APPENDIX 27

MARINE BIOSECURITY ASSESSMENT

MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI

New Zealand Government
Te Kāwanatanga o Aotearoa

Northland Shipyard and Dry Dock - Biosecurity Assessment and Management Framework

Application-stage report for FTAA lodgement

Prepared for Ministry for Business, Innovation, and Employment

Final report

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1 Introduction

MBIE is progressing the Northland Shipyard and Dry Dock Project through the Fast-track Approvals Act 2024 pathway (FTAA) and has engaged LWP Ltd to provide independent biosecurity input to support the application. This report has been prepared as an application-stage biosecurity assessment and management framework. Its purpose is to identify biosecurity pathways associated with the proposed dry dock facility and to set out a practical management framework for avoiding or reducing the risk of introducing or spreading viable marine pests and diseases[1].

The report supports FTAA lodgement and related consenting steps. It is based on project information provided by MBIE and its representatives, including design, construction, operational and technical information available at the time of preparation. Where relevant information is not yet available, the report identifies assumptions, limitations, and matters requiring later confirmation.

2 Qualifications, experience, and Code of Conduct

This report has been prepared by Dr Oliver Floerl of LWP Ltd. I am a marine biosecurity scientist with more than 25 years' experience in marine biosecurity, biofouling management, non-indigenous species pathway assessment, surveillance design, and biosecurity risk management for vessels, ports, aquaculture, marine infrastructure, and coastal developments.

I have examined the Environment Court Practice Note 2023, including the Code of Conduct for Expert Witnesses, and agree to comply with it. I confirm that the opinions expressed in this report are within my area of expertise, except where I state that I am relying on information from others. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

3 Scope

The purpose of this report is to provide an application-stage biosecurity assessment and management framework for the Northland Shipyard and Dry Dock Project. The report identifies key biosecurity pathways and proposes management objectives, performance requirements, controls, and monitoring and trigger concepts relevant to dry dock construction and operation.

For the construction stage, the assessment focuses on vessels, plant, equipment, temporary structures, and materials that may be moved to and used within the marine environment. These pathways are relevant because they could transfer marine pests and disease organisms into Whangārei Harbour if not appropriately managed. For the operational stage, the assessment focuses on facility (dry dock and associated shipyard and hardstand) use by domestic and international vessels, including vessel docking, inspection, cleaning, and other hull maintenance and biofouling management activities. The assessment also considers the management of biological material generated by dry dock activities, including solid cleaning waste such as biofouling material and sediment, and liquid waste such as drainage water,

[1] For the purposes of this report, references to 'marine pests and diseases' are used in a broad biosecurity management sense. They include marine non-indigenous species, including Unwanted and Notifiable Organisms, and marine pathogens that could create biosecurity risk if introduced. Unless specifically qualified, the term pests and diseases in this report refers to intact organisms, organism fragments, or propagules such as larvae or spores.

vessels' internal seawater, and cleaning effluent. These pathways are relevant because, if unmanaged, they could result in the release or transfer of viable marine pests and disease organisms or propagules.

This report demonstrates that biosecurity risks associated with the construction and operation of a dry dock facility can be identified and managed through appropriate systems, controls, and procedures. It provides an application-stage management framework for those systems, including the key pathway controls, performance requirements, and monitoring concepts. More detailed implementation outputs, including final construction and operational biosecurity management plans, SOPs, operational forms, training resources and audit tools, will need to be developed before dry dock construction and/or operation and once key design, construction methodology, operating procedures, treatment system information and consent requirements have been confirmed. Detailed treatment-system design, final discharge criteria, legal interpretation and final consent-condition wording are outside the scope of this report and are expected to be addressed by the relevant project advisers.

An Outline Biosecurity Management Plan is provided in Appendix A. It translates the management outcomes, controls, hold points, records, and review triggers identified in this report into a concise implementation framework for final construction-stage and operational biosecurity management plans.

4 Project description

4.1 Overview

The Northland Shipyard and Dry Dock Project involves the development and operation of a shipyard and dry dock facility at Marsden Point, Whangārei Harbour, New Zealand. The proposed facility would be located adjacent to, and adjoining the western side of, the existing Northport port facility. The project is intended to provide a marine operations facility for vessel maintenance, repair, and servicing. Activities are expected to include vessel haul-out, inspection, hull and niche area cleaning, painting and antifouling coating application, repair, and other internal and external vessel maintenance and servicing activities. The facility is intended to service a broad range of vessel types, including domestic and international commercial vessels, naval vessels, Cook Strait ferries, superyachts, fishing vessels, workboats and other vessel types, ranging from approximately 50 m to 230 m in length and with a displacement between 500 t and 28,000 t. The facility is expected to operate during normal working hours but with capacity to operate 24 hours per day and 365 days per year where required.

4.2 Main project components

The project description provided for the application identifies the following key components:

- reclamation of approximately 9.7 ha
- a cut-out within the reclamation where a vessel haul-out system will be located,
- a vessel haul-out system, expected to be in the form of either a floating dry dock or a ship lift,

- construction of a piled wharf structure to accommodate vessels temporarily before or after haul-out, or for extended periods where works not requiring haul-out can be undertaken,
- dredging stage one: capital and maintenance dredging associated with construction and ongoing operation of the marine maintenance operations facility, including a berth pocket and vessel turning basin to provide for safe navigation,
- dredging stage two: capital dredging to ensure sufficient volume of dredge spoil is available to construct both the Northland Dry Dock Project and Northport's Vision for Growth development,
- a berth pocket and vessel turning basin to provide for safe navigation,
- fixed plant and buildings to support marine maintenance activities and storage of materials,
- working and laydown areas for marine maintenance operations, including the ability to transfer vessels to hardstand,
- access to and around the marine maintenance operations facility, including staff car parking, and
- public access around the edge of the reclamation to a public fishing platform.

For biosecurity purposes, the most relevant components are the reclamation and marine structures, vessel haul-out system, piled wharf, berth pocket, turning basin, dredging activities, vessel maintenance areas, washwater and drainage systems, waste-handling systems, and any temporary or permanent structures or equipment that may be exposed to seawater.

4.3 Construction stage information

Construction is expected to involve marine and coastal works associated with reclamation, wharf construction, dredging, establishment of the vessel haul-out system, construction of supporting infrastructure, and installation of associated fixed plant and buildings. Updated July 2026 dredging information identifies two dredging stages. Stage One comprises capital and maintenance dredging associated with the marine maintenance operations facility, including the berth pocket and revised vessel turning basin. The current Stage One drawings show a manoeuvring area dredged to a minimum of -11.5 m CD, a layby berth dredged to -14.5 m CD, and a ship-lift pocket dredged to -16.0 m CD. Stage Two comprises additional capital dredging within the Northport Vision for Growth dredging footprint to provide sufficient dredge spoil volume for both the Northland Dry Dock Project and Northport's Vision for Growth development. The Stage Two dredging is not expected to require ongoing maintenance dredging.

The draft consenting plans and updated July 2026 dredging information provide additional information on the proposed marine works, including dredging and reclamation layouts, quay wall arrangements, suspended deck arrangements, revetment sections, and example dry dock and ship lift arrangements. These details confirm that construction will involve substantial marine and coastal works with biosecurity relevance, including dredging, seabed contact, placement of fill and rock, piling, temporary or permanent hard substrate, and use of marine construction plant and equipment.

4.4 Operational stage information

The proposed facility is intended to accept a wide range of vessels, with no specific restrictions identified at this stage other than the indicative length and displacement limits of the facility. Vessels may be domestic or international. The information provided indicates that the facility may receive international vessels, including potentially as a first point of arrival and including vessels with biofouling requiring management. The operational model is expected to include a broad range of vessel maintenance activities, including hull cleaning, hull painting, abrasive blasting, water blasting, scraping, propeller polishing, niche area inspection and cleaning, and internal and external maintenance and repairs. Some activities, particularly blasting and spray painting, are expected to require encapsulation to manage air discharge and noise requirements.

For biosecurity purposes, the key operational features are that the facility may receive vessels from domestic and international pathways, may receive vessels specifically because cleaning, repair or maintenance is required, and may generate biological waste streams from hull and niche area cleaning, sediment removal, washdown, operational drainage and maintenance activities. These biological waste streams have the potential to contain viable organisms, fragments, or propagules of marine pests and diseases.

4.5 Washwater, stormwater, and waste management

The proposed design provides that all washwater generated from the lifting facility and vessel maintenance activities will be captured and contained. Washwater will be collected in drains and pumped to a treatment system, with the details of that system still to be confirmed. Following treatment, washwater is expected to be discharged to trade waste. Because of capacity constraints in the trade waste network, onsite storage is likely to be required. Stormwater from the facility will be collected and treated through a proprietary treatment device before being discharged to the existing Northport stormwater ponds. Those ponds discharge to Whangārei Harbour via a pipe at the seabed under one of the existing wharves.

From a biosecurity perspective, a key requirement is that potentially viable biological material associated with biofouling debris, sediment, sludge, washwater, cleaning effluent, operational drainage, and other waste streams generated by vessel cleaning and maintenance will be captured, contained, killed, treated and/or disposed of through authorised systems. The detailed performance requirements for these waste streams relating to biosecurity are addressed later in this report.

4.6 Assessment envelope and information status

This assessment is based on the project description and design information available at the time of preparing this report and described in Sections 4.1 to 4.5. The assessment uses the available project information to identify plausible biosecurity pathways and application-stage management requirements associated with:

- construction-stage vessels, barges, marine plant[2], submerged equipment, temporary structures and materials,

[2] Marine plant refers to non-vessel plant, machinery, and equipment used for marine construction that may operate in or in contact with seawater or the seafloor. In this report, marine plant refers to items such as dredging plant, pile-driving equipment, cranes, pumps, hoses, anchors, moorings, pontoons, floating work platforms, and similar items.

- Stage One and Stage Two capital dredging, and maintenance dredging where relevant to vessel, equipment, sediment, spoil-handling or biological discharge pathways,
- vessel arrival, docking, haul-out, maintenance and departure,
- domestic and international vessels, including vessels that may arrive as a first point of arrival and with biofouling requiring management,
- hull and niche area cleaning, blasting, painting, repair, and maintenance,
- anchors, chains, ropes, dredges, fishing gear, and other equipment in regular contact with seawater or the sea floor,
- management of biological waste, including biofouling, sediments, cleaning debris,
- management of washwater, operational drainage, cleaning effluent, stormwater, and treatment-system residues, and
- monitoring, records, responsibilities, and response procedures.

Where details remain to be finalised through detailed design, construction procurement, operational planning or consent implementation, the relevant assumptions and confirmation matters are recorded in Appendix B.

The July 2026 dredging updates affect the description, extent and staging of capital dredging, but do not change the biosecurity pathway framework used in this assessment, which focuses on dredging plant and equipment, retained water, sediment, spoil handling and the management of any viable biological material associated with those pathways.

5 Information sources and reuse of existing material

5.1 Information sources

This assessment has been prepared using information provided by MBIE and their project team. Project-specific information was used to define the construction and operational activities relevant to biosecurity, identify plausible pathways for the introduction or spread of marine pests and diseases, and develop appropriate management measures.

The document register shown in Table 1 was developed and maintained as technical information was received and reviewed.

5.2 Northport-origin material

The project contract required documentation of how any Northport-origin material was used. No Northport-origin material was provided or directly used in this assessment.

Table 1: Document register.

Ref.	Document / information source	Source	Date / version	Relevance to this assessment	Limitations / reliance
1	2026.05.22 Draft Consenting Package	Beca Limited, prepared for MBIE	22 May 2026. Resource Consent / Not for Construction drawing package	Provides the main application-stage layout and design information, including dredging, reclamation, wharf structures, dry dock / ship-lift options, hardstand areas, and indicative stormwater and wastewater infrastructure. Used to define the assessment envelope and to help identify construction and operational biosecurity pathways.	Resource consent drawings only. Several details are indicative. Does not provide final construction methodology, operating procedures, treatment design or waste-management details.
2	D1 - scoping confirmation	Enviser / project team email to LWP	9 June 2026	Provides project team confirmation of available information, key assumptions, likely vessel types, operating activities, higher-level washwater / stormwater assumptions, trade-waste constraints, and matters requiring later confirmation.	Email correspondence only. Project details were still developing and several assumptions require later confirmation. Used for application-stage scoping and development of assumptions.
3	NDD project description	Enviser / project team email to LWP	9 June 2026	Provides the project description to be used consistently across expert reporting, including location, main components, vessel size range, intended activities and FTAA context.	High-level project description only. Does not provide detailed construction methodology, final operating procedures, treatment design, or biosecurity-specific controls.
4	Shipyard & Dry Dock facility at Marsden Point: Assessment of marine ecological effects	Coast and Catchment Ltd, prepared for MBIE	June 2026. Draft report no. 2026-09	Provides marine ecological context for the project area, including habitats, biofouling communities on artificial structures, site-specific observations of Mediterranean fanworm, and likely colonisation of new hard substrates.	Marine ecological effects assessment only. Biosecurity effects are explicitly excluded. Used as supporting site-context information.

