Application for resource consents for the expansion of Northport

Northport

Contents

Appendices

Appendix 1: Fourth Schedule checklist

Appendix 2: Issues and Options report [Northport]

Appendix 3: Design Drawings [WSP]

Appendix 4: Noise Assessment [Marshall Day Acoustics]

Appendix 5: Draft Management Plans

Appendix 6: Pocket Park Concept Plan [Boffa Miskell]

Appendix 7: Certificates of Title

Appendix 8: Marine and Coastal Area (Takutai Moana) Act 2011 correspondence

Appendix 9: Hydrodynamic, Morphodynamic, and Dredge Plume modelling reports [Met Ocean]

Appendix 10: Coastal Processes Assessment [Tonkin and Taylor]

Appendix 11: Assessment of Marine Ecological Effects [Coast and Catchment]

Appendix 12: Peer review of Assessment of Ecological Effects [Cawthron Institute]

Appendix 13: Coastal Avifauna Assessment [Boffa Miskell]

Appendix 14: Potential Effects on Marine Mammals [Cawthron Institute]

Appendix 15: Assessment of Landscape, Natural Character, and Amenity Effects [Brown NZ Ltd]

Appendix 16: Archaeological Assessment [Clough and Associates]

Appendix 17: Northland Marine Oil Spill Contingency Plan

Appendix 18: Design Report [WSP]

Appendix 19: Recreation Effects Assessment [Rob Greenaway and Associates]

Appendix 20: Stormwater Assessment [Hawthorn Geddes]

Appendix 21: Air Quality Effects Assessment [Pattle Delamore Partners]

Appendix 22: Economic Assessment [Market Economics]

Appendix 23: Refining NZ Crude Shipping Project (AUT.037197) resource consent

Appendix 24: Cultural Effects and Values Assessments [Patuharakeke]

Appendix 25: Assessment of Underwater Noise Effects [Styles Group]

Appendix 26: Navigation Safety Report [Northport]

Appendix 27: Traffic Impact Assessment [WSP]

Appendix 28: Planning Policy Analysis

Appendix 29: Marine Ecology Fieldwork and Stormwater Monitoring Reports [4Sight]

Figures

Tables

Acronyms

AEE	Assessment of Environmental Effects
BAU	Business as Usual
BHD	Backhoe Dredger
BML	Boffa Miskell Limited
BNZL	Brown New Zealand Limited
C+A	Clough and Associates Limited
C+C	Coast and Catchment
CD	Chart Datum
CEA	Cultural Effects Assessment
CEMP	Construction and Environmental Management Plan
CI	Cawthron Institute
CINZL	Channel Infrastructure NZ Ltd
CMA	Coastal Marine Area
CMT	Customary Marine Title
COLL	Coastal Oil Logistics Limited
CVA	Cultural Values Assessment
CSD	Cutter Suction Dredger

DOC	Department of Conservation
DUKC	Dynamic Under Keel Clearance System
EIANZ	Environment Institute of Australia and New Zealand
EOC	Emergency Operations Centre
FIDOL	Frequency, Intensity, Duration, Offensiveness and Location assessment
HGL	Hawthorn Geddes Limited
IHS	Import Health Standard
LVL	Laminated Veneer Lumber
MACA	Marine and Coastal Area (Takutai Moana) Act 2011
MDL	Marshall Day Acoustics Ltd
ME	Market Economics Limited
MHWS	Mean High Water Springs
MMH	Marsden Maritime Holdings Limited
MMMP	Marine Mammal Management Plan
MMOs	Marine Mammal Observers
MMOZ	Marine Mammal Observation Zone
MNZ	Maritime New Zealand
MO	Met Ocean
MPAQS	Marsden Point Air Quality Strategy
MPI	Ministry for Primary Industries
NAV	Noise and Vibration chapter of the Whangarei District Plan
NESCS	Resource Management (National Environmental Standards for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011
NESFM	Resource Management (National Environmental Standards for Freshwater) Regulations 2020 (NESFM)
NPSFM	National Policy Statement for Freshwater Management 2020
NRC	Northland Regional Council
NTITB	Ngatiwai Te Iwi Trust Board
NTL	North Tugz Ltd
NTU	Nephelometric Turbidity Unit (a measure of turbidity)
NZCPS	New Zealand Coastal Policy Statement
NZTCS	New Zealand Threat Classification System

NZILA	New Zealand Institute of Landscape Architects
OAQP	Operative Air Quality Plan for Northland
OHEZ	Outer Harbour Ecological Zone
ONF	Outstanding Natural Feature
ONLA	Outstanding Natural Landscape Area
ORAQP	Operative Regional Air Quality Plan
PDP	Pattle Delamore Partners Limited
PNMP	Port Noise Management Plan
POAL	Ports of Auckland Limited
PAH	Polycyclic Aromatic Hydrocarbons
POTL	Port of Tauranga Limited
PRP	Proposed Regional Plan
PTITB	Patuharakeke Te Iwi Trust Board
RCP	Operative Regional Coastal Plan for Northland
RGA	Robert Greenaway and Associates
RMA	Resource Management Act
RMZ	Riparian Management Zone
ROSC	Regional On-Scene Commander
RWSP	Operative Regional Water and Soil Plan for Northland
RPS	Regional Policy Statement
RSI	Regionally Significant Infrastructure
RTG	Rubber Tired Gantry Crane
SBA	Significant Bird Area
SEA	Significant Ecological Area
SG	Styles Group
SH1	State Highway 1
SH15	State Highway 15
SIPO	South Island pied oystercatcher
SMMSB	Significant Marine Mammal and Seabird Area
STS	Ship to Shore cranes
T+T	Tonkin and Taylor

TEU	Twenty-foot equivalent unit container (40’ container is 2 TEU)
TSHD	Trailer Suction Hopper Dredger
TSS	Total Suspended Solids
UNI	Upper North Island
UNISA	Upper North Island Strategic Alliance
UNISCS	Upper North Island Supply Chain Strategy
VOC	Variable oystercatcher
WDC	Whangarei District Council
WDP	Whangarei District Plan
WHSMS	Whangarei Harbour Safety Management System

FORM 9

APPLICATION FOR RESOURCE CONSENTS UNDER SECTION 88 OF THE RESOURCE MANAGEMENT ACT 1991

To: **Northland Regional Council**

Private Bag 9021,

Whangarei 0110

Whangarei District Council

Private Bag 9023,

Whangarei 0148

1. **Northport Ltd applies for the resource consents from the Northland Regional Council and Whangarei District Council**[1] necessary to authorise the expansion of the existing Northport berth length and associated operations area towards the east, including the following:

Northland Regional Council

Operative Regional Coastal Plan

- A coastal permit for a **discretionary activity** for reclamation.
- A coastal permit for a **discretionary activity** for capital dredging.
- A coastal permit for a **controlled activity** for maintenance dredging.
- A coastal permit for a **discretionary activity** for deposition associated with the proposed roosting area (sandbar) (Marine 2 zone).
- A coastal permit for a **discretionary activity** for dredging spoil disposal within the reclamation.
- A coastal permit for a **discretionary activity** for alteration or extension of authorised structures (wharf) not otherwise a controlled activity under Rule 31.7.3(n), and the use of these structures for port activities.
- A coastal permit for a **discretionary activity** to discharge stormwater from open cargo storage or handling areas, including wharves to the CMA via a stormwater treatment and disposal system.
- A coastal permit for a **discretionary activity** to establish a tug berthing facility.
- A coastal permit for a **discretionary activity** to establish a fishing pontoon.
- A coastal permit for a **discretionary activity**[2] to discharge decanted water from the reclamation during construction.

[1] Together with any other incidental consents required to enable the proposal.
[2] Section 87B Resource Management Act 1991 (innominate).

]Operative Regional Water and Soil Plan

- A land use consent for a **discretionary activity** for earthworks in the Riparian Management Zone.

Proposed Regional Plan

- A **coastal permit** for a **discretionary activity** for reclamation.
- A coastal permit for a **discretionary activity** for capital dredging.
- A coastal permit for a **controlled activity** for maintenance dredging.
- A coastal permit for a **discretionary activity** for deposition associated with the proposed roosting area (sandbar).
- A coastal permit for a **discretionary activity** for stormwater discharge from open cargo storage or handling areas including wharves to the CMA via a stormwater treatment and disposal system.
- A coastal permit for a **controlled activity** for alteration to existing authorised wall structures and the use of the structures for port activities.
- A coastal permit for a **restricted discretionary activity** to establish a g tug berthing facility.
- A coastal permit for a **restricted discretionary activity** to establish a fishing pontoon.

Whangarei District Council

- A land use consent for a **discretionary activity** for port operations on the expanded port.[3]
- A land use consent for a **discretionary activity** for port noise on the existing and expanded port.
- A land use consent for an (innominate) **discretionary activity** for cranes up to 85m in height (when working)[4] on the yet to be constructed Berth 4 to align with the crane height rules in the Port Zone (applicable to Berths 1-3) and on the proposed expansion area.
- A land use consent for a **discretionary activity** for the construction of a building within 27m of MHWS in the Open Space Zone, being the relocated public toilet at the eastern end of the expanded port.
- A land use consent for a **discretionary activity** for earthworks exceeding 500m^3, earthworks within sand dunes, and indigenous (dune) vegetation clearance, within the 'Coastal Area' (port development and public access/reserve).

Consequential variations to some of the conditions of the two existing WDC land use consents for port operations on the existing and consented port[5] are sought under Section 127 of the RMA 1991. These variations will take effect upon completion of the reclamation construction process or prior to port operations commencing on the expanded port.

[3] Section 87B Resource Management Act 1991 (innominate).
[4] No height limit is proposed for dormant cranes in line with the crane height rules for the Port Zone.
[5] TP96/316 (Berths 1 and 2), RC37846 (Berths 3 and 4).

Resource Management (National Environmental Standards for Freshwater) Regulations 2020 (NESFM)

- Regulation 45 – Earthworks, and the diversion and discharge of water within a wetland associated with 'specified infrastructure' – **discretionary activity.**[6]

2. The activity to which the application relates is as follows:

The proposal is to expand the existing Northport operations area.

Key components of the proposal are:

- Reclamation of part of the Coastal Marine Area (CMA) to the immediate east of Northport, including associated deposition and discharge of decant water.
- Capital and associated maintenance dredging.
- Wharf structures on the northern (seaward) edge of the proposed reclamation.
- Sheet piling and rock revetment structures on the eastern edge of the reclamation.
- Treatment of operational stormwater via the existing pond-based stormwater system and/or proprietary systems, and subsequent discharge to the CMA.
- Port related activities on the proposed reclamation and wharves, and on parts of the proposed development above MHWS.
- Construction of additional beach roosting habitat to the west of Northport.
- Construction of a public access from the existing car park at the end of Ralph Trimmer Drive (to be replaced) through to a proposed reserve and related amenities at the eastern edge of the proposed reclamation.
- Construction of a tug berthing facility and fishing pontoon at the eastern edge of the proposed reclamation.

The assessment of environmental effects is supported by extensive technical and scientific investigations.

[6] This consent is only required if the area within the expansion footprint qualifies as a wetland under the NESFM. Criteria for determining the presence and extent of coastal wetlands in New Zealand has not been developed. While seagrass is considered to be a coastal wetland species, its ephemeral nature makes classifying any particular area in the coastal marine areas as a wetland based on its presence or absence, very problematic. Northport's ecologist has advised that it is more appropriate to class the habitat within the proposed reclamation as intertidal sandflat containing a small area of seagrass, in which case consent under the NESFM is not required.

3. **The location of the proposed activities is:**
    - Ralph Trimmer Drive, Marsden Point.
4. **The owner of the site is as follows:**
    - The crown (seabed and existing reclamation) (Northport as lessee)
    - Northport (land adjoining existing reclamation)
    - WDC (esplanade reserve).
5. **There are no other activities to which this application relates.**
6. **No other resource consents are needed for the proposed activities.**
7. **An assessment of effects on the environment prepared in accordance with the Fourth Schedule of the RMA 1991 is attached.**
8. **As assessment of the proposed activity against the matters in Part 2 of the RMA 1991 in included with the application.**
9. **An assessment of the proposed activity against the various objectives, policies and rules of the relevant statutory planning documents is attached.**
10. **The application includes information that shows the area proposed to be reclaimed, including its location, the position of all new boundaries.**

Brett Hood

Planner/Director

6 October 2022

Date

Address for service:	Reyburn and Bryant 1999 Ltd
	PO Box 191, Whangarei
Telephone:	(09) 438 3563
Email:	brett@reyburnandbryant.co.nz
Contact person:	Brett Hood

1. Introduction

1.1 Executive summary

Introduction

Northport Ltd (Northport) has submitted applications to the Northland Regional Council and the Whangarei District Council for resource consents to construct, operate and maintain an expansion to the existing Northport facility at State Highway 15, Marsden Point.

In summary, the works include:

A. Reclamation of part of the Coastal Marine Area (CMA) to the immediate east of the existing Port reclamation.

B. Capital and associated maintenance dredging.

C. Wharf structures on the northern (seaward) edge of the proposed reclamation.

D. Sheet piling and rock revetment structures on the eastern edge of the reclamation.

E. Beach renourishment to augment a sandy flood spit feature in the intertidal area in order to create suitable avifauna roosting habitat.

F. Treatment and discharge of operational stormwater via the existing pond-based stormwater system and/or proprietary devices.

G. Port related activities on the proposed reclamation and wharves, and on parts of the proposed development above MHWS.

The applications are supported by an Assessment of Effects on the Environment (AEE), prepared in accordance with the RMA and in particular the Fourth Schedule. This incorporates:

- A planning report including an assessment of relevant statutory planning provisions.
- Comprehensive supporting technical and assessment reports, prepared by suitably qualified and experienced independent experts engaged by Northport.

Background and rationale for the project

Since the completion of the existing port facilities (i.e. Berth 3) in 2007, Northport has investigated a range of alternative options for expanding its capacity, and in particular its ability to construct a dedicated container terminal. Options have been comprehensively evaluated over an extended period, both by Northport and externally, with multiple design options being prepared and reviewed by a range of port and environmental experts.

Numerous economic studies have been conducted on the future of the upper North Island supply chain and the implications for Ports of Auckland, the Port of Tauranga and Northport. In 2012 the Upper North Island Strategic Alliance (UNISA) completed a technical study of the supply and demand for ports and port-related infrastructure in the upper North Island. The report concluded that there is strong growth predicted in the three upper North Island ports over the next 30 years, and that establishing a new Port is likely to be significantly less cost-effective than incremental

growth at each port. A subsequent report commissioned by the government in 2018 entitled the Upper North Island Supply Chain Strategy (UNISCS) recommended a transition of Ports of Auckland Ltd (POAL) freight to Northport.

To accommodate the changes in freight tasks and to realise the benefits of the opportunities for the regional economy, Northport needs to expand into a facility capable of efficiently handling additional freight streams. A technical assessment of economic effects report prepared by Market Economics concluded that Northport would need to invest in infrastructure upgrades, including wharf extensions and port area reclamation, regardless of whether POAL freight is redirected to Northport. The need for additional port infrastructure to provide resilience was illustrated during the Covid-19 response.

In summary, ongoing national supply-chain pressures, long-lead times in the development of port infrastructure, and growing demand from shipping companies indicate that now is the appropriate time for Northport to expand its facilities. Expansion of Northport can deliver a purpose-built, modern, and efficient container terminal. An expanding port will also represent a catalyst for better infrastructure and services for Northland, as well as providing for regional economic growth by facilitating new industries and jobs for Northland. The proposed expansion of Northport's facilities will support the continued growth of Northland and add capacity to the UNISC by providing container freight services for North Auckland.

Project objectives

Northport's objectives for the project are:

1. To create a modern efficient terminal with a 700 m long container berth and sufficient terminal area to handle at least 500,000 TEU/annum.
2. Locate all container services on the new terminal to enable growth and diversification of other freight on the existing footprint.
3. Incorporate best practice operational and environmental controls to minimise effects on the surrounding environment and community.
4. Allow for the integration of rail freight following the construction of the Marsden Point spur.

Description of the project

Reclamation and wharf structures

Northport currently consists of three berths, with a fourth berth and associated reclamation consented but not yet constructed. Northport is currently considering the business case for the construction of the fourth berth.

The proposal is to construct a fifth berth extending a further 250m towards the east, together with an associated 11.7ha reclamation. The expanded port footprint will extend inland to include areas of beach and esplanade reserve immediately east of the existing port.

The eastern edge of the proposed reclamation will be constructed using a combination of sheet piling and rock revetments.

A tug berthing facility and fishing pontoon/water taxi berth will be constructed along the eastern revetment. The tugs are commercially operated by NorthTugz and are an essential requirement for safe navigation by vessels visiting both Northport and the Channel Infrastructure NZ Ltd (CINZ) fuel import terminal.

Public access

Public access from Ralph Trimmer Drive to the beach area between the expanded port and the CINZ jetties will be provided along the southern edge of the expanded port and along the eastern edge of the proposed reclamation. A pocket park and other amenities (including a carpark, public toilet, swimming steps, and the fishing pontoon) will be developed at the eastern end of the expanded port.

Due to port operational and health and safety requirements, including the need to 'future proof' port operations – including to provide for rail access – it is not practicable for any part of the area to be set aside as an esplanade reserve or esplanade strip.

Dredging

Capital and maintenance dredging is required to deepen the swing basin in order to safely enable vessels to navigate to, and berth at, the berth facility during all tides. The depth transitions from CD -14.5m at the western end to CD -16.0m at the eastern end. Some additional dredging is proposed around the fringes of the existing swing basis and in the vicinity of the tug berthing facility.

Approximately 1.7M m^3 of material will be dredged during the capital dredge programme, with the majority used to form the reclamation. Any surplus or unsuitable material will be disposed of in an approved location.

Port activities

The expanded port will be used as a container terminal and for other port activities.

Port noise

Port noise will be controlled through noise limits and associated metrics consistent with NZS 6809:1999 Acoustics – 'Port noise management and land use planning'.

A comprehensive port noise management plan has been prepared to manage noise and retain suitable levels of amenity for residential areas. The objectives of the plan are:

- To ensure the port complies with the relevant noise performance standards.
- To provide a framework for the measurement, monitoring, assessment, and management of noise.
- To identify and adopt the Best Practicable Option (BPO) for the management of noise effects.
- To require engagement with the community and timely management of complaints.

Day time port noise is expected to comply with permitted limits in the Whangarei District Plan. A key aspect of the port noise management plan is that if night-time port noise reaches (or is predicted to reach) predetermined levels at residential receivers in Reotahi, the port will offer to fund mechanical ventilation (i.e. air conditioning) to a suitable standard that will enable residents' windows and doors to be closed at night.

Stormwater

Stormwater from port operations areas will either be collected and treated in the existing port stormwater treatment system or treated with proprietary devices prior to discharge. The existing system involves directing all water to the treatment ponds located on Marsden Maritime Holdings Ltd land to the south of the port before subsequent discharge to the harbour. Monitoring of existing discharges shows that the system achieves the water quality standards specified in the existing conditions of consent and those in the Proposed Regional Plan. Proprietary systems are capable of achieving a similar level of treatment.

Assessment of effects on the environment

Coastal processes - Hydrodynamic modelling has predicted small changes to current velocities in the vicinity of the port. These changes are localised to the region where the dredging and reclamation works will be undertaken and will not materially affect navigation by either commercial or recreational vessels.

While changes to sediment transport rates are predicted within the harbour, morphological modelling and subsequent analysis suggests no significant changes to harbour morphology. Some sediment deposition is expected between the expanded port and the CINZ wharves.

Air discharges – During construction, there is limited potential for air discharges to cause off-site effects at the nearest residential dwellings. Air quality during construction will be managed through conditions of consent, including management plan(s). No significant discharges are expected from the operation of the expanded container port, particularly as much of the port equipment will be electrified (or capable of electrification).

Water quality – Discharges to the CMA during construction of the reclamation will be managed via detailed and comprehensive sediment control measures specified in a Construction Management Plan. This plan will include measures to avoid sediment discharge and to manage the discharge of decant water from the reclamation.

Discharges during capital and maintenance dredging will be subject to turbidity and dredge management plans prepared and certified prior to construction commencing. The plans will be implemented to minimise dredge plumes, and the associated adverse effects on water quality and marine ecology. They will contain a series of monitoring 'trigger' levels and appropriate management and monitoring responses in order to provide confidence to Council, mana whenua and the community that turbidity effects will be appropriately managed.

Discharges of stormwater from future port operations will achieve the water quality standards in the Proposed Regional Plan.

Landscape, natural character, and amenity values - The proposal will have some adverse effects on landscape, natural character, and amenity values. When considered in the context of the existing environment, the magnitude of these effects has been determined to be as follows:

Landscape values

Potential effects on landscape values have been assessed as ranging between less than minor and significant. The significant effects are limited to Marsden Point Beach. More than minor effects are predicted from Reotahi and the adjoining harbour. Importantly, there are no Outstanding Natural Landscape Areas directly affected by the Northport proposal

Natural Character values

Potential effects on natural character values have been assessed as ranging between more than minor and negligible. There are no Outstanding or High Natural Character Areas directly affected by the proposal.

Amenity values

Potential effects on amenity values have been assessed as being significant for the Marsden Point Beach area, more than minor for Reotahi, and otherwise less than minor for the wider harbour.

Avifauna – There are some at-risk and/or threatened bird species known to use the beach and intertidal area on the eastern side of the port. A bird roosting area will be constructed on the western side of the port, ahead of construction of the reclamation itself, to provide suitable roosting habitat for various species, including NZ Dotterel and Variable Oystercatcher. This, together with a range of measures to be included in the CEMP, will ensure that the effects on avifauna will be minor or less.

Marine mammals - Potential effects on marine mammals are related to underwater noise during construction, and the very low potential for ship strike during port operations.

Underwater noise has been modelled, and the associated effects assessed by a marine mammal expert.

Sound modelling indicates that for most species (except for visiting baleen whales), pile-driving noise without any mitigation has the potential to cause temporary hearing impairment only within close proximity of the piling source. While the potential is greater for visiting baleen whales and leopard seals, very few individuals visit these waters in any one year (1-3 animals) and these species tend to have a stronger seasonal presence (winter migrations for whales). Therefore, the likelihood of any adverse displacement or behavioural effects occurring is considered to be low and any hearing injury effects are not applicable based on modelling results. Furthermore, with the range of management measures detailed in the proposed Marine Mammal Management Plan, including the establishment of marine mammal observation zones (MMOZ) and soft start/ramping up procedures, any residual effects are expected to be nil to less than minor.

In regard to effects associated with changes to mammal habitat and prey species, due to the limited effect (both spatially and temporally) that the proposed construction activities are

expected to have on local habitats and associated prey resources there are unlikely to be any long-term flow-on effects to local marine mammals.

Other marine ecology – The proposed reclamation will remove intertidal and subtidal ecology located within the reclamation footprint. Dredging will also have direct and indirect effects on marine ecology. Marine ecological effects have been carefully considered at the appropriate scale, as expressly directed by the Proposed Regional Plan. The potential adverse effects (including cumulative effects) on marine ecology resulting from reclamation, dredging, and stormwater discharges, have been assessed as ranging between low to moderate to high, however, potential effects on threatened and/or at-risk species and/or potential areas of significant indigenous vegetation and habitats of indigenous fauna under Appendix 5 of the RPS will/can be kept within minor and/or transitory levels subject to the implementation of best practice management of dredging effects.

Navigation and marine spill risk – Extensive ship simulation studies have concluded that general navigation to and from the Northport berths and the CINZ jetties will not be materially impacted. The increase in shipping movements can be managed by existing maritime services.

The risk of marine oil spill associated with the proposal involves vessel collision or grounding. While there is a potential increase in the risk of a larger vessel being grounded, the ship simulation assessment, coupled with the existing operational Dynamic Under Keel Clearance system (DUKC), demonstrate that the risk will not increase appreciably as a result of the port expansion. Existing oil spill response plans are considered to be robust, and they will be regularly reviewed in accordance with s297 of the Maritime Transport Act 1994.

The navigation and marine spill risk assessments have considered the scenario both with, and without, the channel realignment and deepening consented by CINZ.

Biosecurity – There are several potential biosecurity risks associated with the proposed expansion. Broadly, these risks arise through:

- Expansion of port infrastructure and the operational activities (including specialised vessel movements) involved during the construction phase.
- Potential changes in the frequency and geographic origin of shipping associated with the ability of the port to accommodate larger and different vessel types during routine operations.

Biosecurity risks associated with construction vessels will be managed through compliance with measures contained in the CEMP.

Biosecurity risks associated with international ships will also be managed in accordance with the requirements of the Import Health Standards administered by MPI, the Marine Pathways Plan, and Proposed Regional Plan rules administered by the Northland Regional Council.

Archaeology - There are no known archaeological sites within the proposed works area.

Cultural values - The project is located in an area that is rich in Māori history.

Mana Whenua have been a key stakeholder in the development of the project, and this has enabled the inclusion of values and aspirations, and where practicable, the avoidance/management of

adverse cultural effects, through the project design and/or mitigation measures. Consultation with mana whenua remains ongoing post-lodgement, with a view to determining appropriate cultural mitigation.

Economic - The project will deliver significant benefits to the local and regional economy. These benefits will depend on a range of economic, environmental, and political factors, and specifically the extent to which Northport is required to support freight logistics associated with Auckland's growth.

A range of possible futures have been considered, including one where Northport provides for regional demand only ('Business as usual' – BAU), and one where it handles trade from outside the region (North Auckland Imports – NAI) - which appears most likely due to issues associated with other key ports in the Upper North Island.

The assessment shows that, with the proposed expansion, Northport's role in the Northland economy is likely to result in at least $1,094 million GDP and 14,800 jobs by 2050 (based on the most conservative BAU future).

Operational port noise - An expansion of existing port operations may result in additional noise generation. This could translate to an adverse effect on sensitive (residential) receivers, particularly in the Albany Road and Reotahi areas.

Conditions of consent are proposed, requiring the port to adhere to specified noise limits in accordance with NZS 6809:1999 Acoustics – 'Port noise management and land use planning'. A Port Noise Management Plan has been prepared, and will be required, to minimise port noise through best practice. If night-time port noise reaches (or is predicted to reach) predetermined levels at residential receivers in Reotahi, the port will offer to fund mechanical ventilation (i.e. air conditioning) to enable windows and doors to be closed at night.

Subject to the mitigation measures outlined above, the effects of port noise will be minor or less.

Recreation - The reclamation will involve removal of an area of beach and esplanade reserve to the immediate east of Northport. Public access from Ralph Trimmer Drive to the beach area between the expanded port and the CINZ jetties will be provided along the southern edge of the expanded port and along the eastern edge of the proposed reclamation. A pocket park and other amenities (including a carpark, public toilet, swimming steps, and the fishing pontoon) will be developed at the eastern end of the expanded port. Notwithstanding the mitigation measures described above, adverse recreation effects on the beach to the east of Northport will remain due to the loss of beach area and diminution of the scale of the setting. These effects are likely to be significant for recreational beach users. However, when considered with respect to wider contexts (for example at the scale of local, district-wide, and region-wide recreation activity), the recreational effects will be more than minor at worst (locally) through to less than minor (regionally).

Carbon emissions - Northport has been actively reducing its carbon footprint for some time now. Examples include the replacement of fleet vehicles with electric vehicles, and changes to the procurement process whereby new equipment is preferred over older equipment that does not

meet modern emission standards. Northport remains committed to reducing carbon emissions on the expanded port.

Measures to manage effects on the environment

The following measures are proposed to manage adverse effects on the environment:

- **Construction and Environmental Management Plan (CEMP)** – preparation, certification, and implementation of a CEMP containing chapters covering a range of matters including:
  - **Sediment discharge during reclamation construction** – detailing best practice measures to control sediment discharges from the reclamation and the associated discharge of decant water.
  - **Air discharges** – detailing dust management practices to minimise the risk of the discharge of dust causing an offensive or objectionable effect beyond the boundary of the works area.
  - **Marine Mammals** – The CEMP includes a Marine Mammal Management Plan (MMMP) containing measures to avoid and otherwise minimise adverse effects on marine mammals during the construction and subsequent operations phases of the project. A draft MMMP is attached to this application. The MMMP will include several best management practices and management actions (including source noise reduction options, use of observers, shut down zones, and seasonal consideration of piling stages). Ongoing acoustic monitoring is proposed to verify *in situ* piling sound levels and ensure the effectiveness of the mitigation measures employed.
  - **Avifauna** – detailing measures to avoid and otherwise minimise adverse effects on avifauna during the construction phase of the project.
  - **Biosecurity** – detailing measures to manage the risk of biosecurity incursions associated with construction vessels.

    For vessels using the expanded port once operational, the standard MPI and NRC biosecurity controls will apply.

  A draft CEMP is included with this AEE (see **Appendix 5**).
- **Port noise** – A Port Noise Management Plan will be prepared in accordance with Section 8 of NZS 6809:1999. The PNMP will be a 'living document' that is expanded and updated as appropriate.

  If night-time port noise reaches (or is predicted to reach) predetermined levels at residential receivers in Reotahi, the port will offer to fund mechanical ventilation (i.e air conditioning) to enable windows and doors to be closed at night.
- **Dredging** – Dredge management plans, including a plan to manage turbidity, will be prepared for capital and maintenance dredging operations. The dredge plans will require implementation of best practice management measures and specify how dredging practices and procedures will ensure that any actual or potential adverse effects on the marine

receiving environment, including due to turbidity, are avoided, or otherwise managed to the greatest extent practicable.

- **Stormwater discharges (operational)** – Stormwater from operational port areas will be collected and directed to the existing port stormwater treatment ponds prior to discharge to the CMA. Proprietary treatment devices may also be incorporated. Subsequent stormwater discharged to the CMA will be routinely monitored for compliance with the water quality standards specified in the conditions of consent.

Statutory assessment

The project has been assessed against the relevant statutory planning documents.

The project aligns with key provisions in the New Zealand Coastal Policy Statement (NZCPS), and specifically the experts engaged by Northport have specifically considered the "avoid" policies, as contextualised for Northland in the Regional Policy Statement (RPS) and Proposed Regional Plan (PRP). It also aligns with the RPS and PRP provisions relating to economic growth and Regionally Significant Infrastructure. This is because of the predicted economic benefits expected to accrue from the expansion, and the role that the port plays in supporting economic growth in the region.

There will be some adverse effects on the environment, most notably in respect to indigenous biodiversity (marine mammals, avifauna, and other marine ecology). The effects on indigenous biodiversity have been assessed as minor or less when considered at the system-wide scale as directed by the PRP (Policy D.2.18(5)) and taking account of the comprehensive effects management package proposed by Northport. A range of measures are proposed to ensure that effects of the proposal, including with respect to construction, stormwater discharges, dredging, recreation, and noise are avoided or managed in accordance with these documents.

The statutory assessment concludes that the proposal is overall consistent with the objectives and policies of the relevant statutory plans, most notably the RPS and PRP. Specifically, the proposal fully aligns with the cornerstone economic well-being and regionally significant infrastructure provisions in both plans, while appropriate management measures are proposed to avoid and/or otherwise manage adverse effects on the environment.

1.2 Overview

Northport Ltd is the owner and operating company for the multi-purpose cargo port at Marsden Point (Northport). Northport is New Zealand's northern-most deep-water commercial port. It is the closest port to most international markets and located less than two hours by road or rail from Auckland.

Northport currently facilitates $438 million in value added and the equivalent of 6,300 jobs in the Northland economy. It is significant in the Northland region, and nationally, because of its commercial, transportation, and infrastructure functions, and its overall contribution to economic sustainability and growth.

This assessment of environmental effects (AEE) has been prepared in support of a resource consent application prepared under the Resource Management Act 1991 (RMA) to expand the existing Northport berth length and associated operations area towards the east. Consents are required from both the Northland Regional Council (NRC) and Whangarei District Council (WDC).

The applications have been prepared in accordance with Section 88 and the Fourth Schedule of the Resource Management Act (RMA). Section 88 of the RMA requires that resource consent applications be accompanied by an AEE prepared in accordance with the Fourth Schedule. A Fourth Schedule checklist is attached at **Appendix 1.**

1.3 Background

1.3.1 History of Northport

For over a century the ports in Whangarei harbour have been of primary importance for the Northland economy. Until construction of the port at Marsden Point, most of the trade was handled by facilities in the upper harbour area, first at the existing town basin, and then Port Whangarei (developed in 1920s).

Over the following four decades it became increasingly difficult to maintain the channel depth in the upper harbour, particularly as cargo vessels increased in size. As a consequence, in the late 1960s the Northland Harbour Board proposed to move the port facility to Marsden Point. Marsden Point has natural deep water, ideal for a commercial port facility.

Technical studies for the Marsden Point location were completed more than a decade later, in 1976. During the 1980's the planned move lost traction. However, as Northland's forestry industry began to increase production in the 1990's, this proved to be the catalyst for the development of Northport.

In 2000 the move to Marsden Point was achieved by a joint venture[7] which formed Northport. Northport began trading in July 2002 as the port operating company when it took over the port activities of Northland Port Corporation (NZ) Ltd (now Marsden Maritime Holdings) at both Marsden Point and Port Whangarei. Over the following five years three berths were constructed at Marsden Point and all cargo operations were progressively transferred from Port Whangarei to Northport.

Northport is currently a three-berth facility, with a fourth berth consented but not yet constructed. The first two berths were consented in 2000, with construction completed in 2002. The third and fourth berths were consented in 2004, with construction of the third berth completed in 2007.

[7] Marsden Maritime Holdings and Port of Tauranga.

1.3.2 Ownership

Northport is the port owner and operating company for the multi-purpose cargo port at Marsden Point (Northport). Northport is 50% owned by Marsden Maritime Holdings Ltd (MMH) and 50% by Port of Tauranga Limited (POTL).

Pilotage and tug services for ships arriving at Northport (and CINZL some 750m to the east) is provided by North Tugz Limited (NTL) (a joint venture between Northport and Ports of Auckland).

The overall Northport footprint is made up of multiple titles owned by Northport and a lease over reclaimed land vested in the Crown (see **Figure 1** below).

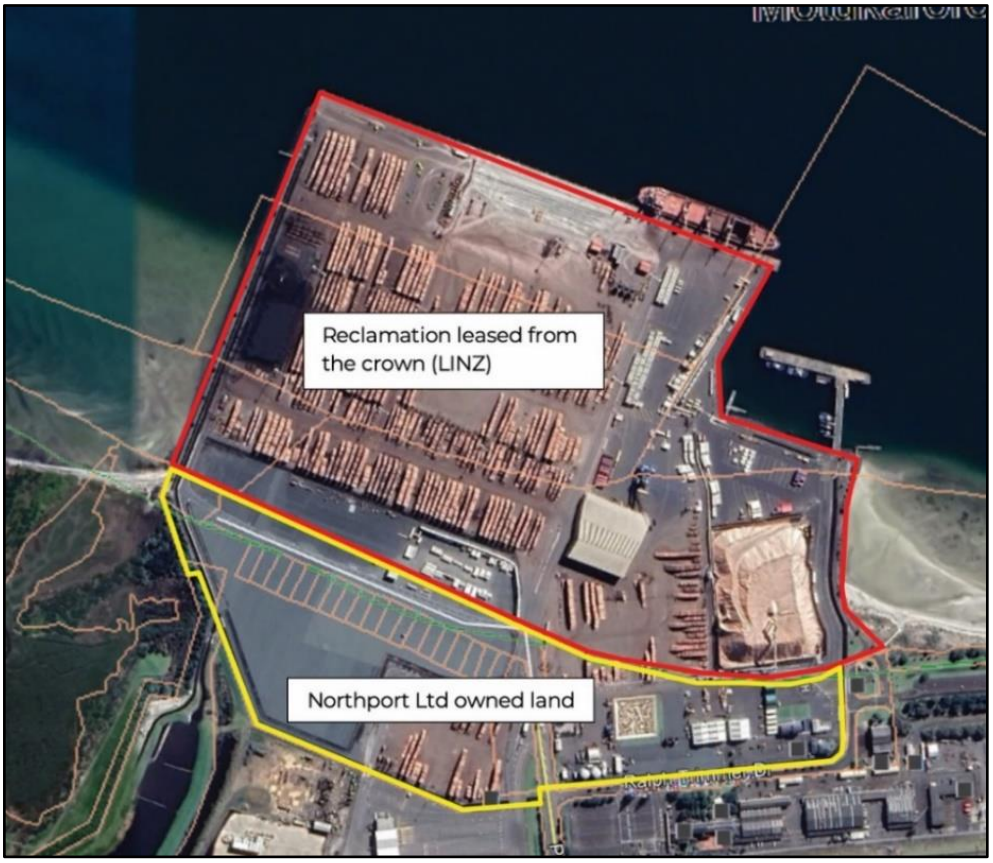

***Figure 1**: Northport land ownership*

1.3.3 Regional and national significance

Northport is significant in the Northland region, and nationally, because of its commercial, transportation and infrastructure functions. This is reinforced by Policy 9: 'Ports' of the New Zealand Coastal Policy Statement (NZCPS), and through provisions in the Regional Policy Statement for Northland (RPS), Proposed Regional Plan (PRP), and the Port Zone of the Whangarei District Plan (WDP).

Northport, including the adjoining land used for the movement and storage of cargo, is identified as 'Regionally Significant Infrastructure' (RSI) in Appendix 3 of the RPS. RSI has elevated importance in the RPS, including objectives and policies that require specific weight to be given to

the benefits of RSI when considering applications for resource consent and plan changes. It also qualifies as 'Specified Infrastructure' under the Resource Management (National Environmental Standards for Freshwater) Regulations 2020 (NESFM).

1.4 Project rationale

1.4.1 Project objectives

The objectives for the proposed port expansion are as follows:

- To create a modern efficient terminal with a 700 m long container berth and sufficient terminal area to handle at least 500,000 TEU[8]/annum.
- Locate all container services on the new terminal to enable growth and diversification of other freight on the existing footprint.
- Incorporate best practice operational and environmental controls to minimise effects on the surrounding environment and community.
- Allow for the integration of rail freight following the construction of the Marsden Point spur.

1.4.2 Project rationale

The project rationale for the proposed port expansion is to enable Northport to support Ports of Auckland (POAL) and Port of Tauranga (POTL) in providing for the predicted freight needs of the upper North Island, and to continue to support the economic growth of north Auckland and the Northland region (refer to Northport's Issues and Options report for the proposed expansion at **Appendix 2**).

There have been several independent reports on port capacity in the upper North Island. In 2012 a UNISA[9] commissioned report determined[10] to meet the projected freight task associated with growth over the next 30 years. This report concluded that *"substantial, systemic change to the UNI port system within the next 30 years (for example, establishing a new UNI port) is likely to be significantly less cost effective than incremental change"* and *"that the most efficient and cost-effective options for meeting the projected freight task is likely to be based around improved efficiency, incremental growth at each port, planned improvements in the land transport system, complemented by changes in relative prices that direct customers to where spare capacity exists in the UNI port system"*.

Two further reports (the Upper North Island Supply Chain Strategy (UNISCS), 2018 and Sapere report, 2020) determined that POAL has limited capacity to cater for the future freight needs of the

[8] Twenty-foot equivalent unit container.
[9] Upper North Island Strategic Alliance (consisting of Northland, Waikato, and Bay of Plenty Regional Councils, Auckland Council, Whangarei District Council, Hamilton, and Tauranga City Councils).
[10] Northport, Port of Auckland, Port of Tauranga.

Auckland region, reinforcing the need for Northport to develop additional capacity to assist POAL, when it is needed, and in a timely manner.

Constructing or expanding ports in New Zealand is an uncertain, time-consuming, and expensive process. The period from conception to completion is typically in the order of 10 years, excluding business case development and funding processes. For Northport to be able to react to changes in market or political conditions within a timeframe that does not result in significant regional or national economic and social disruption and costs, the resource consents need to be in place well in advance of the additional port capacity being needed. This requires a proactive, long-term view on the need and demand for expansion, rather than a reactive approach after the fact.

1.5 Resource consents required

All necessary resource consents are sought from both the NRC and the WDC to enable the construction and operation of the expanded port. The rules in the district and regional plans that trigger the requirement for resource consent include:

Northland Regional Council

***Table 1**: Regional Plans resource consent identification and activity status*

Rule	Consent type	Description	Activity Status
Operative Regional Coastal Plan			
Rule 31.7.5(a)	Coastal permit	Reclamation ('Marine 5 (Port Facilities) Management Area')	**Discretionary**
Rule 31.7.8(b)	Coastal permit	Capital Dredging ('Marine 5 (Port Facilities) Management Area')	**Discretionary**
Rule 31.7.8(a)	Coastal permit	Maintenance dredging ('Marine 5 (Port Facilities) Management Area')	**Controlled**
Rule 31.7.8(c)	Coastal permit	Dredging spoil disposal (in reclamation) ('Marine 5 (Port Facilities) Management Area')	**Discretionary**

Rule 31.4.8(e)	Coastal permit	The deposition of marine sediment on the foreshore for the purposes of beach replenishment (roost area). ("Marine 2 (Conservation) Management Area").	**Discretionary**
Rule 31.7.4(o)	Coastal permit	Alteration or extension of authorised structures (wharf) not otherwise a controlled activity under Rule 31.7.3(n), and the use of these structures for port activities.	**Discretionary**
Section 87B Resource Management Act 1991	Coastal permit	Discharge decant water from reclamation during construction. ('Marine 5 (Port Facilities) Management Area')	**Discretionary** **(innominate)**
Rule 31.7.6(g)	Coastal Permit	Discharge stormwater from open cargo storage or handling areas, including wharves to the CMA via a stormwater treatment and disposal system.	**Discretionary**
Rule 31.7.4(p)	Coastal permit	Tug berthing, water taxi and fishing pontoon and the related occupation of space. ('Marine 5 (Port Facilities) Management Area')	**Discretionary**
Regional Water and Soil Plan			
Rule 34.3(1)	Land use consent	Earthworks in the RMZ (on WDC esplanade reserve)	**Discretionary**
Proposed Regional Plan			
Rule C.1.6.3	Coastal permit	Reclamation	**Discretionary**

	(reclamation)		
Rule C.1.5.12	Costal permit (dredging)	Capital dredging	**Discretionary**
Rule C.1.5.9	Coastal permit (dredging)	Maintenance dredging	**Controlled**
Rule 6.4.4 (High Risk Industrial or Trade Premises)[11]	Coastal permit (discharge)	Stormwater discharge from open cargo storage or handling areas, including wharves to the CMA via a stormwater treatment and disposal system.	**Discretionary**
Rule C.1.1.11	Coastal permit (structures)	Alteration to existing authorised wharf structures and the use of these structures for port activities.	**Controlled**
Rule C.1.1.16	Coastal permit (Structures in the Marsden Point Port Zone)	Floating tug berthing facility, water taxi and fishing pontoon, including the related occupation of space.	**Restricted discretionary**
Rule C.1.5.11	Coastal permit (Deposition of material for beneficial purposes)	The deposition of marine sediment on the foreshore for the purposes of beach replenishment (roost area)	**Restricted discretionary**

[11] Boat maintenance and port activities are identified as High Risk Industrial or Trade Premises in the PRP (Decisions Version).

Whangarei District Council

Table 2: *Whangarei District Plan resource consent identification and activity status*

Rule	Description	Activity Status
Operative Whangarei District Plan		
Section 87B Resource Management Act 1991	Port operations on the expanded port.	**Discretionary (innominate)**
NAV.7	Port noise (existing and expanded port)	**Discretionary**
Innominate (no applicable zone or rule)	Land use consent for cranes up to 85m in height (when working)[12] on the yet to be constructed Berth 4 to align with the crane height rules in the Port Zone (applicable to Berths 1-3) and on the proposed expansion area.	**Discretionary (innominate)**
OSZ-R5	Land use consent for the construction of a building within 27m of MHWS in the Open Space Zone, being the relocated public toilet at the eastern end of the expanded port.	**Discretionary**
CA.2.3(2) CA.2.3(3) CA.2.3(4)	Land use consent for a **discretionary activity** for earthworks exceeding 500m^3, earthworks within sand dunes, and indigenous (dune) vegetation clearance, within the 'Coastal Area' (port development and public access/reserve).	**Discretionary**

Resource Management (National Environmental Standards for Freshwater) Regulations 2020 (NESFM)

A consent is only required under the NESFM if the area within the expansion footprint and/or roost deposition area qualifies as a wetland as defined in the NPSFM and/or is located within 100m of a wetland.

Criteria for determining the presence and extent of coastal wetlands in New Zealand has not been developed. While seagrass is considered to be a coastal wetland species, its ephemeral nature

[12] No height limit is proposed for dormant cranes in line with the crane height rules for the Port Zone.

makes classifying any particular area in the coastal marine areas as a wetland based on its presence or absence, very problematic. Northport's ecologist has advised that it is more appropriate to class the habitat within the proposed reclamation and roost deposition areas as intertidal sandflats containing a small area of seagrass, in which case consent under the NESFM is not required.

Accordingly, while consent under the NESFM is not deemed necessary, out of an abundance of caution the necessary assessment is included in this AEE.

1.6 Variation to WDC land use consents

Several conditions in the existing WDC land use consents for Berths 1-2[13] and 3-4[14] respectively require consequential amendment pursuant to Section 127 of the RMA.

The proposed conditions that are to be varied and the associated rationale are identified in the following tables:

***Table 3**: Proposed variations to Berth 1 & 2 consents*

Condition(s) #	Proposed variation	Rationale
12-18	Delete or vary so new noise provisions to take effect when port activities commence on either Berth 4 or 5.	These conditions relate to port noise on Berths 1-2. They are proposed to be deleted in favour of a new resource consent covering noise across the entire port. This variation will only take effect when port activities commence on either Berth 4 or 5.
20	Delete.	This condition relates to access to the eastern side of Berth 2. This condition has already been superseded by the Berth 3-4 consent and will be replaced by a new condition of the Berth 5 consent.
23	Vary to remove reference to landscape planting on the eastern side the port (to take effect when the Berth 5 reclamation	This condition relates to landscaping on the eastern edge of Berth 2. This condition has already been superseded by the Berth 3-4 consent.

[13] Decision #17 – Whangarei District Council: Land Use Consent No.3.
[14] Decision #11 – Whangarei District Council: Land Use Consent No.1.

	works are complete). The reference to landscaping on the western side is to be retained.	

***Table 4**: Proposed variations to Berth 3 & 4 consents*

Condition(s) #	Proposed variation	Rationale
7	Delete or vary so new noise provisions to take effect when port activities commence on either Berth 4 or 5.	This condition relates to port noise on Berths 3-4. It is proposed to be deleted in favour of a new resource consent covering noise across the entire port. This variation will only take effect when port activities commence on either Berth 4 or 5.
9-12	Delete (to take effect when the Berth 5 construction works commence.	These conditions relate to landscaping on the eastern edge of Berth 4. They are proposed to be deleted as the subsequent construction of Berth 5 will require the removal of this landscaping.

1.7 Surrender of CON20090505532 (stormwater discharge)

It is proposed to surrender the existing stormwater discharge consent CON20090505532 upon completion of the expanded port (Berth 5) pursuant to Section 138 of the RMA. This consent will be replaced by a new consent covering the existing and expanded port.

1.8 Report structure

This report is structured as follows:

Section 1: Introduction

Section 2: Evaluation of alternative options and methods.

Section 3: Description of the proposal, including the extent of reclamation, dredging, structures, and activities.

Section 4: Description of the existing environment.

Section 5: Assessment of effects on the environment.

Section 6: Statutory planning assessment.

Section 7: Engagement with mana whenua.

Section 8: Public consultation.

2. Evaluation of Alternatives

2.1 Introduction

A consideration of alternatives is required under the Fourth Schedule of the RMA and under various provisions of the relevant planning documents (as outlined below). In particular, there is a policy framework flowing through the statutory documents from Part 2 of the RMA to the New Zealand Coastal Policy Statement (NZCPS) and the PRP that directs the consideration of alternatives, particularly when considering reclamation and activities in the coastal environment. These matters are addressed both in this chapter and in the other relevant sections of this AEE.

In formulating the project, Northport evaluated several options and alternatives to achieve the overall objective of expanding the container port. These options and alternatives are detailed in the Issues and Options report (**Appendix 2**). The report is summarised in the following sections of this AEE.

2.2 Design evolution

Northport has developed the proposal that is the subject of this consent application over many years of design development and assessment of alternative options. The proposal's design progression, alternatives assessed, and the preferred design are set out in the Issues and Options report. In summary, several broad options were considered by Northport when evaluating how and where additional port capacity could be located, including:

- A location other than Northport.
- Reconfiguring existing port operations.
- Extending the port footprint either west, north, south, or east.

A summary of the evaluation process is set out in the Issues and Options report. Ultimately, an eastern expansion was chosen as the preferred option, for the reasons outlined in the report.

2.3 Terminal design

Any expansion and redevelopment of Northport is required to integrate with existing port operations and surrounding constraints. To that end, Northport commissioned WSP to provide initial, high-level advice on whether to undertake reclamation, or to construct a piled wharf. WSP advised that reclamation is the only practicable option, for a range of reasons outlined in the Issues and Options report.

Northport also commissioned WSP to prepare a Concept Design Report which records the user requirements, constraints, and selection criteria (and assessment against them) for several wharf designs. Based on the relevant criteria, an open piled marginal wharf with rock revetment was the chosen option, for the reasons outlined in the Issues and Options report.

Detailed design will be undertaken prior to construction. The Concept Design Report also identifies the proposed construction methodology for the indicative wharf design. A range of other wharf design options were considered and discounted, as described in the report.

2.4 Stormwater discharges

Two primary options were considered for the management of stormwater from the expanded port. These were:

- Use of the existing canal and pond-based system.
- Proprietary devices.

The existing canal and pond-based system is intended to continue to be used for the existing port footprint because it has demonstrable compliance with the water quality conditions in the existing discharge consent, and therefore will achieve the water quality standards in the PRP.

The expanded port footprint may also utilise the existing system for the following reasons:

- There is sufficient capacity to deal with the water from the expanded port.
- Utilisation of the existing canal and pond-based system is an efficient use of existing infrastructure.

It is possible, following detailed design, that proprietary devices may also be incorporated in the management of stormwater from the expanded port.

Both methods can achieve the water quality outcomes specified in the PRP.

3. Project Description

3.1 General

Northport proposes to expand its existing facilities to increase freight storage and handling capacity to support the future freight needs of the upper North Island.

The proposal includes:

- Reclamation within the Coastal Marine Area (CMA) and earthworks to the immediate east of the existing reclamation to expand Northport's footprint by approximately 13.8 hectares. This comprises 11.7ha of reclamation within the CMA and 2ha of earthworks outside the CMA (on the WDC esplanade reserve).
- Capital and associated maintenance dredging to enlarge and deepen the existing swing basin, and to enable construction of the extended wharf and tug berthing facility.
- Construction of additional beach/roosting habitat.
- A 250m long wharf (excluding the consented but not yet constructed 270m long Berth 4) constructed on the northern (seaward) face of the proposed reclamation.
- Sheet piling and rock revetment structures on the eastern edge of the proposed reclamation.
- Treatment of operational stormwater via the existing pond-based stormwater system and/or proprietary devices.
- Port-related activities on the proposed expansion and wharves.
- Lighting to facilitate night-time operations.
- Construction of a new tug berthing facility.
- Replacement of the existing floating pontoon, public access, and public facilities.

The construction of the reclamation, wharf and associated structures is expected to include some or all the following activities:

- Capital dredging, using a trailer suction hopper dredger (TSHD) and/or cutter suction dredger (CSD), to remove an anticipated volume of approximately 1.72 million m^3 of dredge spoil.
- Reclamation, using the dredge spoil, and discharge of decant water.
- Construction dredging, using a backhoe dredger (BHD), to create the desired underwater profile and allow for construction of the batter slope.
- Excavation, placement of material and compaction.
- Construction work to construct seawalls and abutments (work above and below MHWS).
- Staging of construction equipment, including piling to create work platforms and install pile gates.

- Pile-driving, using methods including vibro and top-driven impact hammers. This will involve cranes (shore based and/or mounted on jack-up barges), excavators and power packs (generators and hydraulic pumps).
- Placement of formwork, tying reinforcing steel and laying of ducts and pipework.
- Pouring of concrete for the port deck and discharge of concrete curing water.
- Construction of pavement surfaces.
- Installation of wharf furniture (bollards, fenders etc).
- Installation of services and other infrastructure on the expansion area.

The final design will be confirmed during the detailed design phase. Further detailed information can be found below.

3.2 Port activities

3.2.1 Container terminal

Northport proposes to increase its freight storage and handling capacity to support the future freight needs of the upper North Island.

The terminal design is modular with the port being progressively developed into a high-density container terminal. The initial design is based on the use of reach stackers for container handling, eventually transitioning to a high-density design based on the use of Rubber Tyre Gantry cranes (RTGs) (see **Figure 2** below).

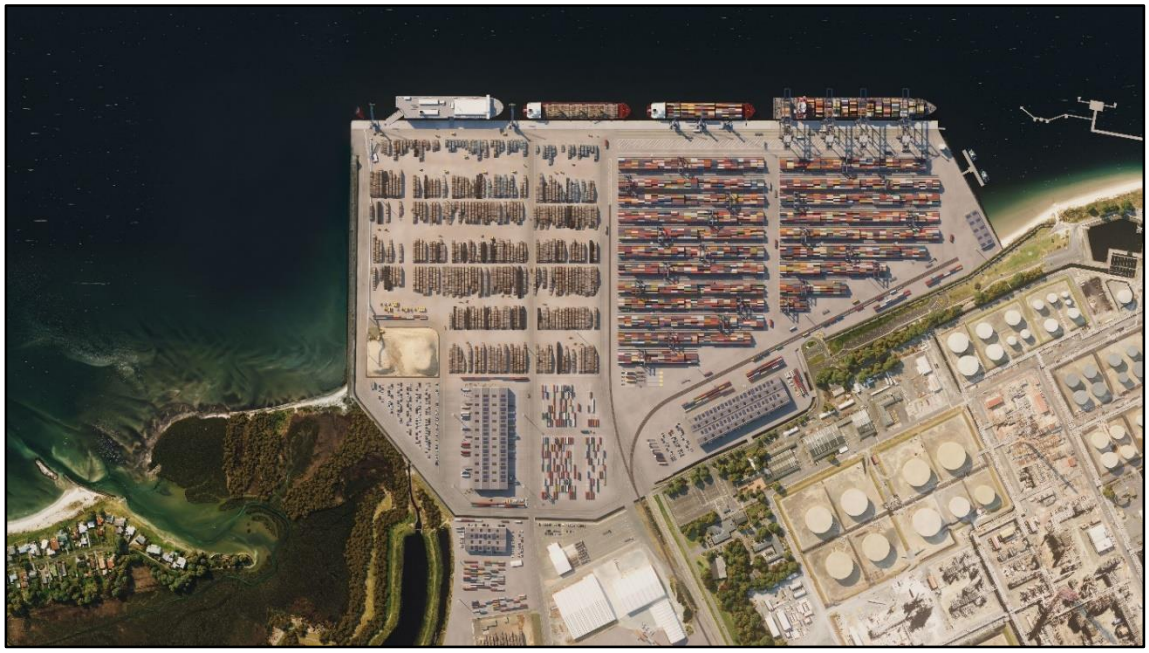

Figure 2: *High-density port design (long-term)*

3.2.2 Other facilities

The following associated/ancillary facilities are anticipated on the port, and the resource consent applications have been framed to also facilitate these:

- Harbour control facilities.
- Coastguard facilities.
- Biosecurity facilities.
- Boarder control/customs facilities.
- Quarantine facilities.
- Tug and pilot facilities.
- Offices, workshops, and other facilities to support the above.

3.2.3 Cranes

As the number of containers handled by Northport increases, crane handling equipment is also expected to change. Cranes expected to be used in the container terminal are detailed below.

Mobile harbour cranes

Northport currently operates two mobile harbour cranes for loading and unloading containers. They have a maximum height of 68m when fully extended (see **Figure 3** below).

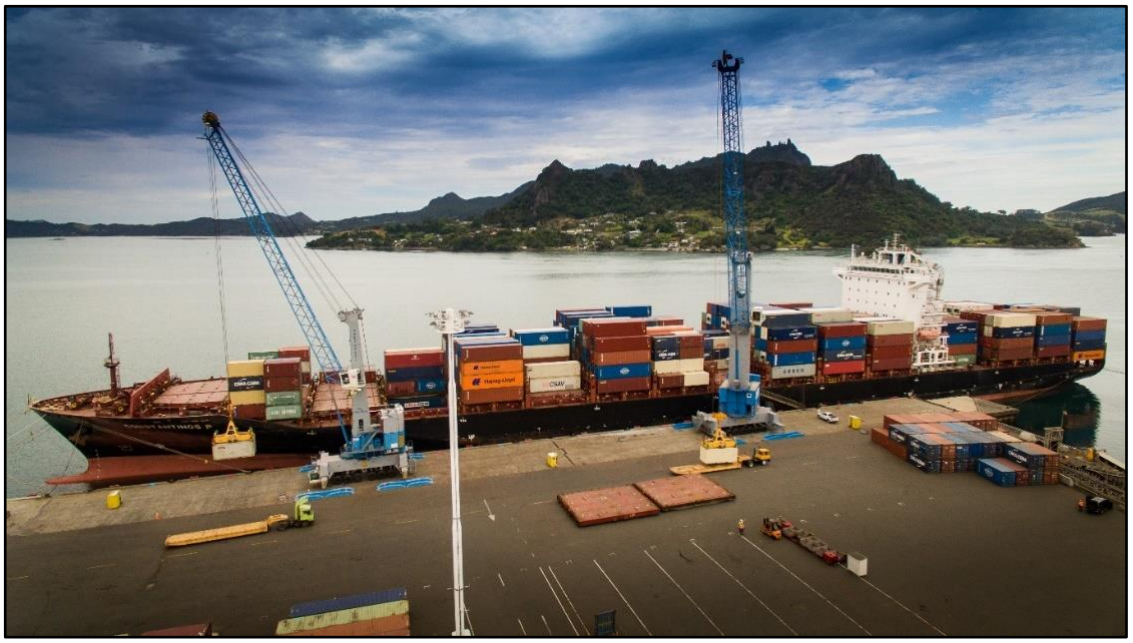

Figure 3: *Mobile harbour cranes at Northport*

Ship to shore gantry cranes

As the number of containers handled by Northport increases, ship to shore gantry cranes (similar to those at Ports of Auckland) will be required (see **Figure 4** below). These cranes have a height of approximately 83m when they are being used, and approximately 117m when dormant (i.e. the main boom is raised).

Figure 4: *Ship to shore gantry cranes at Ports of Auckland*

3.2.4 Road transport

In the absence of a rail link to the port, all import and export cargo will continue to be transported to and from Northport via SH15 which links directly with SH1.

3.2.5 Rail transport

There is currently no rail link to Northport. However, Kiwirail has designated a spur line from Northport to the main trunk line. While there are currently no firm plans to construct the line, the existence of the designation means that Northport remains hopeful that a rail link will be available to service Northport in the future. The proposal has therefore been designed to facilitate the transport of cargo by rail, as well as road.

3.2.6 Lighting

Northport is a 24-hour operation and lighting on the port is essential. The details of the lighting layout will depend on the final layout of the storage areas and the type of equipment used to handle the cargo. It is anticipated that the new lighting system will use LED technology and lighting poles with a height of approximately 36m. LED technology has been selected because it allows for better control of light spill as well as the use of variable brightness for operational and non-operational times.

3.2.7 Proposed conditions relating to port structures

Proposed conditions relating to port operations are summarised as follows:

- **Maximum building height** (excluding public utilities, light towers, silos, aerials, cranes, cargo handling equipment, containers, and tanks): 20m above deck level.
- **Maximum height for public utilities, light towers, silos, aerials, and tanks** (excluding cranes and containers): 60m above deck level.
- **Maximum height for containers**: 30m.
- **Maximum operational height[15] for cranes**: 85m above ground level.
- **Storage/stockpile height:** 20m above deck level.

These conditions are aligned with the permitted activity rules for the Port Zone (currently applicable to the existing Berths 1-3).

3.3 Marine structures

3.3.1 General

To support the reclamation and provide berthage for ships, several marine structures are proposed. The exact dimensions and structural form of these structures will be determined during the detailed design stage, but they will be contained within the envelope shown on the WSP design drawings in **Appendix 3**. The general nature and location of the structures are known and are broadly described below.

3.3.2 Revetment and seawalls

The eastern edge of the reclamation (which meets the natural shoreline) will, for the most part, be a rock revetment, of similar look and construction to the existing eastern edge of the port. The revetment will be covered in armouring which protects the reclamation from erosion and will most likely comprise of large rocks. To provide additional strength, piles may be driven behind the revetment to create a retaining structure. In some instances, most likely on the north portion of the eastern face, the edge of the reclamation may need to be formed with a vertical seawall, either of steel (sheet pile) or concrete construction.

3.3.3 Wharf structures

A 250m wharf extension (in addition to the consented but not constructed Berth 4 wharf) will be constructed on the northern face of the proposed reclamation. The wharf will be designed to secure and work cargo vessels, primarily container vessels.

[15] There is no maximum height for cranes that are not in operation.

The structural form of the wharf will be confirmed during detailed design, but is likely to be:

- A grid of driven piles (steel or concrete) with a cast in-situ reinforced concrete deck (similar to Northport Berths 1 and 2). This could include a sheet-piled (or concrete) seawall atop a rock revetment to form the slope down to the seabed under the wharf.
- A diaphragm wall (two parallel walls, tied together with the space between backfilled) as used for Northport Berth 3 (**Figure 5**).

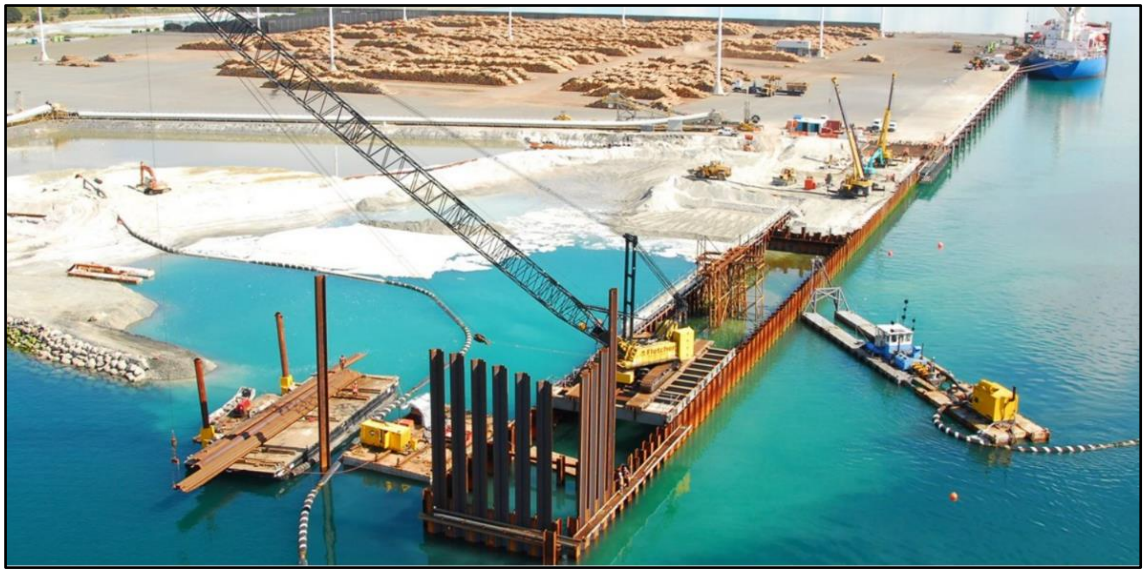

Figure 5: *Berth 3 under construction showing the two parallel steel walls prior to backfilling*

Some, or all the following activities would be needed for each option:

- Construction dredging to create the desired underwater profile and allow for construction of the batter slope.
- Excavation, placement of material and compaction.
- Construction work to construct seawalls and abutments (work above and below MLWS).
- Staging of construction equipment, including piling to create work platforms and install pile gates.
- Driving of piles, using a variety of methods including vibro and top driven impact hammers. This involves cranes (shore based and/or mounted on jack-up barges), excavators and power packs (generators and hydraulic pumps).
- Placement of formwork, tying reinforcing steel and laying of ducts and pipework.
- Pouring of concrete for the port deck and discharge of concrete curing water.
- Installation of wharf furniture (bollards, fenders etc).

The final wharf design will be confirmed at the detailed design stage.

3.3.4 New tug berthing facility

A new tug berthing facility providing berthage for tugs, work boats, and pilot vessels is proposed to replace the existing tug wharf at the eastern end of Northport. The tugs are commercially operated by NTL and are an essential requirement for safe navigation and berthing by vessels visiting both Northport and the CINZL fuel import terminal.

The berthing facility will be located generally as shown on **Figure 6** below. The final tug facility design will be confirmed at the detailed design stage.

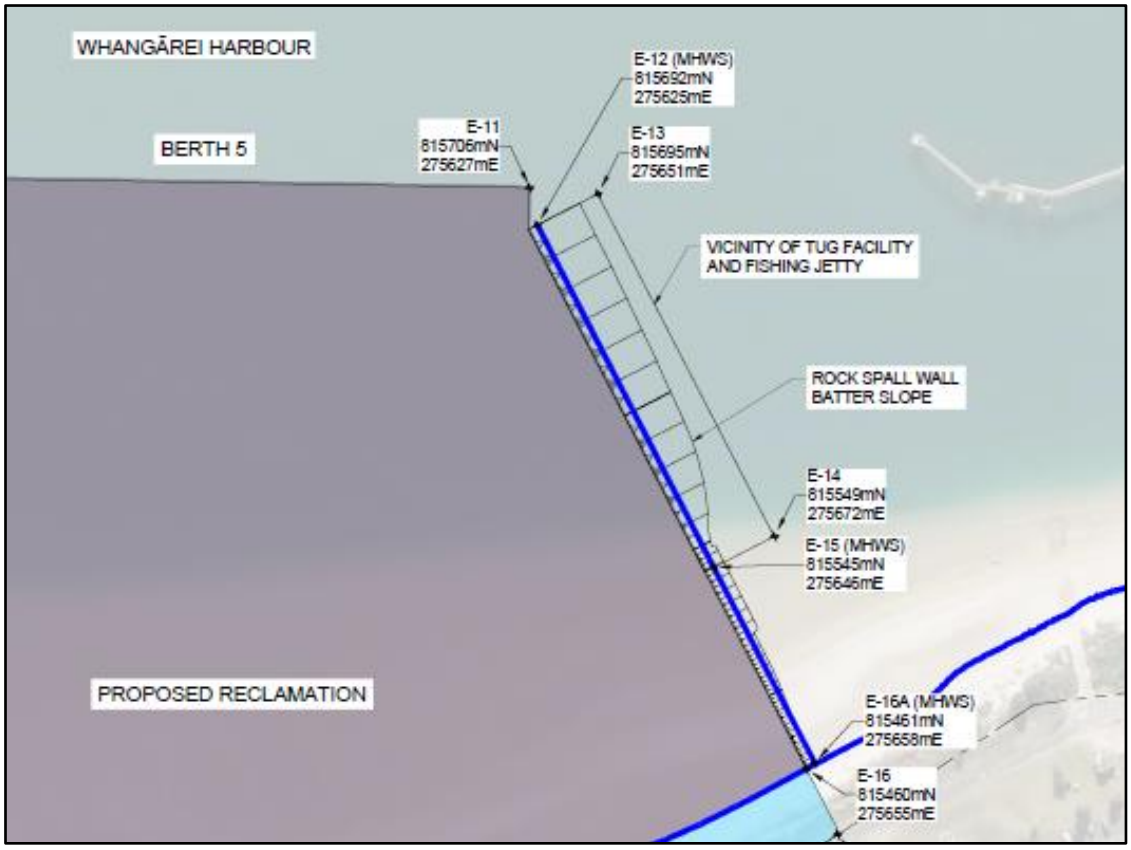

Figure 6: *Location of proposed tug berthing facility*

3.3.5 New fishing and water taxi pontoon

A new public fishing pontoon will be established on the eastern side of the expanded port, near to and/or in conjunction with the tug berthing facility. Access to the pontoon will be incorporated with access to the public reserve/park proposed at the eastern end of the port (see **Figure 16** in Section 3.9 of this report). The pontoon may also be used by water taxis associated with the Te Araroa trail.

