interferes with feeding) and physiological changes (structural damage) to these groups of animals.

7.2.2 Discharges to Air

We note the comments by Dr Nuttall in regard the air quality assessments. We agree that these are restricted in scope, being largely concerned with effects arising from construction and then the effects of the dry dock once the infrastructure is completed. PTB are concerned the effects on air quality will be more complex than that which have been assessed by the experts thus far. When we raised the issue that GHG emissions were missing from the assessment, Northport's response was that *"Section 15 of the Marine Pollution Regulation (1998), which is a regulation under the RMA, permits the ordinary discharges from a ship. Section 16 of the regulation prevents regional councils from setting rules, or placing conditions on consent, to control those discharges. Consequently, we have discussed the ship emissions in the Air Quality report but have not undertaken a detailed assessment of the emissions. We note that the New Zealand Government has now signed up to MARPOL Annexe VI which aims to reduce sulphur dioxide, particulate matter, and nitrogen oxides in ship emissions.*

https://onedrive.live.com/?authkey=%21AC%5FLv0%5FT2sCTAtU&cid=943FC6A80B823296&id=943FC6A80B823296%2118251&parId=943FC6A80B823296%2115898&o=OneUp

Figure 4: Orcas hunting stingray at Marsden Cove July 2021 (photo Ari Carrington)

PTB do not agree that either s.15 or 16 of the regulations restrict the consideration of the effects of maritime pollution under this proposal. The standards for such discharges from ships are certainly controlled under separate processes under MARPOL, however this does not suggest that the lawful effects arising from such discharges are excluded from the assessment of cumulative effect. We have noted that the application material devotes considerable space to discussion of other increased ship effects arising from discharges to the environment, such as the potential effects of ballast water even those these are also subject to MARPOL regulation. Finally, we also note that where other regulations are deemed deficient, RMA interventions can be applied as was the case recently regards the topic of Marine Protected Areas in the pRP.[24] The Environment Court agreed that provisions were needed to provide marine spatial protection measures, prevent damage to the seafloor and prohibit the temporary or permanent damage or destruction or removal of fish, aquatic life, or seaweed. The provisions seek to address the effects of particular commercial fishing methods on the benthic ecological values and therefore serve to strengthen the tools available in the Fisheries Act.

Should the scale of activity projected in the economic analysis be achieved, then we can expect quite dramatic increases over the next generation in both land and maritime transport levels. The evidence we have seen thus far has no consideration of whether this will generate effects and if so, at what scale and how this might contribute to cumulative impacts or any analysis of whether such effects will be ameliorated over time as NZ and world transport decarbonises. The lack of reference to any potential impact from maritime emissions is of particular concern, especially as Northport are highly confident that the cruise liner industry will return and increase. We are aware there is increasing international scientific evidence of the impacts of shipping generally and the cruise liner industry emissions in particular, on the health of coastal

[24] https://www.nrc.govt.nz/media/1yknpqrt/topic-14-marine-protected-areas-interim-decision-of-environment-court-nov-2022-nzenvc-228-bay-of-islands-maritime-park-incorporated-v-nrc.pdf

and port communities[25], of long running campaigns in places such as Malta[26] and Venice[27] to stop cruise liner visits due to their impact on human health and growing evidence more locally from places such as Port Vila where cruise liner visits in 2019 averaged more than one per day. More recently, NZ based research has called into serious question the environmental costs of reopening the cruise liner industry, with linkages between cruise liners and declining Hectors dolphin populations made in Akaroa, impacts on marine mammal behaviour in the Bay of Islands and the direct environmental threat posed to Fiordland hitting headlines throughout 2022.[28] In addition to the threats to icon species, all reports note the impacts from the emissions of vessels on human and environmental health. A further concern comes from those ships operating open cycle exhaust scrubbers.

Whānau have regularly reported that the fumes from ship exhausts are highly noticeable when downwind, especially when out on the water. Yet, we can find no reference as to any study conducted on whether the proposed activities will generate increasing health effects from either sea or shore increases in transport emissions. Further, as air quality assessment is focused on residential receptors and does not consider effects on kaitiaki, whānau, community and so forth when utilising beach or harbour, this dismisses the impact of dust and fumes affecting the experiential values of the cultural landscape (and similarly recreational and amenity values).

Also unreferenced is the major changes imminent for the current air quality baseline. The announcement of the forthcoming cessation of refining activity at Poupouwhenua has the welcome benefit of an enormous imminent reduction in air emissions of various pollutants within our rohe. Obviously, Patuharakeke are enheartened that this finally signals a reversal of the trend of increasing industrial pressures on our rohe and a move toward improving our environmental and social health. If this proposal now generates additional harmful emissions, how much of the positive benefit of the refinery ceasing emissions will be lost to this new source? Again, it is necessary to remind all parties that prior to the establishment of heavy maritime industry at Poupouwhenua, firstly an oil port in the 1960s and then a regional port in the early 2000's and all the related industrial expansion in the hinterland has been paralleled in a sharp and significant decline in what was previously very high natural values. Our ground water has gone from very high quality to highly contaminated; our landscape has gone from unspoilt and tranquil to a skyline that is industrial, heavily lit with artificial light at all hours of the night, our kaimoana resources have been devasted and numerous indicator species threatened. If there is going to be further potential impacts on our rohe, then at the very least we expect to be fully informed of what those impacts are and what the levels of impact might potentially be. This is not possible if attributes such as the potential effects of increased transport emissions arising are not fully evaluated.

7.2.3 Climate Change

PTB identify climate change as a major threat to the cultural, economic, social, and environmental wellbeing of Patuharakeke. In our view the RMA falls well short of providing clear direction and impetus to support climate change resilience either by encouraging renewable energy projects or disincentivising energy intensive projects. The RMA reforms (e.g. Climate Change Adaptation Act) and work of the Climate Commission will progress the response to these matters in the very near future. Since the interim CEA was

[25] https://www.forbes.com/sites/jamesellsmoor/2019/04/26/cruise-ship-pollution-is-causing-serious-health-and-environmental-problems/?sh=67e1a7fd37db ; https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6423703/ ; https://www.sciencedirect.com/science/article/pii/S016041201934423X

[26] https://timesofmalta.com/articles/view/cruise-ships-pollution-148-times-worse-than-cars.712920

[27] https://www.bbc.com/news/world-europe-56592109

[28] https://www.newsroom.co.nz/environment/cruising-for-a-bruising-dollars-v-nature-in-milford-sound, https://www.rnz.co.nz/news/on-the-inside/465732/nz-should-be-in-no-hurry-to-reopen-its-border-to-cruise-ships, https://www.stuff.co.nz/environment/130329110/lytteltons-biggest-cruise-ship-set-to-arrive-but-what-does-it-mean-for-the-environment

drafted, 2020 amendments to the RMA have come into force (30th November 2022) repealing sections 70A, 70B, 104E and 104F. These sections restricted local government from considering the effects that greenhouse gas discharges have on climate change. The RMA can now effectively be a long-term tool for reducing emissions because local government can now also consider greenhouse gas emissions when they make consent decisions.[29]

Climate scientist of Texas Tech University and chief scientist at the Nature Conservancy, Katharine Hayhoe recently said "*We have built a civilization based on a world that doesn't exist anymore.*"[30] In our view, this proposal is derived from an outdated model of economic growth at all costs that is no longer tenable in today's world, nor does it align with a Te Ao Māori world view.

The issue of climate related effect is discussed at numerous points throughout this assessment and in the accompanying independent review so is not elaborated on further here. We reiterate our recommendation to Northport to fully consider the effects on climate change and are disappointed that this application potentially avoids consideration of this matter due to lodgment prior to the RMA amendments on 30 November 2022.

7.2.4 Coastal Processes

Tonkin and Taylor's coastal processes assessment has utilised the morphological, hydrodynamic and plume modelling series undertaken by MetOcean to describe changes to the harbour from the existing port and to predict expected changes of the proposed expansion. To date there have been changes to the shell bank at the entrance to Rauiri Blacksmith's creek, migration of the toe of Patangarahi into the turning basin and local scour and deposition around the faces and corners of the port reclamation (particularly accretion of the beach areas between the port and the Refining NZ jetty) which are expected to continue or increase slightly. These changes are important for reasons discussed elsewhere in this report, such as potential effects on mahinga mātaitai and taonga species, and cultural landscapes for example. Mr Reinen-Hamill's description of overall cumulative effects of the full development option (both reclamations) in his 2021 report was as follows:

> *"The proposal is an extension of an existing consented port reclamation and the proposed reclamations are aligned with the existing face of the reclamation that minimises potential adverse effects on tidal flows and sediment transport. However, the proposed developments add to the increased occupation of the CMA in this area and increase the spatial extent of effects on the seabed and shoreline due to the increased occupation. The eastern extension has a more significant effect due to occupation of both the seabed and beach areas, and the effects on tidal currents and sediment transport extend eastward along the existing channel to the Refining NZ jetty and the more landward extents of Mair Bank.....* ***Due to the occupation of the beach and seabed and changes to the currents and wave as a result of the full vision for growth the overall cumulative effect on coastal processes and public access is high."*** *(Section 5.3.13).*

We note the updated (September 2022) report has amended the level of effect to moderate and removed any reference to public access but are unsure why.

[29] https://environment.govt.nz/publications/national-adaptation-plan-and-emissions-reduction-plan-resource-management-act-1991-guidance-note/

[30] https://www.theguardian.com/environment/ng-interactive/2021/oct/14/climate-change-happening-now-stats-graphs-maps-cop26?fbclid=IwAR2UPo8JQJu3eCcVLI_0A0FHqneKX-ri2nlhgfFkozdiYEq44guVTCiWjhA

Conclusions – Environmental Effects

The actual and potential effects of the proposed reclamation and dredging and future port operations on marine ecology, our taonga species and their habitats, (including through coastal processes effects) will be significant and adverse, particularly in the context of an already degraded harbour. The only mitigation (and we are not sure that it could be called mitigation) proposed relates to avifauna and in our view is woefully inadequate. We cannot foresee that mitigation of the effects of permanent loss of benthic habitat, habitat of threatened and at risk birds and physical alteration to tahuna or mātaitai sites and dispersal pathways of kaimoana species will be possible. For marine mammals, mitigation is given cursory attention and mostly limited to construction related effects, and mana whenua, kaitiaki are not identified as having any particular role in it. The CVA was clear that hapū should have a central role in any marine mammal research and monitoring, and we would anticipate that any marine mammal observers would be trained and resourced kaitiaki. Nonetheless, this would still not bridge the data gaps outlined above, including the effects of markedly increased shipping activity passing through Te Ākau Bream Bay and into the harbour. Patuharakeke consider the effects (including cumulative effects) of this proposal on our marine mammal taonga have not been accurately assessed and are potentially significant and adverse. With regard to air quality effects we have stressed that the assessment undertaken is localised and limited and does not adequately capture the full range of effects on Patuharakeke which are potentially more than minor. The lack of adequate consideration of climate change effects is a common theme throughout this CEA report, and the literature is clear that Māori will be disproportionately affected, and by 2100, the risks to ecosystems were likely to be severe, threatening Māori culture and wellbeing.[31] Given that the port reclamation is still going to be around in 2100 (not merely for a 35 year consent term) we certainly consider this to be an effect on Patuharakeke values that should be considered within the RMA decision-making framework for this application.

With regard to our Draft Hapū Strategic Plan, Pou Taiao (the environmental pillar) looks to make informed decisions based on our own hapū initiated research and with like-minded partners, to include tai tamariki and kaumātua in our mahi as we strive for environmental management - ki uta ki tai and to influence legislation, policies and plans to increase the health of our Taiao. The adverse environmental effects of this proposal are considered to be of a magnitude that does not align with the key goals and measures set out in this pou.

7.3 Cultural Effects

7.3.1 Cultural Landscapes and Seascapes and Sites of Significance to Tangata Whenua

The consents sought will not impact on any individual archaeological sites or wāhi tapu. However, Poupouwhenua is a significant ancestral site that together with Whangārei Te Rerenga Parāoa and the mosaic of sites identified in the CVA, forms our cultural landscape (for this report this term encompasses seascape as well). Moreover, it is considered a sacred spiritual pathway - rerenga wairua for our people (Renae Niha, pers comm. 25/7/21).

While Poupouwhenua Mātaitai is identified as a SSTW in the pRP maps, the mapping of this discrete site is more a function of the resources and capacity Patuharakeke have to participate in planning processes rather than an indication of the true breadth of our connections. We note that in the statutory analysis (pg.

[31] https://www.stuff.co.nz/pou-tiaki/126750843/climate-change-impact-on-mori-wellbeing-and-culture-sobering-yet-insightful

241, AEE) it incorrectly states that in regard to Policy D.1.5 of the pRP, no specific sites or areas of cultural significance have been identified to date, and none are mapped in the pRP. In fact, Patuharakeke have 4 sites of significance to Māori (SSTW) mapped in the pRP maps (mātaitai areas) including the Poupouwhenua mātaitai which is immediately adjacent to the CINZ jetty. This layer of the maps was not subject to appeal so is operative as was pointed out in the matrices attached to the interim CEA. Spatially Poupouwhenua, Te Koutu, Ruiri and Te Ara Kahika (the stretch from the wahapū or harbour mouth to One Tree Point for example) is a subset of our wider relationship to the harbour and Te Ākau/ Bream Bay. Cultural landscape values which are holistic, applying to entire area and interrelated ecologically, culturally, and spiritually are reinforced by the recent Environment Court decision relating to the SEA zoning adjacent to the west of Northport. Part of the SEA area changed to a Multi-Purpose Port Zone (MPPZ) in the Decisions Version of the Proposed Regional plan and the SEA designation was removed. The Royal Forest and Bird Protection Society (F&B) filed an appeal seeking the reinstatement of the SEA in this area and PTB were a s274 party to the appeal. In paragraphs 13-15 of the decision[32], Judge Smith set out the following:

> *"[13] Ms Shaw appeared before us for Patuharakeke Te Iwi Trust Board and made submissions as to the relationship of tangata whenua in this particular area. She noted that the area in question is at the eastern extent of a large area of particular cultural significance to Patuharakeke, and in fact that one of their significant marae is adjacent to this coastal feature.*
>
> *[14] It is clear that they actively maintain a relationship with this area, including around Marsden Point and One Tree Point, and that it constitutes part of their ancestral lands, waters, sites, wāhi tapu and other taonga. We note that there is a Treaty claim in respect of the area. We also acknowledge that, as the eastern extent of the harbour, it would have some particular values. The extensive cultural areas exist both to the east and the west of the 190ha of SEA. To the west of the SEA, the harbour edge is noted as an area of cultural significance.* ***From a cultural perspective, the harbour edge forms part of the cloak between the shoreline and the harbour, which is unbroken for a number of kilometres along the southern edge of the harbour.*** *It is also reinforced by large sandbank areas comprising pipi and the like.*
>
> *[15] In our view, these parallel forms of value (cultural and ecological) coalesce in the values that are seen on the southern side of Whangārei harbour, and particularly around One Tree Point. Whilst the existing port is of great significance to the Northland economy, and it provides national necessities, including oil and freight, this is in the context of an area that has significant ecological values."*

In response to the queries raised in the CVA regards the landscape assessments, Northport commissioned Stephen Brown (and Buildmedia) to undertake an assessment of further viewshafts suggested by Patuharakeke. Simulations from Piroa/Brynderwyn range and several locations in the kāinga; the elevated end of Takahiwai Road, Pirihi Road on Motupapa peninsula and Takahiwai Marae were created. For the most part, either distance or intervening relief or vegetation obscures views of potential changes to the cultural landscape as a result of the port expansion. However, simulation VP10d from Mr Browns addendum booklet indicates that the additional gantries (and drydock facility in a raised position) will clearly be visible from Takahiwai Road against a backdrop of maunga on the northern side of the harbour (Manaia, Otarakaiha, Matariki – eg. the stretch between Manaia, Aubrey to Mt Lion). This is without including the scenario suggested by Mr Farrow in his peer review, eg. a future expanded port running at optimal capacity with all berths and the dry dock occupied as well as the Refinery Jetty. Mr Farrow

[32] http://www.nzlii.org/cgi-bin/sinodisp/nz/cases/NZEnvC/2021/21.html?query=NZEnvC%20021

described this scenario thus; "collectively, these ships would form a "wall" to the harbour edge that is largely of comparable scale to the gantry cranes seen in the Buildmedia simulations."

The magnitude of these impacts is increased even further once you look at viewpoints such as those simulated in VP01, VP02, VP05, VP07 and VP08[33]. These usefully illustrate views back towards the port from Poupouwhenua Mātaitai, in front of Rauiri, Reotahi, Patangarahi and other locations in the harbour - perspectives mana whenua regularly experience whether it be as whānau recreating – swimming, fishing, walking, kaitiaki/tangata tiaki undertaking monitoring and so forth. We consider the "before and after" shots with and without the reclamations and port infrastructure (eg. gantry cranes etc) demonstrate a substantial change and a significant adverse visual effect on our viewshafts to, on and around our harbour, maunga, mātaitai and other sites that collectively make up our cultural landscape. Further, views are merely one component of the connection to cultural landscape of which there are other intangible connections (eg. as described in the CVA – in the context of whakapapa, pepeha, waiata, pūrākau, whakataukī and so on) as well as physical connections.

In describing the cumulative effects of berth 4 and the proposed expansion, Mr Brown mentions the new elements including STS and Gantry Cranes, the reefer towers, more elevated parts of the proposed container stacks, the new light towers and the large container ships themselves creating an additive effect compounding the port's existing exposure to surrounding parts of the harbour and accentuating the change to the Northport skyline. At night-time, the lighting up of these elements means they will remain visible from as far away as Takahiwai Marae and Urquharts Bay.

Even without the layers of cultural relationship context added, effects are unable to be mitigated, as Stephen Brown's revised effects assessment for viewpoint 1 Marsden Point Beach concludes that the likely effectiveness of the proposed walkway (and presumably Pocket Park) to the eastern end of Marsden Point Beach in terms of amelioration of the high landscape, natural character, and amenity effects will be low. While it would help to reduce the physical isolation of the remnant beach from the rest of Marsden Point and the area of public access at the end of Ralph Trimmer Drive, the feeling of severance between the spit and the rest of the harbour's southern coastline would still be clearly apparent (Brown, Pg 69 Appendix 15 of application material).

For Patuharakeke, the harbour's geomorphology will continue to be artificially "reconstructed," to a bottleneck, narrowing the 'rerenga' - that physical and spiritual pathway, the 'riu' for our whales, so that Te Koutu and Reotahi are merely shouting distance apart. The beautiful white stretch of beach that we follow on our hīkoi to Poupouwhenua Mātaitai, while marred with the Refinery Jetty, is still passable and still treasured. Rob Greenaway's Recreation Assessment has shown that it is genuinely a lovely and well used place to walk, play and fish. Patuharakeke look forward to amenity values (which align somewhat to cultural health and mauri from our perspective) improving even further now that processing has ceased at the Refinery and noise and odour emissions are decreasing. It will be a step closer to how this place was prior to the establishment of the refinery in the days when it was a significant nohoanga site. Should the eastern reclamation proceed, the majority of this stretch of beach and the dunes behind it will be forever lost, and Patuharakeke whānau, kaitiaki/tangata tiaki and the community will make their way to the beach via a narrow strip sandwiched between the security fences of two massive industrial complexes. We acknowledge the Pocket Park is still a "concept" and Northport are seeking hapū feedback on it, however, we were not involved at all in discussions around its preliminary design.

[33] note: these viewpoints are from Buildmedia simulations dated 2020 and including the dry dock – we were unable to locate the updated attachment referred to as "BM Viewpoint 1-13" – attached in a separate booklet of images in Brown's revised report (section 6.2, pg. 33).

We concur with the findings of Rob Greenaway's updated report (Application Appendix 19, pg. 56) "*The study area is likely to be of regional significance for recreation. The proposed reclamation will have adverse effects on Marsden Bay Beach as a recreation destination, but proposed developments for recreation will retain many elements of existing amenity. However, residual adverse effects on recreation, particularly the reduced sense of scale, are likely to be significant for recreational users of the beach and more than minor at the regional level.*" When we add the layers of value pertaining to Mana Whenua Ahi Kā, spiritual and whakapapa-based connections, relationship to the location as kaitiaki, diminishing of mauri for example to recreational and amenity losses, in our view, the effects become unacceptable. The Pocket Park is cosmetic at best and cannot possibly be considered to mitigate recreation and amenity effects, let alone the severance of cultural connection and relationship to the site.

Figures 5 & 6 Whānau enjoying the beach Christmas 2018 prior to Pou Rāhui unveiling ceremony.

To the west, the remaining beach in front of Rauiri is another spot where it is still nice to take your tamariki for a swim and a play or a fish off the fishing jetty, even if you can't get a feed of pipi anymore. As noted above, the western expansion is still being actively considered by Northport, with their website stating "*the resource consent application we have lodged is limited to this part of our Vision for Growth. We continue to develop and refine plans for our proposed western development*."[34] Patuharakeke therefore consider the effects of this proposal should be viewed in the whole, including the potential future effects of the western reclamation and dry dock and have evaluated the impacts on Patuharakeke accordingly.