Ref.	Document / information source	Source	Date / version	Relevance to this assessment	Limitations / reliance
5	Memo: Changes to proposed dredging for swing basin and Northport's expansion projects	Enviser, prepared for technical experts	21 July 2026	Provides updated project information on changes to the swing basin, dredging stages, dredging volumes, project description, and reporting requirements. Used to update the project description, dredging-stage description and assessment envelope.	Project-team memo only. Used for application-stage project-description and scoping purposes.
6	Dredge Stage One revised swing basin July 2026 Model Rev 4	Northport	July 2026	Provides updated plan information for Dredge Stage One, including the revised swing basin / manoeuvring area, layby berth, ship-lift pocket and associated dredging depths and volumes. Used to update the construction-stage project description and dredging context.	Drawing information only. Used to describe the updated dredging layout and assessment envelope.
7	Dredge Stage Two modified V4G Dredging – July 2026	Northport	July 2026	Provides updated plan information for Dredge Stage Two, including additional capital dredging within the Northport Vision for Growth dredging footprint to provide additional dredge spoil volume. Used to update the construction-stage project description and dredging context.	Drawing information only. Used to describe the updated dredging layout and assessment envelope.

6 Methodology

This assessment was prepared using a desktop-based technical assessment and expert advisory approach. This involved:

- review of available project information to identify construction and operational activities with biosecurity relevance,
- identification of pathways through which marine pests and diseases could be introduced to, or spread within, Whangārei Harbour,
- consideration of the type of biological material that could be transferred or released through each pathway, and the circumstances under which transfer or release could occur,
- development of management objectives, performance requirements, and practical controls for each pathway,
- identification of monitoring, record keeping, and trigger concepts, and
- identification of matters that require confirmation before construction and/or operation of the dry dock.

Pathways were considered across two broad project phases: construction and operation.

For the construction stage, the assessment considered the use of vessels, barges, marine plant, submerged equipment, temporary structures and materials that may interact with the marine environment. Depending on the operational and maintenance histories of these vessels, equipment, and structures, they may harbour viable biological material and create biosecurity risk pathways.

For the operational stage, the assessment considered vessel arrival, docking, hull and niche area cleaning, inspection, repair and maintenance activities. Particular attention was given to the potential release of biological material in solid or liquid waste streams, including biofouling debris, sediment, operational drainage, and cleaning effluent.

For each pathway, the assessment considered whether the pathway can be managed through one or more of the following:

- pre-arrival cleanliness, cleaning or decontamination requirements,
- pre-arrival screening,
- inspection and documentation,
- containment, treatment, and appropriate disposal of biological material,
- operational controls,
- monitoring and record keeping, and
- incident response procedures.

The assessment aimed to identify credible biosecurity pathways and the systems needed to manage them in order that biosecurity risks can be identified, managed, and carried forward into appropriate construction and operational requirements.

7 Regulatory and policy context

7.1 Overview

This section summarises the biosecurity-related regulatory and policy context relevant to the Northland Shipyard and Dry Dock Project. It is not intended to provide a detailed legal assessment or confirm final statutory compliance requirements. Rather, it identifies the main regulatory instruments and the broad management implications that inform the pathway assessment and application-stage biosecurity management framework developed later in this report.

The main instruments considered are the Biosecurity Act 1993, MPI's Craft Risk Management Standard: Vessels (MPI 2023), Maritime New Zealand's ballast water management guidance (MNZ 2017), the Northland Regional Pest and Marine Pathway Management Plan 2017-2027 (NRC 2017), the Resource Management Act 1991, and the Regional Plan for Northland 2026 (NRC 2026).

A key distinction for this assessment is that not all vessel categories are subject to the same biosecurity requirements. International arrivals and New Zealand-based vessels returning from overseas are subject to MPI border biosecurity requirements for vessel biofouling. Ballast water is managed separately through Maritime New Zealand's ballast water management framework. Domestic vessels are not subject to any national biofouling or ballast water standards but may be subject to Northland regional marine pathway rules and to project-level controls adopted through this report, future procedures, or consent conditions.

7.2 Biosecurity Act 1993

The Biosecurity Act 1993 provides the primary statutory framework for the exclusion, eradication and effective management of pests and unwanted organisms in New Zealand. It is relevant to the Northland Shipyard and Dry Dock Project because the proposed facility may interact with vessels, equipment, materials, biofouling, sediment, retained water, biological waste and other material that could harbour or spread harmful organisms.

For this assessment, the most relevant Biosecurity Act concepts are:

- risk goods, including organic material, substances or other items that may harbour harmful organisms,
- craft, including ships and other vessels, and craft risk management standards that specify requirements for managing biosecurity risk when entering New Zealand,
- unwanted organisms, pests, notifiable organisms, and duties to report organisms where applicable,
- pest management plans and pathway management plans, including regional marine pathway management approaches, and

- powers available to inspectors or authorised persons to manage risk goods and respond to suspected biosecurity risk.

The Biosecurity Act provides the statutory basis for national border biosecurity requirements and for regional pest and pathway management plans. For this report, its main implication is that dry dock construction and operation should avoid creating unmanaged pathways for marine pests, unwanted organisms, diseases, risk goods, biosecurity contamination or viable biological material.

7.3 Vessel biofouling: international arrivals and domestic vessels

Vessel biofouling is managed through different mechanisms depending on whether a vessel is entering New Zealand from overseas, moving domestically, or operating within Northland coastal waters.

For vessels entering New Zealand after a voyage outside New Zealand territory, MPI's Craft Risk Management Standard: Vessels applies. The CRMS specifies biosecurity risk management and information requirements for vessels entering New Zealand territorial waters. It is therefore directly relevant to overseas vessels and to New Zealand-based vessels returning from overseas voyages that may use the proposed dry dock facility or be involved in its construction. The CRMS includes 'clean hull' requirements. There are several acceptable measures for meeting these requirements, including continual maintenance using best practice, cleaning before arrival to New Zealand, cleaning out of water on arrival at an MPI-approved haul-out facility, or use of an MPI-approved treatment.

The CRMS does not apply to vessels moving domestically within New Zealand and does not manage ballast water risks. For domestic vessels, biofouling obligations are principally derived from regional pathway management requirements, where present, and from any project-specific controls adopted through this biosecurity management framework, contractor requirements or consent conditions. Ballast water is addressed separately (see below).

For this assessment, the main implication is that later pathway assessment and management controls need to distinguish between international vessels, New Zealand vessels returning from overseas, domestic vessels entering Northland, and domestic vessels moving within Northland.

7.4 Northland Regional Pest and Marine Pathway Management Plan

The Northland Regional Pest and Marine Pathway Management Plan 2017-2027 (the Marine Pathway Plan) provides the regional biosecurity framework for specified pests and marine pathways in Northland. It includes a marine pathway plan that operates within the Northland coastal marine area and focuses on preventing or managing the spread of pests and diseases through marine pathways. The Marine Pathway Plan is particularly relevant because it recognises hull biofouling as an important pathway for the spread and establishment of marine pests. It applies to vessels entering Northland and to vessels moving between 'designated places' within Northland. Geographically, designated places represent distinct coastal harbours, anchorages, or groups of islands (see Appendix C). Whangārei Harbour is one of the designated places identified in the Marine Pathway Plan.

The Marine Pathway Plan requires the owner or operator of a vessel entering Northland, or moving between designated places within Northland, to ensure that fouling on the hull and in

niche areas does not exceed ‘light fouling’ (defined as small patches of visible fouling, up to 100 mm in diameter and totalling less than five percent of the hull and niche areas). A slime layer and/or barnacles are allowable fouling.

The Marine Pathway Plan rules are relevant to domestic vessels entering Northland or moving between designated places within Northland, including domestic construction vessels, barges, marine plant or operational support vessels where those movements fall within the scope of the Marine Pathway Plan. The Marine Pathway Plan also recognises the complementary role of the Regional Plan for Northland 2026 (NRC 2026), particularly in relation to movement of marine pests and discharges from in-water hull cleaning. In this assessment, the Marine Pathway Plan functions as the primary regional pathway-management instrument, while the Regional Plan is considered separately as the RMA planning framework for relevant coastal activities, including hull cleaning, discharges, deposition, and waste streams.

For the Northland Shipyard and Dry Dock Project, the Marine Pathway Plan context is relevant because it confirms that vessel biofouling management is already a regional marine biosecurity priority and that domestic vessel movements into Northland or between designated places may trigger specific regional requirements. The detailed application of this context to construction and operational pathways is addressed in Sections 9 to 12.

7.5 Resource Management Act 1991 and Regional Plan for Northland 2026

The Resource Management Act 1991 provides the national statutory framework for managing the use, development, and protection of natural and physical resources, including the coastal marine area, discharges and adverse effects on the environment. It is relevant to the proposed dry dock because construction and operation may involve coastal occupation, marine works, dredging, reclamation, vessel-related activities, discharges, waste handling and associated effects on the marine environment.

The Regional Plan for Northland 2026 (NRC 2026, Regional Plan) sits within this framework. It is a regional planning instrument prepared by Northland Regional Council under the RMA and gives regional effect to RMA functions through objectives, policies, definitions, and rules that apply across Northland. The Regional Plan is a combined regional air, land, water and coastal plan. The Regional Plan provides the operative regional planning framework for activities and effects that may be relevant to dry dock construction and operation, including coastal structures, disturbance, discharges, wastewater management, vessel maintenance, in-water cleaning, deposition of material, and the movement or release of marine pests.

The Regional Plan includes definitions that are directly relevant to this assessment, including biofouling (including the distinction between microfouling / slime layer, macrofouling, and light fouling), hull and niche areas, antifouling coatings, in-water cleaning of vessels, effluent, marine pests, and high-risk industrial or trade premises (including boat construction and maintenance, and port activities, including dry docks). The Regional Plan also contains specific marine pest and in-water cleaning provisions. These provisions address activities that may disturb, remove, release, deposit or transfer biofouling and marine pest material from vessel hulls and niche areas, and structures. The provisions include permitted, controlled, discretionary and non-complying activities, depending on aspects such as vessel movement and maintenance history, fouling level, cleaning location and method, proximity to sensitive ecological areas, capture and disposal of biofouling waste, and notification requirements if a marine pest is found.

Not all of these provisions will necessarily apply directly to out-of-water cleaning within a dry dock and shipyard. For example, in-water cleaning rules are specifically directed at cleaning of vessels while floating. However, the provisions are still important to this assessment because they demonstrate regional planning expectations for managing activities that may release, deposit, discharge, mobilise or spread marine pest material. This is directly relevant to activities associated with the proposed facility. The Regional Plan's Appendix H8 provides useful detail on the type of information expected in an in-water cleaning plan, including vessel identification, travel and cleaning history, recent biofouling inspection information, antifouling systems, cleaning methodology (including debris capture) and visual monitoring during cleaning. These information categories are also relevant to later consideration of dry dock vessel screening and operational record keeping, even where the activity is not strictly an in-water cleaning activity.

The key implication for this report is that dry dock and shipyard activities involving hull cleaning, vessel maintenance, washwater, operational drainage, sediment, and biofouling debris need to be considered in the pathway assessment and carried through into appropriate management requirements.

7.6 Ballast water management requirements

Ballast water is a recognised pathway for the transfer of marine pests and diseases (Ruiz et al. 2000). In New Zealand, ballast water requirements are separate from vessel biofouling requirements and do not apply to all vessel movements. Maritime New Zealand administers New Zealand's ballast water management requirements for ships subject to the International Maritime Organization's (IMO) Ballast Water Management Convention, including approval, survey, and certification processes under Part 19A of the Maritime Transport Act 1994 and Marine Protection Rules Part 300. The requirements apply to ships designed or constructed to carry ballast water when operating on international voyages. Domestic coastal movements are not covered by those requirements.

For this assessment, the main implication is that vessels arriving from overseas, or New Zealand vessels returning from overseas operations, should be screened for ballast water relevance where they are involved in construction or operational dry dock activities. Where domestic vessels carry ballast water, including tank sediments that could be released during construction or dry dock operation, any project-level controls should be framed as biosecurity risk-reduction and good-practice measures, not as existing national domestic ballast-water legal requirements.

7.7 Link to pathway assessment and biosecurity management controls

The regulatory and policy context summarised above informs the pathway assessment and biosecurity management controls developed later in this report. It shows that different activities and vessel categories are subject to different biosecurity requirements, and that the project needs to distinguish between national border requirements, regional marine pathway requirements, and project-level controls that can be implemented through construction and operational biosecurity procedures.

For construction, the main implication is that vessels, barges, marine plant, temporary structures, and submerged equipment should be appropriately screened and managed before use in the project area. For operation, the main implication is that vessel arrival, cleaning, maintenance, waste handling and any regulatory authorisation requirements need to be

managed through clear facility procedures. Across both construction and operation, the central biosecurity requirement is that project activities do not create unmanaged pathways for viable biological material to be released to Whangārei Harbour or transferred to other coastal locations.

The local biosecurity context is described in Section 8, the relevant project pathways are identified in Section 9, and the application-stage management framework is developed in Sections 10 to 12.

8 Biosecurity context for Whangārei Harbour

8.1 Purpose

This section summarises the local and regional marine biosecurity context relevant to the Northland Shipyard and Dry Dock Project. It focuses on known marine non-indigenous species (NIS), regional pest management priorities, vessel pathway exposure, existing port and marina activity, and features of the receiving environment that are relevant to construction and operation of the proposed facility. It is not intended to provide a full ecological assessment of Whangārei Harbour or a formal marine pest risk assessment. Rather, the section provides context for the management measures set out later in this report.

