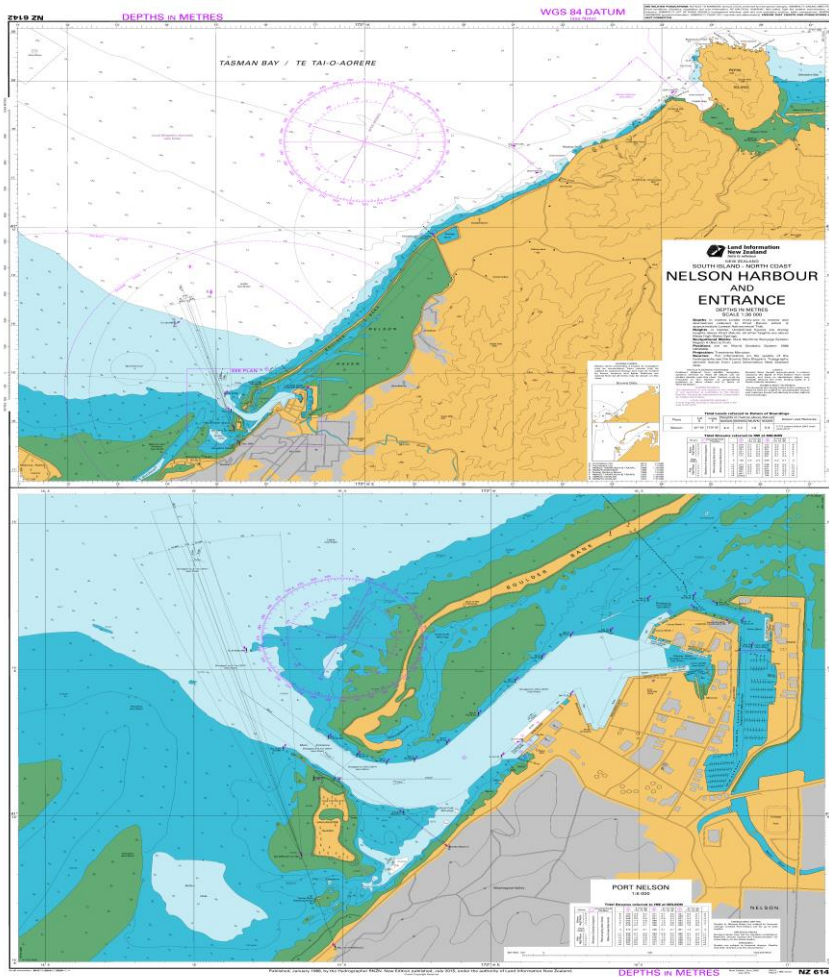




Nelson City Council
Te Kaunihera o **Whakatū**

Nelson Harbourmaster Safety Management System Manual

Nelson Harbourmaster



An overview of Nelson’s Safety Management System for managing Navigational Safety within Nelson’s regional waters

RECORD OF AMENDMENTS			
It is certified that the amendments detailed below have been included in this copy of the publication			
Amendment No.	Amended section	Paragraph No.	Brief description of amendment
2022/1	3	3.8	Addition of season wind information. SW
2022/2	All		Nelson City Council responsibility for HM function
2022/3	Appendix 1		Nelson City Council Port Nelson Limited Organisational chart
2022/4	Appendix 3		Add Code application risk analysis zone maps
2022/5	3	3.8	Update Port Nelson Limited ship movement table (from Port Nelson Limited doc: QM-MAR-056 SOP)
2023/1	2	2.8	Remove reference to Duty Pilot as delegated HM
2023/2	3.7	Table 3.2	Update Nelson tides (2022/23 LINZ Almanac) add HAT and LAT. Various updates re. Nelson City Council
2023/3	2	2.2	Harbourmaster delegations from Nelson City Council updated following legal review (addition of wreck/abandoned vessels)
2023/4	3	Table 3.1	Update title- Parameters changed to Guideline.
2023/5	2	2.2	Addition of HM Sub delegations (Oil Spill)- NCC CEO