Patuharakeke have never subscribed to the argument that the presence of existing development enables the downgrading of landscape effects. The industrialisation of Poupouwhenua has had immense impact on our cultural landscape, relationship and access to it, as well as mātauranga and other tikanga and values associated with it. However, it does not diminish the significance of this place to us and should be used to justify more development (see Policy 5.6.3 of Patuharakeke HEMP). The argument that visual and landscape effects of the port expansion will be absorbed into the landward Refinery/CINZ plant is now moot as the refinery has now transitioned to a terminal facility and plans are being made for the decommissioning and dismantling of much of the plant (excluding storage tanks) over the next 3-10 year time horizon (Naomi James, pers. Comm, October 12th 2021). We note that Mr Farrow also raised this matter in his peer review.

[34] https://visionforgrowth.co.nz/

7.3.2 Takutai Moana, loss

Severance of the physical relationship to this cultural landscape, the beach, the dunes, the takutai moana is perhaps the most profound effect this proposal will have on mana whenua. This is twofold, firstly through the direct loss and alienation of the takutai moana that Patuharakeke never sold or relinquished their rangatiratanga over and secondly, through impeded access to sites and areas of significance. The Paparahi o Te Raki inquiry has heard that the hapū of Whangārei have been rendered virtually landless with around only 1% of the whenua still remaining in our collective ownership. At hapū hui held on 25th July 2021 and 31st July 2022, Patuharakeke kaumatua recalled the stance taken by our hapū to the original Northland Port Corporation application back in the late 1990's. They were clear that "nothing has changed" and we should refuse to be dispossessed of even "one more acre" of our land whether it be on the whenua or in the moana.

Figure 7: Patuharakeke tamariki swimming at beach west of Northport (Papich Road Walkway) during Kura Taiao Noho January 2019

The CVA provided background on the illegal confiscation of Poupouwhenua from its original owners, a central tenet of our claim before the Waitangi Tribunal. The timing of this application is regrettable because Whangārei hapū still await the Stage Two Paparahi o Te Raki report. It was expected to be out at the end of 2020 but unfortunately has not yet been completed. Patuharakeke and our whānaunga hapū expect some compelling findings from that report on the Whangārei Harbour specific aspects of the inquiry. The proposed port expansion will perpetuate and exacerbate the grievances interrogated in those proceedings.

We have previously highlighted the shortcomings of the 2011 MACA Act. The WAI2660 Marine and Coastal Area (Takutai Moana) Act Inquiry is a kaupapa inquiry (an inquiry on a nationally significant issue that affects Māori as a whole) currently before the Waitangi Tribunal addressing two main questions:

a) To what extent, if at all, are the MACA Act and Crown policy and practice inconsistent with the Treaty in protecting the ability of Māori holders of customary marine and coastal area rights to assert and exercise those rights?, and

b) Do the procedural arrangements and resources provided by the Crown under the MACA Act prejudicially affect Māori holders of customary marine and coastal area rights in Treaty terms when they seek recognition of their rights?

Question b was dealt with first at hearings held in 2019. Patuharakeke, Ngātiwai, Te Parawhau and others presented evidence at these proceedings relating to confusion of the MACA processes, the lack of consultation, the significant financial burden experienced with the Crown's inadequate funding regime for applicants, the Crown's lack of clear policies and procedures for funding, and the MACA regime itself creating dissension amongst applicants. The Tribunal's Stage 1 Report was released in June 2020 and concluded that many aspects of the Crown's procedural and resourcing regime fell well short of Treaty compliance, saying *"this is particularly regrettable given the context in which the Marine and Coastal Area (Takutai Moana) Act was developed– as a replacement for the controversial Foreshore and Seabed Act 2004, which left such a damaging imprint on Māori– Crown relations and the social fabric of Aotearoa New Zealand."*

In 2021, Barrister Sarah Shaw addressed the Tribunal as a witness for Ngātiwai Trust Board on behalf of Ngātiwai whānau, marae and hapū in Stage 2 of the Inquiry. She dealt with several questions, importantly, the impact of "accommodated activities" already in place or which may be granted in the future (section 64 MACA Act) on an RMA Permission Right held by customary marine title holders under the MACA Act; and, what the differences are between the rights available to resource consent holders under the RMA and the rights available to customary marine title holders under the MACA.[35] Regardless of the limitations of MACA, our interpretation of her evidence is that the lodging of this application will set in motion the permanent extinguishing of mana whenua's potential to have their Customary Marine Title (CMT) or Protected Customary Rights (PCR) recognised and in particular our ability to use the RMA permission right (MACA ss66-68). This is because the proposal will meet the definition of accommodated activity in (MACA s64)

Ms Shaw concludes; "In my opinion the impact of "accommodated activities", already in place or which may be granted in the future, on a RMA permission right held by CMT groups is:

a. For consented activities:

i. The RMA permission right is not able to be exercised until the coastal permit has reached the end of its consented term, which for most activities is a maximum of 35 years. A coastal permit that had a lengthy consenting path through the council and appeal to the Environment Court might not commence for several years after it was initially lodged with the council, with the term then running from commencement.

ii. The coastal permit could be for an activity with long-term or largely irreversible physical effects, such as reclamation or sand mining. iii. Reclamation has no statutory maximum term. Unless one is stated in the conditions on the coastal permit, the coastal permit will never expire and the RMA permission right will never apply.

[35] https://forms.justice.govt.nz/search/Documents/WT/wt_DOC_169463182/Wai%202660%2C%20B148.pdf

b. For accommodated infrastructure, I interpret sub-paragraph (a) of the definition of "associated operations" as providing for renewal, which means that the RMA permission right will never apply.

c. For deemed accommodated infrastructure, the Minister of Land Information is empowered to waive the CMT group's RMA permission right with or without compensation."

In paragraphs 262-275 of her evidence, Ms Shaw also compares the rights available to resource consent holders under the RMA and the rights available to CMT groups under the MACA. What is interesting here is that if hapū or iwi were to gain CMT at Poupouwhenua, MACA s60(1)(a) states that CMT provides an interest in land but does not include a right to alienate or otherwise dispose of any part of a CMT area. Northport on the other hand, through what is essentially a property right conferred by a resource consent, can do exactly that.

In summary then, Northport's application being lodged before CMT orders will mean that if it is approved, hapū and iwi MACA applicants are not able to exercise the right to decline permission *even if our orders come through before the consent is actually implemented*. Secondly, the reclamation area will be permanently removed from the moana that we have already asserted our claim over. MACA only applies below Mean High Water Springs (MHWS), and the reclaimed area will be above MHWS, so we cannot get CMT or PCR for moana that has been reclaimed. If what follows is the same as what occurred with the existing reclamation, hapū will have no rights to the "new" whenua that has been created. This has already borne out in the process we outlined in the CVA relating to the vesting of the title created by the current port reclamation. While the Minister of Conservation did not go so far as to vest title, for all intents and purposes the resource consents held, and particularly the 105-year lease to Northport, is a property right. A recent report from Te Rōpū Tai Timu Tai Pari[36] has again highlighted these timing issues, but in the context of the transition of customary rights under the Takutai Moana Act 2011 into the new regime. Importantly, they reiterate the constant refrain of iwi and hapū, that being: "*Māori currently hold rights and interests in the takutai moana whether or not those have been recognised legally under the te Takutai Moana Act. In our view, to give effect to Te Tiriti/Treaty principles requires decision-makers to recognise rights and interests that exist, whether or not they have been proven under the Act. No prejudice should arise from the time taken to prove customary interests"(pg 11)*. PTB consider this issue has relevance in terms of RMA Part II matters for consideration (eg. s6(e), 6(g), 7(a) and 8, adds significantly to the mix of the full scale of cultural effects and overall can only be addressed by declining consent.

7.3.3 Ahurea/Patuharakeketanga

The loss of land and access to sites has numerous ensuing impacts. Notably the loss of te reo me ona tikanga, mātauranga, impacts on mauri, our obligations as kaitiaki, and mana.

Mauri

Effects referred to above, including removal of sand out of the system, the loss of benthic community, sediment plumes, and any impacts on tohora and parāoa (whales), for example, contribute to an overall effect on the mauri and cultural health of the harbour/ecosytem 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. Mana whenua measure effects on the harbour in the context of past and present effects, as well as the

[36] https://www.tearawhiti.govt.nz/assets/MACA-docs/Resource-Management/Advice-of-Te-Ropu-Tai-Timu-Tai-Pari-to-Te-Arawhiti.pdf

future effects anticipated as a result of the Northport proposal. The mauri of Whangārei Te Rerenga Parāoa has been seriously diminished as a result of decades of management decisions that we 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 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, mana 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 is affected by our inability to practice manaakitanga to gather kai moana for the table both for our families and manuhiri (something the people of Whangārei Te Rerenga Parāoa were formerly renowned for).

Mana is inter-generational. Decisions that were made during the time of previous generations of kaumātua (whether they were able to participate in their making or not) have caused long-term adverse effects on the ecosystem of the Whangārei Harbour and inevitably this has led to adverse consequences for the mana of this generation of kaumātua. Constraints to our participation today will affect the next generation and continue to transfer onwards to our future tamariki and mokopuna.

Kaitiakitanga

In the CVA we discussed our relationship to the site through Kaitiakitanga and historical impacts of colonisation including the severance of connection to whenua and moana which erodes the knowledge (mātauranga) and the practice (tikanga) of kaitiakitanga in relation to resources. The ability to tiaki the taiao/environment has been a key focus of PTB for decades and in recent years we have made real inroads in re-establishing connections through revitalisation of tikanga, tirotiro (observation/monitoring) and contemporary expression of kaitiakitanga through participating in RMA processes and undertaking a variety of projects with councils, DOC, CRI's and increasingly, our own mātauranga led research.

For Patuharakeke, kaitiakitanga is also the practice of resistance or opposition. Like other kupu Māori that have been subsumed into legislation, these kupu become watered down with decision-makers apprehending that mitigation measures involving mana whenua in monitoring or restoration somehow achieve the true intent of the word. It is a conundrum we refer to as the "mitigation dilemma."[37] Of course, if Northport eventually funds marine mammal observer training or creates a harbour restoration fund or similar, Patuharakeke will fully expect to be a party to these actions. But that is not kaitiakitanga. It is a mere trace of what this relationship actually means, it is an obligation we are born with that passes on to our tamariki and mokopuna who follow us, and it can be a heavy burden to bear.

Conclusions – Cultural Effects

The conclusions reached in the interim CEA remain unchanged in this updated report. In our opinion the potential effects of the Northport's proposed reclamation of 11.7 ha (within the CMA) and 2ha of

[37] See https://www.nzaia.org.nz/juliane-chetham.html

earthworks on the WDC esplanade reserve, and dredging of 1.72 million cubic metres of capital dredging and associated disposal and ongoing maintenance dredging of Whangārei Te Rerenga Parāoa are high and significantly adverse in terms of cultural landscapes, seascapes and customary access and rights to the Takutai Moana. Further, it will diminish our Patuharakeketanga, ahurea as it will not provide for te reo Māori me ona 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 direct and cumulative effects span the past, present and future and are deemed by Patuharakeke to be permanent significant adverse effects that are unable be mitigated. The outcomes of the expansion do not align to the cultural "safeguards" of ss 6(e), 6(g), 7(a) and 8 of the RMA, namely our relationship to our ancestral land, water, sites and other taonga will not be provided for (or able to be recognised if this proceeds eg. MACA determination for example); kaitiakitanga will be compromised rather than enhanced and the proposal is inconsistent with Treaty principles such as rangatiratanga, partnership and the principle of mutual benefit. In fact, to truly comply would be to ensure immediate representation of ahi kā on Northport (or MMH) governance structure and agreement that any new title created would lie with mana whenua.

We note that section 5.20 of the AEE contains an overall summary of effects table that begins with an evaluation of the magnitude of cultural effects. We firstly make the comment that only mana whenua can determine effects on their culture and values (including the level of those effects).[38] The table appears to conflate the applicant's technical expert's findings (for example on ecological effects and their magnitude) with cultural effects. While we do not necessarily agree with the findings of Northport's technical advisors, we acknowledge that ecological, landscape and other values are closely interrelated with cultural values. Where they differ is that hapū /mana whenua apply a further lens or additional layer based on our values such as kaitiakitanga, rangatiratanga, whakapapa, manaakitanga, wairuatanga, mana and so forth and our lived experience and mātauranga. The table also relies on proposed mitigation measures which Mana Whenua have not been involved in and the advice of non-cultural technical experts to determine the magnitude of effects as being minor or low or "TBC" in the case of cultural effects in the table is inappropriate in our view.

With regard to our Draft Hapū Strategic Plan, Pou Ahurea (our cultural pillar) sets out goals and measures in relation to maintaining tikanga, the presence of a strong and intergenerational taumata and that te reo, waiata, karakia, haka, whakairo etc (our narratives, interpretation) is embedded in our people and rohe. Pou Mātauranga (education) and Pou Tai Tamarikitanga (Succession) are also underpinned by building language, culture and identity, environmental management ki uta – ki tai and to support the expression, innovation and delivery of the next generations to apply their approach to the future of their rohe. The adverse cultural effects anticipated from the port expansion are of such a magnitude that it is difficult to see how the development will support these pou.

7.4 Social Effects

7.4.1 Hauora/Health

Hauora/Health is one of the Strategic Pou/pillars of the Draft Patuharakeke Strategic Plan. A number of potential social effects, including on the health of our people, were identified at various hui, some of which are alluded to elsewhere in this report as they cross over with environmental and cultural effects. For example, the health of Whangārei Te Rerenga Parāoa and Te Ākau Bream Bay and the health of our

[38] Supported by caselaw eg. Transpower case

people are considered to be interconnected and inseparable. The cumulative effects of development on these resources impact the spiritual and physical health of mana whenua.

Noise

Noise effects could equally be considered as having implications for cultural effects or ecological effects, however, we also see them as a subset of hauora. Air Quality has been discussed elsewhere but similarly, has impacts on the hauora of our people. We note the Marshall Day assessment finds that the proposed activity will generate a noticeable increase in noise levels, however mitigation is focused on private houses. There appears to be no consideration of noise effects on community, whānau, kaitiaki, and so forth using what remains of the beach and reserve at Marsden Bay and Te Koutu whether it be recreationally or for customary purposes.

Transport/Traffic Effects

WSP's analysis focuses almost entirely on traffic effects that are immediate to the port footprint and the intersections between the Port and State Highway 1. Traffic effects were a serious concern identified back in 1997 at the time of the original NPC hearings and took a much broader view of the wider transport network. Tangata whenua were concerned about road safety matters in the face of greatly increased log truck and other heavy traffic movements. We recall that Port Marsden Highway's construction was a requirement of the consent but at that time the community was assured that the rail link to the port would also be in play. For Patuharakeke, the rail spur was considered one of the only redeeming features of the proposal however it never came to pass.

The issue of log truck traffic and its disproportionate impact on tangata whenua was raised in a Working Party hui where participants raised the issue of log trucks on Otaika Valley Road and other roads that adjoin Māori Freehold land blocks, the damage they do to the roads and safety concerns. Adverse effects are experienced along the routes between the timber source and the port. This issue is a significant one for Māori communities throughout Northland and other health impacts related to the generation of PM10 dust/particulates exceeding National Environmental Standards for air quality are also a theme.

In 2017, Tai Tokerau Māori and Council Working Party (TTMAC) members involved in workshops to develop the Proposed Regional Plan (pRP) for Northland advocated for measures to better manage the effects of road dust for communities like Pipiwai, however Council proceeded with rules to treat discharges to air generated by vehicles as a permitted activity.[39] The Trust's submission on the pRP stated;

"PTB do not support rule C.7.2.5 Discharges to air from the use of public roads by motor vehicles as a permitted activity. Council have been made aware of the effects on health and wellbeing of marae and communities on unsealed roads. The Plan requires development of stronger provisions on air quality that provide for the maintenance, and the enhancement where it is degraded, of Northland's ambient air quality, and the avoidance, mitigation or remediation of any adverse effects on the environment of localised discharges into air. This includes the Marsden Point Airshed."

Ultimately the regulatory approach was deemed too costly for Councils to implement and the issue of health impacts associated with unsealed roads for Māori communities in Tai Tokerau remains unresolved.

The issue of safety on SH1 and particularly Whangārei to Port Marsden Highway has been a focus for central and local government agencies for several years now and an ongoing source of apprehension for

[39] See section 1.4 of s32 report at https://www.nrc.govt.nz/media/xhdfzb3r/section32proposedregionalplanseptember2017finalweb.pdf

whānau travelling it daily. Over 100 people have died or been seriously injured between 2015-2020 between Whangārei and Te Hana, with the worst section being between Whangārei and the Port Marsden turn-off. PTB and Te Parawhau have engaged with Waka Kotahi in discussions on various roading programmes on of safety improvements and an upgraded 22km four-lane corridor. These priorities have changed repeatedly subject to political and economic forces and the latest iteration is restricted to addressing targeted safety improvements and the rail spur rather than four-laning.[40]

When port congestion issues affected supply chains following Covid19 last year Northport unloaded its largest container ship ever, the Constantinos P, that was unable to process through Ports of Auckland. This resulted in a massive increase in of almost 2700 return truck trips (in convoys of a dozen per hour) between Marsden Point and Auckland in the lead up to Christmas. In partnership with Worksafe, Police ran a checkpoint operation finding almost 20% of the convoy vehicles were not roadworthy.[41] We touched on the arguments about the future of POAL and decarbonisation issues earlier in our CVA[42] but this cargo operation served to illustrate the problems Northport will face in terms of greenhouse gas emissions (by virtue of its location). Some projections calculate moving the port to Whangārei would result in a 700-800 percent increase in greenhouse gas emissions when compared to current cargo handling and movement operations of the Port of Auckland.[43]

With regard to pedestrian and cycle routes the TIA notes there are no specific cycle facilities on the key roads within the vicinity of Marsden Point and PMH and given the rural environment of PMH and the 100km/h speed limit with a high volume of heavy vehicles, it is not suitable for either pedestrians or cyclists. This was not always the case and in the past many people rode and walked around One Tree Point and Ruakākā's roads. The current high speed and heavy vehicle environment has been created, at least in part, by Northport and will be further exacerbated by its expansion. The TIA considers effects are generally minor and anticipated, intersections can cope or be upgraded over time, trucks can be scheduled to operate at different times of day or over the weekend. It probably all seems relatively benign to the reader, but we know that the fatal crash that occurred at the Rama Rd/SH15 intersection in 2018 involved a father and his young son from Marsden Village. We know that in April 2021 one of our own Patuharakeke Taitamariki was almost killed cycling to work at Allis Bloy Place along Marsden Point Road. Our whānau have told us their nights are commonly disturbed by the sound of trucks travelling at speed along Marsden Point Road most nights after 3am (Colin Newton, pers. Comm, 3rd June 2021).

If we are genuinely thinking about a more sustainable future, we should be aiming to restore opportunities for our community to walk or cycle to work or school, not only to reduce carbon emissions and road congestion and maintenance costs, but social/ health and wellbeing outcomes. We would recommend as a first step that Northport join the newly formed Ruakākā/One Tree Point Cycleway Focus Group and find ways to support this initiative.

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[40] https://www.nzta.govt.nz/projects/sh1-whangarei-to-port-marsden-highway/
https://www.nzta.govt.nz/assets/planning-and-investment/docs/nzup/nzup-factsheet-northland.pdf

[41] https://www.stuff.co.nz/business/300180857/call-for-rail-north-of-auckland-as-
https://www.nzherald.co.nz/business/warning-for-motorists-truck-convoy-carrying-christmas-cargo-driving-to-auckland/3HE55SCDJCLB6PENHLF2CVEELI/
https://www.stuff.co.nz/business/300175069/safety-fears-over-2700-truck-trips-from-giant-container-ship-in-northland-to-auckland
https://www.stuff.co.nz/national/300184548/one-in-five-trucks-stopped-in-northland-police-sting-not-roadworthy

[42] see section 3.3 Cultural Values Assessment Report: 'Vision for Growth' Masterplan for the Expansion of Northport (April 2020).

[43] https://www.auckland.ac.nz/en/news/2021/04/09/moving-auckland-port-environmental-disaster.html

The updated TIA has not really addressed any of the issues raised in the Interim CIA. The rail link has been discussed briefly, with the assessment stating that once the rail spur comes on-line, some of the port cargo will move via rail which is considered desirable by the author, given its impact on alleviating road congestion, maintenance, the percentage of heavy vehicles, and reduction in carbon emissions. Rail freight is modelled at 8% in the report but we have not been able to clearly identify where this figure has come from. From Patuharakekeke's perspective, if Northport was truly designing the most efficient port for the future the commencement of the expansion should be contingent on the rail link being in place and a far greater proportion of rail freight than 8% would be the expectation.

The TIA has provided a sentence on the "pocket park" proposal by Northport, stating "*as the recreational activity is expected to occur on weekends and outside of peak periods, recreational traffic is not expected to affect PMH traffic or port operation*". It is unclear what data this statement has been based on but we do not consider it reliable as in our experience, many people use the area throughout the day on a daily basis.

Other than the vague potential of rail the TIA proposes to manage and mitigate increased port traffic volumes and impacts on key road intersections by avoiding the port peak coinciding with the network peak possibly by implementing a vehicle booking system for container trucks to distribute the traffic load over the Port's operating hours (24/7) as much as possible. There is no analysis on how spreading truck movements throughout the day and night will affect our community. In the assessment cruise ships are anticipated to reach around 30 ships per annum over the next two decades, averaging 1,500 people per ship with the assumption that most cruise ship visitors will be transported by bus to their respective destinations. There is a suggestion that Cruise Ship passengers should disembark during off-peak periods only. The report contains no clarity on whether this is even possible ie. in regards to Cruise Ship scheduling. Other recommendations to reduce traffic volumes to the port include the encouraging of mode sharing of staff transport to and from work (eg. such as the current carpooling and bus shuttle system for staff).