8.2 Whangārei Harbour as a high-risk marine biosecurity location

Whangārei Harbour is a nationally recognised high-risk marine biosecurity site. It is included in MPI's national Marine High-Risk Site Surveillance programme (MHRSS) that targets early detection of selected high-risk marine NIS in New Zealand ports and marinas. Whangārei Harbour contains a combination of features that are relevant to marine biosecurity risk:

- commercial port infrastructure,
- marina, mooring, haul-out and vessel maintenance infrastructure,
- domestic and international commercial and recreational vessel movements,
- artificial hard-substrate habitat that supports biofouling communities including marine pests,
- soft sediment and rocky reef marine and estuarine habitats that may be suitable for some benthic marine NIS, and
- proximity to other Northland coastal destinations, marinas, anchorages, and high-value natural environments.

Northport is located at Marsden Point near the entrance to Whangārei Harbour and is New Zealand's northernmost deep-water port. The wider Marsden Point area includes industrial and fuel-import infrastructure. Operations of the former Marsden Point Oil Refinery and associated refinery wharf have ceased, and the facility has transitioned to an import-only fuel terminal.

The proposed dry dock and shipyard would be located within an already active maritime and industrial harbour. Existing maritime activity, locally established NIS populations, and extensive artificial structures throughout the harbour (Floerl et al. 2021) mean the proposed

dry dock facility could interact with both incoming marine pest pathways and local sources of pests.

8.3 Known marine NIS in Whangārei Harbour

Available surveillance and database information indicates that Whangārei Harbour already supports a range of marine NIS. The Marine Biosecurity Porthole[3] lists 74 marine NIS taxa recorded for Whangārei Harbour, including ascidians, bryozoans, bivalves, polychaetes, crustaceans, algae, hydroids, sponges and other biofouling or benthic species. Recent MHRSS surveillance provides more current context. During the 2024-25 surveillance year, no primary target species (the Northern Pacific seastar, *Asterias amurensis*, the European shore crab, *Carcinus maenas*, aquarium Caulerpa, *Caulerpa taxifolia*, the Chinese mitten crab, *Eriocheir sinensis*, and the Asian clam, *Potamocorbula amurensis*) were detected at Whangārei Harbour (Woods *et al.* 2025). However, all four secondary target species were detected during both the winter 2024 and summer 2024-25 survey rounds: Asian date mussel (*Arcuatula senhousia*), Australian droplet tunicate (*Eudistoma elongatum*), Mediterranean fanworm (*Sabella spallanzanii*), and the Clubbed tunicate (*Styela clava*). Detections occurred at numerous locations in the upper and lower harbour, including Town Basin Marina, Kissing Point Marina, Port Nikau, Portland Wharf, Matakohe Island, Wellington Reach, Shell Cut Reach, Parua Bay, Marsden Cove Marina, Northport Berth, Motukaroro Island, the Marsden Point Oil Refinery Wharf area and near Little Munroe Bay. Project-relevant ecological survey information is consistent with this wider surveillance context, with subtidal video and revetment survey observations around Northport and the proposed dry dock footprint also recording Mediterranean fanworm (*S. spallanzanii*) (Coast and Catchment 2026 - item 4 in Table 1).

Exotic caulerpa (*Caulerpa brachypus* and *C. parvifolia*) is also relevant to the regional biosecurity context. It is a relatively recent detection in New Zealand and is of sufficient national concern that MPI maintains a dedicated long-term biosecurity management programme to understand the species' impacts and limit further spread. Over the past 4 years, extensive (but variable) populations of exotic caulerpa have been confirmed in coastal locations of Northland, including the Bay of Islands, and legal controls apply to manage the species' further spread. Exotic caulerpa can spread via fragments that become entrained on anchors and chains, fishing gear, dredges, or other equipment that contacts the seabed. A Northland Regional Council commissioned pathway assessment in 2023 identified extensive vessel-mediated connectivity between known exotic caulerpa populations and Northland coastal locations, including parts of Whangārei Harbour (Floerl et al. 2023). In June 2026, a small patch of exotic caulerpa was detected and treated at Smugglers Bay near the entrance to Whangārei Harbour. Follow-up surveys reported by Northland Regional Council have not identified further exotic caulerpa at the time of reporting, and additional surveillance is intended.

The management implication is that the dry dock should be treated as operating within a harbour that already contains established marine pests. The biosecurity management framework therefore needs to manage two related issues:

1. preventing new or additional marine pests from being introduced to Whangārei Harbour via vessels, equipment, materials, or waste streams, and

[3] https://marinebiosecurity.org.nz/

2. preventing NIS already established within Whangārei Harbour from being transferred to other places through dry dock construction or operation activities.

8.4 Regional marine pathway and vessel-network context

Recent network analyses of New Zealand's maritime transport system confirm that Northland is highly connected to other coastal regions of New Zealand by both commercial and recreational vessels. Recreational vessel network modelling identified 317 destinations around New Zealand, of which 17% are in Northland (Hilliam et al. 2024). The analysis showed that several Northland destinations ranked among the top 5% of stepping-stone and source sites for domestic recreational vessel-mediated spread. A similar analysis of commercial vessel movements confirmed that Whangārei Harbour is an important domestic transport hub subject to frequent international and domestic vessel movements (Faubel et al 2025).

Combined, these studies show that Whangārei Harbour is part of a domestic vessel network that can transfer marine pests among Northland locations and between Northland and other regions. This is particularly relevant to construction vessels, barges, workboats, tugs, pontoons, dredging vessels, and other submerged marine equipment mobilised to the Shipyard and Dry Dock Project from elsewhere in New Zealand. Pathway assessment for the Shipyard and Dry Dock Project should consider vessels and marine equipment arriving from overseas, vessels arriving from other New Zealand regions, and vessels moving within Northland between designated places.

8.5 Implications for pathway assessment

The local and regional context described above indicates that the proposed dry dock would operate in a harbour where marine pests are already present, where commercial and recreational vessel pathways are active, and where artificial structures and vessel-associated habitats provide suitable substrate for many fouling organisms. The assessment therefore needs to consider both incoming biosecurity pathways and pathways by which organisms already present in Whangārei Harbour could be transferred elsewhere. This context is particularly relevant to vessels, temporary structures, and submerged equipment associated with dry dock construction and operation.

The construction and operational pathways relevant to the proposed dry dock and shipyard are identified in Section 9. The application-stage management framework for those pathways is then developed in Sections 10 to 12.

9 Biosecurity pathway identification

9.1 Purpose

This section identifies the main biosecurity pathways associated with construction and operation of the proposed Northland dry dock. It provides the logic linking the regulatory and local biosecurity context described in Sections 7 and 8 to the management framework developed in Sections 10 to 12.

The purpose of this section is to identify the credible pathways through which marine pests and diseases could be introduced to Whangārei Harbour, moved within the harbour, or

transferred from the harbour to other locations as a result of dry dock construction or operation. The pathways described below are based on the current assessment envelope as described in Section 4.6.

9.2 Diseases

Marine diseases and pathogens are also relevant to vessel-related biosecurity pathways. Vessel biofouling is primarily managed as a pathway for macroscopic non-indigenous species, but published evidence indicates that biofouling assemblages can also harbour marine disease pathogens. Pathogens and other micro-organisms have been detected in biofilms on vessel surfaces, in ballast-tank biofilms and sediments, and in association with biofouling organisms such as molluscs and ascidians. Reviews and case studies have linked vessel biofouling with the potential movement of marine disease pathogens, including oyster parasites and oyster herpes virus, and have identified biofouling assemblages as potential reservoirs or carriers of infection (e.g., Howard 1995, Drake et al. 2005 and 2007, Shikuma and Hadfield 2010, Costello et al. 2021, Fuhrmann et al. 2021, Georgiades et al. 2021).

Ballast water, tank sediments, and other retained seawater systems can also contain viable micro-organisms, including bacteria, viruses, and other pathogens (e.g., McCarthy and Khambaty 1994, Ruiz et al. 2000, Drake et al. 2007, Cohen et al. 2012).

For the purposes of this assessment, the relevant management implication is that the same pathways that can transport marine pests - biofouling, internal sediments, ballast water and other retained water, dry dock washwater, cleaning effluent and biological waste - may also harbour marine disease agents. Accordingly, the pathway assessment and management framework treats marine diseases as part of the broader biosecurity risk associated with viable biological material and internal seawater systems.

9.3 Pathway logic

For a project activity to create a biosecurity pathway, there must be a plausible link between a source of viable biological material, a transport or release mechanism, and a receiving environment in which the organism or material could survive and establish. In the context of the proposed dry dock, the most relevant types of biological material include:

- biofouling on vessel hulls (including niche areas),
- biofouling on barges, marine plant, dredging equipment, temporary structures and other submerged equipment,
- other marine organisms or fragments associated with anchors, chains, ropes, dredges, pumps, hoses, dive gear, or other submerged equipment,
- organisms, fragments, or propagules in sediments, bilge water, ballast water, or other trapped material associated with vessels or equipment,
- biological material removed during hull and niche area cleaning, repair or maintenance,
- cleaning effluent, washwater, operational drainage, and treatment system residues, and
- biological material attached to or accumulating on dry dock infrastructure itself.

The key pathway distinction for this report is between ‘arrival pathways’ and ‘release or transfer pathways’. Arrival pathways involve vessels, marine plant, equipment, or materials entering Whangārei Harbour or the project area while carrying viable organisms. Release or transfer pathways involve biological material being dislodged, removed, discharged, disposed of, or otherwise mobilised during construction or operation of the dry dock and shipyard. This distinction is important because the proposed dry dock and shipyard may interact with biosecurity risk in two ways. First, it may receive vessels, equipment or materials from outside Whangārei Harbour that could introduce new or additional marine pests. Second, it may create a potential pathway for the transfer of pests already established within Whangārei Harbour to other locations if appropriately management controls are absent.

The pathways identified in this section provide the basis for the management framework that follows in Sections 10 to 12.

9.4 Construction stage pathways

Construction stage pathways are associated with vessels, marine plant, equipment, temporary structures, and materials used to construct the proposed facility. These pathways are relevant because construction may require mobilisation of specialist vessels or equipment from other parts of New Zealand or from overseas, and because many construction items may have direct contact with seawater or the seabed in Whangārei Harbour.

9.4.1 Construction vessels and marine plant

Construction vessels and marine plant may include workboats, tugs, barges, dredging vessels, crane vessels, pile-driving vessels, pontoons, support vessels and other specialised marine equipment. These vessels and plant can act as pathways if they carry biofouling or if they contain sediments, retained water, ballast water, or bilge water, all of which can harbour marine organisms or propagules.

The relevance of this pathway will depend on the origin and recent operating history of the vessels or equipment involved, including whether they have arrived from overseas, another New Zealand region, another Northland designated place, or a local location within Whangārei Harbour. Other relevant factors include time since last cleaning or antifouling coating renewal, periods spent idle, and whether any ballast water, other retained water or sediment may be discharged during project activities.

This pathway is carried forward to the construction-stage management framework in Section 10.

9.4.2 Marine equipment, temporary structures and materials

Construction may involve movement and deployment of equipment or materials that contact seawater or the seabed, including anchors, chains, moorings, piles, fenders, hoses, pumps, dredging gear, temporary pontoons, floating platforms, silt curtains, and other items. If these items have previously been used in the marine environment, they may carry biofouling, or sediments or retained water that may contain marine organisms, fragments, or propagules. Equipment and temporary structures are particularly relevant where they have complex surfaces, internal spaces, wet storage conditions or prior use in areas with known marine pest issues. Biosecurity risk can arise where equipment is moved from another harbour, region, or

country and then deployed in Whangārei Harbour. Risk can also arise where equipment used within Whangārei Harbour is later redeployed elsewhere.

This pathway is carried forward to the construction-stage management framework in Section 10.

9.4.3 Sediment, retained water, and residual biological material

Construction vessels, marine plant and equipment may contain sediments or retained water in bilges, ballast tanks, hoppers, dredging equipment, sea chests, pipework, pumps, hoses, anchors, chains or other internal or external spaces. These materials may contain viable organisms, propagules, or fragments. This pathway is relevant where such material is discharged and released into Whangārei Harbour during construction. It is also relevant where materials are transported away from Whangārei Harbour after use, particularly if they have accumulated local fouling or sediment during the project.

The relevance of this pathway will depend on the final construction methodology, whether equipment is sourced from outside the harbour, and how retained water and sediment are managed during mobilisation, operation and demobilisation.

This pathway is carried forward to Section 10 and, where liquid or solid waste streams are generated, Section 12.

9.4.4 Artificial hard substrate - colonisation during construction

Construction may introduce temporary hard-substrate surfaces into the marine environment, such as piles, pontoons, floating structures, fenders, platforms, mooring systems, and other structures. Such surfaces can become colonised by local biofouling species, including established NIS already present in Whangārei Harbour. The creation of new submerged hard substrate is not necessarily an introduction pathway. However, it can become relevant to biosecurity where temporary structures become colonised and are later moved to other locations in a way that transfers viable organisms. Permanent artificial structures may also provide additional habitat for fouling organisms and can become part of the local reservoir of marine NIS. The marine ecological assessment (Coast and Catchment 2026 - item 4 in Table 1) similarly anticipates colonisation of new hard substrates associated with the project, including new revetment, piles, and dry dock structures.