3.4 Port noise

3.4.1 General

The proposal is to manage the noise associated with the existing and expanded port with a noise management framework developed in general accordance with New Zealand Standard 6809:1999 Acoustics – Port noise management and land use planning.

Key features of the proposed noise conditions are as follows:

- Specified limits for port noise applicable in residential zones and at the notional boundary of any residential unit in other zones.
- A requirement for the port to offer noise mitigation when monitored or predicted noise reaches a specified level at the façade of a residential unit.
- The introduction of a Port Noise Management Plan designed to minimise port noise through best practice and ongoing community liaison. The proposed noise conditions (including limits) relate to noise generated in 'Port Operations Area A' as shown on **Figure 7** below, and on Berth 4 (consented) and 5 (proposed).[16]

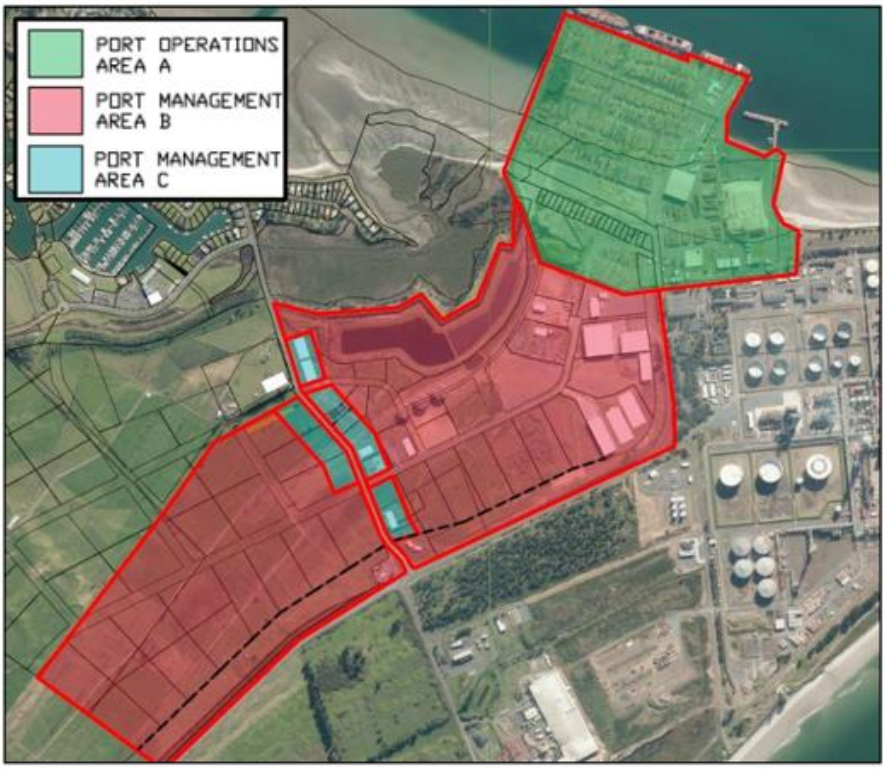

Figure 7: *Port Operations Area A (Source: Whangarei District Plan)*

[16] It is intended that Port Operations Area A will eventually be extended to include the expanded port via a future plan change.

3.4.2 Proposed noise limits

The proposed noise limits for noise generated in 'Port Operations Area A' and on Berth 4 (consented) and Berth 5 (proposed) applicable at any point on land in the General Residential and Rural Village Residential Zones are as follows:

Day-night (Long Term)

58 dB $L_{dn\ (5\text{-}day)}$
61 dB $L_{dn\ (1\text{-}day)}$

Night-time (Short term)

53 dB $L_{Aeq\ (9\ hrs)}$
58 dB $L_{Aeq\ (15\ min)}$
75 dB L_{AFmax}

3.4.3 Port Noise Management Plan

As recommended in NZS6809:1999, a Port Noise Management Plan (PNMP) is proposed to ensure that noise emissions from the port are minimised, consistent with practicality, safety, and the efficient operation, use and development of the port.

A draft PNMP is included with the MDL report in **Appendix 4**.

The objectives of the PNMP are to:

- Ensure the port complies with the relevant noise performance standards.
- Provide a framework for the measurement, monitoring, assessment, and management of noise.
- Identify and adopt the Best Practicable Option (BPO) for the management of noise effects.
- Require engagement with the community and timely management of complaints.

The PNMP will include a port noise contour map, to be updated annually. The purpose of the map is to identify properties that are likely to be affected by actual or modelled (predicted) port noise.

The PNMP will apply at all times. It is a 'living document' that is expanded and updated as appropriate. It will be reviewed annually in consultation with the community, including the current port noise contour map.

3.4.4 Port assisted mitigation

A condition of consent is proposed whereby, following the annual review of the noise contours in the PNMP, Northport will offer to mitigate any dwellings exposed to port noise levels above 55 dB $L_{dn\ (5\text{-}day)}$. This threshold aligns with Port Noise Standard C1.4 where it states: "*mitigation measures may be necessary when the day-night average sound level in a resident community exceeds 55 dBA* L_{dn}".

Because dwellings would need windows to be closed at night to achieve 40 dB $L_{dn\ (5\text{-}day)}$ inside, Northport will offer to fund mechanical ventilation and cooling of habitable rooms. The proposed mitigation must achieve a spatial average indoor design sound level of 40 dB $L_{dn\ (5\text{-}day)}$ in all habitable spaces. This is 5 decibels more stringent than the Port Noise Standard requirement for existing ports of 45 dB $L_{dn\ (5\text{-}day)}$. This will enable occupants to close the windows during peak periods, or at any time at their discretion, therefore maintaining a suitable indoor noise environment. The offer has no timeframe attached to it, meaning it can be taken up at any time.

The annual review process will ensure that mitigation for existing dwellings occurs proximate to when the noise effects materialise. This incentivises Northport to constrain their noise footprint through other means (e.g. investment in quieter equipment or timing of loud activities during the day).

There are 16 dwellings in Reotahi and none in Marsden Bay that are predicted to potentially require noise mitigation by 2035. The predicted noise levels for the most exposed facade range from 55 – 58 dB $L_{dn\ (5\text{-}day)}$.

3.4.5 Timing

The proposed noise conditions will apply to all port operations on the existing[17] and expanded port but will not have effect until port operations commence on either Berth 4 or Berth 5. The existing noise limits in the NAV chapter of the District Plan will continue to apply to Berths 1-3 in the interim.

3.5 Reclamation

3.5.1 Areal extent

The areal extent of the reclamation is shown with associated coordinates on the plan in **Figure 8**.[18]

[17] 'Port Operations Area A' as defined in the Whangarei District Plan.
[18] See also WSP plans in **Appendix 3.**

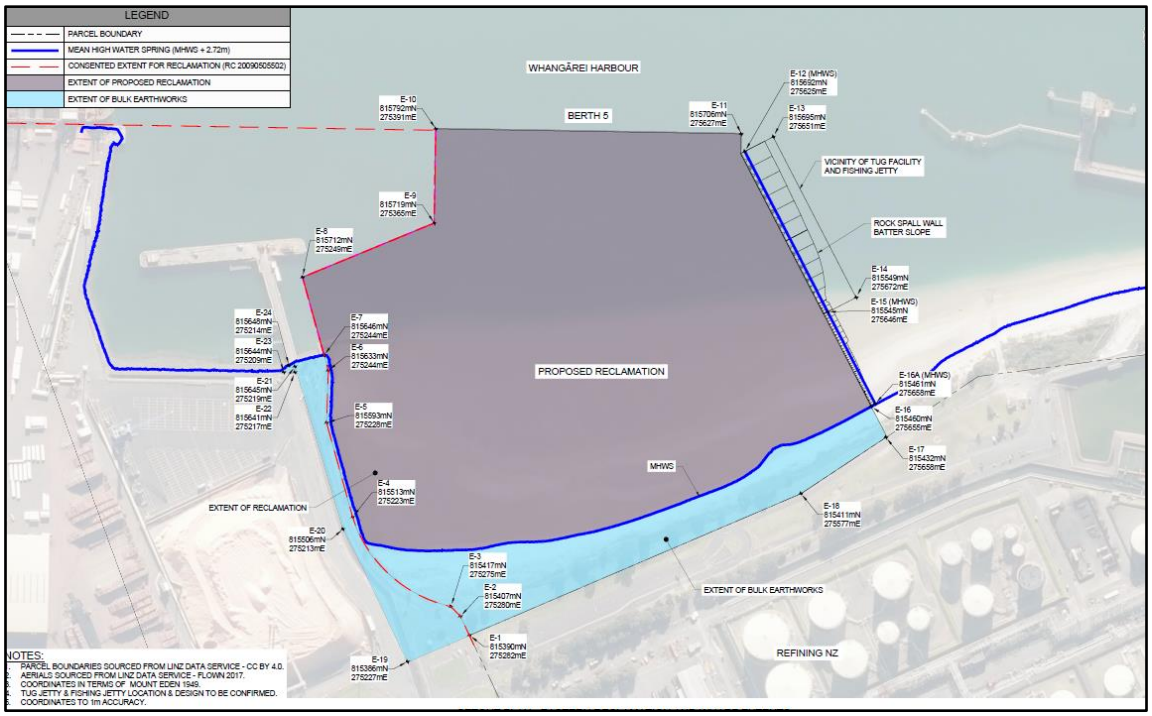

***Figure 8**: Proposed extent of reclamation*

The proposed reclamation will have an area of approximately 11.7ha (see **Figure 9** below).[19]

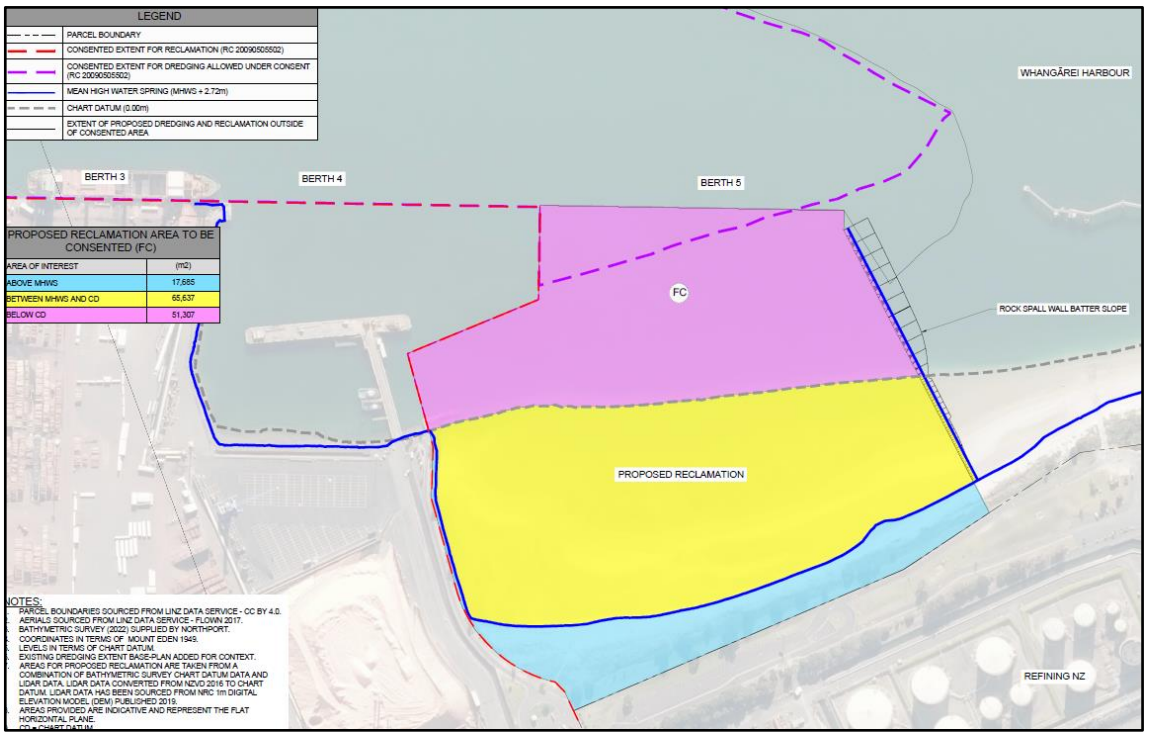

***Figure 9**: Proposed reclamation area (pink/yellow areas)*

[19] The overall expanded port area will be 13.7ha, 2ha of which is above MHWS.

3.5.2 Hard protection structures

A wharf will be constructed on the northern edge of the proposed reclamation (a linear extension of the existing Northport wharf). This edge will be retained using either sheet piling or a rip-rap rock revetment wall.

A rip-rap protected batter slope will be constructed along the eastern edge (similar to the eastern batter of the existing port). Some portions of the eastern edge could also be a sheet pile wall.

3.5.3 Deck height

The design height of the land will generally match the existing Northport deck level, being a minimum of 5.0m above chart datum.

3.5.4 Construction material

The land will be built using dredge spoil (sands and silts) and imported material (sand, rock, and gravel).

3.5.5 Construction methodology

It is anticipated that the reclamation will be built using techniques used by Northport for previous reclamations. Broadly, sand and silts won from dredging will be used to reclaim land, with some imported material used where needed.

It is most likely that a bund will be built around the perimeter of the reclamation, and the dredge spoil pumped or deposited into this enclosed area. It is anticipated that the bund will be predominantly rock and crushed aggregate, but some sections may need to be constructed of sheet piles. In some instances, a bund may not be used, with the sediment controlled by way of silt curtains (as was used for parts of the Berth 3 reclamation construction).

Once the rock bunded area is complete (or alternative measures such as silt curtains are installed), dredge spoil (as a slurry) will be placed within the bunded area. The slurry will be pumped from the dredger through a series of pipes and booster pumps, and ultimately discharged into the reclamation area where the solids will quickly settle out. A series of internal paddocks may be needed to settle out the finer-grained materials before discharging the water.

Marine plant will likely install a combi-pile or sheet pile wall across the northern face of the reclamation.

Piling associated with the wharf construction will be undertaken from marine plant with the piles predominantly being driven with a vibro hammer, although an impact hammer may be needed to complete the driving. Support vessels (barges etc) will be used to supply the piles.

Hardfill (crushed rock/gravel) will then be placed on the reclamation to create a suitable sub-base for future paving.

Figure 10 (below) shows land being built using an enclosed paddock method, with two main paddocks in use. The un-bunded method using enclosing silt fences is shown in **Figure 11.**

Figure 10: *Sand being discharged using the perimeter bund method (with several internal paddocks) during original reclamation works at Northport*

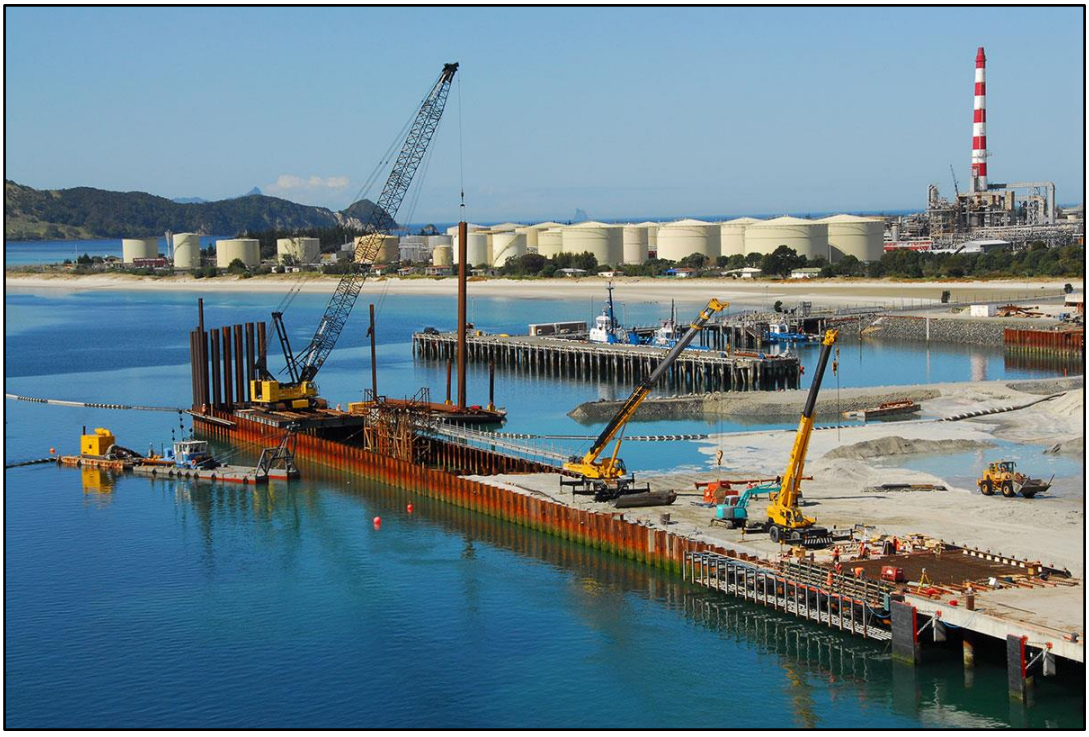

Figure 11: *Pumping sand to an open area (right side midground) during previous reclamation works at Northport*

3.6 Dredging

3.6.1 General

Capital dredging is proposed to increase the area and depth of the existing swing basin and to create a linear berth depth alongside the new wharf structures. The existing swing basin will be deepened to -14.5m CD at the western end, transitioning to -16.0m CD at the eastern end.

Further dredging is required at the eastern end of the reclamation to provide sufficient water depth for the tug berthing facility.

The anticipated volume of capital dredging is 1.72 million m^3 (including dredging to shape the reclamation batter slopes and to key in the batter slopes to the seabed).

East-west batter slopes (in line with current) are to be 1:15, while north-south batter slopes (across currents) are to be 1:10.

The proposed capital dredging area is shown in **Figure 12** below and on the WSP design drawings in **Appendix 3**.

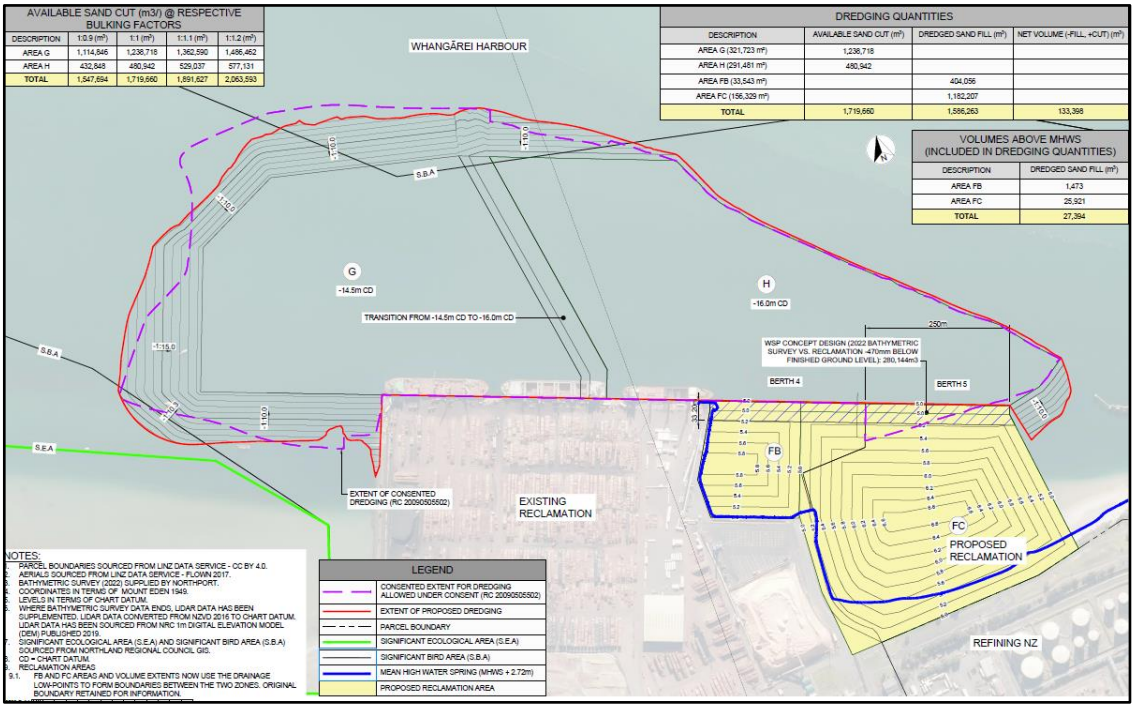

Figure 12: *Proposed capital dredging area*

3.6.2 Dredging methodology

Three types of dredging methods may be used. Specifically, there are two options to dredge the bulk volume in the swing basin, and another to dredge any silty material close to wharves and for construction-related dredging.

The various dredging methods are described below. These same methods have also been modelled by Met Ocean in order to determine potential dredge plumes.

Swing basin dredging

The swing basin dredging could be undertaken using one of the following two dredge types:

Trailer Suction Hopper Dredger (TSHD)

A self-propelled vessel which drags a suction head (or heads) on the sea floor as it travels forward. These suction heads fluidise the sediments and pump them into the vessel's hopper. The solids settle in the hopper and the cleaner water can be discharged (known as overflowing) to allow more room in the hopper for sediment.

Once the hopper is full, the dredger can either steam to an offshore disposal ground where it disposes of the load via bottom dump doors (not what is proposed here), or it can be piped to shore for use in land reclamation. It does this by connecting to a pipe, re-fluidising the sediment, and pumping it to where it is needed onshore.

Once the hopper is emptied, the process is repeated until the desired dredge extent and depth is achieved. A TSHD is shown in **Figure 13** below.

Figure 13: Trailer suction hopper dredger (TSHD) 'Albatros' in the Whangarei Harbour

Cutter Suction Dredger (CSD)

A CSD uses a rotating cutter head to dislodge sediment from the seafloor and fluidise it. Dredge pumps suck up the fluidised sediment and pump it to the shore via a pipe network. This pipe network may have one or more booster pumps to transport the slurry to its final location. The

current Northport swing basin was dredged by a CSD, with sediment pumped to shore and used in the reclamation.

CSD do not move while dredging. Rather, they swing side to side, dredging in an arc. Once the arc is complete, they pick up their anchoring system (a series of spuds or anchors) and move forward to begin dredging a new arc. Some CSD are self-propelled, but many rely on tugs or other workboats for propulsion and positioning. An example of a CSD, the Kotuku (which dredged the current swing basin) is shown in **Figure 14.**

Figure 14: *Small Cutter suction dredger with attached pipework*

Construction dredging

For construction dredging (i.e. shaping of batter slopes, deepening close to existing berths, and for smaller volumes) a smaller, more accurate dredging kit is needed. In these areas, a Backhoe Dredger (BHD) will most likely be used. A BHD may also be used if very silty material is encountered.

A BHD is typically a barge with a long reach mechanical excavator (see **Figure 15**). For this project, a barge with a crane and clamshell is also being considered (as they have similar work rates and plumes). A BHD can either be self-propelled or use attendant vessels for manoeuvring. Similar to a CSD, BHD often use one or more spuds to hold position and undertake limited movement to alter

dredge position. A BHD typically places the excavated sediment into hopper barges. For this project, the barges would transport the material to shore for on-land management.

Figure 15: *Backhoe dredger loading a hopper barge*

3.7 Management plans

A range of management plans are proposed to manage the construction effects of the proposed expansion. The primary management plan for the construction phase of the project is the Construction and Environmental Management Plan (CEMP). The CEMP will include a Marine Mammal Management Plan (MMMP), and additional chapters in respect to avifauna, biosecurity, turbidity during dredging, and general dredging effects management. Draft CEMP and MMMPs are attached in **Appendix 5.** In addition, as noted earlier, a draft PNMP is included with the MDL report in **Appendix 4**.

The final management plans will be prepared in accordance with conditions of consent.

3.8 Stormwater discharges

The canal and pond-based collection and treatment system described in Section 4.16.2 of this report is capable of managing stormwater from the expanded port. The additional dead storage area required for the additional port area can be achieved in the extended perimeter canal.

Proprietary devices may also be utilised depending on the final design of the expanded port.

A new resource consent is sought for the stormwater treatment system covering the existing and expanded port. The existing consent[20] will be surrendered when the expanded port becomes operational. The water quality standards required by the conditions of consent in the existing consent will be retained.

[20] Consent reference CON20090505532.

3.9 Public access and recreation

A public park/reserve area is proposed at the eastern end of the expanded port, generally as depicted on the plan in **Figure 16** below. The concept is shown in further detail in **Appendix 6.**

Figure 16: *Proposed public park/reserve area and associated access concept*

The proposed reclamation will be keyed into the adjoining WDC esplanade reserve at the desired deck height. Vehicle access to the park/reserve area will then be constructed between the expanded port area and the CINZL boundary.

Key components of the proposed park are as follows:

- A relocated carpark and toilets to allow easy access to the beach.
- A new pontoon for fishing, swimming, and socialising, and to operate as a potential terminal for the Te Araroa Trail water taxi.
- Beach and water access points suited to socialising and swimming, developed to attract such users to the western end of the beach away from one of the preferred fishing areas near the CINZL wharf, and to reduce disturbance of roosting birds along the beach.
- Walking access from the park to the proposed fishing pontoon along the eastern edge of the revetment.

Consultation with the WDC Parks Division is ongoing, and Northport remains open to alternative scenarios to improve public access and recreation facilities in the vicinity of the port and in the surrounding area.

3.10 Earthworks

Earthworks will be required to construct the part of the port deck above Mean High Water Springs (MHWS), and to construct the proposed walkway and park area detailed in Section 3.9 of this report. The proposed earthworks area is 20,767m^2 (approx.) and the volume is 31,630m^3 (approx.).[21] The extent of earthworks is shown on **Figure 17** below.

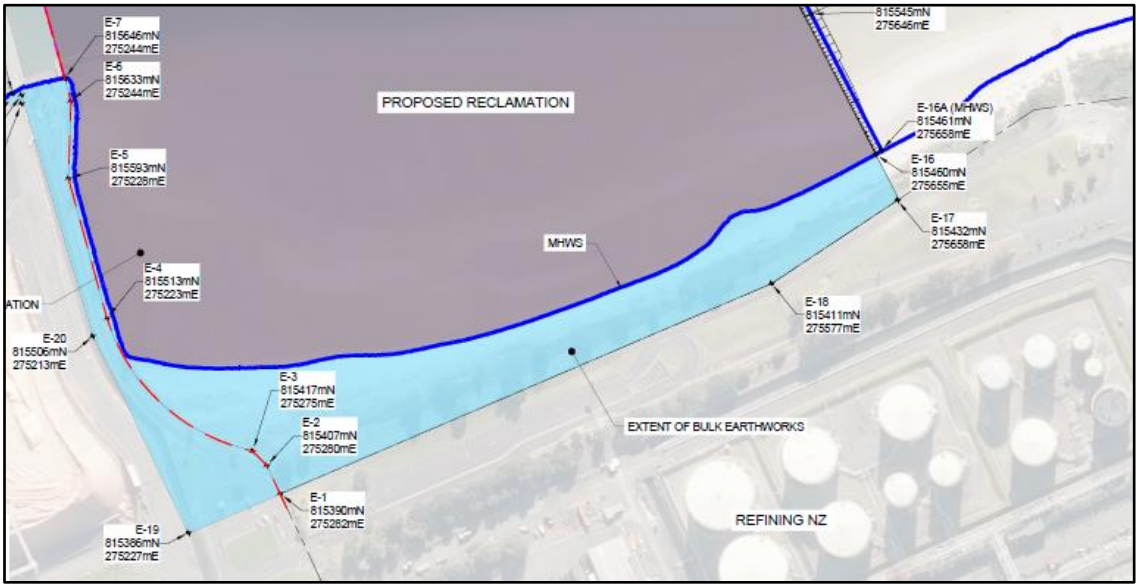

Figure 17: *Proposed extent of earthworks (above MHWS)*

A sediment control plan will be provided for certification as part of the CEMP. Dust suppression measures will also be employed in accordance with the recommendations in the PDP air quality report.

3.11 Creation of high-tide roosting habitat

3.11.1 Purpose

Additional roosting habitat for variable oystercatcher (VOC) and NZ Dotterel is proposed to be created in the inter-tidal area to the west of the existing port (see **Figure 18** below. This habitat will be created prior to the construction of the proposed reclamation so that it is available for use ahead of the loss of habitat associated with the reclamation.

[21] This volume excludes imported hardfill for pavement. The total volume including pavement material is 27,040m^3 approx.).

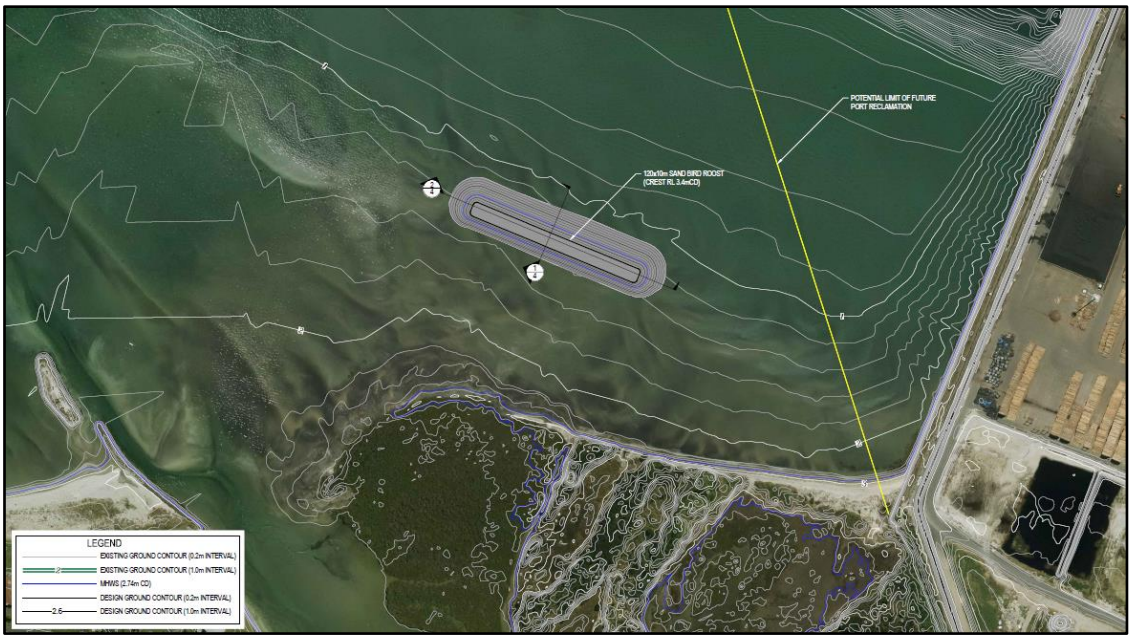

***Figure 18**: Proposed high tide roost location*

Historically there was a sand/shell bank at the proposed roosting site, but this has been impacted over time due to changes in coastal processes.

3.11.2 Design constraints

Requisite requirements for the roost area are:

- Be independent from the existing shoreline during high tide to provide a safe area.
- Be largely, or completely, formed from sand.
- Provide a reasonable area above mean high water springs.
- Be situated away from ecologically significant areas.
- Avoiding potential future developments, such as the shipyard area.

3.11.3 Roost design

The preferred nature-based approach for forming the roost is to use fine to medium sand to augment the existing sandy flood spit feature extending along its length, recognising that this will adapt and adjust to the coastal processes over time. This approach uses sediments similar to those present on the intertidal area.

The cross section of the roost has been informed by the slopes and elevation of the existing shoreline. The existing beach face on the spit is around 8(H):1(V) with a back slope of around 4(H):1(V) and the crest of the beach is around 3.1m CD. The design has been based on these slopes extending to a crest level of 3.4m or around 0.6m above MHWS. This elevation would be sufficient to retain a dry area apart from during significant events and onshore winds, where overtopping could occur resulting in the landward migration of the roost and possibly lowering of the reef form.

To provide a smaller construction profile the roost will be constructed with steeper slopes (say 4(H):1(V)), with the expectation that the seaward slope will adjust overtime to a flatter slope.

3.11.4 Roost performance

The proposed bird roost is situated in a relatively sheltered environment, with low tidal currents (typically less than 0.2 m/s) and generally low wave heights (typically lower than 0.2 m) with higher waves only likely to occur during higher stages of the tide and during periods of strong north-westerly winds.

The roost will create a more sheltered environment between the roost and the existing barrier spit. Tonkin and Taylor (T+T) consider that this sheltering is likely to result in a reduction of the landward retreat of the existing barrier beach at this location and is also likely to enable the existing mangrove to extend further seaward in the lee of the roost.

T+T predict that the proposed roost will gradually lower due to wave overtopping moving sediment landward. The deflation and lowering are expected to result in a local raising of the seabed level between the roost and the landward spit feature and potentially merging with this spit.

The period that the bird roost will remain largely above MHWS is difficult to predict. However, the evidence from aerial imagery suggests that the remnant spit feature has remained at this location since prior to the original port construction (greater than 15 years). T+T anticipate that the proposed roost could remain effective for decades, although it is likely that some sediment loss will occur. If overwash occurs, moving sand to the landward side of the spit, this could retain a crest area above MHWS, but with a progressive landward location. However, it is also possible that if the roost deflates there could remain a high point, but below MHWS.

This means that top-ups of the roost may be required to maintain a sufficient high tide area. Therefore, there will need to be monitoring and a top-up plan established as part of the management of this roost. Conditions of consent will be proposed for this purpose. T+T recommend a top up volume of 10% of the capital be allowed for (i.e., 740m^3) every five years, although the actual volume will be dependent on the performance of the roost.

3.11.5 Construction methodology

The roost will be constructed with sand transported to the area at high tides with shallow draft barges which will be unloaded and shaped with hydraulic excavators.

The roost is likely to require at least 40 barge loads and take 1-3 months to complete.

4. Existing Environment

4.1 Physical setting

Northport is a deep-water commercial port located at Marsden Point in Northland. The port is located at the entrance to the Whangarei Harbour, between the Marsden Point CINZL facility to the east, and One Tree Point to the west (see **Figure 19** below).

Figure 19: *Location Map (Source: Google Earth)*

Road access is via SH15 which connects directly to SH1 (see **Figure 20** below).

Figure 20: *Road connections*

Northport currently has three berths available for handling dry cargo vessels, with a total length of 570m. An additional 270m of linear berth (Berth 4) is consented but not yet constructed.

The overall Northport footprint is made up of multiple titles (see copies attached in **Appendix 7**). Much of the port is also located on reclaimed (crown owned) leased land.

The existing facility totals 49.1ha of land, with most of this area now being used for cargo operations (see **Figure 21** below). Of the existing 49.1ha footprint, 33.615ha is reclaimed land.

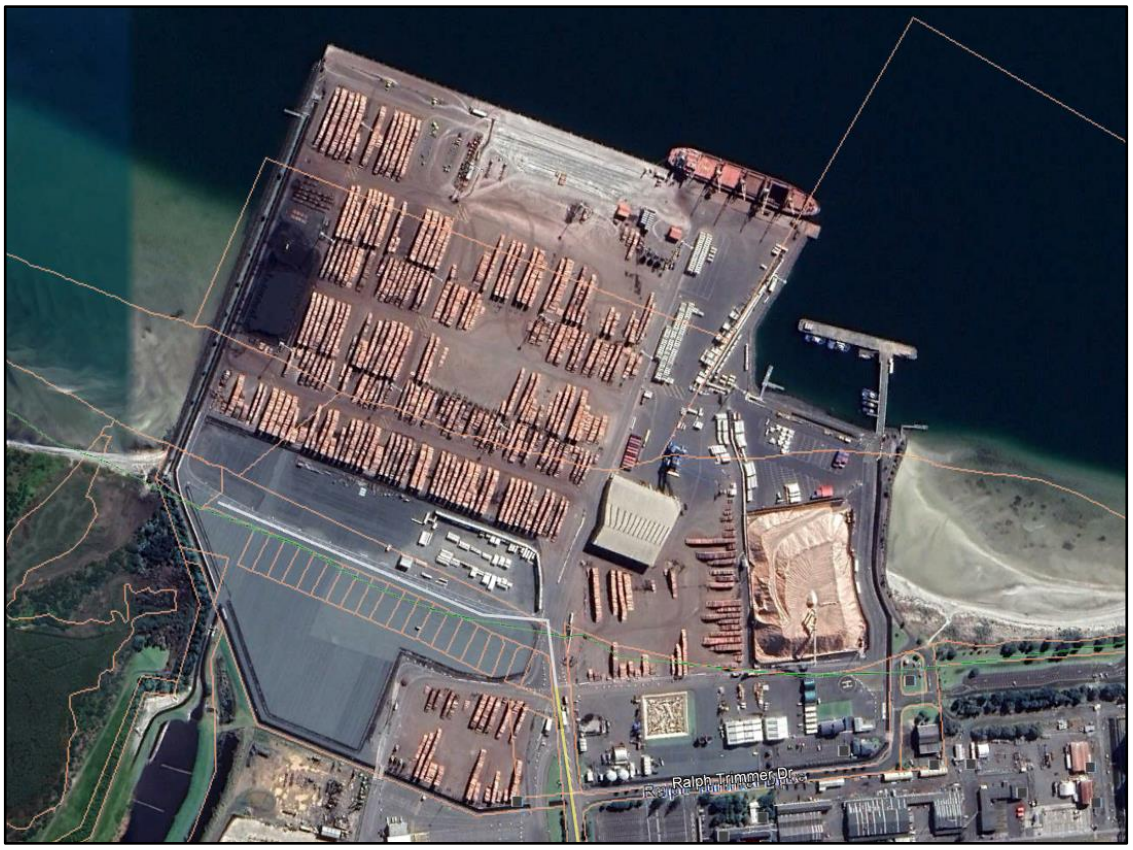

***Figure 21**: Northport aerial photograph (Source: Quickmap/Google Earth)*

4.2 Cultural setting

4.2.1 General

The project area and its surrounds are rich in Māori history.

4.2.2 Patuharakeke

Patuharakeke is derived from Ngāti Manaia, Ngāi Tāhuhu, Ngāti Wharepaia, Ngāti Ruangaio, Te Parawhau and Ngāti Tu. Prior to Patuharakeke taking the name Patuharakeke the hapū was more generally known as Ngāti Tu with some elements identifying themselves as Te Ākitai and Te Parawhau. All of these hapū have origins in Ngāi Tāhuhu and/or Ngāti Manaia. Patuharakeke are a composite hapū of descent from most major contemporary iwi/hapūgroups in the north. These include Ngātiwai, Ngāpuhi-nui-tonu, Ngāti Whātua and Te Uri o Hau.[22]

[22] Patuharakeke Hapu Management Plan (2014).

The Patuharakeke CVA at **Appendix 24** states: “Patuharakeke are tangata whenua of the area Northport operates in and hold mana whenua status over Poupouwhenua/Marsden Point.” It also records that the Patuharakeke Te Iwi Trust Board (PTITB) represents their interests in matters including *inter alia* environmental and resource management issues.

The Patuharakeke rohe is shown in **Figure 22** below.

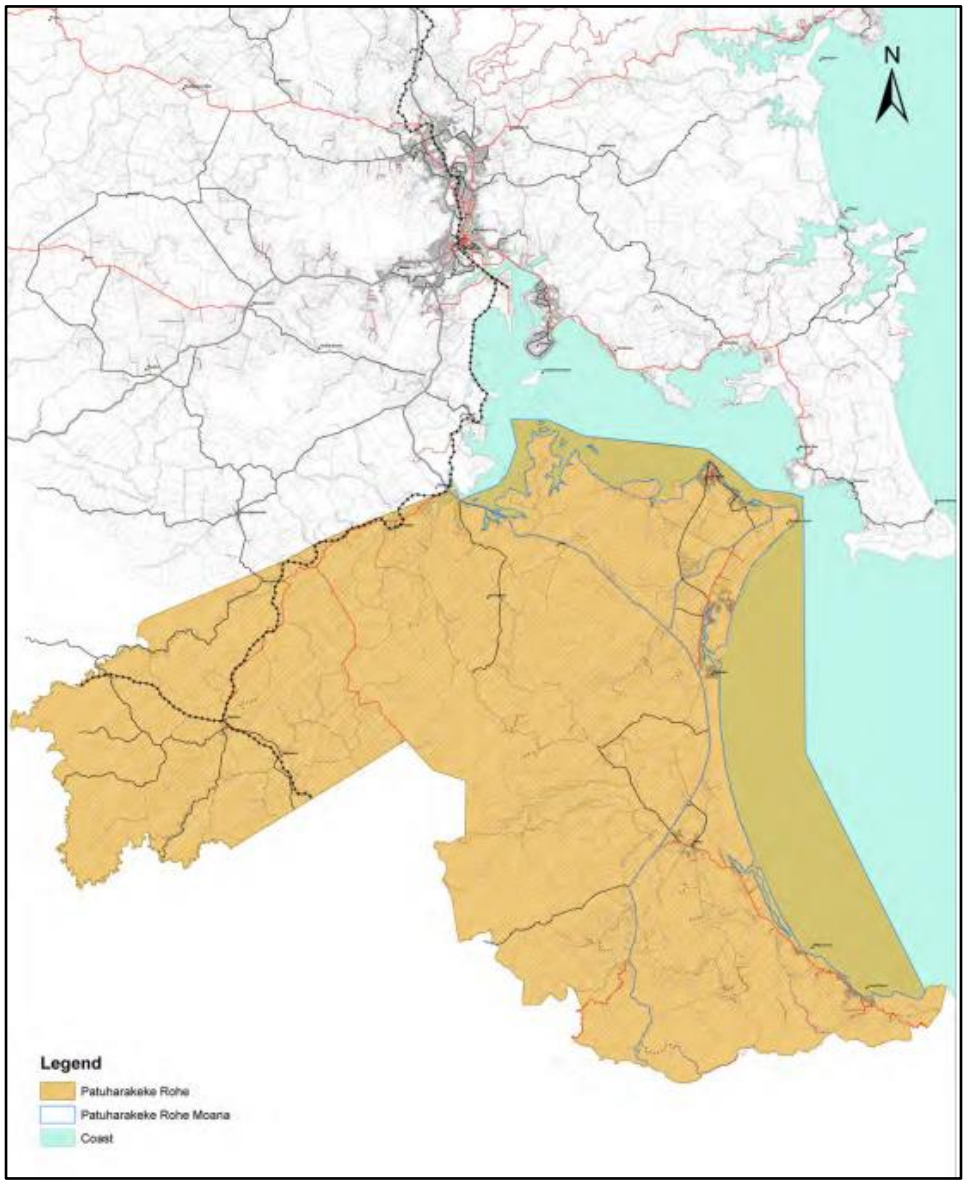

Figure 22: *Patuharakeke Mainland Rohe (Source: Patuharakeke Hapū Management Plan)*

4.2.3 Te Parawhau

Te Parawhau hapū and whānau are located at the southern boundary of Ngāpuhi. The Te Parawhau estate encompasses the area from Tangiteroria in the west, east to Whangārei and south to Brynderwyn. They are connected by geneology to most hapū of Whangārei. Both the Whangārei Harbour and the upper Northern Wairoa of the Kaipara Harbour are inclusive of Te Parawhau’s estates.

4.2.4 Ngātiwai

According to the Ngātiwai website,[23] Ngātiwai claims mana whenua and mana moana from Rākaumangamanga to Mahurangi, across to Aotea, and returning to Rākaumangamanga by way of the many islands and waters of Te Moana Nui a Toi. The Ngātiwai rohe is shown in **Figure 23** below.

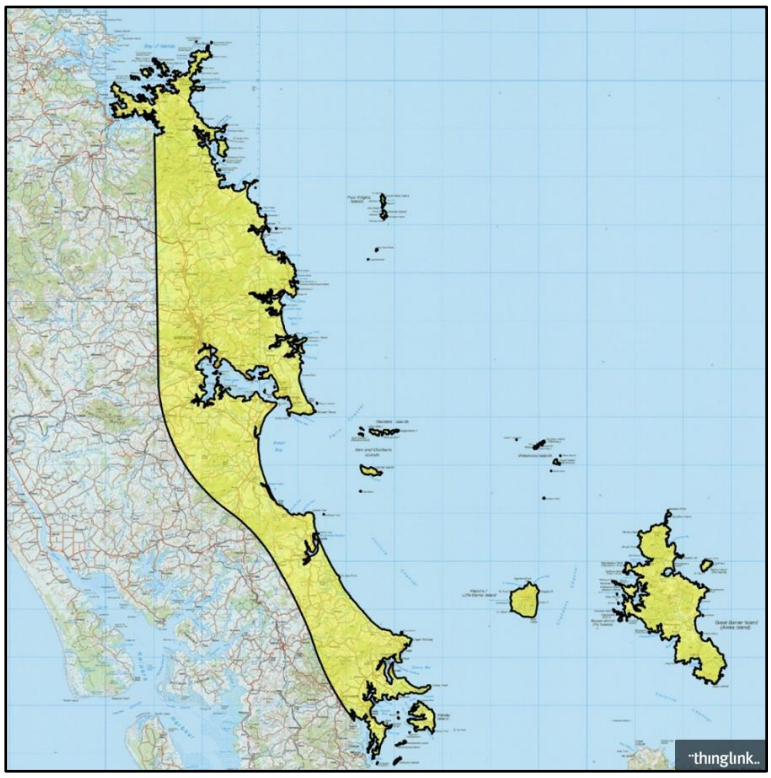

Figure 23: *Ngātiwai rohe (Source:* https://ngatiwai.iwi.nz/te-iwi-o-ngatiwai/)

4.2.5 Patuharakeke relationship with Northport

The relationship between PTITB and Northport was recently formalised through a Te Whakahononga Relationship Agreement in 2019 to assist an effective, stronger working relationship between the two parties. PTITB 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.

4.2.6 Iwi/Hapu Management Plans and Documents

General

There are several Iwi/Hapu Environmental Management Plansheld by the NRC. These are:

- Te Iwi o Ngatiwai Iwi Environmental Policy Document (2007)

[23] https://ngatiwai.iwi.nz/te-iwi-o-ngatiwai/

- Whatitiri Hapu Resource Management Plan (2016)
- Patuharakeke Hapu Management Plan

These documents are summarised below.

Te Iwi o Ngatiwai Iwi Environmental Policy Document (2007)

The stated purpose of this document is to:

- State the core values of Te Iwi o Ngatiwai, from an Iwi perspective, around generic environmental issues.
- Assist Ngatiwai hapu and whanau to produce documents that identify and state their own specific local environmental issues.

The document focuses on the responsibilities of District and Regional councils under the RMA and is designed for parties proposing development within the Ngatiwai rohe. It contains guidelines for an open, transparent, accountable, and collectively agreed upon process for Councils to take into account Iwi and Hapu documents lodged with them.

The document refers to the Ngatiwai Trust Board Resource Management Unit (NTBRMU) whose role is to develop the resource management capacity of Ngatiwai, ensuring the sustainable management of the natural, physical, and cultural resources of the iwi.

The NTBRMU aims to:

- Fulfil kaitiaki responsibility so that human interaction with environment is managed in a sustainable way that protects the mauri of natural, physical, and cultural resources.
- Maintain the cultural and spiritual integrity of Te Whakaputanga o nga Rangatira o Niu Tireni (The Declaration of Independence) and Te Tiriti o Waitangi as founding political documents for governance of NZ.
- Weigh up principles and values of Ngatiwai for the Environment with those of the Crown in a meaningful and positive way to ensure the sustainability of its resources for future generations.

The document is set out according to the genealogical sequences of Ngatiwai. The sections have been positioned into the stages of creation. These subsections are then split into issues, objectives, policies, and methods. The various stages are as follows:

Te Unaunahi Tuatahi – Minerals and substances that make up the earth and sky.

Summarised into the following three sections with supporting objective, policies, and methods:

- Minerals
- Air quality
- Water

Te Unaunahi Tuarua – Flora and fauna which cloak the earth.

Summarised into the following two sections with supporting objective, policies, and methods:

- Indigenous flora
- Indigenous trees

Te Unaunahi Tuatoru – The animal world. Focuses on Indigenous fauna only.

Te Unaunahi Tuawha – The human related elements. Focusses on engagement.

Te aho Tapu

Summarised into eight sections:

- Matauranga Ngatiwai
- Wahi Tapu
- Rahui
- Taniwha
- Ngatiwai Landscape
- Customary Materials
- Exotic Plantation Forestry
- Genetically Modified Organisms

Whatitiri Hapu Resource Management Plan (2016)

This document is written on behalf of Te Uriroroi, Te Parawhau and Te Mahurehure Ki Whatitiri.

The document recognises that hapu and whanau are facing increasing pressure to respond and have input into a variety of issues, such as treaty claims, court proceedings and resource management issues and has been prepared in recognition of the need for a centralised strategy to deal with these issues.

The stated vision of the document is:

- A healthy Maori community where hapu prospers and participates fully in the management of lands and waters for the betterment of the entire community, in the area known as Whatitiri, depicted in the Whatitiri Resource Management Unit map.

The stated Mission is to revitalise the health and wellbeing of the environment and their people.

The plan has been developed to:

- Ensure the engagement and participation in the planning and decision-making processes of council's, agencies, and developers with respect to their rohe.
- Assert their tino rangatiratanga over their ancestral taonga.
- Clearly identify the environmental management kaupapa of the Whatitiri RMU.

The stated values of the plan are:

- Kaitiakitanga – Our duty of care and responsibility toward our taonga tuku iho.
- Whānaungatanga – Building ongoing positive relationships with whānau, hapū, iwi, crown agencies and the wider community.
- Manākitanga – Our ability to sustain our whānau and our manuhiri.
- Matauranga – To protect, revive, enrich and utilise our knowledge in our capacity as kaitiaki.
- Tikanga – To retain the traditions of our tupuna in all our operations.

A key focus of the plan is on building and maintaining durable relationships. They recognise that the implementation of their policies will be dependent on the strength of relationships with whanau and all others who interact within the rohe. It is vital that they are acknowledged as kaitaiaki and empowered to actively practice kaitiakitanga in regard to all resources in their rohe.

The remainder of the document is split into seven sections on natural resource issues, with each of these sections containing issues, objectives, policies, and methods. These are:

- Relationships
- Kaitiakitanga
- Water
- Land
- Biodiversity
- Heritage, landscapes and wahi tapu
- Genetic engineering

Patuharakeke Hapu Management Plan

This plan was developed to:

- Ensure the appropriate engagement and participation of Patuharakeke in the planning and decision-making process of councils, agencies, and developers with respect to their rohe.
- Assert tino rangatiratanga and kaitiakitanga over our natural environment and all ancestral taonga.
- Achieve the full intent of empowering legislative provisions.
- Clearly identify the environmental management kaupapa of Patuharakeke.

The stated vision of the plan is "*I nga ra e hi ika, he kupenga tatai awhai nuku*" – If you wish to catch fish, first you need to ensure your net is in good order. This provides all-encompassing contemporary vision of healthy environment as well as tribal activities, structures, management practices and operations that reflect the present and where they want to get to.

The stated mission of the plan is to revitalise the mauri of their taonga tuku iho.

The plan states that Patuharakeke's response to resource management issues is shaped by:

- A body of knowledge about their land, water and resources built over many generations;
- An holistic worldview that sees people in a familial and symbiotic relationship with the other manifestations of nature around them rather than in domination of it;
- The desire to protect key cultural values and practices such as mauri, tikanga, rahui and waahi tapu that are central to our identity, sense of place and cultural well-being; and
- An historical context where the dispossession of land that followed colonial settlement and Te Tiriti o Waitangi and the confiscation of Poupouwhenua and acquisition of Ruakaka, Mata and Waipu via imperfect purchases had a profound effect on the spiritual, cultural and traditional relationship between Patuharakeke and the environment. As the physical landscape changed, so did the ability of tangata whenua to access and manage the resources upon which they depended.

Key principles of the plan are:

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

The plan seeks to use the following methods to incorporate cultural values and objectives into RMA processes:

- Cultural Impact Assessments.
- Cultural Values Assessments.
- Cultural Health Monitoring.
- Sites of Significance Mapping.

The plan identifies that Patuharakeke have adopted various structures over the past two decades to better enable their participation in policy and planning including formation of the Patuharakeke Te Iwi Trust Board (PTITB).

Strengthening existing relationships and creating new meaningful ones are a key focus of the document and there are several issues, objectives, policies, and methods relating to this.

The plan identifies a range of resource issues and contains issues, objectives, policies, and methods in respect to each of these. The identified resource issues are as follows:

- Recognition of Kaitiakitanga
- Te Tiriti o Waitangi
- Kaitiaki Monitoring tools – Patuharakeke must be involved in the monitoring of all aspects of the health of their rohe.
- Ranginui including:
  - Discharges to air
  - Climate change
- Papatuanuku including:
  - General matters
  - Marae and Kainga
  - Maori Land Rating
  - Soil and Minerals
  - Vegetation clearance and commercial forestry
  - Subdivision and development
  - Utilities, amenities and infrastructure
  - Public access
  - Overseas investment and purchase of land
  - Waste management
  - Genetic engineering
- Wai Maori
- Tane Mahuta
- Waahi Tapu me Waahi Taonga
- Tangaroa including:
  - Coastal water quality
  - Foreshore and seabed
  - Access to the coastal environment

- Offshore oil exploration and mining
- Industrial activities at poupouwhenua
- Marine mammals
- Customary fisheries
- Aquaculture

These matters have been encapsulated in the Patuharakeke CVA and CEA included with this application.

4.2.7 Marine and Coastal Area (Takutai Moana) Act 2011

There are multiple (35) applicant groups that have applied for Customary Marine Title (CMT) under the Marine and Coastal Area (Takutai Moana) Act 2011 (MACA) (see **Appendix 8** for a full list of the claimants).

No CMT has currently been confirmed in the project area, and there are currently no planning documents prepared by a customary marine title group that would be relevant under clause 3(c) of Schedule 4 of the RMA.

4.2.8 Treaty of Waitangi claims

All three groups are known to have treaty claims in the project area.

4.3 Existing port activities

4.3.1 General

Northport handles a significant share of the region's export trade. Current port uses are shown spatially on the plan in **Figure 24** below and are described generally as follows:

- Log marshalling (approximately 46% of the port area).
- Container handling (approximately 15% of the port area).
- Multi cargo (approximately 12% of the port area).
- Woodchip (approximately 5% of the port area).
- LVL (approximately 3% of the port area).
- Coal (approximately 2% of the port area).
- Other wood products (approximately 1% of the port area).

- Agricultural imports (approximately 1% of the port area).
- Admin (approximately 10% of the port area).

***Figure 24**: Existing port uses (Source: ME)*

Northport has traditionally focused on handling high volume, low value trade goods. This is mostly raw primary outputs for exports (logs and woodchip) or raw primary inputs that are imported to support production (agriculture and cement). However, the port also handles some high value goods including engineered timber, horticulture products and marine products. There have also been one-off imports of specialist machinery/vehicles and construction products (e.g. steel for the Auckland Convention Centre).

More recently Northport has handled several large container ships to assist in alleviating congestion at Ports of Auckland, including the 261m container ship *Constantinos P* and the 294m *Tianjin Bridge* (see **Figure 25** below).

Figure 25: *Tianjin Bridge docked at Northport (January 2021)*

4.3.2 Cargo types and storage

Cargo types handled by Northport will vary over time according to demand and supply in various markets around the world. It is expected that the type of cargo may broaden (i.e. cars, cruise ships) and that containers will become a larger part of the Northport freight mix.

A summary of existing cargoes handled by Northport is provided below.

Containers

Northport already handles container-based freight and will continue to do so. Construction of the already consented Berth 4 and the associated reclamation will increase the capacity for container handling at Northport, as will the eventual installation of ship to shore cranes.

Current containerised export cargoes include LVL (laminated veneer lumber), packaged timber, tri-board and veneer, kiwifruit, and bagged cement.

Containers have standardised dimensions meaning that they can be stacked (see **Figure 26** below).

Figure 26: *Stacked shipping containers (six high)*

Logs

Logs account for a significant percentage of the bulk cargo currently handled by Northport.[24] Logs are stored on the port in preparation for export, and ultimately loaded onto ships via ship-mounted cranes (see **Figure 27** below). Logs are currently exported to China, India and Korea.

Log exports are expected to reduce in the medium term due to the current stage of the Northland harvest cycle.

Figure 27*: Log storage at Northport*

[24] In 2018 and 2019 log exports accounted for 78% of the bulk cargo throughput at Northport (Source: MMH announcement to NZX 29/08/19).

Woodchip

Woodchip is stored on the port in preparation for export to Japan (see **Figure 28** below). The chip is loaded onto ships via a conveyor system.

Figure 28: *Woodchip and intake conveyor at Northport*

Other bulk cargo

Dry bulk import cargoes currently handled by Northport include clinker from Japan, gypsum from Thevenard, coal, and animal feed supplements (including molasses, distillers dried grain, palm kernel expeller, and soy).

Future cargoes

As previously stated, future cargoes will depend on future markets. However, foreseeable port cargoes include imported vehicles, cruise ships (passengers), and bulk liquids. High value containerised horticulture exports (such as kiwifruit, avocados, berries and pipfruit) are also expected to increase. Northport's changing freight tasks and opportunities to diversify are outlined in the Issues and Options report at **Appendix 2**.

4.3.3 Shipping operations

Northport is among the most modern ports in New Zealand. It is the country's only port constructed entirely under the RMA framework. Although originally primarily built for the export of forest products from Northland, Northport is a flexible multipurpose facility catering for a range of cargoes and their associated vessel types.

There are three companies running regular port shipping operations in the Whangarei Harbour. These are Northport and CINZL (both based at Marsden Point), and Golden Bay Cement (based at Portland).

Northport is currently a three-berth facility capable of handling ships with up to a 13m draft. The three oil jetties serving CINZL (to the east of Northport) are capable of handling tankers with a deadweight of up to 150,000 tonnes and with a maximum draft of 15.2m. Portland Cement Terminal has one jetty which serves the Golden Bay Cement Company cement works. One specialised bulk cement vessel uses this facility on a regular basis.

An analysis of shipping movements in the harbour between 2014 and 2020 shows that (on average) there are approximately 24 weekly movements involving vessels over 500 gross tonnes (12 in and 12 out).[25] Approximately 12 of these are related to Northport, approximately 8 are related to CINZL,[26] approximately 3 are related to Golden Bay Cement, and less than one movement can be attributed to the upper harbour (Port Nikau).

All vessels that visit Northport exceed 500 gross tonnes and so must be piloted.[27] Piloting operations are carried out by NTL. Ships are turned in the swing basin adjacent to Northport before berthing (see **Figure 29** below).

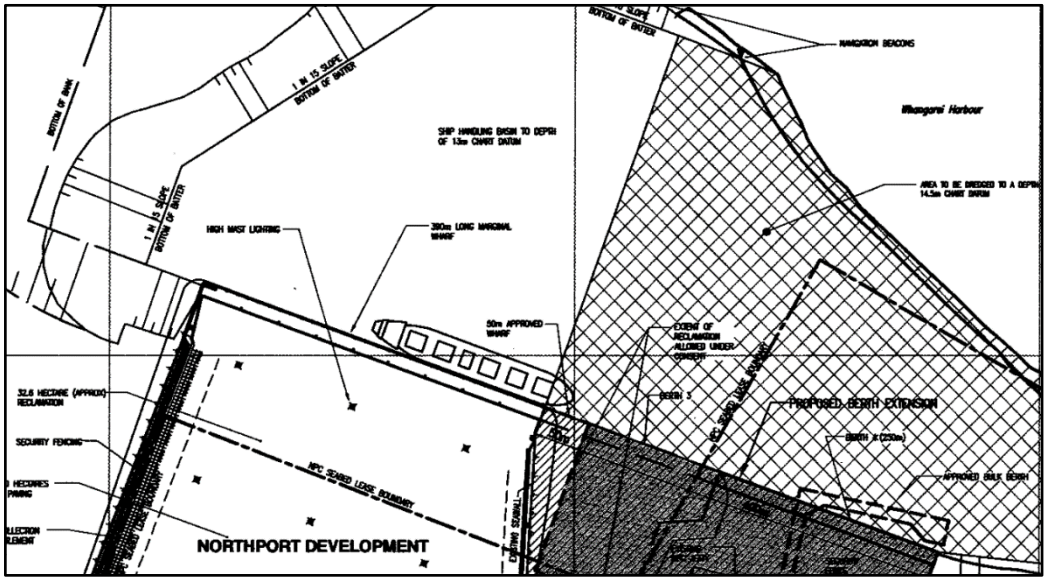

Figure 29: *Ship turning (swing) basin (Source: NRC consent AUT.005055.23.01)*

The NRC oversees the Whangarei Harbour Safety Management System (WHSMS), which implements the national legislative and policy framework at the regional level. The NRC can and does delegate its functions under the WHSMS. Specifically, Northport has delegated responsibility for:

- Aids to navigation;

[25] This excludes smaller craft such as maintenance and fishing vessels.
[26] Movements associated with the import terminal are similar to the movements associated with the refinery.
[27] *Maritime Rules: Part 90: Pilotage*, Maritime New Zealand (13 December 2019).

- Hydrographic surveys and maintenance dredging; and
- Local navigation information in Whangarei Harbour.

Also, NTL has responsibility for the provision of pilotage and towage in Whangarei Harbour.

4.4 Surrounding land environment

4.4.1 Marsden Maritime Holdings Industrial Land

There is 185ha of industrial land owned by Marsden Maritime Holdings Ltd (MMH)[28] adjoining the southern boundary of Northport (see **Figure 30** below).

Figure 30: *Marsden Maritime Holdings Ltd overall landholding (excluding Marsden Cove)*

Much of this land is yet to be developed and is currently being grazed. However, the land immediately adjacent to the port has been developed and leased by MMH to a range of different businesses (see **Figure 31**).

[28] MMH owns 50% of Northport.

Figure 31: *Marsden Maritime Holdings Ltd existing industrial development adjacent to Northport*

The activities carried out on the MMH lease land include:

- Grain storage.
- Construction company headquarters.
- Log scaling.
- Log processing (debarking).
- Concrete batching plant.
- Plastics manufacturing.
- Various commercial activities.

4.4.2 Channel Infrastructure NZ

Immediately opposite the MMH land on the eastern side of SH15 is the Channel Infrastructure New Zealand (CINZL) fuel import terminal (see **Figure 32** below).

***Figure 32**: CINZL terminal (note Matukaroro Island in the foreground and Northport to the west)*

CINZL imports refined fuels and distributes them throughout Northland and Auckland, largely via a purpose-built 170-kilometre pipeline to a storage terminal in Wiri (South Auckland), and then distribution by road or by further pipeline to Auckland International Airport.

4.4.3 Other industrial uses

There are a range of other industrial uses on land near the port. These uses include:

- BOC and Air Liquide CO2 plants (CINZL owned land).
- Sand mining (Hansen Earthworks and Drainage).
- Timber storage and manufacturing (including the Carter Holt Harvey LVL mill).

There is also a consented (but not yet constructed) 31ha solar farm on CINZL land to the south of the CINZL facility between Mair Road and Rama Road.

4.4.4 Rural Uses

Almost all the MMH land on the southern side of Marsden Bay Drive is currently being grazed. The exception to this is the boat hardstand facility adjacent to the Marsden Cove Marina, and an adjacent small-scale commercial and industrial development.

4.4.5 Residential communities

There are several residential communities in the vicinity of Northport. These communities are shown on the plan in **Figure 33** below.

On the southern side of the harbour is the residential area of One Tree Point (including Albany Road and the Marsden Cove waterways development). On the northern side of the harbour are the residential areas of McLeod Bay, Reotahi, Taurikura, and Urquarts.

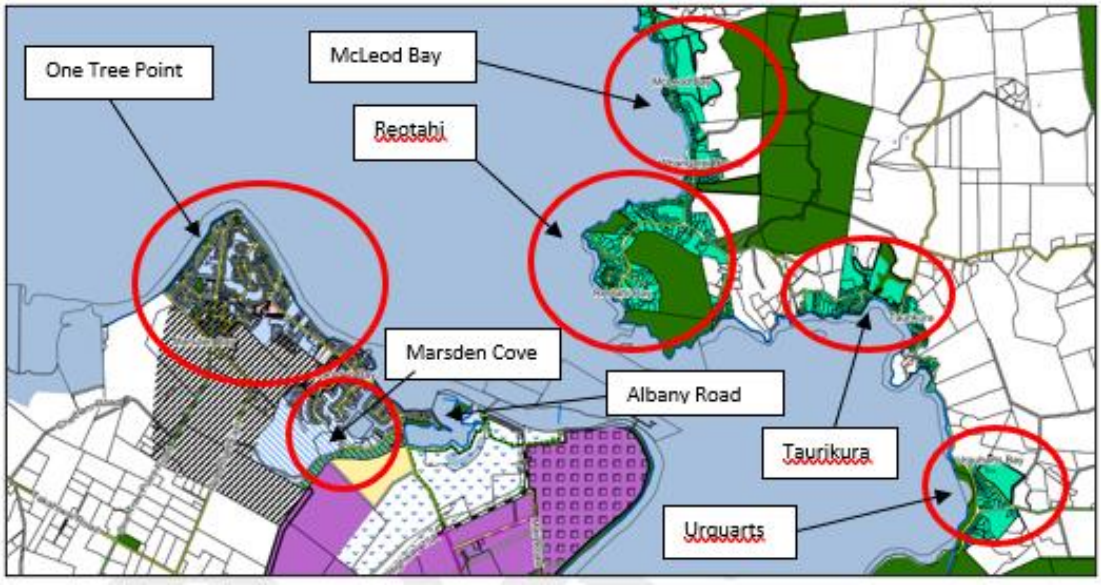

Figure 33: *Residential communities in the surrounding environment (Source: Operative Whangarei District Plan)*

4.5 Coastal processes

4.5.1 General

The existing environment for coastal processes has been identified by Tonkin and Taylor (T+T) with the technical assistance of Met Ocean (MO). The conclusions from the T+T report are summarised below. Further detail is provided in the T+T report in **Appendix 10.**

4.5.2 Channels and sand banks

The Whangarei Harbour is accessed through a natural tidal channel which varies in depth from –CD 14.7m to 32m at its deepest point. Home Point and Busby Head define the outer limits of the main channel. The existing harbour bathymetry (water depth) is shown in **Figure 34**.