Overall, the updated TIA remains focused on impacts on critical intersections, providing what are in our view fairly light and superficial solutions, doesn't venture into wider transport issues and has not responded to the questions raised in the interim CEA or through the consultation process.

Conclusions – Social Effects

The construction of Northport and the Port Marsden Highway/ SH15 has enabled and promoted substantial industrial, commercial and residential growth in our rohe, however, this growth has been ad hoc and has not been accompanied by holistic infrastructure planning and future proofing. In our eyes, the growth has driven increased pressure on natural resources and the social, economic and cultural wellbeing of Patuharakeke has not improved as a result. Air and noise emissions impact on the experiential qualities of the cultural landscape at Poupouwhenua and are experienced throughout the harbour and kāinga. Developments like Marsden Cove have further alienated us from our harbour and its resources, the inability of the Ruakākā Wastewater Treatment Plant to cope with the growth was a catalyst for a consent for an ocean outfall in Bream Bay and our local highways and roads are less and less safe for the community. There are numerous examples like these in our rohe.

For Patuharakeke, the potential effects on our social wellbeing, including physical (hauora) and cultural health (mauri ora) along with values such as amenity, consenting to expansion of Northport will have more than minor effects. Mitigation has not been offered for noise effects beyond residential receptors, land transport effects of the current operations on mana whenua are understood but in relation to the expansion the assessment is limited and therefore unclear.

With regard to our Draft Hapū Strategic Plan, Pou Hauora (our whānau health pillar), Pou Mātauranga (education) and Pou Tai Tamariki-tanga (succession) are potentially affected by the social effects of this proposal. These pou support initiatives that improve the health and wellbeing of Patuharakeke and the community, particularly in relation to creating a hapū led housing strategy, education, training services and healthcare services for and by our whānau. They are also underpinned by concepts such as rongoā revitalisation, taha wairua, tamariki and kaumātua wellbeing and developing and nurturing māra kai and mahinga mātaitai. These goals and measures reinforce what we have said earlier, that the hapū view social wellbeing as firmly connected to and requiring wellness across other wellbeings such as environmental and cultural wellbeings to be achieved. Again, there is nothing in the technical information we have seen from the applicant that indicates these pou will be supported.

7.5 Economic Effects

In the interim CEA, we recommended to Northport that they delay lodgment of the VFG applications. Our reasons for this recommending this remain unchanged particularly our concerns over the economic analysis supplied and the potential for economic effects. We noted:

The evidence provided, in particular the economic assessments, does not establish the case that there is a demonstrated need to further expand the port infrastructure beyond its existing consents to meet the reasonably foreseeable **regional** need and as such, the proposed expansion is not the most efficient and effective use of regional resources. Some economic modelling is presented that suggests that there may be a case for greater expansion than is currently consented in the event that it is confirmed that Northport is Nationally Strategic Infrastructure. Determination of this point, while it may be attractive to Northport, is largely beyond Northport's control, being the subject of current national assessment and consultation and the applicants should properly wait the outcome of the ongoing national process[44] to determine whether Northport is considered regionally or nationally significant.

A large number of core parameters and assumptions have changed since the VFG was first promoted. For example, there is no longer any suggestion that the NZ Navy is intending to relocate to Whangārei and the Minister of Defence has confirmed that there was never any suggestion of the Aotearoa being dry docked or serviced at Marsden Point. The previous central administration's advocacy for a relocation of part of POAL to Northport has evaporated. The neighbouring activities of RNZ/CINZ have gone from predicted eof refining and relates activities three years ago to a commitment to retire and dismantle all refining activity, dramatically downsizing its workforce, greatly reducing its operational footprint and changing the emissions profile of the area. The proposed 4-lane road highway has not been approved for funding while some rail investment has been signalled. The effects of the global pandemic are still in play with resultant dramatic and unforeseen impact on global and national logistics. The Reserve Bank has stated the economy is "likely" to enter into recession in 2023[45] and a global recession seems inevitable[46]. The NZ Climate Change Commission has released its first findings signalling major changes in national energy use, national transport and logistic chains and ultimately affecting the overall economy. None of these major shifts in Northport's development scenario are adequately reflected in the current VFG and

[44] https://www.transport.govt.nz/area-of-interest/infrastructure-and-investment/upper-north-island-supply-chain-strategy/
[45] https://www.1news.co.nz/2022/11/23/reserve-bank-states-nz-economy-likely-to-enter-recession/
[46] https://www.economist.com/the-world-ahead/2022/11/18/why-a-global-recession-is-inevitable-in-2023

supporting evidence which remains focused on open-ended growth and not necessarily sustainability or the needs of a decarbonizing economy.

The economic evidence and, to a large extent, the business case underlying the expansion, is based on an assumption that Northport's role in the national economy needs to be greater than just a regionally significant asset, that is to say it has national interest. It is largely argued that a larger port at Poupouwhenua is needed, not to accommodate expanding regional trade but to take the overspill from an expanding North Auckland economy. The modelling also shows the vast portion of economic benefit from this expansion will also not be to the regional economy but will flow south.

Whether Northport would have national or regional status is not something that Northport gets to decide. There is currently a national planning process in place in regard the future strategic direction of our national logistic chain and decisions over the future size and function for Northport should follow that process, not pre-empt it. We appreciate Northport's confidence that growth is the preferred and best future solution and that supporting national growth is a core objective. However, the evidence submitted to date in terms of the economic report, does not provide real evidence to support this. We remain concerned as to whether this proposal is based on determining the best long-term vision for sustainability for Te Tai Tokerau and continue to ask what the real costs of such expansion are and whose interests are being best served by it.

Unfortunately, to date, we have yet to see a full cost- benefit analysis and we understand that the costs for undertaking such an exercise are considered beyond budget for this application. These concerns have not changed as a result of the June 2022 report prepared by Polis Consulting Group "Socioeconomic Impacts of Northport Expansion on Te Tai Tokerau/Northland" that was commissioned by Northland Inc. The report states upfront;

> "*given data limitations, exhaustive quantitative analysis, full stochastic modelling, full benefit cost analyses or ROI calculations, management and implementation planning, or business case development were out of scope. Environmental and cultural impact analyses were also out of scope*";

and includes the following disclaimer;

> "*our results are directional and approximate, but accurate within stated assumptions and tolerances to support decision-making. While every care has been taken to provide accuracy and judgement based on the information available, we acknowledge that we have not had access to all available data and research. No warranties, implicit or explicit are implied by this report. It does not represent valuation advice nor a forecast of net benefit/cost returns*" (pg 2).

The report highlights the critical land transport infrastructure constraints on port expansion and continued factors outside of Northport's control such as continued reliance on central government decisions and the need for a long term strategic view of upper North Island supply chains and Northland regional development. The obvious gaps in the limited economic analysis presented, the limited (or rather absence) of scenario modelling use and the limitations of the CBA methodology employed in the economic analysis undertaken are all picked up in the NRC expert peer review report of NZIER.

As we have also stated previously, "the development record since the Poupouwhenua block was taken out of hapū ownership shows an uneven and chequered record, a boom/bust approach to heavy industrial development and a legacy of a degrading harbour mauri". Each new rendition of this cycle starts with an influx of new investment, workers and careers. And when each fails, there is a fresh round of redundancies

and retrenchment. Each time, more of our whānau shrug their shoulders and pack their bags. The statistics depressingly show that it is tangata whenua who are generally the most disadvantaged whenever there is an economic cost to pay and the last in the queue when there is economic benefit accrued. Historically, in previous times of economic downturn, Māori received unemployment benefit at lower rates than Pakeha society[47] – but as kaumatua recall, lower incomes did not necessarily result in such marked disparities as we see now, because we could survive on our natural resources, in particular our kaimoana. Now in times of hardship, while there may be less institutional discrimination, we have even less whenua and natural resources to fall back on.

As we previously commented in neighbouring development proposals, for us this highlights that these economic assessments do not factor in non-market values including ecosystem services and cultural values. Earlier developmental and political "trade-offs" that occurred for reclamation and dredging in Whangārei Te Rerenga Parāoa never included data or estimations of the financial loss to mana whenua and the community of diminished recreational and customary fisheries, the inability to benefit from sale or lease of land confiscated from mana whenua and numerous other values, let alone spiritual, existential matters. Essentially our position is that an integrated, holistic modelling approach is required to fully assess proposals such as this and a triple bottom line method of financial auditing and reporting with the addition of a cultural component should ideally be utilised.[48] There are a number of experts in Aotearoa New Zealand that are now incorporating such methods into assessments of projects, mitigation, and interventions including specific inclusion of cultural data and valuations (Calum Revfem, Proxima Global & Richard Yao, Scion. Pers. comm. March 2020).

PTB have often been critical of our experience as mana whenua over the last half century of industry at Poupouwhenua where we have not shared in the economic benefits gained from past development of the area. We have yet to have a detailed discussion as to opportunities to explore pathways for training, education and employment should this development progress. Such korero should be genuine and address meaningful and mutually beneficial partnership opportunities at multiple levels with Patuharakeke as mana whenua of this area.

Dr Nuttall's review refers to the lack of any alternative economic narrative to the endless growth model used. We note the just released Forsyth Barr report into the future of forestry and in particular log exports[49] which picks up on many of the issues raised by Dr Nuttall. Overall, nationally log exports are projected to drop in the next decade - as already noted in the Northport evidence for the regional log harvest. But rather than predicting longer term future expansion of raw log harvest, the report notes;

> *"the use of wood domestically is undergoing a transformation through the use of trees to sequester carbon, power boilers and as a low carbon building material alternative … another wild card is the government's plan to change the industry towards more domestic processing and higher value processed products …. and a shift to net-zero emissions will further change industry dynamics as moves to biofuels and carbon sequestering may spur more planting and higher prices, but not for the export trade as it currently operates."*

It is clear that all forms of transport, the manner in which we organise our logistics and supply chains and the roles of ports in local and international economic development and trade will come under increasing scrutiny in a global and national decarbonising society. Central government is still obviously considering and formulating the national climate response strategy and it is still far from clear how this will roll out at

[47] https://www.nzinitiative.org.nz/reports-and-media/reports/te-oranga-o-te-iwi-maori-working-paper-5-maori-and-welfare/document/86

[48] ie. https://www.globalreporting.org/standards/getting-started-with-the-gri-standards/

[49] https://www.rnz.co.nz/news/business/454262/log-exports-to-peak-before-dropping-more-than-a-third-within-decade-forsyth-barr

regional and local levels. However, it is clear that maintaining internationally agreed levels of emissions reduction, will require a much greater paradigm shift in energy use and societal behaviour and response than simply swapping out diesel trucks for electric or hydrogen powered ones. It certainly requires a fresh appraisal over the future role and design of critical infrastructure such as regional ports within our regional economies. No such thinking is easily evident in this application.

In Patuharakeke's opinion, the first priority for Northport is to assess the future regional need for a major port and to plan for that. What is the best port for our future? This proposal asks what is the biggest port what we can use for national benefit, with a hope for trickle down or side flow of benefit regionally. If the majority of regional use is projected to be a continuation of logs and this market is unlikely to undergo fundamental change in the lifetime of the consents, is there a need for a much expanded facility? If there is, then a business case that clearly shows long term and sustainable benefit to the region needs to be made. Simply saying that if we build it bigger, then Auckland will come and use it and Northland benefits, which is the underlying theme of this economic analysis, does not meet a long term sustainability test.

A similar situation exists with regard to the projected growth from the cruise liner industry, which Northport is 'confident' will rebound. In February 2021 the PCE published a follow up report on the environmental consequences of growth in tourism[50] and stated, with respect to the disruption to international tourism caused by Covid-19:

> "*While the prospects of vaccines allowing economies and societies to function again look promising, it seems increasingly clear that a return to something approaching normality will not be swift. Whereas past shocks such as the 9/11 terrorist attack, the severe acute respiratory syndrome (SARS) outbreak, or the global financial crisis saw visitor arrivals return to previous levels in less than a year, that seems unlikely to be repeated. Elements of the industry that rely on a resumption of international tourism face an extremely challenging near term*".

Further recent reports into the environmental impacts and dangers of reopening NZ to the international cruise liner industry are referenced earlier. All of which raise the question, why press ahead with policy recommendations designed to manage the pressures of growth when the industry faces an unprecedented contraction of existential proportions? There are two reasons for doing so. In the first place, what Aotearoa has to offer is as special and attractive as it was before the pandemic. In a world facing ongoing environmental degradation, New Zealand's relatively unspoilt natural assets coupled with the amenities of a developed country make our tourism offering if anything more attractive. But there is a more compelling and immediate reason: the discontinuity created by Covid-19 offers an opportunity to address some of the longstanding environmental and social issues associated with New Zealand's tourism industry. There is broad support for the idea that protecting tourism livelihoods in the short term should not morph into a slow but inexorable return to the status quo in the long term. Yet that is precisely what this application is promoting.

The PCE's recommendations with respect to infrastructure (in terms of future central government spending) are:

"*As tourism re-emerges in the wake of Covid-19, I recommend that any future central government spending on tourism-related infrastructure should be made conditional on two things:*

[50] https://www.pce.parliament.nz/media/197087/report-not-100-but-four-steps-closer-to-sustainable-tourism-pdf-24mb.pdf

- *That it is consistent with the sort of tourism residents, mana whenua and local businesses want in their midst. This means developing a genuine, community-owned destination management plan – as distinct from a destination marketing plan.*
- *That any infrastructure that is subsidised meets high environmental performance standards."*

MBIE's November 2022 scoping document on the Tourism Industry Transformation Plan (ITP)[51] outlines work planned to assist in building a regenerative tourism system. The first phase of the ITP focussed on addressing the systemic issues in the tourism workforce and the second "Environment" phase is centred on climate change adaptation and mitigation, through transforming the New Zealand tourism industry into a low carbon emissions industry, as well as fostering positive ecological outcomes, such as biodiversity and ecosystem restoration. Patuharakeke are hopeful this signals a move away from "business as usual" tourism. While Northport may be confident of a return to pre-Covid tourism industry, including increasing numbers of cruise liners, this view is not universally shared. Again, we suggest taking the time to fully evaluate the lessons from the pandemic and the considerations of what changes a rapidly decarbonising global economy will have on the future needs of a fully sustainable regionally significant port infrastructure.

Conclusions – Economic Effects

Insufficient analysis and evidence is provided to determine the economic effects (whether positive or adverse) of this proposal on Patuharakeke and our taonga. From what we have seen we conclude economic benefits to the hapū will not outweigh the externalities particularly in terms of cultural and ecological effects. With regard to our Draft Hapū Strategic Plan, Pou Whaioranga (our economic pillar), focuses on developing opportunities for supporting Patuharakeke economic initiatives, with goals and measures framed around utilising our whenua, sustainable ventures e.g. ecotourism, increasing financial literacy and governance and management capacity and understanding and developing the skills of our whānau / hapū. We do not have clarity at this stage as to how this proposal will specifically align to these goals if at all.

51 https://www.mbie.govt.nz/assets/tourism-itp-environment-scope-october-2022.pdf

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10. Glossary of Māori terms

Ahikā - continuous occupation by a group
Ahurea - culture, cultural identity
Atua - God, deities
Haka - ceremonial Māori dance or challenge
Hapū - sub-tribe, holding traditional, ultimate authority for their people, original signatories to Te Tiriti o Waitangi/Treaty of Waitangi/TOW
Harakeke – flax
Hau Kāinga - local people of a marae, home people.
Hi inga ika - fishing grounds (also called tauranga ika)
Hīkoi - march, walk
Hui - gather, meet.
Hui-ā-hapū - gathering of the hapū
Hūai - Cockle, *Austrovenus stutchburyi*
Ihe - piper, *Hyporhamphus ihi*
Ika - fish
Iwi - tribe
Kai - food
Kaimoana - seafood
Kōrero - to talk, or discuss
Kāinga - home, village, settlement
Kāhui kaumātua - group of tribal elders, governance group that oversees hapū matters
Kaitiaki - iwi, hapū or whānau group with the responsibility of kaitiakitanga; also with reference to the Customary Fishing Regulations 1998 = individuals who can authorise customary fishing
Kaitiakitanga - guardianship, stewardship
Kaitiaki rōpū - group of kaitiaki
Kanae - grey mullet, *Mugil cephalus*
Kanohi ki te kanohi - face to face
Karakia - prayer, incantation
Kaupapa - theme, policy
Kaumātua - elders
Kina - sea urchin, *Evechinus chloroticus*
Ki uta ki tai - from mountains to sea
Kōiwi tangata - human bones
Kōkota - infaunal shellfish, *Paphies australis*
Kōpua Mangō - shark fishing grounds
Kōura - crayfish, *Jasus edwardsii,*
Kororā - little penguin, *Eudyptula minor*
Kuaka - Godwit, *Limosa lapponica*
Kuia - elderly woman, female elder.
Pātiki - flounder, *Rhombosolea Plebeia*
Pepeha - tribal saying locating yourself in the wider cultural landscape
Pēwhairangi - Bay of Islands
Piharau - Lamprey, *Petromyzontiformes*
Pioke - Dogfish, *Squalus acanthias*
Pīngao - golden sand sedge, *Desmoschoenus spiralis*
Pipi - infaunal bivalve, *Paphies australis*
Pou - pillar, landmark, support
Pou Hauora – Whānau health
Pou Taiao – Environmental
Pou Whaioranga – Economic
Pou Ahurea - Culture
Pou Mātauranga - Educational
Pou Tai Tamariki-tanga – Succession
Poupouwhenua mātaitai - kaimoana gathering site located at the entrance of Whangārei Harbour, also known as Mair and Marsden Banks
Pūpū - cats eye, *Turbo smaragdus*
Pūrākau - myth, ancient legend, story
Rangatira - chief, leader
Rangatiratanga - chieftainship; sovereignty (includes right to self-determination)
Rauiri – Blacksmith's creek
Rāhui - restriction or control on an area
Rerenga - flowing, flight, voyage, journey
Rerenga wairua - fleeing, flying spirits
Rongoā - Māori traditional healing and medicinal plants
Rohe - territorial boundary, district, region
Rohe moana - territorial waters
Riu - passageway
Taiao - Environment
Tai Tamariki - youth, children
Tamariki - young children
Takutai moana – Foreshore and seabed
Tangaroa - God of the sea
Tangata tiaki - human caretakers
Tangata whenua – indigenous people of the land
Taniwha kaitiaki - supernatural beings valued as a protective guardians
Taonga - treasures
Taonga tuku iho - heirloom, treasures passed down, cultural property

Kupu - word, saying
Kūtai - mussel, *Perna canaliculus*
Mahi - work
Mahinga kai - food and other resources, and the areas they are sourced from
Mahinga Mātaitai - customary seafood gathering site, shellfish bed
Mana whenua - territorial rights, power associated with possession and occupation of tribal land
Mana - authority, prestige, respect, dignity, influence
Manaaki - to take care of
Manaakitanga - hospitality, kindness, caring (for people)
Manaia - Eponymous ancestor and Mountain
Mana whenua - those who have customary authority over a traditional area
Manuhiri - visitors, guests
Manu - bird, any winged creature including bats, cicadas, butterflies, etc.
Manu Ōi - Shearwaters/Mutton Birds, *Puffinus tenuirostris*
Matariki - Mt Lion
Maramataka - Māori Lunar Calendar
Moana - Ocean, sea
Māori - Indigenous people of New Zealand
Mātauranga - knowledge, body of knowledge
Mātauranga Māori - Māori epistemologies, traditional knowledge systems
Maunga - mountain
Mauri - the essential life force of all things, spiritual essence
Mokopuna - grandchildren
Nohoanga - seasonal occupation sites, places where food is gathered
Ngātiwai - Māori iwi of the east coast of the Northland Region of New Zealand
Patuharakeketanga - customs unique to Patuharakeke
Papamoana - sea bed, ocean floor
Pakahā - Fluttering Shearwater
Parāoa - Sperm Whale
Pā - fortified settlement site
Pā harakeke - flax garden
Pātaka kai - pantry, food storage area
Pāpaka - crab
Pārera - Grey duck
Tāmure - snapper, *Chrysophrys auratus*
Taumata - a term used to describe a group of learned and distinguished knowledge holders of a tribe.
Tauranga waka - canoe landing site
Taha wairua - spiritual wellbeing
Tāhuna - sandbank
Te Tai Tokerau - Northland, NZ
Te Koutu - One Tree Point
Te Ao Māori - Māori world view
Te Ākau - Bream Bay
Te Whara - Bream Head
Te Tini ā Tangaroa - The Ministry of Fisheries
Tiaki - to look after, protect
Tirotiro - to inspect, observe
Tikanga - Māori customary values and practices
Tio - native rock oyster, *Saccostrea glomerata*
Tipa - scallop, Pecten novaezelandiae
Tohorā - marine mammals, whales
Tohunga - Traditional Māori experts imbued with certain capabilities, characteristics entrenched in Te Ao Māori (Māori world view)
Tuatua - infaunal bivalve, Paphies subtriangulata
Tūkaiaia pūrākau - a story about the Tūkaiaia, a kaitiaki of Ngātiwai and its significance to the iwi
Tūāhu kōhatu – marker stone
Tuna - eel, *Anguilla dieffenbachii* and *Anguilla australis*
Tūpuna - ancestors, grandparents
Turangawaewae - a person's right to stand on particular land and be heard on matters affecting that place and their relationship to it.
Urupā - burial site
Ūkaipō - nursery, origin, source of sustenance
Ingoa wāhi - place names
Waiana kōiwi - underwater burial caves, ledges
Wairua - spirit
Waka - canoe
Wahapū - mouth of a harbour, or estuary
Waiata - song
Wāhi taonga - places and things that are treasured and valued
Wāhi tapu - places and things that are sacred
Wānanga - seminar, workshop
Whakapapa - genealogy, cultural identity
Whakataukī - proverb where the author is known
Whanaunga - relative, kin
Whare - house, building
Whare kai - dining hall
Whakairo - carving
Whare tūpuna - ancestral meeting house
Whānau - family

Whangārei Te Rerenga Parāoa – Whangārei Harbour,
Gathering place of Whales, Chiefs
Whenua - land

11. Appendices

Appendix 1: CVA

https://www.nrc.govt.nz/media/uopfdtey/application-document-lodged-06-10-2022-appendix-24-cultural-effects-and-values-assessments.pdf

Appendix 2: Independent Technical Review

Northport VFG resource consent application – Technical Reports Review, September 2021

Tena koe Juliane,

Scope of Work

2. Patuharakeke RMU have requested we review the technical reports provided by various Northport Ltd (NPL) consultants and provided on their Vision for Growth/documents website.