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ABBREVIATIONS

Abbreviation	Meaning
ASD	Azimuth Stern Drive
AtoN	Aid to Navigation
CCA	Customs Controlled Area
CE	Chief Executive
CIMS	Coordinated Incident Management System
DPA	Designated Person Ashore
DOC	Department of Conservation
E	East
ECDIS	Electronic Chart Display and Information System
ERP	Emergency Response Plan
GM	General Manager
H&S	Health and Safety
HSMS	Health and Safety Management System
HSWA	Health and Safety At Work Act
ID	Identification
IMDG	International Maritime Dangerous Goods Code
IMO	International Maritime Organisation
ISO	International Standards Organisation
LOA	Length Over All
m	Metre
MoC	Management of Change
MoU	Memorandum of Understanding
MNZ	Maritime New Zealand
MPX	Master Pilot Exchange
MTA	Maritime Transport Act
MTOC	Maritime Transport Operators Certificate
MTOP	Maritime Transport Operations Plan
Nelson City Council	Nelson City Council
PHMSC	Port and Harbour Marine Safety Code
Port Nelson Limited	Port Nelson Limited
RORO	Roll On Roll Off
S	South
SMS	Safety Management System
SOLAS	Safety of Life At Sea Convention
SOP	Standard Operating Procedure
UKC	Under keel clearance

Abbreviation	Meaning
VHF	Very high frequency radio

DEFINITIONS

Definition	Meaning
A1045	IMO Resolution – Pilot Transfer Arrangements
Code	Port and Harbour Marine Safety Code
Competence	Ability to apply knowledge and skills to achieve intended result
Corridor	Areas on each side of the track that represent the planned navigable area for a specific vessel. A corridor is associated with a leg and is defined by its width to port and starboard (in metres) from the track. A corridor represents a normal operation.
Harbour	Harbour, in the context of the Code, refers generally to an area of enclosed or coastal waters where ships can shelter, and includes natural and artificial harbours. Councils use their bylaws to define harbour areas within their regional waters for the purposes of regulating maritime activity.
Hazard	Something with the potential for harm
MTOC	Maritime Transport Operators Certificate - A certificate issued by the Director under Maritime Rule 19.22
MTOP	Maritime Transport Operator Plan - Plan required by rule 19.41
May	Used where alternatives are equally acceptable.
Nelson Harbour	Means that area of coastal waters within the Nelson region shown in Nelson Navigation Safety Bylaws Map 2 that is landside of the pilotage limit line and the Nelson City boundary and includes all the waters of Nelson Haven and Waimea Inlet within the City boundary
Nelson Pilotage Area	That area described in Maritime Rule Part 90, being that area bounded by the seaward arc of a circle radius 3 miles, centred on the Boulder Bank old lighthouse (41°15.3' S, 173°15.9' E) and shown in Nelson Navigation Safety Bylaws Map 2.
No Go Area	non-navigable geographical areas defined by a safety contour and/or polygon.
Objective	Result to be achieved. Objectives in this context relate to Port and Harbour Marine Safety
Operator	Organisation or person who holds (or will hold) the Maritime Transport Operator Certificate In relation to a ship, means to sail or use the ship, or cause or permit the ship to sail, be used, or be in any place, whether or not the person is present with the ship; and operating, operation, and operator have corresponding meanings
Pilot	A maritime pilot duly licenced in accordance with Maritime Rule Part 90
Policy	Short statement of intentions and direction of an organization as formally expressed by its top management
Port	Port refers to an area of land or water (often within a larger harbour area) used for berthing and servicing of ships, and for the loading and unloading of goods or passengers. This includes mooring buoys and associated facilities.
Port Nelson Operational Area	Means that area of the harbour which is taken up by berths or wharves under the operational control of Port Nelson Ltd, or any other commercial operation, and includes the slipway basin, and slipway and the fishing wharf which parallels Vickerman Street.
Port and Harbour Marine Safety	Port and harbour marine safety covers activities associated with the safe movement of ships entering, leaving and navigating within ports and harbours.
Risk	The chance that someone or something will be affected (positively or negatively) by the hazard, and is the product of the likelihood of a hazard occurring and the severity of the consequence
Risk Management	The coordinated activities required to reduce risk to an acceptable level

Definition	Meaning
Management System	The set of interrelated or interacting elements of an organization to establish policies, and objectives and processes to achieve those objectives. The system elements include the organization's structure, roles and responsibilities, planning and operation.
Monitoring	Process of determining the status of a system
Safety Contour	Bathymetric line (in metres) referred to the chart datum and defined by the vessel maximum draft plus the expected reduction of UKC due to vessel motion.
Safety Margin	The area between the edges of the corridors and the no go areas, available as reserve in case of unplanned circumstances. The safety margin can also be the reserve speed over ground between the speed limit and the max planned speed.
Shall	Used where a provision is mandatory
Should	Used where a provision is preferred
Standard Route	Defined routes used by piloted or pilot exempt vessels.
Track	The line that connects all waypoints and includes radiused turns through waypoints.
Waypoint Table	A numbered list of waypoints and legs including latitude, longitude, true course, distance, turn radius, corridor port and starboard of track, planned speed and max speed. The waypoint table should be in a format compatible for direct entry into a vessel's ECDIS.