The significance of this pathway will depend on the final facility design, the amount and duration of submerged structure, and whether temporary structures are moved elsewhere.

This pathway is carried forward to Section 10 where it relates to temporary construction structures and to Section 11 where it relates to operational facility structures.

9.5 Operational dry dock and shipyard pathways

Operational pathways are associated with vessels using the dry dock for docking, inspection, cleaning, repair, and other maintenance (including in the shipyard). These pathways are central to the assessment because the purpose of a dry dock and shipyard is to provide a one-stop shop for hull inspection, maintenance, and repair. This often involves removal of biofouling, sediments, coatings, and other materials associated with vessel hulls and niche areas.

9.5.1 International vessels and New Zealand vessels returning from overseas

International vessels and New Zealand vessels returning from overseas may carry marine pests or diseases not present in New Zealand, in Northland, or in Whangārei Harbour. Relevant mechanisms include hull and niche area biofouling, and organisms associated with ballast water, tank sediments, anchors and chains.

This pathway is already partly addressed through national border biosecurity requirements. However, it remains relevant because the dry dock facility may receive vessels that have arrived from overseas and that require out-of-water cleaning at an MPI-approved facility to meet the CRMS' clean hull requirement[4].

This pathway is carried forward to Section 11 and, where cleaning or waste streams are generated, Section 12.

9.5.2 Domestic vessels entering Northland or moving within Northland

Domestic vessels may arrive at the dry dock from other New Zealand regions, or from other designated places within Northland. These vessels may carry marine pests already established elsewhere in New Zealand. This pathway is relevant because the dry dock will presumably receive domestic vessels specifically for cleaning, inspection, repair, or maintenance. However, for routine dry dock operation, the main management requirement is not origin-based acceptance screening of domestic vessels, but that vessels are accepted only where cleaning, maintenance, equipment handling, and waste management can occur through controlled facility systems.

Domestic vessel movement history may still be relevant where it affects a specific regulatory requirement, regional pathway requirement, suspected pest issue, exotic caulerpa pathway, or another unresolved operational issue. Otherwise, domestic vessels are expected to be managed through the regular controlled dry dock pathway described in Section 11.

This pathway is carried forward to Section 11 and, where cleaning or waste streams are generated, Section 12.

9.5.3 Vessels with uncertain biofouling, cleaning or movement history

Some vessels may arrive with incomplete or uncertain information relevant to facility biosecurity management. This uncertainty is important where it prevents the facility from confirming whether the vessel can be lawfully and practically managed through the regular controlled dry dock pathway, or whether regulatory authorisation, direction or further advice is required. This does not mean that such vessels are unsuitable for acceptance. Rather, it identifies the need for a pathway resolution process before cleaning, treatment, waste handling, or other activities with biosecurity relevance can proceed.

This pathway is carried forward to Section 11.

9.5.4 Hull and niche area cleaning, maintenance, and repair

Hull and niche area cleaning, maintenance, and repair can remove viable biofouling organisms, organism fragments, propagules, as well as sediment or sludge containing viable

[4] Refer to the earlier assumption that the dry dock will become an MPI-approved cleaning facility as specified in the CRMS.

biological material. Relevant activities include water blasting, scraping, brushing, abrasive blasting, propeller polishing, sea chest cleaning, anode replacement, repair of hull fittings, and cleaning of intake or discharge structures.

This pathway differs from vessel arrival pathways because biological material may be actively removed, concentrated, and transferred into solid or liquid waste streams. Organisms that were previously attached to a vessel hull or niche area may enter washwater, operational drainage, sediment traps, filters or screens, bins, skips, or other waste management systems.

This pathway is carried forward to Sections 11 and 12.

9.5.5 Submerged equipment and exotic caulerpa fragments

Vessels entering the dry dock may carry anchors, chains, ropes, fishing gear, dredges, nets, moorings, or other equipment that has interacted with the seabed. These items can entrain sediments, mobile or sessile marine organisms, seaweed fragments, or other biological material. This pathway is especially relevant to exotic caulerpa because viable fragments of this species are transported on equipment rather than as conventional hull fouling. It affects vessels that have recently anchored, fished, dredged, moored, or deployed gear in areas with (known or unknown) exotic caulerpa populations.

This pathway is carried forward to Sections 11 and 12.

9.5.6 Ballast water, bilge water, tank sediments and retained water

Ballast water, bilge water, tank sediments, sea chest and internal pipework water can contain viable organisms, propagules, or resting stages. This pathway is most relevant where such water or sediment is discharged, drained, removed, treated, stored, or disposed of during dry dock activities.

For international vessels, ballast water management may be subject to Maritime New Zealand and international requirements. For domestic vessels, the pathway may still be relevant as a project-level biosecurity consideration where retained water or sediment could be released into the facility or harbour.

This pathway is carried forward to Sections 11 and 12.

9.5.7 Facility structures and operational equipment

Dry dock structures and operational equipment may become colonised by biofouling organisms if they are submerged or regularly exposed to seawater. This occurs for any (including existing) marine infrastructure in Whangārei Harbour and is not necessarily a biosecurity pathway by itself. The pathway becomes relevant where fouled structures or equipment associated with the dry dock are cleaned, relocated, or disposed of in a way that could release or transfer viable biological material. This pathway is carried forward to Section 11 and, where cleaning or waste material is generated, Section 12.

9.6 Solid and liquid waste pathways

Solid and liquid waste streams are treated separately because they may provide the final transfer or release mechanism for biological material removed from vessels or equipment.

Solid wastes with biosecurity relevance include biofouling debris, sediments, and sludge generated during cleaning or maintenance. These materials may contain viable organisms, fragments, propagules, or dormant resting stages. Liquid wastes relevant to biosecurity include cleaning effluent, washwater, operational drainage, tank residues, and water associated with sediment or sludge management. These materials may contain viable biological material.

These pathways are relevant where waste streams are discharged, overflows occur, containment fails, waste is stored or transported, or material is disposed of in a way that allows viable biological material to return to the coastal marine environment. The detailed management of these pathways is addressed in Section 12. Treatment system design, final discharge criteria and detailed water quality compliance matters are expected to be addressed by the project's engineering, water quality, planning, and legal advisers.

10 Construction stage biosecurity management

10.1 Purpose

This section sets out the application-stage biosecurity management framework for the construction of the proposed Northland dry dock and shipyard. It addresses construction-stage pathways identified in Section 9.

10.2 Construction-stage biosecurity objectives

The objectives of construction-stage biosecurity management are to:

1. prevent construction vessels, marine plant, temporary structures, equipment, or materials from introducing new marine pests or diseases to Whangārei Harbour,
2. prevent construction activities from transferring marine pests or diseases already present in Whangārei Harbour to other locations,
3. avoid unmanaged release of viable biological material into the marine environment during construction,
4. ensure that any required cleaning, decontamination, containment, treatment, or disposal of biological waste occurs through appropriate and authorised systems, and
5. provide auditable records demonstrating that construction-stage biosecurity pathways have been identified, screened, and managed.

10.3 Construction-stage implementation framework

Before marine construction works begin, the construction contractor should prepare and implement a construction-stage biosecurity procedure or plan. This may be a standalone plan or a biosecurity section within a wider construction environmental management plan, provided the biosecurity requirements are clearly identified and capable of being audited. The construction-stage procedure should confirm how the contractor will manage vessels, marine plant, submerged equipment, temporary structures, and associated biofouling, retained water, sediment, and other materials that may create biosecurity pathways. It should also define

responsibilities, screening requirements, hold points, corrective actions, incident response procedures, and record-keeping requirements.

The construction-stage plan should be finalised once construction methodology and procurement arrangements are known, because the level of control required will depend on the type, origin, history, and condition of vessels, plant, equipment and temporary structures used.

10.4 Pre-mobilisation screening

All vessels, marine plant, temporary structures and submerged equipment proposed for use in the project area that are not sourced from Whangārei Harbour should be screened before mobilisation to the project. Screening should be sufficient to determine whether the item presents a plausible biosecurity pathway and what management action is required before use. Relevant considerations include origin, recent operating or deployment history, time since cleaning or antifouling maintenance, periods spent idle in water, visible biofouling, or sediment, retained water, ballast water relevance, previous use in areas with known or suspected marine pests, and any applicable MPI, Northland Regional Council or project-specific requirements.

Screening results should be translated into project-specific biosecurity risk categories, using a documented and consistently applied procedure. Where screening information is incomplete, uncertain, or indicates elevated biosecurity risk, the item should not be used in the project area until a low-risk status has been achieved through provision of added documentation, inspection, cleaning, disinfection, regulator advice, or another appropriate action.

10.5 Construction vessels and marine plant

Construction vessels (including barges) and marine plant should arrive in a compliant and appropriately clean condition before participating in project activities. Construction vessels and equipment are under project and contractor control, and their use can be made conditional on meeting project biosecurity requirements.

For vessels or marine plant arriving from overseas, the contractor should confirm that applicable border biosecurity requirements have been addressed before the vessel or plant enters the project area. This includes confirmation of CRMS clean hull status and, where relevant, ballast water management status. If an overseas vessel requires cleaning to meet MPI's biofouling requirements, that cleaning should occur only through an MPI-approved and authorised pathway. For domestic vessels or marine plant arriving from another New Zealand region, or another designated place within Northland, the contractor should confirm that applicable regional pathway management requirements have been considered and that the vessel or plant does not present an unmanaged biofouling risk.

Construction vessels and marine plant should not intentionally discharge unmanaged internal water, sediment, or biofouling debris into the project area. Any discharge activity with biosecurity relevance should occur only through an authorised or controlled system.

10.6 Marine equipment, temporary structures and materials

Equipment and temporary structures intended for submerged use should be clean and free of visible biofouling, sediment, and other biological material before use in the project area.

Relevant items include anchors, chains, moorings, piles (including casings), fenders, hoses, pumps, dredging gear, pontoons, floating work platforms, silt curtains, and other items that will be deployed in the marine environment.

Equipment or temporary structures previously used in the marine environment should be subject to inspection and, where required, cleaning, drying, or other decontamination that achieves complete organism mortality before mobilisation. Any debris, sediment, washwater, or biological material generated during preparation should be captured and disposed of through an appropriate pathway. Equipment and structures should receive particular attention where they have been used in areas with known or suspected exotic caulerpa presence.

10.7 Dredging and sediment-related activities

The project is expected to involve capital dredging associated with construction of the berth pocket and turning basin, and maintenance dredging during operation of the dry dock. From a biosecurity perspective, dredging is relevant for two main reasons. First, dredging vessels and equipment may act as pathways if they are mobilised from outside Whangārei Harbour while carrying biofouling, sediment, retained water and potential associated biological material. Second, dredged sediment and associated water may contain viable biological material that requires appropriate handling and disposal.

If dredging plant is sourced from overseas or from another New Zealand region, it should be screened and managed in the same way as other construction vessels and marine plant. Dredging vessels and equipment sourced from overseas may require an MPI-approved biosecurity management plan for CRMS compliance. The final construction-stage biosecurity plan should confirm how dredging plant, dredging equipment, dredged material, retained water, sediment and spoil pathways will be managed. If dredged material, sediment, sludge, retained water, and associated biological material is transported away from the project area, the destination and handling method should be assessed for biosecurity relevance and confirmed as appropriate.

If dredging or activities involving seabed contact encounter suspected marine pests or exotic caulerpa fragments, the activity should be paused until the material has been isolated, recorded and assessed through an appropriate incident response process.

10.8 Management of retained water, sediment, and biological residues

Construction vessels (including barges), and marine plant and equipment may contain retained water, sediments, sludge or other residues in bilges, ballast tanks, hoppers, sea chests, internal pipework, pumps, hoses, anchors, chains, or other internal or external spaces. These retained materials may contain viable pest or disease organisms, fragments, or propagules and should not be discharged into the coastal marine area unless potential biosecurity risks have been considered and appropriately managed. Where such material must be removed, the preferred approach is capture, containment and disposal through an appropriate land-based waste pathway.

The construction-stage biosecurity management plan should specify how the materials listed above, and other relevant materials depending on equipment used, will be managed. Any cleaning, washdown or sediment removal undertaken before mobilisation, during construction, or during demobilisation should be carried out in a way that prevents viable biological material

from being released uncontrolled to Whangārei Harbour or transferred to other coastal locations.

10.9 Temporary hard substrate and demobilisation

Temporary structures and submerged equipment may become colonised by local biofouling organisms during construction, particularly if they remain submerged for extended periods. This may include pontoons, barges, silt curtains, piles, fenders, moorings, anchors, ropes, chains, floating work platforms, and other structures. Organisms or fragments can also become entrained or entangled during these items' deployment. Before temporary structures or equipment are removed from the project area and transported elsewhere, their biofouling and entrainment/entanglement condition should be checked. If visible biofouling, sediment, or other biological material is present, the item should be cleaned, dried, treated or otherwise managed before relocation or reuse. This is particularly important where equipment may be transferred directly to another harbour, coastal location, and/or region.