3. Specifically, you have asked us to concentrate on the aspects in the reports of concern to or potentially impacting Patuharakeke's interests and, where appropriate, recommend additional or clarifying information. Finally, you have asked us to make comment where we consider that the activities may lead to potential or actual cultural effects.

4. We have taken Patuharakeke's interests to be those identified in the *Patuharakeke Hapu Environmental Management Plan* (HEMP) and in the consent specific Cultural Values Assessment. Likewise, we have taken cultural effects to be broadly interpreted, as discussed extensively in both documents.

5. Our review has comprised:

    a. Initial interviews with RMU Patuharakeke (23/24 February);
    b. An initial meeting with relevant NRC staff (26 February)
    c. Attending Northport's VFG workshop (15 May)
    d. Desktop review of reports as they came available on the website and the Economic Assessment provided separately (30 May);
    e. Consideration of revised reports (in particular economic, traffic, marine mammals) and NPL response to matters raised since the 30 May draft and available at the date of this review[52].

6. This report completes the review. Responses in italics have been made to various of the matters raised by NPL in reply (and marked in bold below).

Generic Comments

[52] Some documents, in particular the T&T coastal process and the economic report, appear still to be in draft and unfinished form.

7. A broad suite of reports have been prepared and these are reviewed as below. Five common shortcomings were identified as generic to many of the reports:

    a. Temporal baselines, where referred to, were generally short-term and recent - at best incorporating no more than two or three decades of data. The ecology related reports in particular are contextualised with reference to change only over recent time.

    NPL response: Northport recognises the inherent disconnect between the RMA prescribed baseline (the state of the environment at the time the consent is applied for) and the whānau/hapu view of the appropriate baseline. However, within the consenting process we are obliged to work within the prescribed RMA framework. Northport appreciate that the inherent disconnect remains and irrespective of the RMA framework, the cultural effects relevant to the natural baseline will still occur. We suggest that there are opportunities to address these 'out of RMA scope' effects outside (but parallel to) the consenting process.

    We are unsure as to why NPL contend that consideration of the effects of their proposed activity on the environment are constrained by a temporal baseline that only commences on lodgement.

    In any regard s.3 RMA refers to (b) any temporary or permanent effect; and (c) any past, present, or future effect; and (d) any cumulative effect which arises over time or in combination with other effects. Ss6(e) and 7(a) speak to relationships that predate Te Tiriti and s.8 speaks to a relationship of more than 180 years to which Patuharakeke is still waiting the Waitangi Tribunal's decisions and/or Crown action on the matter of how their ownership of the site under question was alienated and their status in the decision-making over the land and its resources changed. As these relationships are well recognised in the RMA, the associated temporal baselines would appear to be well "within scope".

    NPL is proposing to apply for consents to expand a major existing industrial activity, an international port and regionally significant infrastructure which was first consented in 1999, through permanent modification via reclamation of an area of land and water that is of extremely high importance to Patuharakeke's past, present and future.

    In the T&T July 2021 Coastal Processes report, considerable space is used to contextualise the sediment movement within geological time to explain the evolving change in the sediment movements at the time of application and as the basis for assessing projected effects in the future and reports going back over many decades are reviewed. In regards the ecological assessments in particular, the reports record an overall finding from assessing recent data that the harbour ecology is "relatively healthy" and in

'good' ecological health. There would appear to be a number of verifiable reports and studies, including work done by the same researcher agency used by NPL, for related work at this site in the 1960s and 1980s, which would seem to show a clearly discernible trend line of declining ecological health (possibly what NPL's refers to a "natural baseline" above) given the apparent changes in key cultural indicator species over the past century and particularly in the past generation. This declining trend line is not a 'baseline' in the sense that it is not horizontal. Since the 1960's there has been a marked increase in the industrialisation and urbanisation of the lower harbour, a trend this proposal seeks to maintain with projected ever-increasing growth over time. We are not implying here what the correlation is between these two trend lines, if any, but simply pointing out that the analysis is not available if the data is restricted to that currently being used.

b. Geographical baselines considered were generally tightly constrained to the immediate location of the activity and not placed in their context within the harbour catchment.

The experts have used their expertise and judgement to define the geographical scope of their assessments. Mostly this is related to the extent of the primary mechanism of effect but also the nature of the area they are studying. For example, the visual/landscape has assessed the effects from a range of viewpoints across a wide geographical range. In contrast, the Archaeological report has focussed on the areas where disturbance will occur, which is at the site scale. We are keen to understand, in more detail, where Dr Nuttal considers the geographic extent is limited.

The proposed activity sits at the lowest point of a water catchment. Best practice would assume that we start with at least a catchment-based approach to resource management if a sustainable ecosystem approach is being adopted. The Operative Regional Plan provisions on indigenous biodiversity requires "taking a system-wide approach to large areas of indigenous biodiversity such as whole estuaries or widespread bird and marine mammal habitats"[53], which we read to include at least the lower harbour.

In terms of Patuharakeke's interests, we assume a rohe-based geographical unit. "From a cultural perspective, the harbour edge forms part of the cloak between the shoreline and the harbour, which is unbroken for a number of

[53] D.2.16 Managing adverse effects on indigenous biodiversity. https://www.nrc.govt.nz/media/rdiczxbm/consent-order-topic-11-biodiversity-significant-ecological-areas-and-natural-character-objectives--policies-f-1-3-f-1-11-d-2-16-d-2-17-and-sea-maps.pdf

kilometres along the southern edge of the harbour"[54]*. Within the rohe, the confiscated Poupouwhenua block, where the proposed activity is located, is the central tenet of Patuharakeke's unresolved Treaty claim. The Marsden Point industrial zone is visible throughout most of the rohe and in any regard, is heavily inter-connected culturally with the remainder of the rohe . There is a strong correlation between the economic and physical effects of this zone and the cultural health (past, present and future) of Patuharakeke given their multifaceted relationship – as kaitiaki, manawhenua, hau kainga, ahi kaa and Treaty partner.*

Patuharakeke have consistently stated that a holistic and integrated approach is required to achieve sustainable management of the harbour and that all activities need to be evaluated on their collective and cumulative contribution to the overall health of the catchment.

c. Identification of effects are constrained to those created by the landside activities proposed to be enabled and generally only the construction activity phase of these. Actual or potential effects from increased maritime activity enabled by the proposal are not considered.

Where required by the RMA, the reports assess the potential effects related to increased shipping (i.e. marine mammal report). Where those effects fall outside the ambit of this process (i.e. normal ship discharges) we have not assessed those.

We were asked to identify aspects in the reports of concern to or potentially impacting Patuharakeke's interests. In this regard we are not limited only to the identification of effects under the RMA. We have not sought legal opinion on the definition of "normal ship discharges". Regardless, the most ambitious scenarios being modelled by NPL include the potential for a significant increase in vessel movements (potentially at least doubling current levels) , especially if increasing numbers of cruise liners are added, and heavy traffic (road and rail) movements, particularly if the more ambitious of the ME modelled economic scenarios were to eventuate. Such movements will incur an increased environmental cost, regardless of whether they require consent, and add to the overall cumulative effects on the rohe.

The cumulative potential impacts from both air and water discharges (especially if scrubber fitted ships are allowed) of a large increase in large shipping activity where potentially 5 berths and a large drydock were employed to full capacity, including increasing numbers of large cruise

[54] Decision No. [2021] NZEnvC 021

liners, are potentially significant. Increasing international science identifies the serious public and environmental health impacts of ship emissions, even under more stringent IMO regulation. Not including the externalities inherent in the evaluation of effects simply risks passing the costs to community, the environment and future generations to absorb.

d. The effects from the proposed activities of this specific proposal are not generally contextualised in relation to other activities in this locality and therefore potential for effects from this activity to be cumulative with others in the same locale is not fully considered.

The assessment reports do address cumulative effects on the existing environment. The most notable activity which is consented, but not exercised is the Refining NZ channel deepening project. The hydrodynamics reports have evaluated the Northport proposal with and without the RNZ channel deepening. At this stage, we are not aware of other relevant consents which are not exercised, or relevant permitted activities which have the potential, in to alter the nature or scale of effects of this proposal.

NPL is located within a community which includes RNZ and a number of smaller actors at a local level and then district, regional and national actors. Within Patuharakeke's rohe the cumulative effects of the activities of the various actors collectively contribute to the overall effect on the environment. From the evidence available on most cultural indicators, for example and in particular shellfish, the overall effect is one of degraded health. Major work is required to reverse this trend. The RMA speaks to integrated management to achieve efficient use of resources. It is not clear that this development proposal is being advanced taking into account other changes in development pressure within the rohe. Patuharakeke has a consistent record of asking for individual activities, such as the expansion of a major port, to be considered in the context of the management of its rohe as whole. Patuharakeke has consistently asked for an integrated structure plan for Marsden that allows all competing development interests within the rohe to be coordinated to ensure the most efficient use of resources and protection of the national and cultural environment.

For example, NPL's immediate neighbour, the other major industrial actor in this locality, has just announced major changes in its operations, potentially; a major reduction in localised air emissions, freeing up 85% of their current land footprint, significantly affecting their related vessel movements and affecting their water and electricity bulk supply agreements and quite dramatically altering the ladsacpe through removal of major structures. The channel deepening consents they hold are now demonstrated to be unnecessary. A major wood processing factory, referenced in the economic report as responsible of 2% of NPL cargo loadings, has closed down recently. The Ministry of Defence has clarified that there is no short to medium term

option of any significant relocation to Whangarei. WDC is projecting residential growth in the immediate vicinity to increase by at least 45% by 2050.

e. The impact on both the proposed infrastructure and the surrounding hinterland of the increasing effects of the climate emergency (increasing sea levels, acidification, sea temperature, increased intensity of future weather events, etc) have not been taken into consideration. The term 'climate change' does not appear in most reports. This is most concerning in reference to the ecological and economic reports which are entirely mute and agnostic on this point, whereas fast accelerating adverse trends over time are projected by most science, including over the proposed lifetime of the consents.

Up until the end of 2021 the RMA requires applications to assess the effects of climate change on the proposal, but not the effects on climate change as a result of the proposal. In this instance, the most relevant effect of climate change (keeping in mind the RMA definition of the existing environment) is sea level rise and extreme wave/rainfall events. The application addresses these points in relation to the height of the reclamation/ wharves and the design of the stormwater system.

The distinction in the RMA is noted and understood. There does not appear any serious attempt to "assess the effects of climate change on the proposal". The inclusion of a short section on climate change in the T&T report is discussed in more detail below. This reference aside, it is not clear how the other reports have assessed the effects of climate change on the proposal, the term "climate change" does not appear in either of the economics reports, the ecology reports or the transport report for example. Given both the ownership of NPL[55] and its role as a long term actor in the rohe, it is considered disingenuous to attempt to ignore its role in a decarbonising local, national and international economy in this manner.
Regardless of the impact of future emissions from the expanded port operation, the climate emergency is still highly relevant to the proposal and needs to be properly brought into frame in the accompanying evidence. This absence is evident in a number of reports but primarily the ecological, transport and economics analyses.

[55] **https://www.nrc.govt.nz/resource-library-summary/plans-and-policies/climate-change/nga-taumata-o-te-moana-implementation-plan/. NRC, the major shareholder of the applicant, considers that a state of climate emergency currently exists in the region and has committed to polices to inter alia lead by example by significantly reducing its own carbon footprint. The Ngā Taumata o te Moana implementation plan is silent on whether such policies should apply to its subsidiaries. See also;**
https://marsdenmaritime.co.nz/about/; *https://marsdenmaritime.co.nz/investors-area/organisational-chart/*

The current climate emergency is already having an ecological effect on the proposal locality and the latest IPCC science confirms that these will increase exponentially over time. A number of effects are relevant to the stress the ecology is currently under and will increasingly be subjected to, including SLR and extreme events but also rising air and sea temperatures, acidification, etc. It is likely that current modelling understates the potential of such effects and we cannot concur that these are restricted only to the height of structures and stormwater design.

In terms of the economic analysis, the proposal purports to be the best vision for the future port needs of Northland. It is assumed by the applicant that a growth model (more ships, more cargo) is best. However, NZ has stated at the highest possible international levels that it is totally committed to a global 'no more than 1.5 degree agenda by 2050', a statement repeated by the PM at last week's UNGA. Such an agenda implicitly requires major and unprecedented change to all facets of the economy, including a full reconsideration of the role of rail and coastal freight movement in a rapidly decarbonising economy. It must be assumed that our ports of the future and the logistics chain they are linked to, and within the lifetime of the proposed consents, will not be carbon based. It implies quite significant impacts on our international trading profile (which are discussed in more detail in regard the economic analysis sections below). It has enormous implications for local fuel and bunkering infrastructure within the projected lifetime of the consents being applied for, especially if NZ joins many of it major trading partners in backing a call for full decarbonisation of international shipping by no later than 2050 at IMO this year.

Such matters are all relevant to assessing Patuharakeke's interest and additional to the direct contribution that the new or modified infrastructure might make through its construction or operation to national GHG emissions.

Air Quality

Air Quality Report West DRAFT[56]

8. This report identifies that the assessment has been undertaken in regard NPL's proposal to expand the port's capacity by reclaiming land and building additional berths. This project comprises of land reclamation, construction of wharves, and associated dredging. In addition, NPL is also proposing to incorporate a commercial shipyard with floating dry dock into the reclamation.

[56] It is noted that a number of reports are specific to one or other of the development proposals (East and West expansions) but in all but cover sheets and proposal description summaries are for all intents and purposes duplicates. It is assumed that these will be all considered as a bundled proposal. In any event, from a cultural perspective it makes no sense to consider them separately.

9. The scope/budget of this review does not allow for independent asessmsnt of the data used here. There appears no reason at this level of review to dispute the technical methodology or data produced in the report or that the findings reached in regard the specific aspects of the activities identified are inadequate.

10. However, the scope of the study is limited only to the construction and then landside operations of the infrastructure. It is assumed that the increased scope of the port will potentially see marked increase in ship movements and maritime activity associated with port operations, including air emissions from ship exhausts . Both are known to cause significant human and environmental health effects on both marine and terrestrial receiving environments and the effects can be geographically widely dispersed dependant on localised weather patterns. The science on the effects of ship generated air pollution on human and environmental health is now well established and rapidly increasing.

    NPL response. Section 15 of the Marine Pollution Regulation (1998), which is a regulation under the RMA, permits the ordinary discharges from a ship. Section 16 of the regulation prevents regional councils from setting rules, or placing conditions on consent, to control those discharges. Consequently, we have discussed the ship emissions in the Air Quality report but have not undertaken a detailed assessment of the emissions. We note that the New Zealand Government has now signed up to MARPOL Annexe VI which aims to reduce sulphur dioxide, particulate matter, and nitrogen oxides in ship emissions.

    No updated Air Emissions report was received prior to finalising this review. As discussed previously, neither s.15 or 16 restrict the consideration of the effects of maritime pollution under this proposal. The considerable space devoted to discussion of other increased ship effects, e.g. potential effects of ballast water, is noted.

11. In similar vein, we note there is no mention of increased air emission arising from increased heavy traffic movements generated by projected port activities outside of the immediate port operational area, a matter we might have expected to find in the related traffic report.

    NPL response. We have discussed this with our air quality specialists, and they are updating their report to include an assessment of the vehicle emissions on SH15. The assessment will utilise the Waka Kotahi screening tool, which is the standard method for this type of assessment.

    No updated Air Emissions report was received prior to finalising this review.

Air Quality Report East DRAFT

12. This report identifies that the assessment has been undertaken in regard NPL's proposal to expand the port's capacity to the east by reclaiming land and building additional berths.

13. We make the same comment in regard this report as in para's .8 - .10 above.

Harbour Ecology

Ecology and Water Quality Reports. (The comments immediately below are specific to the western reclamation studies but are also generally relevant to the Eastern reclamation reports)

14. The project requires capital dredging and deepening of the port turning basin within areas previously consented for dredging but as yet not dredged; new capital dredging in zones yet to be consented for that activity; and approximately 10.5 ha of reclamation.

15. This report states that it provides information based on historical information and recent baseline studies which cover intertidal and subtidal ecology and marine water quality. It purports to address actual and potential effects of the proposal on marine ecological values (but excludes a consideration of marine mammals and birds as these are covered by other specialists in those areas)

16. The most historical report referenced are the studies undertaken for the NPL Consent Application in 1992-97. At its outset the report notes that the harbour has been subjected to significant anthropogenic impacts including: land reclamation; the deposition of 3 million m3 of sediment fines and 2 million m3 of channel dredge spoil since the 1920's; and runoff from urban, industrial and rural sources. This is the closest the report gets to acknowledging that the harbour and catchment have been heavily, extensively and permanently modified and severely downgraded by compounding anthropocentric activity, which has accelerated exponentially with more recent colonisation over the past two centuries.

17. Despite such modifications, the report finds the localised ecology to be "relatively healthy" or "good", and in similar repair to comparable highly modified ecologies throughout the harbour.

18. This clashes significantly with Patuharakeke records, which that show the ecological values of the harbour to be greatly diminished across most or all cultural indicators over inter-generational periods. At p.22 the CVA summarises:

> *The waters of Whangarei Terenga Parāoa are a taonga gifted by our tupuna 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 environmental management practices has seen an immense decline in marine species as a result of degraded water quality, habitat loss and harvest pressure.

19. While the report finds there to be a rich diversity of marine life in "relative" abundance, there are numerous reports of now degraded ecosystems missing key indicator species of high cultural and economic value . For one example the CVA records at p.21

> *According to Patuharakeke elders, prior to the construction of the Refinery, a substantial mussel bed covered the takutai adjacent to the site, ranging from the edge of the channel in to shallow water and running from Mair Bank along to the Port Jetty. "When an easterly gale blew you could just roll carpets of mussels into your sack." (Living Memories Hui, Rangiora, Takahiwai 1998).*

Despite such evidence having being presented by mana whenua in numerous related fora, it is not referenced, let alone relied on, in any of the expert reports.

NPL response. As set out earlier, the RMA framework sets a baseline for the effects to be assessed against, and that baseline is the existing environment at the time of application. Northport recognises the significant disconnect between hapu/whānau views of the baseline and that prescribed by the RMA. Northport is keen to discuss how a process outside, but parallel to the consenting, could help address these issues. This is a matter that could be woven into the mitigation plan and/or wider initiatives like those currently being discussed with Patuharakeke (i.e. applying similar frameworks to the Sea Change project for the Whangarei area).

As discussed above, the 'baseline' referred to does not restrict NPL placing the ecological reports within their historic context. Since preparing the draft of this review in May, we have sighted the various Bioreseachers reports compiled in support of applications for RNZ in the 1980s and covering a very similar locality. They describe in detail the extent, variety and distribution of key species of high cultural value then evident within Patuharakeke's rohe and would appear to show a marked decline over less than a generation from large and available harvestable stocks to near collapse and some species (e.g. kutai) now absent.

20. It would also be at variance with published record, for example from 1961 at the time of construction of the first refining wharf

> *"when we were building the wharf, they had floodlights on at night and we used to go out there and ad you'd see kingfish by the hundreds and kahawhai so thick you could go out and walk on them. ... I had a boat*

and we'd drift down the harbour and sometimes get a couple of hundred snapper."[57]

21. The report states that the lower harbour supports extensive cockle and pipi beds, both of which support commercial, recreational and customary fisheries within the harbour. There is no longer a commercial shellfish industry in the harbour, and while there is evidence of range of size and abundance, few large sized fish are available, and certainly in greatly declined numbers, than previously known. The impacts of the loss of key kaimoana species such as cockles, pipi and kutai are obvious and include cultural and economic effects.

22. These findings contrast strongly with the evidence available in the CVA which reports complete cessation of commercial harvest a decade ago. At p.24 of the CVA:

> *This trend is evidenced by the 2012 closure of the Snake Bank commercial cockle fishery that had operated from the early 1980s. Catches were in excess of 500 tonnes initially but dropped progressively over time to less than 50 tonnes.*

There is insufficient available stock to support customary take and certainly insufficient to support any sustainable commercial harvest.