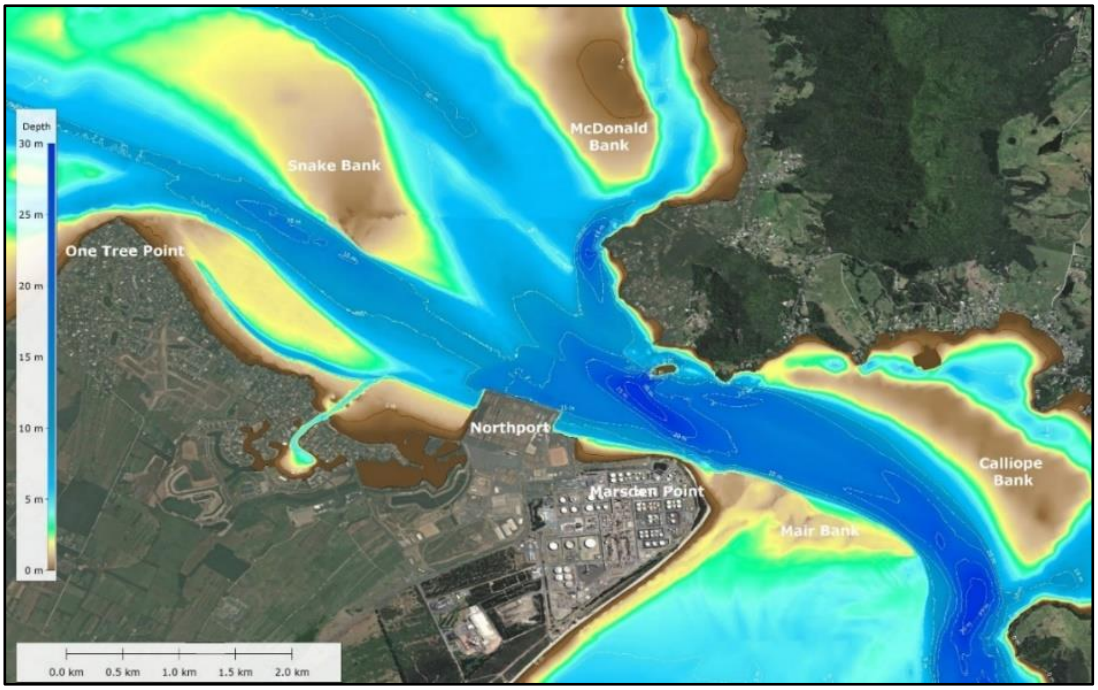

Figure 34: *Existing Harbour bathymetry (MSL) (Source: Met Ocean)*[29]

The harbour entrance channel is flanked by Mair Bank to the south and Calliope Bank to the north. Snake Bank is located to the north-west of Northport. Sand from this bank is continually being mobilised, along and off the end of the bank, and deposited into the swing basin. This has resulted in the (recent) need for maintenance dredging in the Northport swing basin.

4.5.3 Marsden Cove Marina entrance channel

The artificially constructed Marsden Cove Marina entrance channel is located 750 to the west of Northport (see **Figure 35** below). Marsden Cove incorporates a 230-berth marina and surrounding residential development. Additional canal and associated residential development are currently under construction.

[29] *Predicted morphological response to proposed capital dredging and land reclamation*, April 2018 (Met Ocean – **Appendix 9**).

Figure 35: *Marsden Cove entrance channel (Source: Google Earth)*

4.5.4 Hydrodynamic and morphological setting

Whangarei Harbour is a meso-tidal[30] 98km² drowned river valley.

The harbour is relatively shallow due to extensive intertidal flats.[31]

The harbour is accessed through a relatively narrow tidal inlet which is around 790 m wide and 32 m deep at its deepest point. The inlet is bounded by tertiary volcanic rocks on the northern side and a Holocene prograded sandy barrier spit on the southern side (Marsden Point).

The inlet channel separates a large ebb tide delta that extends seaward to around the 20 m depth contour. Mair Bank is situated on the southern side of the channel, with Calliope Bank on the northern side. Snake Bank and McDonald Bank are the two main flood-tidal deltas located within the harbour upper harbour area (see **Figure 36**).

[30] 2-4m tidal range.
[31] 58% of the high tide area is made up of inter-tidal flats.

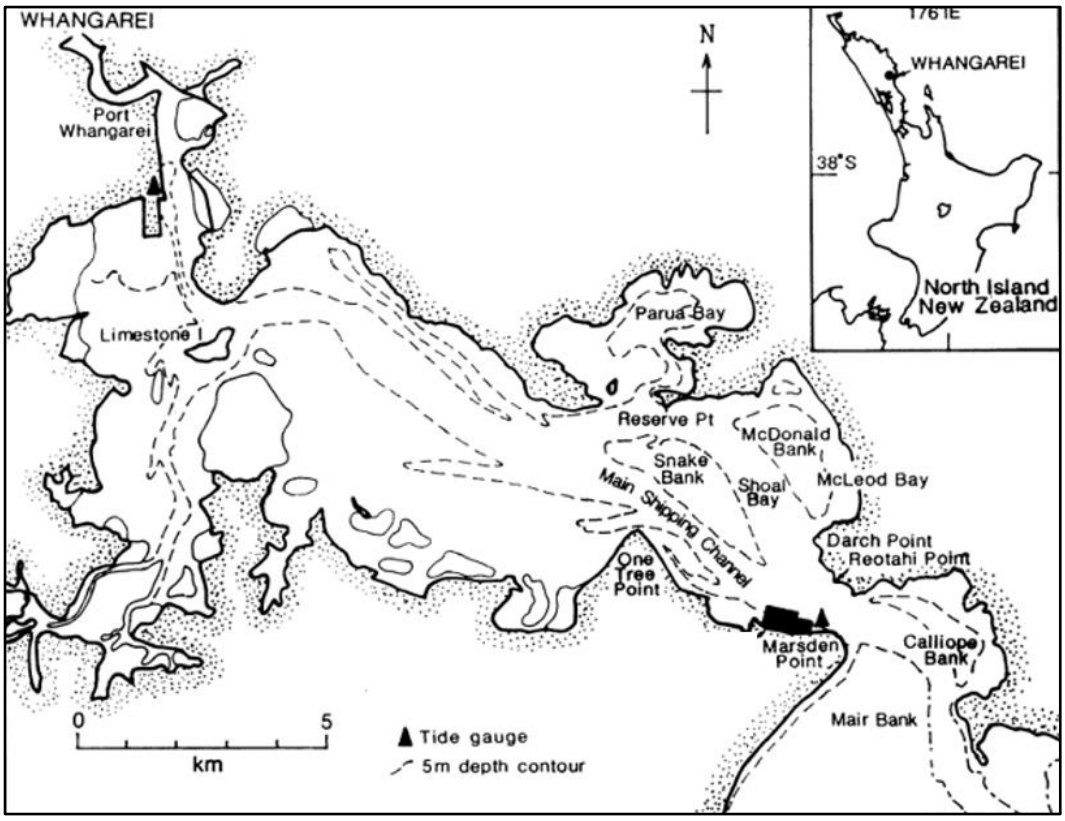

Figure 36: Location of shoals and banks

4.5.5 Sediment data

Seabed

The sediments in the vicinity of Northport are predominantly fine to medium sands with a reasonable proportion of shell, and a small quantity of silts and clays (see **Figure 37**).

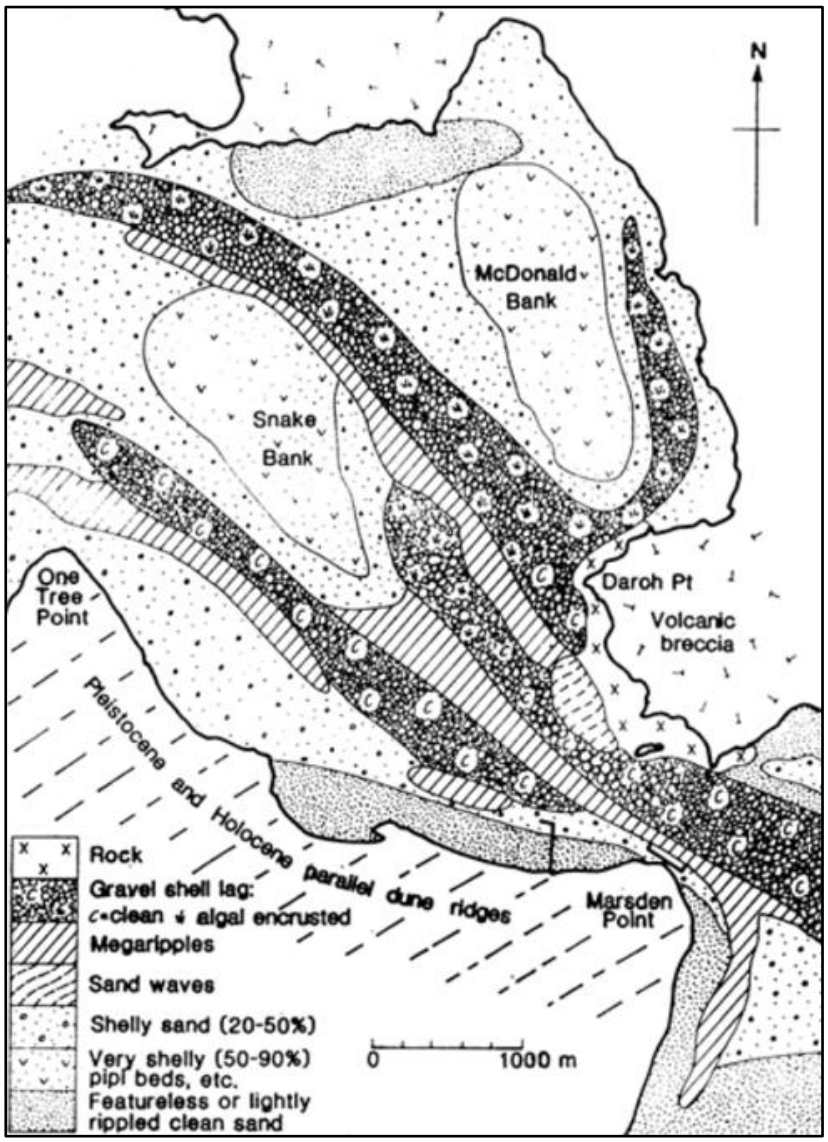

Figure 37: *Sediment facies for Whangarei Harbour*

Suspended sediment

Based on sampling in 2008 and 2009, average suspended sediment values of around 6 mg/L occur on the intertidal areas of the harbour seabed, and within the channel and ebb tide shoal areas.

4.5.6 Bathymetry (depth)

Northport has undertaken an extensive bathymetric monitoring program of the access channel, swing basin, and berths over the last two decades. The purpose of the monitoring is to assess the naturally occurring morphological response (including sedimentation) and to confirm that the required navigable depth is available. Hydrographic surveys using single and multi-beam echo-sounders have been conducted annually, with data available for the period 2006-2022. The bathymetry map for 2022 is shown in **Figure 38** below.

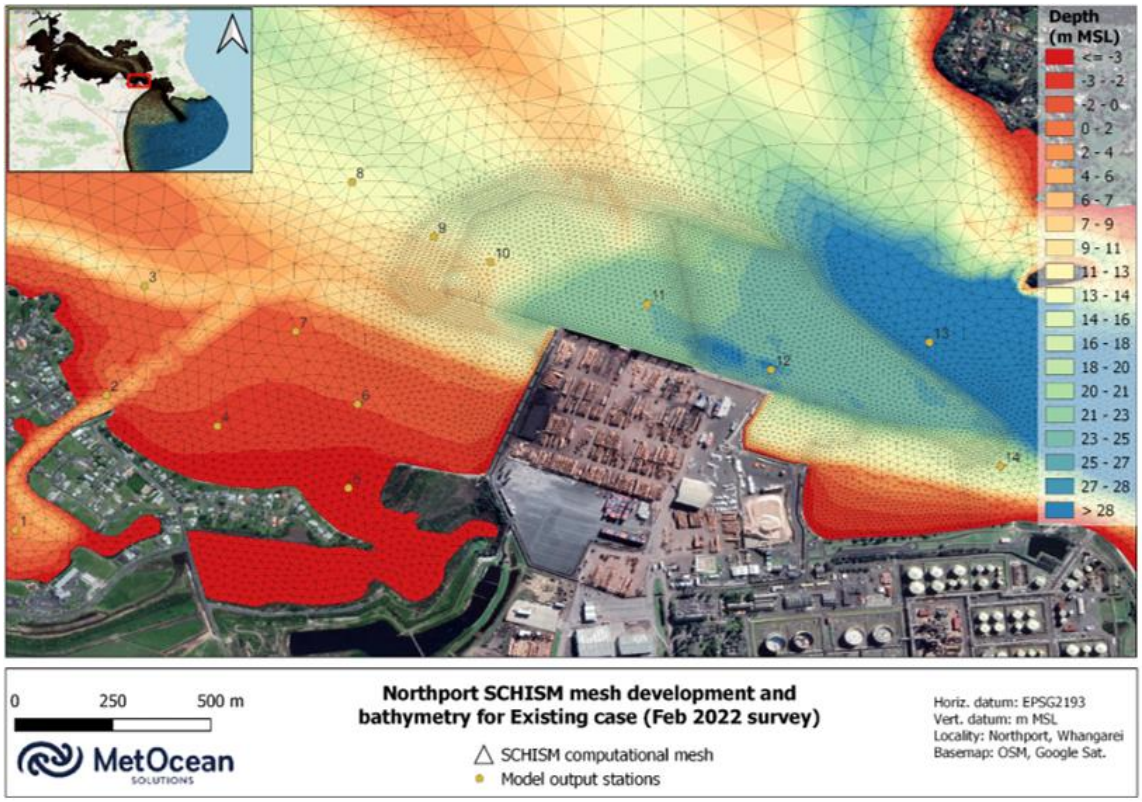

Figure 38: *Existing bathymetry*

As shown on the map in **Figure 38**, the harbour depth in the vicinity of Northport varies between 14.7m and 32m as per the 2022 data.

4.5.7 Current velocities

Current velocities in the vicinity of Northport vary between ebb (outgoing) and flood (incoming) tidal stages. During outgoing tidal stages, current velocities tend to be stronger adjacent to the port berths and within the swing basin as the harbour drains through the main channel linking the harbour entrance to the inner Whangarei harbour. Conversely, during incoming tidal stages current velocities are stronger on the north side of the harbour and aligned with the main entrance channel (see **Figure 39** below).

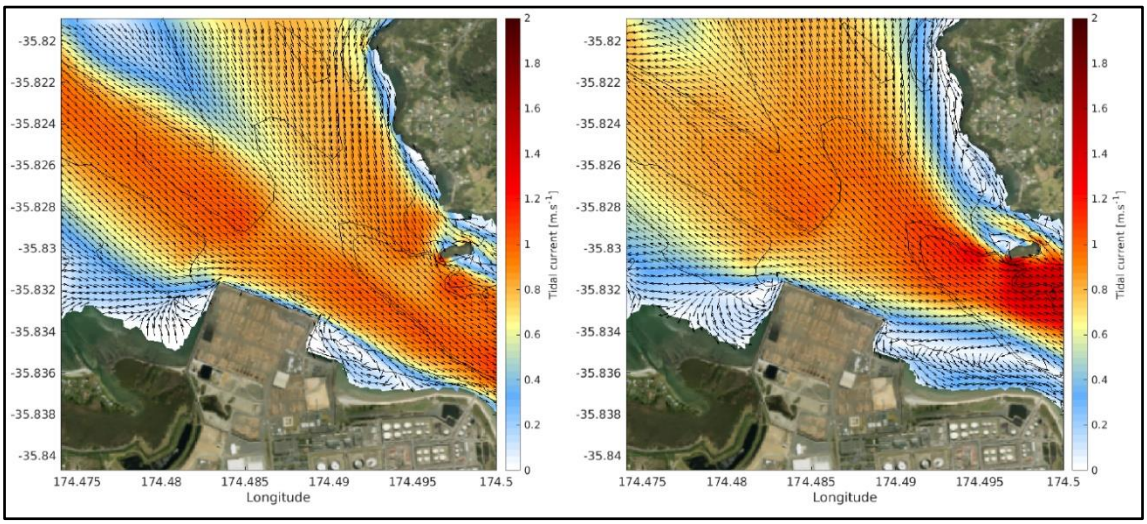

Figure 39: *Modelled peak ebb (left) and flood (right) flows in the vicinity of Northport*

Tidal current velocities gradually decrease up-harbour, from a peak around 1 m/s (≈2 knots) at Marsden Point to 0.8 m/s (≈1.5 knots) at Limestone Island. Tidal streams are strongest in the area adjacent to Home Point southeast of Marsden Point, where rates up to 1.5 m/s (≈ 3 knots) may be experienced. The constricted tidal inlet results in currents reaching peak depth-averaged velocities of 1.1-1.3 m/s(≈2.1 to 2.3 knots) during spring tides at Marsden Point.

Met Ocean modelling predicts only very slight differences between current velocities for the existing harbour configuration and the harbour configuration assuming the exercise of the CINZL channel deepening consent.

4.5.8 Sediment transport

There is evidence of sand wave migration from Snake Bank into the port area, and some local scour and deposition around the faces and corners of the port reclamation (see **Figure 40** below).

Figure 40: *Satellite and aerial photograph imagery showing morphological change adjacent to Northport*

4.6 Marine ecology

4.6.1 General

The present environment for marine ecology (excluding marine mammals and avifauna) has been investigated by Coast and Catchment (C+C) with technical assistance from 4Sight. The conclusions from the C+C report are summarised below. Further detail is provided in the C+C report in **Appendix 11.**

4.6.2 Ecological setting

The consolidation, review, and analysis of existing information, together with the data gathered through quantitative surveys and rapid intertidal and subtidal video surveys, illustrates that the harbour ecological system is made up of at least four distinct zones being:

- The outer harbour and entrance including flood and ebb tide deltas, a channel complex, and relatively narrow intertidal sandflats;
- Parua 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 Ecological Zone (OHEZ) (see plan in **Figure 41** below)

***Figure 41**: Outer Harbour Ecological Zone (OHEZ)*

The OHEZ is a discrete and ecologically significant system. It includes flood and ebb tide deltas, a channel complex, and relatively narrow intertidal sandflats. It is a complex zone subject to strong currents with around 610 ha above chart datum (CD) and 1970 ha below CD. 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 consists of mapped Significant Ecological Areas (SEAs) and a marine reserve, with areas that have not been mapped as SEAs mainly consisting of subtidal channels.

4.6.3 Assessment methodology

As described in detail in the C+C report (**Appendix 11**) ecological values were assessed through the following methods:

- A literature review.
- The analysis of relevant, available data.
- A qualitative intertidal survey of Marsden Bay.
- A rapid quantitative intertidal survey of Marsden Bay.
- A video survey of subtidal habitats around Northport.

A summary of the fieldwork undertaken by 4Sight is provided in **Appendix 29**.

4.6.4 Mapped ecological areas

There are several ecological overlay zones in the vicinity of the existing port being a Significant Ecological Area (SEA), Significant Bird Area (SBA) and Significant Marine Mammal and Seabird Area (SMMSB) (see **Figure 42** below).

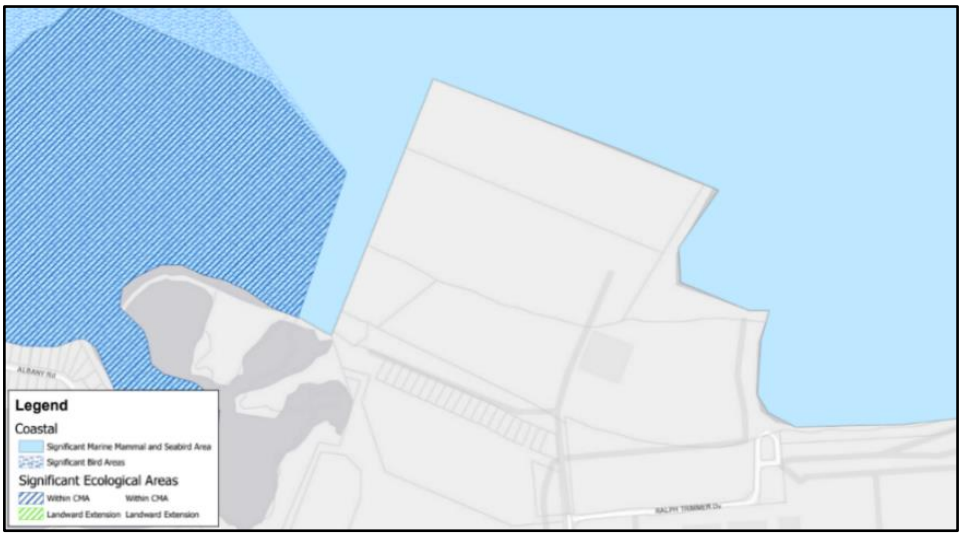

Figure 42: *Proposed Regional Plan (Appeals Version) planning map excerpt (ecological area overlays)*

4.6.5 Marine reserve

On the opposite side of the harbour to Northport (approximately 670m to the northeast) is the Motukaroro Marine Reserve (see **Figure 43**). The reserve is a mix of sandy beach, rocky reef and small high-current outcrops including Matukaroro/Passage Island.

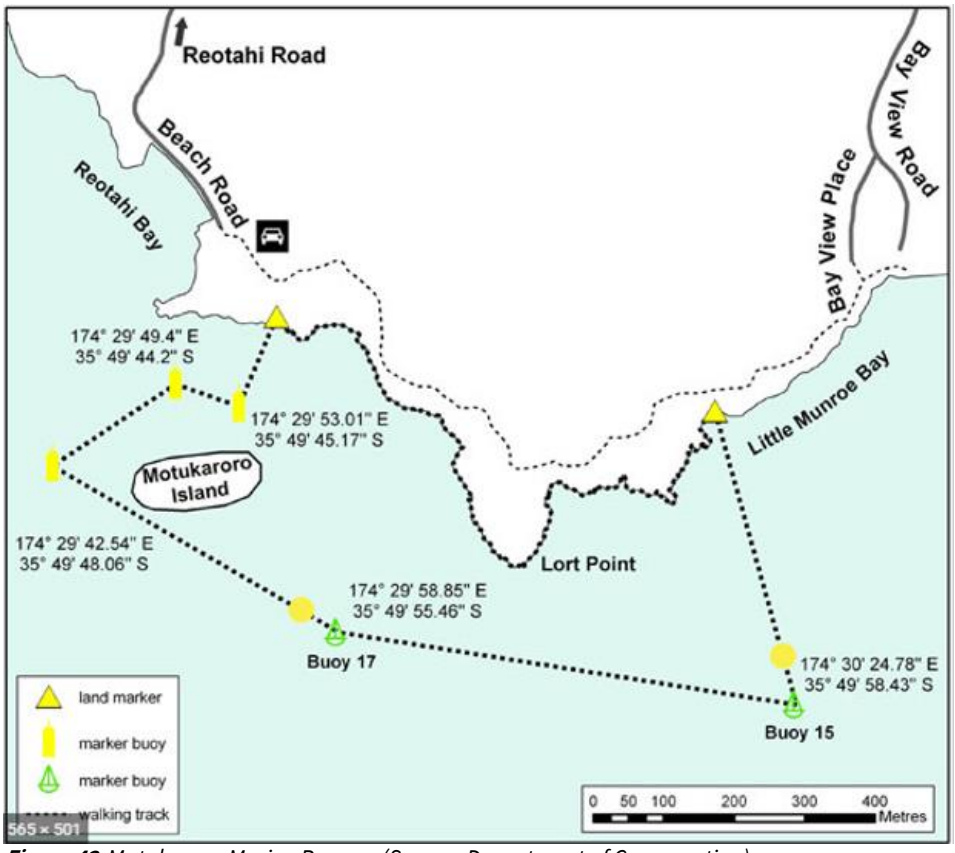

Figure 43: *Matukaroro Marine Reserve (Source: Department of Conservation)*

4.6.6 Coastal vegetation

General

The most conspicuous marine plants in the Whangarei Harbour are the dense stands of mangroves that line a large proportion of the southern and upper harbour shores. However, no mangroves are present to the east of Northport (see **Figure 44**).

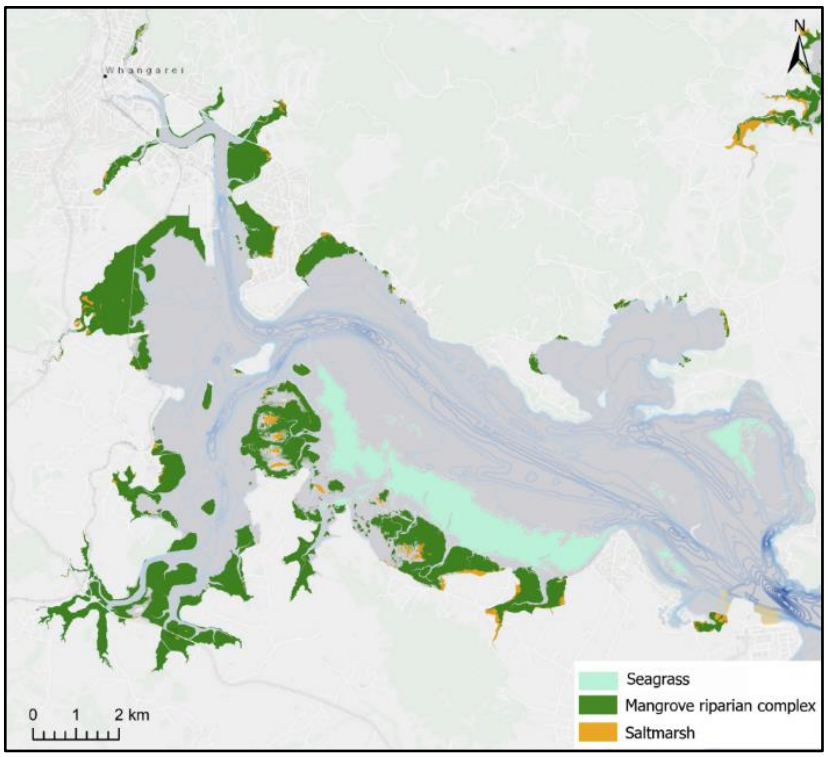

***Figure 44**: Seagrass, saltmarsh, and mangrove extents in the Whangarei Harbour (Source: NRC, 2015)*

Seagrass (*Zostera muelleri*) is abundant on the intertidal flats between One Tree Point and Northport), including patches within, and near, the proposed development area (see **Figure 45** below).

***Figure 45**: Seagrass within the proposed expansion footprint*

Threatened or at-risk species

Seagrass is listed as an “At Risk” species under the New Zealand Threat Classification System (NZTCS) due to the seagrass population being very large, but subject to low to high ongoing or predicted decline. It is a non-endemic species that is secure overseas, and experiences extreme population fluctuations.

4.6.7 Macroalgae

General

Natural rocky habitats and associated macroalgae communities are a relatively minor feature of the Whangarei Harbour. Intertidal and subtidal reef surveys at the outer harbour and surrounding Bream Bay area indicate they contain typical macroalgae assemblages, with seaweed species.

While natural rocky reefs are not present in the Northport area, the Port revetments provide hard artificial reef structures similar to natural reefs. Surveys of these revetments indicate that they have been colonised by common macroalgae.

There are also macroalgal communities in the sediment habitats (known as macroalgae meadows). Macroalgae meadows were one of the key ecological features observed in video footage during the recent video survey around Northport.

Threatened or at-risk species

Four of the taxa in the outer Whangarei Harbour have been listed as at risk under the NZTCS. These are:

- *Microdictyon mutabile*, an endemic green seaweed that inhabits the mid to low intertidal on sheltered, gently sloping rocks in Northern New Zealand, where is forms extensive undulating pads. Locations where it is known to be present in Auckland, include Rangitoto Island, Howick, Birkenhead, Archilles Point, Point Resolution (Parnell), Torpedo Bay (Devonport), The Tor (Waiake Beach), Stanmore Bay, Army Bay (Whangaparāoa), Flat Roch (Tawharanui), Motutapu Island, Motuihe Island, The Noises, Hobbs Bay (Tiritiri Matangi Island), Great Barrier Island, and Kaikoura Island.
- *Feldmannia mitchelliae*, a filamentous brown seaweed that is little known and poorly studied in New Zealand but is widespread internationally
- *Hincksia granulosa*, a filamentous brown seaweed that is little known and poorly studied in New Zealand but is widespread internationally, particularly in temperate seas.
- *Aeodes nitidissima*, a red seaweed that grows on rocks in the low-intertidal subtidal, on open coasts and harbours. It is reported as being widespread, with a New Zealand distribution of Three Kings Islands, North Island, South Island, Stewart Island, Chatham Island, Auckland Island and Campbell Island.

None of these species are known to be located in the expansion footprint.

4.6.8 Benthic macrofauna

Sediment dwelling communities

Sampling carried out in 2020 (see **Figure 46** below for locations) characterised the intertidal sand flats surrounding the port as having high benthic diversity, with numbers of individuals varying between low to moderately high.

Polychaete worms were the most abundant and diverse taxa group, followed by crustaceans and molluscs. Investigations indicated that taxa were patchily distributed around the harbour with high abundances at some sites and low or zero counts at others.

The intertidal benthic community in Marsden Bay, including the Marsden Cove–One Tree Point SEA to the west of Northport, is similar to that found at sites in other northern, southern, and upper harbour SEAs. Finer scale intertidal sampling has confirmed that the area around the port is characterised by high benthic diversity with variation along and down the shore, and differences between the western and eastern sides of Northport.

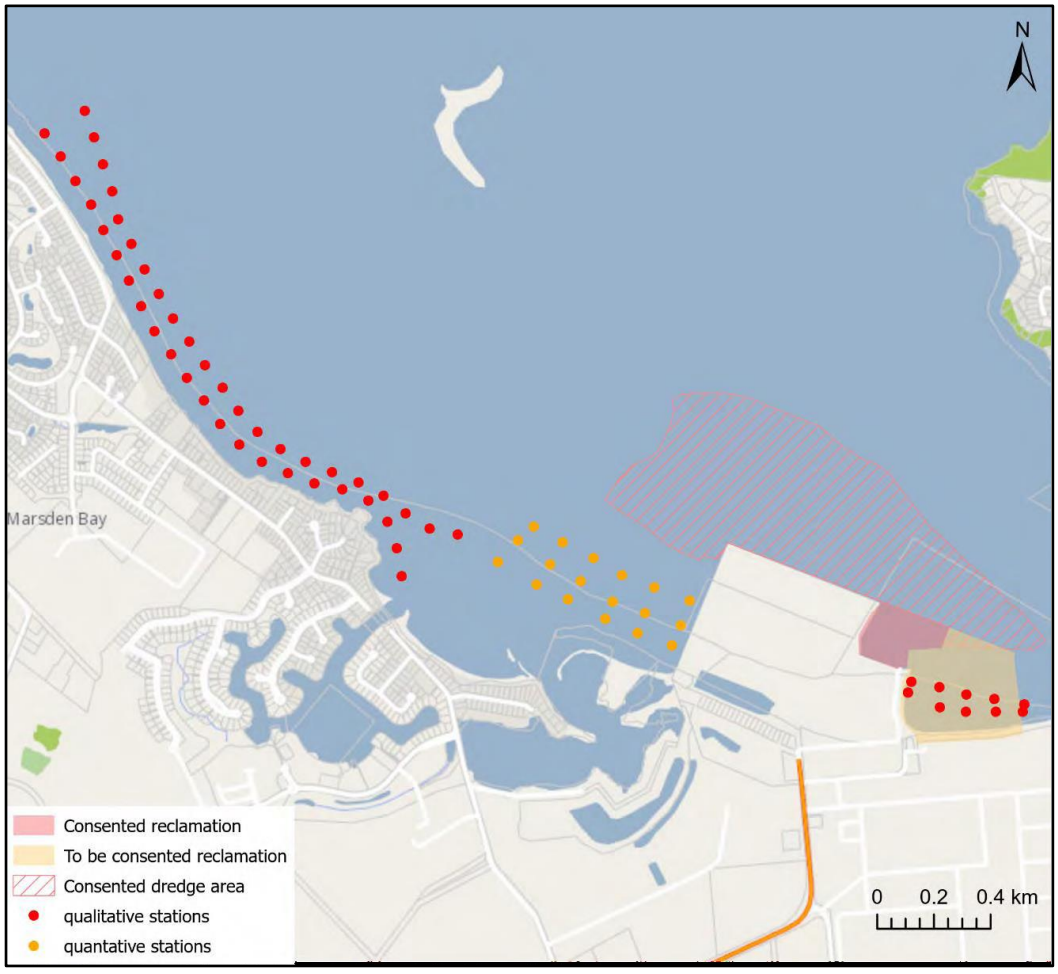

***Figure 46**: Location of the qualitative and quantitative intertidal survey locations*

Subtidal sampling has also shown that the seabed around the port contains a very diverse assemblage of benthic macroinvertebrates. Similar numbers of taxa were obtained in two recent

subtidal surveys of the outer harbour/harbour entrance.[32] It is considered highly unlikely that any of the taxa in the proposed expansion footprint is unique to the proposed reclamation area.

Overall, the macrofaunal diversity in intertidal and subtidal benthic habitats around the port is high, with taxa diversity and abundance lower on the eastern side of the port.

Subtidal epibenthic communities

The mid-to outer harbour contains a variety of physical seabed and biogenic habitats. Habitat forming macro-faunal species include horse muscles, green lipped mussels, dog cockles, sponges, ascidians, and dead shell.

A subtidal video survey carried out in November 2021 indicated that the ecological values of subtidal seabed habitats and communities around Northport were generally high, and largely consisted of patchy and/or contiguous sand and biogenic features including:

- Extensive areas of shell;
- Macroalgae meadows;
- Areas that are almost completely covered with a variety of sessile organisms including macroalgae, sponges, bryozoans, hydroids, and other invertebrates;
- Numerous small holes and sediments, which are likely to be worm tubes, shellfish siphons, and/or crustacean burrows.

Large biota observed included starfish, horse muscles, scallops, cushion stars, and anemones, turret shells, Mediterranean fan worm, hydroids, and bryozoans.

A transect through the proposed reclamation area displayed clear changes towards the shore with the habitat in the outer transect consisting of sand with little epibiota, the central transect consisting of sand with patches of red algae densely packed with turret shells, scattered starfish, algae, sponges, and an octopus den, and the inner transect consisting of bare sand with numerous cushion stars.

The seafloor of the previous dredged area was almost completely covered with a variety of sessile organisms including sponges, bryozoans, hydroids and macroalgae. Other parts of the previously dredged area contained a mix of sand, scattered and dense shell, and biogenic species such as red algae and sponges.

Shellfish

Cockles

Cockles are known to be widespread in the Whangarei Harbour. The highest densities have been recorded at Marsden Bay and McLeod Bay.

[32] Kerr & Grace (2016), West and Don (2016).

The benthic survey conducted in November 2021 found moderate to very high abundances of cockles on the mid-shore across the entire length of Marsden Bay (including some in the area to the east of Northport), with the highest densities found near the entrance to Marsden Cove Marina. Almost all of the cockles found were below harvestable size of 30 mm (see **Figure 47**).

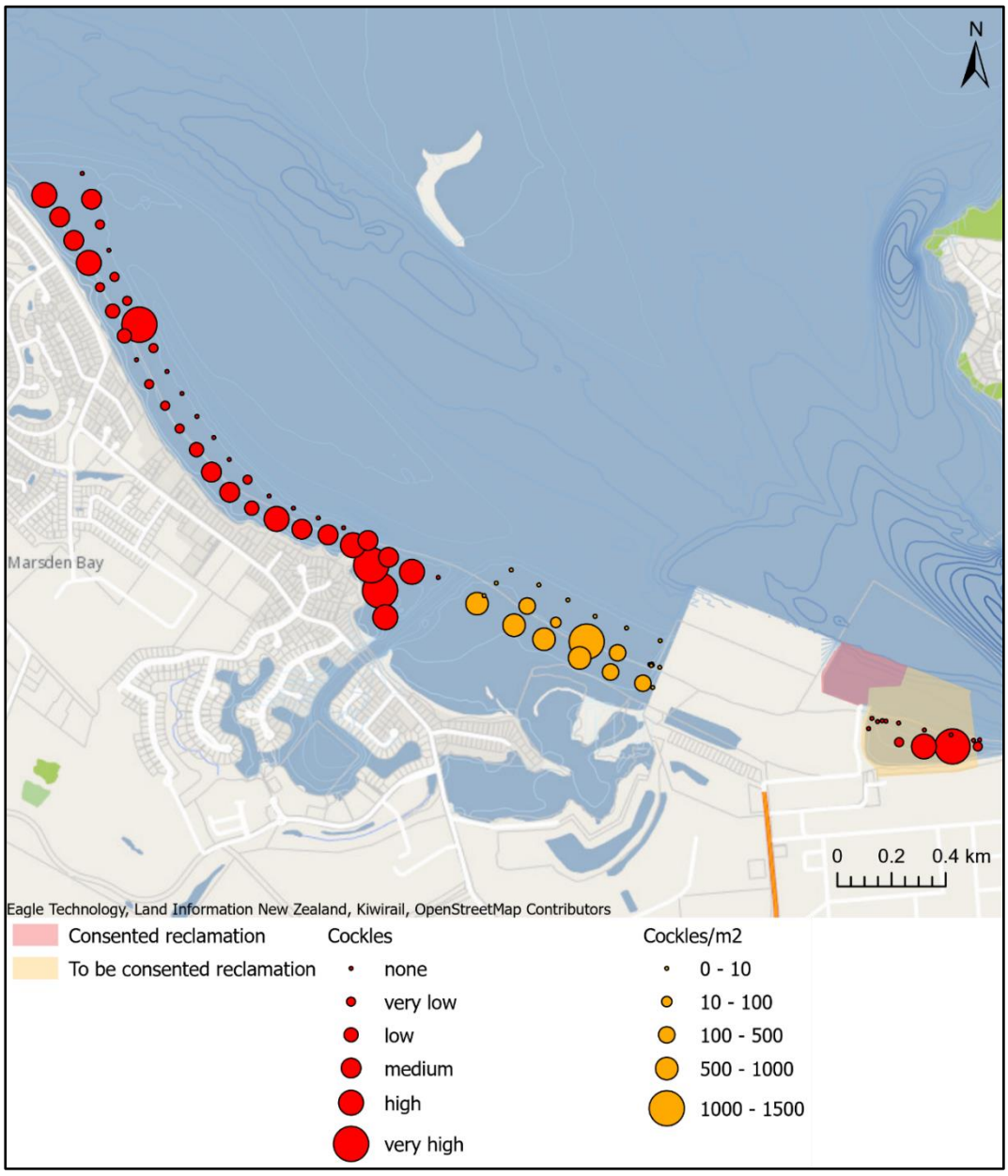

Figure 47: *Abundance of cockles in Marsden Bay (November 2021)*

Pipis

Based on surveys of Marsden and Mair Banks between 2013 – 2019, pipis have a very patchy distribution with low numbers of large harvestable (<50 mm) pipi.

Juvenile pipis were found at several sites in the mid-to outer harbour, with highest densities found Marsden Bay and the western side of Northport (although few were of harvestable size (>50 mm).

No pipi were found to the east of Northport (see **Figure 48**).

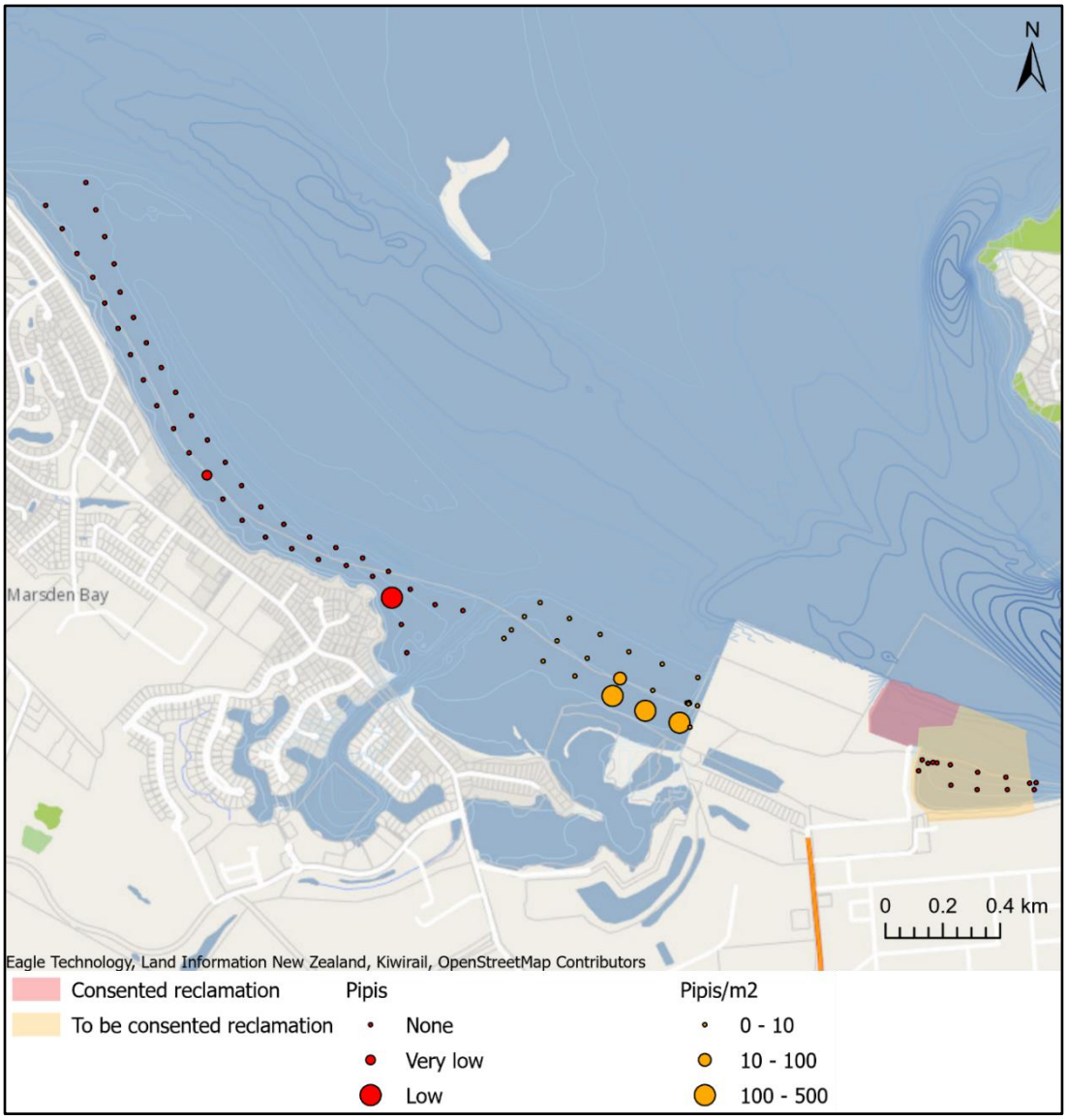

***Figure 48**: Abundance of pipi in Marsden Bay (November 2021)*

Scallops

There are large scallop beds found in various parts of the harbour, including on the sand flats at Takahiwai, in Marsden Bay, in Shoal Bay (between McDonald and Snake Banks), from McLeod Bay along the inside channel as far as Parua Bay, in the channel between Limestone and Rat Islands, and in and around the harbour entrance. Recreational scallop dredging occurs frequently in these areas. However, due to declining numbers, there is currently a temporary closure in place imposed by the Minister of Oceans and Fisheries.

Green-lipped mussels

Green-lipped mussels are reported to have been common in the channel adjacent to Mair Bank. However, they disappeared in the late 1960s due to commercial dredging. Another bed reappeared in 2015, however that too has almost completely disappeared due to intensive harvesting. The area is now subject to a rahui over the collection of shellfish.

Threatened or at-risk species

One top shell gastropod (*Cantharidus* sp.) and one bivalve (*Mysella* sp.) were recorded in the intertidal area within the reclamation footprint during a survey in 2020. While some species of *Cantharidus* and *Mysella* are listed as at-risk on the NZTCS, in both instances it is considered extremely unlikely that the species recorded in the expansion footprint are one of the at-risk species referred to in the NZTCS. The recorded species are very common around Northport (see recorded *Mysella* in **Figure 49** below).

Figure 49: *Mysella* sp. *counts in the vicinity of Northport (June 22)*

4.6.9 Reef communities

There is a limited amount of reef habitat in the Whangarei Harbour, with most occurring on the northern coastline towards the harbour entrance. Overall, species assemblages on natural Whangarei reef habitats are typical of those found in north-eastern New Zealand.

The Northport revetments are, in effect, narrow artificial reefs with similar habitat and community values to the naturally occurring reefs in the harbour. Macroalgae observed in the revetments included: *E. radiata*; *S. sinclairii*; *Carpophyllum flexuosum*; *Dictyota kunthii*; *Hildenbrandia* sp.; *Colpomenia* sp.; *Ralfsia* sp.; various species of red turfing algae; and crustose coralline algae.

A variety of common sponges, molluscs and echinoderms were observed growing on the revetments, along with compound and solitary ascidians, polychaetes including Mediterranean fan worm *Sabella spallanzanii* and the parchment worm *Chaetopterus* sp.

Crustaceans included low numbers of crayfish *Jasus edwardsii* and a reasonably diverse fish assemblage was also recorded with four species of triplefin and a range of other common reef species that included silver drummer *Kyphosus sydneyanus*; red *moki* cheilodactylus spectabilis; silver sweep *scorpis lineolata*; big eye *pempheris adspersa* and marble fish *Aplodactylus arctidens*. Other more cosmopolitan species included kingfish *Seriola lalandi*; trevally *Pseudocaranx dentex*; and parore *Girella tricuspidate*.

None of the reef species known to be present in and around the Northport revetments are listed as threatened or at risk.

4.6.10 Fish

A large variety of fish utilise the Whangarei Harbour. The most common species observed during the video survey by C&C were snapper, spotty, trevally, goatfish, leatherjacket, and parore, although the harbour is also known for a range of other species including jack mackerel, rig, eagle rays, grey mullet, sand flounder, trevally, yellow-belly flounder, kahawai, and kingfish. The video survey showed the abundance of snapper was significantly higher in biogenic habitats (horse muscles, seagrass, and sponges) compared to bare sediment or reef.

Fish communities around the Northport rock revetments appear to be similar to those that inhabit reefs in and around the harbour. These include leatherjackets, red moki, spotty, sweep, triplefins, kingfish, jack mackerel, two spot demoiselle, and goatfish.

None of the fish species recorded are listed as threatened or at risk.

4.7 Avifauna

4.7.1 General

The present environment for avifauna has been reviewed by Boffa Miskell (BML) with technical assistance from C+C and 4Sight. The conclusions from the BML report are summarised below. Further detail is provided in the BML report in **Appendix 13.**

4.7.2 General description of habitat

The Whangarei Harbour coast and river estuaries along Bream Bay have saltmarsh and mangrove communities that provide important breeding and feeding habitat for banded rail, fernbird, herons, and shag species. There are also several wading bird roost sites within the harbour, including Port Whangarei, Portland, Skull Creek, Takahiwai, Marsden Bay, Northern Harbour and Airport, and Ruakaka.

There are several islands within the Whangarei Harbour which provide habitat to several marine avifauna species. These include Matakohe/Limestone Island, located in the inner harbour, which contains a small population of breeding grey-faced petrel (*Pterdroma macroptera gouldi*; classified as *Not Threatened*). Also, little penguin, classified as *At Risk – Declining,* have been recorded breeding on several islands close to Northport, including High and Calliope Islands. White-fronted tern and red-billed gull have both been recorded breeding on Frenchman Island.

In regard to pelagic seabirds such as other petrels and shearwaters, the majority of species recorded have been using the open water habitat of Bream Bay rather than the Whangarei Harbour waters.

To the immediate east of Northport is a 750m beach bound to the east by the CINZL jetty. The landward extent of the coastal dune that runs behind this beach is approximately 20-30m wide, with the vegetation cover including spinifex, lupin and pohutukawa. The CINZL jetty has been noted as a key roosting area for white-fronted tern.

To the east of the CINZL jetty is Mair and Marsden banks. These have been identified as regionally significant shellfish beds. Birds are known to forage in these areas, with black-backed gull, red-billed gull and variable oystercatcher being the most abundant species recorded in the intertidal zone (although they were not identified as significant high tide roost areas).

4.7.3 Recorded species

A total of 73 bird species, comprising 21 introduced and 53 native species, have been recorded in the wider Whangarei Harbour area. Of the 53 native species, 37 are primarily associated with freshwater, coastal or oceanic habitats.

Of those, 19 species were recorded during the 4Sight surveys, including 4 species classified as *Threatened* and 11 classified as *At Risk.* These species are identified in **Table 5**, while the survey locations are shown in **Figure 50.**

***Table 5**: Native species recorded during 4Sight wading birds survey (2017/18, 2019/20 and 2021)*

SPECIES		SPECIES CODE	THREAT CLASSIFICATION[33]
Reef heron	*Egretta sacra sacra*	RF	*Threatened - Nationally Endangered*
Caspian tern	*Hydroprogne caspia*	CTe	*Threatened - Nationally Vulnerable*
Northern NZ dotterel	*Charadrius obscurus aquilonius*	NZD	*Threatened - Nationally Increasing*
Wrybill	*Anarhynchus frontalis*	Wry	*Threatened - Nationally Increasing*
Banded dotterel	*Charadrius bicinctus bicinctus*	BDo	*At Risk - Declining*
Bar-tailed godwit	*Limosa lapponica baueri*	BtG	*At Risk - Declining*
Lesser knot	*Calidris canutus rogersi*	Lkn	*At Risk - Declining*
Red-billed gull	*Larus novaehollandiae scopulinus*	RbG	*At Risk - Declining*
South Island pied oystercatcher	*Haematopus finschi*	SIPO	*At Risk - Declining*
White-fronted tern	*Sterna s. striata*	WfT	*At Risk - Declining*
Pied shag	*Phalacrocorax varius varius*	Psh	*At Risk - Recovering*
Variable oystercatcher	*Haematopus unicolor*	VOC	*At Risk - Recovering*
Black shag	*Phalacrocorax carbo novaehollandiae*	BSh	*At Risk - Relict*
Little shag	*Phalacrocorax melanoleucos brevirostris*	LSh	*At Risk - Relict*
Royal spoonbill	*Platalea regia*	RSp	*At Risk - Naturally Uncommon*
Pied stilt	*Himantopus h. leucocephalus*	PSt	*Not Threatened*
Southern black-backed gull	*Larus d. dominicanus*	SBBG	*Not Threatened*
White-faced heron	*Egretta novaehollandiae*	WfH	*Not Threatened*
Eastern curlew	*Numenius madagascariensis*		*Vagrant*

***Figure 50** Bird survey locations*

[33] Robertson et al. (2017).

In summary:

- Northern New Zealand Dotterel (classified as *Threatened – Nationally Increasing*) have been recorded along much of the coastal margin from One Tree Point to the CINZL facility, as well as on the Northport site.
- International migrant waders, being bar-tailed godwit (*At Risk - Declining*) and lesser knot (*At Risk - Declining*) have been recorded primarily around the Blacksmith's Creek area, although a few godwit have also been recorded further west up to One Tree Point and to the east of Northport.
- Variable oystercatcher (*At Risk - Recovering*), South Island Pied oystercatcher (*At Risk - Declining*) and pied stilt (*Not Threatened*) have primarily been recorded to the east of Northport and adjacent to the Marsden Cove Marina channel.
- Gulls and terns have been recorded dispersed along the coast, with large concentrations of red-billed gull (*At Risk - Declining*) to the east of Northport.
- Reef Heron (*Threatened – Nationally Endangered*), White Faced Heron (*Not Threatened*) and spoonbill (*At Risk – Nationally Uncommon*) have been recorded in relatively low numbers and only along the coast west of Northport.
- Pied Shag (*At Risk – Recovering*), Black Shag (*At Risk – Relict*), and Little Shag (*At Risk – Relict*), have been recorded in low numbers and primarily associated with the port, though a few birds were recorded in the Blacksmith's Creek/Wildlife Refuge area.

4.7.4 Feeding resources

Intertidal communities within the Whangarei Harbour generally fall into one of three broad types being:

- Sheltered tidal creeks (upper harbour).
- Semi-exposed sandflats (mid-harbour).
- Exposed sandflats (lower harbour).

These community types are largely driven by substrate type. A change in community composition exists from muddy upper harbour to sandier lower harbour sites. Intertidal flats comprise 58% of the marine area habitat in the lower harbour, supporting extensive cockle and pipi beds.

The intertidal habitat within the proposed reclamation footprint is clean, unpolluted sands with varying amounts of shell. This habitat hosts a benthic macroinvertebrate community which is also found on the intertidal shores to the west, and which is considered to be of moderate biodiversity but low abundance. The intertidal zone is not notable relative to that wider community and has comparatively less biodiversity and significantly less abundance of biota.

4.7.5 High tide activity (roosting)

High-tide counts were undertaken in 2017/18, 2019/20, and again in 2021.

Northport site

Despite Northport being an active port site, ten species were recorded roosting to the east of the port in the 2019/20 and 2021 surveys. Red-billed gull were the most abundant and dense species recorded, followed by NZ Dotterel and VOC.

East of Northport

High numbers of shorebirds were recorded roosting to the immediate east of Northport during the 2017/18, 2019/20 and 2021 high tide wading bird surveys, though the diversity of species roosting on the eastern sites was lower than that recorded at the western sites.

The species for which the highest mean abundance and densities were recorded were South Island pied oystercatcher (SIPO), VOC, and Red-billed gull.

West of Northport

Bar-tailed godwit and lesser knot were the most abundant species recorded to the immediate west of Northport.

SIPO were the most abundant species recorded adjacent to the Marsden Cove Marina Channel (further to the west).

4.7.6 Mid and low tide activity (foraging)

East of Northport

The most abundant species recorded foraging to the east of Northport were SIPO, red-billed gull, and VOC. The benthic infauna survey identified known prey items of both oystercatcher species present in this area, although the abundance of prey items for both oystercatcher species was relatively low compared to the western side of the port.

West of Northport

Data collected over the 2017/18, 2019/20 and 2021 low and mid-tide counts showed Lesser knot as the most abundant species recorded. Bar-tailed godwit were also prevalent, as were Northern NZ Dotterel, but in relatively low numbers. The benthic infauna survey identified known prey items of both oystercatcher species present in this area.

4.7.7 Nesting

Northport site

During the 2018/19 survey, variable oystercatcher were recorded breeding on top of the tug bay revetment on the eastern side of Northport. Later in the season (24/1/19), two pairs of VOC (each with one chick) and one pair of New Zealand dotterel (with three chicks) were recorded on the Northport site.

During the 2019/20 survey, the port site had the highest number of nesting birds recorded. This included a pair of Northern NZ dotterel successfully raising chicks on top of the coal pile, a pair of VOC with chicks on the tug revetment, and a pied stilt on a nest with four eggs next to the molasses pond.

The December 2019 kororā survey along the eastern and western riprap of the Northport site detected no sign of nesting birds. While outside of the breeding season, the June 2021 survey of the same area using a DOC-certified conservation dog gave three weak indications along the western riprap. Exploration of the crevices that the dog indicated on found no sign of birds or feathers. Nevertheless, given the riprap does provide potential kororā habitat, and a weak indication was given at three locations, a precautionary approach is to assume that these locations are used by nesting kororā.

East of Northport

No wading or shorebird species were recorded nesting during either the 2018/19 or 2019/20 season.

West of Northport

Variable oystercatcher was confirmed breeding within the Blacksmiths Creek mangrove survey area during both the 2018/19 and 2019/20 seasons, as well as on the Northport west revetment in 2019/20.

4.7.8 Feeding and roosting in the wider harbour

In 2017 a Bioresearches Group Limited coastal survey identified the relative importance of eight locations around the lower harbour for feeding and roosting for gulls and wading birds. The key findings at each of those sites were as follows:

- **Bream Bay beach:**
  - Low species diversity (n=6) – Red-billed gull (53.3%), black-backed gull (20.7%), variable oyster catcher (13.3%), white-fronted tern, Caspian tern and Australasian gannet.
  - Primarily used by gulls as a resting / roosting habitat.

- **Mair Bank:**

  - Moderate species diversity (n=10) – Black-backed gull (max = 196), red-billed gull (max = 70), variable oystercatcher (max = 66), Caspian tern, little shag, northern NZ dotterel, pied shag, pied stilt, SIPO and white-faced heron.
  - Predominant habitat use was resting, primarily black-backed gull and but occasional Caspian tern, red-billed gull and VOC.
  - Of the few feeding records, 5.7% were on the beach, 19.9% on the inner bank and 74.4% on the outer bank.

- **Refining NZ jetty to Northport:**

  - Moderate species diversity (n=10) – SIPO (max = 437), red-billed gull (max = 154), VOC (max = 60), black-backed gull, Caspian tern, northern NZ dotterel, pied shag, pied stilt, spur-wing plover, white-fronted tern.
  - Dominant habitat use was resting rather than feeding.

- **One Tree Point:**

  - High species diversity (n = 15) – Black-backed gull (max = 114), white-fronted tern (max = 71), bar-tailed godwit (max = 60), red-billed gull (max = 58), VOC (max = 54), lesser knot (max = 37), Caspian tern, curlew, little shag, mallard, northern NZ dotterel, paradise shelduck, pied stilt, SIPO and white-faced heron.
  - Approximately equal use for feeding and resting, but no high tide wading roost habitat.

- **Snake Bank:**

  - Moderate species diversity (n = 8) – SIPO (max = 63), black-backed gull, bar-tailed godwit, little shag, red-billed gull, VOC, white-faced heron, and white-fronted tern.
  - Feeding the predominant activity, and primarily by SIPO.
  - Differs from Mair Bank in that black-backed and red-billed gulls were not as prominent, and SIPO rather than VOC was the most common oystercatcher species.
  - This site is a shore commute from birds roosting at Marsden Bay.

- **Reotahi Bay:**

  - Low species diversity (n = 6) – red-billed gull (77.6%), white-fronted tern (10%), black-backed gull, Caspian tern, white-faced heron and VOC.
  - Almost exclusively (98.2%) for resting (in the intertidal area) or roosting on poles, boulders and trees.

- **Taurikura Bay:**

– Moderate species diversity (n = 11) – red-billed gull (~75%), Australasian gannet, black-backed gull, Caspian tern, kingfisher, little shag, pied shag, red-billed gull, reef heron, spur-wing plover, VOC and white-faced heron.

– Primarily resting habitat.

- **Urquharts Bay:**

– Moderate – high species diversity (n = 12) - Australasian gannet, black-backed gull, Caspian tern, little shag, pied shag, red-billed gull, reef heron, SIPO, spur-winged plover, VOC, white-faced heron and white-fronted tern.

– Main activity recorded was resting and roosting, primarily by gulls.

The comparative population composition and habitat use for these sites is shown in **Table 6** below.

***Table 6**: Comparative population composition and habitat use*

	Bream Bay Beach	Mair Bank	CINZL jetty to Northport	One Tree Point	Snake Bank	Reotahi Bay	Taurikura Bay	Urquarts Bay
% feeding	11.8	17.5	1.5	47.6	63.5	1.8	20.9	23.3
% resting / roosting	88.2	83.5	98.5	52.4	36.5	98.2	79.1	76.7
% wading birds	13.3	16.1	65.1	34.4	84.2	4.2	12.1	23.9
% gulls	74	82.9	31.0	42.3	12.9	84.4	81.1	68.2

4.7.9 Ecological value

The 15 species recorded as utilising the area east of Northport (areas East 1 and East 2 on **Figure 50**) comprises four species that are considered to have 'Very High' value, four species of 'High Value', three species of 'Moderate Value' and four species of 'Low Value' according to the Environment Institute of Australia and New Zealand (EIANZ) (See **Table 7** on the following page).

***Table 7**: Coastal and estuarine avifauna species values*

SPECIES	THREAT CLASSIFICATION	ECOLOGICAL VALUE34	WEST 3	
			High	Low-mid
Australasian bittern	*Threatened – Nationally Critical*	Very High		
Reef heron	*Threatened - Nationally Endangered*	Very High		ü
Banded dotterel	*Threatened - Nationally Vulnerable*	Very High		
Caspian tern	*Threatened - Nationally Vulnerable*	Very High	ü	ü
Lesser knot	*Threatened - Nationally Vulnerable*	Very High	ü	ü
Wrybill	*Threatened - Nationally Vulnerable*	Very High		
Banded rail	*At Risk - Declining*	High		
Eastern bar-tailed godwit	*At Risk - Declining*	High	ü	ü
Red-billed gull	*At Risk - Declining*	High	ü	ü
South Island pied oystercatcher	*At Risk - Declining*	High	ü	ü
White-fronted tern	*At Risk - Declining*	High		
Pied shag	*At Risk - Recovering*	Moderate		
Northern NZ dotterel	*At Risk - Recovering*	Moderate	ü	ü
Variable oystercatcher	*At Risk - Recovering*	Moderate	ü	ü
Black shag	*At Risk - Naturally Uncommon*	Moderate		
Royal spoonbill	*At Risk - Naturally Uncommon*	Moderate		
Little shag	*Not Threatened*	Low	ü	
Pied stilt	*Not Threatened*	Low	ü	ü
Southern black-backed gull	*Not Threatened*	Low	ü	ü
White-faced heron	*Not Threatened*	Low	ü	ü

4.8 Marine Mammals

4.8.1 General

The present environment for marine mammals has been reviewed by the Cawthron Institute (CI). The conclusions from the CI report are summarised below. Further detail is provided in the CI report in **Appendix 14.**

4.8.2 General Description

Many of New Zealand's marine mammal species live or pass through the upper and central eastern coastal waters of the North Island. At least 27 *cetacean* (whales, dolphins, and porpoises) and two *pinniped* (seals and sea lions) species have been recorded along the north-eastern coastline of the North Island.

[34] As per the EIANZ criteria.

Several marine mammal species visit the Whangarei Harbour waters and the wider region on a regular basis. The Whangarei Harbour entrance represents a small fraction of similar habitats available to support the various species that utilise the Harbour and wider Bream Bay ecosystem.

The distribution patterns of the more common marine mammal species to frequent Whangarei and nearby waters are shown on **Table 8**, along with the conservation threat status.

***Table 8**: Distribution patterns of the more common marine mammal species to frequent Whangarei and nearby waters.*

Common name	Species name	NZ Threat Classification System	IUCN Listing	Residency category in Northland	Patterns of Seasonality (relative to proposal area)
Bottlenose dolphin	*Tursiops truncatus*	Nationally Endangered	Least Concern	Common Seasonal to Year-Round	Resident sub-population to north in Bay of Islands that ranges between Doubtless Bay, Great Barrier Island and Tauranga. Occasional visits to Whangarei / Bream Bay, perhaps more over summer months. Generalist feeders. Currently in decline.
Common dolphin	*Delphinus delphis (including D. capensis)*	Not Threatened	Least Concern	Common Seasonal to Year-Round	Common throughout north-eastern waters year-round. Feed on schooling or more pelagic fish species. Generally observed in waters deeper off Whangarei / Bream Bay with occasional inshore sighting.
NZ fur seal	*Arctocephalus forsteri*	Not Threatened	Least Concern	Common Seasonal to Year-Round	Present year-round with multiple haul-out sites in the Hauraki Gulf and regular sightings off the Hen & Chickens Islands and Bay of Islands. More susceptible to human effects in breeding colonies. Feed mainly over shelf waters.
Leopard seal	*Hydrurga leptonyx*	Naturally uncommon	Least Concern	Seasonal to Semi-Common	Solitary animals occasionally observed within Whangarei Harbour (e.g. Marsden Cove Marina) as well as various haul-out sites and marinas between Auckland and Northland.
Orca (killer whale)	*Orcinus orca*	Nationally Critical	Data Deficient	Seasonal to Semi-Common	Frequent north-eastern waters year-round, more common in late winter / early spring. Forage in harbours, estuaries and coastal areas on rays, fish and other marine mammal species. Overseas populations noted for heavy pollutant loads due to high trophic level.
Bryde's whale	*Balaenoptera edeni*	Nationally Critical	Least Concern	Seasonal to Semi-Common	Commonly observed whale species in north-eastern waters year-round. Feed on small schooling fish and sometimes krill. Regularly move through Bream Bay, travelling between Bay of Islands and Hauraki Gulf.
Southern right whale	*Eubalaena australis*	At Risk - Recovering	Least Concern	Seasonal Migrant	Frequent more inshore, shallow regions of Northland during seasonal migration periods, particularly with new-born calves. Once present, they can remain in the Northland region for several days to weeks. Most often seen between August and November.
Humpback whale (Oceania)	*Megaptera novaeangliae*	Migrant	Endangered	Seasonal Migrant	Pass by Whangarei / Bream Bay on both north and south migrations but more prevalent and closer to shore on southern return migration when with calves (mainly Oct to late Dec).
Pilot whale	*Globicephala melas*	Not Threatened	Least Concern	Offshore Semi-Common	While a more offshore species, inshore sightings occur mainly over summer months. Forages off shelf waters. Known for frequent and mass strandings in Bream Bay and surrounding waters.
Sperm whale	*Physeter macrocephalus*	Data deficient	Vulnerable	Offshore Visitor	Increased sightings along the north-eastern coasts, mainly over summer and autumn months.