10.10 Hold points and corrective actions

Construction-stage hold points should be used where an item or activity indicates potential unmanaged biosecurity risk. Hold points should prevent the relevant vessel, equipment, or activity from proceeding until the issue has been assessed and corrected.

Hold points should be triggered by:

- incomplete or uncertain pre-mobilisation screening information,
- visible macrofouling, sediment, or other biological material on vessels, marine plant or equipment during mobilisation to the project,
- evidence that a vessel or item has recently operated in a known or suspected marine pest area (e.g., an area with confirmed exotic caulerpa) without appropriate cleaning or inspection,
- suspected marine pests, exotic caulerpa, or disease signs,
- proposed discharge or drainage of unmanaged retained water, sediment, or sludge,
- failure of containment, capture, treatment, or disposal systems,
- accidental release of biological material to the marine environment, or
- non-compliance with project biosecurity procedures.

Corrective actions may include providing additional documentation, inspection by an appropriately qualified person, cleaning, drying, disinfection, containment, waste disposal, regulatory advice, or exclusion of the vessel or equipment from the project area until requirements are met.

10.11 Records

Construction-stage biosecurity records should be sufficient to demonstrate that relevant pathways have been screened, managed and, where necessary, addressed. Records should cover the construction vessels, marine plant, temporary structures and submerged equipment

used on the project, pre-mobilisation screening outcomes, relevant inspection, cleaning, treatment or decontamination actions, biological waste handling and disposal, applicable regulatory documentation, incidents, and corrective actions.

Records should be retained by the contractor and made available to the project team, consent authority or relevant regulator if requested.

10.12 Summary

Construction-stage biosecurity risk can be managed effectively if vessels, barges, marine plant, temporary structures, and submerged equipment are screened before mobilisation, arrive in a clean and compliant condition, and are managed so that biofouling, retained water, sediments, and any entrained biological material are not released or transferred through unmanaged pathways.

The key requirement is that these controls are recognised as necessary and carried forward into construction planning, biosecurity and environmental management plans, and consent implementation.

11 Operational dry dock biosecurity management

11.1 Purpose

This section sets out the application-stage biosecurity management framework for operation of the proposed Northland dry dock. It addresses operational pathways identified in Section 9. The operational management framework recognises that the role of the dry dock is to receive vessels for cleaning, treatment, inspection, repair and maintenance. Some vessels may arrive in a condition that is relevant to biosecurity - i.e., featuring biofouling assemblages, internal sediments, retained water, or contaminated submerged equipment - precisely because they require dry dock services. The purpose of the operational biosecurity system is not to exclude such vessels, but to ensure that they are managed in a controlled way that prevents unmanaged release or transfer of viable biological material. This differs from construction-stage biosecurity management, where vessels, plant and equipment can generally be required to arrive in a clean and low-risk condition before engaging in construction activities. During operation, vessel screening should primarily be used to determine the correct management pathway for each vessel, identify applicable regulatory requirements, and confirm that the facility has the controls, containment systems and authorisations required to manage the vessel safely.

Detailed requirements for washwater, biofouling debris, operational drainage, sludge, sediment, and other waste streams are addressed in Section 12. This section focuses on vessel-related and operational controls that should be in place before those waste streams are generated.

11.2 Operational biosecurity objectives

The objectives of operational biosecurity management are to:

1. prevent operation of the dry dock from creating unmanaged pathways for the introduction or spread of marine pests or diseases,

2. ensure that vessels using the facility are screened and assigned to an appropriate operational management pathway,
3. allow vessels to be cleaned, treated, inspected, maintained, or repaired where the facility can manage the relevant biosecurity pathways through containment, washwater capture, treatment, waste disposal and record-keeping systems, and
4. provide auditable records demonstrating that operational biosecurity pathways have been identified, managed and, where necessary, corrected.

11.3 Operational implementation framework

Before operation begins, the facility operator should prepare and implement an operational Biosecurity Management Plan or equivalent operational biosecurity procedure. The procedure should describe how the facility will receive vessels, identify relevant regulatory requirements, assign vessels to the appropriate management pathway, manage hull and niche area cleaning, control biosecurity-relevant waste streams, respond to incidents, and retain records.

The operational procedure should be practical and proportionate to the facility's final operating model. It should not duplicate detailed engineering, trade-waste or environmental procedures, but it should clearly identify the biosecurity requirements that those systems must support.

11.4 Vessel enquiry and pre-arrival screening

All vessels seeking to use the dry dock and shipyard should be screened before acceptance. Screening should occur as early as practicable during booking or vessel enquiry, and before the vessel enters the facility or associated berth area. The purpose of screening is to identify whether the vessel can be managed through the facility's standard controls, whether regulatory approval or direction is required, or whether acceptance should be deferred until the pathway is resolved. Screening should collect information on the vessel identity and type, intended activity at the facility, whether the vessel is domestic or has arrived from overseas, whether MPI or other regulatory requirements apply, whether submerged equipment will be cleaned or handled, and whether any retained water, sediment or other internal residues require management.

11.5 Operational management pathways

The operational procedure should define effective management pathways for vessels using the facility. These pathways should determine whether a vessel can proceed through the regular controlled dry dock pathway, requires regulatory authorisation or direction before works can proceed, or cannot be accepted until the pathway is resolved.

11.5.1 Regular controlled dry dock pathway

The regular controlled dry dock pathway applies to vessels that can be lawfully and practically managed through the facility's standard operational controls. It is expected to apply to most domestic vessels and to international or returning New Zealand vessels where applicable border biosecurity and other regulatory requirements have already been met. Under this pathway, vessels may be accepted for cleaning, treatment, inspection, repair, or maintenance,

provided all relevant activities are undertaken within the facility's containment, washwater capture, waste management, monitoring and record-keeping systems.

The regular controlled pathway should apply a precautionary baseline to all vessels because any vessel may carry material posing biosecurity risk. The facility should therefore manage hull cleaning, niche area cleaning, sediment removal, propeller polishing, sea-chest work, and related maintenance activities as controlled activities that may generate viable biological material requiring capture and disposal.

11.5.2 Regulatory authorisation pathway

The regulatory authorisation pathway applies where a vessel's use of the facility depends on MPI, Northland Regional Council, or other regulatory approval or authorisation. This pathway includes vessels requiring cleaning to meet CRMS clean-hull requirements, vessels subject to MPI direction, inspection, hold or treatment requirements, and vessels or activities requiring Northland Regional Council approval or specific management under regional rules. These vessels may be accepted only where the required regulatory pathway is in place and the facility has the capacity, procedures, and authorisations to comply with it.

The facility should not clean or treat international vessels in a way that bypasses or conflicts with applicable MPI or other regulatory biosecurity requirements.

11.5.3 Pathway unresolved

This pathway applies where the facility cannot confirm that the vessel can be lawfully or practically managed through either the regular controlled dry dock pathway or the regulatory authorisation pathway. This may occur where required vessel information is missing, regulatory requirements are unclear, required approval or direction has not been obtained, the facility lacks capacity to manage the relevant containment or waste handling requirements, or a suspected marine pest or other unresolved biosecurity issue requires advice before works proceed.

In these cases, vessel acceptance should be deferred until the matter is resolved. Resolution may involve provision of further information or obtaining regulatory advice.

11.6 International vessels and New Zealand vessels returning from overseas

International vessels and New Zealand vessels returning from overseas are subject to national border biosecurity requirements. The facility should not accept or manage such vessels in a manner that bypasses MPI or other border-agency requirements.

Before accepting an international vessel, or a New Zealand vessel returning from overseas, the facility operator should confirm whether the vessel has met applicable MPI requirements for vessel biofouling and whether any MPI approval, inspection, cleaning, or treatment requirement applies. If the facility is to clean vessels that require cleaning to meet the CRMS clean-hull requirement, the facility should only do so if the required MPI approval, authorisation or direction is in place.

If the facility is to receive international vessels directly from overseas as a first point of arrival, this should occur only under appropriate border agency and port approval arrangements.

Those arrangements are outside the scope of this report but must be confirmed before operation.

11.7 Domestic and local vessels

Domestic and local vessels are expected to be managed through the regular controlled dry dock pathway unless a specific regulatory authorisation, direction or unresolved issue applies. For these vessels, the main biosecurity control is not detailed assessment of vessel origin or prior movement history, but safe management of vessel cleaning, treatment, inspection, repair and maintenance activities within the facility.

11.8 Vessels awaiting haul-out or undertaking wharf-based works

The project description indicates that vessels may be accommodated temporarily before or after haul-out, or for extended periods where works not requiring haul-out can be undertaken. This creates an operational pathway that should be managed because vessels may carry pests and diseases.

For vessels awaiting haul-out, the facility should avoid any unmanaged in-water removal or disturbance of biofouling before haul-out. The vessel should not be cleaned, scraped, or have biofouling removed otherwise while wharf-side unless the activity is specifically authorised and managed under applicable rules and approvals.

For vessels undertaking wharf-based works, the facility should distinguish between activities that have no material biosecurity relevance and activities that could release biological material. Activities that may remove or disturb hull and niche area biofouling, sea chest contents, and biological material associated with anchors, chains, ropes, or retained sediment should occur only where appropriate containment, capture, treatment, disposal and regulatory requirements have been confirmed.

11.9 Hull and niche area cleaning, inspection, repair, and maintenance

Operational activities at the facility may include water blasting, scraping, abrasive blasting, propeller polishing, sea-chest inspection or cleaning, niche area cleaning, anode replacement, coating removal, painting, antifouling coating application, and internal or external repair and maintenance. These activities should be planned and undertaken so that biological material is not released uncontrolled to Whangārei Harbour or transferred to other locations. For biosecurity purposes, the key requirements are that:

- activities that may remove or disturb biofouling occur only in designated areas where biological material can be captured,
- cleaning debris, fouling organisms, seaweed fragments, sediment and sludge are captured and managed as waste with biosecurity relevance,
- washwater, operational drainage, and cleaning effluent are captured and directed to the appropriate treatment or disposal system,
- niche areas, including sea chests, intakes, thrusters, propellers, rudders, rope guards, gratings, dry-docking support strips, and other complex structures, are recognised as areas where biofouling and sediment may accumulate;

- suspected marine pests, exotic caulerpa fragments, or other biosecurity concerns trigger the appropriate hold point or incident response process.

Detailed waste stream, washwater, sediment, and sludge management requirements are addressed in Section 12.

11.10 Submerged equipment and exotic caulerpa pathway controls

Vessels using the facility may carry anchors, chains, ropes, dredges, fishing gear, moorings or other equipment that is frequently submerged and has contacted the seabed. This pathway is relevant because such equipment may carry sediment, attached organisms, seaweed fragments or other biological material. It is particularly relevant to exotic caulerpa, which can be spread by fragments attached to or entrained on gear.

The operational biosecurity procedure should address such equipment where that equipment will be cleaned, repaired, stored, or otherwise handled at the facility. Where a vessel or its equipment has recently operated in a known or suspected exotic caulerpa area, relevant gear should be inspected and, where necessary, cleaned, contained, dried, or otherwise managed appropriately.

11.11 Ballast water, bilge water, tank sediments, and retained water

Ballast water, bilge water, sea chest water, tank sediments, pipework residues and other retained water may contain viable organisms, fragments, or propagules. This pathway should be considered before vessel acceptance where discharge, drainage, pump-out, cleaning, inspection or repair of relevant systems is expected. The facility should not allow unmanaged discharge of retained water and sediments to the coastal marine area. Where such material must be removed during operational works, it should be captured, contained, and directed to an appropriate treatment, disposal or authorised waste pathway.

The operational biosecurity procedure should specify how vessel systems that may contain retained biological material will be identified, inspected, isolated, drained, cleaned, or treated, and how records of those activities will be retained.

11.12 Facility structures and operational equipment

Permanent and semi-permanent facility structures may become colonised by local biofouling organisms over time. This is a normal feature of marine infrastructure in Whangārei Harbour and is not treated as a biosecurity management failure for the dry dock. Biosecurity relevance arises where fouled facility structures or operational equipment are cleaned, relocated, or transported offsite in a way that could release or transfer pests and diseases. This may include moveable equipment, pumps, hoses, screens, fenders, cradles, floating components, or other items that are permanently or frequently submerged.

Where such structures or equipment are cleaned or removed, biological material, sediment, sludge, washwater, and other residues should be captured and managed through the waste stream controls described in Section 12. Wet or fouled moveable dry dock equipment should not be transferred to another coastal location without appropriate inspection and cleaning.

11.13 Operational hold points and corrective actions

Operational hold points should be used where an activity or observation indicates that the regular controlled dry dock pathway or regulatory authorisation pathway cannot proceed without further action. Hold points should prevent the relevant docking, cleaning, maintenance activity, or waste-handling step from proceeding until the issue has been assessed and corrected.

Hold points should be triggered by:

- incomplete or uncertain vessel information where this prevents management pathway assignment,
- a vessel requiring MPI approval, authorisation or direction before cleaning or entry into the facility,
- discovery of suspected marine pests, including suspected exotic caulerpa fragments,
- failure or suspected failure of containment, capture, treatment, or disposal systems,
- accidental release of biological material to the marine environment, or
- non-compliance with operational biosecurity procedures.