NPL response. We are aware that there is no longer commercial shellfish operation in the harbour, and we will correct the report accordingly.

No updated reports were available at the finalisation of this review. NPL's acknowledgement of the lack of commercial availability is noted. It is assumed that NPL also concur that there is a parallel lack of cultural availability..

23. Previous resource consent conditions associated with both NPL and RNZ activities had promised mitigation via resourcing kaitiaki to actively monitor and restore these key ecosystems over time. Nothing in the ecological assessment reports indicates that these previous mitigation conditions have had any lasting or sizable result. Any impacts arising from the proposed activity must be considered cumulative to those already created by NPL and its neighbours over time. If we are correct in assuming that previous mitigation condition did not prove effective then the question of what they will be replaced with this time around must be addressed now.

[57] Paterson M, 1991 *The Point at Issue: Petroleum energy politics in New Zealand, 1955-90*, Collins, Auckland. P.42

NPL response. Northport has supported the kaitiaki ropu via the harbour health improvement fund as required by the consent conditions. The group has undertaken cockle reseeding (no further work supported by the group although some initial work was undertaken to scope large scale reseeding) and seagrass restoration (no further work was undertaken as shortly after the project finished seagrass started to naturally return to the harbour). We agree that the mitigations carried out to date, may not have been as extensive or had the desired (or anticipated) effect. However, the current state of the environment is what we must use for the RMA process.

NPL's support of the harbour's kaitiaki is noted and acknowledged as is the existence of a number of projects. This said, it must also be acknowledged that the mitigation measures under the previous consent package, especially in regard cultural effects of the proposal, clearly did not work and were unsatisfactory. The reasons for this and the corollary of what alternative measures might be considered is beyond the scope of this review but we would expect that it would be the subject of independent analysis prior to lodgement of fresh applications and as such, is a missing essential component of the current report suite.

24. In regard the discussion over the SEA classification of some or all the proposed site, it is noted that the Court has subsequently clarified this matter in RFBPS v NPL, (Decision No. [2021] NZEnvC 021) and found that works proposed for the western reclamation/drydock would consequently be a non-complying activity.

25. We have no concerns as the accuracy of the sampling undertaken as reported. We note that no reference for the 'relative health' adduced from this is made, other than its similarity to other similar habitats in the harbour. Showing the species composition and density relative to what can be assumed to be the ecosystem composition from historical and available evidence over a much greater time horizon would provide a better perspective of the site's health. We note the concerns already raised over the adequacy of the sampling methodology in the CVA.

NPL's response. The ecological study includes the time-series of data that Mark had available and which related to that which he collected more recently. Northport took onboard the feedback from the CVA around the 4Sight sampling methodology. As a result, 4Sight undertook additional intertidal and subtidal sampling to collect more robust data to inform their analysis and reporting.

26. The absence of any harvestable kutai or pipi beds and near absence of harvestable cockles is alarming, given the historic records of the level of abundance of these taonga species in tribal evidence. These are supplemented elsewhere by the applicant's own studies. The proposal's Archaeological Report states at p.4

> "Whangarei was a desirable place to live due to its sheltered harbour, ample marine and freshwater resources and temperate climate."
>
> "for Maori, fishing was a great pastime, describing how they used to make raids on the sharks about One Tree Point" (p.5)
>
> "access to the rich marine resources would have been straightforward"(p.10),

and p.10-14 lists numerous excavations detailing shellfish middens and fish types and numbers found, e.g.

> "One of the middens contained predominantly pipi (Paphies australis), while the remainder of the middens were predominantly cockle (Austrovenus stutchburyi). A further 10 shell species were identified in the middens, at lower frequencies. Four of the shell samples from the excavation were submitted for radiocarbon dating, which returned a date range for occupation in the area from the mid-16th century to the early 19th century."

27. It can be inferred that the findings from interpretation of the data are somewhat subjectively made. For example, at p.18, the assessment of pipi data over a 21-year spread is interpreted as suggesting pipi density can be highly volatile. However, it can also be interpreted as suggesting that any meaningful pipi populations have been absent for upwards of 80% of this time and the overall trend continues to be downward. By the time the overall conclusions of the report are reached, this is translated as "confirming the high marine ecological quality values of the area around Northport and Marsden Bay" and the presence of "a healthy and ecologically well-balanced community".

28. To give a further example, the summary conclusions made at p.19-20 are subject to interpretation. The sampling does not show "beds of edible cockles" as the report states. Some very small numbers of edible sizes were found interspersed in beds of much smaller sized fish and the general pattern is of poor shellfish health with the vast majority of sampling showing a predominance of undersized fish and an absence of key species.

29. The size of fish found in the 2020 surveys is particularly alarming, with apparently no edible fish being among the small numbers present and the finding that in "an ecological sense, pipi appear to be virtually functionally absent from the Marsden Bay shorelines". If nothing else this suggests the mitigation measures from previous consents have not resulted in any meaningful ecological remediation or rehabilitation of the area, albeit the reference to possibly increasing sea-grass beds is an outlying positive indicator. Conversely the

reports of increasingly extensive presence of the invasive Asian date mussel is a further indication of deteriorating ecosystem health.

30. What is clear from the available record is a declining trend line within historical record of ecological health. Since the eye-witness reports of Shell's refinery manager in 1961, at the point the first port construction took place at Marsden, number of all taonga fauna species have declined, in most or all cases dramatically – fish, shellfish, avifauna, mammals – in the space of a generation. This should not be read to imply that the port development has been causal to this or to what degree its construction and operations have contributed (the Shell manager laid the blame for falling fish stocks to commercial trawlers).

    The ecological reporting and evaluation are based upon the data collected, and it does require the ecologist to apply their professional expertise and judgement. Consequently, different experts may have different views on the current state of the environment and the likely effects. Mr Poynter's reports have been reviewed by Niwa (on behalf of Council) and Northport is undertaking additional peer reviews itself (using Dr Shane Kelly). Northport is keen to have ongoing discussions with whānau/hapu about the ecological effects, including how mitigation of those effects could be achieved.

    Further review of reports is beyond the scope and budget of this review.

31. The arsenic and nickel concentrations found in sediment sampling (pp18-19) raises a potential concern, with both metals known to be found in 'land-farming' of sludge and refinery by-product at various locations in and around the Refining NZ site and thought to be used in some shoreside armouring and dune protection in the vicinity in the past according to published records. Concentrations were also elevated in comparison to historic SoE monitoring in 2014, 2012 and 2010.

    Noted, and we will pass this onto Mr Poynter. RNZ operations and associated discharges are outside Northport's control.

32. None of the findings presented in regard water quality and NPL stormwater discharges are contested.

33. The findings reached in regard potential effects of projected dredging activity appear consistent with the data provided and analysed.

34. Potential changes on the ecology caused by accelerating global warming and the effects of the increasing climate crisis are not considered in the report.

We are happy to discuss this further, particularly how the ecologists could access some specific data on the impacts/expected changes to the ecology of the environment in question.

A literature review of relevant available science is beyond the scope of this review. However, local science has been advising of the types of impacts projected for at least the last decade.[58]

Morphological, hydrodynamic and plume modelling

35. We have no comment to make here in regard the findings of these reports which we assume to be accurate, apart from raising the query as to whether impact of sea level rise and increased storm intensity factors resulting from global warming have been considered.

36. Anecdotally, both mana whenua and community have been regularly reported as saying they are convinced the reclamation for the current berths has changed the local hydrology and may be contributing to the changes at Mair and Marsden banks. Both NIWA and local marine biologists, such as Vince Kerr, have also raised the lack of understanding about shellfish spat dispersal in the lower harbour and whether, or to what degree, past changes related to NPL and RNZ activities have affected that.

NPL reponse. The hydrodynamics of the harbour will have changed because of the previous reclamation, the magnitude, and effects of which should have been evaluated in the original consent process. Post construction monitoring of the changes in current flow and strength as well as sediment transport showed good alignment with the modelled predictions. Northport is more than happy to provide the reports setting out these findings. The changed conditions now form part of the existing environment which this proposal will be assessed against.

In terms of spat dispersion modelling, we have had a few brief discussions with Juliane and MetOcean about that type of modelling. It can definitely be done but requires a good understanding of the sources of the spat. We are keen to work with whānau/hapu on undertaking this type of modelling. This type of work could form part of the measures in the mitigation plan

Consideration of potential mitigation measures is beyond the scope of this review and in regard, a draft mitigation plan has not been prepared. We repeat our previous comment that we assume design of a mitigation plan would begin with an independent analysis of the lessons learnt and obvious shortcomings of

[58] For example, https://www.researchgate.net/publication/259741354PredictedimpactsofclimatechangeonNewZealand'sbiodiversity

mitigation measures utilised in regard previous development processes for this locality.

Marine Mammals

37. No detailed report was available on the website for review.

38. From the supplied PPT and presentation at the VFG 15 May workshop three key gaps were identified:

    a. Effects appear to be have been considered only from the perspective of the activities related to construction without consideration of any effects from increased ship movements associated with the activity.

    b. No consideration appears made to the impacts of climate crisis related effects on marine mammals.

    c. No noise effects on species other than marine mammals appears to have been considered

    NPL response. The full report is now on the website and has been provided to whānau/hapu. The report does include operational risks, such as ship strike and loss of debris overboard (entanglement). The underwater noise effects on fish have been discussed in the underwater acoustics report, but the focus is on the species of highest risk, which is the marine mammals. Speed reductions for commercial vessels would also be useful in reducing noise levels but would need to be implemented outside the RMA process.

    Two reports are now available on the website, one for the eastern and one for the western reclamation, although both appear identical apart from the cover sheet and initial description and only Report No. 3649 was read in full.

    A range of issues are evident. The relationship between the body of the report and the opinions expressed (presumably by the report's author although this isn't stated), in Appendix 3 is not clear, nor why this information is not included in the body of the report. It is noted that the issue of the definition of the 'Significant Marine Mammals and Seabird Area' is a matter the Environment Court considers is reserved for later hearings on the Regional Plan[59]. We suggest NRC be asked to clarify this matter. In the event that the matter is now resolved by the most recent decision, then the issue of definition of SMMSA's is closed. The matter of Outstanding

[59] Pp20-21 https://www.nrc.govt.nz/media/rdiczxbm/consent-order-topic-11-biodiversity-significant-ecological-areas-and-natural-character-objectives--policies-f-1-3-f-1-11-d-2-16-d-2-17-and-sea-maps.pdf

Natural Landscapes in the CMA is unresolved and the subject of a current s.293 process. We suggest NRC be asked to advise what impact, if any, this might have on the application.

There appears a range of questions over the relationship between the data used and the conclusions drawn and it would useful to get an independent expert opinion. Sources such as the Department of Conservation's Marine Mammals Sighting database, for example, is a record of those people that opportunistically report sightings and are a poor substitute for a proper scientific study. Statements such as the "majority of migrating whales currently pass by Hen (Taranga) and Chicken Islands in deeper, more offshore waters" or " commercial ships have a low probability of encountering a migrating whales" are not directly linked to the data referenced at the start of the report and are open to challenge. I personally have navigated these waters in all seasons over four decades. On some occasions I have reported marine mammal sightings in my ship's log or to the DOC database but more often than not I haven't made any report. I have encountered Bryde's whales between Taranga and Bream Bay. Just last week we were met by a large pod of dolphins a mile east of Home Point. There was a seal in the Hatea River last month. I have observed Orca in Urquhart's Bay hunting rays and as far up river as Kissing Point in 2007 (which was reported to DoC).

The overall finding, that Whangarei and Bream Bay are not ecologically significant habitats for marine mammals, is at direct odds with all tribal record and matauranga, with the very name of the harbour describing its intimate relationship with whales as one example. Ngātiwai, Patuharakeke and others are often cited as naming the harbour Whangarei Te Rerenga Parāoa (the gathering place of whales) because whales gathered there to feed during summer.

The Ngātiwai Trust Board RMU has long been a leading authority on whale and marine mammal standings and strikes within the region and we were surprised that their expertise and knowledge was not referenced nor were they consulted in the expert reports.

There appear a number of other inconsistencies with other reports. For example, at p.37 "In regard to potential increases in shipping, NPL is expecting that additional commercial ship traffic will be from other New Zealand destinations (i.e. Ports of Auckland) rather than any new or additional container ships coming from overseas". However, a central tenet of the ME report is that a larger port is required to absorb an increasing share of UNI international container trade. No reference is made to any potential increase in direct coastal trade, either within the region or

nationally, arising from an increased shift to shipping over road and rail under a decarbonising economy.

The report potentially understates the timeframes of disturbance. While there is a stated preference for the various construction projects to be undertaken collectively, it is also possible that they could occur sequentially, in which case the construction effects could be over a time line of several years, potentially a decade. The transport report suggests a 20-year development horizon.

In regard the monitoring and mitigation proposed, it is disappointing to note that this is recommended to be governed by a Marine Mammal Management Plan to be developed and presumably implemented by DOC and the applicant and their experts. That tangata whenua and kaitiaki are not even considered speaks heavily of the effectiveness of the empowering of kaitaki that was proposed under previous consent mitigation processes.

Avifauna

39. Reports covering both the eastern and western proposed developments were reviewed, again noting they are essentially identical reports.

40. The key issue of concern is the lack of holistic assessment of the impact. The report indicates that numbers may not be accurate and are not as important as trends and then concentrates (in some cases poorly – mean numbers of birds only) on numbers.

    NPL response. The report has since been updated to take a more system-wide approach to the bird species that use the project area.

    The reports on the website at the date of this review are still showing as February 24, 2021 versions.

41. There are no wider linkages to the site discussed (occupation and tide height, seasons etc). The assessment did not cover all of the seasons or comment on the change in flock numbers/composition over time.

    NPL response. As a result of the request at the technical hui, additional bird survey work has just been completed to add a winter season to the existing data. This will allow some comparative analysis to the existing data set and identify if other bird species are present over the winter months.

    The reports on the website at the date of this review are still showing as February 24, 2021 versions.

42. There is no assessment of the impact of the current port against the predicted environmental impacts at that time. Were they correct? We assume that any additional effects emanating from the proposed further development will be incremental to those already caused.

NPL response. As previously set out, the RMA baseline is the existing environment and that is the basis for the effects assessment.

43. If mitigation measures were provided specific to avifauna in past consent conditions, have they proved effective? Did they empower Patuharakeke in fulfilling their ancestral responsibilities as kaitiaki?

NPL response. The previous consent had funding for a harbour health improvement fund, which listed studies of NZ dotterels as a potential study area. We are not aware that the group funded any avifauna specific projects.

44. There is no indication of the impact of the structures on the shoreline habitat behind it. The report assumes there will be none despite considerable impact from the current port on long-shore flow and the Marsden Point natural roost.

NPL response. The report does address and assess the effect of the loss of the shoreline/dune habitat due to the reclamation. Dr Bull has also reviewed the hydrodynamics report and evaluated the relevant predicted effects from changes in the tidal flows/morphology. Dr Bull will also review the upcoming T&T coastal process work and update her report to address any additional effects identified.

The reports on the website at the date of this review are still showing as February 24, 2021 versions.

45. There appears no attempt to put any potential impacts into context with the rest of the harbour now. There appears to be an assumption that how the harbour was 20 years ago is what it is like now (i.e. roost availability, population stability) and no mention that it may be different. It appears plausible that because many parts of the port and MMH land behind have been undeveloped up until now, birds may now be using port as habitat.

NPL response. Dr Bull is obliged to use the existing environment as a baseline for her effects assessment. As identified in the survey work, a range of birds currently use the developed areas of the port for breeding.

46. There is no reference to how the climate crisis is likely to effect avifauna, despite the obvious correlations with marine feedstock availability related to ocean

warming and acidification, effects of climate variation on migration and breeding patterns, for example.

NPL response. Whilst we must base the effects on the existing environment, we are happy to discuss the point raised further. We would need some data on the predicted changes to enable Dr Bull to undertake an assessment.

Providing a literature review on the potential effects of the climate emergency on avifauna is beyond the scope and budget of this review. NZ literature since at least 2012 has been reporting increasing levels of global sea bird decline across all 350 species with Paleczny et al (2015)[60] reporting close on 70% decline in populations to 2010 and noting that "seabird population changes are good indicators of long-term and large-scale change in marine ecosystems". Reports this month from the UK of guillemot mortalities[61] draw direct linkages to climate change with the Royal Society for the Protection of Birds noting the climate crisis was exacerbating the factors that lead to falls in seabird populations. Closer to home, there are recent reports available of the impacts of marine hotspots several degrees above records in the Tasman and Pacific in the past three years having a significant impact on the ability of sea birds to feed due to the warmer temperatures driving prey fish to unusual depths. Such pressures are projected to increase significantly as the climate emergency accelerates and we would have expected to see some comment as to the effect this is likely to have on avifauna over the projected lifetime of the consents. Whitehead et al (2019) have a useful chapter specific to climate change and threats to seabirds of Northern Aotearoa[62].

Transport

47. No report is available for review from the website.

NPL response. The report is now on the website and has been provided to Patuharakeke.

We have reviewed the August 21 report and note a range of issues arising and these are discussed in more detail following NPL's responses in the following paragraphs.

48. From the PPT and presentation at the VFG 15 May workshop the following issues arise:

[60] https://digitalcommons.usu.edu/watsfacpub/976/
[61] https://www.theguardian.com/environment/2021/sep/18/scientists-investigate-hundreds-of-guillemot-deaths-on-uk-coastline
[62] https://1523901d-6124-4111-a0c3-51808943665d.filesusr.com/ugd/de29abde931d3693e64d0dbaeebfa453c569dc.pdf

a. Only land road transport effects are considered. Maritime transport is not referenced.

NPL response. The scope of the transport assessment was road transport only.

The scope of the transport report appears primarily road with some reference to rail. Marine transport is of potential relevance if coastal shipping is included as an increasing priority in a decarbonised economy during the lifetime of the consents. In regard rail, we were unable to find any basis for the projected 8% transfer of freight and question whether this is a realistic figure given the national commitment to a 1.5 degree agenda and the level of shift in transport required to achieve Paris Agreement commitments. The lack of rationale to explain the use of various assumptions throughout the report is a general concern (e.g. 8% shift to rail – why not 7% or 70%; 20 and then 30 cruise liners visits per annum – the cruise liner industry may rebound and continue its upward trajectory in which case much more than 30 cruise liners could visit in a year or it may never recover fully and the future comprises smaller numbers of specialist vessels).

b. No consideration is given to the major changes ahead for the transport sector in a decarbonising NZ economy over the expected lifetime of the consents. If Aotearoa is to meet its international commitments, all transport will need to be at least close to absolute zero emissions before these consents expire and major structural changes, including reduction of heavy road traffic (and probably reduction in personal vehicles use) accompanied by greatly increased reliance on rail and coastal shipping in this timeframe. BAU scenario modelling is simply inappropriate in this context.

NPL response. Understood and agree. The transport report therefore likely represents a worst-case scenario in terms of traffic numbers and resultant effects on the capacity and safety of the assessed road network. We also note that whilst the motive power for the transport network may change from petrol/diesel to electricity or other fuels (i.e. hydrogen), road and rail based transport will still be needed to move the freight to the end user. In the timeframe of the modelling, truck-based transport is still likely to be the primary solution for short-haul freight tasks.

We appreciate NPL concurrence that BAU modelling is inappropriate for this proposal. However, we would need to more critically assess that data presented to agree it represents a worst case scenario. It appears that the

projected traffic flows used in the transport study may not take into account the projected traffic flows associated with the "full higher growth scenarios" projected in the ME reports. For example, the modelling explained at p.78/112 of the Transport Study appears to show a change in container trucks of 8125 container trucks in 2018, rising by 21617 in year 5, 30804 in year 10 and accelerating to 174, 495 in year 20. There is a large increase in imported vehicles arriving at the port in year 10 but this remains static thereafter. No rationale is given to explain why figures of 20 and 30 cruise ships per year are shown.

Noise

49. The assessment used creates no concerns as to its accuracy and we have no additional comment bar noting the confirmation of the finding that the proposed activity will generate effects that are more than minor.

    Mitigation of the identified effects is focused on private houses. Historic tribal record confirms regular seasonal fishing camps of two to three thousand that used this locality in the past. There appears no consideration of effects on community, tangata whenua, kaitiaki, etc using what is left of the beach and reserve at Marsden Bay and eastern side for their amenity?

    NPL response. The noise report focusses on the receivers which are most sensitive to noise, which are people sleeping. The controls are set to ensure appropriate noise levels for those receivers. Outdoor noise levels near the port will likely increase with the development. We have discussed the outdoor noise levels with Marshall Day, and they are updating their report with a discussion of the related effects on recreational/ community users. We note that container handling technology is constantly being upgraded and the handling equipment is getting quieter and quieter. Most current modern container handling equipment is electric or is diesel-electric.

    The latest noise assessment reports available on the website are dated March 2021 at the time of this review.

Landscape, archaeology and recreational effects

50. The reports have been read. We have no comment to make in these regards other than the noise query above and defer to the CVA and forthcoming CIA.

Reclamation and Shipyard Concept Design Report

51. We have read the report and have no comment to make in regard the engineering proposed which we assume to be of a very high standard.

52. We do note the shipyard design and extensions/dredging required for the turning basin is justified based on the dimensions/mooring, turning requirement of the Navy's Aotearoa – without confirmation it will be used for this purpose.