4.8.3 Potentially affected species

Species occurring commonly in the area of interest[35] and more likely to be affected by the project are bottlenose dolphin (*Tursiops truncatus*), common dolphin (*Delphinus delphis*), orca (*Orcinus orca*), and Bryde's whale (*Balaenoptera edeni*). These, and other more common species are further described below.

Bottlenose dolphins

An inshore population of bottlenose dolphins is known to range between Doubtless Bay to the north and Tauranga to the south. Sightings near Whangarei have mainly occurred over the spring and early summer months. The species is listed as *nationally endangered* by the New Zealand Threat Classification System, making them potentially more vulnerable to disturbance or changes within their distribution range.

[35] Area of interest: the coastal waters between the Bay of Islands and the Hauraki Gulf.

Common dolphins

Several localised populations of common dolphins are found year-round. The species has mainly been observed in deeper waters (30m +). The species is listed as *not threatened*, although there is little known about the actual population size and movements in the area of interest.

Orca

Orca are frequently sighted along the coastline between the Bay of Islands and Hauraki Gulf. They have been observed year-round but are thought to be more common in the area of interest during late winter and early spring.

The orca that occur within Northland waters appear to be generalist feeders, opportunistically foraging on a variety of prey species.

Based on the sighting data and the timing of individual re-sightings from various Visser publications, orca do not spend a large amount of time in any one location. By way of example, they would not enter the Whangarei Harbour and remain solely within it for a whole week, much less a day or two. Instead, they most likely wander in and out again over the course of several hours and may perhaps re-visit on subsequent days or not again for several months.

The tendency by orca to forage in and around enclosed harbours makes this species potentially susceptible to harbour developments. Orca are currently listed as *nationally critical* by the New Zealand Threat Classification System based on their natural low abundance.

Bryde's whales

Bryde's whales are one of the most commonly observed whales in New Zealand waters. They are frequently reported in the area of interest, particularly over the late spring and summer months. They pass through Whangarei offshore waters as they travel between the Bay of Islands and Hauraki Gulf. The species is thought to seasonally migrate along the north-eastern coast of the North Island to and from the subtropics.

A small residential population of whales is found year-round within the Hauraki Gulf region. Their natural tendency to remain just below the surface of the water most of the time (91%) and their spatial overlap with the main shipping channels of Auckland makes them highly vulnerable to ship strikes. This species is listed as *nationally critical* in New Zealand waters due to low abundance and the high proportion of mortalities due to ship strikes.

New Zealand fur seals

New Zealand fur seals are year-round residents within Bay of Plenty and Coromandel Peninsula waters with established breeding colonies and several known haul-out sites. Regular sightings of adults and pups are now common in the Hauraki Gulf region with frequent sightings around the Hen and Chickens Islands. There has also been occasional visiting seal within the Whangarei region as this species appears to be expanding northward.

Fur seals are considered non-migratory but are known to easily and repeatedly cover large distances to find food. Some adults will travel out to open waters over winter while younger animals focus over shallower continental shelf waters.

Leopard seals

Although thought to mainly occur around Antarctic pack ice, Leopard seals are known to disperse northwards over the colder autumn and winter months when individuals are occasionally observed in New Zealand waters. Leopard seals prey on a variety of species (e.g. krill, penguins, birds, fish, seals), eating their prey where it is taken.

There are several reports of solitary animals observed within the Whangarei Harbour, and at various haul-out sites and marinas between Auckland and Northland.[36] An individual leopard seal (*Owha*) is known to reside semi-seasonally around Marsden Cove marina.

Southern right whales

Several baleen whale species migrate through Northland waters from early winter (May) to the late spring months (November). Most whale species begin their northern migrations in late autumn or winter; humpbacks travel from May to August and southern right whales from July to September.

Southern right whales can be slow migrators, especially cow/calf pairs, with a tendency to remain in shallow protected bays and coastal waters when calving. They can be observed with newborn calves from August onwards, particularly around the Northland region. Approximately 40–50% of all cow/calf pairs are observed between Northland and Hawke's Bay waters and may remain within nearshore waters for up to four weeks.

Southern right whales are considered *at risk - recovering* by the NZ threat classification systems as their preference for shallow, protected bays and coastal waters (particularly for calving) overlaps with numerous anthropogenic activities in New Zealand's waters.

Humpback whales

Humpback whales along the eastern coastline of the North Island are generally reported during their returning south-bound migration. They begin by returning with their newborn calves in later September, passing through Northland waters until late November/December. While humpbacks tend to travel more directly between headlands, they do occasionally wander briefly into nearby harbour and bays.

The Oceania sub-population of humpbacks (including New Zealand) is considered *endangered* by the IUCN[37] due to their slower recovery rate.

[36] The number of reported sightings is likely biased high (i.e. a very small number of individuals are reported multiple times) given the novelty of seeing this species.
[37] International Union for the Conservation of Nature.

Other offshore species

Other offshore species observed in area of interest waters include pilot whales, sperm whales, false killer whales, beaked whales, pygmy sperm whales, and blue whales. It is thought that there is a general inshore movement within Northland waters for some of these species over the summer months.

4.8.4 Summary

According to the CI report, there is no evidence indicating that any of the identified species have home ranges restricted solely to the Whangarei Harbour and nearby Bream Bay waters.

While several whale species have known migration routes past this region, harbour waters are not considered part of any important migration corridors as most animals generally pass further offshore (more than 5 km), with only a few individuals wandering near or into the harbour entrance each year.

Based on current knowledge, the proposal area is not ecologically more significant in terms of feeding, resting, or breeding habitats for any marine mammal species relative to other regions along the north-eastern coastline. However, because the area of interest waters periodically supports threatened or endangered species (such as bottlenose dolphins, orca, Bryde's whales, and southern right whales), Policy 11(a) of the NZCPS is relevant in respect to these species.

4.9 Landscape setting

4.9.1 General

The existing landscape setting has been reviewed by Brown New Zealand Limited (BNZL). The conclusions from the BNZL report are summarised below. Further detail is provided in the BNZL report in **Appendix 15.**

4.9.2 Mapped Landscape and Natural Character Areas

There are several 'Outstanding Natural Landscape', 'Outstanding/High Natural Character', and 'Outstanding Natural Features' in the wider Whangarei Harbour environment. These areas are mapped in both the PRP where they are in the CMA, and in the Operative WDP where they are located outside the CMA (on land) (see **Figures 51 and 52**).

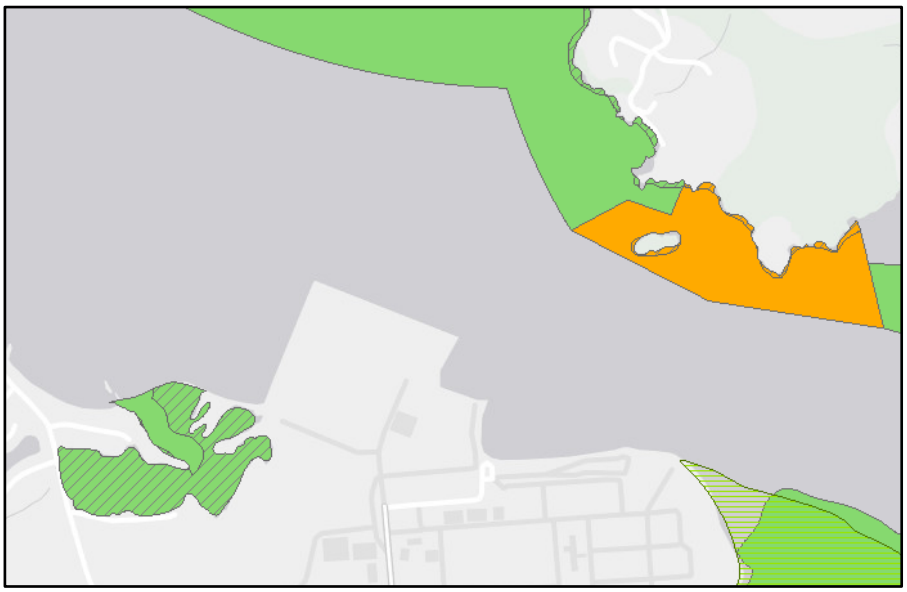

*Figure **51:** Outstanding (orange) and High (green) Natural Character Areas in the Proposed Regional Plan*

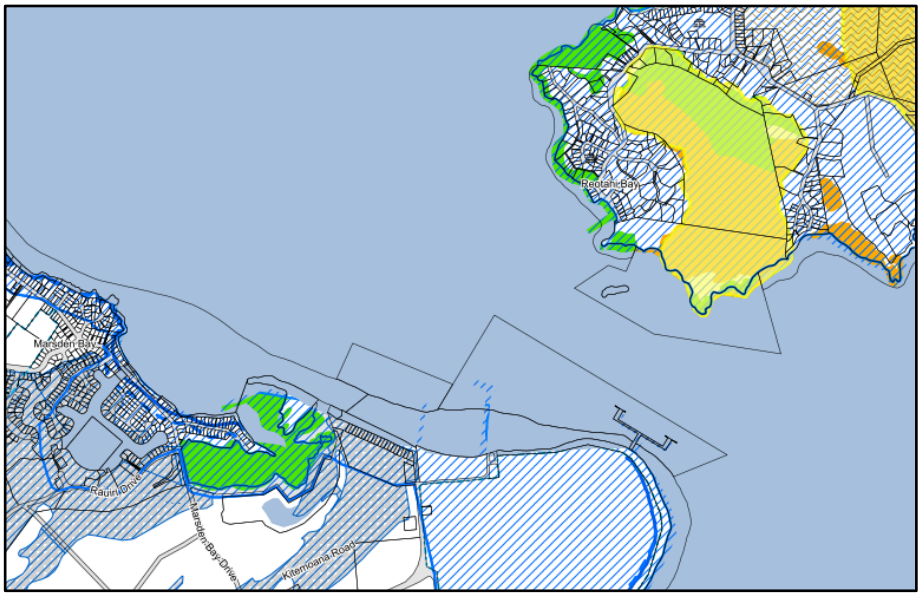

***Figure 52:** Outstanding Natural Features (green), Outstanding Natural Landscape Areas (yellow)in the Operative Whangarei District Plan.*

The existing landscape and natural character values of the environment surrounding Northport are described in detail in the BNZL report (**Appendix 15**). The surrounding landscape can be summarised as one of multiple contrasting natural and anthropocentric elements and features.

Natural elements and features include the harbour, volcanic peaks and native forests of Whangarei Heads, Blacksmith's Creek to the west, the open dune terraces and coastal plains of Ruakaka to the south, and the open expanse of the Pacific Ocean to the east.

Anthropocentric elements and features include the chain of coastal settlements on the north side of the harbour,[38] the CINZL facility, and Northport. These contrasting natural and man-made elements are evident in both proximate and distant views.

The CINZL facility, with its complex array of land-based structures and two large jetties projecting out into the main harbour channel, together with the deep-water berths of Northport dominate the landscape on the south side of the harbour.

4.10 Archaeology

4.10.1 General

Existing archaeology in the vicinity of the proposed expansion has been reviewed by Clough and Associates (C+A). The conclusions from the C+A report are summarised below. Further detail is provided in the C+A report in **Appendix 16.**

4.10.2 Archaeological sites

Twelve archaeological sites are recorded within 1km of the port facility. These sites are all midden deposits (see **Table 9 and Figure 53**).

Table 9: *Archaeological sites previously recorded within a 1,000m radius of the port facility*

NZAA Number	Easting	Northing	Site Type
Q07/72	1734116	6032829	Midden
Q07/105	1733615	6033227	Midden
Q07/106	1733415	6033127	Midden
Q07/107	1733515	6033127	Midden
Q07/108	1733616	6033028	Midden
Q07/325	1733316	6032927	Midden
Q07/1152	1733516	6032827	Midden
Q07/1153	1733716	6032928	Midden
Q07/1154	1733816	6033028	Midden

[38] Parua Bay, McLeod Bay, Taurikura and Urqhuarts.

Q07/1157	1733432	6032882	Midden
Q07/1162	1733506	6032827	Midden
Q07/1163	1733496	6032827	Midden

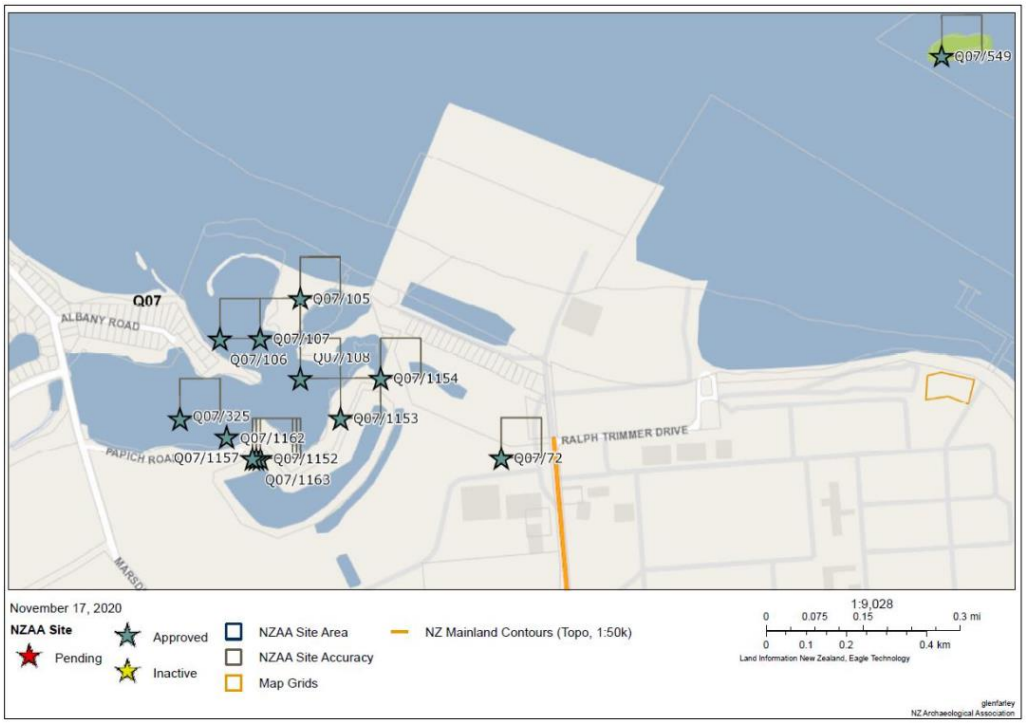

Figure 53: *Previously recorded archaeological sites in the vicinity of Northport.*

No archaeological sites are recorded within the footprint of the proposed port expansion.

4.11 Navigation safety

4.11.1 Navigation aids

The shipping channel between the Fairway Buoy and Snake Bank Beacon is marked by buoys and leading beacons (see **Figure 54**).

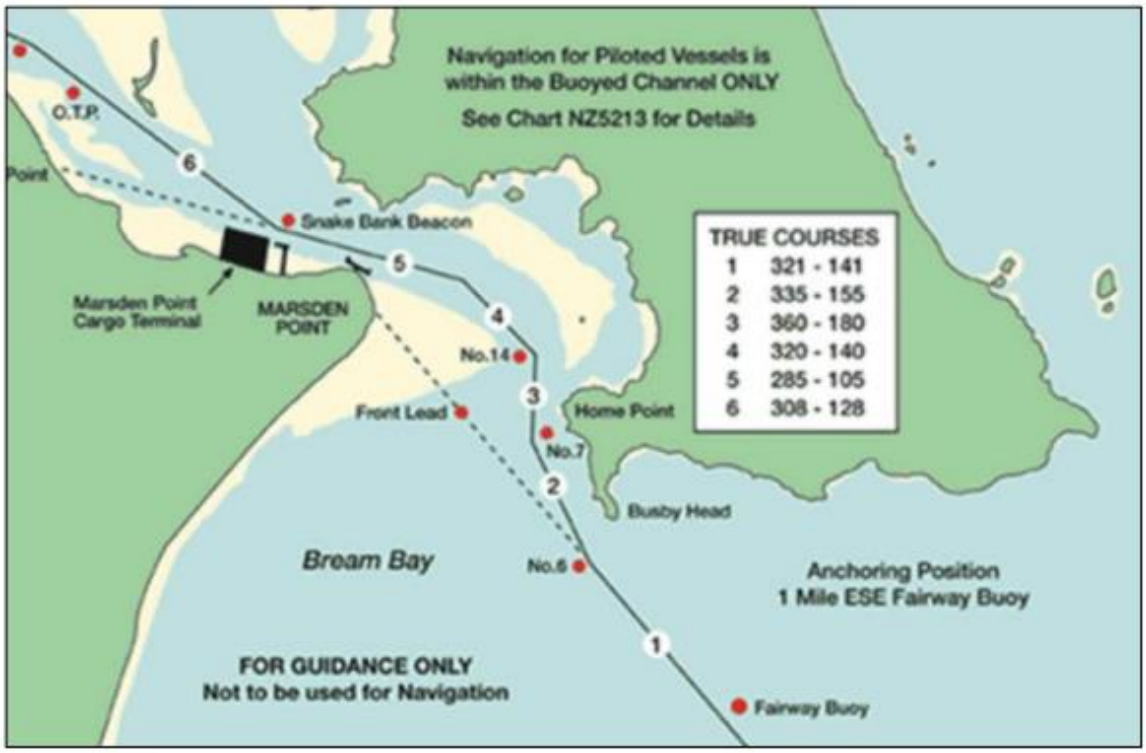

Figure 54: *Navigation aids*

4.11.2 Harbour radio

Maritime New Zealand (MNZ) is responsible for ensuring the provision of appropriate distress and safety radio communications systems.

Whangarei Harbour Radio is used to coordinate the commercial and recreational vessel movements in the harbour. Under a memorandum of understanding between the NRC and Northport on the provision of local navigation information, Northport operates the 24/7 radio capability and repeater station, assists with coordination of vessel movements, broadcasts local navigation and safety warnings, provides information regarding pilotage requirements, and provides monthly data to the Harbourmaster on vessel movements. Marine VHF Ch 16 (Distress and Calling) is monitored by Northport for initial contact, navigation warnings and distress, and Marine VHF Ch 11 is used for commercial shipping movements within Whangarei Harbour.

Northport also provides the Local Port Service (LPS) which is an information service designed to improve port safety and co-ordination of port services within the port community by dissemination of port information to vessels, pilots, and berth/terminal operators. All port Services Officers have been trained to IALA standards. The system records and holds on file all LPS images for a limited time.

While Northport has certain delegated responsibilities for harbour communications, the NRC and the Harbourmaster retain oversight functions/responsibilities. The Harbourmaster is required to work in conjunction with the port operator(s) to establish a radio service and traffic monitoring system.

4.11.3 Dynamic Under Keel Clearance System (DUKC)

Northport contracts with OMC for the provision of the DUKC system. The system takes into account different components of ship motion and if the under-keel clearance and the manoeuvrability margin is below the required safety limit then the software will advise the operator not to transit.

The system operates in the Whangarei Harbour as follows:

- North Tugz operates the DUKC system for vessels using Marsden Point facilities following procedures implemented by the Whangarei Harbour Safety Committee;
- DUKC assists vessels using the CINZ jetties and users pay a charge to Northport for that service; and
- Northport provides all hardware, buoys, computer equipment and OMC software.

The WHSMS outlines specific requirements based on ship data and meteorological conditions for the use of the DUKC system. The Harbourmaster may give directions relating to the transit of vessels, and therefore has some interface with the DUKC.

Under the Service Level Agreement for the DUKC, OMC provides notifications to Northport, reports generated for Northport, analysis at Northport's request, site visits to review the operation in consultation with Northport, and upgrades to the service as approved by Northport. Northport is responsible for hydrographic surveys and maintenance dredging, and to communicate survey information to ensure that it is used to update the DUKC system.

OMC state that its DUKC system is world-leading software navigation technology that has an unblemished safety record due to its ability to scientifically model how much under keel clearance ships have, and that it is the only system that has proven capability to predict the vertical component of navigation during the actual transit.

4.11.4 Channel configuration

The Marsden Point and Northport fairway has a minimum depth of - 14.7 m CD, a minimum width of 200 metres in the vicinity of Home Point and is subject to spring tidal streams of up to 3 knots.

The channel has a critical turn of 40° in the vicinity of buoys 12 and 14. For these reasons, the channel is challenging for pilotage, particularly in spring ebb tides and strong winds between Home Point and buoy 16.

The channel is marked by navigation buoys from the fairway buoy to the Northport Berths. A PEL Leading Light is used to define the centreline of the approach channel from fairway buoy to buoys 3 and 6. In addition there are three sets of leads located in the vicinity of Marsden Cove/ One Tree Point to assist in determining cross distance off the Northport berths when approaching.

4.11.5 Marine spill response plan

The Northland Marine Oil Spill Contingency Plan has been prepared as part of the NRC's statutory responsibility under the Maritime Transport Act 1994 to conduct a Tier 2 response for marine oil spills that occur within the Northland CMA (see **Appendix 17**). It forms the Northland region element of the New Zealand Marine Oil Spill Kit Response Strategy and has been prepared in accordance with the Maritime Transport Act 1994 and Marine Protection Rule 130C.

There is a related agreement detailing a joint response between the NRC, CINZL, Northport, NTL, and Marsden Cove Marina for any spills in the lower Whangarei Harbour (Marsden Point Integrated Response Agreement). The agreement details the establishment of an Emergency Operations Centre (EOC) at CINZL, the purpose of which is to ensure that prompt actions are taken to mitigate the effects of any spill in this area.

Task plans have been developed for possible scenarios which sit inside the CINZL Oil Transfer Site Marine Oil Spill Contingency Plan. Once the incident is handed to the Regional On-Scene Commander (ROSC), the ROSC plan will become the plan that is phased in and adhered to.

4.12 Biosecurity

4.12.1 Regulatory context

New Zealand operates a national 'biosecurity system' to protect its environmental, economic, social, and cultural (including spiritual) values from the impacts of non-indigenous species.

Northland has an operational Regional Pest and Marine Pathway Management Plan (2017-2027) required under s100B of the Biosecurity Act 1993. This plan is focused on controlling the following pest species in the marine environment:

- Asian paddle crab
- Australian droplet tunicate
- Japanese Mantis Shrimp
- Mediterranean fan worm
- Pyura sea squirt
- Styela sea squirt
- Undaria seaweed

The plan includes the following measures:

- Communication and advice programmes to assist vessel owners and stakeholders with ensuring compliance with rules.
- A Hull Surveillance Programme assessing a minimum of 2,000 vessels over 3 years. Any vessel carrying a named marine pest in an area without that pest being widely established, will be

placed under a Notice of Direction and directed to make a plan to have the vessel cleaned. In addition, owners of vessels that exceed the MPMP fouling threshold will be advised and issued a warning letter encouraging them to have the vessel cleaned and explaining that enforcement action will follow if they fail their next inspection and move between designated places.

- Notices of direction on vessels found with listed marine pests will be tracked in IRIS (councils online incident logging database).
- Owners of structures that constitute high risk in terms of marine pest spread will be subject to consideration and assessment in accordance with species rules.

In addition to the matters covered under the Marine Pathway Plan, there are further regulations administered by the Ministry for Primary Industries (MPI) relating to international ships.

4.12.2 Ballast water management

Ballast water from international ships is subject to the 'Import Health Standard' (2016) (IHS) administered by the Ministry for Primary Industries and prepared in accordance with s24A of the Biosecurity Act 1993

The IHS states that no ballast water may be discharged into New Zealand waters unless it meets one of the following options, and it has received permission from an inspector:

a) Option 1

The ballast water has been exchanged with mid-ocean seawater on route to New Zealand in areas free from coastal influences preferably at least 200 nautical miles (nm) from the nearest land; and in water of over 200m in depth. Accepted techniques are either emptying and refilling ballast tanks or holds with an efficiency of 95% volumetric exchange, or pumping through the tanks a water volume equal to at least three times the tank capacity; or

b) Option 2

The ballast water is fresh water (not more than 2.5 parts per thousand of sodium chloride); or

(c) Option 3

The ballast water has been treated using a shipboard treatment system listed in the MPI List of Approved Ballast Water Treatment Systems.

Furthermore, the IHS states that sediment which has settled and been removed from ballast tanks, ballasted cargo holds, sea-chests, anchor lockers or other equipment must not be discharged into New Zealand waters. If sediment cleared from these areas is intended for landing in New Zealand, the sediment must not be landed until an inspector has given clearance. It must be taken, as directed by an inspector, to a landfill that has no drainage to the sea either directly or indirectly via other water bodies.

4.12.3 Relevant Proposed Regional Plan provisions

The PRP contains rules relating to marine pests. These rules relate to:

- In water cleaning of vessel hull and niche areas or structures and barges (C.1.7.1, C.1.7.2, and C.1.7.4).
- Vessel hull maintenance on the foreshore (C.1.7.3)
- Marine pests and by biofouling (C.1.7.5)

Rule C.1.7.5 is the most relevant to port operations. Specifically, this rule triggers the need for a non-complying resource consent for navigation, mooring, or anchoring of vessels with marine pests that are not authorised under the Biosecurity Act 1993.

4.13 Noise

4.13.1 General

The present noise environment has been reviewed by MDL. The conclusions from the MDL report are summarised below. Further detail is provided in the MDL report in **Appendix 4.**

4.13.2 Existing noise environment

Northport operates on land zoned 'Port Zone' pursuant to the WDP. The port is bordered by the fuel jetty and import terminal (formerly the oil refinery) to the east, other 'Port zoned' properties (owned by MMH) to the south, and residential dwellings in Marsden Bay to the west and Reotahi to the north across Whangārei Harbour.

There are four distinct receiving environments being:

(1) Reotahi is a coastal settlement on the northern side of the Whangārei Harbour, 1 – 1.5 km from Northport. Existing dwellings are zoned 'Rural Village Residential' in the WDP.

(2) Marsden Bay is a coastal settlement on the southern side of Whangārei Harbour, approximately 500m west of the Northport log yard. Existing dwellings are zoned 'General Residential'.

(3) Industrial areas to the south of Northport are not noise sensitive (e.g. Marsden Point import terminal and the Carter Holt LVL Plant).

(4) Coastal, Rural, and other Open Space Zones are used for recreational purposes during the day.

4.13.3 Existing noise monitoring

MDL conducted noise monitoring at Reotahi and Marsden Bay between May and July 2018 while three log ships were berthed at Northport. Further monitoring was undertaken in Reotahi in May 2021 while container operations were in progress.

The 2018 noise measurements showed the highest noise levels being those received at Reotahi, but these complied with the operative WDP day-time noise limits and were just compliant with the 45 dB $L_{Aeq\ (15min)}$ operative WDP night-time noise limit.

The 2021 noise measurements were overall lower than the 2018 measurements, indicating that container operations create less noise than intensive log handling activities.

Overall, the monitoring indicates that existing Northport operations comply with the permitted limits in the NAV chapter of the WDP.

4.13.4 Existing consent conditions

Northport holds existing WDC land use consents for port activities on the reclamation associated with Berths 1 and 2, and Berths 3 and 4 respectively. Berths 1-3 and their associated reclamations have been constructed, but Berth 4 is still to be built. Regardless, Berth 4 and its associated noise is part of the existing environment.

The consent conditions relating to port noise in the WDC land use consents are as follows:

Berths 1-2

12. The noise level (L10) as measured within any residential zoned boundary or the notional boundary of any existing rural dwellings shall not exceed the following limits:

All Days:

0700am – 1000pm 55dBA L10

10pm-0700am 45dBA L10

10pm – 0700am 65dBA Lmax

The noise levels shall be measured and assessed in accordance with the requirements of NZS 6801: 1991 Measurement of Sound and NZS 6802: 1991 Assessment of Environmental Sound.

Berths 3-4

7. The Consent Holder shall ensure that all activities on the site (except construction activities where the noise limits differ from those below) to which this consent applies, are designed and conducted so that the following noise limits are not exceeded at any point, within any residential zone or within the notional boundary of any existing rural dwelling:

07.00am – 10.00pm 55dBA L10

10.00pm – 07.00am 45dBA L10

10.00pm – 07.00am 65dBA Lmax

All noise emissions from the port shall be measured cumulatively.

The noise levels shall be measured in accordance with NZS6801:1999 Acoustics - Measurement of Environmental Sound and assessed in accordance with NZS6802:1991 Assessment of Environmental Sound.

The conditions in the two consents are for all intents and purposes the same. While there are now less restrictive provisions in the NAV chapter of the District Plan, these consent limits represent the existing noise environment for assessment purposes. Northport currently operates within the limits specified in these consents.

4.14 Traffic environment

4.14.1 General

The present traffic environment has been reviewed by WSP. The conclusions from the WSP report are summarised below. Further detail is provided in the WSP design report in **Appendix 18.**

4.14.2 Port traffic

Northport inbound and outbound freight is currently transported by truck via State Highway 15. There is currently no rail link to the port.

SH15 extends 8.5km from the port to the SH15/SH1 roundabout.[39] It is a two-lane road which was declared a state highway in 2004, the purpose being to provide a highway connection to Northport.

In 2018,[40] port traffic accounted for approximately 64% of total traffic on SH15. Logging related traffic is a large contributor to overall port traffic and is subject to seasonal and cyclical peaks and troughs. According to the Northport wood availability forecast (2018 and 2022) there is likely to be a reduction in the availability of logs in the medium term, followed by a longer-term increase in supply.

Approximately 300 people work at the port and Northport uses a ride share scheme for staff, with use of their company vehicles.

4.14.3 Intersections

There are seven public road intersections on the 8.5km route from the roundabout to Northport, these being:

- SH1/SH15 roundabout.
- SH15/Salle Road intersection.

[39] The total length of SH15 is 126km. It runs from Okaikau to Northport, including concurrent sections with both SH14 and SH1.
[40] The 2018 pre-Covid numbers are considered to accurately reflect the current situation, noting the reduction of logging related traffic.

- SH15/One Tree Point/McCathie Road intersection.
- SH 15/Marsden Point Road Intersection.
- SH15/Marsden Bay Drive/Rama Road Intersection.
- SH15/Mair Road Intersection.
- SH15/Ralph Trimmer Drive

None of these intersections are currently at capacity.

4.14.4 Crash history

There were 12 reported crashes on the 8.5km stretch of SH15 from SH1 to Northport during the five-year period from 2016 to 2020. Of the 12 crashes, one resulted in a fatality, and two resulted in minor injury. Crash data has not been updated post 2020 to avoid COVID affected traffic data.

4.14.5 Pedestrian and cycle routes

There are no specific cycle facilities on SH15 or the feeder roads. Given the rural environment surrounding SH15, the 100km/h speed limit, and the high volume of heavy vehicles, it is not considered suitable for either pedestrians or cyclists.

4.15 Recreation and public access

4.15.1 General

The present environment for recreational activities in the vicinity of Northport has been reviewed by Rob Greenaway and Associates (RGA). The conclusions from the RGA report are summarised below. Further detail is provided in the RGA report in **Appendix 19.**

4.15.2 Range of recreation activities

There is a range of recreation activities, public areas and facilities in the environment surrounding Northport.

These can be categorised as:

- Terrestrial recreation and access
- Beach activities, walking, cycling, and running
- Fishing
- Shellfish gathering, and diving
- Boating

4.15.3 Terrestrial recreation and access

Access to both sides of the Port area is available by legal road (Papich Road on the western side, and Ralph Trimmer Drive on the eastern side).

There is a public carpark and toilets at the end of Ralph Trimmer Drive.

From the end of Ralph Trimmer Drive an esplanade reserve (administered by the Whangarei District Council) extends along the beach to the east of Northport and around Marsden Point as far as Mair Road. It then connects with a crown owned reserve which extends further along the coast to the south (see **Figure 55** below).

***Figure 55**: Public areas and facilities to the east of Northport*

4.15.4 Beach activities, walking, cycling, and running

The beach to the east of Northport to the east of Northport is used for a range of beach activities. Strava data shows that it is used for running, although this is not as popular as the beach to the south (accessed from Mair Road). It also shows that the walkway to the fishing jetty on the western side of the port is popular.

The water taxi pontoon on the eastern side of the port is the southern connection to the Te Araroa Trail. There are water taxi services available between Reotahi and this pontoon.

4.15.5 Fishing

There is a fishing jetty and associated access along the western side of the existing port accessed by foot via Papich Road (see **Figures 56** and **57**). There is also a ferry pontoon on the eastern side

of the port accessed from the end of Ralph Trimmer Drive (see **Figure 55**). Both these facilities and the associated access are a requirement of the consents for the existing port, although the eastern pontoon was required for ferry berthing rather than for fishing. Both facilities are popular shore-based fishing sites within the Marsden Bay/One Tree Point area.

***Figure 56**: Western fishing jetty*

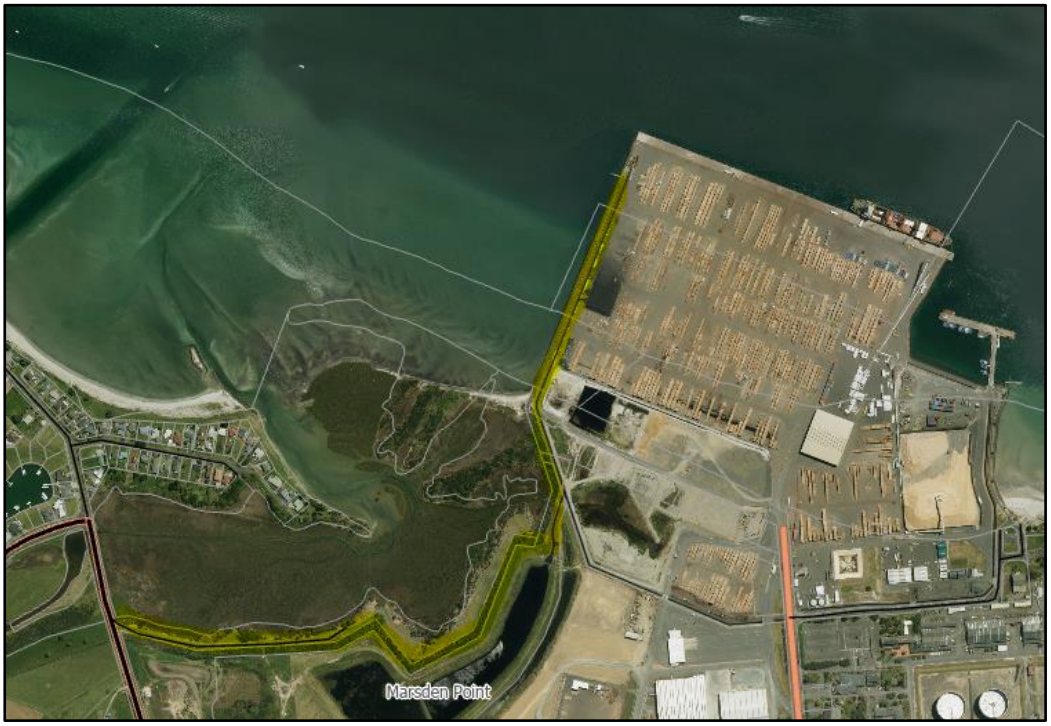

***Figure 57**: Walkway extending from Papich Road to western fishing jetty (highlighted yellow)*

In addition to fishing from the western jetty and eastern pontoon, spinning for kahawai and kingfish is also popular from the beach to the east of Northport.

The Whangārei Harbour area is a relatively heavily fished setting, with similar vessel densities to the Bay of Islands and the inner Hauraki Gulf – although the latter has several areas with two to three times the density of vessels. The recreational fishing vessel density of the harbour and surrounding area is shown in **Figure 58** below.

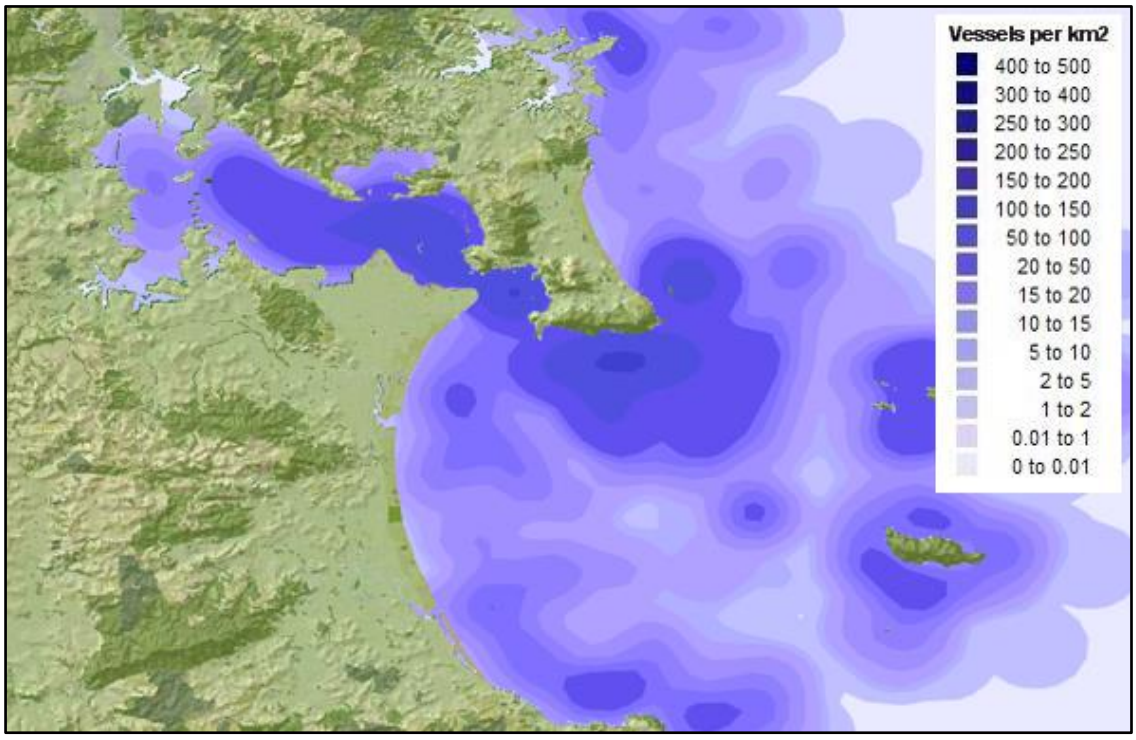

***Figure 58**: Recreational fishing vessel density (Source: MPI NABIS data)*

4.15.6 Shellfish gathering, and diving

There are no known pipi beds within the proposed expansion area. While there are cockles, these are mostly below 'harvestable' size.

In the surrounding environment, pipi and scallops are gathered from around Snake Bank to the west of the Port, pipi at Marsden Point and at Mair Bank, and scallops to the north of Urquharts Bay. There are other scallop diving sites within Whangārei Harbour, but Snake Bank and Urquharts Bay are the most popular.

There are several popular dive sites in the Whangarei Heads area, although none within the proposed port expansion area.

4.15.7 Boating

Most boating activity in the vicinity of Northport is confined to the main channel. However, there is some public use of the ferry pontoon on the eastern side of the port.

There are several anchorages, boat ramps, and boat clubs in the harbour (see **Figure 59** below). None of these are located within the proposed expansion area.

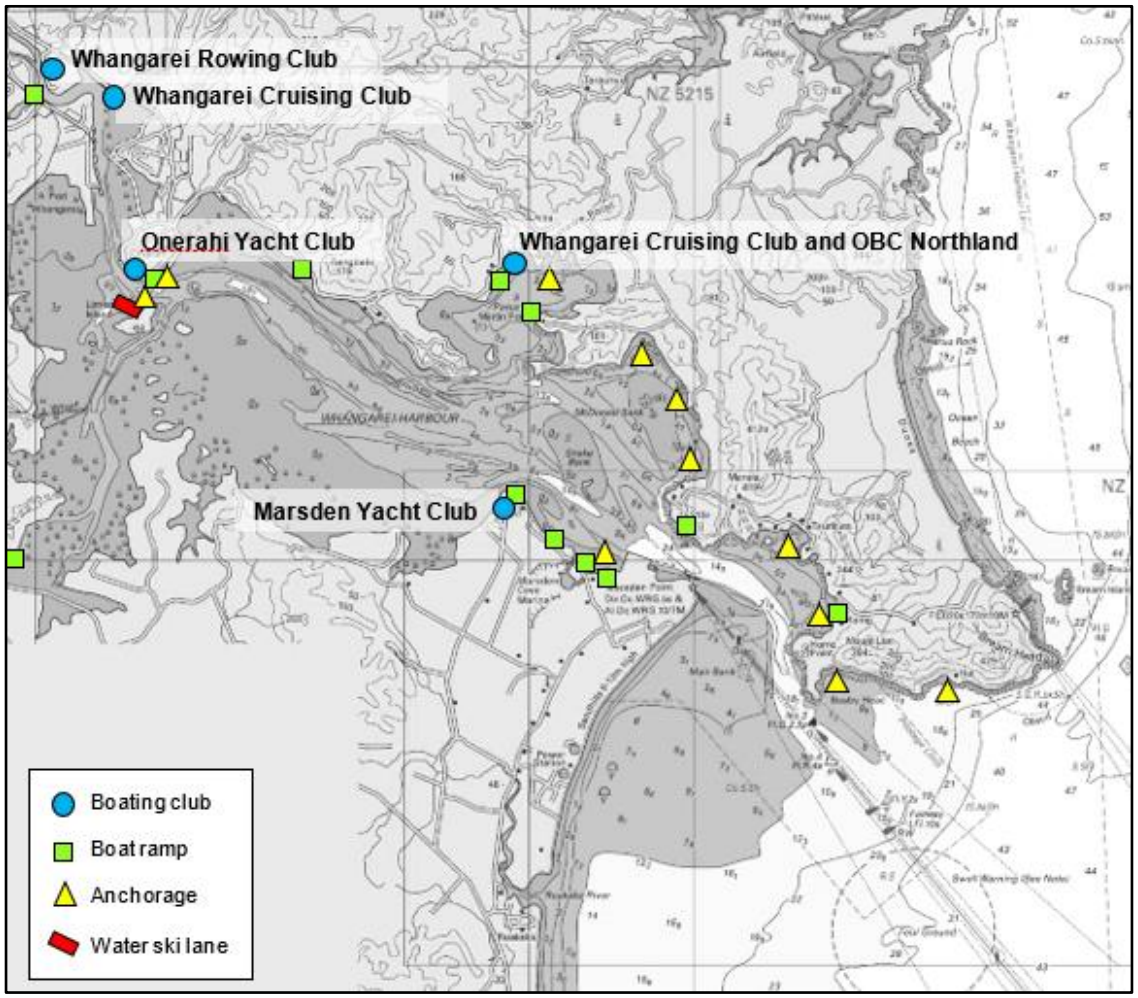

***Figure 59**: Anchorages, boat clubs and boat launching in the Whangarei Harbour*

4.15.8 Public reserves

The land immediately behind the beach to the east of Northport is a WDC owned esplanade reserve. Access to this reserve is obtained via Ralph Trimmer Drive (a public road vested in the WDC). There is a small Council owned parking area and public toilet located at the entrance to the beach (within the road reserve) (see **Figure 60**).

***Figure 60**: Council carpark at the end of Ralph Trimmer Drive*

To the immediate west of the existing port reclamation is a small stream (known as Blacksmith's Creek) which discharges to the Whangarei Harbour (see **Figure 61** below).

***Figure 61:** Blacksmiths Creek (western end of Northport)*

This area (vested in the Crown) is a small, mangrove dominated delta at the stream mouth that provides a roosting area for a range of species including Godwit, Knot, SIPO, VOC, Red-billed gull, and Banded Dotterel.

4.16 Stormwater discharges and harbour water quality

4.16.1 General

The present environment for stormwater treatment and disposal from the existing Northport facility has been reviewed by Hawthorn Geddes (HGL). The conclusions from the HGL report are summarised below. Further detail is provided in the HGL report in **Appendix 20.**

4.16.2 Stormwater collection and treatment system

Stormwater from the existing Northport operations area is managed via a canal and pond-based system established under an existing NRC discharge consent.[41] The system was constructed to provide treatment for stormwater runoff from the port prior to discharge to the Whangarei harbour. The pond was extended in 2016 to accommodate an extension of the hardstand area behind the port, and in 2018 baffles and two forebay bunds were installed within the pond to limit "shortcutting".

Stormwater from the site is conveyed via open collection channels to a partitioned settlement pond. Treatment of suspended solids occurs through trapping behind a weir at the terminal end of the collection channel system, and through settlement in two serially connected pond cells. Water is pumped from the final pond cell and discharged, along with stormwater from Marsden Maritime Holdings Ltd to the harbour via an outfall diffuser beneath the port berths.

4.16.3 Existing conditions of consent and compliance

Stormwater discharges from the Northport are managed in accordance with an existing consent (CON20090505532), which includes a range of monitoring requirements, compliance standards, and indicators for assessing treatment performance ("Action Levels"). Among other things, water quality standards for the harbour currently include limits on changes to temperature, pH, dissolved oxygen, water clarity and hue, and concentrations of copper, lead and zinc, which are applied from the edge of a 300–500 m mixing zone.

Current consent conditions require a greater range of parameters (compared with the range of parameters to which water quality standards apply, as outlined above) to be monitored. Event related sampling of pond water quality (prior to discharge to the coastal environment) needs to be carried out on three occasions each year, with three samples to be collected over each of those days. Every sample must be analysed for total suspended solids, volatile suspended solids, turbidity (NTU) and pH. In addition, the first sample of the first discharge event must be analysed for aluminium, copper, lead, zinc, polycyclic aromatic hydrocarbons, and resin acids.

[41] CON20090505532.

Conservative Action Levels are prescribed for particular contaminants to enable the early detection and investigation of issues before an environmentally harmful situation arises. Consent requirements for discharge water quality monitoring are complimented by conditions that require:

- Whole effluent toxicity testing (WETT) of stormwater on at least one occasion, with the need for further testing to be considered if new contaminants are introduced;
- Pond influent monitoring once each year to enable treatment efficiency to be checked.

Results from the monitoring indicate that Northport has displayed a high level of compliance with its conditions of consent, and that the quality of discharged stormwater is reasonably good. Little, if any, need for dilution in the mixing zone was required to achieve compliance, or reduce concentrations to levels below ANZG (2018) 95% protection guideline values. Specifically:

- All of the prescribed metals were well below consented concentration limits for the receiving environment (based on ANZG (2018) 95% guideline values), after providing for 200 times dilution within the mixing zone.
- In most cases, metal concentrations were below the receiving environment limit before they left the pond. The exception was copper, but that only had pond concentrations of around two times the receiving environment limit.
- Based on expected dilution rates, copper concentrations will be well below consent standards and guideline values after reasonable mixing.
- Polycyclic aromatic hydrocarbons concentrations in eleven samples collected between November 2013 and December 2014 had concentrations below levels of detection.

Continuous pond monitoring between 2019 and 2020, and spot sampling between September 2018 and September 2019, has shown that pond water is reasonably aerated (average dissolved oxygen concentration at the discharge was 7.24 mg/L), turbidity and total suspended solids (TSS) concentrations were low with an average of 9.53 NTU and a TSS maximum of 15 mg/l), and that the average pH of 7.47 was within consent limits.

4.16.4 Harbour water quality

The 2015 NRC state of the environment report, together with performance information for the Northport stormwater system (including compliance/monitoring data) indicates that water quality is high in the lower harbour and around the port.

4.17 Air quality

4.17.1 General

The present environment for air quality in the vicinity of Northport has been reviewed by Pattle Delamore Partners Limited (PDP). The conclusions from the PDP report are summarised below. Further detail is provided in the PDP report in **Appendix 21.**

4.17.2 Regulatory setting

Northport is located in the Marsden Point Airshed under the Marsden Point Air Quality Strategy (MPAQS) (see **Figure 62**).

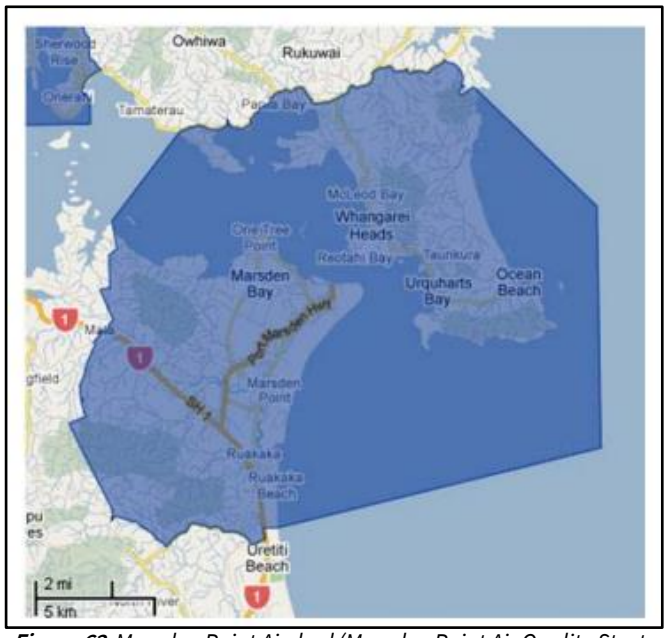

Figure 62: *Marsden Point Airshed (Marsden Point Air Quality Strategy)*

Contaminants identified as being critical in the MPAQS are particulate matter smaller than ten micron (PM_{10}), sulphur dioxide (SO_2) and nitrogen dioxide (NO_2), with further potential for discharges of other contaminants. In particular, emissions from the (former) New Zealand Refining Company Ltd (NZRC) together with emissions from Carter Holt Harvey LVL Plant were estimated to produce 98% of the PM10 levels, 99% of the NOx levels and 100% of the SO_2 levels (NRC, 2007a).[42]

The Operative Regional Air Quality Plan (ORAQP) contains special information requirements for discharge consent applications in the Marsden Point Airshed, with an emphasis on applications involving discharges of SO_2, inhalable particulate (smaller than 10 microns in size) and NO_2.

The PRP contains a policy requiring that the MPAQS be taken into account when considering resource consent applications.

[42] Northland Regional Council (2007a) *'Marsden Point Air Quality Strategy'* Whangarei, New Zealand.

4.17.3 Location

Northport is bordered by industrial activities on MMH owned land to the south, and the CINZL facility to the south-east.

The nearest residential dwellings relative to the proposed port expansion are located approximately 1,000 meters to the north at Reotahi and 1,200 metres to the west in the Albany Road area.

4.17.4 Meteorology

The wind rose shows that the predominant winds are from the west and typically have lower wind speeds. Wind speeds greater than 5 m/s, when there is greater potential for dust to be carried towards the residential properties to the southwest of the port, occur between 1.8 and 3.4% of the time (See **Figure 63** below).

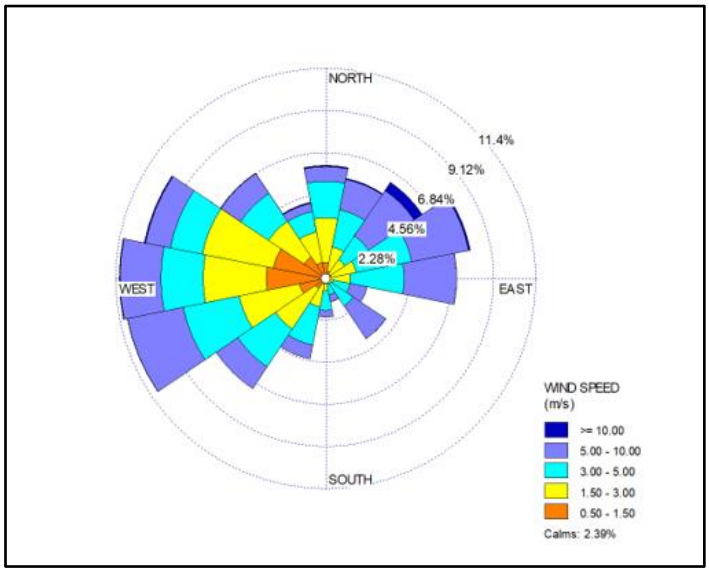

Figure 63: *Wind Speed and Wind Direction Distribution on the Site for 2011-2012 (1-hour average)*

4.17.5 Background air quality

The closest publicly available air quality monitoring site is located at Bream Bay College, approximately 5 km south of Northport and measures PM_{10}. The data from the last 5 years of monitoring indicates that PM_{10} concentrations are typically below 30 µg/m^3 and are generally considered to be low.

While there is no $PM_{2.5}$ (particulate matter less than 2.5 microns) monitoring undertaken in the Marsden Point area, it is possible to calculate likely $PM_{2.5}$ concentration, which in this case is expected to be below 11 µg/m^3.

The predicted 1-hour average concentration NO_2 is 37 µg/m^3 and the 24-hour average concentration 23 µg/m^3. These represent low concentrations of air contaminants.

The scaling down of refinery operations means that SO_2 concentrations will be well below the National Environmental Standards.

Overall, the air quality around Northport is relatively good.

4.17.6 Sensitive receptors

The closest sensitive receptor to the port expansion (a dwelling) is located approximately 1,000 metres from the proposed port expansion (at Reotahi). Because nuisance dust effects are not generally experienced more than 500m from the source, there are no sensitive receivers for fugitive dust in the vicinity of Northport, apart from potential users of the beach between Northport and CINZL during construction.

4.18 Economic contribution

4.18.1 General

An economics analysis has been undertaken by Market Economics (ME). The conclusions from the ME report are summarised below. Further detail is provided in the ME report in **Appendix 22.**

4.18.2 Current contribution to the Northland economy

Northport currently facilitates $438 million in value added and the equivalent of 6,300 jobs in the Northland economy. It is of considerable regional significance.

4.18.3 Evolution of trade facilitated by Northport

Northport has historically focused on handling high volume, low value trade, which is mostly raw primary outputs for export (logs and woodchip) or raw primary inputs that are imported to support production (agriculture or cement). In more recent times, the Port has increasingly been handling more high value goods such as engineered timber, horticulture products, and marine products (see **Figure 64** below). There has also been one-off imports of specialist machinery/vehicles and construction products (e.g. steel for Auckland's convention centre).

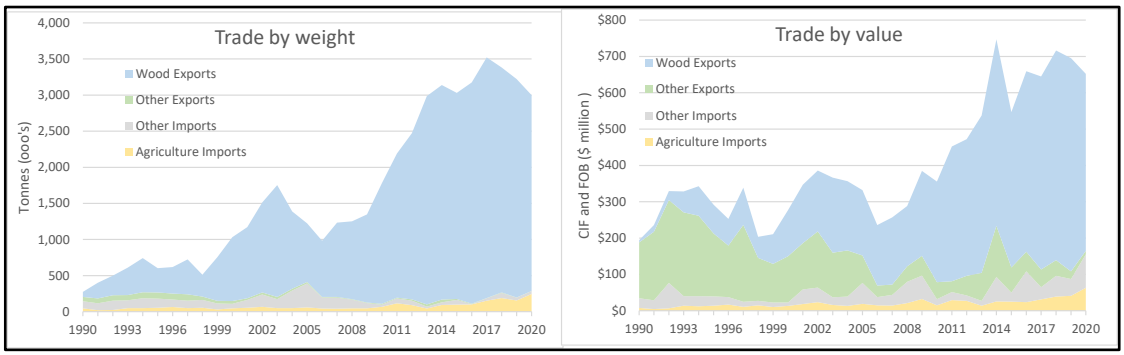

Figure 64: *Ports of Whangarei Harbour Trade 1989 – 2020 YE June (excl. Marsden CINZL facility)*

Since the early nineties wood exports have dominated the trade handled by Northport (and Port Whangarei before 2007).[43] The official trade data shows that wood was the largest commodity handled in 2020, both in terms of weight (90%)[44] and value (75%)[45]. The recent rapid growth in wood trade has been driven by the maturing of forests in Northland and associated harvest, which has become known as 'the wall of wood' that peaked in 2017 and is now declining as available forests are harvested. There have also been recent reductions in processed wood exports.[46]

Import of agricultural inputs (feed and fertilizer) has also been a significant trade task for the port in Whangarei. The level of agricultural inputs handled by the port has grown significantly over the last three decades. However, this trade is still small compared to wood exports. The official trade data shows that imports of agricultural inputs accounted for 8% of weight and 10% of the value of trade handled at Northport in 2020.

The other exports and imports represent a small proportion of the trade handled by Northport (approx. 1% of weight). However, this trade has much higher value than wood or agricultural inputs, with all other exports representing 2% of the value of goods and other imports 14%.

Since Northport operations commenced in 2002 the trade tasks handled in the Whangarei harbour (excluding the CINZL facility) have grown by 3.9% per annum and the value of trade has grown by 3.0% per annum. Northport trade tasks peaked at 3.7 million tonnes in the 2017 year and were at 3.0 million tonnes in 2020. While total volumes have dropped over the last four years, the value of trade handled has remained relatively strong at around $650 million in 2020 (YE June).

It is also important to note that the Covid19 pandemic impacted global trade and local economic activity in 2020, which explains some of the change in trade handled by Northport. For example, the month of April 2020 was down by almost 60% compared to the previous April. However, trade handled by Northport has rebounded with most months since then having higher trade than the previous year.

4.18.4 Recent developments

Three recent developments at Northport which have enabled new higher value products at the Port are the purchase of mobile harbour cranes, cruise ships (booked), and the development of additional paved area.

Mobile harbour cranes

The port has invested in two mobile container cranes which allows it to handle container trade (the first commissioned in 2015 and a second in 2020). While Northport did handle containers prior to purchase of the cranes using 'geared ships', coastal shipping of containers through Northport increased from August 2017 and the first international container vessels arrived in May 2018. This

[43] Statistics New Zealand (2020) Overseas Trade Imports and Exports (incl. re-export) Merchandise Trade Monthly 1989-2020 NZ Port by HS2.
[44] Gross Weight (KG).
[45] Value measured in CIF ($NZ) and FOB ($NZ) dollars of the day.
[46] Carter Holt Harvey LVL Plant has stopped exports in 2020 and will reduce activity at the Marsden Point plant by 68%.

service allows Northport to undertake additional roles in trade handling, both locally and serving the rest of the country.

Cruise ships

Northport has the ability to host cruise ship calls. Pre-Covid19, Northport had taken multiple bookings for cruise vessel visits in the 2021/22 season, which was expected to coincide with the completion of new tourism facilities in Whangarei. All were cancelled due to Covid19 and associated border closures.

There are currently 12 bookings for the 2024/2025 season.

Cruise ships ranging between 230m and 300m in length have obvious implications for Northport in terms of capacity to handle merchant ships when cruise vessels are in port.

Pre-pandemic, the cruise industry was growing very fast, internationally (7% per annum[47]), nationally (14% per annum[48]) and regionally (17% per annum[49]). While it will take some time to get back to such strong growth rates, there is an opportunity for Northport to tap into this market. The implications of Covid19 are that cruise activity is expected to quickly rebound and it is important for Northport to plan for the eventual needs of the industry.

Development of additional paved area

Northport has recently sealed all the remaining vacant port area. This investment allows the area to be utilised for handling light freight and opens up additional opportunities for different types of trade – including handling light vehicles.

Northport, unlike most ports in New Zealand, has ample scope to modify its operations to meet the changing demands of the economy in the Region and Upper North Island. The port has been proactive in its planning to provide a range of services that encourages businesses to use the facility to trade.

4.19 Existing resource consents held by Northport

Northport currently holds the following relevant NRC and WDC resource consents (Note: Consents relevant to Berths 1 and 2 are unshaded, and those relevant to Berths 3 and 4 are shaded grey).

[47] Internationally, cruise tourism has been growing consistently since the early 90s, at approximately 7% per annum from 4 million passengers in 1989 to 27 million passengers in 2018. Cruise Lines International Association (2017) 2018 Cruise Industry Outlook.

[48] Nationally, cruise tourism has also been growing rapidly since the late 90s. The number of passengers undertaking a cruise in New Zealand, has grown by around 14% per annum, which is much faster than the global rate of growth. Market Economics (2002-2017) Cruise Tourism Studies for Cruise New Zealand and McDermott Fairgray (1997-2001) Cruise Tourism Studies for Tourism Board.

[49] Statistics New Zealand (2018) Cruise Passenger Counts.

Northland Regional Council

Table 10: *Existing NRC consents*

Consent ref.	Consent Type	Date issued	Activity
Dredging			
AUT. 005055.1 1.01 (CON19960505511)	Coastal permit (maintenance dredging)	02/12/1999	Maintenance dredging of turning basin.
AUT.005055.02.02 (CON19960505502)	Coastal permit (maintenance dredging) (renewal)	26/02/2010	Maintenance dredging of turning basin.
AUT.005055.22.01 (CON20030505522)	Coastal permit (capital dredging)	17/11/2004	Capital dredging associated with the development of berths 3 and 4.
AUT.011809.01.01 (CON20041180901)	Coastal permit (maintenance dredging)	30/03/2004	Maintenance dredging at the Refining NZ jetties.
AUT.005055.29.01 (CON20030505529)	Coastal permit (maintenance dredging)	19/10/2004	Maintenance dredging of the turning basin associated with berths 3 and 4.
Stormwater and air discharges			
AUT.005055.05.02 CON19960505505)	Discharge permit (stormwater) (renewal)	26/02/2010	Discharge of stormwater and decant water from dredge tailings to the CMA.
AUT.005055.32.01 (CON20090505532)	Discharge permit (stormwater)	19/03/2010	To discharge treated stormwater associated with the operation of a port to the CMA.
CON20030505530	Certificate of compliance (discharge of water		Discharge of water during construction

	during construction)		
CON20030505531	Certificate of compliance (discharge of dust during operation of new wharf)		Discharge of dust during operation of new wharf
AUT.005055.28.01 (CON20030505528)	Discharge permit (stormwater)	19/10/2004	To discharge stormwater and decant water from the berth 3 and 4 reclamation and associated structures.
Reclamation			
AUT.005055.23.01 (CON20030505523)	Coastal permit (reclamation)	17/11/2004	To reclaim approximately 5.2 ha of seabed associated with the development of berths 3 and 4.
Structures			
AUT.005055.04.01 (CON19960505504)	Coastal permit (structure)	02/12/1999	Wharf and piles used for port operations.
AUT.008925.01.01 (CON20000892501)	Coastal permit (structure)	04/04/2000	Navigation beacon with access platform.
AUT.005055.17.01 CON20030505517)	Coastal permit (structure)	18/03/2003	Fishing jetty at west wall.
AUT.005055.08.01 CON19960505508)	Coastal permit (structure)	02/12/1999	Barge berths, water taxi landing, quarantine station
CON19960505507	Coastal Permit (works in CMA)		Construct and use extension to existing jetty
AUT.013187.01.01 CON20051318701)	Coastal permit (structure)	24/05/2005	Tide monitoring gauge at Frenchman Island.
AUT.005055.36.01	Coastal permit (structure)	16/08/2018	Pontoon facility.

AUT.005055.24.01 CON20030505524)	Coastal permit (structure)	17/11/2004	To erect and place new wharves and related structures for new berths 3 and 4 in the CMA.
AUT.011811.01.01 (CON20041181101)	Coastal permit	13/03/2004	Remedial scour protection works at Refining NZ jetties.
CON20030505525	Coastal Permit (works in the CMA)	19/10/2004	To alter any part of the existing jetty not covered under CON19960505506 (original consent for jetty alteration).
AUT.005055.27.01 (CON20030505527)	Coastal permit (structure)	19/10/2004	Direction, placement and use of structures for barge berths, tug berths and a water taxi.
Occupation of CMA			
AUT.005055.01.01 (CON19960505501)	Coastal permit (occupy CMA)	02/12/1999	To occupy the seabed and water space for new walls and related structures for berths 1 and 2.
AUT.005055.26.01 (CON20030505526)	Coastal permit (occupy CMA)	19/10/2004	To occupy the seabed and water space for new walls and related structures for berths 3 and 4.
Micellaneous			
AUT.005055.34.01 (CON20090505534)	Land use consent (renewal)	26/02/2010	To deposit dredging material (during construction)

Whangarei District Council

Table 11: *Existing WDC consents*

Consent ref.	Consent Type	Date issued	Activity
TP96/316	Land use consent		▪ Use of land for port and port -related activities including wharfs, terminals, associated loading and unloading structures, cargo sheds, port storage and transport operating areas, poor related buildings (including storage sheds, stevedoring facilities, berth operations shed, gatehouse) and all ancillary activities. ▪ The construction, use and maintenance of covered and uncovered storage areas. ▪ Construction and use of the Mission to Seamen Facility incorporating recreational and administration activities with a residential component for the Mission to Seamen in manager. ▪ Construction, operation and maintenance of stormwater collection and bark separation system including stormwater signalling and storage ponds. ▪ Earthworks and the use of land for the deposition of dredged material during construction of the port and maintenance dredging of the turning basin. ▪ The construction and use of a water taxi facility including access Road and public car park, barge terminals, and public toilets on the Eastern edge of the reclamation. ▪ Construction and use of segregated transport corridor.
LU0841040	Land use consent (hazardous substances)	19/02/2009	The transport, storage and/or use of hazardous substances associated with port activities including the loading/unloading of materials.
LU1500068	Land use consent (harbour cranes)	05/06/2015	The establishment and operation of two harbour cranes on the existing port deck and wharfs.
	Land use consent	19/10/2004	Use of land for port and port related activities
	Land use consent	19/10/2004	Construction and use of buildings, stormwater, and ancillary works.

4.20 Existing unimplemented resource consents

4.20.1 Berth 4 reclamation and wharf (Northport)

The Berth 3 and 4 consents have not yet been fully implemented. Specifically, the fourth berth and its associated reclamation and wharf structure have not yet been constructed. Northport is in the early stages of constructing this berth in response to market demand.

4.20.2 Channel optimisation (Channel Infrastructure NZ)

On 14th December 2018, the Environment Court approved the various resource consents required for the Refining NZ Crude Shipping Project (AUT.037197 – see copy attached in **Appendix 23**). These currently unimplemented consents provide for the deepening and realignment of the shipping channel in the approach to the Whangarei Harbour. The works extend approximately 5 nautical miles from the Fairway Buoy to the CINZL jetty (see **Figure 65** below). The possibility that these consents may be implemented requires them to be considered in the various environmental effects assessments, particularly those relating to coastal processes (i.e. hydrodynamics and morphology) and marine ecology.