Corrective actions may include obtaining additional vessel information, regulatory advice, inspection by an appropriately competent person, cleaning, disinfection, containment, waste disposal, delaying or deferring haul-out or in-dock works until biosecurity requirements can be met.

11.14 Records

Operational biosecurity records should be sufficient to demonstrate that vessels have been assigned to the appropriate management pathway and that relevant biosecurity pathways have been managed. Records should cover vessel enquiry and booking information, management pathway assignment, applicable regulatory documentation, cleaning and maintenance activities undertaken at the facility, incident reports, hold-point decisions, corrective actions, suspected organism observations and relevant waste-handling or disposal records.

Records should be retained by the facility operator and made available to the consent authority or relevant regulator if requested.

11.15 Summary

Operational biosecurity risk can be effectively managed if vessels are assigned to the appropriate management pathway and handled only where the relevant regulatory and facility-level controls can be met. The operational framework should distinguish clearly between vessels that can be managed through the regular controlled dry dock pathway, vessels requiring regulatory authorisation or direction, and vessels whose pathway is unresolved.

12 Waste management

12.1 Purpose

This section sets out the application-stage biosecurity management framework for solid and liquid waste streams generated during dry dock and shipyard operation and, where relevant, construction. It addresses the waste-related pathways identified in Section 9 and supports the operational controls described in Section 11.

The focus of this section is on waste streams that may contain viable biological material, including washwater, cleaning effluent, operational drainage from vessel maintenance areas, biofouling debris, sediment, sludge, filters, screens, and other materials generated by hull or niche area cleaning, scraping, blasting, propeller polishing, sediment removal, and equipment cleaning. The key biosecurity requirement is that biological material generated by dry dock activities is captured, contained, treated and/or disposed of in a way that prevents unmanaged release of viable biological material into Whangārei Harbour.

12.2 Distinction between dock dewatering water and biosecurity-relevant drainage

This report makes a distinction between dock dewatering water and operational drainage. Dock dewatering water refers to ambient harbour water that enters the dock or lifting system during vessel docking and is pumped out before maintenance activities commence. This water is not treated in this report as a biosecurity waste stream in the same way as washwater or cleaning effluent, provided that no hull cleaning, scraping, blasting, sediment removal, waste discharge or other maintenance activity has occurred while that water is present. In contrast, operational drainage, washwater, and cleaning effluent generated during or after vessel cleaning, inspection, repair, or maintenance activities may contain biofouling debris, sediment, sludge, organism fragments, or other biological material. These streams have biosecurity relevance and should be captured, contained, treated and/or disposed of through authorised systems.

12.3 Biosecurity waste-stream objectives

The objectives of biosecurity waste-stream management are to:

1. prevent viable marine pest or disease organism, fragments, or propagules from being released to Whangārei Harbour through washwater, cleaning effluent, operational drainage, stormwater or other liquid pathways,
2. prevent biofouling debris, sediment, sludge, and other solid or semi-solid wastes containing potentially viable biological material from being returned to the coastal marine area,
3. ensure that hull and niche area cleaning, scraping, propeller polishing, sediment removal, and related maintenance activities occur only where waste streams can be captured and managed, and
4. provide hold points, corrective actions and records for containment failure, treatment failure, overflow, accidental release, suspected pest detection and waste disposal.

12.4 Waste stream implementation framework

Before operation begins, and before any construction activity generates biological waste streams, the project should confirm how solid and liquid biological material will be captured, contained, treated, and disposed of. This should be described in either a standalone waste management procedure, operational biosecurity management plan, facility-wide environmental management plan, or other implementation document. Regardless of format, the procedures should clearly identify the biosecurity requirements for each waste stream. They should define which activities generate biosecurity-relevant waste, where those activities may occur, how liquid and solid waste streams will be captured, how washwater and cleaning effluent will be separated from general stormwater where practicable, how treatment and storage systems will be operated, how treatment residues will be managed, and what actions are required if containment or treatment systems fail.

12.5 Liquid waste streams

Liquid waste streams with biosecurity relevance may include washwater, cleaning effluent, water- or abrasive-blasting runoff, propeller-polishing runoff, sea chest cleaning water, pumped out bilge water, water associated with sediment or sludge removal, and operational drainage generated from vessel maintenance areas. Washwater from the lifting facility and vessel maintenance activities will be captured and contained, collected through drains, pumped to a treatment system, and discharged to trade waste following treatment. Onsite storage may be required because of trade-waste network capacity constraints.

For biosecurity purposes, the liquid waste management system should achieve the following performance requirements:

- liquid waste streams generated from hull and niche area cleaning, vessel maintenance, and equipment cleaning should be captured and directed to an appropriate treatment, and disposal pathway,
- untreated cleaning effluent or washwater containing biological material should not be discharged directly to Whangārei Harbour,
- washwater or cleaning effluent should not be allowed to enter stormwater systems unless the pathway has been specifically assessed and confirmed as appropriate,
- treatment systems should be capable of managing suspended biological material, fragments, sediment and biofouling debris likely to be generated by vessel maintenance activities,
- storage systems should be designed and operated to prevent overflow, leakage, bypass, uncontrolled discharge or mixing with clean stormwater,
- filters, screens, and settlement systems should be managed as waste with biosecurity relevance where they may contain biological material, and
- inspection, maintenance, and monitoring should be sufficient to identify blockages, failures, bypasses, or loss of containment.

The final treatment system design, treatment performance standards, discharge criteria and trade waste acceptance requirements should be confirmed by the relevant engineering, water quality, planning and legal advisers. The biosecurity requirement is that those systems must also manage the risk of viable biological material being released or transferred.

12.6 Stormwater and runoff management

Stormwater management is relevant to biosecurity because stormwater systems can become release pathways if biofouling debris, washwater, sediment, sludge or other biological material enter them. Stormwater will be collected, treated through a proprietary treatment device, and discharged to the existing Northport stormwater ponds before discharge to Whangārei Harbour.

The operational design should distinguish, as far as practicable, between general stormwater from areas not used for vessel cleaning or biological waste handling, potentially contaminated stormwater runoff from working areas where biological waste is generated, and washwater, cleaning effluent, sediment-laden water or wastewater generated by vessel cleaning and maintenance. Areas where hull and niche area cleaning, scraping, propeller polishing, sediment removal or biological waste handling occur should be managed so that runoff from those activities is captured and treated as biosecurity relevant washwater rather than being discharged through general stormwater pathways.

12.7 Solid biological wastes

Solid wastes with relevance to biosecurity include biofouling debris, sediment, sludge, hull scraping waste, dock floor sweepings, filters, screens, treatment residues, and residual material removed from sea chests, intakes, anchors, chains, ropes, dredges, fishing gear or other equipment. These materials may contain viable organisms, fragments, or propagules.

Solid biological waste should be captured and managed as waste with biosecurity relevance unless it can be demonstrated that the material has been treated or otherwise managed so that viable biological material is not returned to the marine environment. Wet waste, sediment and sludge should be stored and handled in a way that prevents leakage or drainage to stormwater or the coastal marine area. Disposal should occur through an appropriate land-based or otherwise authorised pathway.

Where suspected marine pests, exotic caulerpa fragments, unusual fouling or other biosecurity concerns are detected in solid waste, the material should be isolated and managed through the incident response procedure before disposal.

12.8 Treatment system biosecurity performance requirements

The treatment system receiving washwater, cleaning effluent, wastewater, or operational drainage from vessel maintenance activities should be designed and operated to prevent viable biological material being released or transferred through untreated or inadequately treated pathways. The system should be able to manage the expected range of biological material, including suspended fragments, propagules, biofouling organisms and debris, and fine particulate matter. It should also be designed with sufficient operational capacity for expected cleaning and maintenance activities, including periods of high washwater generation, rainfall, onsite storage constraints and trade-waste network limitations.

The operational procedure should define practical checks for screens, filters, sumps, sediment traps, treatment residues, storage capacity, contingency storage, treatment-system outages, blockages and failures. Where treatment capacity is unavailable or containment cannot be maintained, relevant cleaning or maintenance activities should stop or be deferred until the pathway can be managed.

12.9 Containment failure, overflow, and accidental release

Containment failure, overflow, or accidental release may create a direct pathway for biological material to enter Whangārei Harbour. These events should be treated as biosecurity hold points as well as environmental incidents. The waste stream management procedures should specify actions to be taken where washwater, cleaning effluent, sediment, sludge, or biological debris escapes containment, or where treatment systems fail, overflow, bypass or become blocked, where stormwater systems receive washwater or debris containing biological material, where waste storage containers leak or overflow, or here biological material is accidentally washed or spilled into the coastal marine area.

Corrective actions may include stopping cleaning or maintenance activities, isolating affected drains or containment areas, recovering spilled material, inspecting affected areas, arranging alternative disposal, notifying relevant personnel or regulators, documenting the incident, and confirming that systems are functioning properly before works resume.

12.10 Waste transport and offsite disposal

Transport and offsite disposal can create a secondary biosecurity pathway if biological material is moved to another coastal location, discharged during transport, or disposed of in a way that allows viable material to re-enter the marine environment. Waste transport and disposal procedures should ensure that solid biological waste, wet waste, sediment, and sludge are contained during storage, handling and transport. Transport bins, skips, and vehicles should be suitable for the waste type, and waste contractors should be informed where waste has biosecurity relevance. Disposal sites or treatment facilities should be appropriate for the waste type and should not allow viable marine material to return to the marine environment.

The final waste disposal destinations and waste contractor arrangements should be confirmed before operation.

12.11 Monitoring, inspection and maintenance

Monitoring, inspection, and maintenance of waste treatment systems should be sufficient to confirm that waste streams containing biological material are being captured and managed as intended. The level of monitoring should be proportionate to the activity and waste stream but should include routine operational checks of designated cleaning and maintenance areas, drains, sumps, containment systems, washwater collection systems, treatment systems, screens/filters, sediment traps, stormwater separation systems and waste storage areas.

Inspection frequency should be defined in the operational procedures. Additional inspections should occur after high-risk activities, heavy rainfall, treatment-system maintenance or malfunction, or any other incident involving potential failure of containment.

12.12 Records

Waste stream biosecurity records should be sufficient to demonstrate that biological material has been captured, treated, stored, transported and disposed of through appropriate pathways. Records should cover the activity generating the waste, type and approximate quantity or volume of waste where practicable, treatment or disposal method, disposal destination, waste contractor details, containment and treatment system inspections,

incidents, corrective actions, suspected organism notifications, and regulator advice or approvals where relevant.

Records should be retained by the facility operator and made available to the consent authority or relevant regulator if requested.

12.13 Summary

Biofouling debris, washwater, cleaning effluent, operational drainage from vessel maintenance areas, sediment, sludge, and treatment residues are key biosecurity pathways for the proposed dry dock because they are the main mechanisms by which biological material removed from vessels, equipment, or facility structures could be released into the marine environment. The key biosecurity requirement is that these waste streams are recognised, captured, contained, treated, and disposed of through controlled systems. The final operational biosecurity management plan should translate the performance requirements in this section into practical procedures before the facility begins receiving vessels.

13 Biosecurity incident response

13.1 Purpose

This section sets out the framework for responding to biosecurity incidents that may occur during construction or operation of the proposed Northland dry dock. It supports the construction stage controls in Section 10, the operational dry dock controls in Section 11, and the waste stream controls in Section 12. The purpose of the incident response framework is to ensure that potential biosecurity issues are recognised early, contained where practicable, escalated appropriately, and corrected before they result in unmanaged release of viable biological material.

This section does not provide final emergency response procedures, notification forms or reporting templates. Those should be developed before construction and operation as part of the final construction-stage and operational biosecurity management procedures.

13.2 Incident triggers

Biosecurity incident response procedures should be triggered where there is an actual or potential unmanaged pathway for marine pests and diseases. Relevant triggers may include discovery of suspected marine pests on vessels, equipment, structures, or in waste streams. They may also include uncontrolled release of biofouling debris, sediment, sludge, washwater, cleaning effluent, or other biological material to the coastal marine area. Other relevant triggers include failure, overflow, bypass, or loss of containment from washwater, treatment, stormwater or waste-handling systems, accidental discharge of retained water, bilge water, tank sediments or sea-chest material, or discovery that a vessel or activity requiring regulatory approval has proceeded without the required approval.

13.3 Immediate response

The immediate response to a biosecurity incident should be proportionate to the nature and scale of the event. Where continued work could increase biosecurity risk, the relevant activity

should stop until the issue has been assessed and resolved. The affected vessel, equipment, waste stream, material or work area should be isolated where practicable, and further release or spread of biological material should be prevented. Where safe and practicable, released material should be recovered or contained. Suspected marine pests or unusual biological material should not be returned to the marine environment. Photographs and other records should be taken where possible, and the nominated facility or project biosecurity lead should be notified.

13.4 Notification and escalation

The final biosecurity management procedures should define notification and escalation pathways before construction and operation begin. These procedures should identify who is responsible for internal notification, regulator notification, and reporting. Depending on the incident, notification or advice may be required from MPI, NRC, or another relevant regulator. The incident response procedure should distinguish between events requiring immediate regulator notification and minor internal incidents that can be corrected and recorded without external notification.