NPL response. At this stage, the design case for the Shipyard 1 berth (on the western edge of the reclamation) is the Aotearoa. While this is the design vessel for the development, like the balance of the facility, the berths have been designed as multipurpose berths, providing flexibility and demonstrating long term benefit to the development. In terms of water depth, the berths and turning basins has been designed to accommodate the anticipated vessels, including cruise ships, car carriers and a range of other vessels coming in 'light-ship' for maintenance in the dry-dock.

In recent discussion, the Minister of Defence confirmed that there is no intention to relocate the navy in part or whole to Whangarei in the short to medium term. He also confirmed the the Aotearoa purchase includes a lifetime servicing arrangement for the vessel in Singapore. It woud not appear there was ever a design or business case involving the Aotearoa drydocking at the proposed new facility.

53. We do ask the question of what allowance or consideration has been made in the design in regard projected sea-level rise and associated increased future storm intensity. We note that as the science increases there is an upward trend in projections of the amount of sea level rise predicted, with most studies agreeing that there will be marked acceleration by at least 2060.

For operational reason alone, Northport needs the facility to a be constructed to an appropriate level. Work has been undertaken to understand that level with sea-level rise and extreme weather conditions (primarily swell waves and the impacts on the underside of the wharf). We will include further discussion of this design approach in the application.

We are still waiting disclosure of the 'appropriate level' and note the revised advice in the latest IPCC reports in this regard, including the potential for SLR of more than 2m within this century.

54. We assume the new infrastructure to be a permanent fixture and therefore the effects of reclamation cannot be avoided or remedied. We note the comments made by the Environment Court in this regard in its recent decision on the SEA associated with the Western reclamation .

NPL response. We will address these matters in the technical reports and the AEE.

Economic Assessment

55. The economic report is not available on the website and the analysis of the Eastern reclamation was supplied separately. We have not yet been supplied the Copeland report on western reclamation/drydock.

NPL response. The Copeland report has been supplied subsequently.

We have received the Brown-Copeland report for the western reclamation and the revised ME report covering the Eastern reclamation and the 31 May NZEIR review of both reports.

As a general comment it is noted that the two reports adopt quite different analytical approaches to their assessments to the extent it is difficult to compare them, especially given the minimalist approach adopted in the BC report.

This said, both approaches assume a conventional or traditionalist approach to economic theory based around assumed ever-increasing growth and to large extent both assume their respective economic investments – in a drydock and an expanded container/cruise liner/car wharf facility – will naturally prove successful eventually as the NZ economy continues the overall growth pattern sustained for the past 70 years. This is certainly a possible future but it is certainly not the only possible future.

Neither report factors in either the potential for negative growth, the commitment of government to fully decarbonise the economy within the lifetime of the consent, the local and international lessons of the Covid pandemic or the potential shift to a circular economy.

The fundamental question here is whether NPL's "Vision for Growth" also equates to a "blueprint for sustainability and resilience". The opening paragraph of the ME report correctly states "Northport's role is likely to change significantly in the future, mainly as a result of changing trade patterns". What isn't established in the assessment is the overall direction of that change over the projected 35-year lifespan of the consent and, given that the reclamation is permanent, beyond. In many regards, the VFG asks "how big a port infrastructure can we fit into Marsden" and doesn't ask "what is the most effective and efficient green port design needed for Te Taitokerau in 2056?. In the event, however unlikely, that the projected future growth does not eventuate, what are the economic effects then? What is the best size and design of Northport to meet the regions foreseeable future need? Marsden, and the region's development, has always been uneven and has lagged significantly behind the national development program. The development record includes the boom and bust of the kauri economy, massive land clearance and siltation exacerbated by the Portland Cement plant, the boom and bust electricity generation industry under Think Big with the power station finally dismantled and shipped out, an oil refining industry that was never truly a sound

economic proposal but was endlessly propped up largely to sustain regional employment for 60 years, a fast declining wet fish industry and a now exhausted shellfish industry. The vaunted light/heavy Marsden industrial zone has not yet produced a successful and sustainable industrial base. And at the other end of the catchment the evidence of the failed superyacht and naval construction ventures are plain to see along the banks of the Hatea River. Already a number of generations of often specialised skilled labour have been trained and lost to the region. The current loss of the Refinery workforce is only the latest episode. Only four years ago the 'vision' was for at least a substantial portion of POAL to relocate alongside a significant portion of the Navy and a fast expanding cruise liner industry while next door RNZ were predicting greater expansion.

Patuharakeke's interests lie in NPL making the most sustainable long term decisions as it undergoes its significant change.

The BC report raises a range of issues. The authors preference to rely on a compartmentalised approach to assessment, where economic effects are considered separately and apart from non-economic effects is noted. Given the close interrelationship between ecological, social, economic and cultural values associated with this development we would have assumed a triple (or quadruple) bottom line reporting line would have underpinned the analysis. It is questioned whether circular economy approaches, such as the Donut model developed by UK economist Raworth [63], would provide a more integrated and appropriate approach. Using the log trade as an example, a circular model might assume that we would move from trucking raw logs from forest to wharf by road for exporting and importing containers of finished wood products and steel building products to exporting higher value finished timber products ourselves while diverting as much product to local markets as possible. If the processing industries are developed locally as well, then a greater share of the economic benefit is retained locally and regionally and less "lost" ex-region. This model aims to maximise the localised economic return of a regionally significant infrastructure without requiring greater cargo volumes to be 'imported' regionally and then exported internationally as proposed in the NAI scenario in the ME report.

The NZIER comments in regard use of multipliers are noted and agreed. The analysis assumes the economic venture will be successful and notes the economic benefits associated with the drydock construction phase. In terms of operation, it assumes a range of additional industries will be attracted by the successful venture. No consideration is given to the potential costs to such industries should the venture, for any reason, fail in whole or part. No real evidence is provided in the BC report to confirm the existence of a successful business case to support the venture. Likewise,

[63] *https://www.kateraworth.com and adapted to an indigenous perspective here* https://www.resilience.org/stories/2020-10-08/an-indigenous-maori-view-of-doughnut-economics/

the assertion that "it is anticipated that the Project will enhance the profitability of NPL and therefore lead to an overall increase in the flow of dividends to MMH and its 53.6% shareholder, the Northland Regional Council" is entirely dependent on the economic success of the venture. No evidence is provided to support the claim that the proposal will reduce costs for New Zealand shipping companies. It may well increase the range of services available to NZ shipping companies but this does not mean it will do so at reduced cost. The conclusions given at para. 50 are not proven by the evidence provided.

Additional comments arising are made in italics and inserted in the following paragraphs.

56. The ME report starts with the assumption that NPL's role is "likely to change significantly in the future, mainly as a result of changing trade patterns" and the report establishes two futures, Business-as-usual (BAU) and a North Auckland Imports (NAI) scenario with the underlying assumption that future activity will fall somewhere within this range. *In the updated report, two additional scenarios are modelled.*

57. The only point of certainty in future projection appears to be the log harvest, long the ports major activity. The NIA assumptions appear to be based on a large degree of unsubstantiated optimism that this trade can be attracted to NPL and the necessary logistics infrastructure, primarily transport, will be in place to enable this.

58. It is extremely difficult to place great reliance on this report given the amount of critical parameters that are considered 'beyond the scope' of the report. The term is used 13 times throughout. The two major caveats to the analysis undertaken as set out on pp 1-2 (and paraphrased on p.48) and the additional caveat set out on p.29 are extremely broad in their scope. and there is a consequential inability to truth any of the conclusions deduced from the modelling.

NPL response. The economists, like the other experts must rely on the best available information at the time. Additionally, they need to apply their professional expertise and experience to evaluate the future trends and effects. The validity of their methods and professional judgement is being tested through the pre-application review by Council and will be further tested during the hearing process.

59. No consideration is given to the impacts on any modelling of the climate crisis and we refer our comments in previous sections. For Aotearoa to give effect to its international commitments, decarbonisation of the national economy must begin now and will see large and significant changes to our transport profiles. The projected levels of use of NPL under the NIA modelling will require much more than a shift of heavy trucks to either hydrogen, electric or fuel cell, but likely require increasing reliance on electrified rail and decarbonised coastal shipping.

While central government is slow to advance either of these at this juncture, much can be learnt from the rapid advances being made in most other developed economies. However at this stage, and until government commits to the level of investment needed for real economic decarbonisation, increased reliance on rail and coastal shipping is conjecture.

60. Broader national climate response will also have potentially significant impact, dependant on how central government organises its activities to meet our international targets. For one example, a transition from raw log export to replacing steel and cement with timber throughout the domestic construction industry is a logical measure that could be advanced with urgency. This would then impact two of Northlands key economic drivers with subsequent impacts on logistics of transporting those commodities. In this example we might assume the localised and national economic benefits to be positive, however the fact remains they have simply not been considered in the analysis offered.

NPL response. Northport agrees that long term changes to the way transport modes are powered is inevitable, and some changes to the freight type may occur. Funding for the Port rail connection was recently confirmed by the government.

61. There is no consideration of future shock events, such as the current Covid pandemic, occurring during the life time of the consents being applied for and it is implied that after Covid we will revert to some form of BAU with steady moderate overall national economic growth. This is of course only one of several possibilities which must also include potential for periods of negative growth. It is notable that at least one major local employer, Carter Holt Harvey, has closed its door since this study was prepared. Cessation of refining activities will almost certainly see another major local workforce removed. Should the national oil supply convert to direct shipments to regional centres, arguably the most economic and environmentally efficient option, a large amount of the current coastal shipping movements associated with Northland will drop dramatically.

NPL response. Northport is comfortable with the predictions in the economics report.

62. If the objective is to achieve the best and most efficient port for Northland's future, rather than a larger port based on inadequate future planning, then it would appear imperative that a much more comprehensive economic analysis is required.

NPL response. Northport has undertaken a robust future planning process and is confident with those plans and the supporting information. Additionally, the Government have commenced a NZ Supply Chain Study with a bias to the Upper North Island. Northport will continue to use all the best available information in its infrastructure planning, including the outcomes of this upcoming report.

We are not challenging NPL's business confidence but we do question its weight within a national planning frame. Northland's geography plays against it significantly and the decisions over what share of the national, and in particular UNI, cargo traffic comes via Northport will likely be made at a national level, or at least ex-region. If the desired output is the most appropriately sized regional port, would it not be logical to allow the outcome of the NZ Supply Chain study to determine the future national significance of the asset? Until this is done it is not possible to truth the core assumption in the ME modelling, namely that "in the coming three decades Northport's role is likely to extend beyond its regional trade tasks, to support trade from outside the region – i.e. it will take on a national role".

63. One small example of this is the reference to the Cruise liner industry and the assumption it will revert to its previous course with the end of the pandemic. The future of this industry now highly uncertain but it appears clear from all industry sources that a return to a BAU is unlikely.

    NPL response. In the short term, that may be the case, but Northport is confident that cruise vessels will visit Northport in the future.

64. No real basis is given for the assumption that transport savings will equate to 25%. The future of Ports of Auckland Ltd (POAL) is unclear and no firm decision is made that it will relocate to South Auckland, which appears as a fundamental assumption to support the NIA model.

    NPL response. This statement is incorrect, the economics report assumes the POAL does not move in the timeframe of the analysis.

65. We cannot support the finding that NPL will, in future, take on a national role and nor is this supported by the analysis presented. Unless there was large scale shift of POAL to NPL, at best NPL will supply an ancillary service to one other region. Given its geography, this fact is unlikely to change.

    NPL response. Northport holds a different position on this matter.

66. While we can fully understand and emphasise with the position NPL is placed in here, it is simply not possible to consider the economic effects of this activity in isolation to the other major economic drivers associated. These include the immediate future of RNZ, where the only certainty appears to be that refining activity will cease shortly, the future planning of the Navy, the need for central government to re-evaluate the future use of coastal shipping and other development imperatives. To conclude that it "is likely that NPL's trade tasks will

shift towards higher value goods in containers" on the basis of the evidence presented is irresponsible.

NPL response. Northport is comfortable with its position on this matter.

67. It is not possible to comment on the accuracy of the projection of potential growth equivalent to 60,900 jobs from the evidence presented.

68. We opine that the study undertaken is unlikely to be considered to meet the test of a formal Cost Benefit Analysis and this appears already conceded by the authors. In the report the need for a CBA is established, the needed componentry for a CBA is detailed and then it is concluded that a. "it is not possible to develop a detailed CBA" (p.41) and then b. "uncertainty means that it is not constructive to develop a detailed CBA" (p.41). As a result a rather obscure 2015 Treasury report, "Guide to Social Cost Benefit Analysis " is relied on to justify simply providing a high level summary of assumed benefit and costs. This is followed by, as a final step to a CBA (which it has already been established is not being undertaken), a 'sensitivity analysis' which is offered with the justification that is best practice for testing the assumptions used. A list of very broad assumptions is then listed with highly limited analysis.

NPL response. Northport is comfortable that the economics report(s) robustly assess the effects as required by the RMA framework. These reports will be tested through the consenting process.

Coastal Processes

69. We have read the draft T&T report. A range of issues arise. We have no comment on the data or analysis done in terms of describing the coastal processes which we assume to be of the highest standard. Closer review of this data is beyond the budget and scope of this review.

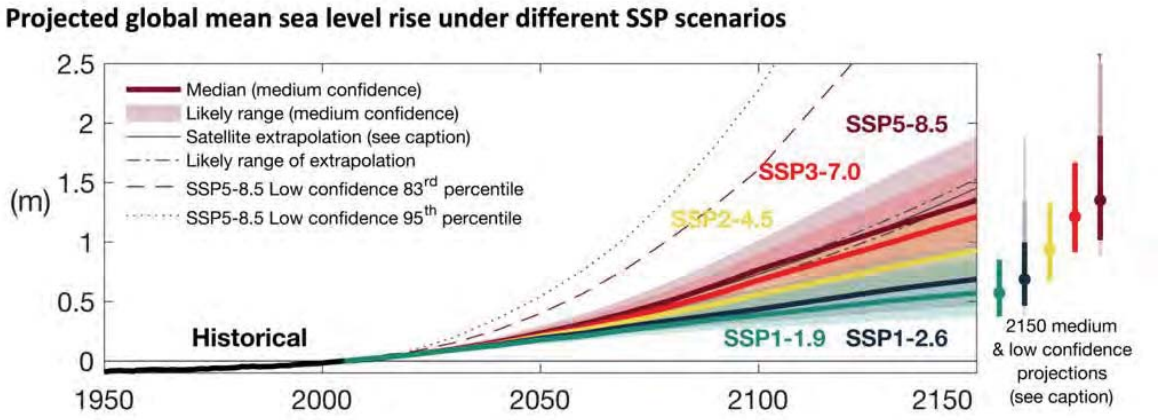
70. In general terms, we note that T&T consider the effect of the proposed development on occupation and disturbance is very high, effects on public access to the CMA to be very high, the effects on currents and sediment transport to be moderate, and due to the occupation of the beach and seabed and changes to the currents as a result of the eastern reclamation the overall cumulative effect on coastal processes and public access is very high.

71. In regard the monitoring and mitigation proposed, it is disappointing to note that tangata whenua and kaitiaki are not even considered and this again speaks heavily of the effectiveness of the empowering of kaitiaki that was proposed under previous consent mitigation processes.

72. The T&T report is one of the few reports that provides serious discussion on the impact of the climate emergency on this proposal and the recent IPCC AR6 report. At 3.12 T&T assess climate change effects and discuss the differences between the IPCC AR5 and AR6 modelling relevant to SLR. The report concludes:

> The modelling projects slightly more warming for a given pathway than AR5 scenarios. This means that there may be slight increases in sea level rise of in the order of 10 to 20cm at 2150 for the extreme (8.5) scenarios. The modelling also includes the potential for a low likelihood, high consequence event of marine ice cliff instability (MICI), although this scenario is characterised by deep uncertainty due to limited process understanding and limited availability of evaluation data. If this event does occur, sea level changes could be in the order of 2 to 5m at 2150.

73. The AR6 reports needs to be read clearly and within context[64].



Projections of GMSL for each of the five SSP scenarios. The bold lines indicate the median projection of models that include only medium-confidence processes, while the shading represents the "likely" range of those same models. The bars to the right show the median and likely ranges of projections for models that include both medium- and low-confidence processes (such as MICI). Source: IPCC (2021) Figure 9.27.

74. AR6 is the also first IPCC report to discuss "committed" SLR – the rise which is already locked in due to historical emissions. Even if emissions were to stop today, it is *likely* that sea levels would rise an additional 0.7-1.1m by 2300. Taking into account the "pledged emissions" through 2030, these numbers increase to 0.8-1.4m of committed SLR.

[64] Carbon brief provide a useful summary at https://www.carbonbrief.org/in-depth-qa-the-ipccs-sixth-assessment-report-on-climate-science

75. AR6 concludes that in almost all emissions scenarios, global warming is expected to pass 1.5C in the early 2030s and the Earth will be 1.4-4.4C hotter than pre-industrial levels by the end of this century, depending on whether emissions are rapidly cut to net-zero or continue to rise

76. While SLR may have limited impact over the proposed consent lifetime, even under best case scenarios, it will have an increasing impact on the location over time. AR6 confirms the possibly of that occurring sooner rather than later. The impacts of a 4.4C increase in average global temperature in the next 88 years, however unlikely that may be , would likely have significant influences beyond just SLR and including ecological processes (including avifauna, marine mammals, etc) and economic and trade modelling. Given this we would expect to see this matter further addressed in the relevant sections of the AEE.

Dr Peter Nuttall
Director
S4S (Fiji) Ltd

1 October 2021

Appendix 3: CEA Matrix

Patuharakeke Effects Matrix – Northport Expansion Project (Updated version December 2022)

Patuharakeke Wellbeing	Effect	Type of Effect[65]	Positive/Adverse and Magnitude[66]	Relevant HEMP[67] provisions	Assessment against HEMP
Environmental	Marine ecology and coastal processes Reclamation – destruction of fauna and habitat, effects on mātaitai Dredging sediment plumes Disruption of Diminished mauri of water and potential flow on effects to Poupouwhenua Mahinga Mātaitai, other sites of significance and Whangārei Te Rerenga Parāoa generally.	Past, Present Future, temporary, Cumulative. Permanent	Reclamation destroys shellfish and other marine biota habitat permanently. Others have raised potential issue of reclamation and changes to coastal processes disrupting larval dispersal for pipi/kōkota etc, potential for geomorphological changes to Snake Bank cockle bed, concern over potential for change to structural integrity Poupouwhenua Mātaitai/ Mair and Marsden Banks. Increased shipping = potential for heightened oil spill risk and other pollution including providing artificial surface for more establishment of biosecurity risk/marine pest species to establish ie. Mediterranean Fanworm – in close proximity to our mātaitai, nearby Reotahi	Section 9 "Tangaroa" 9.1.1 Issues a)The cultural health of Whangarei Te Rerenga Parāoa, Bream Bay and our estuaries is adversely affected by: i.Direct discharges of contaminants, including wastewater and stormwater; ii.Sedimentation iii.Diffuse pollution from rural, urban and industrial land use; iv.Reclamation, drainage and degradation of coastal wetlands; and v.The cumulative effects of activities. b)Patuharakeke are not represented in decision-making over the management of coastal waters in our rohe. Objectives 9.1.2 (a)-(e)	Proposal's environmental effects are incompatible with the relevant HEMP provisions and Draft Hapū Strategic Plan (Pou Taiao) goals and measures.