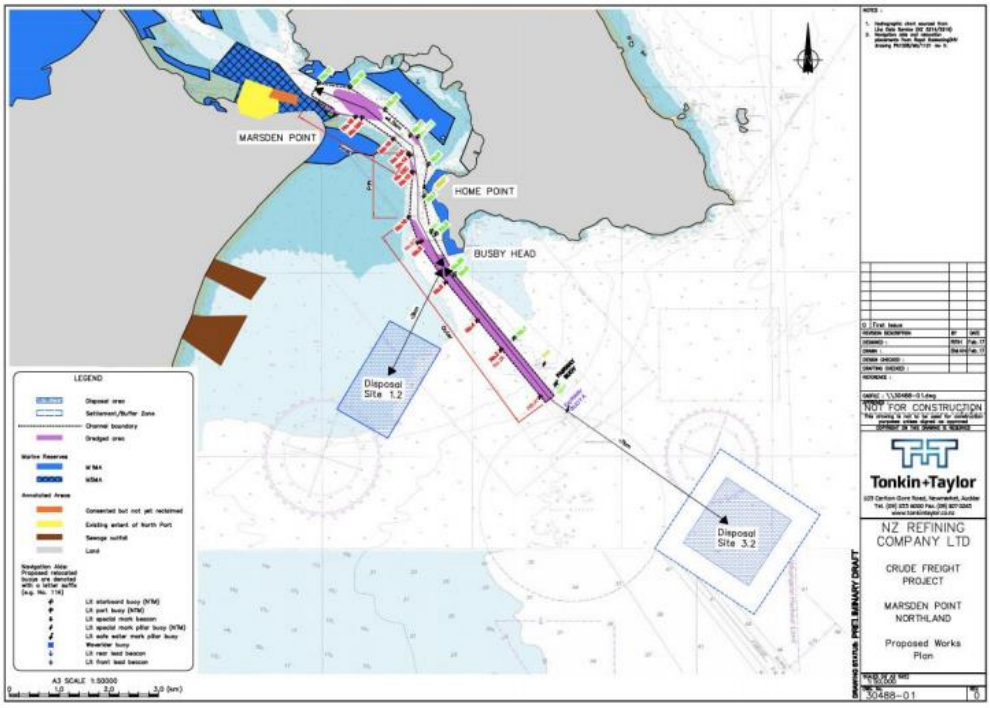

Figure 65: *Proposed channel optimisation works (Source: Refining NZ)*[50]

[50] Proposed deepening in realigning of the Whangarei Harbour entrance and approaches 'Assessment of Environmental Effects Report and Resource Consent Applications', Ryder Consulting Ltd.

5. Assessment of Effects

5.1 Introduction

This section is an assessment of the actual and potential effects on the environment of the proposal. The assessment is supported by a full range of technical reports prepared by suitably qualified and experienced experts included as appendices to the AEE.

5.2 Cultural effects

5.2.1 General

This section presents the current understanding of cultural values and issues of significance to mana whenua in respect of the Project. It draws from engagement with mana whenua, specifically Patuharakeke, Te Parawhau, and Te iwi o Ngātiwai.[51]

Relevant source documents that have assisted the assessment below are:

- Patuharakeke Hapu Environmental Management Plan (2016).
- Patuharakeke Cultural Values Assessment Report (January 2019)
- Patuharakeke 'Interim Cultural Effects Assessment' (2021).
- Te Parawhau Hapu Iwi 'Mana Whenua Cultural Report' (2021) (incomplete draft).
- Te Iwi o Ngatiwai Iwi Environmental Policy Document 2007, and
- Te Uriroroi Hapu Environmental Management Plan Whatitiri Hapu Environmental Plan 2016.

5.2.2 Existing environment

It is recognised that Māori have a different perspective of what constitutes the "existing environment" to that established through caselaw under the RMA.[52] More specifically, rather than assessing the effects on the environment as it exists today, the environment for Māori extends back to the environment that existed prior to Pākehā settlement and port and other developments at Poupouwhenua. This fundamentally different approach results in fundamentally different conclusions on the scale of effects.

5.2.3 Sustainable management

Patuharakeke have, in the CEA (2021), considered and expressed the potential effects of the project in terms of the following pillars of sustainable management under the RMA:

- Environment
- Culture

[51] See Section 7 of this AEE for a summary of the engagement with mana whenua.
[52] *Queenstown Lakes District Council v Hawthorn Ltd* [2006] NZRMA 424.

- Economic
- Social

The following assessment adopts the same approach and summarises the impacts and/or issues under each of these pillars.

5.2.4 Environmental effects

The Patuharakeke CEA (see **Appendix 24**) addresses the potential environmental effects of the proposal under the following topics:

- Marine ecology
- Avifauna
- Marine mammals
- Air discharges
- Climate change
- Coastal processes

The CEA raises concerns over the actual and potential effects of the proposed reclamation, dredging, and future port operations on marine ecology, taonga species and their habitats in the context of the Māori view of the existing environment (past, present, and future). It is noted that the concerns were raised prior to many of the proposed avoidance, mitigation, and enhancement measures being finalised, particularly in relation to avifauna and marine mammals.

Regarding marine mammals, there is a general concern about the cumulative impacts on marine mammal taonga. As suggested in the report, the role of kaitiaki in protecting this taonga requires further refinement.

The impacts of climate change are raised in the CEA, including risks to ecosystems, and threats to Māori culture and well-being. The concerns do not appear to be specific to Northport activities, except in relation to emissions from combustion engines.

The CEA also refers to the 'Patuharakeke Draft Hapu Strategic Plan' and questions whether the proposed port expansion aligns with the goals and measures of that document.

5.2.5 Cultural effects

The Patuharakeke CEA addresses cultural effects under the following sub-topics:

- Cultural landscapes and seascapes
- Loss of Takutai Moana
- Mauri

- Mana
- Kaitiakitanga

The CEA raises concerns over the impacts of the expansion in terms of cultural landscapes, seascapes, and customary access and rights to the Takutai Moana. Other potential impacts raised in the report include:

- Effects on Patuharakeketanga, ahurea as the port development will not provide for te reo Māori me ōna tikanga, and cultural and spiritual wellbeing.
- Erosion of the mauri of the harbour resulting from the proposed dredging, and subsequent effects on kaitiakitanga, mātauranga Māori, and mana.

Consistent with the Māori view of the existing environment, these effects span the past, present, and future.

Additional concerns have been raised in respect to the impacts on applications for CMT under the MACA. It is noted in this respect that all applicant groups seeking grant of CMT in the area likely to be impacted by the proposal have been notified and their views sought.

5.2.6 Economic effects

While acknowledging the potential benefits of the port expansion to the local and regional economy, the Patuharakeke CEA expresses concern over past negative economic impacts on hapū through the loss of land, loss of resources, and impacts on low-income families (e.g. inability to supplement weekly kai budget with kaimoana). While this concern is acknowledged, it is extremely difficult to quantify these impacts in the context of a proposed port expansion. However, they provide the backdrop for further discussion and potential mitigation.

The CEA expresses concern over the boom-and-bust nature of past employment generating industry in the area. This is interpreted as a likely reference to the recently decommissioned Marsden Point Oil Refinery. Conversely, ports are not typically boom/bust type developments, and have much greater longevity given their more sustainable role in facilitating long-term inter-regional and international trade.

Citing the 'Patuharakeke Draft Hapu Strategic Plan' the CEA questions whether the proposed port expansion aligns with the goals and measures of that document.

Northport reiterates its commitment to working with mana whenua to explore pathways for training, education, and employment in response to the issues raised in the CEA.

5.2.7 Social hauora/health effects

Patuharakeke have expressed concern over the growth that has occurred in their rohe without holistic infrastructure planning and future proofing. They see the construction of Northport and SH15 as having enabled growth which has increased pressure on natural resources, without improving the social, economic, and cultural well-being of Patuharakeke. Specific concerns include:

- There is a general feeling that development has alienated the local people from the harbour and its resources.
- Air and noise emissions have impacted on the experiential qualities of the cultural landscape at Poupouwhenua.
- The inability of the Ruakaka Wastewater Treatment Plant to cope with the growth has resulted in a resource consent for an ocean outfall.
- Local roads and the highway are less safe for the community.

The general view expressed in the Patuharakeke CEA is that the expansion of Northport will exacerbate these impacts.

Referring to the Draft Hapu Strategic Plan, and in particular Pou Hauora (Whānau health pillar), Pou Mātauranga (Education), and Pou Tai Tamariki-tanga (Succession), the CEA considers these are all affected by the social impacts of the proposal.

5.2.8 Measures to address cultural effects

Consultation with mana whenua to date has raised a number of issues. Some of these remain unresolved the time of lodgement. However, Northport is committed to continuing to directly and meaningfully engage with mana whenua to understand, and where possible address, these issues post -lodgement.

Measures to address some of the effects identified in the Patuharakeke CEA are summarised in **Table 12** below.

Table 12: *Summary of project measures relevant to cultural effects*

Effect	Response
Marine mammals	Construction ▪ Potential involvement of mana whenua in effects management, particularly during construction. Construction and operation ▪ Approval and implementation of a Marine Mammal Management Plan (MMMP), including measures to minimise underwater noise and ship strike.
Avifauna	Construction ▪ Approval and implementation of avifauna effects management measures contained in the CEMP. Construction and operation ▪ Provision of additional roosting area for VOC.

Traffic	Construction ▪ Approval and implementation of a construction management plan. Operation ▪ Monitoring of port traffic and potential future upgrades of SH15/local road intersections.
Coastal access	▪ Public park/reserve development and associated access.
Stormwater discharges/water quality	Construction & dredging ▪ Approval and implementation of a dredge management plan(s). ▪ Sedimentation avoidance measures during construction. Operation ▪ Compliance with water quality discharge conditions of consent designed to maintain water quality in the harbour receiving waters. ▪ On-port mitigation.
Noise (construction and operation)	Construction ▪ Approval and implementation of a construction management plan addressing inter alia potential construction noise. Port operations ▪ Port Noise Management Plan. ▪ Mechanical ventilation for affected properties.
Air quality	Construction ▪ Compliance with conditions of consent, including management plan(s). Operation ▪ General commitment to reducing emissions from combustion engines where practicable.
Archaeology	▪ Adherence to accidental discovery protocol.

It is expected that there will be conditions to mitigate cultural effects in addition to those identified in **Table 12** above. However, this will require further consultation and collaboration between Northport and iwi/hapū post lodgement.

5.3 Coastal processes

5.3.1 General

Potential effects (including cumulative effects) on coastal processes from the construction of the expanded port have been assessed by T+T with technical support from MO. The conclusions from this assessment are summarised below. Further detail is provided in the T+T report in **Appendix 10.**

5.3.2 Reclamation and seawalls

The reclamation and seawalls will be built using a combination of land-based equipment and barge mounted equipment. The potential effects of construction will be the diversion of tidal currents and waves due to the location of the completed structures, the occupation of the seabed, and the increase in suspended sediment plumes during the construction of the seawalls. Provided the rocks used are relatively free from dirt and contaminants, the likelihood of any significant sediment plume extending beyond the port development boundary is low**.** Accordingly, T+T concludes that construction effects on physical coastal processes outside the port area for the reclamation and seawalls will be **negligible.**

5.3.3 Dredging

The sediment to be dredged is fine silty sand, similar to the general seabed morphology in the inlet and lower harbour areas. Based on an analysis of sediment chemistry from previous investigations, dredged sediment is clean with most potential contaminant levels either below detection or within the lower range of acceptable guidance criteria.

Modelling by MOS (2022c) shows that mean total sediment concentrations will follow the main channel. There is more sediment concentration evident with the TSHD than either the cutter suction dredge or backhoe dredge. From a coastal process perspective, the main impact of these sediment concentrations is the accretion that may occur in these areas.

The release of sediment during dredging is largely limited to the dredge footprint and along the main channel immediately to the west of the dredging areas. Deposition within the dredging footprint will be addressed by the dredging plant in achieving the required dredge levels. T+T predicts that any sedimentation to the west is likely to return to the dredged area over time, to be recovered during maintenance dredging campaigns.

Observations from previous dredging campaigns, including the original port construction and maintenance dredging carried out in 2018 shows significantly lower values of suspended solids than predicted by the numerical modelling.

Overall, T+T conclude that dredging effects on physical coastal processes outside the port area will be **minor.**

5.3.4 Waves

Northport is sheltered from the larger waves in Bream Bay. However, the proposed reclamation extends seaward to be closer to the inlet entrance and is likely to slightly increase wave turbulence during extreme events due to the more reflective surface of the port reclamation.

T+T state that while the predicted changes in wave heights during high energy events have the potential to locally increase erosion and scour of the beach and inter tidal area between the port and the CINZL jetty, the related effects will be **minor.**

5.3.5 Currents and sediment transport

MO modelling (see **Figure 66** below) shows a reduction in tidal currents along the intertidal and side channel extents between the port and the CINZL jetty of 0.6m/s immediately east of the reclamation, reducing towards the east along the port frontage. The modelling also shows some slight increases of around 0.2m/s within the base of the channel adjacent to the seaward edge of the reclamation, a small increase in currents towards Marsden Bay, but no significant change to the east of the CINZL jetty. Within the port basin area changes in peak currents are less than 0.5m/s.

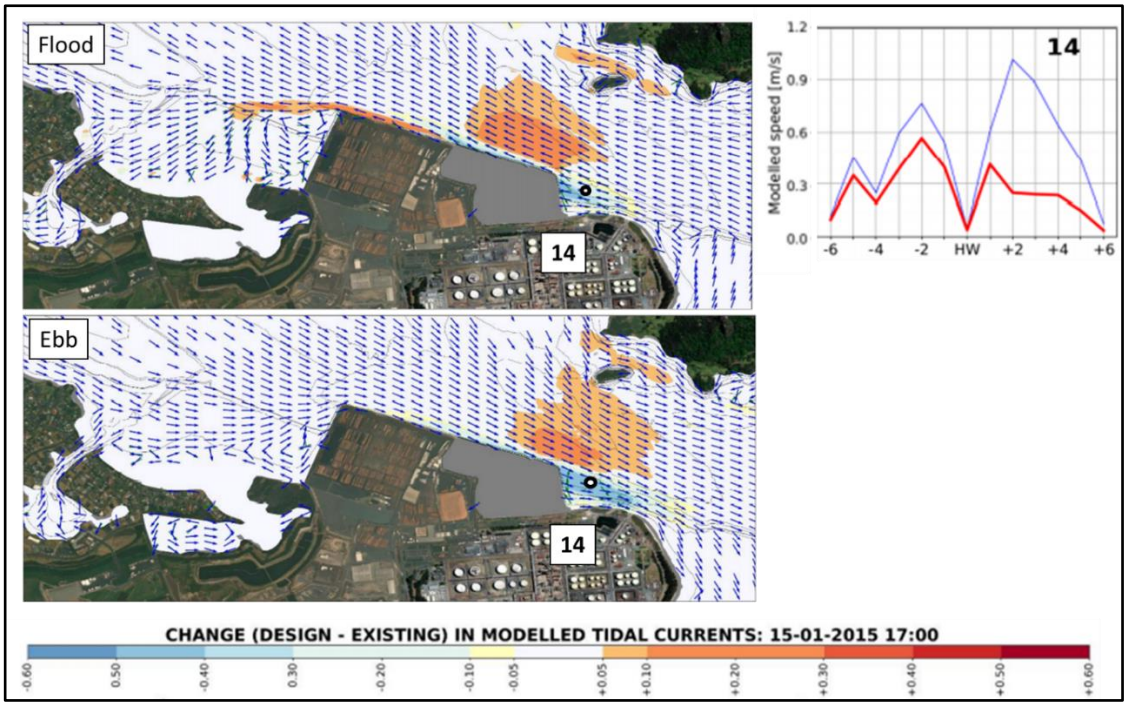

***Figure 66**: Difference in peak tidal currents (flood and ebb)*

The reduction in currents to the immediate east of the reclamation is predicted to affect sediment transport patterns in this area as the reduced currents are likely to support sedimentation. Specifically, the MO modelling shows an area of slight accretion at the eastern edge of the reclamation and along the edge of the main channel, but no significant morphological change.

Based on the predicted morphological response, T+T concludes that the reduction in current velocity that extends towards the CINZL jetty may enable accumulation on the upper banks of the channel, in the port mooring area, and in other areas between Northport and the CINZL jetty. No significant sediment transport change is observed further to the east of the CINZL jetty. Northport will continue to engage with CINZL to ensure that sedimentation is appropriately managed, including by undertaking maintenance dredging as required.

5.3.6 Water level

Based on MO studies and the relatively small area of reclamation relative to the harbour area, there will be no measurable change to the water levels within the harbour and the effects will therefore be **negligible.**

5.3.7 Expected changes to the inner harbour

MO modelling indicates that there will be no morphodynamic change to the inner harbour west of Marsden Bay. T+T conclude that the associated effects will be **negligible.**

5.3.8 Expected changes along the entrance channel

The entrance channel area[53] is relatively sheltered from waves generated in Bream Bay. This, together with the small fetches in this area, means that the potential for locally wind generated waves is low. MO modelling shows some changes to tidal currents, with reductions along the southern edge of the channel. T+T concludes that while this could result in accretion along the southern edge of the channel, the overall effects are expected to be **minor.**

5.3.9 Expected changes to the ebb tide shoal and Mair Bank

The ebb tide shoal is a large, stable, medium to fine sandy feature formed by tidal currents and waves. Mair Bank is a coarse sand and shelly/gravel feature within the intertidal and sub-aerial part of the shoal that has a large biological component (pipi and mussels). The upper parts of the shoal and Mair Bank are more dynamic features that can vary in horizontal elevation by ± 0.5 m and vertical position by ± 2.0 m from year to year responding to higher energy wave events.

The MO velocity and morphodynamic studies shows small changes in tidal currents, with reduced currents along the southern edge of the channel. T+T considers that while this could result in accretion along the southern edge of the channel, it may occur as a small one-off adjustment, with a new equilibrium restored after conditions stabilise. Accordingly, T+T conclude that the overall effects are expected to be **minor.**

[53] This area includes the small bays along the rocky coast from Mount Aubrey to Home Point including Calliope Bank, Urquarts Bay and Taurikura.

5.3.10 Expected changes to the open coast shoreline

The results of the MO velocity and morphodynamic studies suggest no change in the physical processes to the east of the CINZL jetty. Therefore, T+T concludes that the expected effects of the proposed expansion on the open coastline will be **negligible.**

5.3.11 Expected effects on existing and future coastal hazards

The sandy shoreline along the northern part of Bream Bay and within the Whangarei Harbour are susceptible to coastal erosion and are likely to experience greater erosion pressure as a result of sea level rise and climate change effects. The main driver for change will be increased sea levels that allow higher waves to reach the nearshore environment for all wave conditions.

Increased sea level will reduce the effect of the proposed dredging on wave processes as the greater water depth will reduce nearshore processes. The potential for increased tidal flow from the harbour will not be affected by the proposal as the throat of the inlet will not be modified and it is this area that controls the tidal flows.

The proposal is expected to have a minor effect on tidal flows in the present day, and T+T concludes that the effects on existing and future coastal hazards are expected to remain **minor**.

5.3.12 Tsunami

The existing harbour area is vulnerable both to distant and local tsunami sources. The high velocities resulting from the tsunami are likely to result in large scale movements within the sandy systems of the nearshore, ebbtide delta, coastline, and inner harbour.

No tsunami wave modelling has been carried out as the narrowest part of the inlet throat will not be modified by the proposal. Accordingly, T+T concludes that the proposed expansion is unlikely to change the large-scale effects of tsunami on the wider environment.

5.3.13 Effects of proposed bird roost

Short term

The construction activity associated with the proposed bird roost will have negligible effects on coastal processes.

Long term

The inclusion of sand and the ongoing top-ups will have a beneficial effect on coastal processes by increasing the sediment budget within Marsden Bay. This offsets, to some degree, sea level rise effects, and potentially reduces the overwash and landward retreat of the existing barrier beach. The sheltering provided by the roost is also likely to enable the renewal of the mangrove stand that has currently eroded due to the landward migration of the barrier beach.

The sheltering effect may also result in some shoreline adjustment of the existing barrier beach, but these changes are likely to be negligible.

Overall, T+ T consider that the effects of the proposed bird roost on coastal processes will be **beneficial** due to the re-introduction of sediment to the western end of Marsden Bay and the sheltering of the existing barrier beach, reducing the observed landward migration of this feature.

5.3.14 Long term monitoring

T+T recommends monitoring of the areas within Marsden Bay and along the shoreline from the port to the CINZL jetty and Mair Bank. Much of these areas are already subject to hydrographic survey (including beach profiling), and this should continue in order to provide a comprehensive topographic and bathymetric dataset. Surveys should be carried out after completion of each stage of the development and at least annually for a period of not less than five years.

T+T advise that monitoring elevation changes (if any) in seabed and shoreline in these areas is the most useful form of long-term monitoring combined with ongoing measurement of waves and water level at the Wave Rider Buoy so that changes in shoreline and seabed elevations can be assessed together with changes in wave energy and water level fluctuations. Sediment sampling and analysis of surficial sediments within the eastern end of Marsden Bank could also be carried out to confirm any change in sediment properties that may potentially affect ecology in this area.

T+T notes that while it is anticipated that the turning area will need to be infrequently dredged as part of the port operations, this area is already subject to annual survey.

T+T recommends that pre and post dredging surveys should be retained by the consent holder in a compatible format to augment this dataset and information on the volumes and locations of deposition of both the capital and maintenance dredging recorded.

5.3.15 Overall effects conclusions

T+T concludes that effects on coastal processes for the eastern reclamation will be moderate, largely due to the occupation of the seabed within the reclamation footprint affecting coastal processes within this footprint as well as changes to currents, waves, and sediment transport patterns along the eastern side of the inlet channel. Excluding the effect of the occupation of the eastern reclamation, the remaining effects on coastal processes are **minor**.

5.4 Landscape values

5.4.1 General

Potential effects (including cumulative effects) on landscape values from the construction, maintenance and operation of the expanded port have been assessed by BNZL. The conclusions from this assessment are summarised below. Further detail is provided in the BNZL report in **Appendix 15.**

5.4.2 Impact ratings scale

The impact ratings used in the BNZL assessment (and in the AEE) are based on NZILA guidelines (described in **Table 13** below). These descriptors do not use RMA terminology, but they can be converted where this is needed to address key provisions of the RMA and associated planning documents.

Table 13: *Impact ratings scale*

Impact (effect)	Description
Very low	The proposed wharf extension(s) would be largely screened from view or 'lost' within its wider coastal landscape setting, and would have little or no impact on its character and values.
Low	A small part of the wharf extension(s)and/or some dredging activity would be discernible, but it / they would remain a minor, to very minor, component of the Whangarei Harbour landscape and environment. It / they would have a very limited impact on the character and related values of that wider setting.
Low-moderate	The proposed wharf extension(s) and/or dredging would constitute a discernible component of the harbour landscape and would change the profile of the existing port, but such awareness would not have a marked effect on the overall character and values of the landscape and coastal environment of Whangarei Harbour.
Moderate	The wharf extension (s) would be a clearly discernible component of the harbour landscape, resulting in changes to its composition and character. However, the harbour's values and identity would remain substantially intact.
Moderate-High	The wharf extension(s) and/or dredging would result in significant changes to the harbour landscape and environment, affecting its character / composition and values to an appreciable degree.
High	The wharf extension(s) and/or dredging would become a dominant feature within outer Whangarei Harbour, adversely affecting its character and values to a significant degree.
Very High	The wharf extension(s) / and /or dredging would be so dominant that it / they fundamentally change the nature of the landscape and coastal environment near Marsden Point, seriously degrading both the values and identity of the wider harbour.

Given the importance of the RMA effects terminology for interpreting some of the provisions in the PRP, the RMA terminology is shown in bold and brackets alongside the NZILA terminology in the assessment below.

5.4.3 Landscape effects on Marsden Point Beach

The beach to the immediate east of Northport, including its dune fringe and inter-tidal area, are large enough to register as a landscape within the wider Marsden Point coastline. Despite adjoining industrial development on three sides, it remains distinctive, different, and largely intact. It also has a clear sense of association with both Whangarei Harbour and the Whangarei Heads, and it is of significance to Patuharakeke.

The beach will be substantially diminished by the proposed expansion. The landscape effects associated with the loss of approximately two-thirds of the 'beach' are considered to be high **(significant)** albeit localised to the area within and immediately around the beach.

5.4.4 Landscape effects experienced from Reotahi

Reotahi will be the residential area most impacted by the proposed expansion. Specifically, the expansion will infill most of Marsden Point Bay, while the associated Ship to Shore (STS) Cranes, container stacks and other elevated structures will significantly change the visual profile of the port.

The proposed changes will be fully exposed to much of the suburban and beachside development at Reotahi. The STS Cranes will become signature features of the Marsden Point skyline when viewed from this area. Together with realignment of the shoreline in front of Marsden Point Beach and the extended lines of ship berths, the proposed expansion would therefore bring the Port perceptibly closer to Reotahi.

Notwithstanding the relative exposure to the proposed expansion, Reotahi is already exposed to the largely industrial nature of the Marsden Point landscape. This limits the degree to which the proposal will modify the fundamental character and values of the harbour. Despite Berth 4 and the proposed expansion being clearly visible from a range of vantage points around Reotahi, increasing the profile and heightening the skyline of the current industrial landscape will not greatly alter the nature of most views across the harbour to Marsden Point.

Considering the existing landscape context described above, the cumulative landscape effects of the proposed expansion (together with Berth 4) from Reotahi viewpoints have been assessed as moderate-high **(more than minor).**

5.4.5 Landscape effects experienced from the Harbour

When viewed from the Whangarei Harbour, the proposed expansion would largely merge with the existing Northport berths and associated shipping, and the CINZL facility (including its own jetty, berths, and shipping).

When viewed from near the harbour entrance the proposed expansion will be clearly visible, displacing most of Marsden Point Beach and its bay area.

Notwithstanding the above, the overall context for views of Marsden Point Beach from the harbour is against a coastal landscape that is already dominated by shipping, jetties, berths, oil tanks,

CINZL facility stacks, log piles, other industrial paraphernalia, and a range of maritime activities. Although boaties and those working on vessels that pass close to the current port would clearly see more of the proposed reclamation, the loss of most of Marsden Point Beach and bay will do little to change the perception of this highly developed and, for the most part, industrialised, part of Whangarei Harbour's coastline.

On balance, the landscape effects associated with mid-harbour views towards Marsden Point Beach have been assessed as moderate **(more than minor)**.

5.4.6 Landscape effects from elsewhere

When viewed from elsewhere, the effects of the proposed expansion will be limited. The main effect of the expansion will be to heighten the skyline profile of the port, with the introduction of the STS and Gantry Cranes, taller container stacks and the reefer towers. This will be exacerbated at night-time by lighting on the STS Cranes as well as on the new light towers. These effects will typically be secondary to those associated with the current port, but still discernible, including for:

- Parts of SH15
- The Albany Road Beachfront
- The Marsden Cove Canal Entrance
- Taurikura Bay

The landscape effects on the majority of locations (other than Reotahi) will be low to very low **(less than minor).**

5.4.7 Effects on ONLAs & ONFs

The expanded port will remain some distance from most of the ONLAs ONFs at Whangarei Heads. Although the proposed expansion would affect perceptions of these key landscapes and features when viewed from south of the harbour (primarily around Marsden Bay and One Tree Point), the expanded port is expected to have only a limited effect on public perception of the ONLAs and ONFs. They would continue to frame the harbour, whilst remaining quite separate from those coastal margins more directly associated with the existing port and CINZL facility on the near side of the harbour. As a result, the effects on the ONLAs and ONFs of the proposed expansion, including cumulative with Berth, will be low **(minor or less)**, and consistent with Policy 15(a) and (b) of the NZCPS.

5.4.8 Overall effects conclusions

The BNZL conclusions in respect to landscape effects are summarised in **Table 14** below.

***Table 14**: Summary of potential landscape effects*

Viewpoints/areas	Magnitude of effects
Marsden Point Beach	High (but localised to the area within and immediately around the beach) (significant)
Reotahi	Moderate (more than minor)
Whangarei Harbour	Moderate-High (more than minor)
Elsewhere	Low to very low (less than minor)
ONLAs & ONFs	Low (minor or less than minor)

5.5 Natural character

5.5.1 General

Potential effects (including cumulative effects) on natural character from the construction, maintenance and operation of the expanded port have been assessed by BNZL. The conclusions from this assessment are summarised below. Further detail is provided in the BNZL report in **Appendix 15.**

5.5.2 Impact ratings scale

The impact rating scale used for describing the magnitude of effects on natural character is the same as for landscape effects (see **Table 13** in Section 5.4.2).

5.5.3 Effects on natural character

Unlike the more remote coastline from Busby Head through to Bream Head, nearly every view towards Marsden Point and Northport is contextualised by human activities and developments.

While the proposed expansion will exacerbate the existing interplay between the more developed and natural parts of the harbour, it will not fundamentally alter the nature or extent of this interplay. The expansion will concentrate new maritime development where natural character has already been significantly impacted, and natural character values have been eroded.

Although the character and values of Marsden Point Beach would be appreciably changed by the proposed expansion, this will not alter the natural character values of the wider Marsden Point coastline to a commensurate degree.

While locations such as Marsden Bay and Reotahi will be exposed to the new extensions to a greater degree than most other harbour-side settlement and public vantage points, the related level of change to the natural character values of the harbour for those viewing areas will remain limited, at or below a moderate level **(more than minor),** and not 'significant' with reference to Policy 13(1)(b) of the NZCPS.

5.5.4 Effects on High and Outstanding Natural Character Areas

There are Outstanding and High Natural Character areas near the proposed expansion, including McDonald, Calliope and Mair Banks, the inshore area west of One Tree Point, the coastal margins of Mt Aubrey, and the intertidal area of Blacksmiths Creek. However, the proposed expansion will avoid all these areas, instead being located within a part of the Whangarei Harbour that is already strongly linked to both the current Port and the CINZL facilities.

5.5.5 Overall effects conclusions

While locations such as Marsden Bay and Reotahi will be exposed to the proposed expansion to a greater degree than most other harbour-side settlement and public vantage points, BNZL consider that the related level of change to the natural character values of the harbour for these viewing areas will remain at or below a **moderate** level **(more than minor)** and not 'significant' with reference to NZCPS Policy 13(1)(b). This reflects the existing nature of Marsden Point, the way in which existing development (housing, roading, etc) frames views towards the existing port, and the wider balance between natural and cultural elements apparent within and around the Whangarei Harbour as a whole.

5.6 Amenity values

5.6.1 General

Potential effects (including cumulative effects) on amenity values from the construction, maintenance and operation of the expanded port have been assessed by BNZL. The conclusions from this assessment are summarised below. Further detail is provided in the BNZL report in **Appendix 15.**

5.6.2 Impact ratings scale

The impact rating scale used for describing the magnitude of effects on amenity values is the same as for landscape and amenity effects (see **Table 13** in Section 5.4.2).

5.6.3 Effects on amenity values at Marsden Point Beach

The extent of development on Marsden Point Beach will appreciably diminish the recreational utility and appeal of the beach and bay. Furthermore, Patuharakeke will lose a key component of the ceremonial way and access to *Poupouwhenua Mataitai* at the distal end of the Marsden Point spit.

Overall, the effects of the proposed expansion on the amenity values of the eastern beach are assessed as moderate-high (**significant**).

5.6.4 Effects on amenity values at Reotahi

Reotahi will be exposed to the eastern reclamation, including new berths and shipping, new cranes, container and cargo areas, lighting, and other port activities. The port will appear more visually imposing than at present, while lighting on the STS cranes, gantry cranes and new light towers will change/expand the port profile at night-time.

Potential effects on amenity values at Reotahi and Taurikura will be contextualised by both the current port and CINZL facility, as well as by the coastal settlements and residential areas that frame most views across, and up and down, the harbour. More specifically, the CINZL facility is an industrial backdrop to the proposed expansion area, while related port activities are already part the current landscape.

Overall, the effects of the proposed expansion on the amenity values for Reotahi will be moderate-high (**more than minor**).

5.6.5 Effects on amenity values of the wider harbour

Given the existing context of port and other industrial activities, the proposed expansion, together with Berth 4) is expected to make little difference to the wider character and amenity values of the Whangarei Harbour or the identity of nearby parts of the harbour, including the various settlements of Whangarei Heads and Marsden Bay.

Overall, the effects of the proposed expansion on the amenity values of the wider harbour range between low and very low (**less than minor**).

5.6.6 Overall effects conclusions

Marsden Bay, Reotahi, and Marsden Point Beach will be subject to the highest levels of effects on amenity values. Overall, BNZL consider that the amenity effects of the proposed expansion on these areas will be moderate-high **(more than minor)** but contextualised by both the current Port and CINZL facility, and coastal settlements in residential areas that frame most views across, and up and down the harbour. The effects on amenity values for other areas range between very low **(less than minor)** and low-moderate **(minor).**

5.7 Marine ecology

5.7.1 General

Potential effects (including cumulative effects) on marine ecology from the construction, maintenance and operation of the expanded port have been assessed by Coast and Catchment (C+C). The conclusions from this assessment are summarised below. Further detail is provided in the C+C report in **Appendix 11.**

The C+C report has been peer reviewed by Cawthron Institute, who have confirmed that the C+C report covers a suitable range of ecological receptors; that the spatial scale is appropriate; and that the assessment is founded upon a suitable coverage of historical and recent survey data. A letter from Cawthron Institute summarising the recommendations from the peer review is attached as **Appendix 12**.

5.7.2 Assessment context

Policy D.2.18 of the PRP directs that when assessing the potential adverse effects of activities on identified values of indigenous biodiversity a system-wide approach to large areas of indigenous biodiversity should be employed, recognising that the scale of the effect of an activity is proportional to the size and sensitivity of the area of indigenous biodiversity. In essence, this approach avoids micro-level assessment of effects with no cognisance of relevant scale and magnitude.

Marine ecology is complex, inter-related, and multi-faceted. Therefore, there is no single system or scale that is appropriate for all aspects. Therefore, in terms of achieving sustainable management and in the context of Policy D.2.18, C+C consider the appropriate scales for assessment of effects on different aspects of marine ecology to be as set out in **Table 15** below.

Table 15: *Relevant system for assessing effects on components of marine ecology*

Potential effects	Relevant system
Benthic habitats and macrofauna	Harbour
Kaimoana shellfish	Harbour
Subtidal habitat and benthic macrofauna (Reclamation)	OHEZ (Outer Harbour Ecological Zone)
Subtidal habitat and benthic macrofauna (Dredging)	OHEZ
Seagrass (dredging)	Harbour
Macroalgae (seaweeds)	OHEZ

Fish	Harbour
Reef habitat and biota	Harbour
Stormwater discharges	Beyond the mixing zone

Notwithstanding this, C+C have considered the effects of the proposal on marine ecology at three scales, being the footprint, OHEZ and harbour-wide scales for completeness.

5.7.3 Actual and potential effects identification

The actual and potential effects of the proposed reclamation, dredging and stormwater discharges are identified broadly as follows:

- Loss of marine habitat and biota living within the reclamation footprints, with associated effects on related values, including ecological biodiversity, productivity, and other environmental services.
- Indirect effects arising from alteration to currents, wave and/or sedimentation patterns.
- The effects of sediment suspension, dispersal, and deposition beyond dredged areas.
- Displacement of species that utilise the reclamation areas, but do not permanently live within it.
- Effects associated with hardening the shoreline around reclamations (the proposed reclamation will result in the loss of approximately 375 m of natural shoreline).
- Construction-related effects, associated with establishing temporary staging areas, or having machinery working in the CMA beyond the reclamation footprint.

The C+C report has adopted the EIANZ guideline terminology for assessing the magnitude of marine effects in this report (see **Table 16** below). The report notes that a “Low” EIANZ effect is considered to be a “minor” or “less than minor” effect under the applicable RMA planning/legal framework; and a “Moderate” EIANZ effect is considered to straddle a “minor” and “more than minor” range.

***Table16**: Ranking systems developed by EIANZ for assessing adverse environmental effects*

EIANZ guidelines	
Magnitude	**Description**
Negligible	Very slight change from the existing baseline condition. Change barely distinguishable, approximating to the ‘no change’ situation; AND/OR Having negligible effect on the known population or range of the element/feature.
Low	Minor shift away from existing baseline conditions. Change arising from the loss/alteration will be discernible, but underlying character, composition and/or attributes of the existing baseline condition will be similar to pre-development circumstances or patterns; AND/OR Having a minor effect on the known population or range of the element/feature.
Moderate	Loss or alteration to one or more key elements/features of the existing baseline conditions, such that the post-development character, composition and/or attributes will be partially changed; AND/OR Loss of a moderate proportion of the known population or range of the element/feature.
High	Major loss or 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/OR Loss of a high proportion of the known population or range of the element/feature.
Very high	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.

Given the importance of RMA effects terminology for interpreting the indigenous biodiversity policies in the PRP, C+C have confirmed the equivalent RMA terminology in their report for key flora and fauna, and this is also shown in bold and brackets alongside the EIANZ terminology in the assessment below.

5.7.4 Dredging effects

Existing environment

The existing environment within the dredge area can be broadly grouped into three zones based on past dredging activity:

- A shallow area towards the west, that is yet to be dredged, where a mix of sand and shell gravel, scattered red algae, and a variety of species including occasional starfish, sponges, anemones, and infrequent scallops and octopus were observed in the November 2021 video survey.
- The batter slope between that area and the adjoining, previously dredged area, which consisted of bare sand that gave way to a dredged seafloor completely covered with a variety of sessile organisms such as sponges, bryozoans, hydroids and macroalgae.
- Other parts of the previously dredged area which contained a mix of sand, scattered and dense shell, and biogenic species such as red algae and sponges.

Northport holds capital and maintenance dredging consents associated with Berths 1-4.[54] These consents enable dredging to a depth ranging between 13m and 14.5m across the area denoted by the purple pecked line in **Figure 67**. The proposed dredging extent as shown with a red line.

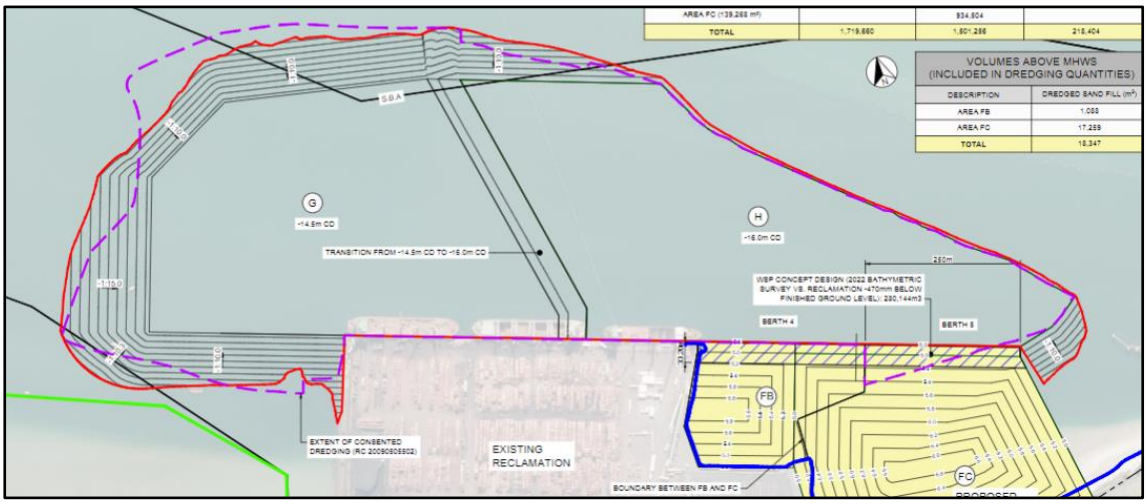

***Figure 67**: Existing consented dredging extent*

[54] CON19960505511 (Berths 1 & 2), CON20030505529 (Berths 3 & 4).

The relevant water quality standards in these consents are as follows:

Berths 1 and 2 – CON20090505502 (capital)

21. Dredging shall be carried out using the appropriate design of cutter head and operation to minimise suspension of sediment into the water column to the extent that:

(i) The visual clarity (as measured using a black disk or Secchi disk) of harbour water shall not be reduced by more than 20% of the median background visual clarity at the time of measurement; and

(ii) There shall be no conspicuous scums or foams, floatable or suspended material in harbour water, as a result of dredging immediately outside of a 400 m radius of the point of dredging.

Berths 1and 2 – CON19960505511 (maintenance)

11. All maintenance dredging, including any operations consequent upon the excavation and transportation of dredged material, shall be carried out in a manner that minimises the suspension of sediment into the water column so that the following standards are met immediately outside of an 800 m radius of the point of dredging:

(i) The visual clarity (as measured using a black disc or Secchi this) of harbour water shall not be reduced by more than 20% of the median background visual clarity at the time of measurement.

(ii) The hue shall not be changed by more than 10 Munsell units of the median background hue at the time of measurement.

(iii) Where Z_{eu} is the euphotic depth, defined as the depth at which photosynthetically available radiation [PAR] is reduced to 1% of the level of surface water, the light penetration in the harbour water deeper than 0.5 Z_{eu} shall not be changed by more than 10% of the median background euphotic depth at the time of measurement. The light penetration in harbour water shallower than 0.5 Z_{eu} shall not be reduced by more than 20% of the median background euphotic depth at the sediment bid, at the time of measurement.

(iv) There shall be no conspicuous scums or foams, floatable or suspended material in the harbour waters.

Berths 3 and 4 – CON20030505522 (capital)

19. Dredging shall be carried out using the appropriate design of cutter head and operation to minimise suspension of sediment into the water column to the extent that:

(i) The visual clarity (as measured using a black disk or Secchi disk) of harbour water shall not be reduced by more than 20% of the median background visual clarity at the time of measurement; and

(ii) There shall be no conspicuous scums or foams, floatable or suspended material in harbour water, as a result of dredging immediately outside of a 400 metre radius of the point of dredging.

Berths 3 and 4 – CON20030505529 (maintenance)

12. All maintenance dredging, including any operations consequent upon the excavation and transportation of dredged material, should be carried out in a manner that minimises the suspension of sediment into the water column so that the following standards are met immediately outside of a 400 m radius of the point of dredging:

(i) The visual clarity (as measured using a black disc or Secchi disc) of harbour water shall not be reduced by more than 20% of the median background visual clarity at the time of measurement.

(ii) There shall be no conspicuous scums or foams, floatable or suspended material in the harbour waters.

The capital dredging consent for Berths 1 and 2 has an area of 9ha that is yet to be dredged. This equates to 641,800m^3 of material (around a third of the proposed dredge volume under the current proposal).

Dredging effects relative to the existing environment

As shown in **Figure 67,** the proposed dredging will largely be limited to an area where dredging has already occurred or is currently consented under CON19960505511 (Berths 1 & 2), and CON20030505529 (Berths 3 & 4). In addition to the slight increase in the dredge footprint, the depth will be increased from 13-14.5m to 14.5 – 16m.

The removal of existing macroalgae and disturbance or removal of substrates they attach to (shell gravel) within the dredging footprint are largely provided for under the existing capital and maintenance dredging consent.

The proposed dredging effects over and above those provided for under the existing consents are as follows:

(1) Minor changes to dredge extent (see **Figure 67**) – on balance, the effects are similar.

(2) Increase in dredge depth (1.5m) potentially changing sediment composition in the swing basin).

(3) Slightly reduced current velocities due to increased depth.

(4) The dredge duration for the proposal (estimated to be approximately 200 days depending on the dredge method) is likely to be longer than the duration of consented capital and maintenance dredging (estimated to be approximately 70 days depending on the dredge method).

The proposed dredging will also include more robust and modern consent conditions (positive effect).

Deepening of the swing basin

If the characteristics of the seabed substrates at the proposed dredging depth are similar to those existing at the currently consented depth, C+C predict that a similar community of benthic macroinvertebrates will reform once the dredging is complete. However, macrofaunal diversity would likely be lower if areas of dense shell were permanently lost.

Sediment plumes

Modelling of sediment dispersal plumes was done for three potential dredging methods: trailing suction hopper dredger (TSHD), cutter suction dredger (CSD), and backhoe dredger (BHD). The models were run for dredges operating continuously from a fixed position for 24 hours a day, 7

days a week, over a 1-month period (Cussioli *et al.*, 2022). That, together with comparisons between previous modelling results and observations from actual dredging campaigns, suggests the modelling was conservative and indicative of the upper bound of potential effects (Reinen-Hamill, 2022).

In addition, the modelling of predicted sediment depositional depths did not account for any resuspension and redispersal of the sediment. As indicated by MO, the cumulative deposition footprints obtained from the simulations assume that sediments stay in place once they settled on the seabed when in reality, some sediment resuspension is possible, the extent of which depends on the sediment type (percentage of fines etc.).

Consequently, the models are generally expected to over-predict TSS concentrations and deposition depths. However, in the absence of alternative predictions, the following assessments of ecological effects are based on the modelling results.

Key findings of ecological relevance from the dispersal plume modelling are:

- Sediment plumes generated by BHD are likely to be very localised and of little, if any, ecological consequence.
- Sediment plumes generated by CSD are likely to disperse in a narrow band beyond the dredging area. Mean concentrations are predicted to rapidly decline with distance, to levels that are likely to be of little ecological consequence.
- Sediment plumes generated by TSHD are predicted to produce the largest sediment plume and the highest sediment concentrations, with the modelling predicting that a large plume of sandy-silt will extend in a band along the southern, subtidal portion of the main channel, with mean concentrations predicted to rapidly decline with distance from the TSHD. A silty-sand plume was predicted to have a similar form but was more limited in extent.
- Model predictions showed near-bed concentrations of sandy-silt exceeding 20 mg/l for <30% of the time beyond the dredging footprint, with the percentage of time declining with distance. The predictions also showed that concentrations in a smaller area exceeded 160 mg/l for <30% of the time, and comparisons between the existing and proposed scenarios showed that the plume footprint reduced in size as dredging progressed and depth increased.
- At the proposed depth, near-bed sandy-silt concentrations of >160 mg/l will be largely contained with the dredged area.

5.7.5 Effects on intertidal sediment habitats and macrofauna

While the proposed reclamation will eliminate 6.6 ha of intertidal habitat, the overall abundance of common infauna will only be slightly reduced within the harbour and OHEZ, and changes to the diversity of macrofauna at those scales are not expected.

The proposed bird roost is in an area of moderate taxa diversity and abundance. The 2022 survey indicates that benthic communities around the feature are typical of those found in the upper to mid intertidal zone and associated with sand ridges in Marsden Bay. Based on the small area

affected, the effects of the proposed roost on intertidal habitats and macrofaunal diversity are expected to be low.

Reclamation effects on coastal processes such as currents and sediment transport are expected to be moderate within the area bounded by the eastern extent of the port and the CINZL wharf (Reinen-Hamill, 2022). The proposed reclamation is predicted to cause a reduction in currents that may cause sediment accretion on the channel banks between Northport and the Channel Infrastructure wharf and around the margin of the development. C+C predict that the corresponding ecological effects associated with the predicted sediment changes will be low to negligible.

Dredging is not proposed in intertidal areas, and sediment plumes and deposition associated with the dredging are predicted to be largely confined to subtidal channels. Accordingly, C+C concludes that the intertidal ecological effects from dredging are there expected to be **negligible**.

Overall, effects at the harbour and OHEZ scales on the extent of sandy intertidal habitat, the abundance and diversity of benthic macrofauna are assessed to be moderate, primarily based on the permanent loss of 6.6 ha of intertidal habitat.

5.7.6 Effects on subtidal habitat and benthic communities

Reclamation

Surveys indicate that infaunal benthic macrofauna values around the port are very high. The proposed reclamation site contained similar assemblages to sites on the western side of Northport, and although 14 taxa obtained from the proposed reclamation area were not found in the other areas sampled, all were common taxa.

While subtidal habitats within the reclamation footprint appear healthy and contribute to the broader diversity and ecological values of the harbour, C+C concludes that the proposed reclamation site does not contain unique or special ecological qualities and that the proposal is unlikely to reduce overall biodiversity values or compromise ecological functions and processes. That, together with the small scale of reclamation area relative to the overall amount of subtidal habitat within the Whangārei Harbour (at the OHEZ scale, reclamation will lead to the loss of a small proportion (0.26%) of natural subtidal habitat), leads C+C to conclude that the effects of reclamation on subtidal macrofauna will be **moderate** at the harbour and OHEZ scales.

Dredging

Modelling predicts that sediment plumes generated during dredging will affect the surrounding habitat. Subtidal areas predominantly to the west of the port are predicted to be periodically subjected to elevated suspended sediment concentrations, which if sustained for extended periods, could adversely affect sensitive macrofaunal species by reducing their physiological condition, growth, and survival. The scale, magnitude and duration of effect will depend on the type of dredging, length of time taken, and interactions between dredge operations and plume generation, tides, and the vagaries of winds and waves.

Model predictions indicate that if a TSHD is used, a relatively large area of the channel between Marsden Bay and Snake Bank may experience suspended sediment concentrations that approach levels and durations where adverse effects on subtidal habitats and communities occur. Those effects would be compounded by the impacts of sediment deposition which smothers seabed communities and habitats (particularly shell gravel). Modelling predicts that the effects of suspended and deposited sediment likely to be much more localised for CSD and BHD operations. In all cases, the effects of suspended sediment would cease at the conclusion of dredging and over time T+T predict that sediment deposited west of the dredged area will return to the dredge basin.

Key points to note are:

- The percentage of time that near-bed TSS concentrations exceed 80 mg/l is predicted to dissipate with distance from the dredging site.
- Sediment will be gradually dispersed and deposited, rather than depositing as one-off dumps.
- The models exclude real-world dynamics that will affect dispersal and deposition. For instance, the modelling does not account for any resuspension and redispersal of the sediment, and a static dredging position was used continuously for a month in the model.
- The sediments are of marine origin, which is likely to reduce their capacity to adversely affect benthic species.
- Multiple assessments have shown that effects of sediment disposal in subtidal sites tend to be relatively minor and short-lived. However, as noted earlier, this area contains extensive biogenic habitat, that includes large sessile filter feeders, macroalgae meadows and shell, which is likely to be particularly sensitive to smothering.
- The area has been previously dredged, but still retains high benthic ecological values.
- The modelling is conservative in several respects, including that it assumes the dredge operates continuously for the one month model period, which is not reflective of reality.
- Assuming that shell gravel habitat re-establishes, ecological recovery is expected to occur over a period of 5 or more years.

C+C concludes that while some uncertainty remains about the scale and magnitude of dredging effects, the impacts of dredging in subtidal areas are likely to vary depending on the method of dredging and range from:

- **High** at the OHEZ and Harbour scales if a TSHD is used; and,
- **Moderate** at those scales for CSD and BHD operations.

Based on the high ecological values observed in and around previously dredged areas, and assuming that shell gravel habitat re-establishes, ecological recovery is expected to occur over a period of 5 or more years.

5.7.7 Effects on kaimoana shellfish

The proposed reclamation will permanently eliminate existing shellfish (cockles) from the intertidal areas within the expansion footprint, noting that cockle densities within the proposed reclamation footprint were representative of densities found throughout Marsden Bay, and generally not of harvestable size.

No pipi or scallops were found to the east of Northport.

Given the widespread distribution of cockles around the harbour, and the lack of pipi or scallops to the east of Northport, the direct effects on kaimoana shellfish are assessed as low at the harbour and OHEZ scales.

5.7.8 Effects on seagrass and macroalgae

Reclamation

Patches of intertidal seagrass (approximately 0.33ha) are present in the area that will be covered by the proposed reclamation. Based on that, C+C concludes that the broader and local scale effects of seagrass being lost from within the proposed reclamation areas are **low** at all scales. This equates to a **less than minor** level of effect. In addition, based on the above analysis, C+C concludes that reclamation effects on any macroalgae classified as threatened or at risk are likely to be **low** or **negligible** at all scales. This equates to a **less than minor** level of effect.

Dredging

Seagrass

Seagrass is not present within the dredging footprint and so will not be directly affected by the proposed dredging. While sediment plumes have the potential to adversely affect seagrass in the surrounding area, modelling of the sediment dispersal plumes predicts that there will be little, if any, overlap between dredging related sediment plumes or sediment deposition, and subtidal seagrass.

In light of the above and given the ability of seagrass to tolerate short-term reductions in light, C+C concludes that the effect of sediment mobilisation on seagrass will be **low** at all scales (equating to a **less than minor** effect).

Macroalgae

Dredging could affect macroalgae through:

- Direct physical removal;
- Physically removing substrates that macroalgae attach to, particularly shell gravel.
- Deepening, which permanently reduces the amount of light reaching the seabed;
- Smothering macroalgae beneath mobilised sediment;

- Smothering substrates that macroalgae attach to, particularly shell gravel;
- Temporarily reducing the amount of light reaching the seabed through the suspension and dispersal of sediments.

Current velocities and the associated flux of nutrients will also be reduced, but those changes are not expected to have a tangible effect on macroalgae.

For the most part, the proposed dredging will be limited to an area where dredging has already occurred or is already consented, and so the effects are largely part of the existing environment.

If shell gravel is still present at the dredged depths, or reaccumulates after dredging ceases, then recolonisation by macroalgae is expected to occur in the dredged basin. However, changes to light conditions may alter the composition of the macroalgae community within that area. Recolonisation is expected to take around five or more years depending on whether attachment substrates remain after dredging or reaccumulate after dredging.

Fewer macroalgae are likely to recolonise the dredged area if shell gravel is not present at the dredged depths or does not reaccumulate after dredging ceases. Macroalgae are still likely to attach to other substrates such as living shellfish (e.g., horse mussels) and other material that accumulates on the seabed.

While some uncertainty remains about the scale and magnitude of indirect dredging effects, the C+C assessment indicates that impacts of dredging in subtidal areas on macroalgae are likely to vary depending on the method of dredging and range from:

- **High** at the OHEZ and Harbour scales if a TSHD is used; and,
- **Moderate** at those scales for CSD and BHD operations.

Based on the presence of macroalgae in and around previously dredged areas, and assuming that gravel-shell lag habitat re-establishes, C+C predict that ecological recovery will occur over a period of 5 or more years.

C+C note their conclusions with respect to levels of effects are conservative (for the reasons outlined in Section 5.7.4), and because risks will be reduced through monitoring and management processes proposed through conditions of consent.

Note that potential effects on macroalgae species assessed as threatened or at risk are assessed separately above.

5.7.9 Effects on reefs

While reef habitat is a relatively minor component of the Whangārei Harbour ecosystem, it makes an important contribution to the biodiversity values of the harbour.

The revetments along the western and eastern margins of Northport are narrow artificial reefs, with similar habitat and community values to naturally occurring reefs in the harbour. They contain a variety of macroalgae, sponges, echinoderms, crustaceans, and other marine

invertebrates typical of north-eastern New Zealand reefs, and support a relatively diverse assemblage of fish, including obligate reef dwellers.

The proposed reclamation will remove around 155m of existing rock revetment and create around 483m of rock revetment. All biota living in and around the eastern revetment that cannot, or does not, move from the existing structure prior to the reclamation commencing will be lost. In the medium term (5–10 years), those effects will be offset by the colonisation of a new revetment by a similar assemblage, along the margin of the proposed eastern reclamation.

Because the revetment is an artificial construction, more revetment will be created than lost, there are other natural reefs in the harbour, any adverse effects on reef species that are threatened or at risk will be low at worst (equating to a **less than minor effect**), dredging is unlikely to affect existing reefs, and recovery will occur over a period of around 5 years, the overall effect of reclamation on reef habitat and biota will be **low** immediately, and positive in the medium to long term. The overall effect of dredging on reef habitat and biota is considered to be **negligible** at all scales.

5.7.10 Effects on fish

The Whangārei Habour has relatively diverse fish assemblages, with multiple species that forage on benthic macroinvertebrates, such as small crustaceans, polychaete worms, molluscs, and anemones.

For the most part the proposed dredging is located in an area that is already subject to capital and maintenance dredging consents associated with the existing port (see **Figure 67**).

Modelling indicates that sediment plumes generated during dredging and the resulting sediment deposition may affect surrounding habitat and benthic communities. The scale, mnagnitude and duration of the effects will depend on a range of factors inlcuding the type of dredging , the duration, and environmental conditions at the time of the dredging.

As outlined above, C+C predicts that the combined effects of dredging on benthic communities that are important to fish, including macroalgae will range between high at the OHEZ and Harbour scales if a TSHD is used, and moderate at the OHEZ and Harbour scales for CSD amnd BHD operations.

Ecological recovery is expected to be around 5 years.

However, impacts on fish are expected to be lower and temporary, because:

- The species potentially affected are able to move to other areas.
- Fish stock sizes are managed through fishing controls set under the Fisheries Management Act.
- Fish populations are unlikely to be limited by habitat or resource availability because fishing (carried out under the Fisheries Act) has reduced the populations of targeted species to levels well below those historically occurring.
- None of the fish potentially affected are Threatened or At-Risk species.

Overall, C+C concludes that the effect of disturbing or losing fish habitat within the dredging and reclamation footprints is assessed as **low** at all scales.

5.7.11 Stormwater discharges

Overall, the available information suggests that the current discharge poses little ecological risk. This conclusion is supported by toxicity testing (WETT)[55] carried out by NIWA in 2003 and 2005 and more recently in 2017, which showed no significant toxicity at 200 times dilution, and even under the highest concentrations tested (32% and 63.5% for marine algae and the wedge shell *M. liliana*, respectively), there were no adverse effects on the test organisms relative to the control.

The existing stormwater system will be upgraded to accommodate runoff from the proposed reclamation areas. Importantly, no logs or other bulk freight will be stored on the proposed reclamation areas. Consequently, stormwater contaminant loads from the proposed reclamation are expected to be relatively low. Discharge water quality is therefore expected to be similar to, or better than, that provided by the existing system (due to inputs of cleaner stormwater), but discharge loads may increase slightly. Overall, the proposed reclamation is expected to have a low effect on sediment and water quality based on:

- Past monitoring and assessments that indicate key contaminant concentrations are well below toxicity guidelines after reasonable mixing;
- The outfall discharges to a high flushing area;
- Contaminants are unlikely to permanently settle and accumulate in the local receiving environment.

Assuming that past monitoring results are representative of existing discharge quality, and that a similar discharge quality will be maintained, the addition of the proposed reclamation area is **not expected to cause any additional adverse ecological effects**. However, C+C recommends that stormwater monitoring requirements be reviewed to ensure:

- They remain aligned with port operations (e.g. the addition of total organic carbon is recommended); and,
- They provide a timely warning for management intervention if unanticipated changes in the discharge occur.

[55] Whole Effluent Toxicity Testing.

5.7.12 Proposed avoidance and/or mitigation measures

The following avoidance and/or mitigation measures are proposed:

Minimising sediment plumes

- Adherence to a dredge management plan(s), and associated conditions of consent, including:
  - Dredging methodology.
  - Monitoring of turbidity.
  - Potentially removing key species from affected sites prior to reclamation/capital dredging where practicable

Stormwater

- Compliance with conditions of consent relating to stormwater discharge quality.

5.7.13 Overall effects conclusions (excluding cumulative effects)

A summary of the potential effects (excluding cumulative effects) in accordance with EIANZ guidelines (at all scales) is provided in **Table 17** below:

Table 17: *Summary of ecological effects (excluding cumulative effects) at the harbour, OHEZ and footprint scales (the most relevant system for each effect is unshaded)*

Potential effects	System		
	Harbour	OHEZ	Footprint
Intertidal sediment habitats and macrofauna	**Moderate**	Moderate	Very high
Effects on kaimoana shellfish	**Low**	Low	High
Direct effects on subtidal benthic macrofaunal diversity from reclamation.	Moderate	**Moderate**	Very High
Direct effects on subtidal benthic macrofaunal diversity from dredging.	Moderate to High	**Moderate to high**	Moderate to High
Effects on seagrass	**Low**	Low	Very High
Effects on macroalgae	Moderate to High	**Moderate to high**	Moderate to High
Effects on fish	**Low**	Low	Low

Effects on reef habitat	**Positive in the medium term to long term**	Positive in the medium to long term	Positive in the medium to long term
Effects of stormwater discharges.	**Low**	**Low**	**Low**

C+C concludes that the ecological effects of the proposal (including cumulative effects) with respect to; threatened or at-risk species; and identified SEAs will either be **negligible** to **less than minor** at worst (and in some cases **temporary**).

The C+C report also concludes that if best practice methods for managing dredging effects are applied, then the ecological effects on any other potential areas of significant indigenous vegetation and habitats of indigenous fauna under Appendix 5 of the Regional Policy Statement (RPS) could also be kept within **minor** and/or **transitory** levels.

As outlined in the C+C report, the conclusions with respect to effects associated with the proposal are conservative in several important respects, including because:

- The sediment plume modelling informing the assessment of dredge effects includes conservative assumptions;
- The assessments do not take into account the range of effects already authorised by Northport's existing consents (see below) and
- Effects will be reduced through management regimes imposed via conditions (as detailed in Section 5.7.12).

5.7.14 Existing environment/cumulative effects

Existing environment

As identified in Section 5.7.5 of this AEE, Northport has consents to capital dredge and then maintain the water depth in front of the existing port. It also has consent for an additional 4.08ha reclamation associated with the construction of Berth 4, although that consent is not yet fully implemented. In addition to the Northport consents, CINZL holds consents to deepen and realign the commercial shipping channel. The CINZL consents have also not yet been implemented. All these consents are located within the OHEZ.

As outlined above, many of the effects associated with the current proposal are already provided for under the existing capital and maintenance dredging consents held by Northport.[56] However, C+C has stated that it is difficult to be precise regarding the difference in adverse effects as between the effects of the existing Northport consents and the effects of the current proposal. The

[56] The only changes are related to the slight difference between the currently consented and proposed dredging footprints and the different dredge depths involved.

C+C assessment does not take into account the effects that are already authorised by the existing Northport consents and so the assessment is highly conservative.

Potential cumulative effects

The potential effects of the proposed reclamation, dredging and stormwater discharges outlined above are:

- Loss of marine habitat and biota living within the dredging and reclamation footprints;
- Displacement of species that utilise the reclamation area, but do not permanently live within it;
- Effects of sediment suspension, dispersal and deposition beyond the dredging zone;
- Indirect effects arising from alteration to currents, wave and/or sedimentation patterns;
- Effects on reef habitat;
- Ecological effects associated with potential changes to water quality from stormwater discharges.

Cumulative loss of marine habitat

A breakdown of the areas affected by consented intertidal and subtidal reclamation and dredging areas is provided in **Table 18** below.

***Table 18**: Cumulative reclamation and dredging areas*

	Intertidal	Subtidal	
Development area	**Reclamation footprint (ha)**	**Reclamation footprint (ha)**	**Dredging footprint (ha)**
This project	6.56	5.13	61
Northport (consented)	0.14	4.35	60
CINZL	0	0	40
Total	6.33	9.86	101

Overall, consents have been obtained or sought for around 70 ha of dredging and reclamation in the OHEZ. An additional 0.54ha of intertidal area will be lost through the construction of the bird roost.

Reclamation will result in a permanent reduction in the extent of physical and biological features that support diversity values and important ecosystem services. Dredging will physically alter (deepen) habitats and disturb such features. However, in the case of dredging, observations from around Northport and around the world indicate that similar, high value habitats and ecological features will reform once dredging ceases.

The significance of ecological effects associated with reclamation and dredging have been individually assessed for the proposed reclamation and for combinations of those developments and other dredging and reclamation projects that have already been consented (specifically the Berth 4 reclamation and the CINZL dredging).

Key results from the assessment are contained in the following **Table 19.**

***Table 19**: Cumulative effects summary*

Potential effects	Relevant system	Level of effect
Benthic habitats and macrofauna	Harbour	Moderate
Kaimoana shellfish	Harbour	Low
Subtidal habitat and benthic macrofauna (Reclamation)	OHEZ	Moderate
Subtidal habitat and benthic macrofauna (Dredging)	OHEZ	Moderate to High
Seagrass (dredging)	Harbour	Low
Macroalgae (seaweeds)	OHEZ	Moderate to High
Fish	Harbour	Low
Reef habitat and biota	Harbour	Positive (medium to long term)
Stormwater discharges	Beyond the mixing zone	Low

5.8 Avifauna

5.8.1 General

Potential effects (including cumulative effects) on avifauna from the construction, maintenance, and operation of the expanded port have been assessed by BML. The conclusions from this assessment are summarised below. Further detail is provided in the BML report in **Appendix 13.**

5.8.2 Assessment context

Policy D.2.18 of the PRP[57] directs that when assessing the potential adverse effects of activities on identified values of indigenous biodiversity a system-wide approach to large areas of indigenous

[57] This policy is operative under Section 86F of the RMA.

biodiversity be employed, recognising that the scale of the effect of an activity is proportional to the size and sensitivity of the area of indigenous biodiversity.

The assessment of avifauna effects carried out by BML considers the effects of the proposed port expansion on avifauna at the scale of the wider Whangarei Harbour (i.e. the coastline and harbour waters to the west of a line drawn from Busby Head in the north to Ruakaka Estuary to the south), being the area shown on **Figure 68** below.

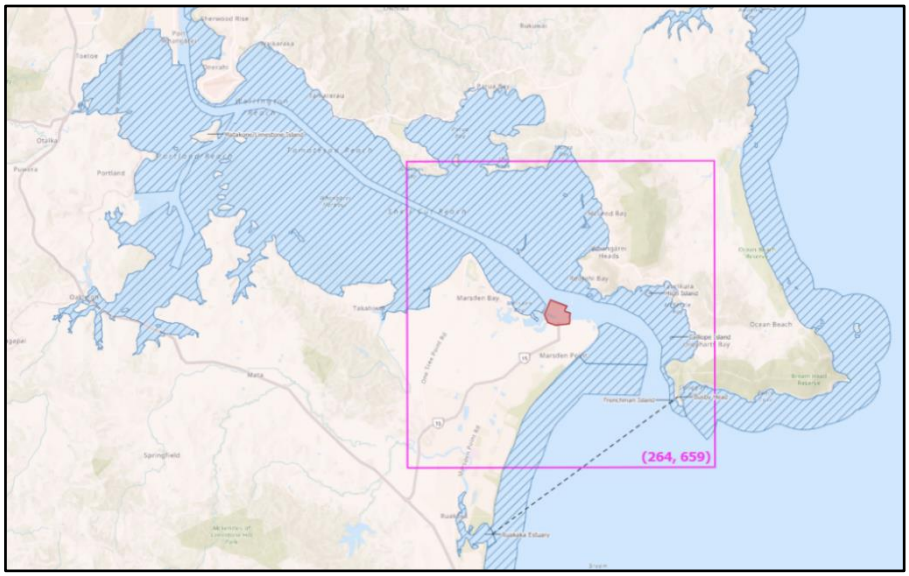

***Figure 68**: Outer Whangarei Harbour Scale for assessment of effects on avifauna*

This scale is deemed appropriate based on the habitat types within this area and the way the species being assessed use those habitats.

5.8.3 Actual and potential effects identification

The actual and potential effects on avifauna from the proposed expansion are broadly described as:

- Direct/permanent loss of habitat.
- Injuries and/or mortalities.
- Disturbance and displacement (effective habitat loss).
- Food supply and foraging ability.
- Artificial lighting.
- Pollution.
- Re-creation of high tide roost habitat.

The assessment is species focussed and takes into account the avoidance and mitigation measures detailed in Section 5.8.8 of this report.