13.5 Corrective actions and close-out

Corrective actions should be directed at stopping the activity triggering the incident, managing the materials involved, and preventing recurrence. Depending on the incident, this may involve containment or recovery of biological material, cleaning or disposal of affected equipment, diversion of washwater to storage or alternative treatment, repair of containment or treatment systems, revision of work methods, additional training, or temporary suspension of the affected activity. An incident should be closed out only once the relevant biosecurity pathway has been controlled, required notifications have been completed, affected material has been managed appropriately, corrective actions have been implemented, and records have been completed.

13.6 Incident records

Incident records should be sufficient to demonstrate what occurred, how the matter was managed, and whether any further action was required. Records should include the date and location of the incident, the vessel, equipment, activity, or waste stream involved, a description of the event, any photographs or supporting records, immediate response actions, notifications, regulatory advice where relevant, corrective actions, and close-out confirmation. Incident records should be retained by the facility operator or construction contractor, and made available to the consent authority or relevant regulator if requested.

14 Monitoring, record keeping, and audit framework

14.1 Purpose

This section provides a high-level monitoring, record-keeping and audit framework for the construction and operation of the proposed Northland dry dock. The purpose is to identify the types of evidence needed to demonstrate that biosecurity management measures are being implemented, without prescribing final forms, checklists, inspection schedules or audit templates at this pre-detailed design stage.

The framework is intended to support later development of practical construction-stage and operational biosecurity management plans. Detailed monitoring requirements should be finalised once the construction methodology, operating model, waste treatment systems, consent conditions and organisational responsibilities are confirmed.

14.2 Monitoring and inspection

Monitoring should be practical, risk-based and focused on the pathways identified in this report. During construction, monitoring should confirm that vessels, marine plant, submerged equipment, and temporary structures have been screened and managed before use in the project area, and that retained water, sediment, dredged material and biological residues are managed through appropriate pathways. During operation, monitoring should confirm that vessels are assigned to the correct management pathway, that hull and niche area cleaning occurs only where containment and waste management systems are available, and that biofouling material, washwater, cleaning effluent, sediment, sludge and other biological wastes are captured and managed as intended.

Monitoring should also include routine checks of designated cleaning areas, containment systems, drains, sumps, treatment systems, stormwater separation systems, waste storage areas, waste disposal pathways, and any locations where biological material could be released, or washed outside containment.

14.3 Records

Records should be sufficient to demonstrate implementation of the biosecurity management framework. They do not need to duplicate all operational or engineering records, but they should show that relevant biosecurity pathways have been identified, assigned to the correct management pathway, and managed appropriately.

For construction, records should cover relevant vessels, submerged equipment, temporary structures, screening outcomes, incidents, and corrective actions. For operation, records should cover vessel enquiry and pathway assignment, regulatory approvals or directions where relevant, cleaning and maintenance activities undertaken at the facility, waste handling and disposal, treatment system checks, incidents, suspected organism observations. and corrective actions.

Records should be retained by the responsible contractor or facility operator and made available to the consent authority or relevant regulator if requested.

14.4 Audit and review

Periodic review of biosecurity implementation should be undertaken during construction and operation. The purpose of audit is to confirm that procedures are being followed, records are being retained, and any deviations are identified and corrected. Audit frequency and format should be confirmed in the final construction stage and operational procedures. Additional review should occur following significant incidents, repeated non-compliance, material changes to the facility design or operating model, or relevant regulator direction. Where audits indicate significant or consistent failures in biosecurity risk management, they should trigger procedural reviews and appropriate amendments and strengthening of risk management measures.

The biosecurity framework should also be reviewed if material changes occur to the facility design, construction methodology, operating model, vessel acceptance assumptions, hull-cleaning methods, waste-treatment systems, or waste-disposal pathways.

14.5 Training

Personnel whose work could affect biosecurity outcomes should receive training or induction appropriate to their role. This should include relevant construction contractors, facility staff, hull cleaning contractors, maintenance contractors, and waste contractors. Training should focus on the practical requirements of the biosecurity management framework, including pathway controls, waste containment, incident triggers, suspected pest response, hold points, corrective actions, and record keeping. Training records should be retained.

15 Roles and responsibilities

15.1 Purpose

This section identifies the main roles and responsibility areas that should be allocated before construction and operation. Responsibilities are described at a functional level because the final owner, operator, contractor arrangements and regulator interfaces remain to be confirmed. The final construction-stage and operational biosecurity procedures should identify named organisations, positions, reporting lines, and points of contact once these are known.

15.2 Consent holder or project owner

The consent holder or project owner should be responsible for ensuring that the application-stage biosecurity commitments in this report are carried forward into construction and operational implementation documents. This includes ensuring that the relevant biosecurity requirements are incorporated into contracts, management plans, operating procedures, consent implementation systems and review processes. The consent holder or project owner should also ensure that material changes to design, construction methodology or operating model are reviewed for biosecurity implications.

15.3 Construction contractor

The construction contractor should be responsible for implementing construction-stage biosecurity controls for vessels, barges, dredging plant, temporary structures, submerged equipment, and other construction items that interact with the marine environment. This should include preparing and implementing construction-stage biosecurity procedures, undertaking pre-mobilisation screening, ensuring required cleaning or decontamination is completed, managing retained water and sediment pathways, maintaining records, implementing hold points, and responding to incidents.

15.4 Facility operator

The facility operator should be responsible for implementing the operational biosecurity framework once the facility begins receiving vessels. This includes vessel enquiry and pathway assignment, ensuring cleaning and maintenance activities occur only where

containment and waste management requirements can be met, maintaining records, implementing hold points, and coordinating incident response. The facility operator should also be responsible for ensuring staff and contractors understand the biosecurity requirements relevant to their work.

15.5 Vessel owners, masters and agents

Vessel owners, masters or agents should be responsible for providing accurate information needed to assign the vessel to the correct management pathway. This includes information on intended facility activities, relevant MPI or other regulatory requirements, CRMS compliance documentation and clean-hull cleaning requirements where relevant, submerged equipment requiring handling, and retained water or sediment pathways that may require management. They should also comply with facility biosecurity requirements while the vessel is at the facility.

15.6 Contractors and waste disposal providers

Hull cleaning, maintenance, repair, treatment system and waste disposal contractors should be responsible for carrying out their work in accordance with the facility's biosecurity procedures. This includes working only in approved areas, using containment and capture systems where required and as prescribed by the facility's operational requirements, directing waste streams to the correct pathways, reporting suspected pests or unusual biological material, and completing required records. Waste providers should ensure that wastes with biosecurity relevance are contained, transported, and disposed of appropriately.

16 Draft biosecurity condition suggestions and trigger concepts

16.1 Purpose

This section provides high-level suggestions for biosecurity-related conditions for consideration by the project planning and legal advisers. Final condition wording should be developed by the planning and legal team, with further technical input from LWP as required. The condition concepts below are intended to ensure that the application-stage biosecurity framework in this report is carried forward into practical construction and operational procedures before relevant works or activities begin.

16.2 Construction-stage biosecurity management

A condition or equivalent requirement should require a construction-stage biosecurity management procedure before marine construction works begin. This may be a standalone plan or part of a wider Construction Environmental Management Plan. The procedure should address construction vessels, marine plant, submerged equipment, temporary structures, dredging-related pathways, retained water, sediments, incident response, records, responsibilities, and review triggers relevant to construction-stage biosecurity pathways.

16.3 Operational biosecurity management

A condition or equivalent requirement should require an operational Biosecurity Management Plan before the facility begins receiving vessels. The plan should set out how vessels will be assigned to the appropriate management pathway, how regulatory authorisation requirements will be identified, how hull and niche area cleaning will be managed, and how operational biosecurity hold points, records, incident response, and review triggers will be implemented.

16.4 Waste stream management

A condition or equivalent requirement should require confirmation of waste stream management procedures before operations begin. The procedures should address capture, containment, treatment, storage, transport, and disposal of liquid and solid waste streams that may contain viable biological material. They should also include incident response, records, responsibilities, and review triggers relevant to waste stream biosecurity risk pathways.

17 Conclusions

This report has assessed the main biosecurity pathways associated with the construction and operation of the proposed Northland dry dock at Marsden Point, Whangārei Harbour. The assessment is based on project information available at the time of reporting. The proposed dry dock and shipyard would operate in an active maritime and industrial harbour where commercial and recreational vessel pathways are already present and where a range of marine non-indigenous species are known to be established. The facility is anticipated to receive domestic and international vessels and to undertake activities that remove biofouling, sediment, retained water and other biological material. These activities create potential biosecurity pathways if not appropriately managed.

The assessment identifies the main construction-stage pathways as construction vessels, barges, marine plant, dredging vessels and dredge spoil, submerged equipment, and temporary structures. These pathways can be effectively managed through pre-mobilisation screening, cleanliness or decontamination requirements, management of internal water and sediment, hold points, corrective actions, and record-keeping.

For operation, the assessment framework distinguishes between vessels that can proceed through the regular controlled dry dock pathway, vessels requiring regulatory authorisation prior to cleaning or treatment, and vessels whose pathway is unresolved until further information or approval is obtained. The most important operational biosecurity controls relate to preventing unmanaged release or transfer of viable biological material during hull and niche area cleaning, propeller polishing, handling of submerged equipment, management of retained water, and management of biological waste streams. Washwater, cleaning effluent, operational drainage from vessel maintenance areas, biofouling debris, sediment, and sludge should be captured, contained, treated and/or disposed of through appropriate pathways.

The report also identifies incident response, monitoring, record-keeping and role allocation requirements that should be translated into final construction-stage and operational biosecurity management procedures before relevant works or operations begin. These procedures should be prepared in accordance with the **Outline Biosecurity Management Plan** provided in Appendix A.

Overall, the biosecurity risks associated with the proposed Northland dry dock can be managed through a practical, staged biosecurity management framework, provided the controls identified in this report are carried forward into final design, construction planning, operational procedures, treatment and waste management systems, and consent implementation.

18 References

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Appendix A Biosecurity Management Plan – purpose and outcomes sought

A1 Purpose

This Outline Biosecurity Management Plan sets out the minimum structure and implementation requirements for managing marine biosecurity risks during construction and operation of the proposed Northland dry dock. It is intended to translate the outcomes, controls, hold points, monitoring and record-keeping requirements identified in the main report into a practical management plan format. The final construction-stage and operational biosecurity procedures should be prepared in accordance with this outline and with the items listed in the main report before relevant works or operations begin.

A2 Management outcomes

The final biosecurity management procedures should achieve the following outcomes:

- construction and operational activities do not create unmanaged pathways for the introduction or spread of marine pests or diseases,
- vessels, marine plant, submerged equipment, temporary structures, and relevant materials are screened and managed before use or acceptance,
- hull and niche area cleaning, sediment removal, retained water management, and waste handling occur only where containment, treatment, disposal, and record-keeping systems are in place,
- suspected marine pests, exotic caulerpa fragments, disease signs, containment failures, and other biosecurity incidents trigger appropriate hold points and response actions,
- biological material, sediment, sludge, washwater, and cleaning effluent are captured, contained, treated and/or disposed of through appropriate pathways, and
- auditable records are retained to demonstrate implementation.

A3 Implementation documents

The biosecurity requirements should be implemented through one or more of the following documents or equivalent systems.

Implementation system	Timing	Minimum purpose
Construction-stage Biosecurity Management Plan	Before marine construction works begin	Primary construction-stage biosecurity document. May be standalone or included as a biosecurity section within a wider Construction Environmental Management Plan. Should address construction vessels, marine plant, submerged equipment, temporary structures, dredging-related pathways, retained water, sediment, demobilisation, hold points, incidents, record-keeping, and responsibilities.
Operational Biosecurity Management Plan	Before the facility begins receiving vessels	Primary operational biosecurity document. Sets out vessel enquiry, pathway assignment, regulatory authorisation checks, hull and niche area cleaning controls, submerged equipment controls, retained water controls, incident response, and record-keeping.
Waste stream, washwater, stormwater, treatment-system and trade waste controls	Before operation, and before any construction activity generating waste with biosecurity relevance	May be included in the construction-stage or operational biosecurity procedures, or cross-referenced from relevant engineering, stormwater, trade-waste or facility management plans or operating procedures. The biosecurity requirement is that liquid and solid wastes with biosecurity relevance are captured, contained, treated, stored, transported, and disposed of through controlled pathways.
Contractor method statements, inspection forms, checklists, and induction material	Before relevant activities begin	Supporting implementation tools. Should translate the relevant biosecurity procedure into task-specific instructions and auditable records for contractors and facility personnel.
Incident response and escalation	Before construction and operation	Should be included in the construction-stage and operational biosecurity procedures, or cross-referenced to a wider site incident response plan or procedure. Should identify hold points, immediate response actions, notification pathways, regulator escalation requirements, corrective actions, and close-out requirements.

A4 Implementation matrix

The implementation matrix below identifies the minimum management areas that should be addressed in the final construction-stage and operational biosecurity management plans. It is intended as a checklist for plan preparation and auditing.