[65] http://www.legislation.govt.nz/act/public/1991/0069/latest/DLM231795.html
[66] No effect, minor effect, significant effect, critical effect.
[67] https://patuharakeke.maori.nz/wp-content/uploads/2015/02/Patuharakeke-Hapu-Environmental-Management-Plan-December-2014.pdf

			Marine Reserve and other significant sites. The mauri of Whangārei Te Rerenga Parāoa is in a diminished state and this activity will not improve harbour health (we have also seen no mitigation/offsetting proposals) Cumulative effects of port expansion in conjunction with climate crisis and effects on food webs, storm events, acidification and coastal squeeze on our taonga species are not considered. **From our perspective these potential effects on Poupouwhenua Mahinga mātaitai, Te Koutu, Rauiri, Whangārei Terenga Parāoa are considered significant and adverse.**	Policies 9.1.3 (a)-(c), &(h) Methods 9.1.4 (a), (c)-(d) Section 9.6 Industrial Activities at Poupouwhenua Issues 9.6.1 (a) and (b) Objectives 9.6.2 (a) and (b) Policies 9.6.3 (a), (b), (c) other relevant sections (9.8)	
	Potential effects on taonga species e.g. marine mammals, birds	Past, Present Future, Cumulative.	The Cawthron Report concludes effects on marine mammals are less than minor. Assessment focuses on operational effects and how they can be mitigated through protocols. We have issue with dataset used and consider the harbour and Te Akau Bream Bay are important for marine	Section 9 generally ie. 9.7 Marine Mammals 9.7.1 Issues a) The habitat of marine mammals is facing immense human-induced pressures. 9.7.2 Objectives a) Increased numbers of healthy whales and	Proposal's effects on taonga species are inconsistent with relevant HEMP provisions and Draft Hapū Strategic Plan (Pou Taiao) goals and measures.

			mammals from a cultural (and ecological) perspective. Increased shipping traffic will heighten ship strike risk for whales. No role for kaitiaki identified in proposed MMMP. Underwater acoustic effects on other species eg. benthic dwelling taonga are not considered. PTB consider the proposal site to be very significant bird habitat. We are not convinced that birds will merely be able to relocate elsewhere in the harbour for feeding and roosting. The mitigation proposed in the form of a recreated sandbank is completely insufficient and could create effects on other species such as lesser knot. Cumulative effects of port expansion in conjunction with climate crisis and effects on food webs, storm events, acidification and coastal squeeze on our taonga species are not considered. The mauri of Whangārei Te Rerenga Harbour is in a diminished state and this activity will not improve	dolphins inhabiting and migrating through our coastal waters and harbour. 9.7.3 Policies a) The cultural, spiritual, historic and traditional association of Patuharakeke with marine mammals, and the rights to exercise rangatiratanga and kaitiakitanga over marine mammals is guaranteed by Te Tiriti o Waitangi. 9.7.4 Methods a) Patuharakeke will continue to advocate for a clean and healthy marine environment for marine life, including dolphins and whales. Section 7 “Tane Mahuta” - 7.1 Issues a) The mauri of indigenous flora and fauna is being negatively impacted by land use, development, disease and pest incursions leading to biodiversity losses. b) All indigenous flora and fauna are taonga tuku iho to Patuharakeke.	

			harbour health (we have also seen no adequate mitigation/offsetting proposals) **Overall we consider the potential effects on taonga species to be significant and adverse.**	c) Decline in key species has significant adverse cultural, social, health and economic effects on Patuharakeke. d) Matauranga Mori in relation to indigenous biodiversity is at risk due to loss of access to sites and other taonga and the ability to practice kaitiakitanga. 7.2 Objectives a) The mauri of indigenous ecosystems is protected and enhanced enabling Patuharakeke to provide for our physical, social, economic and cultural wellbeing.	
	Discharges to Air	Past, Present Future, Temporary, Cumulative.	The evidence provided concludes effects of discharges to air are less than minor. We note air quality is focused on residential receptors and does not consider effects on community, kaitiaki, whānau etc making use of the beach for example. Effects from emissions of increased land and maritime transport have not been considered.	S. 4 "Ranginui" Section 4.1 Discharges to Air Issue 4.1.1 Objectives 4.1.2 Policies 4.1.3 Methods 4.1.4 Section 4.2 Climate Change 4.2.1	The proposal is not consistent with the HEMP provisions relating to climate change and also has a possible conflict is around adverse cumulative effects on mauri (of taiao/ ecosystems)

			Complaints from whānau viewing visible plumes from Takahiwai and on and around the harbour. Climate change issues are not assessed. The emissions profile of the refinery will soon change with a move to a terminal so port related impacts will be greater - the "existing environment" context is changing. **As such Patuharakeke consider would be that air quality effects of this proposal are potentially more than minor.**	(a) Climate Change will impact the cultural, economic, social, and environmental wellbeing of Patuharakeke. 4.2.4 (a)Patuharakeke will work proactively with all agencies and individuals who are seeking positive and pragmatic solutions and responses to climate change. b)PTB will work with industry to develop cultural monitoring methodologies to complement the existing monitoring regime relating to discharges to air.	
Patuharakeke Wellbeing	Effect	Type of Effect[68]	Positive/Adverse? and Magnitude[69]	Relevant HEMP[70] provisions	Assessment against HEMP Patuharakeke
Cultural	Permanent "reconstruction" of Whangārei Te Rerenga Parāoa, including Te Koutu, Patangarahi, Poupouwhenua. Generation of new land titles and	Adverse, permanent, past, present and future, cumulative effects. In particular the potential impact on the Treaty relationship with the Crown in regard the title of the new whenua created and the granting of further Crown easements in the	These matters cannot be addressed by any specialist apart from mana whenua. However, to the extent that Rob Greenaway discusses recreation and access – he concludes "both the eastern and western reclamations are likely to have significant adverse effects on recreation cumulatively,	**Section 9.2 Foreshore and Seabed** **9.2.1 Issues** a) The historical loss of our foreshore and seabed rights has resulted in adverse cultural, environmental, social and economic impacts on Patuharakeke. These are perpetuated in the	We have not seen any mitigation that addresses most of the relevant HEMP provisions.

[68] http://www.legislation.govt.nz/act/public/1991/0069/latest/DLM231795.html
[69] No effect, minor effect, significant effect, critical effect.
[70] https://patuharakeke.maori.nz/wp-content/uploads/2015/02/Patuharakeke-Hapu-Environmental-Management-Plan-December-2014.pdf

	maritime occupational rights. Changes to "riu" for whales, rerenga spiritual pathway Alienation of more ancestral land, takutai moana, traditional nohoanga site/s, extinguishment of customary rights. Ongoing loss of Te Reo me ona tikanga, mātauranga – intergenerational impacts Ongoing Impacts on kaitiakitanga – knowledge and practice through loss of access to places and taonga species - intergenerational impacts Diminished mauri, flow on intergenerational effects on tikanga and values e.g. Manākitanga, mana	CMA, with particular regard to any potential impact on Treaty claims negotiations and MACA application processes	largely due to effects at Marsden Bay Beach as a result of the eastern reclamation. The eastern reclamation will have adverse effects on Marsden Bay Beach as a recreation destination, with or without retained options for public access. Effects are therefore likely to be significant locally and more than minor regionally. Mitigation options for the eastern reclamation need consideration but the already-consented Berth 4 proposal has minimal additional effects on recreation." T&T also identifies significant adverse effects in the coastal processes report in relation to loss of the beach etc (in 2021 report). PTB consider permanent significant adverse effect and cumulative effect of removal of our takutai moana and impedes access when combined with existing Port footprint, Refinery structures, Marsden Cove modifications. We have never relinquished our customary title to this whenua.	contemporary context by the lack of appropriate statutory recognition of our customary rights over the foreshore and seabed. b) Patuharakeke have specific interests in Port and reclamation activities that require addressing. **9.2.2 Objective** a) Recognition of, and appropriate provision for the longstanding rights and interests of Patuharakeke in relation to the foreshore and seabed. b) A partnership regime with respect to port and reclamation activities in our takutai moana. **9.2.3 Policies** a) Patuharakeke will continue to seek just outcomes through our Waitangi claims processes (and other mechanisms) and advocate for an equitable partnership stake in port activities that will allow us to reaffirm our kaitiaki	

			This alienation from one(beach), papamoana/takutai moana etc has flow on effects on our Patuharakeketanga that are intergenerational on our tamariki and mokopuna yet to be born. **Alienation and loss of papamoana/takutai moana, "one"/ beach and accesss to sites of significance is a Significantly adverse cultural effect.**	status and allow us to properly discharge our responsibilities. This would provide income to assist us to appropriately look after and manage our foreshore and seabed. b) Patuharakeke will continue to seek ways to express our customary rights and interests over particular sites and areas within our takutai moana (eg. see policies in section 9.8.3 of this plan). **9.2.4 Methods.** b) PTB will continue to engage with Northport, NPC and NRC to build and maintain robust working relationships to address cultural issues and achieve positive cultural, environmental and economic outcomes. c) PTB and NPC will investigate the feasibility of having a Patuharakeke representative appointed to the NPC Board of Directors.	

	Effects on waahi tapu	All	Archaeological sites are unlikely to be affected. However sites of significance eg. Te Koutu, Patangarahi, Poupouwhenua, Rauiri, and the wider network and landscape of the harbour and Te Akau Bream Bay, our maunga etc are affected. *See below - cultural landscapes section*	See below	See below
	Cultural Landscapes/ Seascapes and sites of Significance to Tangata Whenua	Past, Present Future, Temporary, Cumulative. Effects of Coastal Structures on Poupouwhenua/Whangarei Terenga Parāoa Cultural Landscape/Seascape and Mapped site of significance to Tangata Whenua (Poupouwhenua Mātaitai - deemed operative in pRP maps) and SEA.	Stephen Brown Report concludes effects on natural character, landscape and amenity are more than minor, no mitigation described as yet **PTB consider the effects on the cultural landscape/seascape in this location are high,** regardless of the industrial activity already present in the surrounding zone (noting this will decrease in the coming years with the refinery transition as well). The eastern reclamation visually removes the stretch of beach and path/access to Poupouwhenua mahinga mātaitai impacting its integrity as a cultural landscape.	*Section 8 "Waahi Tapu me Waahi Taonga"* **8.1 Issues** a) Ongoing damage, destruction and mismanagement of waahi tapu and areas or sites of significance that contribute to, or are a part of, our cultural landscape and seascape. a) Areas or sites of customary value are often limited to western definitions, such as "archaeological". c)Changes in land ownership and use have often denied Patuharakeke access to sites of significance and waahi tapu. **8.2 Objectives**	Proposal is contrary to HEMP provisions for protection and enhancement of areas or sites of customary value and access to sites of cultural significance and Draft Hapū Strategic Plan (Pou Ahurea) goals and measures.

			Along with the visual barrier created, it also creates a physical one. Access to Poupouwhenua Mātaitai is permanently removed. The now proposed pocket park has very limited value in terms of compensating for this loss. This raises issues in the context of customary access as well and links into Treaty and Takutai Moana issues ie loss of foreshore and seabed ownership/ access **Overall we consider the potential cultural effects of the physical reconstruction of the harbour and loss of our takutai moana and access to be significant and adverse**	(a) the protection and enhancement of areas or sites of customary value; and (e) Patuharakeke have access to sites of cultural significance in our rohe. **8.3 Policies** (c) Our cultural landscapes and seascapes should be afforded at least as high a priority as other landscape values when being considered as part of any process under the RMA, the Conservation Act, the Reserves Act or the LGA. (d) Preparation of landscape assessments for resource consent applications and similar processes should be done in conjunction with PTB RMU to ensure that the cultural aspects of the landscape are given full recognition alongside other values such as natural character and amenity values. (e) Monitoring of effects on cultural landscapes	

				and waahi tapu (including marine cultural heritage) within our rohe is the responsibility of the ahi kā and kaitiaki. This should be reflected in all relevant consent conditions. This function should be formally transferred to PTB RMU as mana whenua and resourced appropriately. (f) Any areas and sites of customary value that contribute to, or are a part of our cultural landscape must be defined by Patuharakeke. **8.4 Methods** (a) PTB RMU will request that councils and other relevant agencies afford cultural landscape and seascape values at least as high a priority as other landscape values when preparing plans and policies and when considering landscape values during resource consent processes; & (g)Patuharakeke must have	

				unrestricted access to waahi tapu and other places of cultural significance on Crown land within our rohe. *Section 9.3 Access to the Coastal Environment* **9.3.1 Issues** (a) Patuharakeke access to the coastal marine area and customary resources has been reduced and degraded over time. **9.3.2 Objectives** (a)Healthy dune and beach ecology, safety for beach goers, and protection of sites of significance, natural character and amenity through collaborative management between Patuharakeke and the respective agencies. b)Customary access is protected and enhanced. **9.3.3 Policies** (a) Customary access to the coastal environment is a customary right, not a privilege, and must be recognised and provided for independently from general public access; and	

				(d) PTB will oppose coastal land use and development that results in the further loss of customary access to the coastal marine area, including any activity that will result in the private ownership of the foreshore. **9.3.4 Methods** (d) Councils issuing consents that could affect customary access will include consent conditions to protect and enhance customary access.	
Patuharakeke Wellbeing	Effect	Type of Effect[71]	Positive/Adverse? and Magnitude[72]	Relevant HEMP[73] provisions	Assessment against HEMP Patuharakeke
Social	Potential effects on health/ hauora of Patuharakeke from environmental effects as they are inextricably linked. Past effects on transport network, traffic safety, lack of adequate infrastructure	Past, temporary, present, future, cumulative.	It is difficult to measure the cumulative effects of the Port expansion on social wellbeing, hauora as a narrow focus for assessment has been taken by experts. **Potentially more than minor adverse effects.**	S. 4 "Ranginui" Issue 4.1.1 Objectives 4.1.2 Policies 4.1.3 Methods 4.1.4 b)PTB will work with industry to develop cultural monitoring methodologies to complement the existing monitoring regime relating to discharges to air.	Overall the proposal is not entirely incompatible with the relevant HEMP provisions. Where there is possible conflict is around adverse effects on mauri and ecological and cultural effects outlined above which of course links to social wellbeing. Does not accord with goals and measures sought by Draft Hapū Strategic Plan (Pou Hauora, Pou

[71] http://www.legislation.govt.nz/act/public/1991/0069/latest/DLM231795.html
[72] No effect, minor effect, significant effect, critical effect.
[73] https://patuharakeke.maori.nz/wp-content/uploads/2015/02/Patuharakeke-Hapu-Environmental-Management-Plan-December-2014.pdf

				c)PTB to work with industry and other relevant stakeholders to consider funding research on the impacts of air discharges at Poupouwhenua to human health. d) PTB will work with industry and other relevant stakeholders, academic institutions and other interested parties, to fund research to assess the health impacts of activities on Patuharakeke whānau.	Mātauranga, Pou Tai Tamarikitanga)
	Potential Effects on Amenity Values "amenity" is not really a concept that translates well in Te Ao Māori (recreation is similar in not being a traditional practice) However, dust, noise, etc all impact on the experiential values of the cultural landscape as a whole.	Past, temporary, present, future, cumulative.	Public Access issues are discussed above. Air quality is discussed above but is also pertinent from an "amenity" perspective. Similarly, Noise emissions assessment are again focused on residential receptors and does not consider effects on community, kaitiaki, whānau etc making use of what remains of the beach for example. From a mana whenua perspective however, we note the challenge for us in separating out these layers of effect which in our experience are cumulative effects on the cultural and	Public Access is discussed above	As above

			social values and uses of Poupouwhenua and surrounding area. **Potentially more than minor adverse effects.**		
Patuharakeke Wellbeing	Effect	Type of Effect[74]	Positive/Adverse? and Magnitude[75]	Relevant HEMP[76] provisions	Assessment against HEMP Patuharakeke
Economic	Potential Economic Effects Unknown Unclear as to what benefits will arise directly for Patuharakeke whānau through job production etc. As economic reports speak to "regional benefits" We know of a couple of whānau presently employed at Northport. Patuharakeke have a relationship agreement with Northport. There are no Governance positions for hapū members although we	Past, Present Future, Temporary.	M.E Report's caveats and limitations include "*The results in the report does not represent the economic value of Northport – i.e. costs vs benefits. This report measures the economic activity that occurs in the economy which is related to Northport. If Northport did not exist some of this economic activity would still occur, being handled by other ports and/or consumed locally… and …. Achievement of the growth scenarios is likely to be determined by many factors that are outside of the control of Northport. Importantly these factors include government policy and investments in the transport network, port network, other regional investments, etc.*	No specific chapter but provisions throughout such as Section 9.1.3 (c) "Decision-makers will ensure that economic costs do not take precedence over the cultural, environmental and intergenerational costs of degrading coastal water quality"	Proposal does not align with Section 9.1.3 (c). We don't have adequate information to ascertain if proposal outcomes will align at all with Draft Hapū Strategic Plan (Pou Whaioranga), but we do not consider the proposal to be sustainable.

[74] http://www.legislation.govt.nz/act/public/1991/0069/latest/DLM231795.html
[75] No effect, minor effect, significant effect, critical effect.
[76] https://patuharakeke.maori.nz/wp-content/uploads/2015/02/Patuharakeke-Hapu-Environmental-Management-Plan-December-2014.pdf

	have consistently asked for such representation. Economics do not consider past negative economic impacts on hapū through loss of land, loss of resources, impacts on low income families (eg. inability to supplement weekly kai budget with kaimoana for example)		*There will also be other aspects in the international markets and local markets that will influence whether these scenarios can be achieved."* Therefore the Report is light in terms of taking into account lessons from Covid-19 Situation and other global challenges and changes. We note that non market values are not part of the assessment either and a Triple bottom line method of financial auditing and reporting with the addition of a cultural component would be preferred. There are a number of experts in NZ that are now incorporating such methods into assessments including specific inclusion of cultural data and valuations (Calum Redfem, Proxima Global & Richard Yao, Scion. Pers. comm. March 2020). **PTB's position is that the economic evidence is insufficient to assess the effects on Patuharakeke economic wellbeing.** We recognise there are potential benefits to local		

			and regional economy but an actual CBA is needed to determine whether these outweigh the potential costs, including the true cost of externalities. From a mana whenua perspective the economic benefits have not been proven to outweigh the historic and ongoing cost on our culture and values, and the significant loss and disconnection of relationship to our one (beach), papamoana/takutai moana etc has flow on effects on our Patuharakeketanga and extinguishing of customary rights that are intergenerational on our tamariki and mokopuna yet to be born.		

ATTACHMENT 7

Brett Hood

To: Greg Blomfield
Subject: RE: Meeting for VFG with Northport

From: Dee Isaacs <dee.isaacs@4sight.co.nz>
Sent: Wednesday, 14 December 2022 10:24 am
To: Alyssce Te Huna <alyssce@ngatiwai.iwi.nz>
Cc: Greg Blomfield <Greg.Blomfield@northport.co.nz>
Subject: RE: Meeting for VFG with Northport

Thanks Alyssce, that's great to have clarity.

So I will pursue the relationship development and business regarding Northport with Patuharkeke and discontinue dialogue with Ngātiwai, per your email below. If you decide as Ngātiwai to re-enter the Northport VFG space and any issues relating to this consent, feel free to make contact with myself and Greg Blomfield.

Thanks for getting back to me, ngā mihi d

Dee Isaacs
Technical Director
Mobile: 021 806 738

4SIGHT CONSULTING | PART OF SLR

201 Victoria Street West, Auckland Central 1010
PO Box 911 310, Victoria St West, Auckland 1142
4Sight.Consulting

From: Alyssce Te Huna <alyssce@ngatiwai.iwi.nz>
Sent: Wednesday, December 14, 2022 10:14 AM
To: Dee Isaacs <dee.isaacs@4sight.co.nz>
Subject: Re: Meeting for VFG with Northport

Tēnā koe Dee,

We have met with Patuharakeke and will be making a submission to the Northport resource consent on the 15th of December. Ngātiwai will support our hapū (Patuharakeke) and their working relationship with Northport, so we won't be requesting a meeting with Northport at this stage. Appreciate you making contact and following up with us.

Ngā mihi,
Alyssce

On Wed, 14 Dec 2022 at 9:38 AM, Dee Isaacs <dee.isaacs@4sight.co.nz> wrote:

> Kia ora Allyssce, how is the organising of a meeting with Ngātiwai and Patuharakeke coming along? If there isn't a date sorted (I think this year is a right-off), when next year are you back or anyone from your organisation so I can organise something with Northport?
>
> Dee Isaacs
> Technical Director
> Mobile: 021 806 738
>
> 4SIGHT CONSULTING | PART OF SLR
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>
> CLIENTCHOICE Awards 2022 winner
>
>

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Alyssce Te Huna
Te Kura Tai Ao (Environmental management lead)
Te Poari o Ngatiwai

PH: 021 330 817

NGĀTIWAI TRUST BOARD

ATTACHMENT 8

25 January 2023

Brett Hood
Reyburn and Bryant
Whanagrei

Northport Section 92 ROI - Traffic

6-DV652

Dear Brett,

The following are our responses to the Northport Section 92 requests for information, as detailed in items 29 to 35 in the letter from Whangarei District Council and Northland Regional Council to Northport Ltd dated 19 December 2022.

Request: 29. Please update the CAS analysis in Section 4.9 of the TIA to include the last two-year period and to include the entire corridor (as opposed to being limited to 100m within the identified intersections).

Reason: The requested information will provide further insight into of the existing safety conditions for the last two years and along the entire corridor. It is acknowledged that the Covid-19 pandemic may have had impact on travel behaviour. Irrespectively, this data is required to understand existing traffic conditions and potential future conflicts with greater volumes of freight traffic.

Response:

An updated safety assessment (section 4.9 of the TIA) is as follows:

> A search of the Waka Kotahi NZ Transport Agency (Waka Kotahi) Crash Analysis System (CAS) database was undertaken. The data was used to identify reported crashes that have occurred at the intersections along PMH during the past six years between 2017 and 2022 inclusive[1]. The crash numbers and locations are illustrated in Figure 2-3 and are summarised in Table 2-3 and Table 2-4.
>
> The study route runs between the SH1/SH15 intersection and the Marsden Bay Drive/SH15 intersection and includes all crashes along SH15 and on side roads within 100m of SH15.
>
> There were 33 reported crashes in this area during the six-year period from 2017 to 2022 (inclusive). Of the 33 crashes, one resulted in a fatality, two crashes resulted in serious injury, and 16 were minor injury crashes.