Given the importance of the RMA effects terminology for interpreting the indigenous biodiversity policies in the PRP, this AEE expresses the equivalent RMA terminology in bold and brackets alongside the EIANZ terminology used in the BML assessment.

5.8.4 Effects of permanent loss of habitat

Loss of foraging and roosting habitat

The proposed 13.7ha expansion footprint contains a combination of dune, intertidal and subtidal areas. 6.2ha of this is inter-tidal habitat which represents less than 1% of the soft shore sandy habitat in the outer harbour area, and 0.11% of the intertidal area in the outer harbour and entrance zone.

The inter-tidal and high-tide areas within the footprint are used for foraging and roosting by a variety of bird species, including eleven *Threatened* or *At-Risk* species.

Fourteen bird species were recorded foraging in the inter-tidal area within the proposed footprint during the surveys carried out for the assessment. The four most abundant species recorded relative to the local harbour population was as follows:

- Caspian tern: 0.38%
- NZ Dotterel: 3.4%
- Red-billed gull: 5.86%
- Variable oystercatcher: 7.86%

Thirteen species were recorded roosting in the high tide area within the proposed footprint. The four most abundant species recorded relative to the local harbour population were as follows:

- White fronted tern: 0.13%
- South Island pied oystercatcher: 3.6%
- Red-billed gull: 4.1%
- Variable oystercatcher: 14.36%

The proposal will permanently remove the foraging and roosting habitat located within the expansion footprint.

<u>Foraging</u>

The benthic macroinvertebrate survey data reported lower taxa diversity and abundance on the eastern side of the Northport relative to the western side. Therefore, the availability of a more diverse and abundant food source on the western side of Northport means that the loss of the intertidal habitat on the eastern side will not detrimentally impact the foraging ability and food supply of the New Zealand dotterel or VOC. Accordingly, BML considers that the effects in relation to the loss of foraging habitat are **low (less than minor).**

Roosting

Due to the proportion of New Zealand dotterel and VOC that utilise the high-tide area for roosting, the potential effects, as detailed in Section 3.11 of this AEE, additional high tide roosting habitat is proposed to the west of Northport to avoid the effects associated with the loss of habitat within the proposed reclamation footprint. This will involve the reconstruction of an historic sandbank. This habitat will be created prior to the reclamation commencing so that it is available for use prior to the loss of habitat.

Taking into account the additional roost habitat on the western side of Northport prior to construction and its ongoing maintenance, the potential effects of the loss of roosting habitat associated with the eastern reclamation will be low **(less than minor)** for New Zealand dotterel and VOC.

Other species

Due to the low numbers of other species known to utilise the habitat within the expansion footprint, the effects of the loss of foraging and roosting on other avifauna species ranges from low to very low **(less than minor).**

5.8.5 Injuries and/or mortalities

Construction effects

The mobile nature of most avifauna species means that the potential for direct mortalities associated with construction activities are likely to be confined to birds that may be nesting or with young chicks or, in the case of little penguins (kororā), moulting at which time they are unable to swim.

There is only one known instance of birds nesting in the expansion footprint, being a pair of VOC successfully nesting and raising two chicks in the eastern revetment in 2019. While the revetment around the Northport site provides potential nesting habitat for kororā, they have not been detected during the surveys conducted to date. However, for the purpose of the assessment and associated effects management, it has been assumed that they are present.

Subject to implementation of the measures contained in the CEMP the adverse effects on nesting and moulting species are predicted to be **negligible** and short-term (i.e. limited to the period of construction). The overall effects on both species (kororā and VOC are predicted to be **very low (less than minor)**.

Operational effects

As is the case with potential construction effects, the mobile nature of most avifauna species means that the potential for direct mortalities associated with operational activities is likely to be confined to birds that may be nesting or with young chicks. To date, VOC, pied stilt, and Northern NZ dotterel have all been recorded breeding on the existing and operational Northport site.

Due to the relatively low number of birds recorded nesting on the existing Northport site, and the proven ability of those birds to raise chicks in this environment, the potential for mortalities during the operational phase is expected to be **low (less than minor)** for NZ dotterel and very low **(less than minor)** for pied stilt and VOC.

5.8.6 Disturbance and displacement

Construction effects

Indirect disturbance to foraging and roosting may occur as a result of construction activities such as noise, vibration, and plant movement.

While the potential adverse effects of disturbance to foraging and roosting birds during construction cannot be avoided, there are other nearby areas of habitat to undertake these activities beyond the area of disturbance.

The magnitude of effect in relation to construction disturbance to foraging New Zealand dotterel is predicted to be negligible based on the availability of a more diverse and abundant food source nearby on the western side of Northport. Accordingly, any birds that are disturbed by construction will not have to expend significant amounts of energy to locate food. Furthermore, based on the re-creation of the sandbank on the western side of Northport prior to construction commencing, the potential effect of the loss of roosting habitat associated with the proposal will be low **(less than minor)** for New Zealand dotterel and variable oystercatcher.

With respect to underwater noise disturbance associated with piling activities, foraging little penguins will be exposed to the greatest disturbance due to the amount of time they spend underwater, especially when a hydraulic impact hammer is used.

BML consider that there will be an overall **Moderate** level of effect from underwater noise disturbance associated with the use of hydraulic impact hammer. In order to reduce this potential effect, measures such as bubble curtains may be employed during piling activities that involve a hydraulic impact hammer. Based on the likely location of breeding birds relative to the piling works, the overall effect of piling activities on little penguin will be **Low.**

Operational effects

Based on a 45 m disturbance zone around the project footprint, disturbance from the operation of the proposed expansion could result in an additional effective loss of 3.73 ha of intertidal foraging habitat. In addition, there may also be effects due to displacement by other birds and increased recreational pressure at the eastern end of the reclamation.

Due to the small number of birds recorded as utilising the area to the east of Northport relative to the wider Whangarei populations, the potential effects of operational disturbance and displacement on species recorded foraging or roosting within the 45 m operational disturbance zone are predicted to range between **low to very low (less than minor)** for all species.

5.8.7 Effects of construction sediment suspension on food supply and foraging

The reclamation construction and dredging may result in the release of sediment into the marine environment. This could result in adverse effects on avifauna prey species and reduce the visibility of prey species for species such as penguin, shags, terns, and herons.

Experience from previous dredging activities at Northport provides a level of confidence that turbidity effects can be minimised through good plume management/monitoring (in real time) including potentially the use of silt curtains in the shallower high-risk areas. This, combined with the depth and duration of the dredge activity, result in the predicted effects of construction activities on food supply and foraging ranging between low and very low **(less than minor).**

5.8.8 Artificial lighting

An increase in artificial lighting is not expected to adversely affect the nocturnal foraging of waders. Other potential effects of artificial lighting are:

- Attraction and subsequent collision with structures.
- Increased vulnerability to predation.
- Diversion towards the lights and away from breeding colonies.

There is already a level of artificial lighting present in the existing environment associated with existing Northport, CINZL and residential development. The proposed lighting for the expanded port will not significantly increase the existing ambient levels or the range of species that might be affected. However, there will be a small cumulative increase in lighting on the coastal margin.

Measures to minimise construction and operational lighting will be employed, including:

- Lighting will be kept to the minimum required for safe operation; and
- Wherever practicable lighting will be directed downwards and shielded to reduce light projecting horizontally towards coastal waters and avoid light projecting vertically to passing birds.

Based on the above measures, the potential adverse effects of lighting causing fatalities or impacting foraging of local (wider Whangarei Harbour) populations of coastal avifauna species is predicted to range from low to very low **(less than minor)**.

5.8.9 Pollution

The location of seabirds at or near the top of the marine food web makes them particularly sensitive to marine contaminants such as hydrocarbons, heavy metals, hydrophobic persistent organic contaminants, and small plastic debris.

Construction effects

Dredging operations can result in the release of toxins through the remobilisation of contaminated sediments.

The 2021 analysis of intertidal sediment to the east and west of Northport showed that heavy metals and PAHs are not elevated and are not occurring in concentrations that can adversely affect habitats or biota. Also, a review of water quality measures associated with previous capital and maintenance dredging by Northport reported that metals and PAHs in the decant discharge were at levels below analytical detection. Accordingly, the C+C marine ecology assessment for the eastern reclamation proposal determined that the adverse effects of remobilised contaminants on the marine habitat and biota would be negligible for all potentially affected species.

Based on the C+C conclusions and the related supporting information, the effects of pollution from construction activities on coastal avifauna will be **low** to **very low** (**less than minor**) for all species.

Operational effects

Stormwater run-off from the operational port facility could result in contaminants entering the marine environment. However, based on actual water quality data for present day discharges, the additional stormwater from the expanded port is not expected to adversely affect water quality. Therefore, the predicted operational effects of stormwater discharges from the expanded port range between low and very low **(less than minor).**

5.8.10 Effects of proposed high-tide roost habitat

The location of the proposed high tide roost within the intertidal zone will result in the removal of a confined area of foraging habitat.

A total of 97 birds were recorded over the course of all the shorebird surveys under the footprint of the proposed high tide roost comprising of the following species:

- Northern NZ dotterel
- Lesser knot
- Pied stilt
- White-faced heron
- Caspian tern

Assuming that these birds were utilising this area to forage, the proposed high tide roost will result in the loss of approximately 4,573 m^2 of foraging habitat for these species.

BML have concluded that the effects of the loss of foraging habitat on those species will be low to very low (**less than minor**) for all species. This conclusion is based on the benthic macroinvertebrate data which identified a more diverse and abundant prey source further to the west of the proposed high tide roost. Also, with respect to Caspian tern, this species primarily

feeds on small surface-swimming fish, and forages much less frequently in the soft mud and shallow water.

5.8.11 Cumulative effects

BML have considered the cumulative effects of the proposal with other consented but not yet constructed projects[58] in the Whangarei Harbour.

Based on the effects identified by the other consented projects, there will be no cumulative effects on coastal avifauna in relation to discharges into the marine environment or increased lighting on the coastal margin.

None of the projects identified the permanent loss of habitat for variable oystercatcher or Northern NZ dotterel. Therefore, there will be no cumulative effects on coastal avifauna in relation to permanent habitat loss.

While the Port Nikau marina assessment noted the potential for disturbance to foraging wading birds, the species and level of effect was not identified. Thus, based on the information provided in the Port Nikau marina assessment, BML concludes that there will be no cumulative effects on coastal avifauna in relation to construction related disturbance associated with the proposal.

5.8.12 Mitigation and/or avoidance measures

The following measures are proposed to avoid or otherwise minimise effects on avifauna:

Avifauna section of the CEMP

Potential injuries/mortalities can be avoided through adherence to the measures included in the avifauna section of the CEMP, which will include measures to avoid direct impacts and manage nesting kororā and variable oystercatcher. These measures will include:

- For kororā:

- Pre-construction (including rock removal) surveys by a suitably qualified and experienced coastal ornithologist to determine the presence of kororā within the western boundary riprap revetment;
- Establishment of exclusion zones around nesting and / or moulting birds[59];
- Rock removal works to occur under the guidance of a suitably qualified and experienced coastal ornithologist;
- Measures to ensure that kororā are not trapped by construction works.

[58] Northport Berth 4, CINZL channel optimisation, Port Nikau marina expansion, Whangarei Marina Trust new marina.

[59] Under no circumstances should nesting birds, nest contents or moulting penguins be moved. Furthermore, a DOC Wildlife Act permit is required to handle species listed in the Wildlife Act (1954).

- Measures to minimise underwater noise during piling activities, to be informed by underwater noise modelling.

▪ For variable oystercatcher:

- If construction works are to occur within 20m of an area identified as potential variable oystercatcher nesting habitat during the breeding season, a suitably qualified and experienced coastal ornithologist should check for the presence of active nests.
- If an active nest is detected, a 20m exclusion zone should be established around the nest to ensure machinery and personnel do not come within 20m of the nesting bird.

Loss of roosting habitat

▪ Construction of additional roosting habitat for VOC and NZ Dotterel, to be completed prior to reclamation construction works commencing.

Sedimentation

▪ Adherence to the measures in the dredging/construction management plans and associated conditions of consent.

Lighting

Measures to minimise construction and operational lighting will be employed, including:

▪ Lighting will be kept to the minimum required for safe operation; and

▪ Wherever practicable lighting will be directed downwards and shielded to reduce light projecting horizontally towards coastal waters and avoid light projecting vertically to passing birds.

5.8.13 Overall effects conclusions

BML concludes that (subject to the measures outlined in Section 5.8.12 above) the cumulative (overall) effects of the proposed expansion low to very low (**less than minor**) for all avifauna species.

5.9 Marine mammals

5.9.1 General

Potential effects (including cumulative effects) on marine ecology from the construction, maintenance and operation of the expanded port have been assessed by CI. The CI assessment interprets and relies in part on the technical modelling from Styles Group (SG) in respect to underwater noise. The conclusions from this assessment are summarised below. Further detail is provided in the CI report in **Appendix 14.**

5.9.2 General construction noise

Underwater noise can affect marine mammals as they rely heavily on underwater sounds for communication, orientation, predator avoidance, and foraging. It can elicit three types of responses in marine mammals being:

- Behavioural (e.g. changes in surfacing or diving patterns),
- Acoustic (e.g. changes in type or timing of vocalisations)
- Physiological injury (e.g. auditory threshold shifts and stress).

Construction of the reclamation and associated seawalls will involve the movement and disposal of rocks, sand, and gravel material. The level of disturbance and underwater noise that these construction activities will produce are expected to be several orders of magnitude less than those associated with pile driving and dredging activities.

The potential underwater noise effects on marine mammals resulting from construction activities will be temporary only due to the localised scale, intermittent (hours), and short-term duration. Underwater noise produced by general construction activities has the potential to disturb individual animals visiting the immediate port facility, with responses to this disturbance potentially being temporary avoidance of the Whangarei Harbour entrance waters while the activities are occurring, but more likely, directed movement away from the immediate vicinity until the activities have stopped. This conclusion is based on:

- The proposed reclamation site is not unique or rare habitat for any marine mammal species in terms of feeding, resting and / or breeding activities;
- Most underwater noises generated from these activities are expected to be within the lower frequency ranges and intermittent in duration, similar to the underwater noise produced by existing commercial vessels visiting the port;
- Relevant environmental factors of the site (e.g. intertidal / shallow depths and soft mud) may, to some degree, naturally dampen any underwater noise production.

5.9.3 Pile driving noise

Background

Pile driving is one of the noisiest of all construction sounds and will be the most intense of the underwater noises produced during construction of the proposed reclamation. Pile driving generates a very high source level as broadband impulses (i.e. sound pulses across a wide range of frequencies). This has the potential to disrupt marine mammal hearing and behaviour up to many kilometres away. When in proximity, these impulses could induce acute stress and cause hearing impairment.

Potential physical effects

An underwater noise propagation model has been developed by SG to estimate the potential noise levels generated by the various construction works. The model incorporates data on local bathymetry, water temperature, tidal flow, and sediment type, all of which affect how noise travels through water. Acoustic models were then built for the largest proposed steel piles (i.e. 914 mm) with the most potential impact on marine life in order to predict the 'worst-case' distance ranges of piling generated noise. The model is explained in detail in the SG report attached in **Appendix 25.**

There are currently no national or standard guidelines for pile-driving activities within New Zealand waters. Therefore, to determine the distance that predicted noise levels could cause physical impairment or injury to local species, SG used previously established functional hearing groups to distinguish between different marine mammal species and the relevant underwater acoustic thresholds defined by the NOAA[60] *Revision to Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (Version 2.0-* 2018).

The acoustic thresholds are based on the species most likely to visit the wider Whangarei and Bream Bay area. These thresholds are weighted, meaning they are based on the functional hearing ranges over which the hearing of individual species is most sensitive, and then considers the frequencies over which the majority of sound energy might be concentrated for a particular sound source (in this case pile driving strikes).

Given the estimated distance ranges for pile driving noise, pile-driving is expected to physically disturb dolphins, orca, and fur seals only when they are within the immediate vicinity of the construction site (100-200 m). Any visiting baleen whales or leopard seals will experience adverse effects at greater distances, either when they enter the harbour and/or move towards the entrance from inner harbour regions (if already in the harbour). For baleen whale species, this level of noise may result in a general avoidance of harbour waters while pile driving is underway.

Potential displacement or behavioural effects

Based on recent overseas studies, behavioural responses to impulse noise can occur at sound levels as low as 140 re 1µPa rms with more moderate responses at sound levels of 160 re 1µPa rms. Based on these thresholds, the distance ranges for potential low and moderate level behavioural effects were estimated for all species.

It is predicted that behavioural responses will be contextual and situation dependent. Animals are expected to respond more adversely to intermittent and unexpected noise than more consistent or regular intervals of noise, regardless of the energy level. Therefore, management measures such as soft start or ramping up are used by operators to avoid sudden or unexpected full-force piling noise.

The potential behavioural responses from impact driving are predicted to be confined (spatially) to within the inner Whangarei Harbour waters and the entrance, and any animal attempting to

[60] USA National Oceanic and Atmospheric Administration.

enter the Harbour underwater will likely exhibit at least lower-level behavioural responses while piling is underway.

Owha, the visiting leopard seal, is expected to continue to utilise any existing haul-out sites in the harbour and/or nearby marinas throughout the proposed construction period as in-air piling sound levels are expected to be much lower than in-water levels and seals often swim with their heads out of water when near human activity.

Overall, the sound modelling carried out by SG suggests that for most species (with the exception of visiting baleen whales), pile-driving noise without appropriate management has the potential to cause temporary hearing impairment only within close proximity of the piling source. While the potential is greater for visiting baleen whales and leopard seals, very few individuals visit these waters in any one year (1-3 animals) and these species tend to have a stronger seasonal presence (winter migrations for whales). Therefore, the likelihood of any adverse displacement or behavioural effects occurring is low and any hearing injury effects will be managed such that they are nil to negligible.

Pile driving noise, with management measures in place, will most likely elicit varying levels of non-detrimental behavioural responses with potential momentary masking of some acoustic signals[61] at variable distances of a few 100m up to 2km from the source, depending on the species and individual animals.

Subject to the recommended management measures, including the establishment of marine mammal observation zones (MMOZ) and soft start/ramping up procedures, any residual effects are expected to be **nil** to **less than minor.**

5.9.4 Dredging noise

The act of breaking and/or removing bottom substrate (of itself) is not expected to directly affect any marine mammals known to frequent Whangarei Harbour. However, the associated increase in the production of underwater sound and physical disturbance within the harbour is more likely to adversely affect marine mammals. Noise produced from dredging activities differs from pile driving in that it is a continuous rather than impulse noise occurring at frequencies mostly below 1 kHz.

No permanent hearing injuries are predicted for any marine mammals with the onset of any hearing impairment estimated to occur only when an animal is within 1m of the operating dredge.

The probability of a behavioural response occurring (either low or moderate) will increase as an individual animal gets closer to the dredge vessel. However, the estimated initial onset distance for any low-level behavioral responses is 1.6km or less (depending on both the type of dredge vessel and species). These predicted distance ranges decrease for any potential moderate level behavioral responses to within 600m or less from the dredger. Any short-term auditory masking

[61] For example, members of the same species may find it more difficult to communicate across particular frequencies/levels while in proximity to piling activity).

effects between two individuals of the same species are predicted to occur within a similar distance or less.

Based on the SG modelling, any effects from dredging generated underwater noise will likely be transitory and non-injurious. Effects will be predominantly limited to the momentary masking of some noise signals and a range of potential behavioural responses if animals approach to within a kilometre or less of the dredging location (depending on the type of dredge vessel and species). There is no likelihood of any hearing injury effects occurring.

5.9.5 Vessel strike

General

While the potential for any boat strike of local marine mammals from the proposed dredge platforms is nil to **negligible, i**ncreasing the port capabilities and/or capacity means that additional large commercial ships will be expected to visit the port, Whangarei Harbour and the wider area each year. This increases the potential for collision risks with local marine mammals.

The likelihood of vessel strike depends on several operational factors including vessel type, speed, and location. Although all types and sizes of vessels have hit whales, the most severe collisions (e.g. fatal injury or mortality) typically occur with large (> 80 m) ships travelling at speeds over 11 knots.

It is expected 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. Currently most south-bound container ships pass around the Hen and Chicken Islands and transit towards the Ports of Auckland via the Jellicoe Channel. The expansion of Northport would simply result in a proportion of these movements turning and entering the Whangarei Harbour rather than continuing south, and north-bound ships either transiting through the Hauraki Gulf or around Great Barrier Island before heading towards the Whangarei Harbour and Northport.

The species considered most vulnerable to any potential vessel collisions include Bryde's, humpback, and southern right whales and to a lesser extent, bottlenose dolphins and orca (given their current endangered species status rather than proneness for vessel strike).

Despite the potential increase in vessel traffic due to the proposed port expansion, the likelihood of a vessel strike (injury or mortality) is assessed as low for migrating baleen whales, odontocete and pinniped species. This is based on the following factors:

(a) Spatial and temporal factors

- Low probability of port-related commercial ships encountering a migrating whale within the Whangarei Harbour and the wider Bream Bay region as currently only 1–3 individual whales are sighted within these waters each year.
- The majority of migrating whales currently pass by Hen (Taranga) and Chicken Islands in deeper, more offshore waters (e.g. further than 5 to 10 nm) where they are likely encountering

the same south-bound ships currently travelling to Ports of Auckland and that may be diverted into Northport in the future.

- Most whales occur in the area for a limited period each year, mainly in the winter months and some spring months, and most only remain for a day up to a week.
- Most odontocete and pinniped species known to frequent Whangarei waters are in regular contact with all types and speeds of commercial and recreational vessels throughout their entire distributional range with few to no reported ship strikes.

(b) Known collision factors

- Vessel traffic is expected to increase mainly from the south as more commercial ships may be diverted further north and likely travelling through Mangawhai / Bream Bay coastal waters;
- Any expansion of the Hauraki Gulf Transit Protocol[62] into and behind Whangarei waters provides the best chance of significantly reducing fatal injuries and mortalities of baleen whales due to vessel collisions in this region. Implementation of the protocol (i.e. reducing average speed to 10 knots) has been estimated to reduce the probability of a lethal ship strike from 51% to 16% (Riekkola 2013) in the Hauraki Gulf.
- Most dolphin species have a general attraction to boats and safely approach and / or bowride with numerous vessels. Fur seals often respond neutrally to boats when in the water (although they may bowride occasionally).
- With the exception of Bryde's whales, whale species do not usually feed while migrating past New Zealand's north-eastern coastline to and from their northern tropical breeding and southern sub-Antarctic / Antarctic feeding sites.
- Whangarei Harbour and Bream Bay are not considered unique or important feeding, resting or nursery habitats for any visiting species, hence individuals are less likely to be 'distracted' by such activities, and are thus less vulnerable to collision risk.

5.9.6 Marine debris and possible entanglements

The major hazard associated with marine debris for marine mammals is the possibility of entanglement. Whales, dolphins, and pinnipeds are often attracted to floating debris with a potential risk of becoming entangled in floating lines and netting. Loose, thin lines and nets pose the greatest entanglement risk and especially lost nets, ropes, and lines.

Marine debris generation is generally non-existent in well-maintained coastal projects with proper waste management programmes in place (including secure onboard storage of lines, nets, and waste). In such cases, any effects to marine mammals are expected to be **nil** to **negligible.**

[62] Northport is currently supporting an initiative to extend the Hauraki Gulf Transit Protocol for Commercial Shipping up to the Poor Knights (Sea Change – The Hauraki Gulf Marine Spatial Plan). This protocol was instigated in 2013 to protect the endangered Bryde's whales by voluntarily limiting speed for all commercial ships travelling within the Gulf to 10 knots and designating a crew member to watch for any signs of whales during daylight hours.

5.9.7 Ecological effects of habitats and prey species

The potential ecological effects from any loss of existing intertidal, subtidal, and benthic biota and loss or alteration of the habitats within the immediate region of the proposed activities are discussed in detail in the ecological assessment.

Due to the limited effect (both spatially and temporally) that the proposed construction activities are expected to have on local habitats and associated prey resources, there are unlikely to be any long-term flow-on effects to local marine mammals. This is based on the following factors:

- A relatively small percent of habitat loss to reclamation within the Port area relative to similar intertidal and subtidal habitats found in the wider lower harbour.
- Dredged habitat is expected to recover (or new habitat colonised) relatively rapidly after construction is complete.
- Dredged sediments are expected to be relatively clean and unpolluted while any turbidity effects from dredging are predicted to be confined to a limited region around construction sites. Any affected fauna is expected to fully recover as demonstrated by the results of previous dredge monitoring.
- A large proportion of subtidal areas within the proposed construction area are already modified environments due to previous dredging campaigns.
- Short-term displacement of individual prey resources as a result of the small spatial scale of disturbance with no effect on species recruitment.
- Home ranges of local marine mammal species are large and overlap with similar types of habitats in other parts of the harbour and along most other coastal bay regions.

5.9.8 Cumulative effects

Those marine mammals passing through Whangarei and the wider Bream Bay region are exposed to a variety of other anthropogenic activities that generate underwater noise, including large-scale commercial shipping, recreational boating, and commercial fishing vessels.

The underwater noise model prepared by SG is based on actual measurements of the current ambient noise that incorporates all underwater noise in the existing harbour environment. It is important to note that additional underwater noise is not often cumulative. The louder source merely covers up the other sources, as opposed to all sources combining to make the environment noisier than the baseline position.

If pile driving and dredging are taking place in the vicinity of the proposal site at the same time, the louder pulses of piling will be heard over the top of the more constant low frequency noise of the dredger each time the hammer falls. The overall effect will not necessarily result in louder source noises but may instead mean that noise thresholds are reached over a shorter exposure period (less than 24 hours).

Other consented but not yet implemented marine development projects within the lower harbour (most notably the CINZL channel deepening project and the construction of Berth 4) are relevant to the consideration of potential cumulative effects. Specifically, if the proposed expansion was implemented consecutively with these two consented projects, underwater noise levels would have the potential to be elevated for up to 6 years.[63]

Notwithstanding the potential cumulative effects, it is highly unlikely that all projects will occur immediately following each other, and it is looking increasingly unlikely that the CINZL channel deepening and widening consent will be implemented (at least fully). It is more likely that any increases in underwater noise levels will be variable and intermittent, and undertaken over weeks or months rather than constant.

From a noise management perspective, it would be better if the dredging and piling aspects of the proposal are completed together, so that effects occur over a shorter overall duration.

5.9.9 Mitigation measures

Overall, the residual effects of the proposal on marine mammals are assessed as **less than minor** to **nil** subject to the implementation of effects management measures recommended in the CI report. These measures will avoid adverse effects on threatened or at-risk taxa, and avoid, remedy, or mitigate any other adverse effects.

To ensure that the most appropriate effects management measures are in place, a MMMP will be developed by marine mammal and underwater acoustic experts in consultation with others, including the Department of Conservation, before commencing construction operations. The MMMP will outline the procedures necessary to reduce or manage the effects of underwater noise, and other effects. It will include appropriate reviewing and reporting timelines for management actions and any implemented effects management procedures to ensure their effectiveness during operations. A draft MMMP is attached in **Appendix 5.**

The MMMP will follow accepted best practices to minimise the adverse effects of underwater noise. Consistent with the draft MMMP, the key management measures and actions are as follows:

- Verification of the *in-situ* noise levels produced from pile-driving activities by measuring the associated underwater noises of these activities as soon as practicable once the project has begun. Results will be reviewed against the same parameters used for acoustic modelling by SG and any necessary adjustments made to effects management actions (e.g. revised MMOZ).
- Reduction of noise levels at the source, including:
  - The use of vibro driving whenever possible, due to a continuous and generally lower level of sound generated using this technique compared to intense, discrete pulses of impact driving. Further consideration should also be given to other environmental factors such as substrate type and duration implications.

[63] CINZL (6 months to 1 year), Berth 4 (2.5 years), eastern expansion (2.5 years).

- Considering any recent developments in reducing noise at the source including bottom-driven piles, air balloons inflated within open piles to reduce ringing and / or bubble curtain technology.
- The smallest possible pile size should be used that meets the specific operational need (the smaller the pile, generally the lower the noise level, subject to different piling methodologies).
- The use of 'soft start' or 'ramping up' procedures, where pile-driving energy is gradually increased to normal operating levels to give nearby animals (close to or just outside the MMOZ) an opportunity to move away from the area before sound levels increase to an extent that may cause discomfort or injury. This process is also expected to help mediate more moderate and some low behavioural responses from nearby animals, giving them a chance to habituate to the pulses of sound over time before increasing the noise level.
- The use of a sacrificial, non-metallic hammer cushion cap (or dolly) for impact piling.[64]
- Modifying the pile strike by changing the contact time of the hammer should theoretically reduce the noise generated by the impact through a reduction in the amplitude of the pile vibration.

- Establishment of shut down zones around the construction area to minimise any risk of hearing impairment to marine mammals from pile-driving activities only[65]. The presence of any marine mammals within these zones would require the cessation of pile driving, with commencement or continuation not to occur until the animal leaves the pre-determined zone. The final size of these zone(s) will be determined once *in-situ* sound levels are verified.
- A central contact point should be established with DOC to obtain up-to-date regional sighting information for the duration of the project, particularly in regard to visiting baleen whales.
- A similar contact should be established with Marsden Cove marina staff in order to receive sightings updates of the leopard seal Owha in the marina throughout the duration of the project.

[64] This is made of wood, nylon, or polymer plastic and sits between the hammer and the top of the pile where it is used to reduce wear. Appreciable reductions in both underwater noise and airborne noise levels have been achieved with this method.

[65] Shut down zones for dredging activities are not considered necessary based on predicted noise levels and relative to other similar and relevant dredging consents, i.e. Refining New Zealand's deepening and realignment of Whangarei Harbour channel entrance. Any significant differences in actual dredging noise levels may necessitate reconsideration of a shutdown zone option.

- If practical, the various piling stages of the project should be timed so that most of the piling work does not occur over successive seasons, e.g. back to back winters. The use of the area of interest is seasonal for some marine mammal species (e.g. baleen whales) and successive interactions of this type may affect an animal's decision to return to these waters in the near future.

5.9.10 Monitoring

The continued presence (or absence) of the relevant marine mammal species within the harbour and/or near the construction site by MMOs can be used to test the effectiveness of the proposed management measures.

In addition to the MMO monitoring, it is suggested that underwater acoustic monitoring continues at the established baseline stations across the Whangarei Harbour while pile-driving and dredging activities are underway. This informative monitoring can help assist in both verifying actual sound levels while determining the potential presence of any behavioural effect(s) and at what sound level(s) they may be occurring. These results will assist in determining the efficacy of implemented management actions for further monitoring throughout the proposed reclamation project.

5.9.11 Overall effects conclusions

A comprehensive assessment of all relevant effects of dredging and construction activities was undertaken by CI. That assessment identified pile driving as the main activity associated with the proposed port expansion that could adversely affect marine mammals through high underwater noise levels.

Underwater acoustic modelling work undertaken within the proposed reclamation sites suggests pile-driving noise is expected to be detectable within the entrance and lower harbour waters, depending on the piling location. Given the potential for temporary hearing impairment near the piling source for endangered species, such as bottlenose dolphins and orca, and at further distances for visiting baleen whale species, actions are necessary to avoid these effects. With appropriate actions in place, as set out in the draft MMMP provided as part of this application, piling and dredging activities are expected to only elicit short-term, non-injurious behavioural responses with the potential for momentary masking of some acoustic signals from visiting marine mammals while in close proximity to construction activities.

The completion and certification of the draft MMMP by marine mammal and underwater acoustic experts in consultation with NRC and DOC is recommended to ensure that the most appropriate measures are in place to minimise any potential adverse effects prior to commencing operations. Informative monitoring is recommended and based around a combination of recording visual sightings of marine mammals (from dedicated marine mammal observers) and the continuation of simultaneous passive underwater acoustic monitoring.

5.10 Channel and navigation safety

5.10.1 General

Northport commissioned a Navigation Safety Report for the proposed expansion, both with and without the CINZL channel dredging (attached in **Appendix 26**). The report includes the results of ship simulations completed for the proposed expansion using the Northport in-house simulator,[66] and considers the impact of the proposed expansion on navigation safety in the Whangarei Harbour. The results of the report are summarised below.

5.10.2 Navigation safety

Northport has a safety management system which manages navigation safety through a series of risk control mechanisms, including:

- Dynamic Under Keel Clearance (DUKC).
- Environmental limitations.
- Ship simulations.
- Turning basin size/dimensions.
- Pilotage and towage.
- Navigation Aids.
- Local Port Service.

The Navigation Safety report considers the proposed port expansion (including additional shipping movements and the consented Berth 4) and how the risk control mechanisms above will be used to maintain navigation safety. It also considers the possibility that the CINZL consented channel deepening and realignment will be carried out.

The report reaches the following conclusions:

- The reduction in the size of the Northport turning basin (resulting from the proposed reclamation) will not significantly impact ships with a length of 300m or less.
- Channel navigation to and from the Northport berths (including the proposed tug berthing facility) will not be significantly impacted. The existing CINZL jetties already impose a speed

[66] The simulator mimics the environment in which ships safely operate. By imposing high winds, strong tides and large waves, the marine pilot and tug master can trial environmental conditions not often experienced in normal operations. This can be used to set realistic environmental limitations on the movement of ships to ensure they can be controlled at all times.

restriction on Northport traffic and project further north into the harbour than the proposed new Northport berths.

- Recreational boating will not be significantly restricted by the proposed expansion. Recreational traffic moving to and from Whangarei Heads is already restricted to the northern part of the shipping channel due to the presence of both the existing Northport berths and CINZL jetties. The proposed expansion will impact an area not often used by recreational craft, as the CINZL jetties already prevent recreational boating use.
- Any deepening and/or realignment of the channel by CINZL will not materially affect the above conclusions.

In addition, it is also relevant that the management of vessel traffic in the harbour has been improved since 2016 for a range of reasons including:

- Implementation of a Local Port Service.
- Establishment of a ship handling simulator for conducting risk assessments and training of marine service staff.
- Ongoing and continuous risk assessments using risk assessment tools (Hazman2).
- Presence of a local Deputy Harbourmaster in the Lower Whangarei Harbour.

Overall, it is concluded that the proposed port expansion will not negatively impact on navigation safety for both commercial and recreational vessels.

5.10.3 Marine spill risk

The existing oil spill response plans are considered to be robust, and will be regularly reviewed in accordance with s297 of the Maritime Transport Act 1994.

5.11 Biosecurity

5.11.1 Biosecurity risks at Northport

There are potential biosecurity risks associated with the proposed port expansion. Broadly, these risks arise through:

- Specialised vessel movements during the construction phase.
- Additional submerged port infrastructure (additional surface area for marine pests).
- Potential changes in the frequency and geographic origin of shipping.

5.11.2 Construction phase biosecurity risks

Increased abundance of pest species from dredging

The relevant biosecurity risk during dredging is the alteration and disturbance of the seabed by dredging and spoil disposal, which may increase the susceptibility of seabed habitats to colonisation by NIS. [67]

Increased abundance of pest species from overseas specialised vessels and equipment

It is possible that specialised construction vessels (such as dredges, barges) and equipment will be sourced from overseas, and this could pose a marine biosecurity risk. Such vessels are likely to operate around Northport for a considerable period of time (weeks to months). Barges and dredge vessels are typically slow-moving and their travel history is characterised by long residency periods at previous destination ports. Because of this operational profile, they tend to accumulate higher levels of fouling biomass compared with faster moving vessels (e.g. container ships) that tend to stay in port for shorter periods (hours to days, usually < 1 week). Biofouling on slow-moving and towed vessels often contains marine NIS.

Other transport mechanisms (e.g. ballast water, residual dredge spoil) associated with specialised vessels can also pose a biosecurity risk.

5.11.3 Operational phase biosecurity risks

Increased abundance of pest species on new structures

It is likely that new submerged structures installed within Northport will provide a settlement habitat for NIS. Artificial substrates such as pilings, pontoons and seawalls are known to provide good habitats for biofouling assemblages and often have an over-proportional representation of NIS. Conversely, rip-rap walls are usually more impoverished and support less diverse assemblages, but in some cases, they are also known to feature extensive populations of fouling pests.

Increased abundance of pest species from changed vessel patterns

The proposed port expansion is likely to increase the frequency of vessel movements to and from Northport. While speculative, it is reasonable to assume that an increase in the vessel traffic (and possibly different types of vessel), as well as a change in the geographical origin of vessels arriving in the port, has the potential to pose a biosecurity risk to the region.

[67] Non-indigenous marine species.

5.11.4 Mitigation measures

Construction risk mitigation

A CEMP will be prepared as a condition of consent. As part of this plan, a biosecurity management plan will be prepared to manage the risk of biosecurity incursions. This plan will include the following:

(a) A description of the vessel and its attributes that affect risk, including key operational attributes (e.g. voyage speed, periods of time idle), maintenance history (including prior inspection and cleaning undertaken), and voyage history since last dry-docking and antifouling (e.g. countries visited and duration of stay);

(b) A description of the key sources of potential marine biosecurity risk from ballast water, sediments, and biofouling. This should cover the hull, niche areas, and associated equipment, and consider both submerged and above-water surfaces;

(c) Findings from previous inspections;

(d) If Northport is the first New Zealand destination, a description of the risk mitigation taken prior to arrival in New Zealand, including but not limited to:

   i. Routine preventative treatment measures and their efficacy, including the age and condition of the antifouling coating, and marine growth prevention systems for sea chests and internal sea water systems;

   ii. Specific treatments for submerged and above-water surfaces that will be undertaken to address the Import Health Standard (IHS) and Craft Risk Management Standard (CRMS) requirements prior to departure for New Zealand. These could include, for example, in-water removal of biofouling, or above-water cleaning to remove sediment;

   iii. Additional risk mitigation planned during transit to New Zealand, including expected procedures for ballast water management;

   iv. Expected desiccation period of above-water surfaces on arrival to New Zealand (i.e. period of air exposure since last dredging operations);

(e) If Northport is the first New Zealand destination, the nature and extent of pre-border inspection that will be undertaken (e.g. at the overseas port of departure) to verify compliance with IHS and CRMS requirements; and

(f) If Northport is the first New Zealand destination, record keeping and documentation of all mitigation undertaken (i.e. prior to and during transit to New Zealand) to enable border verification if requested by Ministry for Primary Industries or its successor, and to facilitate final clearance.

Operational risk mitigation

Mitigation of marine biosecurity risks associated with increased shipping operations will continue to be in accordance with the requirements of the IHS administered by MPI, the Marine Pathways Plan, and Proposed Regional Plan rules administered by the Northland Regional Council.

5.12 Noise & vibration (terrestrial)

5.12.1 General

Potential effects (including cumulative effects) of terrestrial noise and vibration from the construction, maintenance and operation of the expanded port have been assessed by MDL. The conclusions from this assessment are summarised below. Further detail is provided in the MDL report in **Appendix 4.**

5.12.2 Vibration

Construction vibration is predicted to be imperceptible at the closest sensitive receivers due to the very large setback distances.

5.12.3 Construction noise

Permitted baseline

Section 6.2 of the NAV section in the WDP requires noise from demolition/construction activities to be measured and assessed in accordance with New Zealand Standard NZS 6803: 1999 *"Acoustics - Construction Noise"*.

The permitted daytime construction noise limits in the WDP are:

- 70 dB L_{Aeq} and 85 dB L_{Amax} (7:30am-6pm), Monday to Saturday
- 45 dB L_{Aeq} (6pm-7:30am) Monday to Sunday
- Transitional shoulder periods apply in the morning, evenings and on Sunday.

Predicted construction noise levels

Predicted construction noise levels are shown in **Table 20** below.

***Table 20**: Predicted construction noise levels*

Activity	Equipment	Sound power level (dB L_{WA})	Required setback to comply with 70 dB L_{Aeq} daytime limit	Required setback to comply with 45 dB L_{Aeq} night-time limit
Reclamation	Medium excavator (up to 40T) Large excavator (up to 180T) Pumps (for slurry) Backhoe dredge Trailing suction hopper/cutter dredge (TSHD/TSCD)	105 113 93 111 107	30m 65m <10m 50m 36m	300m 630m 100m 525m 365m
	Mobile crane (placing rocks)	98	15m	160m
Piling	Vibro piling Impact piling (with dolly and casing mitigation) Bored piling Large crane	116 114 111 108	85m 70m 50m 40m	*Not proposed* *Not proposed* *Not proposed* 400m
General	Truck movements Concrete truck and pump	105 103	30m 25m	300m 250m

Given that the closest receivers (being the dwellings at Reotahi) are approximately 900m from the closest construction works, predicted construction noise levels for key activities will comply with the permitted WDP construction noise limits.

Construction noise effects

During the daytime, the predicted levels would be comparable to the ambient environment but may be noticeable due to the different character (e.g. the piling works). However, the levels are very low for construction, and will readily comply with the WDP day-to-day noise limit of 55 dB L_{day}.

All potential night-time activities are predicted to comply with the permitted night-time noise limits and would be largely indistinguishable from normal port activities, including excavation, dredging, equipment/material deliveries and concrete pours.

5.12.4 Operational Noise

Permitted baseline

The permitted noise levels for the Port Zone as set out in the NAV chapter of the District Plan are as follows:

- Daytime (0700-2200): 55 dB L_{Aeq}
- Night-time (2200-0700): 45 dB L_{Aeq} 75 dB L_{AFmax}

These are the same limits for activities in the CMA as contained in the PRP.

Predicted future peak period noise levels

Current predicted peak period port activities comply with the WDP 55 dB L_{day} daytime noise limit, and are at, or near, the 45 dB $L_{Aeq\ (15min)}$ night-time limit.

Predicted future peak period port activities on the expanded port are predicted to remain within the WDP 55 dB L_{day} daytime limit but would exceed the 45 dB $L_{Aeq\ (15min)}$ night-time limit in both Marsden Bay and Reotahi. The predicted exceedance is up to 7 decibels at the most exposed dwellings and controlled by the proposed expanded container operations.

L_{AFmax} noise levels are associated with discrete events (e.g. log or container placement). Representative events are expected to occur more frequently with increasing activity intensity but continue to comply with the 75 dB L_{AFmax} NAV limit.

Effects of a change in noise levels

While it is acknowledged that people may subjectively have an annoyance reaction to a greater or lesser degree, these individual and subjective variances are not used as a basis for assessing and controlling noise effects – instead an objective approach based on population level sensitivities is used.

The subjective impression of changes in noise can generally be correlated with the numerical change in noise level. While every person reacts differently to noise level changes, research shows a general correlation between noise level changes and subjective responses. Indicative subjective responses to explain the noise level changes discussed in the assessment below are provided in **Table 21.**

***Table 21**: Noise level change compared with general subjective perception*

Noise level	Effect description	Effect level under RMA
1-2 decibels	Insignificant/imperceptible change	Negligible
3-4 decibels	Just perceptible change	Slight
5-8 decibels	Appreciable to clearly noticeable change	Moderate
9-11 decibels	Halving/doubling of loudness	Significant
>11 decibels	More than halving/doubling of loudness	Substantial

It is relevant to note that noise is measured on a logarithmic scale. For example, a doubling in port activity intensity would result in a noise level increase of 3 decibels (a just-perceptible change). A tenfold increase would result in a noise level increase of 10 decibels, which would sound twice as loud.

Effects assessment

Port noise consists of two distinct components:

- The general 'hum' of port operations.
- Intermittent events such as 'banging' from log or container handling.

Detailed and technical modelling undertaken by MDL predicts the increased port noise levels associated with the proposal. Modelled noise levels are described below. For a detailed explanation of the modelling inputs and assumptions, refer the MDL report in **Appendix 4**.

Daytime 'hum' (Outdoor Areas)

Daytime noise effects are primarily associated with outdoor amenity.

The dwellings most exposed to port noise currently receive peak period levels of 42 – 46 dB L_{day} in Marsden and Reotahi respectively. These levels would not influence conversation voice level or general amenity in outdoor spaces.

Future peak period external noise levels are predicted to increase noticeably by about 5 decibels in both Marsden and Reotahi. The dwellings most exposed to port noise are predicted to receive peak period levels of 48 – 51 dB L_{day}. These levels are still well below the 55 dB L_{day} permitted level in the WDP. They are appropriate for residential amenity and would still not influence conversation voice level or general amenity in outdoor spaces, but general annoyance would likely increase.

Night-time 'hum' (Outdoor Areas)

Residential communities are more noise sensitive at night, primarily during sleeping.

Currently the dwellings most exposed to port noise receive external noise levels of up to 41 – 46 dB L_{night}. Inside bedrooms with the windows open, levels are predicted to be approximately 26 – 31 dB L_{night}.

There are typical noise level reductions from predicted external levels to those received inside a typical bedroom of 15 decibels with open windows[68] and 20 – 25 decibels with shut windows[69]. Further detail of design level ranges for evaluation of internal noise levels is set out in AS/NZS 2107: 2016, as discussed in the MDL report.

In general, port noise is expected to be audible inside bedrooms at times but generally acceptable for most of the population.

Future peak period external noise levels are predicted to increase noticeably to 47 – 51 dB L_{night} for the most exposed dwellings. The corresponding noise level received inside bedrooms with the windows open is predicted to increase proportionally to 32 – 36 dB L_{night}. Port noise levels would be clearly audible inside bedrooms on busy nights and intrusive at times with open windows. Some residents may choose to shut windows to improve sound insulation performance during these busy times.

Intermittent noise events (L_{Amax})

There is no change to predicted representative L_{Amax} noise event levels (e.g. container and log placement). An increase in the number of noise events is predicted to be proportional to the increase in intensity of future port activities.

Port noise complaints are often aligned with outlier noise events, such as closing ship hatches 'hard' or inadvertently dropping a log or logs into the bottom of the ship's hold. These events are not regular, repeatable, or predictable, but the number of outlier events should reduce further as port noise management measures continue to evolve as the Port Noise Management Plan is updated and implemented.

5.12.5 Mitigation Measures

The proposed port noise limits detailed in Section 3.4 of this report are part of a package of provisions, collectively designed to manage the effects of port noise on sensitive (primarily residential) activities. These provisions include a requirement that, for dwellings that are modelled to be exposed to noise levels above the specified limit (55 dB $L_{dn\ (5\text{-}day)}$), the port offer to pay for mechanical ventilation to enable windows to be closed at night, as a means to managing the night-time hum in habitable rooms. Regardless of noise level, they also require the implementation of a Port Noise Management Plan (PNMP) to manage (amongst other things) intermittent noise events in accordance with best practice.

The overarching objectives of the PNMP are:

- *Ensure the port complies with the relevant noise performance standards*
- *Provide a framework for the measurement, monitoring, assessment, and management of noise*
- *Identify and adopt the BPO for the management of noise effects*

[68] Assumes a typical window open on security stays for ventilation purposes (e.g. 100mm opening width).
[69] Assumes 20 decibels for lightweight older style dwellings with timber joinery and 25 decibels for modern lightweight dwellings with aluminium joinery.

- *Require engagement with the community and timely management of complaints*

A draft PNMP is included in the MDL report in **Appendix 4**.

Specific mitigation measures are as follows:

Night-time hum – mechanical ventilation

NZS 6809:1999 *"Acoustics – Port Noise Management and Land Use Planning"* recommends a maximum of 45 dB $L_{dn\ (5\text{-}day)}$ in habitable indoor spaces. While the Northport modelling predicts that this can be achieved with no mitigation, Northport proposes to offer mechanical ventilation to enable windows to be closed at night to achieve a spatial average indoor design sound level of 40 dB $L_{dn\ (5\text{-}day)}$.

The implementation of the above requirement will be primarily informed by the annual review of the port noise contours required under the PNMP. Therefore, a requirement for the port to offer noise mitigation for existing dwellings will be triggered when the noise effects materialise (i.e. when predicted or measured noise exceeds 55 dB $L_{dn\ (5\text{-}day)}$).

Intermittent noise events – best practice

Intermittent noise effects (bangs and crashes) will be managed by the adoption of best practice under the Port Noise Management Plan.

5.12.6 Cumulative effects

The current peak period port night operations period was measured in 2018 at 14 The Heights, Reotahi in a joint monitoring project between Northport and Refining NZ. This site was chosen due to:

- **Availability/security**: There was an existing relationship between the refinery representative and the site owners.
- **Exposure**: Excellent line of sight to both the refinery and the port.
- **Position**: Elevated away from busy roads and the water's edge.

The long term monitoring data was supplemented with attended measurements in the Reotahi and Marsden communities and near the water's edge.

The cumulative noise level (47 dB $L_{Aeq\ (15min)}$) was a mix of Northport (43 dB $L_{Aeq\ (15min)}$), Refinery (44 dB $L_{Aeq\ (15min)}$), and other environmental and community components (39 dB $L_{Aeq\ (15min)}$).

The Refinery stopped its refining activities in June 2022. Residual storage and logistic activities are yet to be quantified through measurements in isolation, but noise contributions received in Reotahi are expected to be reduce appreciably. It is assumed that the Refinery contribution to overall noise will reduce by 10 decibels at 14 The Heights, Reotahi from that measured in 2018.

A noticeable increase in port noise levels is predicted as a result of the proposed expansion, but a negligible to just-perceptible increase in cumulative noise levels (relative to measured levels prior to the Refinery shut down in June 2022).

It is important to note that these predictions focus only on the peak 5 days of the year, and the peak 15-minute night-time period in the year. The annual median noise level for a fully developed New Zealand

port is typically 3 decibels below the peak operating period based on long-term measurement results from other similar sized ports in New Zealand (e.g. Napier). Overall, the changes would be less noticeable outside the peak operations periods.

5.12.7 Overall effects conclusions

Overall, provided that compliance with the proposed noise limits (based on modelled results) is achieved, coupled with the proposed mitigation measures, port noise effects will be **no more than minor**.

MDL's effects conclusions are as follows:

- **<50 dB Ldn (5 day): Less than minor** (Marsden and Reotahi generally)
  - Port may be audible at times but continues to be generally complaint with the operative WDP port noise limits.
  - Negligible increase in cumulative noise level (i.e. inclusive of port, refinery and other environmental and community noise contributions) by 2035 compared with the measured noise environment prior to the refinery shut down in 2022.
- **50 - 55 dB Ldn (5 day): Minor** (14 existing dwellings in Marsden and 14 in Reotahi, rising to 49 in Marsden and 60 in Reotahi by 2035)
  - Negligible to just perceptible increase in port noise enabled above the operative WDP night-time port noise limit of 45 dB LAeq (but remains compliant with other noise limits).
  - Negligible to just perceptible increase in cumulative noise level by 2035.
  - Northport propose a Noise Management Plan to minimise port noise effects (but no façade mitigation eligibility in this band).
- **55 – 58 dB Ldn (5 day): Moderate** (no existing dwellings, but 16 in Reotahi by 2035)
  - Noticeable increase in port noise enabled above the operative WDP night-time noise limit of 45 dB LAeq.
  - Just perceptible increase in cumulative noise level by 2035.
  - Northport propose port funded mitigation for dwellings (reviewed annually for eligibility) – then effects will be **minor.**

5.13 Archaeology

5.13.1 General

Potential effects on archaeology from the construction of the expanded port have been assessed by C+A. The conclusions from this assessment are summarised below. Further detail is provided in the C+A report in **Appendix 16.**

5.13.2 Effects

No archaeological deposits were encountered during the survey by C+A. The potential for undetected subsurface remains within the project area is 'very low'.[70]

5.13.3 Mitigation measures

The accidental discovery protocol will be adhered to being:

- If subsurface archaeological evidence should be unearthed during construction (e.g. intact shell midden, hangi, storage pits relating to Māori occupation, or cobbled floors, brick or stone foundation, and rubbish pits relating to 19th century European occupation), work should cease in the immediate vicinity of the remains and Heritage NZ and the Council should be notified.
- If modification of an archaeological site does become necessary, an Authority must be applied for under Section 44(a) of the HNZPTA[71] and granted prior to any further work being carried out that will affect the site. (Note that this is a legal requirement).
- In the event of koiwi tangata (human remains) being uncovered, work should cease immediately in the vicinity of the remains and the tangata whenua, Heritage NZ, NZ Police and Council should be contacted so that appropriate arrangements can be made.
- Since archaeological survey cannot always detect sites of traditional significance to Māori, such as wahi tapu, the tangata whenua should be consulted regarding the possible existence of such sites within the project area.

5.14 Recreation effects

5.14.1 General

Potential effects (including cumulative effects) on recreation values from the construction and operation of the expanded port have been assessed by RGA. The conclusions from this assessment are summarised below. Further detail is provided in the RGA report in **Appendix 19.**

[70] Clough and Associates Archaeological Assessment (2021), Page 23
[71] Heritage New Zealand Pouhere Taonga Act 2014.

5.14.2 Assessment context

The assessment of recreation effects carried out by RGA is based on the matrix contained in Table 17 of the RGA report (reproduced below).

Table 17: Scale of impact on recreation values considering magnitude of effect

		Recreation value			
		Very High	**High**	**Moderate**	**Low**
Magnitude of effect	**High or severe**	Significant	Significant	Moderate	Minor
	Moderate or medium	Significant	Moderate	Minor	Minor
	Low or minor	Moderate	Moderate	Minor	Minor
	Negligible	Negligible	Negligible	Negligible	Negligible

In respect to this matrix, the report describes a 'significant' adverse effect as one that is likely to force many or most people to recreate in other settings, at different times, or not at all, but not necessarily for all activities which occur there, and where amenity will be degraded. It describes a 'minor' adverse effect as one that will displace a small number of users for short periods, but amenity will almost always be preserved for the majority of activities and users. It also states that the scale of effect may be reduced if the area affected is confined and there are ample suitable alternative opportunities for relevant activities.

5.14.3 Potential effects

The following are potential adverse effects of the proposed expansion:

Construction and maintenance

- Turbidity effects on recreation settings (particularly swimming and diving areas) and visual amenity at and near the Harbour entrance.
- Mobilisation of contaminants and potential effects on shellfish and other seafood, and for water-contact recreation,
- Effects on marine ecology and the quality, abundance, and catchability of marine species, during the dredging period/s,
- Occupation of marine settings by dredges working or in transit and the creation of hazards for (especially) boat users.

Operation

- Changes to tides, currents and wave patterns resulting from altered bathymetry.
- Loss of a section of the beach to the east of Northport.

- Loss of access to the eastern ferry pontoon for fishing and transferring walkers on the Te Araroa Trail.
- Changes to navigation patterns of recreational boats due to larger scale of the wharf structures.

5.14.4 Effects related to construction and maintenance activities

Turbidity and contaminants

Based on the conclusions in the MO and T+T coastal processes reports, and research undertaken for the CINZL harbour deepening proposal, the temporary effects from turbidity and contaminants from dredging and reclamation construction activities are unlikely to be significant due to the clean nature of sand at the harbour entrance.

Effects of dredging activity on recreational boating

Because most of the proposed dredging area is already subject to maintenance dredging and navigation restrictions when ships are in port, the effects of dredging activity associated with the proposed expansion on recreational boating will be **minor.**

Changes to tides and currents

The harbour entrance is a naturally high-current speed setting, with depth changes and coastal rocks directing flows and creating natural variations in flow speed and direction. The modelled changes in current speed are unlikely to be recognised by recreational boaters in such a dynamic setting, and where a reasonable level of competence is expected of skippers.

Access closures to Marsden Bay Beach during construction

There will be periods of approximately 6 to 12 months where access to the beach to the east of Northport will be limited while the revetment is constructed, and public facilities are built. Alternative access to the beach will be available via Mair Road south of the CINZL terminal – a distance of 2km. There are many alternative fishing and swimming sites in the harbour and around the Harbour entrance area, including the local fishing platform on the western side of Northport. Effects from temporary closures at the regional level will be minor, but locals who regularly visit the beach are likely to be more inconvenienced. Effects will, however, be temporary. Alternative boat access to Marsden Cove will be available for the Te Araroa Trail ferry.

5.14.5 Operational effects

Changes to currents and wave patterns resulting from altered bathymetry

Hydrodynamic modelling indicates a minor increase in current speed in Marsden Bay and a minor decrease in current speed on the northern side of the harbour entrance opposite the wharf. The modelled speed changes in current are unlikely to be recognised by recreational boaters in such a dynamic setting, and where a reasonable level of competence is expected of skippers.

Loss of part of beach & fishing pontoon

The proposed expansion will remove just over half of the beach located to the east of Northport. This will affect the ability of beach users to disperse themselves along the beach and result in a reduced sense of scale.

As detailed in Section 3.9 of this report, Northport has committed to retaining the key recreation opportunities to the east of the port including:

- Creation of a public park/reserve area at the eastern end of the expanded port.
- A relocated carpark and toilets to allow easy access to the beach.
- A new pontoon for fishing, swimming, and socialising, and to operate as a terminal for the Te Araroa Trail ferry.
- Beach and water access points suited to socialising and swimming, developed to attract such users to the western end of the beach away from one of the preferred fishing areas near the CINZL wharf, and to reduce disturbance of roosting birds along the beach.

Notwithstanding the mitigation measures described above, adverse recreation effects on the beach to the east of Northport will remain due to the loss of beach area and diminution of the scale of the setting. RGA concludes that adverse recreation effects on the beach will remain due to the loss of beach area and diminution of the scale of the setting, which are likely to be significant locally and more than minor regionally.

Te Araroa Trail

The delivery or uplift of walkers on the Te Araroa Trail could be either via the new fishing pontoon, via the Marsden Cove marina facilities, or directly onto the Marsden Bay Beach.

Navigation by recreational craft

Navigation by recreation craft around the new port facilities is likely to continue as it does now, but with more caution required by skippers as they navigate a busier port setting (noting the port exclusion zone as established in the Navigation Safety Bylaw). Considering the continued large-scale recreational boating in areas such as Auckland and Tauranga Harbours, with their substantial port services and large recreational fleets, there is no indication that recreation navigation will be disrupted.

Recreational fishing and shell fishing

Fishing was the dominant activity recorded at Marsden Bay Beach. The marine ecology assessment found that effects on fish are likely to be negligible because of their mobility, the relatively small scale of habitat permanently lost, and likely recovery of habitats of importance to fish in existing wharf areas. The existing rock revetment at the wharf (a length of 155m) which provides marine reef habitat, will be replaced with 483m of revetment, which, once recolonised, presents a net benefit to local reef habitat.

While a 'very high' number of cockles were identified within the proposed reclamation footprint by the marine ecology assessment, very few were of harvestable size, and no pipi of harvestable size were found. Very little shell-fishing was observed as a recreational activity on Marsden Bay Beach during the two user surveys. At the regional level, effects on recreational shell fishing are likely to be minor considering the scale of alternatives and low level of activity at Marsden Bay Beach.

The marine ecology assessment also concluded 'less than minor' adverse effects on water quality from the discharge of stormwater from the reclamation area once operational.

5.14.6 Mitigation measures

Park/reserve

A public park/reserve area is to be developed at the eastern end of the expanded port, above the residual beach area (see details in **Section 3.9** of this report).

Fishing/water taxi pontoon

While the existing eastern pontoon was not specifically established for fishing or swimming, the use of the wharf by the public for these activities is recognised. It is therefore proposed to incorporate a public pontoon and associated public access on the eastern side of the port with access provided via the public park/reserve.

5.14.7 Overall effects conclusions

The effects on recreation values and activities are as follows:

- Effects relating to construction and maintenance activities will be **minor**, although there will be temporary displacement of most use of the beach to the east of Northport for at least 6 to 12 months of the construction period.
- Notwithstanding the mitigation measures described above, adverse recreation effects on the beach to the east of Northport will remain due to the loss of beach area and diminution of the scale of the setting. RGA concludes that adverse recreation effects on the beach are likely to be **significant** locally and **more than minor** regionally.
- There will be no change to the Te Araroa trail harbour connection.
- Effects on navigation due to changes in currents and large vessel activity will be **minor or less.**
- There will be some **minor** temporary effects on recreational fishing post dredging and construction until recovery.

RGA concludes that the cumulative effects of the proposal, together with completion of Berth 4 and the CINZL dredging consents will not be appreciably different from the effects of the proposal on its own, those being **significant** locally and **more than minor** regionally according to the matrix in Section 5.14.2 of this report.

5.15 Stormwater discharges

5.15.1 General

The potential effects of stormwater discharges from the proposed port expansion have been considered by C+C with technical support from HGL. The key conclusions are summarised below. Further detail is provided in the technical report in **Appendix 20**.

5.15.2 Potential effects

Logs are likely to have the greatest influence on the quality stormwater from the Northport site. Other sources of contaminants include bulk cargoes transferred through the port, including phosphate rock, palm kernel, grain, coal, gypsum, sulphur, and refined fertiliser. Special provisions are made for potentially hazardous products or processes, which are bunded and or self-contained so that they are effectively isolated from the stormwater system.

5.15.3 Assessment

Stormwater will continue to be managed via the existing pond and canal-based stormwater containment system described in Section 4.16.2 of this report, potentially augmented by proprietary devices depending on the final port design.

System capacity

Stormwater from the expanded port footprint will exceed the dead storage volume currently available in the existing pond by 510m^3. However, calculations carried out by HGL have confirmed that this additional volume can be provided within the base of the lengthened canal network.

Water quality

Container operations on the expanded port are not high-risk activities in respect to stormwater. Therefore, the same treatment methodology employed for the existing port will be retained for the expanded port.

Results from the monitoring indicate that Northport has displayed a high level of compliance with the terms of the NRC discharge consent, and that the quality of discharged stormwater is high. These same requirements are to be included as conditions of the new consent being sought for the expanded port.

Based on monitoring data and state of the environment reporting, the current discharge poses little ecological risk.

5.15.4 Mitigation measures

- Compliance with conditions of consent relating to stormwater discharge quality.
- Removal of bark and wood debris to off-site landscape suppliers.
- Routine sweeping.
- Dust suppression measures.
- Regular cleaning of catchpits and treatment devices.

5.15.5 Overall effects conclusions

Discharge water quality is expected to be similar to discharges from the existing system, notwithstanding that there will be a slight increase in total discharge volume.

Overall, the proposed expansion is expected to have a **negligible** effect on water quality and ecological values, based on the following:

- Past monitoring and assessments indicate that key contaminant concentrations are well below toxicity guidelines after reasonable mixing.
- The outfall discharges to a high flushing area.
- Due to the containment and management prior to discharge, contaminants are unlikely to permanently settle and accumulate in the local receiving environment.

5.16 Air quality

5.16.1 General

Potential effects (including cumulative effects) on air quality from fugitive dust emissions during the construction and operation of the expanded port have been assessed by PDP. The conclusions from this assessment are summarised below. Further detail is provided in the PDP report in **Appendix 21.**

5.16.2 Nuisance dust emissions during construction

Assessment methodology

PDP undertook a FIDOL[72] assessment to assess the potential nuisance dust effects from the construction and reclamation process. The assessment considered the following matters:

- Frequency - noting that only winds above 5 m/s have the potential to cause dust nuisance effects on the nearest sensitive receptors.

[72] Frequency, Intensity, Duration, Offensiveness and Location.

- Intensity – potential for intense dust effects on the beach.
- Duration – Period in which effects may be experienced at any one time.
- Offensiveness – contingent on quantity of dust present at any one time.
- Location – Distance from the nearest dwelling, and proximity to beach and public carpark.

Frequency

In dry windy conditions, particularly if disturbed, the marine sediments can be lifted by winds greater than 5 m/s at ground level. Based on wind speed data, the frequency of winds above 5 m/s from the west to the northwest (which have the potential to carry dust from the new port area to the beach) is between 1.3 and 2.2 percent of the time. Likewise, winds from the north to the northeast have the potential to transport dust towards the carpark at Ralph Trimmer Road with the frequency of winds (greater than 5 m/s) from this direction between 0.9 and 3.4 percent of the time. These percentage of winds are classified as infrequent, and the associated effects will be **low**. This in combination with the proposed mitigation and monitoring, means that that the frequency of any effects associated with the reclamation will be **low**. Furthermore, people are less likely to go to the beach during strong winds, therefore further reducing the frequency in which people may be exposed to elevated dust conditions.

Intensity

Without mitigation, there is potential for reasonably intense dust effects on the beach, beach access, and the carpark once material is placed near the perimeter of the reclamation and is above the high tide level. The potential intensity of any effects will reduce as the reclamation moves north. Subject to the mitigation measures outlined below, the intensity will be **low.**

Duration

Based on the visual monitoring, and subject to the mitigation measures outlined below, if a fugitive dust event was to occur, at worst the duration would be limited to a period of no more than one hour at any one time.

Offensiveness

Dust emissions associated with the reclamation/construction process are unlikely to be present in such quantities that they result in any off-site offensive or objectionable effects. This is based on the limited frequency of suitable meteorological conditions, the activities undertaken, and mitigation measures that will be implemented.

Location

The reclamation is located approximately 1,000 metres from the nearest residence. This is well beyond the distance that any dust associated with the construction process would travel.

In terms of the beach and the carpark, while the construction will generally move away from these locations, it will initially be very close.

5.16.3 Fugitive dust emissions during operation

Based on the current container operations at the port, once the new port area becomes operational there will be very little potential for dust emissions from this location.

5.16.4 Emissions from combustion engines during operation

Emission-producing activities for ports can be grouped into the following three sources:

Port Direct Sources - These sources are directly under the control and operation of the port administration entity and include port-owned fleet vehicles, port administration owned or leased vehicles, buildings (e.g., boilers, furnaces, etc.), port-owned and operated cargo handling equipment, and any other emissions sources that are owned and operated by the port administrative authority.

Port Indirect Sources - These sources include port purchased electricity for port administration owned buildings and operations.

Other Indirect Sources - These sources are typically associated with tenant operations and include ships, trucks, cargo handling equipment, rail locomotives, harbour craft, tenant buildings, tenant purchased electricity, and port and tenant employee commuting (train, personal car, public transportation, etc.).

Once the newly reclaimed land becomes operational, the area will be used for container operations which will result in very little air emissions. Given that there will only be a small amount of additional combustion emissions from this area and the current background air quality, the low levels of discharges from vehicles operating in on the port, combined with existing emissions from nearby industry (and noting the reduced level of emissions from CINZL subsequent to the cessation of refining operations), will have less than minor cumulative effects.

Northport has been actively reducing its carbon footprint for some time now as part of its 2050 emissions reduction initiative. Examples include the replacement of fleet vehicles with electric vehicles, and changes to the procurement process whereby new equipment is preferred over older equipment that does not meet modern emission standards.

5.16.5 Mitigation measures

Construction

The proposed mitigation measures for air emissions during the construction phase will be included in an air quality management plan which is to be included as part of the CEMP.

Key components of this plan are as follows:

- Measures to minimise fugitive dust emissions during the movement and placement of material.
- Guidelines for the removal and stockpiling of material during windy conditions.
- Measures to minimise emissions from combustion engines.