Management area	Required outcome	Minimum procedure content	Evidence/records
Construction vessel and marine plant mobilisation	Construction vessels and marine plant arrive in a compliant and appropriately clean condition and do not introduce unmanaged biosecurity risk.	Pre-mobilisation screening; origin and operating/maintenance history check; clean-hull status; retained-water and sediment check; MPI and NRC requirement check where relevant; action process for incomplete or elevated risk information.	Screening record; vessel or plant register; inspection records; cleaning or decontamination records; regulator correspondence where relevant.
Construction equipment, temporary structures and materials	Submerged equipment, temporary structures and materials do not introduce pests and diseased via unmanaged biofouling, sediment, retained water or other relevant pathways.	List of equipment and temporary structures; operational history; inspection and cleanliness requirements; cleaning/disinfection; special checks for equipment previously used in marine pest outbreak areas.	Equipment register; inspection checklist; cleaning/treatment record.
Dredging, sediment and retained water	Dredging plant, dredged material, sediment, and retained water are managed without uncontrolled release or transfer of viable pests or diseases.	Dredging plant screening; retained water and sediment controls; spoil-handling pathway; response process for suspected marine pests or exotic caulerpa.	Dredging plant screening record; spoil-handling record; sediment/retained-water disposal record; incident or hold-point record if triggered.
Demobilisation of temporary structures and equipment	Temporary structures and equipment do not transfer pests and diseases from Whangārei Harbour organisms to other locations when removed or reused.	Pre-demobilisation inspection/checks; viable biological material; cleaning or treatment or disposal requirements before relocation.	Demobilisation inspection record; cleaning/treatment record; destination record.

Management area	Required outcome	Minimum procedure content	Evidence/records
Vessel enquiry and acceptance	Vessels are assigned to the correct operational biosecurity pathway before acceptance or before works with biosecurity relevance proceed.	Vessel identity and activity information; domestic/international status; MPI or other regulatory requirement check; submerged-equipment and retained water questions; pathway assignment process.	Vessel enquiry form; pathway assignment record; regulatory documentation where relevant.
Regular controlled dry dock pathway	Vessels that can be managed through standard facility controls are handled within approved containment, treatment, waste-management and record-keeping systems.	Criteria for regular controlled pathway; standard controls for hull and niche area cleaning, sediment removal, submerged equipment, retained water, and waste streams.	Vessel pathway record; work record; waste record; treatment-system record.
Regulatory authorisation pathway	Vessels requiring MPI, NRC or other regulatory approval are not cleaned, or treated in a way that bypasses those requirements.	Criteria for regulatory authorisation pathway; required documentation; approval or direction check; hold point if authorisation is absent or unclear.	Approval/authorisation record; hold-point record if triggered.
Pathway unresolved	Vessels or activities with unresolved biosecurity management information do not proceed until the issue is resolved.	Criteria for unresolved pathway; information request process; escalation pathway; decision record; corrective action process.	Information request record; decision record; regulator advice if relevant.
Hull and niche area cleaning, repair, and maintenance	Biological material removed from vessels is captured and managed through controlled systems.	Approved cleaning/maintenance areas; containment and capture requirements; liquid and solid waste pathways; hold points for suspected pests or exotic caulerpa.	Work order or activity record; cleaning record; waste record; treatment system record; suspected pest or incident record if triggered.

Management area	Required outcome	Minimum procedure content	Evidence/records
Submerged equipment and exotic caulerpa pathway controls	Anchors, chains, ropes, fishing gear, dredges, moorings and other submerged equipment or equipment in regular contact with seafloor do not release or transfer unmanaged biological material.	Identification of submerged equipment; recent use history where relevant; inspection requirements; cleaning, treatment or disposal requirements; exotic caulerpa response.	Equipment inspection record; cleaning/containment record; waste disposal record; suspected caulerpa record if triggered.
Ballast water, other internal water, internal sediments	Retained water, sediment, and internal residues are not discharged unmanaged to the coastal marine area.	Identification of relevant vessel systems; discharge/drainage restrictions; pump-out or removal procedure; containment and disposal pathway; regulator check where relevant.	Retained water / sediment record; disposal or treatment record.
Solid biological waste	Biofouling debris, sediment, sludge, filters, screens, sweepings, and treatment residues are captured and disposed of through appropriate pathways.	Waste classification; collection and storage method; leak/drainage prevention; transport requirements; disposal destination; suspected pest response.	Waste log; disposal records; contractor records; incident record if triggered.
Liquid biological waste	Washwater, cleaning effluent, operational drainage and other liquid wastes are captured, contained, treated and/or disposed of through authorised systems.	Drainage and capture points; treatment-system requirements; storage capacity; bypass / overflow prevention; separation from stormwater where practicable; response to treatment failure.	Treatment-system log; storage/discharge record; inspection record; incident record if triggered.
Stormwater interaction	Stormwater systems do not become unmanaged pathways for biological material.	Separation of washwater/cleaning effluent from general stormwater where practicable; drain protection; spill response; inspection of areas where biological material could enter stormwater.	Stormwater inspection record; spill/corrective action record.

Management area	Required outcome	Minimum procedure content	Evidence/records
Biosecurity incidents	Actual or potential unmanaged biosecurity pathways are recognised, contained, escalated, and closed out.	Incident triggers; immediate response; isolation and recovery of material; internal notification; regulator escalation where needed; corrective actions; close-out requirements.	Incident report; photographs; notification record; corrective action and close-out record.
Monitoring, training, and audit	Biosecurity procedures are implemented consistently and remain effective.	Inspection frequency; training requirements; audit process; review triggers; process for updating procedures.	Inspection records; training register; audit record; review/update record.

A5 Hold point procedures

The final procedures should include hold points for the following situations.

Hold-point trigger	Immediate action	Resolution
Incomplete or uncertain information prevents vessel, or equipment pathway assignment.	Do not accept, mobilise, clean, or use the item for work with biosecurity relevance until the issue is assessed.	Obtain additional information, inspection, regulatory advice or other evidence sufficient to assign the pathway.
Visible macrofouling, sediment, seaweed fragments or other biological material is present on vessels, marine plant, submerged equipment or temporary structures sourced for construction.	Pause mobilisation, unless vessel or item is locally sourced and has local operating history.	Inspect and clean, treat, contain, dispose of material or otherwise manage appropriately before proceeding.
Vessel, plant, or equipment has recently operated in a known or suspected marine pest or exotic caulerpa area without appropriate inspection or cleaning.	Hold the item from use or acceptance for work with biosecurity relevance.	Confirm inspection, cleaning, containment, treatment, regulator advice or alternative management pathway.
Suspected marine pest, e.g., exotic caulerpa fragment, or disease sign is detected.	Stop relevant activity where practicable, isolate material and notify the nominated biosecurity lead.	Identify response pathway, seek regulator advice where required, manage material and complete incident record.
MPI, NRC, or other regulatory approval is required but has not been confirmed.	Do not proceed with the activity covered by that requirement.	Obtain approval or confirmation before proceeding.

Hold-point trigger	Immediate action	Resolution
Unmanaged discharge of retained water, sediment, sludge, washwater, cleaning effluent or biological material from dry dock is noticed.	Stop or prevent the discharge where practicable and isolate the pathway.	Capture, contain, treat and dispose of material as possible and complete corrective action.
Containment, capture, treatment, storage, or disposal system fails, overflows, or bypasses.	Stop relevant cleaning, maintenance or waste-generating activity where practicable.	Restore containment or treatment capacity, manage affected material, close out the incident.
Non-compliance with biosecurity procedures is identified.	Pause the relevant activity where needed to prevent risk.	Correct the non-compliance, record action taken and review whether procedure or training updates are required.

A6 Minimum records register

The records register below identifies the minimum record types that should be retained and collated to demonstrate implementation of the biosecurity procedures referred to in this outline biosecurity management plan. The final procedures may combine, rename, or adapt these records to fit the project's document-control and environmental management systems, provided the same information can be retrieved for audit or incident review.

Record type	When required
Vessel, plant, or equipment register	For construction vessels, marine plant, submerged equipment, and temporary structures used during construction, and for vessels accepted for dry dock operation.
Pre-mobilisation screening record	For construction vessels, marine plant, submerged equipment, and temporary structures before mobilisation or first use in the project area.
Pre-acceptance vessel screening record	For vessels seeking to use the dry dock facility.
Operational pathway assignment record	For each vessel accepted for dry dock use, to document whether it is managed through the regular controlled pathway, regulatory authorisation pathway, or unresolved pathway.
Regulatory approval, authorisation or direction	Where MPI, Northland Regional Council, or another regulatory approval or authorisation is required.
Inspection record	Where vessels, plant, equipment, temporary structures, submerged gear, internal seawater systems, waste areas or containment systems are inspected for biosecurity purposes.
Cleaning or treatment record	Where cleaning, drying, disinfection, or other treatment is required to manage biosecurity risk.

Record type	When required
Retained water, sediment or sludge management record	Where retained/internal seawater, tank sediment, sludge, or similar material is removed, treated, stored, or disposed of.
Solid biological waste record	Where biofouling debris, sediment, sludge, filters, treatment residues, or other solid biological wastes are generated.
Liquid waste, washwater, or treatment system record	Where washwater, cleaning effluent, operational drainage or other liquid waste with biosecurity relevance is generated, treated, stored or discharged.
Disposal destination or contractor record	Where biological waste is transported offsite.
Hold-point decision record	Where a biosecurity hold point is triggered and a decision is made to proceed, pause, defer, clean, treat, seek advice, or take another action.
Biosecurity incident report	Where there is an actual or potential unmanaged release, suspected pest detection, containment failure, treatment failure, non-compliance, or other biosecurity incident.
Corrective action and close-out record	Where corrective action is required following a hold point, incident, non-compliance, or audit finding.
Training or induction record	For personnel whose work could affect biosecurity outcomes.
Audit or review record	Where scheduled audits, incident reviews, or procedure reviews are undertaken.

A7 Review triggers

The final biosecurity procedures should be reviewed and, where necessary, updated if any of the following occur:

- material change to facility design, construction methodology or construction staging,
- material change to the operational model or vessel acceptance process,
- material change to hull and niche area cleaning, sediment removal, or other maintenance methods interfering with biological material,
- material change to washwater, stormwater, trade waste, treatment, storage or disposal systems,
- change to relevant MPI, NRC, or consent requirements;
- detection of a new high-priority marine pest or disease issue relevant to the facility or Whangārei Harbour,
- significant biosecurity incident, containment failure, uncontrolled release, or repeated non-compliance, or
- audit resulting in recommending or requiring review.

Appendix B Assumptions and limitations

B1.1 Fixed assumptions

The following assumptions are treated as fixed for the purposes of this assessment:

- the report is being prepared to support FTAA lodgement and related consenting,
- the project involves a shipyard and dry dock / vessel haul-out facility at Marsden Point, Whangārei Harbour,
- the facility will be located adjacent to the western side of the existing Northport port facility,
- the project will include approximately 9.7 ha of reclamation, a vessel haul-out system, associated wharf structures, dredging stage one and dredging stage two, fixed plant and buildings, hardstand and laydown areas, and supporting infrastructure,
- the vessel haul-out system may comprise a floating dry dock or a ship lift,
- the facility is intended to accommodate vessels approximately 50 - 230 m long and 500 - 28,000 t displacement, and a broad range of vessel types, including commercial, naval, passenger, freight, fishing vessels, workboats, and superyachts,
- vessels using the facility may be domestic or international,
- operational activities may include any form of vessel maintenance including hull cleaning, painting/coating, blasting, scraping, inspection, propeller polishing, niche area cleaning, and internal and external maintenance and repairs,
- runoff from the dry dock facility is expected to be captured and contained,
- washwater is expected to be collected in drains, pumped to a treatment system, and discharged to trade waste following treatment,
- onsite storage of washwater or treated water may be required because of trade-waste network capacity constraints,
- stormwater is expected to be collected, treated through a proprietary device, and discharged to the existing Northport stormwater ponds before discharge to Whangārei Harbour, and
- this report is an application-stage biosecurity assessment and management framework, not a final construction contractor plan, final operational manual or detailed hull maintenance SOP.

B1.2 Variable assumptions – matters requiring later confirmation

The following items remain variable and should be confirmed as project information is finalised:

- whether the final vessel lifting system is a floating dry dock, a ship lift, or another dry-docking system,
- the final facility layout and detailed design,
- the construction methodology, construction sequence and construction programme,

- the type, origin, operating history and biosecurity status of construction vessels, barges, marine plant and submerged equipment or temporary structures,
- final dredging methodology, construction sequencing, plant and equipment source, and spoil handling for dredging stage one and dredging stage two,
- the vessel acceptance model for operation of the facility (for this assessment it is assumed that any vessel within the capacity ranges (length and displacement) will be accepted,
- whether the facility will be approved or authorised to receive and clean international vessels requiring management under MPI's Craft Risk Management Standard (CRMS) requirements,
- the specific hull cleaning, blasting, painting, propeller polishing, niche area cleaning and maintenance methods that will be used,
- washwater, stormwater, operational drainage and trade waste treatment, storage and discharge system design,
- treatment performance standards and final discharge quality requirements,
- capture, storage, treatment, and disposal arrangements for biological waste including biofouling debris, sediments, and sludge, and
- allocation of biosecurity responsibilities between MBIE, Northport, the future facility operator, construction contractors, vessel owners, vessel agents, waste contractors and regulators.

Appendix C Northland's designated places

Marine pest and pathway rules for Northland can be accessed **at this link**. The map below sets out designated places as described in the Northland Regional Pest and Marine Pathway Management Plan 2017-2027.