[1] *The 2022 data set may be incomplete as there is a delay between crashes occurring and being entered into the CAS database.*

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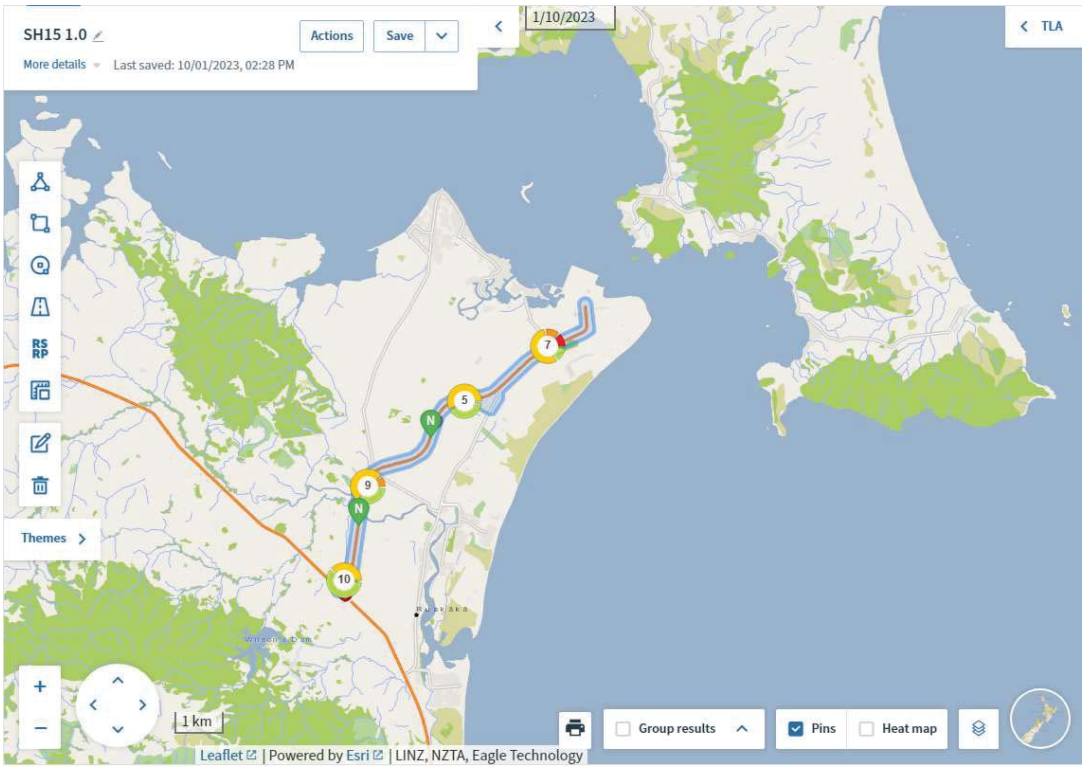


Figure 1: Crash Locations

Table 1: Crash Numbers from CAS

CRASH YEAR	Fatal Crash	SERIOUS CRASH	MINOR CRASH	NON-INJURY CRASH	TOTAL
2017			3	2	5
2018	1		4	3	8
2019		1	3	2	6
2020			3	3	6
2021		1	2	2	5
2022			1	2	3
Total	**1**	**2**	**16**	**14**	**33**

The **one fatal injury** crash was at the Marsden Bay Drive/SH15 intersection.

- The Traffic Crash Report noted that a vehicle was travelling north towards the Channel Infrastructure terminal and started fishtailing. The driver lost control and spun 180 degrees going backwards into the front of a truck travelling west on SH15. The weather condition was heavy rain.

The **two serious crashes** were:

- A serious crash at the Marsden Bay Drive intersection. It involved an SUV failing to give way and hitting a cyclist.
- A serious crash 495m north of the Salle Road intersection. It was a head-on on a bend involving a car and ute.

The **16 minor injury** crashes were:

- Mostly along midblocks (75%)
- Mostly loss of control (56%) or turning/merging (19%)

Trucks were involved in 10.5% of injury crashes, despite making up almost 20% of traffic on SH15.

Request: 30. For each of the vehicle types listed below, please provide information around the assumptions and how the trips were calculated for Year 5, Year 10 and Year 20 (total expansion). Please also provide the spreadsheet which provides these assumptions:

- Container Trucks
- Car / HCV Carriers
- Other trucks (not container trucks)
- 30 seat bus
- 10 seat bus
- Car.

Response: Assumptions are below and calculation sheet is attached.

Vehicle type	Year 5	Year 10	Year 20
Container truck	37% trucks northbound with 55.6% export and remainder import; 63% southbound with 66.7% import and remainder export 47,040 TEU for port 1 truck can carry 2 TEU	100,000 TEU	400,000 TEU with addition of berth 5

Car / HCV carriers	No cars or HCV for first 5 years	60% of 160,000 cars imported with 8 cars per carrier 5,000 HCV by road per year with 1 per carrier	No additional
Other trucks	-Non-container cargo trucks projected using Northport Wood Availability Forecast -Cement trucks (9200 TEU yearly)	-Non-container cargo trucks projected using Northport Wood Availability Forecast -Cement trucks (9200 TEU yearly)	-Non-container cargo trucks projected using Northport Wood Availability Forecast -Cement trucks (9200 TEU yearly)
30 seat bus	- 20 cruise ships (1500 passengers each) with 1/3 using 10 seat bus	- 30 cruise ships (1500 passengers each) with 1/3 using 10 seat bus	- 30 cruise ships (1500 passengers each) with 1/3 using 10 seat bus
10 seat bus	- 20 cruise ships (1500 passengers each) with 1/6 using 10 seat bus	- 30 cruise ships (1500 passengers each) with 1/6 using 10 seat bus	- 30 cruise ships (1500 passengers each) with 1/6 using 10 seat bus
Car	Staff cars + taxis: - 300 current staff (at 1 per vehicle), Multiplied by two for traffic in both directions, Multiplied by 52 * 5 work days to get yearly traffic - 20 cruise ships (1500 passengers each) with 1/6 using taxi	Staff cars + taxis: - 60 additional staff - 30 cruise ships (1500 passengers each) with 1/6 using taxi	Staff cars + taxis: - 40 additional staff - 30 cruise ships (1500 passengers each) with 1/6 using taxi

* TEU = Twenty Foot Equivalent

Request: 31. Please explain the assumptions (i.e. ride share) and calculations for how the 142 staff vehicle trips were arrived at for total expansion at Year 20. Please confirm these are included, or otherwise, in the 806 total trips at full build out.

Response:

The 142 employee car trips per day is based on:

- 100 new employees
- 1 employee per car
- 2 trips per day (1 inbound, 1 outbound)

  = 200 trips per day
- Applied over 5 days per week and 52 weeks per year = 260 workdays
- 200 trips per day multiplied by 260 workdays divided by 365 days per year to get typical daily value of 142 trips per day.

The 142 employee car trips per day is included in the 806 total additional trips per day.

Request: 32. Please explain the assumption that 8% of container trucks will transfer to rail, what impact this will have on the number of container trucks in each Year, and the time period when this will occur from.

Reason: Clarifying the assumptions and calculations set out within Appendix A will assist in understanding how the trips were calculated and the potential effects of the project on the transport environment.

Response:

The 8% of containers by rail value is a worldwide trend provided by Northport. KiwiRail have expectations that 80% of North Auckland freight would go by rail to West Coast distribution centre, so the 8% value could be low.

8% of container trucks transferring to rail has been applied from year 2028. Daily traffic increases by 48 trucks per day at full build out if the 8% transfer to rail does not occur. If rail does not come to fruition at the assumed period, the trigger threshold volumes stated in the TIA may occur earlier than currently forecast. If rail uptake is greater than the 8% estimated, then the trigger threshold may be reached later than forecast.

Request: 33. Please outline how the traffic modelling scenarios align with the economic growth scenarios.

Reason: The traffic scenarios are set at 2033 and 2040. The Economic growth scenarios predicting 'full development' extend out well beyond these dates

Response: The traffic analysis has conservatively assumed earlier build out of the port than the economic analysis. The timeframes in the traffic analysis were chosen in part because of the timeframes set up in the strategic transport model and to be conservative where uncertainty exists.

It is my understanding that the economic growth scenarios are the more realistic timeframes. The trigger threshold volumes stated in the TIA are not linked to specific years and the draft conditions include monitoring of traffic volumes to account for growth uncertainty. The trigger levels are likely to occur later than estimated in the TIA based on the build out periods used in the economic analysis.

Request: 34. According to the TIA, an additional 806 trips will be generated by the port expansion compared to 2018. Of note is the increase of container trucks from 23 in 2018 to 547 which makes safety along the corridor an important consideration. It is understood that as a percentage the heavy vehicle percentage will reduce from 20% to 15%, however this is still a significant increase in the number of trucks using Port Marsden Highway.

Please provide an assessment of the intersections identified in Table 7.1 using (Austroads) ASD (Approach Sight distance) SISD (Safe Intersection Sight Distance) and MGSD Minimum Gap Sight Distance) to assess the safety of these intersections now and how their safety will change over time with increased traffic.

Reason: All intersections on the corridor are priority controlled. There is therefore a greater likelihood for safety issues to arise as traffic volumes increase. The TIA doesn't provide an indication of measurement in terms of what is needed for the intersections or the volumes as the corridor volumes grow. Using Waka Kotahi (Austroads) ASD (approach sight distance) SISD (Safe Intersection Sight Distance) and MGSD (Minimum Gap sight distance) will assist in understanding how these intersections and their safety will change over time. Visibility may be good for the volumes today but as vehicle numbers increase and gaps reduce, right turns in particular become more challenging, particularly with large trucks and visibility blocked by them. It is anticipated that some trucks will take shorter routes (e.g. via Marsden Point Road) if it is quicker, which raises concerns that safety may be further compromised by these movements.

Response:

The ASD, SISD, and MGSD assessment is presented in the table below.

SISD available has been assessed by measuring the full available sight distance along the major road, including across berms and/or adjacent land (ie in some instances the sight line crosses land outside the road reserve such as adjacent paddocks).

MGSD available has been assessed by measuring sight distance along the major road within the road reserve including shoulders but excluding any vegetated/grassed berms.

Intersection	Approach	ASD Required	ASD Available	SISD Required	SISD Available	MGSD Required	MGSD Available
SH15/Salle	East (Salle)	165m	>300m	n/a	n/a	n/a	n/a
	South	165m	>300m	248m	>300m	139m	>140m

Intersection	Approach	ASD Required	ASD Available	SISD Required	SISD Available	MGSD Required	MGSD Available
	North	165m	>300m	248m	>300m	139m	>140m
SH15/One Tree Point Rd/McCathie Rd	North	165m	250m	248m	>350m (from McCathie)	139m	140m[2]
					>350m (from One Tree Point)	139m	>140m
	East (McCathie)	165m	200m	n/a	n/a	n/a	n/a
	South	165m	280m	248m	250m (from McCathie)	139m	>140m
					300m (from One Tree point)	139m	>140m
	West (One Tree Point)	165m	250m	n/a	n/a	n/a	n/a
SH15/Marsden Point Rd	North	165m	>400m	248m	>400m	139m	>140m[3]
	East (Marsden Point rd)	165m	260m	n/a	n/a	n/a	n/a
	South	165m	250m	248m	250m	139m	>140m
SH15/Marsden Bay Dr/ Rama Rd	North	165m	>400m	248m	>250m (from Rama)	139m	>140m[4]
					>250m (from Marsden Bay Dr)	139m	>140m
	East (Rama Rd)	165m	>165m	n/a	n/a	n/a	n/a

[2] The MGSD is only just met looking north from McCathie Road if not looking across the berm
[3] MGSD visibility looking north from Marsden Point Road may be obscured by traffic in the left slip lane on SH15
[4] MGSD visibility looking north from Rama Road may be obscured by traffic in the left slip lane on SH15

Intersection	Approach	ASD Required	ASD Available	SISD Required	SISD Available	MGSD Required	MGSD Available
	South	165m	260m	248m	>250m (from Rama)	139m	>140m
					>250m (from Marsden Bay Dr)	139m	>140m
	West (Marsden Bay Dr)	165m	200m	n/a	n/a	n/a	n/a
SH15/Mair Rd	North	92m	200m	151m	160m	97m	>100m
	East (Mair Rd)	92m	80m	n/a	n/a	n/a	n/a
	South	92m	200m	151m	200m	97m	>100m

SH15 Port Marsden Highway (PMH) has a posted speed limit of 100km/h for all sections west of the Marsden Bay Drive intersection. The existing sight distances at intersections along PMH meet safe intersection sight distance requirements of at least 248m for a 100km/hr road. However, at the SH15/McCathie Rd intersection, traffic looking northeast from McCathie Road needs to look across a paddock to achieve the 250m sight line. If restricting visibility to within the road reserve (i.e. if sight lines across paddocks are excluded), the desirable sight distance is not met. This means that if the use of the adjacent properties changes from a rural paddock to another use there is a risk of sight lines being reduced to less than desirable distances.

East of the Marsden Bay Drive intersection, Port Marsden Highway has a posted speed limit of 70km/hr. The existing intersection sight distances meet safe intersection sight distance requirements of at least 151m for a 70km/hr road. The approach sight distance on Mair Road is less than the 92m required for a 70km/hr speed; however, as Mair Road is a cul-de-sac all traffic using Mair Road should be aware of the intersection and there does not appear to be any crashes associated with a failure to stop.

The MGSD for a 100km/hr speed is 139m based on a 5 second gap, and 97m at 70km/hr for a 5 second gap. All intersections meet the MGSD; however, it is only just met looking north from McCathie Road.

The effect additional port traffic has on gaps available has been assessed using Sidra intersection software. As acknowledged in the TIA, some intersections will reach practical capacity if trigger levels are exceeded and under this scenario the draft conditions require the intersection capacity to be assessed to determine appropriate mitigation.

Request: 35. Please provide commentary on the operation of the site access with the estimated additional 148 vehicles per hour at full build out as the site has a gated entry system with barriers controlling through-put.

Reason: This information is necessary to understand the operational/safety impact of the increase in vehicles using a gated entry system anticipated. The 2018 peak flow is 278 vehicles per hour with full build out expected to be 426 peak flow. However, some trucks can use the slip lane before the gated entry and there is a long flush median which could be used for those vehicles turning right into Ralph Trimmer Drive to access the staff car park. With an increased peak flow and a large proportion of trucks anticipated, there are concerns queuing traffic proposes an operational/safety risk.

Response:

The 426 vph at full build out are not all expected to use the gated entry, as some will be able to use the 'Approved sticker vehicle lane' and Ralph Trimmer Drive. Assuming all trucks and buses use the gated entry would equate to 117 vph in the peak hours (ie 1 vehicle every 30 seconds), which is below the capacity of the gated entry.

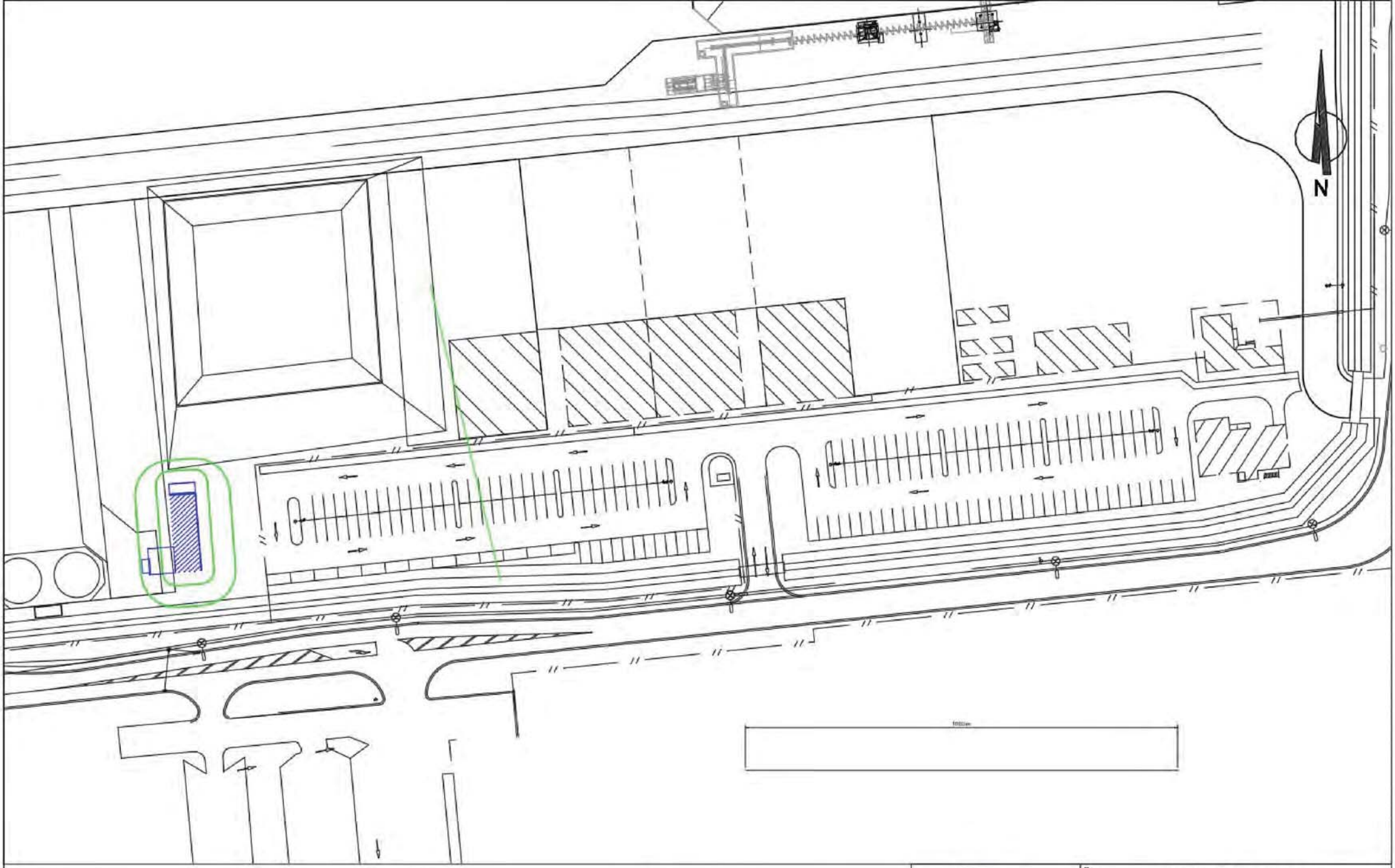
Queueing at the gate will depend on arrival profile of the traffic. I do not expected queuing to cause any safety issues for the following reasons:

- Typically freight journeys are scheduled, making it possible to adjust arrival profiles
- The approach to the gate is a 400m long straight road with good visibility, so the minimum ASD for a 70km/hr road is achievable to the back of a queue.
- The approach is wide and includes a flush median, enabling the queue to remain clear of other traffic (eg traffic entering Ralph Trimmer Drive).

Regards

Nerissa Harrison
Technical Director Transportation Planning

ATTACHMENT 9



ISSUE	DATE	DETAILS	APPRVD	BY
0	31-3-03	ISSUED		BWP

NOTE:
-COORDINATES ARE IN TERMS OF GEODETIC DATUM 1949, Mt EDEN CIRCUIT.

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Title: NORTHPORT DEVELOPMENT

Designed By	Dwg No	Issue
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Drawn	Checked	Scale	Date	Sheet
G BLOMFIELD		NTS	LATEST	1

ORIGINAL SIZE A1

ATTACHMENT 10

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Underwater Acoustics

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10 February 2023

Brett Hood
Reyburn & Bryant
PO Box 191
Whangarei 0140

By email: brett@reyburnandbryant.co.nz

Dear Brett,

S92(1) Request for further information – Underwater noise

1. *The assessment of underwater noise effects (Appendix 25) references Southall et al. (2007). Please update the assessment with the most recent noise criteria publication (being that referenced below) and advise of any material changes to the conclusions of the assessment.*

   Southall, B.L., Finneran, J.J., Reichmuth, C., Nachtigall, P.E., Ketten, D.R., Bowles, A.E., Ellison, W.T., Nowacek, D.P. and Tyack, P.L., 2019. Marine mammal noise exposure criteria: Updated scientific recommendations for residual hearing effects. Aquatic Mammals, 45(2), pp.125-232.

   Reason: Council's consultant underwater acoustics expert recommends that the assessment of underwater noise effects be informed by the most recent (2019 in this instance) published research.

Southall et al. (2007) was referred to with regard only to the **behavioural response** assessment from the underwater noise. The assessment only cites Southall et al. (2007)'s severity classes (low or moderate behavioural responses) for the dose-responses. These remain current. Southall et al. (2019) refers only to **hearing effects** from underwater noise. These are the same as the NOAA 2018 guidelines which are used for assessing the hearing effects in the assessment.

Therefore, no update to the assessment is required.

2. *Please expand on the information provided in Figures 8 and 10 regarding the empirical and modelled source levels by providing a broadband source level for each noise source (e.g., percussive piling and dredging).*

The broadband source levels calculated directly from Figure 8 are:

- 209 dB re 1 μPa^2•s @ 1m for the percussive piling (single strike)
- 169 dB_{rms} re 1 µPa @ 1m for the CSD
- 169 dB_{rms} re 1 µPa @ 1m for the BHD (bucket filling)

3. *Please clarify which species the audiogram in Figure 8 in Appendix D corresponds to.*

   Reason: The auditory masking section of Appendix D suggests that no audiograms are available for mystecete whales and so therefore modelled audiograms for the fin whales were later used. However, Figure 8 shows an audiogram of Humpback/Brydes whale. Misuse of the incorrect audiogram could potentially lead to errors in the estimation of audibility ranges.

The species in Figure 8 are correct. Because no audiograms for large whales are available, modelled audiograms for fin whales were used as a representation for all mystecete species (following that of Pine et al. 2018, https://doi.org/10.1016/j.marpolbul.2018.07.031). The two mystecete species in the project area are humpback and Bryde's whales, hence their identification in Figure 8's legend.

Please contact me if you require any further information.

Yours sincerely,

Matt Pine, Ph.D. MASNZ.
Principal