Operation

Once the expanded port area becomes operational it will be used for container operations. From an air quality perspective there are very little air emissions from this type of operation other than the emissions from the vehicles used to move the containers.

While not proposed as a condition of consent, Northport is committed to reducing its carbon footprint, and specifically emissions from combustion engines operating on the port.

To minimise emissions from these vehicles Northport will continue to implement management measures which include the following:

- Not leaving vehicles idling while unattended.
- Purchasing new, more efficient machinery where practicable – including machinery that is electrified, or capable of electrification.
- Maintaining vehicles regularly.
- Where practicable, electrification of port plant and equipment when replacement or upgrades are required.
- Consider the use of carbon efficient machinery during construction where practicable.

5.16.6 Overall effects conclusions

Based on the FIDOL assessment, there is very limited potential to be affected by dust (even without mitigation) due to distance, but there may be some adverse effects on users of the beach. However, given the limited period in which members of the public will use the beach and carpark, and subject to the employment of the dust mitigation measures outlined in Section 5.16.5 of this report, it is unlikely that these users will experience offensive or objectionable dust effects during construction of the proposed port expansion.

5.17 Traffic effects

5.17.1 General

Potential effects (including cumulative effects) on traffic safety and efficiency during the construction and operation of the expanded port have been assessed by WSP. The conclusions from the WSP assessment are summarised below. Further detail is provided in the WSP report in **Appendix 27.**

5.17.2 Assessment context/assumptions

The assessment of traffic effects carried out by WSP is based on the full development of Northport (including cruise ships). Key assumptions for the full development traffic are as follows:

- Cruise ships will make use of the facility from year 5 reaching a maximum number in year 10.
- Staff numbers to increase from 300 to 400.
- Total additional port traffic on SH15 will be 806 trips per day, of which 142 trips can be attributed to the 100 additional staff numbers.
- In 2018, the total average daily port traffic was approximately 64% (2,802/4,363) of total SH15 traffic. This ratio is expected to reduce significantly in the future following the planned residential development surrounding SH15. It is estimated that the ratio of total port traffic to total SH15 traffic will be approximately 30% in year 2033 (3,290/10944) and 26% in year 2040 (3,608/13,666).
- The logging related traffic is a large contributor to overall port traffic and is subject to seasonal and cyclical peaks and troughs. According to the Northport wood availability forecast (2018) there is likely to be a reduction in the availability of logs, followed by a longer-term increase in supply.

5.17.3 Affected road network and existing intersection safety

The intersections primarily affected by the proposed port development are as follows:

- SH1/SH15 roundabout.
- SH15/Salle Road intersection.
- SH15/One Tree Point/McCathie Road intersection.
- SH 15/Marsden Point Road Intersection.
- SH15/Marsden Bay Drive/Rama Road Intersection.
- SH15/Mair Road Intersection.

There are no identified immediate visibility or sightline concerns at these intersections. They have adequate shoulder width to allow through traffic to bypass any turning traffic.

5.17.4 Potential injury crashes

An assessment of the crash rate for the six key intersections without the port expansion was conservatively calculated to be 0.6 injury crashes per year. The injury crash rate for these intersections after the proposed port expansion is conservatively calculated to increase injury crashes by 0.01 per year (less than 1 injury crash over a 20 year period).

5.17.5 Carparking

Northport will provide enough parking within the port to ensure that additional port expansion traffic parking does not adversely affect traffic operations on SH15.

5.17.6 Cruise ship tourists

Tourists are expected to begin traveling through the port within the next five years as cruise ships begin to use Whangārei as a destination location. Despite some short-term disruption from COVID, the number of cruise ships is expected to reach a consistent 30 ships per annum within the next 20 years, averaging 1,500 people per ship. It is assumed that most cruise ship visitors will be transported by bus to their respective destinations.

5.17.7 Recreation and access around Northport

Traffic accessing the remaining beach area and the proposed public reserve area to the east of Northport is expected to typically occur outside of peak periods and on weekends. This traffic is not expected to materially affect SH15 traffic.

5.17.8 Impact of full port development on the existing and future road network

Assumptions

The Whangarei Tracks Network Model was used to confirm the future expected traffic volumes with planned land growth both with and without port expansion. Key intersections were modelled in SIDRA to assess the future performance of the network at an intersection level along SH15. The analysis assumed a worst-case scenario, where port traffic occurs at the same peak periods as normal traffic (8.00am to 9.00am for the morning peak and 4.00pm to 5.00pm for the afternoon peak). However, peak port traffic typically occurs outside the normal peak traffic periods and so the model results are conservative.

The model was run with the following four scenarios:

- Scenario 1: 2033 Base Model – Residential growth without additional port traffic.
- Scenario 2: 2040 Base Model – Residential growth without additional port traffic.
- Scenario 3: 2033 Future Model – Residential growth with additional port traffic.
- Scenario 4: 2040 Future Model – Residential growth with additional port traffic.

Comparisons have been made to these scenarios to determine the traffic effects generated from the Northport development at the six key intersections. It has been assumed that full port expansion has occurred by 2033.

SH15 Mid-Block capacity

An assessment was carried out to check if the port expansion traffic would cause mid-block capacity issues on SH15. The predicted daily traffic volume at 2033 (with the uniform growth rate) is 10,456. Adding the estimated additional daily port traffic at 2033 of 806, results in a total SH15 traffic count of 10,944 vehicles per day. With increased residential growth the total SH15 traffic increases to 13.666 vehicles per day in 2040.

The anticipated traffic on SH15 in 2040 means that the single lane highway (urban regional arterial) will still operate within its daily expected capacity.

SH15/SH1 intersection

The modelling results for the SH1/SH15 roundabout for 2040 show that the intersection will operate beyond capacity without the port expansion during the morning peak, and almost at capacity during the afternoon peak, on some approaches. With full port expansion, the roundabout intersection in 2040 is expected to function better compared to the without-port expansion scenario. This is because, by that date, more people will be attracted to live locally in Marsden/Ruakaka due to additional work opportunities, leading to less trips from outside the area.

The 2033 model for the intersection shows that it operates without any issues with and without port traffic in 2033 for morning and afternoon peak results.

SH15/Salle Road intersection

The modelled results confirm that there are no issues during both peaks at the SH15/Salle Road intersection with additional port traffic in 2033 and 2040.

SH15/One Tree Point/McCathie Road intersection

The modelling results show that the intersection will have no issues following the full port expansion in 2033. However, the One Tree Point approach to the intersection will experience long delays and perform beyond capacity with LOS F[73] in 2040. Beyond 2033, it is predicted that the intersection will need to be upgraded to prioritise the movement of additional traffic expected on One Tree Point Road from locally generated residential traffic.

SH15/Marsden Point Road intersection

The modelling results confirm that this intersection will have no issues in 2033 with full port expansion. However, during the morning peak the Marsden Point Road approach of the SH15/Marsden Point Road intersection will operate over capacity (LOS F) in 2040 with the port expansion due to the large volume of right turning traffic (343 vehicles per hour) during the

[73] **Level of Service (LOS)** involves a qualitative assessment of the quantitative effect of factors such as speed, volume of traffic, geometric features, traffic interruptions, delays, and freedom to manoeuvre. There are six levels of service, with 'A' representing the top level as a condition of free flow in which individual drivers are virtually unaffected by the presence of others in the traffic stream and 'F' representing the bottom level.

morning peak. Beyond 2033 it is predicted that the intersection will need to be upgraded to provide for the additional right turning traffic expected on Marsden Point Road during the morning peak.

SH15/Marsden Bay Drive/Rama Road Intersection

The modelling results show that during both morning and afternoon peaks, the Marsden Bay Drive approach of the SH15/Marsden Bay Drive intersection will operate over capacity (LOS F) in 2040 with full port expansion. The modelling also shows that in 2033 with full port expansion, the approach of this intersection will perform at LOS E in the morning peak. This confirms that at completion of the port expansion, the intersection will be approaching capacity.

SH15/Mair Road intersection

Mair Road provides secondary access to the CINZL terminal. Due to the short right turn bay (60m) on SH15, the critical delay at this intersection will be for the right turning movements from SH15 to Mair Road, to ensure the queue does not extend to the through lane.

Northport has advised that there are very few trucks accessing the Mair Road intersection - an estimated maximum of six to eight trucks during the peak hours. This equates to a peak arrival rate of one truck arriving every 7.5 minutes which would allow ample time for a truck to find a gap in traffic for the right turn movement before the next truck arrives. The impact of the port traffic is expected to be minimal at this intersection.

The recent cessation of refinery functions at the CINZL site, and the change to a dedicated import terminal is expected to have minimal impact on this assessment. If anything, the number, and frequency of truck movements associated with terminal operations is anticipated to be less than during previous refining operations, and so the above assessment is conservative.

Key intersections capacity analysis

Following sensitivity testing it was estimated that some of the critical intersections are likely to reach capacity in 2035 for morning peak hour. This occurs when the intersection volume reaches approximately 1,100 vehicles per hour for SH15/Marsden Point Road, 1,250 vehicles per hour for SH15/One Tree Point Road and 1,300 vehicles per hour at the SH15/Marsden Bay Drive intersection.

Peak spreading sensitivity analysis – all intersections

A sensitivity analysis has confirmed that a 20% reduction of through port traffic during both the morning and afternoon peaks would ensure that the key intersections perform at an acceptable LOS D in 2040. This reduction could be achieved through the mitigation measures identified in Section 5.17.10 below. Accordingly, the proposed mitigations include management methods to reduce port-related traffic movements during those peak times.

5.17.9 Traffic distribution on SH15

Following the anticipated residential development in the Marsden Point area the percentage contribution of heavy vehicles on the SH15 is expected to reduce after the port expansion. This is mostly due to local residential traffic growth contributing to a significant increase in small vehicles on SH15. At present, the percentage of heavy vehicles on SH15 is approximately 20%. This is expected to reduce to 14% heavy vehicles and 1.33% buses, giving a total HV percentage of 15.33% after full port expansion.

5.17.10 Mitigation measures

Port construction

Much of the port construction will utilise on/in water methods. However, there will be some temporary impacts associated with land-based works, which will include minor increases in truck traffic carting construction supplies to and from site.

Any traffic effects arising during the construction period can be suitably mitigated through measures included in a construction traffic management plan, including:

- Methods to manage the effects of temporary traffic management activities on general traffic;
- Measures to manage the safety of all transport users;
- The estimated numbers, frequencies, routes and timing of construction traffic movements, including any specific non-working or non-movement hours to manage vehicular traffic or to manage traffic congestion;
- Site access routes and access points for heavy vehicles, the size and location of parking areas for plant, construction vehicles and the vehicles of workers and visitors;
- Identification of detour routes and other methods for the safe management and maintenance of traffic flows, including cyclists, on existing roads;
- Methods to maintain vehicle access to property where practicable, or to provide alternative access arrangements when it will not be;
- The management approach to loads on heavy vehicles, including covering loads of fine material, the use of wheel-wash facilities at site exit points and the timely removal of any material deposited or spilled on public roads;
- Methods to communicate traffic management measures to affected road users such as residents/public/emergency services.

Port operation

To minimise the impact of the port related traffic on SH15 for the worst-case scenario, Northport would need to implement traffic management and mitigation measures during peak times. The sensitivity analysis of the peak hour traffic has shown that a 20% reduction of port through traffic

is needed on SH15 to ensure the critical intersections perform at an acceptable LOS "D" in Year 2040.

It is recommended by WSP that Northport should only review the port traffic trigger volumes against the trigger volumes on SH15 when the total volumes at the critical intersections[74] are approaching capacity (1,350 vehicles per hour). If, at the time of this review, the port traffic trigger volumes for each intersection are not exceeded, no upgrading of the respective intersection will be necessary. The port traffic trigger volumes are contained in **Table 22** below.

***Table 22**: Port traffic trigger volumes*

Critical intersections	Northport Inbound AM Peak Hour Trigger Volumes	Northport Outbound AM Peak Hour Trigger Volumes
SH15/Marsden Bay Drive	700	200
SH15/Marsden Point Road	700	200
SH15/One Tree Point Road	300	200

Measures that could be employed by Northport to ensure that the trigger volumes are not exceeded include:

- Avoiding the port peak coinciding with the network peak by:
  - Implementing a vehicle booking system for container trucks to distribute the traffic load over the Port's operating hours (24 hours a day) as much as possible.
  - Encouraging the supply chain to operate 7 days a week to reduce truck movements during the weekdays when the network is busy.
- Reducing traffic volumes to and from the port by:
  - Encouraging mode sharing for staff transport to and from work.
  - Moving freight to rail when available.
  - Transporting cruise ship passengers by buses and disembarking outside peak periods only.

It is only in the situation that total traffic volumes at the critical intersections are approaching capacity, *and* port traffic trigger volumes for the respective intersection are exceeded, that WSP recommends Northport should be responsible for contributing to the upgrade of the relevant intersection(s). This is viewed as an appropriate recognition of the increased traffic demand placed on those critical intersections from a variety of sources.

[74] SH15/One Tree Point, SH15/Marsden Point Road, SH15/Marsden Bay Drive.

5.17.11 Overall effects conclusions

The potential traffic effects of the proposed port expansion are summarised as follows:

- The supporting road network accessing the port currently operates within its traffic carrying capacity for both intersections and mid-blocks, with intersections performing with good levels of service.
- SH15 is a regional arterial road with one lane each way. The capacity of this road network is between 15,000 to 18,000 vehicles per day.
- With full port expansion SH15 has adequate capacity at midblock sections with SH15 volumes reaching 13,666 vehicles in 2040.
- The safety and sightline assessment of the key side road intersections with SH15 has identified no existing safety issues.
- The crash risk assessment has shown that port expansion induced traffic will increase total injury crash rate for the SH15 corridor by only 0.01 reported injury crashes per year, which equates to one additional injury crash over the next 20 years on SH15.
- Should total and port related traffic reach pre-determined trigger levels at the SH15 intersections, the critical intersections will need to be upgraded to avoid adverse effects.

5.18 Economic effects

5.18.1 General

The potential economic effects of the expanded port have been assessed by ME. The conclusions from this assessment are summarised below. Further detail is provided in the ME report in **Appendix 22.**

National role of ports

The port and freight sectors are key enablers of the supply chain, which in turn impacts on the performance of the economy and therefore the standard of living in New Zealand.

Ports are vital for the New Zealand economy with over 99% of New Zealand exports and imports going through ports. They also enable the movement of coastal container products and bulk goods such as cement and fuel.

Ports form a part of the national transport system which also includes, road, rail, and air. Road and rail provide the bulk of the domestic system (particularly for freight movement) while sea and air are the links to global markets.

The efficiency and free movement of goods across the transport network is needed to ensure that New Zealand remains internationally competitive.

The national importance of ports is recognised in the NZCPS.[75]

Regional role of ports

Ports are an enabling asset in a regional context. They support business productivity and activity, and act as a hub for economic activity, facilitating the movement of goods produced within the region, but also across the hinterland. Examples of goods currently being handled by Northport are:

- Logs.
- Woodchip.
- Other wood product exports.
- Coal.
- Agricultural imports.
- Containers.

An effective port can keep logistics costs competitive and broaden access to markets. An effective port can also act to retain or attract export-based industries that benefit from close proximity to a port. ME project a significant increase in the number of containers handled by Northport as outlined in **Table 23** below. However, the growth in container freight is reliant on an effective port, facilitating the export flows projected in Table 23.

***Table 23**: Predicted Northport container TEU – 2020 to 2050*

Containers (TEU)							
TEU	*2020*	2025	2030	2035	2040	2045	2050
BAU	*12,310*	*47,000*	62,000	77,000	92,000	102,000	112,000
NAI	*12,310*	*47,000*	125,000	199,000	271,000	341,000	411,000
UNIPC	*12,310*	*47,000*	154,000	262,000	370,000	478,000	586,000
NAG	*12,310*	*47,000*	96,000	142,000	185,000	226,000	268,000

As identified in the ME report, Northport will reach capacity constraints in the medium-long term, across all of the projected future scenarios. In those economic growth scenarios, existing container capacity would not be sufficient to enable the Port to maintain its existing regional role or an expanded role beyond the region. Without the ability to expand, there is a risk that Northport's role could be restrained, which would be a loss to the regional economy, and would potentially compromise the efficient operation of the national port network.

[75] Policy 9, New Zealand Coastal Policy Statement.

5.18.2 Economic impacts

The economic impacts associated with Northport are mainly a result of the trade tasks that the port handles and the flow-on economic activity generated in other businesses that supply the trading businesses. There are a range of positive impacts resulting from Northport's operational expenditure in the local, regional, and national economies, and through investment in infrastructure: all of which provide for the social and economic well-being of people and communities in the district and region.

Research carried out by ME considered the potential economic impacts of four plausible growth scenarios for the existing port being:

- **Business-as-usual Scenario (BAU)** - presents a future which assumes that Northport's role continues to be focused on regional trade.
- **North Auckland Growth (NAG)** – a low future which assumes that Northport captures a share of the growth in container trade from the area north of the Auckland isthmus.
- **North Auckland Imports Scenario (NAI)** - a future with the Port expanding its role to include both regional and national trade.
- **Upper North Island Ports Constrained (UNIPC)** - a high future which assumes that other ports in the Upper North Island become constrained, which results in a larger proportion of trade in Auckland Region being handled at Northport.

The ME research indicates that Northport's role in the Northland economy is expected to range from:

- **BAU** scenario which reaches $1,094 million GDP and 14,800 jobs by 2050.
- **NAI** scenario which reaches $1,201 million GDP and 16,200 jobs by 2050.

Its role in the *national* economy could also range from:

- **BAU** scenario which reaches $2.26 billion GDP and 26,300 jobs by 2050.
- **NAI** scenario which reaches $5.6 billion GDP and 60,900 jobs by 2050.

The report does not quantify the economic role under the low growth future (NAG) or high growth future (UNIPC), as both of these scenarios will also show a positive economic role which ranges around the NAI and will add little to the understanding of the proposed expansion.

Northport's current role in the regional and national economy is:

- *Northland* - $438 million GDP and the equivalent of 6,300 jobs.
- *National* - $907 million GDP and 10,700 jobs.

While robustly prepared by independent experts, it is acknowledged that the above figures are projections that define a range within which the actual figure is likely to sit. Whichever scenario plays out in future, it is likely that Northport will be making a significant contribution to the regional and national economies.

5.18.3 Port capacity – ability to realise economic benefits

The container handling assumptions for each growth scenario are as follows:

- **BAU** scenario assumes a container trade volume of 92,000 TEU by 2040.
- **NAG** scenario assumes a container trade volume of 185,000 TEU by 2040.
- **NAI** scenario assumes a container trade volume of 271,000 TEU by 2040.
- **UNIPC** scenario assumes a container trade volume of 370,000 TEU by 2040.

With planning for the construction of Berth 4 underway, Northport's ability to expand to handle containerised regional trade will be sufficient in the short-medium term. The containerised trade in the BAU scenario (92,000 TEU) will be just within the capacity of Northport's current (i.e. consented) container facilities (estimated at approximately 100,000 TEU).

However, assuming Northport's role expands beyond the region as per the NAG, UNIPC and NAI scenarios, capacity constraints will arise in the short-medium term. If any of these additional demand forecasts eventuate, which are considered likely, Northport will need to expand to provide additional berth space and container handling area in order to keep up with that demand. Without this expansion, Northport's potential role would be constrained, which would be a loss to the national and regional economy with associated effects on the national port network.

Because of the long 'lead time' necessary to design and construct regionally significant infrastructure such as ports, it is considered prudent and necessary (from an economic perspective) to progress the applications for Berth 5 to secure the ability to expand the port area. This would enable the future unconstrained operation of Northport, and ensure that the upper North Island ports, collectively, can meet the needs of the fast-growing Upper North Island and New Zealand economy. It will be able to cater for projected needs and will also ensure that Northport is not subject to a "just in time" approach to its future development. This will, in turn, help enable the significant regional and national economic benefits which flow from an efficient unconstrained port network to be realised.

5.19 Positive effects

There is a range of positive effects associated with the proposal. These are summarised below.

5.19.1 Economic and social benefits

The proposal will result in significant direct and downstream economic and social benefits to the region.

The benefits have been comprehensively assessed, and quantified where possible, by ME. The potential economic benefits (detailed in Section 5.18 of this report) range depending on the future scenario adopted, as summarised below:

- **BAU** scenario which reaches $1,094 million GDP and 14,800 jobs by 2050.
- **NAI** scenario which reaches $1,201 million GDP and 16,200 jobs by 2050.

Its role in the *national* economy could also range from:

- **BAU** scenario which reaches $2.26 billion GDP and 26,300 jobs by 2050.
- **NAI** scenario which reaches $5.6 billion GDP and 60,900 jobs by 2050.

These projected future benefits can be compared with Northport's current role in the regional and national economy which is:

- *Northland* - $438 million GDP and the equivalent of 6,300 jobs.
- *National* - $907 million GDP and 10,700 jobs.

The proposal will also enable wider economic, social and wellbeing benefits for Northland and the nation, for example by improving the efficiency and resilience of the national port network (including by providing improved services for Northland exporters) and acting as a catalyst for a range of supporting business activity in Marsden Point and the region.

As referenced in the ME report, a report by Polis (July 2022) estimated the expansion could bring an additional $160m annual GDP to Northland by 2060, supporting an additional ~1,500 jobs (medium scenario). This assumes container annual volumes reaching 400,000 TEU by 2060. Based on the graphics in the report[76], the estimated additional annual GDP by 2050, is around $117m, supporting ~1,100 jobs. This assumes container volumes of around 300,000 in 2050.

5.19.2 Avifauna roost

The proposed avifauna roost on the intertidal area to the west of Northport has been determined to have positive effects on both coastal processes and avifauna by the Northport coastal processes and avifauna experts respectively.

In respect to coastal processes, T+T concludes that the long term the inclusion of sand and the ongoing top-ups will have a beneficial effect on coastal processes by increasing the sediment budget within Marsden Bay, offsetting to some degree sea level rise effects and potentially reducing the overwash and landward retreat of the existing barrier beach. The sheltering provided by the roost is also likely to enable the renewal of the mangrove stand that has currently eroded due to the landward migration of the barrier beach.

In respect to avifauna, BML concludes that that the location of the proposed roost site is better than other high tide roost sites due to its separation from the coast at high tide which minimises the ability for recreational users (and dogs) to access roosting birds.

[76] GDP growth by decade average (p.34).

5.19.3 Recreation/public access

Careful design of the proposal will ensure a range of recreational benefits available to the public. These include the proposed pocket park, and associated access and amenities (including swimming steps, carpark, toilet and refuse facilities). In addition, he proposed fishing and water taxi pontoon will have positive effects on recreation values in the vicinity of Northport.

5.19.4 Ecological

The proposal will also result in several positive ecological outcomes. These include additional habitat for key species, including as provided for by the proposed sandbank renourishment to the west of the existing port (which will provide additional roosting habitat for key avifauna species) and the additional rock revetment surrounding the reclamation (which will provide suitable artificial rocky reef habitat for a range of flora and fauna).

5.20 Overall summary of effects

The effects of the project are summarised in **Table 24** below.

Table 24: *Summary of effects*

Effects	Avoidance and/or mitigation measures	Magnitude
Cultural effects		
▪ **Environmental effects** General deterioration of: - Marine ecology. - Avifauna. - Marine mammals. - Water quality. - Air discharges. - Climate change. - Coastal processes.	**Marine mammals** <u>Construction</u> ▪ Potential involvement of mana whenua in effects management, particularly during construction. <u>Construction and operation</u> ▪ Approval and implementation of a Marine Mammal Management Plan (MMMP), including measures to minimise underwater noise and ship strike.	Minor or less (based on expert advice)

	Avifauna <u>Construction</u> ▪ Approval and implementation of effects management measures contained in the CEMP. <u>Construction and operation</u> Provision of additional roosting area for VOC.	Minor or less (based on expert advice)
	Stormwater <u>Construction & dredging</u> ▪ Approval and implementation of a dredge management plan (s). ▪ Sedimentation avoidance measures during construction. <u>Operation</u> ▪ Compliance with water quality discharge conditions of consent designed to maintain water quality in the harbour receiving waters. ▪ On-port mitigation.	Minor or less (based on expert advice)
▪ **Cultural effects** Specifically: - Cultural landscapes and seascapes. - Loss of Takutai Moana. - Loss of Mauri. - Loss of Mana. - Reduction in ability to exercise Kaitiakatanga. -	**Archaeology** ▪ Adherence to accidental discovery protocol.	TBC
▪ **Economic effects** - Loss of land. - Loss of resources. - Impacts on low impact families to		Positive

self-sustain (living off the land and sea). - Benefits not accruing to Maori.		
▪ **Social effects** - Alienation of people from resources and the harbour. - Air and noise emissions affecting the quality of the environment at Poupouwhenua. - Additional pressure to build the wastewater ocean outfall. - Exacerbation of safety issues on local roads and the highway.	**Coastal access** ▪ Park/reserve development and associated access. **Traffic** <u>Construction</u> ▪ Approval and implementation of a construction traffic management plan. <u>Operation</u> Monitoring of port traffic and potential future upgrades of SH15/local road intersections. **Noise (terrestrial)** <u>Construction</u> ▪ Approval and implementation of a construction management plan addressing inter alia potential construction noise. <u>Port operations</u> ▪ Port Noise Management Plan. Mechanical ventilation for affected properties. **Air quality** <u>Construction</u> ▪ Compliance with conditions of consent, including management plan(s). <u>Operation</u> General commitment to reducing emissions from combustion engines where practicable.	TBC

Coastal processes		
Waves	N/A	Minor
Currents and sediment transport	N/A	Moderate (between Northport and CINZL jetty)
Water level	N/A	Negligible
Changes to the inner harbour	N/A	Nil
Changes to the entrance channel	N/A	Minor
Changes to the ebb tide shoal and Mair Bank	N/A	Minor
Changes to the open coast shoreline	N/A	Nil
Changes to recreational surfing	N/A	Nil
Effects on existing and future coastal hazards	N/A	Negligible
Tsunami	N/A	Negligible
Landscape effects		
Landscape effects on Marsden Point Beach	N/A	Significant
Landscape effects experienced from Reotahi	N/A	More than minor
Landscape effects experienced from the Harbour	N/A	More than minor
Landscape effects from elsewhere	N/A	Less than minor

Effects on ONLAs ONCAs & ONFs	N/A			Minor or less
Natural character				
Level of change to natural character values of the harbour for most exposed viewing areas	N/A			More than minor
High and Outstanding Natural Character Areas				Negligible
Amenity values				
Effects on amenity values for users of the beach to the east of Northport	N/A			Significant
Effects on amenity values at Reotahi	N/A			More than minor
Effects on amenity values of the wider harbour	N/A			Less than minor
Marine ecology (excluding cumulative effects)				
		System (appropriate system/scale unshaded)		
		Harbour	**OHEZ**	**Footprint**
Intertidal habitats and macrofauna	N/A	**Moderate**	Moderate	Very high
Loss of kaimoana shellfish from reclamation	N/A	**Low**	Low	High
Direct effects on subtidal benthic macrofaunal diversity from reclamation	N/A	Moderate	**Moderate**	Very High
Effects on seagrass	N/A	Moderate to High	**Moderate to high**	Moderate to High

Effects on macroalgae	N/A	Moderate to High	**Moderate to high**	Moderate to High
Loss of important fish habitat	N/A	**Low**	Low	Low
Loss of existing artificial reef habitat and biota and replacement with new artificial reef habitat	N/A	**Positive in the medium term to long term**	Positive in the medium to long term	Positive in the medium to long term
Effects of stormwater discharges	▪ Compliance with conditions of consent relating to stormwater discharge quality.	**Low**	**Low**	**Low**
Avifauna				
Permanent loss of habitat	**CEMP** Potential injuries/mortalities can be avoided through adherence to mitigation measures included in the avifauna section of the CEMP, which will include measures to avoid direct impacts and manage nesting kororā and variable oystercatcher. These measures will include: ▪ For kororā: - Pre-construction (including rock removal) surveys by a suitably qualified and experienced coastal ornithologist to determine the presence of kororā within the western boundary riprap revetment; - Establishment of exclusion zones around nesting and / or moulting birds[77];		Minor or less	
Injuries and/or mortalities			<u>Construction</u> Less than minor <u>Operation</u> Minor of less (Dotterel) Less than minor (Pied Stilt and VOC)	
Disturbance and displacement			<u>Construction</u> Minor or less for NZ dotterel and variable oystercatcher <u>Operation</u> Minor or less for all species	

[77] Under no circumstances should nesting birds, nest contents or moulting penguins be moved. Furthermore, a DOC Wildlife Act permit is required to handle species listed in the Wildlife Act (1954).

Construction sediment suspension effects	- Rock removal works to be occur in the presence of a suitably qualified and experienced coastal ornithologist; - Measures to ensure that kororā are not trapped by construction works. ▪ For variable oystercatcher: - If construction works are to occur within 20 m of an area identified as potential variable oystercatcher nesting habitat during the breeding season, a suitably qualified and experienced coastal ornithologist should check for the presence of active nests. - If an active nest is detected, a 20 m exclusion zone should be established around the nest to ensure machinery and personnel do not come within 20 m of the nesting bird. **Loss of habitat** ▪ Construction of additional roosting habitat for VOC and NZ Dotterel. Dredging/construction sedimentation ▪ Adherence to the measures in the dredging/construction management plan and associated conditions of consent. **Lighting** Measures to minimise construction and operational lighting will be employed, including: ▪ Lighting will be kept to the minimum required for safe operation; and ▪ Wherever practicable lighting will be directed downwards and shielded to reduce light projecting horizontally towards coastal waters and avoid light projecting vertically to passing birds.	Minor or less
Artificial lighting		Less than minor
Pollution		Less than minor

Marine mammals		
General construction noise	▪ Marine Mammal Management Plan	Temporary (not specified)
Pile driving noise (displacement or behavioural effect)		Less than minor
Dredging noise		Less than minor
Vessel strike		Low (for Baleen whales) – most vulnerable
Entanglements		Negligible
Cumulative effects		Minor or less.
Overall effects		Less than minor to nil.
Channel navigation and safety		
Reclamation, structures, dredging **(Navigation and spill risk)**	▪ Dynamic Under Keel Clearance (DUKC). ▪ Environmental limitations. ▪ Ship simulations. ▪ Turning basin size/dimensions. ▪ Pilotage and towage. ▪ Navigation Aids.	No adverse impacts on existing Northport and CINZL berthage (navigation). Slight increase in marine spill risk based on vessel size (not appreciable).
Biosecurity		
Potential introduction of pest species on construction vessels and additional shipping	▪ CEMP and associated biosecurity management measures.	Potential increase in biosecurity risks for the region due to additional ships. Mitigation required to minimise the risks.
Noise and vibration (terrestrial)		
Construction noise	▪ Construction management plan.	Will comply with permitted activity limits.

Additional port noise	▪ Compliance with specified noise limits. ▪ Implementation of measures in the Port noise management plan. ▪ Offer to install mechanical ventilation at specified noise threshold.	▪ Dwellings that are not eligible to receive mitigation: Ranging between minor and less than minor. ▪ Dwellings that will receive mitigation: Minor
Archaeology		
Potential discovery of archaeological sites	▪ Accidental discovery protocol.	Negligible.
Recreation effects		
Construction and maintenance effects (effects of turbidity, effects of dredging on recreational boating, changes to tides and currents)	▪ Dredge/construction management plan (s)	Minor or less.
Loss of beach and pontoon	**Park/reserve** ▪ A public park/reserve area is to be developed at the eastern end of the expanded port, above the residual beach area (see details in Section 3.9 of this report). **Replacement fishing wharf** ▪ While the existing eastern pontoon was not specifically established for fishing, the use of the wharf by the public for this purpose is recognised. It is therefore proposed to incorporate a public fishing area and associated public access on the eastern side of the port with access provided via the public park/reserve.	▪ Significant effect for recreational beach users. ▪ Minor effects (district-wide) ▪ Less than minor effects (region-wide) ▪ Temporary effects on recreational fishing post dredging until recovery.

Economic effects		
Economic benefits and/or lost opportunities	N/A	Northport role in the regional economy could range from: ▪ **BAU** scenario which reaches $1,094 million GDP and 14,800 jobs by 2050. ▪ **NAI** scenario which reaches $1,201 million GDP and 16,200 jobs by 2050. Northport role in the *national* economy could range from: ▪ **BAU** scenario which reaches $2.26 billion GDP and 26,300 jobs by 2050. ▪ **NAI** scenario which reaches $5.6 billion GDP and 60,900 jobs by 2050.
Stormwater discharges		
Additional stormwater discharge to the CMA via pond system	▪ Compliance with conditions of consent relating to stormwater discharge quality. On port mitigation will include: ▪ Removal of bark and wood debris to off-site landscape suppliers ▪ Routine sweeping ▪ Dust suppression measures. ▪ Regular cleaning of catchpits.	▪ Negligible.

Air Quality		
Construction	▪ Compliance with conditions of consent, including management plan(s).	Minor.
Operations	▪ Commitment to emissions reductions.	Negligible.
Traffic effects		
Construction	▪ Compliance with construction traffic management plan.	Minor.
Operations	▪ Upgrading intersections if trigger volumes exceeded.	Minor.

The effects summarised in **Table 24** above are integral to the statutory planning assessment in Section 6 of this report, particularly in respect to marine ecology, avifauna, marine mammals, landscape, and natural character.

6. Statutory Planning Assessment

6.1 Introduction

This section of the AEE identifies the statutory framework under which the various WDC and NRC consents are to be considered and summarises the assessment of the proposal against the various national, regional, and district planning documents contained in **Appendix 28**.

6.2 Relevant statutory planning documents

6.2.1 Statutory framework

The statutory framework against which the proposal is to be assessed is shown in **Figure 69** below:

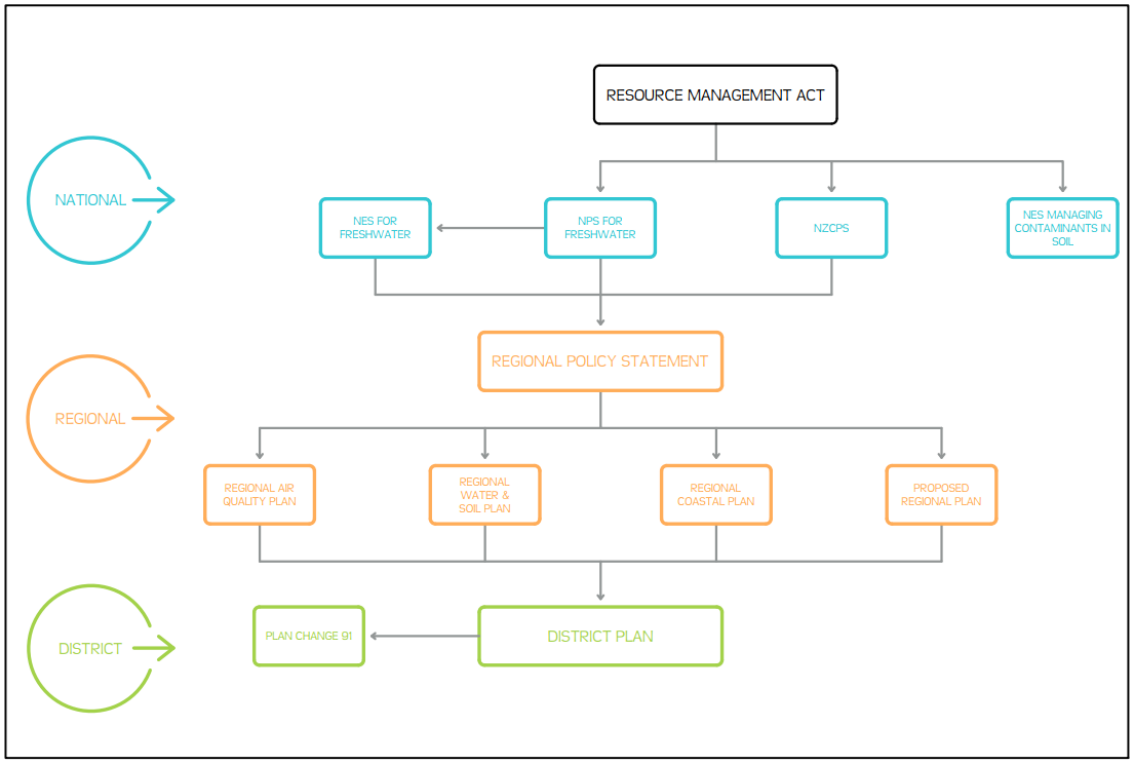

Figure 69: *Statutory framework*

Given the hierarchal nature of planning documents under the RMA, and the requirement for lower order documents to "give effect to" higher order documents, the principal documents are the PRP (given the very advanced progress of appeals on this plan) and the WDP, both of which have been prepared under the NZCPS and RPS. However, for completeness, all of the documents have been considered in the analysis in **Appendix 28** and summarised below.

6.2.2 National planning documents

National Policy Statement for Freshwater Management 2020 (NPSFM)

The NPSFM sets a national framework for how freshwater is to be managed across the country, according to a fundamental concept, Te Mana o te Wai. Regional and district plans are required to give effect to the NPSFM according to its terms.

Resource Management (National Environment Standards for Freshwater) Regulations 2020 (NESFM)

The NESFM contains regulations for carrying out certain activities that pose risks to freshwater and freshwater ecosystems.

The standards are designed to, among other things, protect existing inland and coastal wetlands.

At the time of filing this application, MfE are publicly consulting on possible changes to the NESFM to clarify that the wetland provisions should not apply to the CMA.

Resource Management (National Environmental Standards for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (NESCS)

The NESCS is a nationally consistent set of planning controls and soil contaminant values. It ensures that land affected by contaminants in soil is appropriately identified and assessed before it is developed and, if necessary, the land is remediated, or the contaminants contained to make the land safe for human use.

New Zealand Coastal Policy Statement 2010

The NZCPS is the only compulsory NPS required under the RMA. The purpose of the NZCPS is to state policies in order to achieve the purpose of the Act in relation to the coastal environment of New Zealand. Regional and district plans (including the RPS) are required to give effect to it according to its terms.

6.2.3 Regional planning documents

Regional Policy Statement 2016

The RPS provides the broad direction and framework for managing the region's natural and physical resources. It identifies significant resource management issues for the region and sets out how resources such as land, water, soil, minerals, plants, animals, and structures will be managed in an integrated way. Regional and district plans must give effect to the RPS.

Proposed Regional Plan (Appeals Version)

The PRP is a combined regional air, land, water, and coastal plan, which will replace the three existing operative regional plans.[78] This plan contains objectives, policies, and rules relating to these matters. The PRP must give effect to the national planning documents and the RPS.

The PRP was notified in 2017 and is very well advanced, with the majority of appeals now resolved.

Operative Regional Coastal Plan for Northland 2004

This plan covers the Northland coastal marine area, which is the area from mean high water springs to the 12 nautical mile (22.2 km) limit of New Zealand's territorial sea. The purpose of the Regional Coastal Plan (RCP) is to assist the Northland Regional Council, in conjunction with the Minister of Conservation, to promote the sustainable management of resources in the coastal marine area.

The Regional Coastal Plan for Northland manages the following activities:

- Structures (e.g. wharves and boat ramps)
- Reclamation and impoundment
- Discharges to water
- Dredging
- Moorings and Marinas
- Aquaculture

The Regional Coastal Plan was not prepared under any of the current national planning documents or the RPS.

Operative Regional Water and Soil Plan for Northland

The rules related to earthworks in the PRP are now treated as operative under Section 86F of the RMA. Further, given that the PRP is very advanced through the appeals process, considerably greater weight is placed on the Objective and Policy framework in the PRP compared to the Operative Water and Soil Plan for Northland (RWSP).

Operative Air Quality Plan for Northland

The air quality rules in the PRP are now treated as operative under Section 86F of the RMA. Further, given that the PRP is very advanced through the appeals process, considerably greater weight is placed on the Objective and Policy framework in the PRP compared to the Operative Air Quality Plan for Northland.

[78] Air Quality Plan, Regional Coastal Plan, Regional Water and Soil Plan.

6.2.4 District planning documents

Whangarei District Plan Operative in Part 2022

The Whangarei District Plan manages land use and subdivision in the Whangarei District. This plan does not have jurisdiction for activities below MHWS. It was prepared under the NZCPS and RPS and has given effect to these documents.

The chapters that are relevant to the proposal are as follows:

- **Port Zone** (PORTZ) – Operative.
- **Natural Open Space Zone** (NOSZ) – Operative.
- **Coastal Area** (CA) – Operative.
- **District Growth and Development** (DGD) – Operative.
- **Urban Form and Development** (UFD) – Operative.
- **Transport (TRA**) - The rules in this chapter are treated as operative under s86F of the RMA. There is one outstanding appeal relating to setbacks from state highways and railways, neither of which are relevant to the proposed expansion. Accordingly, considerably greater weight can be placed on the Objective and Policy framework of this chapter of this Plan relative to its predecessor.
- **Three Waters Management** (TWM) – Operative.
- **Earthworks** (EARTH) – Operative.
- **Lighting** (LIGHT) – Operative.
- **Noise and Vibration** (NAV) – Operative.

Plan Change 91 'Hazardous Substances'

Plan Change 91 (PC91) 'Hazardous Substances' proposes to amend the operative Hazardous Substances chapter of the District Plan to give effect to the 2017 amendments to the Resource Management Act 1991, which removed the explicit function for local authorities to control the adverse effects of the storage, use, disposal, and transportation of hazardous substances.

As there are no hazardous substances associated with the proposed expansion, this chapter is of limited to no relevance to the proposal.

6.3 Whangarei District Plan zones/overlays

6.3.1 General

The proposed expansion footprint is primarily located in the coastal marine area. However, a portion of the footprint (currently esplanade reserve) is also located in the Natural Open Space Zone (NOSZ). The existing port is located in the Port Zone (PORTZ). Both the existing port and the esplanade reserve are also located within the Coastal Area (CA) overlay.

6.3.2 Port Zone (PORTZ)

The PORTZ applies to the existing port. The proposed expansion, being in the CMA, is not located within this zone. However, it has peripheral relevance to the proposal, with many of the proposed conditions designed to align with the rules in the PORTZ.

The PORTZ recognises the significance of the Port and its importance to the Whangārei District and the Northland Region as regionally significant infrastructure. The stated purpose of the PORTZ is:

- To enable the ongoing and future growth and development of the Port and any associated operational areas and facilities; and
- To provide for operations relating to the transportation of people and freight including within the PORTZ.
- To enable appropriate commercial and industrial development adjacent to Marsden Bay Drive, and to otherwise manage non-port related activities so as not to compromise or constrain the primary purpose of the zone.

The PORTZ is split into three sub zones. The existing port (owned by Northport Ltd) is located in 'Port Operations Area A', being the only area containing and limited to the functions and operations of the Port. 'Port Management Areas B and C', while stated in the plan as being to provide for the future expansion of the Port's operations, together with ancillary and supporting commercial and industrial activities, are owned and managed by Marsden Maritime Holdings (MMH) and are not sufficiently proximate to the berth frontages to be viably used for port operations.

6.3.3 Natural Open Space Zone (NOSZ)

The NOSZ identifies areas of open space land primarily managed for the conservation and protection of natural resources. The Natural Open Space Zone has associated objectives, policies, and rules that provide for the natural, ecological, landscape, cultural and heritage values of these open spaces.

6.3.4 Coastal Area (CA)

The CA is an 'overlay' that applies to land where the coast has a significant influence, and where land use activities can have effects on the coastal marine area. It defines the landward extent of the area covered by the NZCPS.

The CA was originally defined in the RPS and has since been introduced to the District Plan. The CA chapter contains objectives, policies, and rules to manage the effects of land use and development on the coastal environment. These provisions apply in addition to the rules for the underlying Zone (unless otherwise stated).

6.3.5 District-wide chapters

The relevant district-wide chapters identified in Section 2.2.4 contain objectives, policies, and rules that apply to all zones across the district.

6.4 Regional Coastal Plan zones/overlays

6.4.1 Marine 5 (Port Facilities) Management Area

The proposed expansion footprint (including the reclamation and dredging areas) is located within the 'Marine 5 (Port Facilities) Management Area' in the RCP (see pink area on **Figure 70** below).

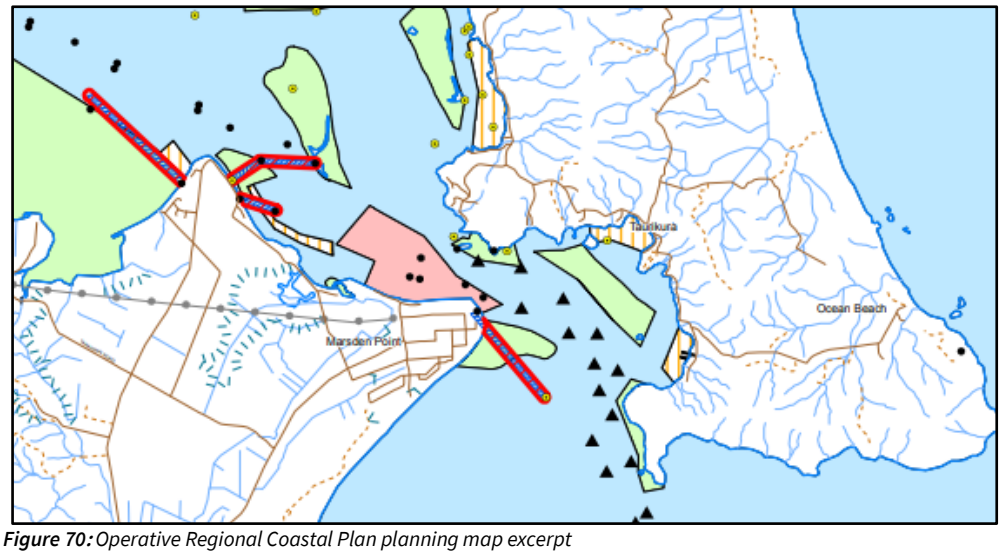

Figure 70: *Operative Regional Coastal Plan planning map excerpt*

The RCP states that Marine 5 areas are to be *"managed primarily for port-related purposes as a means for providing for the continuation of such activity, where appropriate, and of facilitating the management of any adverse environmental effects associated with them".*[79]

[79] Policy 6.4(5) of the Operative RCP.

6.5 Proposed Regional Plan zones/overlays

6.5.1 Marsden Point Port Zone

The proposed expansion footprint (including the reclamation and dredging areas) is located within the 'Marsden Point Port Zone in the PRP (see **Figure 71** below).

Figure 71: *Proposed Regional Plan (Decision Version) planning map excerpt (Marsden Point Port Zone)*

There are two policies in the PRP that explain the purpose/intent of the Marsden Point Port Zone being:

D.5.8 Coastal Commercial Zone and Marsden Point Port Zone

Recognise that the purpose of the Coastal Commercial Zone and Marsden Point Port Zone is to enable the development and operation of existing and authorised maritime-related commercial enterprises or industrial activities located within these zones.

D.5.9 Coastal Commercial Zone and Marsden Point Port Zone

Development in the Coastal Commercial Zone and the Marsden Point Port Zone will generally be appropriate provided it is:

1) consistent with:

a) existing development in the Coastal Commercial Zone or the Marsden Point Port Zone, and

b) existing development on adjacent land above mean high water springs, and

c) development anticipated on the land above mean high water springs by the relevant district plan, or

2) associated with regionally significant infrastructure in the Marsden Point Port Zone. Development that is inconsistent with 1) or 2) will not necessarily be inappropriate.

6.5.2 Significant Marine Mammal and Seabird Area

The entire expansion footprint is located within the Significant Marine Mammal and Seabird Area of the PRP. This area applies to the entire Northland CMA. There are no specific objectives, policies or rules relating to this area.

6.5.3 Significant Bird Area

A small part of the existing dredge footprint is located within the Significant Bird Area of the PRP. This area is shown on the WSP design drawings in **Appendix 3** and in **Figure 72** below. Like the Significant Marine Mammal and Seabird Area, there are no specific objectives, policies or rules relating to this area.

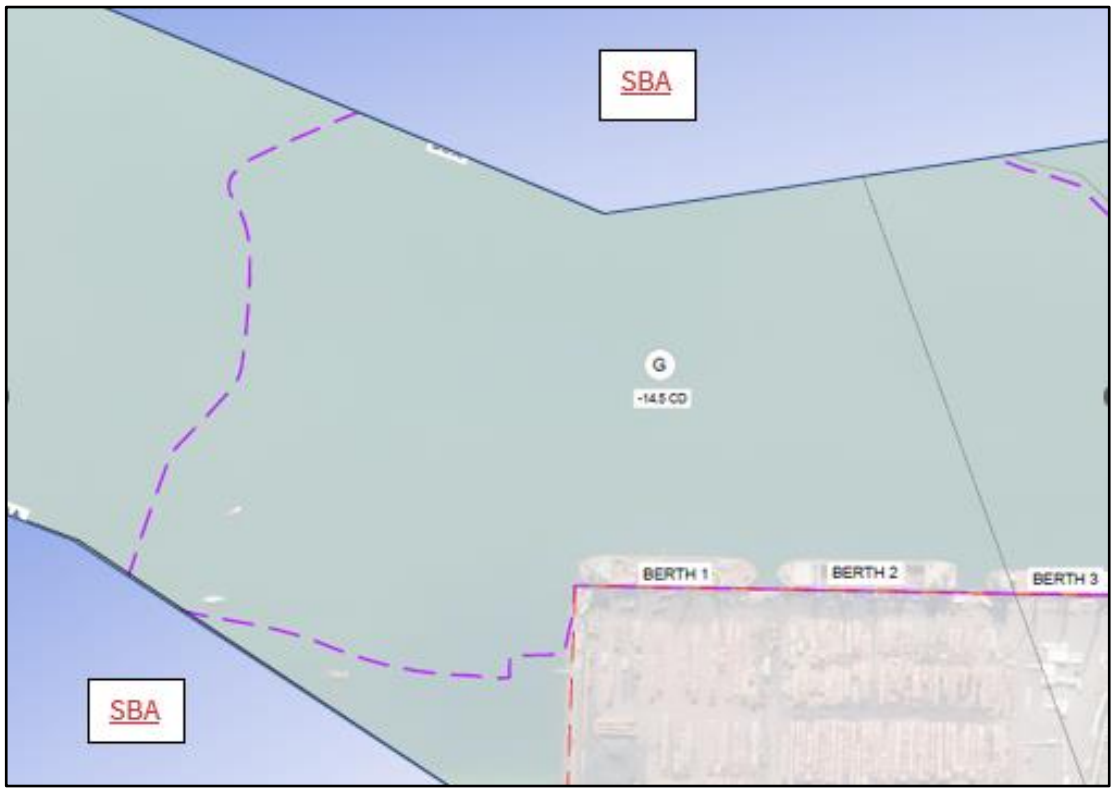

Figure 72: Plan excerpt showing PRP SBAs relative to proposed dredging areas (Source: WSP)

Significant Ecological Area

The proposal has been carefully designed in a way that it does not extend into any Significant Ecological Area notated in the PRP, except for the avifauna roost area which has been determined by the relevant avifauna and coastal processes experts to result in positive effects for the SEA and associated ecology.

6.6 National Policy Statement for Freshwater Management (NPSFM)

6.6.1 General

Section 1.5 addresses the application of the NESFM. With respect to the NPSFM, coastal wetlands do not fall within the definition of "natural inland wetland" as they are located in the CMA.[80]

There are no specific NPSFM policies relating to "natural wetlands" in the CMA. The policy focus in respect to wetlands is on "natural inland wetlands" (outside the CMA). Accordingly, while the proposal does not consider that consent under the NESFM is required for works in or near a natural wetland, out of an abundance of caution we include assessment against the NPSFM in the unlikely event it is required.

The fundamental concept that underpins the NPSFM is Te Mana o te Wai.[81] The NPSFM seeks to manage freshwater in a manner that gives effect to Te Mana o te Wai.

6.6.2 Objectives and policies assessment

The single objective of the NPSFM is:

2.1 Objective

(1) The objective of this National Policy Statement is to ensure that natural and physical resources are managed in a way that prioritises:

(a) first, the health and well-being of water bodies and freshwater ecosystems

(b) second, the health needs of people (such as drinking water)

(c) third, the ability of people and communities to provide for their social, economic, and cultural well-being, now and in the future.

Regarding 1(a), a range of technical studies by suitably qualified and experienced experts have determined that the proposal will not adversely affect the health and well-being of the harbour subject to the implementation of appropriate avoidance and/or mitigation measures being advanced as conditions of consent.

---

[80] Under 3.2.1 the NPSFM:
natural wetland means a wetland (as defined in the Act) that is not:
(a) a wetland constructed by artificial means (unless it was constructed to offset impacts on, or restore, an existing or former natural wetland); or
(b) a geothermal wetland; or
(c) any area of improved pasture that, at the commencement date, is dominated by (that is more than 50% of) exotic pasture species and is subject to temporary rain derived water pooling

Natural inland wetland means a natural wetland that is not in the coastal marine area.

[81] Defined in Section 1.3 of the NPSFM.

Regarding 1(c), the proposal will have a positive impact on the economic and social wellbeing of people and communities.

The supporting policies that are relevant to the project are as follows:

Policy 1: Freshwater is managed in a way that gives effect to Te Mana o te Wai.

Policy 2: Tangata whenua are actively involved in freshwater management (including decision-making processes), and Māori freshwater values are identified and provided for.

Policy 3: Freshwater is managed in an integrated way that considers the effects of the use and development of land on a whole-of-catchment basis, including the effects on receiving environments.

Policy 5: Freshwater is managed through a National Objectives Framework to ensure that the health and well-being of degraded water bodies and freshwater ecosystems is improved, and the health and well-being of all other water bodies and freshwater ecosystems is maintained and (if communities choose) improved.

Policy 14: Information (including monitoring data) about the state of water bodies and freshwater ecosystems, and the challenges to their health and well-being, is regularly reported on and published.

Policy 15: Communities are enabled to provide for their social, economic, and cultural wellbeing in a way that is consistent with this National Policy Statement.

The proposal aligns with these policies by employing a stormwater management system that is proven to achieve the water quality standards specified in the PRP, and from which there will be a negligible impact on water quality in the harbour.

6.7 New Zealand Coastal Policy Statement (NZCPS)

6.7.1 Objectives and policies assessment

The NZCPS contains 7 objectives and 29 policies aimed at achieving sustainable management in the coastal environment, with the majority of these having relevance to the project. The key matters most pertinent to the proposed expansion are:

- Indigenous biodiversity
- Natural character
- Tangata whenua
- Public Open Space
- Coastal hazards
- Development in the coastal environment
- Integrated management

- Ports
- Reclamation
- Biosecurity
- Natural features and landscapes
- Sedimentation
- Discharges in the CMA

The relevant NZCPS objectives and policies are assessed in detail in **Appendix 28**. Please refer to those tables for a comprehensive assessment; summary conclusions for each matter are set out below.

Indigenous biodiversity

Relevant provisions: Objective 1, Policy 11

The proposal has been the subject of detailed, integrated, and appropriately scaled assessments of effects on indigenous biodiversity that recognise the dynamic, complex, and interrelated nature of the environment in this locality. The various assessments have concluded that the overall effects on biological and physical processes, and on the diversity of indigenous coastal flora and fauna, will be minor or less subject to the implementation of measures to avoid or otherwise minimise effects. In addition, coastal water quality has been determined to be good, and unlikely to be affected by additional run-off from the expanded container terminal. Overall, the proposal is considered to align with Objective 1.

The related Policy 11 contains more specific direction to avoid adverse effects on endangered and threatened indigenous flora and fauna, and significant effects on other indigenous biodiversity and related habitat. The various ecological assessments have concluded that the effects in respect to these matters are also minor or less subject to the implementation of measures to avoid and otherwise minimise effects. Accordingly, the proposal aligns with Policy 11.

Natural character

Relevant provisions: Objective 2, Policy 13

The BNZL assessment notes that the port is not located in an Outstanding Natural Character Area, and that there are no ONLAs, HNCAs, ONFs, or ONCAs directly affected by the Northport proposal.

At a more general level, although the character and values of Marsden Point Beach would be appreciably changed by the proposed expansion, this will not alter the natural character values of the wider Marsden Point coastline to a commensurate degree.

The proposal is located in an area where natural character values are compromised by existing activities in the immediate and surrounding environment.

Overall, the BNZL assessment concludes that the proposal is acceptable in natural character terms, and in alignment with Objective 2 and Policy 13.

Tangata whenua

Relevant provisions: Objective 3, Policy 2

The role of tangata whenua has been recognised through meaningful and ongoing engagement with mana whenua. Cultural values and cultural effects assessments have been prepared in respect of the application in order to identify those characteristics that are of special value, and how they may be affected by the proposal. Understanding the relationship of tangata whenua over their lands, rohe and resources and the related effects of the proposal on this relationship continues to be a key focus for Northport as it continues its proactive engagement through to, and post, lodgement.

It is expected that there will be conditions of consent related to cultural issues and effects, and that these will be developed in consultation with mana whenua. It is expected that these conditions will align with many of the matters in Policy 2(a)-(g).

Public Open Space

Relevant provisions: Objective 4, Policies 18 and 19

Objective 4 recognises that there may be exceptional circumstances when maintaining and enhancing walking access to and along the coast is not practicable, and in those circumstances promotes the provision of alternative access.

While some public open space will be lost as a result of the proposal, this is necessary to enable the port to expand and safely operate in order to provide its regionally (and nationally) significant infrastructure function.

The proposal responds to Objective 4 and the supporting Policies 18 and 19 by providing and enhancing public access to the beach at the eastern end of the expanded port. New open space resources are proposed, including a pocket park/reserve area, associated carpark/toilet facilities, a fishing platform, and facilities to enhance water/swimming access.

Coastal hazards

Relevant provisions: Objective 5, Policies 24-27

There is specific recognition in the NZCPS for activities that cannot avoid locating in coastal hazard areas, as is unsurprisingly the case with an existing commercial port. Given the specific circumstances, the proposal aligns with Objective 5 and Polices 24-27.

Development in the coastal environment

Relevant provisions: Objective 6, Policy 6

When considered overall, the proposed port expansion aligns well with these provisions because, in addition to the positive economic and social effects and the obvious functional need to be located in the CMA, the expansion is designed to meet the reasonably foreseeably needs of future generations, is located in an area where natural character values are already influenced by existing

activities in the immediate and surrounding environment (indeed, it integrates with, and will operate indistinguishably from, the existing port), incorporates mitigation measures in relation to public access and open space, and includes shared use of facilities in the CMA where practicable (i.e. the proposed fishing pontoon and other amenities on the eastern revetment).

Integrated management

Relevant provisions: Policy 4

To achieve the integrated management of natural and physical resources and continuity overall, the various consents required from the respective councils are being processed jointly and by the same processing officer. Furthermore, the various technical effects assessments are cognisant of cross boundary activities and effects.

Regarding hapu or iwi interests, a collaborative approach to consulting with the various parties is being pursued in full alignment with this policy.

Ports

Relevant provisions: Policy 9

The proposed expansion directly aligns with, and gains considerable support from, Policy 9 as it is founded on a need to integrate with and assist the national network of ports in New Zealand to provide for the efficient and essential movement of national and international freight. Central to this issue is that providing for the development of the capacity of ports for shipping requires, long lead times for gaining consents, securing funding, design, and construction.

Furthermore, the proposed expansion is predominantly located in the Marsden Point Port Zone, the singular purpose of which is *"to enable the development and operation of existing and authorised maritime-related commercial enterprises or industrial activities located within these zones".* In that regard, the PRP identifies the proposal site as the appropriate location for the port as per Policy 9(b).

Reclamation

Relevant provisions: Policy 10

The proposal aligns with Policy 10(1) and (2) for the following reasons:

- 1(a) It is not possible to provide additional berth length without an associated reclamation (freight handling area).
- 1(b) The activity can only occur in the coastal marine area.
- 1(c) Other alternative methods have been considered and are not considered practicable.
- 1(d) The proposed reclamation will provide significant national and regional benefits.
- 2(a) The port deck height and rock armouring of the reclamation will be designed to take into account coastal hazards, including climate change and sea level rise.

- 2(b) The reclamation will have the same appearance as the existing port.
- 2(c) No contaminated materials will be used in the reclamation.
- 2(d) Public access is to be provided within the esplanade reserve and along the eastern edge of the reclamation.
- 2(e) The various technical reports conclude that potential adverse effects of the proposal on the environment can be mitigated.
- 2(f) Consultation with tangata whenua is ongoing with a view to understanding and mitigating effects on cultural landscapes and sites of significance to tangata whenua.
- 2(g) MO modelling has determined that there will not be significant changes in harbour morphology resulting from the proposed reclamation, and that other effects can be mitigated.

The purpose of the reclamation is to enable the efficient operation of Northport, and the overall movement of freight handled by the network of ports servicing the upper North Island.

Biosecurity

Relevant provisions: Policy 12

The proposal includes conditions of consent related to biosecurity. Specifically, a biosecurity measures will be included in the CEMP to manage biosecurity risks associated with construction vessels. Northport will also continue to follow MPI biosecurity requirements for international shipping. This aligns with Policy 12.

Natural features and landscapes

Relevant provisions: Policy 15

The proposed expansion aligns with this policy because:

1. There are no mapped ONFs or ONLAs within the expansion footprint.
2. ONFs and ONLAs in the surrounding environment already co-exist with port and refinery activities, and the proposed expansion will not result in any significant change to the values of these features.

Accordingly, it is an appropriate development in this location within the context of Policy 15.

Sedimentation

Relevant provisions: Policy 22

The proposed construction, deposition and dredging activities will be subject to comprehensive conditions of consent designed to provide real-time monitoring of sedimentation levels, response mechanisms to appropriately manage adverse effects of sedimentation in coastal water and in the

coastal marine area generally, and reporting of outcomes to councils and other bodies and agencies with collaborative responsibilities and duties in the coastal environment.

Discharge of contaminants

Relevant provisions: Policy 23

Discharges to water from the port facility will be managed by the existing pond-based stormwater treatment system for the existing port and/or proprietary devices. The effects of these discharges on water quality are predicted to be minor or less.

Increases in turbidity and sedimentation are expected to be temporary as they relate to dredging and construction of the reclamation. Mitigation measures are proposed to ensure that the handling of dredged material will not result in significant adverse effects on water quality or the seabed, substrate, ecosystems, or habitats.

For the above reasons, the proposal aligns with Policy 23.

6.8 Regional Policy Statement (PRS)

6.8.1 General

The RPS was made operative in 2016. It is required to give effect to the NZCPS, and accordingly the objectives and policies traverse similar matters, albeit tailored to the regional context.

Section 1.3 of the RPS sets out the principles that have been used to guide the development of the RPS. These are:

People

People are at the heart of this Regional Policy Statement. All district and regional plans should have regard to people and their need for a healthy environment, well managed resources, jobs and business opportunities for their wellbeing and long-term economic success.

Economy within the environment

This Regional Policy Statement has been developed giving weight to both long-term economic and environmental considerations. It recognises that a healthy Northland economy needs a healthy environment. This Regional Policy Statement is enabling. It balances improving the economy and using resources wisely with managing and investing in the environment to achieve our future aspirations for improvement in Northland and our wellbeing. It is effects-based and should lead to effects-based implementation.

Partnership

Working with others is efficient, increases the sense of ownership, and provides opportunities for innovation and enduring success. Encouraging and supporting individual, landowner, key stakeholder and community involvement and action is critical to effective resource management in Northland.

Partnership with tangata whenua

In recognition of the partnership principles in the Treaty of Waitangi / Te Tiriti o Waitangi, and the benefits of working in partnership, tangata whenua have a key role in resource management.

Local government's role and responsibility

Local government plays an important role in managing Northland's natural and physical resources and the competing interests and values. It enables the use, development and protection of those resources to meet the needs of people and safeguards the environmental bottom lines, Northland's special places and the things we value. In doing so, it maintains Northland's capacity to generate benefits for future generations.

Affordability

The Regional Policy Statement recognises that some resource use practices will have to change so that natural and physical resources can be managed in a sustainable manner. Where these changes would impose a significant financial burden, or a practical solution is not currently available, a reasonable time is to be allowed for desired environmental results or outcomes to be achieved, taking into account the need for change and the costs and effects of not acting, or not acting quickly. Affordability acknowledges intergenerational equity and fairness.

Adaptive management

Managing Northland's natural and physical resources is a complex task. The environment, resources and systems are dynamic and so is our understanding of them. We have information gaps to fill. Our management regime must therefore be adaptive and be able to respond to change to achieve sustainable resource management.

Effectiveness

Effective resource management in Northland will involve a mixture of advocacy, education, information provision, encouragement, incentives, co-production / partnership, codes of practice, regulation, economic / market-based instruments, process reforms, and other forms of intervention and support. The Regional Policy Statement contains the minimum regulation: to meet legal requirements, community needs and values as derived from evidence and the process for its development. It recognises that solutions must be affordable, fit for purpose and achieve the objectives set out. We have matched our policy instruments to the resource management issues and opportunities identified. In line with affordability, we have avoided unnecessary compliance costs.

These principles permeate through the objectives and policies, which are focussed on providing for the health and economic well-being of people and communities, while managing effects on the environment.

The key matters pertinent to the proposed expansion covered in the RPS are:

- Water quality
- Indigenous biodiversity
- Enabling economic wellbeing
- Regionally significant infrastructure
- Efficient and effective infrastructure

- Tangata whenua
- Natural hazards
- Natural character and landscape
- Occupation of space in the CMA
- Coastal permit duration
- Development in the coastal environment
- Hard protection structures

The objectives and policies are assessed in detail in **Appendix 28**. Summary conclusions for each matter are set out below.

6.8.2 Objectives and policies assessment

Water Quality

Relevant provisions: Objective 3.2, and Policy 4.2.1

The proposal aligns with these provisions for the following reasons:

- The various technical assessments and results from monitoring existing port related discharges demonstrate that operational stormwater will not adversely affect overall water quality in the adjoining harbour.
- Mitigation measures are proposed to minimise those temporary effects associated with turbidity and sedimentation during construction (reclamation and dredging).

Indigenous biodiversity

Relevant provisions: Objective 3.4, Policy 4.4.1

The proposal has been the subject of detailed, integrated, and appropriately scaled assessments of effects on indigenous biodiversity that recognise the dynamic, complex, and interrelated nature of the environment in this locality. The various assessments by qualified and experienced independent experts conclude that the overall effects on biological and physical processes, and on the diversity of indigenous coastal flora and fauna, will be minor or less subject to the implementation of measures to avoid or otherwise minimise effects.

In addition, coastal water quality has been determined to be good, and unlikely to be affected by additional run-off from the expanded container terminal. The proposal aligns with Objective 3.4 and Policy 4.4.1.

Enabling economic well-being

Relevant provisions: Objective 3.5

The proposed expansion will directly improve the economic well-being of Northland and its communities through ensuring a robust port network with sufficient capacity into the future; and indirectly by enabling the operation and expansion of downstream businesses and investment that contribute to the economic wellbeing of people and communities. The proposal therefore aligns with this objective.

Regionally significant infrastructure

Relevant provisions: Objective 3.7, Policy 5.3.1, 5.3.2, and 5.3.3,

This suite of provisions relating to regionally significant infrastructure highlights the elevated importance of such infrastructure to the economic well-being of the region. This is a central theme of the RPS.

Northport is expressly identified as regionally significant infrastructure in the RPS. The proposed expansion of the Port will enhance Northland's economic and social well-being in the manner contemplated by Objective 3.7 and the supporting policies.

Efficient and effective infrastructure

Relevant provisions: Objective 3.8, Policy 5.2.1, 5.2.2, 5.2.3

The proposal aligns with Objective 3.8 and the supplementary provisions for the following reasons:

(1) It optimises the use of the existing port and avoids the need for a new port.

(2) It will enable flexibility to adapt to changing market and political conditions to meet the reasonably foreseeable needs of the community.

(3) It will enable the port to continue to lead and facilitate regional economic development and community wellbeing.

These provisions are reinforced by the regionally significant infrastructure provisions (Objective 3.7 supported by Policies 5.3.1, 5.3.2, and 5.3.3) and the economic wellbeing Objective 3.5.

Tangata whenua

Relevant provisions: Objective 3.12, Policy 8.1.1, 8.1.2

These provisions give effect to Objective 3 and Policy 2 of the NZCPS.

The role of tangata whenua in decision-making has been recognised in the Northland and Whangarei contexts through regional and district plan provisions, including iwi management plans, and through meaningful and ongoing engagement with mana whenua on this proposal.

Understanding the relationship of tangata whenua over their lands, rohe and resources and the related effects of the proposal on this relationship continues to be a key focus for Northport.

Natural hazards

Relevant provisions: Objective 3.13, Policy 7.1.1, 7.1.3, 7.1.4, 7.1.5, 7.1.6

These provisions give effect to Objective 5, Policies 24-27 of the NZCPS.

As specifically recognised in Policy 7.1.5, Northport (as with all commercial ports) has a functional need to be located in the coastal environment. As such, it is subject to coastal hazards, noting that the natural hazard risk to the port itself is lessoned by the location of the Port inside the harbour, as opposed to more exposed coastal locations.

Natural character and landscape

Relevant provisions: Objective 3.14, Objective 3.15, Policy 4.6.1, 4.4.2, 4.7.1 4.7.3

Objectives 3.14, 3.15 and Policies 4.6.1, 4.4.2, 4.7.1 4.7.3 give effect to Objective 2 and Policies 13 and 15 of the NZCPS.

The proposal aligns with these provisions for the following reasons:

- The proposal is not located in mapped Outstanding Natural Character and Landscape Areas, and rather is located in an area where natural character values are compromised by existing activities in the immediate and surrounding environment.
- The proposal is acceptable in natural character terms, avoiding effects on outstanding natural features, outstanding natural character, and landscape areas, and otherwise avoiding significant effects in the coastal environment.
- The proposal incorporates avoidance and mitigation measures in relation to indigenous biodiversity in the context of policy 4.4.1, public open space and access, and water quality.
- Additional restoration and enhancement measures that accord with Policy 4.4.2 may be proposed following further consultation with mana whenua and other interest groups.

The BNZL assessment concludes that the proposal is acceptable in natural character terms, avoiding effects on outstanding natural features, outstanding natural character, and landscape areas, and otherwise avoiding significant effects in the coastal environment. It therefore aligns with this objective and policy.

Occupation of space in the CMA

Relevant provision: Policy 4.8.1, 4.8.4

The proposal aligns with Policy 4.8.1 as follows:

(1) There is a clear functional need for the activity to be in the coastal marine area – it cannot be located anywhere else.

(2) The design and location of the activity is constrained by the existing port development, and it is not feasible to undertake the activity on dry land.

(3) The proposed footprint extent is necessary to provide for the intended use.

(4) Exclusion of the public from the port operations area is necessary to protect the integrity of the structure and for health and safety reasons.

In regard to Policy 4.8.4, there are considerable public benefits from the expanded port occupying additional common marine and coastal area as outlined in the ME economic assessment.

Coastal permit duration

Relevant provision: Policy 4.8.3

The proposed 35-year durations sought for the Northland Regional Council consents –other than the coastal permit for reclamation, which is of unlimited duration pursuant to s 123(a) of the RMA - reflects the need for security of tenure given the investment involved, the fact that the activity is Regionally Significant Infrastructure, and Northport's prior compliance history and adoption of good management practices (all factors to be considered under this policy). It also reflects the long-term perspective required for port development, and the need for flexibility and the ability to react quickly to changing market requirements.

Development in the coastal environment

Relevant provision: Policy 5.1.2

Policy 5.1.2 gives effect to Objective 6 and Policy 6 of the NZCPS. It seeks to enable people and communities to provide for their well-being through appropriate development. The purpose of the proposed expansion is to improve the economic well-being of Northland and its communities. It achieves this by:

(1) Consolidating the existing port development consistent with Policy 5.1.2(a).

(2) Retaining public access to the residual beach area and the eastern side of the reclamation and improving public amenities as per the pocket park concept, consistent with Policy 5.1.2(b)(i).

(3) Minimising effects on the functioning of coastal processes and ecosystems consistent with Policy 5.1.2(b)(ii).

(4) Compatibility with existing development in the surrounding environment (i.e. existing port and CINZL facility) consistent with Policy 5.1.2(c).

(5) The ability to service the expanded port area with adequate infrastructure consistent with Policy 5.1.2(d).

Hard protection structures

Relevant provision: Policy 7.2.2

The reclamation rock revetment is the best practicable option for protecting the reclamation against natural hazards. There are no viable non-structural measures.

6.9 Proposed Regional Plan

6.9.1 General

The PRP (Appeals Version) has been prepared to give effect to the RPS and accordingly the objectives and policies traverse similar matters. Core pillars of the PRP are the avoidance of adverse effects on biodiversity and natural character/features/landscapes, providing for economic development, and enabling regionally significant infrastructure.

Key matters covered in the PRP are as follows:

- Water quality
- Indigenous biodiversity
- Enabling economic well-being
- Regionally significant infrastructure
- Use and development in the CMA
- Tangata whenua
- Natural hazards
- Natural character, natural features and landscapes
- Air quality
- Social, cultural, and economic benefits
- Climate change
- Biosecurity
- Resource consent duration
- Marsden Point Port Zone
- Reclamation
- Dredging and deposition
- Underwater noise

The objectives and policies are assessed in detail in **Appendix 28**. Summary conclusions for each matter are set out below.

6.9.2 Objectives and policies assessment

Water quality

Relevant provisions: Objective F.1.2, Policy D.4.1, D.4.2, D.4.4, D.4.27

These provisions give effect to Objective 3.2, and Policy 4.2.1 of the RPS. Like the RPS provisions, they seek to manage discharges in order to maintain overall water quality.

Based on the various technical assessments, and results of monitoring existing port related discharges, the proposal is consistent with all the matters listed in Objective F.1.2, Similarly, operational stormwater will not adversely affect overall water quality in the adjoining harbour, consistent with Policy D.4.1.

The proposed treatment methods, being utilisation of the existing canal and pond system and/or proprietary devices are considered to be the best practicable option in accordance with Policy D.4.2.

Construction will be undertaken in accordance with good management practices, including detailed and specific 'real time' management triggers for turbidity, there will be no significant adverse effects, and all effects will be appropriately avoided, remedied, or mitigated, consistent with Policy D.4.27.

For the above reasons, the proposal aligns with the objectives and policies of the PRP relating to water quality.

Indigenous biodiversity

Relevant provisions: Objective F.1.3, Policy D.2.18

Objective F.1.3 is satisfied because the various technical assessments prepared by suitably qualified and experienced experts indicate that ecological integrity will be safeguarded, and the matters listed in the objective achieved.

In accordance with Policy D.2.18, the proposal has been carefully scoped, located, and designed to avoid areas of significant indigenous vegetation and significant habitats of indigenous fauna. Many years of studies and careful consideration of alternative sites and methods have been undertaken.

The proposal has been the subject of detailed, integrated, and appropriately scaled assessments of effects on indigenous biodiversity that recognise the dynamic, complex, and interrelated nature of the environment in this locality. The various assessments have balanced desktop analysis, technical modelling, and survey work, and have concluded that the overall effects on biological and physical processes, and on the diversity of indigenous coastal flora and fauna, will be minor or less.

The proposed effects management measures for avifauna, marine mammals, and other marine ecology accord with D.2.18(6), including the construction of roosting habitat to maintain/enhance connections within areas of biodiversity (therefore maintaining ecological processes and integrity) and measures to avoid transitory adverse effects associated with construction during sensitive times (i.e., during avifauna nesting and when marine mammals are known to be near works areas).

Regarding marine pests, biosecurity measures contained in the CEMP and adherence to MPI guidelines for international ships will minimise the potential for new marine pests being introduced into Northland, as will compliance with relevant regional plan rules, and the Northland Regional Pest and Marine Pathway Management Plan.

The proposal aligns with Objective F.1.3 and Policy D.2.18.

Enabling economic wellbeing

Relevant provisions: Objective F.1.5

Objective F.1.5 is a replica of Objective 3.5 of the RPS. By providing future employment opportunities, enabling a range of associated and ancillary business opportunities, and representing a strategic part of New Zealand's network of coastal ports, the proposal will improve the economic and social well-being of Northland and its communities and therefore aligns with this objective.

Regionally significant infrastructure

Relevant provisions: Objective F.1.6, D.2.5, D.2.7, D.2.8. D.2.9, D.2.11

Objective F.1.6 is a similarly worded objective to Objective 3.7 of the RPS, where Northport is identified as regionally significant infrastructure.

The proposed expansion of the Port will enhance Northland's economic and social well-being in the manner contemplated by Objective F.1.6 (see ME report in **Appendix 22**).

The effects of proposal align with the matters listed in Policy D.2.7(1) and (2) and have been assessed as being are no more than minor (noting that further consultation is required in respect to the policies in Section D .1 'Tangata Whenua').

Regarding Policy D.2.8 the various technical studies prepared by suitably qualified and experienced experts have confirmed that the effects associated with construction will be minor or less (and not significant) and/or transitory, and that the effects of the Port after the proposed upgrading will be similar to those of the existing Port. Accordingly, the proposal aligns with Policy D.2.8.

Policy D.2.9 specifically contemplates circumstances where the adverse effects of regionally significant infrastructure will be greater than those contemplated by Policies D.2.7 and D.2.8 (including the effects referred to in the cross-referenced policies in D.2.7) and sets out a range of matters (1)-(9) to have regard and give weight to in such circumstances. Many of these matters should be carefully regarded, and heavily weighted, as they are central to the proposal. For instance, the proposal; has a range of social and economic benefits to the region; has a clear and

demonstrated functional need to be located within the CMA and integrated with the current operating port therefore achieving consolidated development and efficient use of existing infrastructure resources; has been the subject of extensive studies into alternative sites and methods, and careful design, all of which have avoided or mitigated a range of adverse effects.

The various technical studies carried out in support of the AEE establish that the adverse effects of the proposal are consistent with those envisaged in Policies D.2.6 and D.2.7.

Policy D.2.11 is not relevant because it relates to reverse sensitivity effects on regionally significant infrastructure.

For the reasons outlined above, the proposal aligns with Objective F.1.6 and Policies D.2.5, D,2,7, D.2.8, D.2.9, and D.2.11.

Use and development in the CMA

Relevant provisions: Objective F.1.8

The proposal aligns with this objective for the following reasons:

- It makes efficient use of space in the CMA by expanding the existing facility, which is appropriately zoned within the Marine 5 Management Area and adjacent to port- and heavy industry-zoned land, as opposed to constructing a new port elsewhere.
- The various technical studies have concluded that the scale and design is compatible with the location and has effects that fall within appropriate limits.
- The design recognises the need to maintain and enhance public open space and recreational opportunities through the proposed pocket park development and associated amenities.

Tangata whenua

Relevant provisions: Objective F.1.9, Policy D.1.1, D.1.2, D.1.3, D.1.4, D.1.5

Objective F.1.9 is a replica of Objective 3.12 of the RPS.

The role of tangata whenua has been recognised through meaningful and ongoing engagement with mana whenua. Understanding the relationship of tangata whenua over their lands, rohe and resources and the related effects of the proposal on this relationship continues to be a key focus for Northport.

Consistent with Policy D.1.1 and D.1.2, Northport has carried out meaningful engagement with mana whenua, including providing early drafts of independent expert reports and facilitating review and feedback on those reports. Consultation will continue post lodgement, as is best practise.

A draft cultural effects assessment has been provided by Patuharakeke. That draft CEA identifies that the proposal will not directly impact on any individual archaeological sites or wāhi tapu. Northport continues to meaningfully engage in order to interpret and respond to matters raised, such as effects associated with the proposal, including on the broader cultural landscape.

In addition to direct engagement with mana whenua prior to lodgement of its application, regarding Policy D.1.3, the applicant has requested public notification under s 95A of the RMA, providing another avenue for participation in the process.

Regarding Policy D.1.4, ongoing consultation with mana whenua is expected to result in measures to mitigate and otherwise address cultural effects and issues, consistent with the intent of this policy.

Regarding Policy D.1.5, no specific sites or areas of cultural significance have been identified to date, and none are mapped in the PRP.

In summary, the Assessment of Environmental Effects has addressed all the matters listed in Policies D.1.2 - D.1.4 and aligns with them.

Natural hazards

Relevant provisions: Objective F.1.10, Policy D.6.1, D.6.2,

This objective is a replica of Objective 3.13 of the RPS, except for the addition of F.1.10(8).

The proposal aligns with these provisions for the following reasons:

- The proposal has a functional need to be located in a coastal hazard area.
- The reclamation rock revetment is the best practicable option for protecting the reclamation against natural hazards.
- The proposal is located and designed in alignment with these provisions.

Natural character, natural features, and landscapes

Relevant provisions: Objective F.1.12, Policy D.2.17

These provisions give effect to Objective 3.14, Objective 3.15, and Policies 4.6.1, 4.4.2, 4.7.1 4.7.3 in the RPS.

The proposal aligns with these provisions for the following reasons:

- There are no outstanding natural character areas or seascapes within the development footprint.
- The assessment of effects on natural character by BNZL concludes that the proposal is appropriate in this location. This is consistent with Objective F.1.12(a), (b) and (d).
- In regard to Objective F .1 .12(2), there are no known historic heritage values associated with the area located within the proposed expansion footprint.
- In regard to Objective F .1 .12(d), while there are no mapped places of significance to tangata whenua within the proposed expansion footprint, Northport continues to consult with tangata whenua to understand the impacts of the port on the values important to them.

- Regarding Policy D.2.17, the proposed expansion footprint is not located within an outstanding natural character area, outstanding natural feature, or an outstanding natural seascape.
- Adverse effects on natural character are not assessed as being significant (see BNZL report in **Appendix 15**), and the proposed expansion effects of the proposed expansion on natural character are appropriate in the context of the existing port, oil terminal and surrounding heavy industrial activities and zoning.

Air quality

Relevant provisions: Objective F.1.13, Policy D.3.1, D.3.2, D.3.4, D.3.6

The proposal is a permitted activity under the air quality rules of the PRP.

Social, cultural, and economic benefits

Relevant provisions: Policy D.2.2

The application clearly outlines the significant cultural and economic benefits associated with the proposal, including promoting employment opportunities and supply chains for regional businesses. The benefits to Māori, and opportunities for enhancing Māori development in Northland, continue to be understood through ongoing consultation.

Climate change

Relevant provisions: Policy D.2.3

This policy is focussed on ensuring that the development is designed cognisant of the impacts of climate change. This will be a key factor in the final design of the expanded port as envisaged by these provisions.

Biosecurity

Relevant provisions: Policy D.2.13

The proposal aligns with this policy through proposed conditions of consent related to biosecurity including implementation of biosecurity measures for construction vessels outlined in the CEMP. Northport will also continue to follow MPI biosecurity requirements for international shipping.

Resource consent duration

Relevant provisions: Policy D.2.14

This policy gives effect to Policy 4.8.3 of the RPS.

The proposed 35-year durations sought for the Northland Regional Council consents – other than the coastal permit for reclamation, which is of unlimited duration pursuant to s 123(a) of the RMA - reflects the need for security of tenure given the investment involved, the fact that the activity is Regionally Significant Infrastructure, and Northport's prior compliance history and adoption of

good management practices (all factors to be considered under this policy). It also reflects the long-term perspective required for port development, and the need for flexibility and the ability to react quickly to changing market requirements.

Precautionary approach to managing effects on indigenous biodiversity

Relevant provisions: Policy D.2.20

The proposal has been carefully designed and located in order to avoid significant areas of indigenous biodiversity. Further, the applicant has invested heavily and over a period of years in commissioning a broad suite of independent expert studies to thoroughly understand the existing values, and the effects associated with its proposal. The effects of the proposal are therefore well understood, and conditions of consent are proposed to manage those effects. A decision maker should be satisfied that, to the appropriate extent, the applicant has adopted a precautionary approach in accordance with Policy D.2.20.

Marsden Point Port Zone

Relevant provisions: Policies D.5.8, D.5.9

These policies give effect to Policy 9 of the NZCPS.

The proposed port expansion is directly consistent with the purpose of the Marsden Point Port Zone. The proposal is located immediately adjacent to the existing port, and therefore represents consolidated, efficient, and appropriately zoned development of regionally significant infrastructure which will result in benefits to the economic and social well-being of the Northland region.

The proposed port expansion is appropriate in the Marsden Point Port Zone for the following reasons:

- It is an expansion of an existing port 1(a); and
- It is consistent with existing port activities and the CINZ facility 1(b).
- It is consistent with what is anticipated in the adjoining Port Zone 1(c).
- It is associated with regionally significant infrastructure (2).

The proposal directly aligns with, and is therefore enabled by, Policy D.5.9.

Reclamation

Relevant provisions: Policies D.5.20, D.5.21, D.5.22

These policies give effect to Policy 10 of the NZCPS.

The proposed reclamation aligns with the criteria in Policy D.5.20.

In regard to Policy D.5.21, the reclamation is designed and located to interact seamlessly with the existing port facility. As such, it represents consolidation of development in a manner that most efficiently utilises existing physical resources including port handling, road, and rail infrastructure. Overall, the proposal will provide for the efficient operation of Northport in full alignment with this policy.

The proposed construction of roosting habitat to maintain/enhance connections within areas of biodiversity is consistent with Policy D.5.22(3).

Dredging and deposition

Relevant provisions: Policies D.5.24, D.5.25,

The various technical assessments prepared by suitably qualified and experienced experts accompanying these applications have not identified long term erosion within the CMA, or any damage to authorised structures. It is acknowledged that some accretion is likely to occur over time around the CINZL jetties. Northport holds resource consents to undertake maintenance dredging around those jetties, and it may be necessary for such dredging to occur in order to maintain the necessary access depth for vessels. Northport intends to continue direct discussions with CINZL on this issue post-lodgement.

Underwater noise

Relevant provisions: Policy D.5.27

The approach to managing the effects of underwater noise outlined in the AEE is consistent with Policy D.5.27.

6.10 Operative Regional Coastal Plan (2004)

6.10.1 General

The RCP is in the process of being replaced by the PRP. Many of the rules are now beyond challenge and therefore operative under Section 86F of the RMA. However, some provisions of the RCP remain operative due to outstanding appeals to the PRP, although it is appropriate that only limited weight be afforded to them given the very advanced stage of the PRP.

The RCP covers the following matters:

- Marine Management Areas
- Natural
- character Natural features and landscapes
- Protection of significant vegetation and habitats of significant flora and fauna
- Public access

- Recognition of and provision for Maori and their cultural traditions
- Water quality
- Air quality
- Natural hazard management
- Recreation
- Structures
- Reclamation and impoundment
- Discharges to water
- Discharges to air
- Taking, use, damming and diversion of coastal water
- Dredging and dredging spoil disposal
- Marine 2 (Conservation) Management Area
- Marine 5 (Port Facilities) Management Area

The objectives and policies are assessed in detail in **Appendix 28**. Summary conclusions for each matter are set out below.

6.10.2 Objectives and policies assessment

Marine Management Areas

Relevant provisions: Objective 6.3, Policies 6.4(2), 6.4(5), 6.4(7)

The proposal aligns with these provisions for the following reasons:

- The proposal is located within the Marine 5 (Port Facilities) Management Area. The proposal is specifically anticipated in this zone.
- Interpreting Chapter 6, and in particular the policy framework for the Marine 5 (Port Facilities) Management Area, the RCP specifically directs port-related development to concentrate in that area. The proposal is consistent with this directive requirement of the Operative Plan.
- As some effects extend into the Marine 2 ‘Conservation” zone, as contemplated by this policy, the relevant objectives and policies of this zone have also taken into account.

Natural character

Relevant provisions: Objective 7.3, Policies 7.4(1), 7.4(2), 7.4(3), 7.4(4), 7.4(5), 7.4(6), 7.4(7)

The proposal aligns with Objective 7.3 and the associated policies for the following reasons:

- The proposal has been carefully scoped and designed to ensure there are no outstanding natural character areas or seascapes within the development footprint. Furthermore, the assessment of effects on natural character by BNZL (consistent with policies 7.4(5) and (6)), concludes that the proposal is appropriate in this location. This is consistent with Objective 7.3.
- Regarding Policies 7.4(1), (2) and (4), while the area within the proposed expansion footprint and surrounds displays a degree of natural character, existing amenity values include the existing heavy industrial zoning and operations in the area, including the commercial navigation channel, Northport and the CINZL facility. Based on the BNZL assessment, the effects of the proposed expansion on natural character are appropriate in this context.
- Policy 7.4(4) also emphasises the importance of providing for the economic, social, and cultural well-being of people by providing for consolidated development within the Marine 5 Zone.

Natural features and landscapes

Relevant provisions: Objective 8.3, Policies 8.4(1), 8.4(2), 8.4(3), 8.4(4)

The proposal aligns with Objective 8.3 and the associated policies for the following reasons:

- There are no outstanding natural features or outstanding natural landscapes within the project footprint.
- The proposal will not adversely affect nearby ONLAs and ONFs at Whangarei Heads.

Protection of significant vegetation and habitats of significant flora and fauna

Relevant provisions: Objectives 9.1.3(A) and 9.2.3 Policies 9.1.4(1), 9.1.4(3), 9.1.4(4), 9.1.4(5), 9.1.4(6), 9.1.4(7), 9.1.4(8), 9.2.4(1), 9.2.4(2), 9.2.4(3), 9.2.4(4)

No significant indigenous vegetation (including mangroves) is located within the project footprint in the coastal marine area, and no such areas have been identified and mapped in the RCP. The proposal therefore aligns with Objective 9.1.3(A) and the associated Policies 9.1.4(1)-(5).

Policies 9.1.4(6) and (8) are more directed at public bodies and is of limited relevance to resource consent applications.

Regarding Policy 9.1.4(7), the proposal will include biosecurity measures for construction vessels outlined in the CEMP, the primary purpose being to avoid the spread of unwanted exotic species. Ongoing port operations will continue to comply with the requirements of MPI for international shipping, relevant regional plan rules, and the Northland Regional Pest and Marine Pathway Management Plan.

For the above reasons, the proposal aligns with the intent of Objective 9.2.3 and the supporting policies for the following reasons:

- The proposal footprint has been carefully scoped and designed to avoid protected significant habitats of indigenous fauna identified in the RCP.
- It is recognised that the proposal will result in the displacement of roosting habitat for two at risk avifauna species. The effects of this displacement have been carefully considered by marine ecology and avifauna experts, and the creation and ongoing maintenance of additional new high tide roosting habitat in a suitable low-disturbance location proposed. This avifauna enhancement aligns with Policy 9.2.4(2) The technical assessments have concluded, the effects on avifauna will be minor or less.
- Regarding Policy 9.2.4(3), technical investigations and assessment carried out by marine ecologists, avifauna, and marine mammal experts have concluded that there would be minor or less than minor adverse effects (and not significant effects). Notwithstanding that, effects management measures are proposed as conditions of consent.
- Consistent with Policy 9.2.4(4), the proposal requires adherence to biosecurity measures for construction vessels outlined in the CEMP, the primary purpose being to avoid the spread of exotic species. Ongoing port operations will continue to comply with the requirements of MPI for international shipping, relevant regional plan rules, and the Northland Regional Pest and Marine Pathway Management Plan.

Public access

Relevant provisions: Objective 10.3(1), Policies 10.4(1), 10.4(3)

The proposal aligns with these provisions for the following reasons:

- Regarding Objective 10.3(1) and Policy 10.4(3), some restrictions on public access are necessary to protect public health and safety, and the security of commercial operations. Accordingly, the proposal aligns with Objective 10.3(1) and Policy 10.4(3).
- Regarding Policy 10.4(1), the proposal incorporates public access to the residual beach area at the eastern end of the proposed reclamation. This, together with improved public amenities, including beach access for swimming, fishing, and other recreation, at the proposed ‘pocket park’ aligns with Policy 10.4(1).

Recognition of and provision for Maori and their culture and traditions

Relevant provisions: Objective 11.3, Policies 11.4(1), 11.4(3)

The role of tangata whenua has been recognised through meaningful and ongoing engagement. The CVA and CEA submitted with the application provide a summary of cultural perspectives and relationships. Understanding the relationship of tangata whenua over their lands, rohe and resources and the related effects of the proposal on this relationship continues to be a key focus

for Northport. It is expected that mitigation measures will be developed in conjunction with tangata whenua, consistent with the intent of these provisions.

Water quality

Relevant provisions: Objective 13.3(1)

The proposal aligns with Objective 13.3(1) because the technical assessments conclude that discharges from the expanded port operations area via the canal and pond system and/or proprietary devices will not adversely affect water quality within the CMA. This conclusion is reinforced by monitoring results for discharges from the existing Port.

Temporary effects, primarily turbidity and sedimentation, will occur during dredging and construction of the reclamation. Mitigation measures are proposed to ensure that water quality is not compromised by construction activities. These measures are comprehensively detailed in the management plans and will be secured through appropriate resource consent conditions.

Air quality

Relevant provisions: Objectives 14.3(1) and 14.3(2), Policies 14.4(1), 14.4(2), 14.4(3) and 14.4(4)

The air quality rules in the operative regional plans have now been replaced by the new rules in the PRP. These new rules can be considered operative under s86B of the RMA. To the extent that the objectives, policies, and methods (other than rules) remain relevant, these are focussed on maintaining air quality within the CMA and integrating coastal air quality across the administrative boundary line of MHWS. Furthermore, the proposal has been considered in an integrated manner, recognising the fact that it spans both sides of MHWS.

Natural hazard management

Relevant provisions: Objectives 15.3(1) and 15.3(2), Policies 15.4(1), 15.4(2), 15.4(3), 15.4(4), 15.4(5)

The project is consistent with these provisions for the following reasons:

- Technical investigations predict that the effects of the proposal can be avoided, remedied, or mitigated.
- The effects of natural hazards on the expanded port can be avoided through design measures such as hard protection structures around the perimeter of the reclamation.
- While there will be some interference with natural sediment transport processes, the effects will be localised and minimal.
- The rock revetments around the perimeter of the reclamation are considered to be the best practicable option, and the most effective in the long term, consistent with Policy 15.4(3).

Recreation

Relevant provisions: Objective 16.3, Policy 16.4(3)

The proposal aligns with these provisions for the following reasons:

- The proposal avoids adverse effects on recreation users outside the proposed development footprint.
- Within the development footprint, the proposal incorporates appropriate mitigation measures including the provision of a public park, reserve area with associated amenities, and relocation of the existing public deep water fishing platform.
- The proposal has only localised effects on existing recreational activities. As noted above, outside the development footprint it does not unnecessarily compromise existing recreational activities, including fishing, boating, and swimming, consistent with Policy 16.4(3).

Structures

Relevant provisions: Objective 17.3, Policies 17.4(1), 17.4(3), 17.4(4), 17.4(5), 17.4(7), 17.4(8)

The proposed expansion is an appropriate structure given the location of the existing Port, CINZL facility, and the associated Marine 5 Management Area. Adverse effects will be avoided, mitigated, consistent with Objective 17.3. The proposal is generally appropriate and in alignment with Policy 17.4 (3), (5), (7) and (8).

Reclamation and impoundment

Relevant structures: Objective 18.3, Policies 18.4(1), 18.4(2)

It is acknowledged that reclamation of the CMA results in some irreversible effects, which are not able to be fully avoided. Against that, the proposal is necessary in order to provide for the future economic and social needs of Northland; and has been very carefully planned over many years, with a number of alternative sites and methods considered.

Further, the proposal has a functional and operational need to be located in the CMA, there is no practical land-based alternative, and there are considerable efficiency gains in integrating the proposal with existing Northport operations. The residual effects associated with the proposed reclamation will be avoided to the extent practicable, and otherwise mitigated, in accordance with Objective 18.3.

For the same reasons, the proposal aligns with Policies 18.4(1) and (2).

Discharges to water

Relevant provisions: Objective 19.3, Policies 19.4(1), 19.4(2), 19.4(4), 19.4(7), 19.4(9), 19.4(11)

Objective 19.3 expresses a preference for adverse effects of contaminant discharges to coastal waters being avoided, but also contemplates remediation or mitigation when that is not possible.

The effects of contaminant discharges have been avoided to the extent practicable and otherwise mitigated, consistent with this objective.

The proposal aligns with Policy 19.4(1) as it includes a range of measures to maintain water quality, including conditions of consent to minimise sediment discharges during construction, and treatment of stormwater during port operations. Such measures are the best practicable option, consistent with the policy.

Discharges to air

Relevant provisions: Objective 20.3, Policies 20.4(1), 20.4(2), 20.4(3), 20.4(6)

The air quality rules in the RAQP and RCP have now been replaced by the new provisions in the PRP. These new rules can be considered operative under s86B of the RMA. To the extent the objectives and policies remain relevant, the provisions relevant to the proposal are those relating to dust and carbon emissions.

In regard to dust, there are a range of pre- and post-construction management measures identified for dust suppression in order to manage nuisance dust effects to an acceptable level. In regard to carbon emissions, based on the proposed activities at Northport the combustion emissions are considered insignificant, and they are unlikely to result in any noticeable off-site changes in ambient air quality.

Taking, use, damming and diversion of coastal water

Relevant provisions: Objective 21.3, Policy 21.4(2)

A range of management measures are proposed to avoid and/or mitigate the adverse effects associated with construction of the reclamation, in alignment with Objective 21.3.

Regarding Policy 21.4(2), there is no need to apply a precautionary approach to the temporary damming component of the reclamation as the effects are well understood and are mitigated to the extent that they are not adverse.

Dredging and dredging spoil disposal

Relevant provisions: Objective 22.3, Policies 22.4(1), 22.4(3), 22.4(4), 22.4(7)

The proposal aligns with these provisions for the following reasons:

- As expressly provided for in Chapter 22, capital and maintenance dredging is required for the Port expansion.
- The dredging has been carefully designed to be located within the Marine 5 Management Area.
- In accordance with Objective 22.3 and the associated Policies 22.4(3) and (4) which specifically provide for dredging associated with the expansion of ports, conditions of consent are proposed to avoid and/or mitigate the effects of the proposed dredging, particularly in respect to sediment deposition and water quality.

- The proposal has been carefully designed in order that dredge spoil is to be used in the reclamation or disposed at a land-based location. This will ensure that effects within the CMA are minimised and is consistent with Policy 22.4(4) and (7).

Marine 2 (Conservation) Management Area

Relevant provisions: Objective 26.3, Policies 26.4(1) 26.4(2), 26.4(3), 26.4(4)

The proposed Port expansion has been carefully located and designed to occur entirely within the Marine 5 Management Area. Notwithstanding, due to the dynamic nature of coastal processes and the mobile nature of some marine species, it is recognised that there is potential for some adverse effects on marine ecology to extend into the Marine 2 (Conservation) Management Area. These effects have been carefully considered by the relevant experts and determined to be minor or less subject to careful management in accordance with their recommendations. The approach taken to managing the potential adverse effects on marine ecology as a whole aligns with Objective 26.3.

Marine 5 (Port Facilities) Management Area

Relevant provisions: Objective 29.3, Policies 29.4(1), 29.4(2), 29.4(3), 29.4(4)

The proposal aligns with Objective 29.3 and the associated policies. It is consistent with activities anticipated in the Marine 5 Management Area, and the potential effects are being avoided and/or mitigated.

6.11 Operative Air Quality Plan (2003)

Relevant provisions: Objective 6.6(1), Objective 6.6(2), Objective 6.6(3), and policies 6.7(1), 6.7(2), 6.7(8). 6.7(3), 6.7(4), 6.7(5), 6.7(6), 6.7(7) and 6.7(10

The relevant air quality objectives and policies in the OAQP cover the same matters as the air quality provisions in the RCP. While the rules have now been replaced by those in the PRP, the objectives, policies, and methods (other than rules) remain relevant.

In regard to dust, there are a range of pre- and post-construction management measures identified for dust suppression in order to manage nuisance dust effects to an acceptable level. In regard to carbon emissions, based on the proposed activities at Northport the combustion emissions are considered insignificant, and they are unlikely to result in any noticeable off-site changes in ambient air quality.

Regarding Method 6.18 of the OAQP relating to new industrial emissions in the Marsden Point Airshed, no further assessment is required under Appendix 7 of the OAQP as no air discharge permit is being sought.

6.12 Regional Water and Soil Plan (2004)

Relevant provisions: Objective 7.4(1), Objective 12.5(2), Objective 12.5(4), Policies 7.5(1), 7.5(4), 12.6(2), 12.6(3), 12.6(4).

There are two key chapters in the RWSP that relate to the proposed earthworks associated with the proposal (above MHWS). These are:

- Chapter 7 'Water Quality Management'
- Chapter 12 'Land Management'

Chapter 7 contains one objective and seven policies. Those that are relevant to the proposal are Objective 1 and Policies 1 and 4. Chapter 12 contains four objectives and twelve policies. Those relevant to the proposal are Objectives 2 and 4, and Policies 2, 3 and 4.

The relevant provisions in both chapters seek to avoid adverse effects on water quality resulting from sediment laden stormwater run-off (most relevantly in this case to the adjoining CMA).

The proposal will align with the relevant objectives and policies by implementing best practice sediment control in accordance with the CEMP certified and implemented as a consent condition.

6.13 Operative Whangarei District Plan

6.13.1 General

The objectives and policies for each of the chapters relevant to the proposal are assessed in detail in **Appendix 28**. Summary conclusions for each chapter are set out below.

6.13.2 Objectives and policies assessment

Port Zone (PORTZ)

The proposed expansion aligns with the PORTZ provisions for the following reasons:

- It is regionally significant infrastructure that will make a significant contribution to the economic and social well-being of the District and Region.
- Adverse effects on the environment are being appropriately managed.
- Public access to and along the coast is incorporated in the design as far as practicable.
- Meaningful consultation has been undertaken with mana whenua and remains ongoing. Mitigation is being developed in conjunction with mana whenua.
- The provisions for the expanded port align with the provisions in the PORTZ.

District Growth and Development (DGD)

The proposed expansion aligns with the DGD provisions for the following reasons:

- The proposal is designed to avoid conflicts between incompatible land use activities.
- There are no SNAs within the expansion footprint.
- The proposal is capable of being serviced by the necessary reticulated infrastructure.
- Meaningful consultation has been undertaken with mana whenua and remains ongoing. Mitigation is being developed in conjunction with mana whenua.
- The proposal includes conditions of consent requiring intersection upgrades should specified traffic volumes be exceeded, therefore integrating land use and transport planning.
- Natural hazards will be avoided or otherwise mitigated to the extent practicable for a development of this nature.
- The proposal is regionally significant infrastructure that will make a significant contribution to the economic and social well-being of the District and Region.

Natural Open Space Zone (NOSZ)

The proposed expansion is not fully aligned with the NOSZ provisions, but responds to the provisions as follows:

- The open space values in the locality are influenced to a large extent by the existing Northport and CINZL facilities.
- The proposed mitigation minimises the effects on the NOSZ in this location to the greatest extent practicable, including by creating landscape-designed new open space resources, with a focus on recreational users, in the immediate vicinity.

Transport (TRA)

The proposed expansion aligns with the TRA provisions for the following reasons:

- The transport assessment completed for the proposal concludes that there is sufficient capacity within the network to accommodate additional traffic from the expanded port, and any effects of additional port traffic can be managed by upgrading key SH15 intersections when/if capacity is exceeded.

Three Waters Management (TWM)

The proposed expansion aligns with the TWM provisions for the following reasons:

- The expanded port will remain connected to the reticulated wastewater and water supply network.

- Stormwater will be managed on-site via the existing canal and pond system in operation for the existing Port, potentially augmented by proprietary devices.

Lighting (LIGHT)

The proposed expansion aligns with the LIGHT provisions for the following reasons:

- Artificial lighting will be provided in accordance with these objectives and LIGHT-P2.
- Artificial lighting is required for health and safety reasons given the 24/7 nature of Port operations.
- The effects of artificial lighting on the amenity and character of the surrounding environment concludes that the effects of artificial lighting can be managed through conditions of consent and are otherwise appropriate given the context of the surrounding environment.
- The amenity and character of the zone and surrounding environment can be maintained through appropriate conditions of consent.

Signs (SI)

The proposed expansion aligns with the SI provisions as no specific additional signage is proposed beyond essential signage for health and safety, and navigation purposes.

Riparian and Coastal Margins (Chapter 11)

The proposed expansion aligns with the Chapter 11 provisions for the following reasons:

- The proposed expansion is not located within a mapped natural character, landscape, or significant ecological area in the RPS, PRP, or the WDP.
- The proposal is located in an area where natural character values are compromised by existing activities in the immediate and surrounding environment.
- The landscape and natural character assessment concludes that the proposal is acceptable in natural character terms.
- Public access to the eastern side of the reclamation residual eastern beach area has been incorporated in the overall design, and a public park/reserve area and associated amenities will be developed at the eastern end of the expanded port to enhance the use of the space.
- Meaningful consultation has been undertaken with mana whenua and remains ongoing. It is expected that measures to address and, where necessary manage or mitigate, cultural effects and issues will be developed in conjunction with mana whenua.
- The proposal involves a range of measures to avoid and/or mitigate adverse effects on water quality.

- The proposal includes specific measures to avoid adverse effects on NZ dotterel and VOC, including beach renourishment to construct a bird roost area on the western side of the existing Port.

Waterbodies (WB)

The proposed expansion aligns with the WB provisions for the following reasons:

- The proposed eastern expansion is not located within a mapped natural character or landscape area in the RPS, PRP, or the WDP.
- The proposal will not alter the natural character values of the wider Marsden Point coastline to a commensurate degree.
- The effects of activities on the harbour are not dissimilar to those associated with the existing Port operation, and other maritime operations in this location, and are overall minor or less in this context.
- Effects on natural character, cultural and ecological values will be mitigated to the greatest extent practical.
- Potential effects on water quality will be mitigated through best practice stormwater treatment and disposal.

Indigenous Vegetation and Habitat (Chapter 17)

The proposed expansion aligns with the Chapter 17 provisions for the following reasons:

- The loss of biodiversity on the eastern beach area will be mitigated (particularly for variable oystercatcher).
- None of the dune vegetation within the proposed Port footprint has been identified as significant, or habitat for indigenous fauna.
- The proposal does not affect any mapped areas of indigenous vegetation using the Schedule 17A criteria.
- Potential effects on tangata whenua and associated mitigation will be determined through ongoing consultation.

Natural Hazards (Chapter 19)

The proposed expansion aligns with the Chapter 19 provisions for the following reasons:

- Adverse effects related to natural hazards will be avoided as far as practicable and otherwise mitigated through the implementation of a wide range of design related measures and proposed conditions.

- The reclamation will be designed to take into account the effects of climate change.

Local Authority Cross Boundary Issues (Chapter 27)

The proposed expansion aligns with the Chapter 27 provisions for the following reasons:

- It is recognised that the potential effects of the proposal fall within the jurisdiction of both the NRC and the WDC. Where appropriate, the effects have been considered and addressed in a holistic manner notwithstanding the different jurisdiction, and an integrated approach to mitigation has been employed in accordance with this objective.

Coastal Area (CA.1)

The proposed expansion aligns with the CA.1 provisions for the following reasons:

- There are no natural character features or areas within the expansion footprint identified in either the district or regional plans.
- There are no significant adverse effects on natural character, natural features, and natural landscapes in the vicinity of the port.
- The proposal maintains access to and along the coast to the greatest extent practicable, whilst providing for the safe and efficient operation of the port.
- The proposal includes enhancement and rehabilitation measures to mitigate potential adverse effects as encouraged by these provisions.
- Northport is regionally significant infrastructure that has a clear functional and operational need to be located in the Coastal Area.
- The proposal incorporates measures that are specifically designed to protect the values and attributes of indigenous biodiversity in the vicinity of the port.
- The proposed development is appropriate in this location.

Landscapes and Features (LAN.1)

The proposed expansion aligns with the LAN.1 provisions for the following reasons:

- The proposal does not directly affect an ONF or ONLA mapped within the Operative District Plan, and ONFs and ONLs in the vicinity will not be adversely affected by the proposed expansion.

Tangata Whenua (Chapter 7)

The proposed expansion aligns with the Chapter 7 provisions for the following reasons:

- Both a CVA and CEA have been prepared in respect of the proposal.
- The impacts of the proposal on tangata whenua continue to be interpreted and understood through ongoing consultation and engagement.

- There will be conditions of consent related to mitigation of cultural effects, with these developed in consultation with mana whenua.

Noise and Vibration (NAV)

The proposed expansion aligns with the NAV provisions for the following reasons:

- Port noise will be managed in accordance with conditions developed under the NZS 6809:1999, which is considered best practice for the management of port noise.

6.14 Strategic plans

6.14.1 Whangarei District Growth Strategy (2021)

The Whangarei District Growth Strategy (2021) (WDGS) sets out the vision for how the District will grow and develop over the next 30 years. It sets out the actions which will help ensure that planning, infrastructure investments, and decision making are coordinated.

The WDGS contains nine "strategic drivers" described as the key issues that the District will face over the next 30 years. Driver 8 "Projects to support prosperity" identifies the expansion of Northport inter alia stating that it "has the potential to transform the economy and deliver new jobs and training opportunities". More specifically the document states:

The long-term expansion of Northport will play an important role in meeting future freight needs of New Zealand. The role of Northport is also crucial to support the needs of businesses across Northland.

The port is a key piece of infrastructure. Any decision around expansion or moving some Ports of Auckland's activities to Northport will have impacts on the wider freight network. Therefore, we are advocating that these major decisions are not made in isolation. The Upper North Island Strategic Alliance Group (UNISA) are advocating that any future decision should be focused on freight logistics rather than the future Port location.

Regardless of any future decision made by Central Government on any potential relocation of the Ports of Auckland, through Northport's Vision for Growth, total freight capacity is going to expand over the next 30-40 years. The future growth vision is focused towards building a larger footprint allowing for new opportunities to expand its freight volumes.

The value of Northport for the Whangārei and the Northland economy are the opportunities it brings about for new industries, new business and employment for our people. Northport have been, and will continue to be, an important contributor to expanding on the economic and social opportunities for our District.

Continued port expansion will have medium to long-term planning and implementation timeframes. It is important that we recognise these opportunities in our Growth Strategy as well as in place-specific planning for Marsden Point/Ruakākā and Port Nikau.

The WDGS is a document prepared under the consultative principles and procedures of the Local Government Act 2002.

6.14.2 Regional Land Transport Plan for Northland (2021-27)

The Regional Land Transport Plan 2021-2027 (RLTP) is prepared by the Regional Transport Committee under the provisions of the Regional Land Transport Amendment Act 2003. Like the WDGS, the RLTP is a document prepared under the consultative principles and procedures of the Local Government Act 2002.

The plan contains strategic elements, a proposed programme of works, and financial forecasting. The RLTP is, in effect, a programme of works, through which Northland Regional Council, Far North District Council, Whangārei District Council, Kaipara District Council and Waka Kotahi NZ Transport Agency jointly bid for funding assistance from the National Land Transport Fund.

The RLTP is cognisant of the importance of Northport to the regional economy (and potentially the national economy). It refers to the potential expansion of the port and the need to be cognisant of the inter-relationship the port, roading, and rail networks have in providing efficient, reliable connections to support productive economic activity in Northland. It also recognises that expansion of the port will have flow on effects for the roading and rail networks, and strongly supports the development of a rail line connecting Northport to the Auckland Northland rail line.

6.15 Section 89A RMA

Section 89A of the RMA requires that the local authority must send a copy of the application to Maritime New Zealand. Any subsequent recommendations from Maritime New Zealand will be taken into account by the local authority in the consideration of the application.

6.16 Section 105 RMA

6.16.1 Section 105 – General

The proposal includes an application for a reclamation, and stormwater discharge permits for discharges during construction and from the port operations area on the reclamation and new wharves. Therefore, Section 105 of the RMA is relevant.

Section 105 outlines additional matters than must be considered by consent authorities for reclamations and discharge permits in addition to the matters in section 104(1).

6.16.2 Section 105(1) – Discharges to the CMA

Construction

During construction of the reclamation, there will be discharges to the Whangarei Harbour. This will largely involve the discharge of decanted dredge material from the reclamation footprint.

The expert assessments are that the effects of the discharges will be acceptable subject to adherence to best practice construction management (and specifically sediment control).

Best practice methodology will be employed to minimise effects on people and the environment, particularly given works are in close proximity to high value ecological areas.

Once a contractor is appointed, the contractor will confirm the proposed methodology for construction and will develop detailed procedures for management of construction related effects, including discharges to water.

Operation

Port operations on the completed reclamation will generate new (stormwater) discharges to the CMA. Stormwater falling on these areas will be collected and treated in the Northport can and pond-based system and/or proprietary devices prior to discharge. The pond-based system has a proven track record of achieving the coastal water quality standards in the Proposed Regional Plan. Proprietary devices can be configured to achieve the same standards.

The existing pond-based method, potentially augmented by proprietary devices depending on the final design, is the most appropriate in the circumstances.

6.16.3 Section 105(2) – Reclamation

Due to port operational and health and safety requirements, including the need to 'future proof' port operations – including to provide for rail access – it is not practicable for any part of the area to be set aside as an esplanade reserve or esplanade strip.

Accordingly, it is not proposed that any condition is necessary pursuant to s 108(2)(g) requiring an esplanade reserve or esplanade strip be set aside or created.

6.17 Section 107 RMA

The NRC cannot grant a discharge permit if the discharge is likely to result in certain effects specified being:

(c) the production of any conspicuous oil or grease films, scums, or foams, or floatable or suspended materials:

(d) any conspicuous change in the colour or visual clarity:

(e) any emission of objectionable odour:

(f) the rendering of fresh water unsuitable for consumption by farm animals:

(g) any significant adverse effects on aquatic life.

The technical assessments indicate that these effects are not expected to occur. Section 107(2) also states that a consent authority may grant a discharge permit which gives rise to these effects if it is satisfied –

(a) That exceptional circumstances justify the granting of the permit; or

(b) That the discharge is of a temporary nature; or

(c) That the discharge is associated with necessary maintenance work— and that it is consistent with the purpose of this Act to do so.

The assessments in this AEE and in the technical reports demonstrate that the discharges pass the tests within Section 107(2)(b) because:

- The discharges will be short term and any effects will occur at limited times, though not necessarily consistently, over the duration of construction
- Measures will be put in place to manage and minimise discharges during construction, which will avoid significant adverse effects on aquatic life.
- There will be no ongoing adverse effects once construction has been completed.

In summary, the project is assessed as meeting the tests outlined in section 107 of the RMA.

6.18 Part 2 RMA

6.18.1 General

As outlined above, the applicable planning framework (including the recent Proposed Regional Plan and Whangarei District Plan) has been prepared having regard to Part 2 and has coherent sets of objectives and policies designed to achieve clear environmental outcomes. To the extent that it provides high level context, the proposal is addressed against Part 2 below.

6.18.2 Section 5 - Purpose

The proposal will enable people and communities to provide for their social, economic, and cultural wellbeing and for their health and safety, by facilitating value added economic and employment benefits.

Mitigation measures are being developed to assist with cultural wellbeing.

Regarding the matters in Section 5(2)(a), (b), and (c):

- As outlined above, the effects of the project have been carefully assessed. In summary, the proposal appropriately avoids, remedies, or mitigates effects and will sustain the potential of natural and physical resources to meet the reasonably foreseeable needs of future generations.
- The proposal will help to meet the predicted demand for port services in Northland and in the upper North Island generally. It will also support the growth of value added industrial and commercial activities in Northland, with associated employment benefits.
- The proposal safeguards the life supporting capacity of air, water, soil, and ecosystems, including by:
  - Avoiding and mitigating discharges to air during the construction and operation phases.

- Avoiding or minimising sediment and other discharges to the CMA during construction.
- Ensuring that stormwater discharges from operations areas are treated to maintain coastal water quality standards.
- Avoiding certain adverse effects on the harbour ecosystem, and otherwise mitigating effects.
- Managing nuisance effects (such as noise) on people during the construction and operational phases of the project.

6.18.3 Section 6 – Matters of National Importance

The proposal recognises and provides for the matters in Section 6 of the RMA. Specifically:

- The proposal is an appropriate use and development of the coastal environment in this locality, noting that it is located within a port zone in an area already containing an existing port and the CINZL facility. While there are some adverse effects on natural character, these effects have been assessed as not being significant in the context of the existing modified environment and there are no identified natural character areas affected by the proposal (Section 6(a)).
- There are no outstanding natural features or landscapes affected by the proposal (Section 6(b)).
- The proposal achieves the planning framework requiring the avoidance of effects on areas of significant indigenous vegetation/significant habitats of indigenous fauna (Section 6(c)).
- While the reclamation will result in the loss of inter-tidal and subtidal habitat in the CMA, including habitat frequented by endangered bird species, the effects on avifauna will be minor or less subject to careful management. Accordingly, the proposal recognises and provides for the protection of indigenous biodiversity (Section 6(c)).
- The proposal recognises and provides for public access to the CMA to the greatest extent practicable (Section 6(d)).
- The proposal recognises and provides for the relationship of iwi with their ancestral lands, water, and other taonga through early and ongoing engagement (Section 6(e)).
- The proposal avoids adverse effects on historic heritage, including scheduled heritage sites (Section 6(f)).
- The proposal incorporates design elements to manage the risk of natural hazards to the greatest extent practicable (Section 6(g)).

6.18.4 Section 7 – Other matters

The proposal has had particular regard to the matters in section 7 of the RMA. In particular:

- The kaitiakitanga of Mana Whenua has been recognised through engagement at all stages of the project development and this will continue through construction and operation (Section 7(a)).
- The ethic of stewardship has been recognised through the engagement with, and participation of, community groups who have a specific interest in the exercise of stewardship over particular resources Section 7(aa)).
- The proposal will enable the efficient use and development of the existing port (a physical resource), thereby avoiding new ports in other areas of the CMA (Section 7(b)).
- The proposal incorporates design elements to maintain residential amenity values to the extent practicable including:

- Implementation of a noise management plan to manage port noise and sensitive receivers.
- Measures to minimise light spill.
- Retention of public access where practicable (Section 7(c)).

- The proposal recognises the intrinsic values of ecosystems and seeks to maintain the quality of the surrounding marine environment by incorporating management measures to avoid discharges of contaminants and sediment to water, and dust discharges to air (Sections 7(d) and (f)).
- The proposal has been designed to respond to the effects of climate change. Specifically, the port will be designed to accommodate sea level rise (Section 7(i)).

6.18.5 Section 8 – Treaty of Waitangi

Northport has formed a relationship with mana whenua in respect to the existing and expanded port. It continues to work with mana whenua in the formulation of cultural mitigation measures consistent with the principles of the Treaty.

7. Engagement with mana whenua

7.1 General approach

The general approach to engagement with mana whenua has been to engage early with a view to understanding issues and attempting to address them prior to commissioning technical assessments and finalising the proposal.

Engagement has been ongoing over the 5-year period from initial engagement to the lodgement of the consent application. It has generally followed the approach set out in the Patuharakeke CVA (see **Figure 73** below).[82]

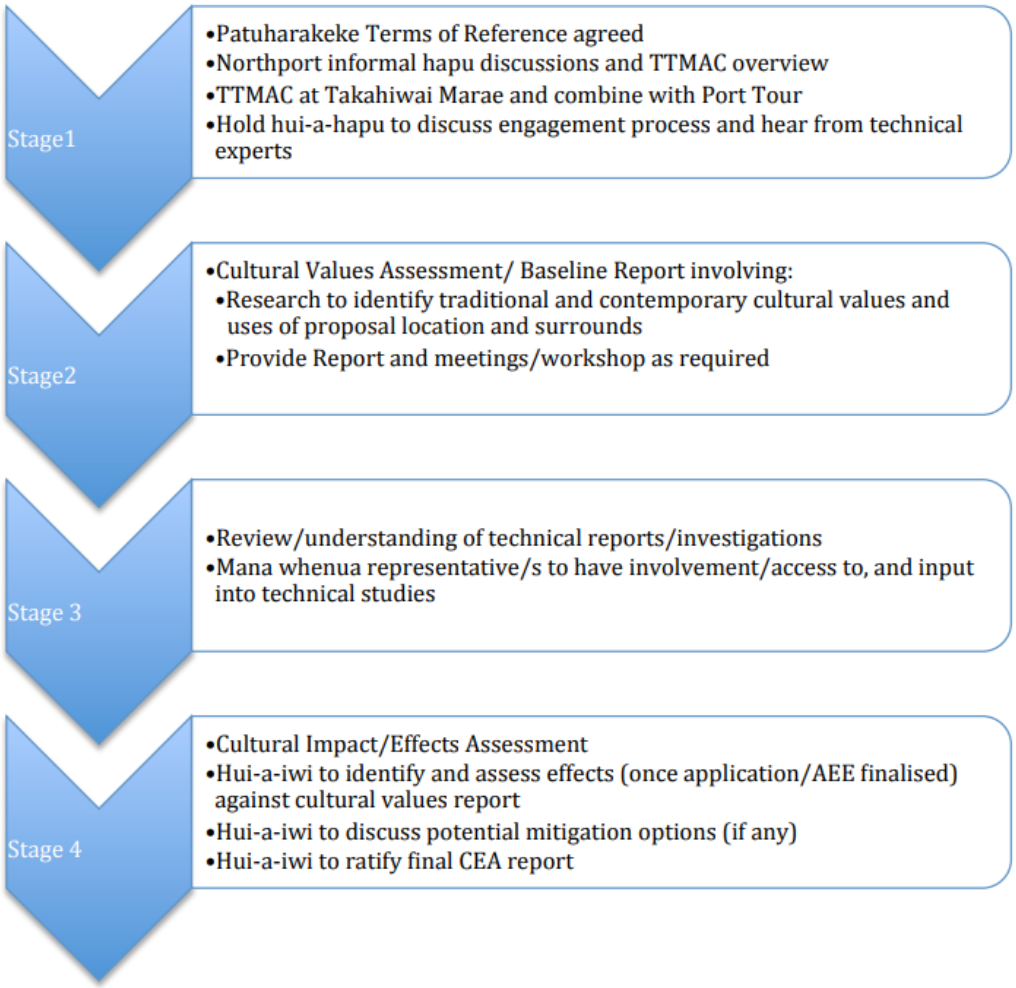

Figure 73: Mana whenua engagement process

[82] "TTMAC" in Figure 73 means Te Taitokerau Māori and Council Working Party.

7.1.1 Mana whenua identification

Northport had a pre-existing relationship with mana whenua through the Community Liaison Group (CLG) set up in accordance with the conditions for the existing Port.

To assist with engagement with mana whenua in respect to the proposed expansion, and to ensure they were engaging with the correct groups, Northport funded a facilitator to identify and coordinate relevant groups, and to facilitate meetings/hui.

The mana whenua groups known to have an interest in the project area, and therefore identified for consultation, were:

- Patuharakeke
- Te Parawhau
- Ngātiwai

Initially Ngātiwai deferred their support to Patuharakeke with regard to engagement with Northport. It has recently come to the attention of Northport that Ngātiwai will now take an active role in engaging directly with Northport. Engagement with Ngātiwai is ongoing.

7.1.2 Relationship agreement

On 19 June 2021 Northport signed a relationship agreement with Patuharakeke. The agreement is a vehicle for ongoing consultation over all matters concerning Northport, and not just the proposed expansion.

7.1.3 Hui

Mana whenua engagement for the project began with a hui on the Takahiwai marae in October 2017.

A technical hui open to all mana whenua was held at Barge Park on 15th May 2021. This hui was attended by all the Northport technical experts who presented summaries of their initial draft reports and answered questions from the floor. Representatives from Patuharakeke and Te Parawhau were also present.

There has been multiple hui with representatives of all three mana whenua groups since that time.

7.1.4 Sharing of technical reports and information

Following the technical hui in May 2021 all the draft technical reports were made available to mana whenua. They were then reviewed by the Council appointed experts and feedback shared with mana whenua.

One of the issues raised during initial consultation was in respect to viewshafts from places of importance to Patuharakeke. Northport subsequently engaged Buildmedia to prepare additional

visual representations (renders) of the expanded port from locations identified by Patuharakeke, and these were subsequently forwarded to Patuharakeke for review.

In September 2022, upon receiving the final technical reports, Northport provided a summary document to mana whenua updating them on the content and conclusions of the finalised technical assessments supporting the AEE.

7.1.5 Cultural values assessment – Patuharakeke

In April 2020 a Cultural Values Assessment (CVA) was received from Patuharakeke (see **Appendix 24**). The CVA identifies the cultural relationships to the proposal site and implications for the practice of kaitiakitanga. This is a fundamental part of the engagement process outlined in **Figure 73** above.

7.1.6 Cultural effects assessment – Patuharakeke

In October 2021 a Cultural Effects Assessment (CEA) was received from Patuharakeke (see **Appendix 24**). The CEA is summarised in Section 5.2.5 of the AEE. It raises a range of issues, some of which have been addressed through environmental avoidance and/or mitigation measures included with the application. Again, the provision of a CEA was identified as a key part of the engagement process. Discussions with mana whenua (including Patuharakeke) are continuing and are expected to culminate in additional cultural mitigation measures. Again, this was signalled as a part of the engagement process outlined in **Figure 73**.

7.1.7 Draft manawhenua cultural report – Te Parawhau

In November 2021 a draft Manawhenua Cultural Report was received from Te Parawhau Hapu Iwi. The report author has requested that the partially completed report not be provided as part of the application. It is expected that engagement with Te Parawhau will continue post-lodgement of the consent application.

7.1.8 Ongoing consultation, engagement and understanding

In October 2021 Northport engaged a specialist consultant to provide further assistance in the continuing engagement with mana whenua. Discussions with mana whenua are now focused on potential mitigation measures to address cultural concerns.

8. Public Consultation

8.1 Consultation

8.1.1 General approach

The general approach to public consultation has been to understand who is likely to be affected by the proposal, and then to actively engage with them in a manner that is genuine, transparent, and open, and where there is sufficient time for parties to consider the consultation material and respond.

Northport chose to follow the standard resource consent process over potential fast track and Covid-19 legislative processes because it gives the public a better opportunity to be heard. Consultation has been an important part of the development of the project, and the proposal has developed iteratively in response to public feedback.

Northport's overarching view is that the outcome of the process needs to be one where the port can continue to operate as part of the community, and as a responsible business. Public involvement in the project development is a fundamental part of achieving that.

The following groups were identified for targeted consultation:

- Mana whenua (covered separately in Section 7 of this report)
- WDC Consents Manager
- NRC Consents Manager
- WDC and NRC reporting officers and independent consultants
- WDC Parks Division
- Department of Conservation
- Channel Infrastructure NZ
- Marsden Maritime Holdings
- Whangarei Heads and Albany Road communities
- Northport key stakeholders
- Ruakaka Economic Development Group (REDG)
- Northland Inc.
- Ruakaka Ratepayers Association
- Whangarei Heads Ratepayers Association
- Waka Kotahi

- Kiwirail
- Ingrid Visser (marine mammal expert)
- General public

Website

In 2017 Northport launched the *Vision4Growt*h website. This website included a video outlining Northport's vision for the growth. The website was subsequently updated in October 2020, and rebranded *visionforgrowth*.

The comments section on the website provided people with the opportunity to make comments, suggestions, or ask questions. It provided a platform for Northport to engage with the community.

The website also extended an invitation to persons and groups to tour the port.

The website has been progressively updated as the project has evolved. Technical reports have been added to the website for public viewing as they become available.

8.1.2 Port tours

Port tours have been conducted since 2018. Attendees have included key stakeholders and members of the general public.

8.1.3 Public consultation

General public

Consultation with the public has been ongoing since 2017. This consultation has included:

- Website consultation (as previously identified).
- A public letter drop was conducted in December 2017, including an information brochure delivered to local residents' mailboxes.
- Northport purchased a van and had it sign written with the project branding, together with pamphlets and other material for use in public meetings/discussions.
- Northport attended the Dargaville field days 1-3 March 2018, providing information and receiving feedback from interested parties.
- Northport attended the A & P show in Whangarei on 5 December 2020 and held a public drop-in at the Marsden Cove boat ramp on 15 December 2020, providing information and receiving feedback from interested parties.
- More specific consultation has been carried out with the key community groups at Albany Road (Marsden Bay) and Reotahi (Whangarei Heads). Further details are set out below.

- Northport engaged *Buildmedia* to prepare visual representations (renders) of the expanded port relative to the existing environment. These representations are now included in the BNZL report (**Appendix 15**).

Marsden Bay

Northport has engaged in written correspondence with members of the Marsden Bay community via both email and face-to-face meetings, including two meetings at Albany Road attended by Northport representatives. Northport has also carried out several mailouts and letter drops to update this community on progress with the project.

Some of the feedback received from this community influenced decisions over the design of the proposal, including the location of the tug facility.

Whangarei Heads

Northport held two community drop-in information days at the Parua Bay Hall and McLeod Bay Community Centre (Whangarei Heads). Attendees on behalf of Northport included the Port CEO, board chairman, internal project manager, and a planning consultant.

8.1.4 Central and local government agencies and representatives

There have been multiple discussions with government agencies since the project inception. These include:

- Ministry of Business, Innovation and Employment
- Ministry of Transport
- Department of Conservation
- Central government representatives
- Local government representatives
- Kiwirail
- Waka Kotahi
- WDC and NRC Consents Managers
- Whangarei District Council processing planners
- Whangarei District Council Parks Division
- Councillors and senior managers at the NRC and WDC.

Department of Conservation

Consultation with the Department of Conservation included a meeting between technical advisors from the department and Northport, with an emphasis on understanding the effects on indigenous

biodiversity. Some guidance was also sought from the Department on potential environmental enhancement projects in the surrounding environment.

WDC and NRC Consents Managers

Northport representatives met with the WDC and NRC Consents Managers at the inception of the project. These meetings culminated in a decision by the Council to jointly process the applications for resource consent. Independent consultants were subsequently engaged to process the consents on behalf of the respective councils.

WDC and NRC joint processing planners

Northport has regularly kept the WDC/NRC joint processing planners updated on progress towards lodgement of the consent application. Initial draft technical reports were forwarded to the Councils, and they subsequently engaged their own experts to review those reports and provide feedback. That feedback resulted in amendments to the proposal and additional technical assessment to address the matters raised.

WDC Parks Division

Northport representatives met with the WDC Parks Division in early 2021. The Parks Division are a key stakeholder due to the proposed cancellation of the esplanade reserve behind the expanded port. A representative of the Parks Division subsequently attended a port tour in June 2021.

In July 2022 Northport advised the Parks Division that they were preparing a draft concept design which would incorporate vehicle access to a park/reserve area at the eastern extent of the expanded port, and other amenities including a fishing pontoon, swimming steps, carpark, and a public toilet.

In early September 2022 the draft pocket park design was forwarded to the Parks Division for comment. A subsequent site visit was carried out in late September.

Consultation with the Parks Division in respect to the reserve stopping process and potential mitigation remains ongoing. Northport remains open to alternative scenarios to improve public access and recreation facilities in the vicinity of the port and in the surrounding area.

Kiwirail

Consultation with Kiwirail has centred around providing for a potential rail connection into the expanded container port, and in respect to progress on the proposed spur line to Marsden Point. Kiwirail has shared initial design considerations for the spur line with Northport to assist with the concept design for the expanded port.

Waka Kotahi

Northport has a relationship agreement with Waka Kotahi in respect to the general management of SH15. In relation to the proposed expansion, consultation with Waka Kotahi has centred on the

potential impacts on the safety and efficiency of SH15. WSP also engaged with Waka Kotahi in the development of the Traffic Impact Assessment. This has culminated in proposed conditions of consent relating to intersection capacity.

8.1.5 Media articles

There have been several related media articles since the project inception, including in the New Zealand Herald, Northern Advocate, Bream Bay News, Stuff and Newshub.

8.1.6 Media advertising

Northport advertised the project launch in both the Northern Advocate and the Bream Bay News in October 2020.

8.1.7 Other

Bream Bay Coastal Care Trust

Northport has discussed the project with the Bream Bay Coastal Care Trust on several occasions. The Trust has also completed a port tour.

Ruakaka Economic Development Group (REDG)

Northport regularly attends REDG meetings. The project has been presented to this group and they have been provided with regular updates since the project launch.

Northport key stakeholders

Northport has provided its stakeholders with email updates in respect of the project. Key stakeholders include Marsden Maritime Holdings Ltd, and various industry partners.

Channel Infrastructure New Zealand

CINZL has been kept up to date with the proposal since its inception through to lodgement. The most recent communication was in late September 2022 prior to lodgement.

Ingrid Visser

In 2020 Northport representatives met with Ingrid Visser to discuss the potential impacts of the proposal on marine mammals, and to consider any advice she had on minimising impacts of the expanded port facility on marine mammals. Northport has maintained open communication and dialogue with Ms Visser since this time.

8.1.8 Applicants for customary marine title

Northport has notified all applicants for customary marine title as required under the MACA Act. A copy of correspondence sent to the MACA applicants is attached in **Appendix 8**. Two responses have been received at the time of preparing this AEE. One, from Te Whanau Whero (CIV-2017-405-420), confirmed that the activity is outside the area covered by the claim, and the other, Ngapuhi, Ngati Wai, Haki Pereki and Ngawhetu Sadler Whanau Trust (represented by TeKiripute Sadler) (MAC-01-01-60), was generally in support of the project.