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1.0 INTRODUCTION

The Nelson Harbour is at the heart of the Nelson community, both in location and spirit. Sitting within the Harbour is the hub of commercial maritime activity, Port Nelson.

1.1 Port and Harbour Marine Safety Code

The Port and Harbour Marine Safety Code (2020) sets down a national voluntary standard for marine safety and the prevention of marine pollution in the operation of ports and harbours in New Zealand. The statutory powers in the Maritime Transport Act 1994 (MTA) and other relevant legislation are the foundation for the roles, relationships and activities that are integral to achieving that standard.

Nelson City Council and Port Nelson Limited undertook a full review of their respective safety management system (SMS) to ensure compliance with the latest revision of the Port and Harbour Marine Safety Code (the Code).

1.2 Shared Responsibility

The safety management of Port Nelson and Approaches is jointly managed by Nelson City Council (Nelson City Council) and Port Nelson Limited, as spelled out in the MOU. Nelson City Council has Harbour Authority for the waters and harbours within its jurisdiction (the Nelson Region). Nelson Harbour is located within the waters of the Nelson Region. Port Nelson is located within the waters of Nelson Harbour. The limits of these jurisdictions are shown in Navigation Safety Bylaw (no.218) 2019. Also refer to Appendix 3.

Nelson City Council appoint a Harbourmaster who manages the Safety Management System. This involves working with Port Nelson and stakeholders in Nelson and neighbouring districts.

1.3 Purpose

The purpose of the Harbour safety management system (SMS) is to:

- a) Provide a safe operating environment within the harbour and wider regional waters.
- b) Identify all risks and establish safeguards to ensure that all identified risks are managed so far as is reasonably practicable
- c) Continuously improve safety management skills of all personnel, including preparation for emergencies related to both safety and environmental protection

1.4 Objectives

The Harbour SMS's primary objectives are to provide a framework that facilitates:

- Systematic management and continuous improvement
- Consistent risk management practices
- Clear allocation of responsibilities across all stakeholders
- Compliance with applicable legislation, rules, regulations, codes and guidelines
- Identifying and applying good practices

1.5 Compliance

The following legislation was considered in preparing the SMS:

- Maritime Transport Act (MTA)
- Maritime New Zealand's (MNZ) Maritime and Marine Protection Rules
- Health and Safety at Work Act
- Radiocommunications Act
- Local Government Act
- Port Companies Act
- Nelson Navigational Safety Bylaw 218

1.6 Development

The SMS is a living system. The risk assessment shall be regularly updated as existing risks evolve and new hazards are identified, evaluated and controls implemented. As understanding of marine risk evolves, so will Nelson City Council's response to it. This can often directly lead to a revision of the safety management system. There are also scheduled events, such as audits, verifications and management reviews and risk reviews. These events also create opportunities to revise the SMS and support continuous improvement in marine safety.

1.7 Conflicts of Interest

Port Nelson Limited is jointly owned by the Nelson City Council and the Tasman District Council. The Harbourmaster is appointed and employed by Nelson City Council. With the separation of role of the Harbourmaster from Port Nelson Limited and appointment of a Maritime Operations Manager by Port Nelson Limited, potential conflicts of interest between commercial interests and navigational safety have

been minimised. Nelson City Council Harbourmaster works closely with Marine Operations and Pilots to monitor known risk and identify any emerging risks.

Responsibilities between Nelson City Council, Port Nelson Limited are clarified in the MOU. Broadly speaking Port Nelson Limited has responsibility for managing maritime safety within the port's limits. The Harbourmaster has overall responsibility for maritime safety in the broader waters of the region, which includes the harbour and port limits.

1.8 Leisure Users

The standard of conduct for commercial, recreational craft and swimmers in Nelson Harbour is documented in the Navigation Safety Bylaws No: 218. This document is consistent with the Maritime Transport Act 1994 and Maritime Rule Part 91, but also takes into account the special requirements and uses of the Nelson region. The Harbourmaster maintains these Bylaws and has primary responsibility for enforcing the Bylaws, which includes directing recreational craft if required.

1.9 Promulgation

This document is shared with the following people:

- Nelson City Council Harbours team
- General Manager Environmental (Nelson City Council)
- Port Nelson Limited's GM Operations
- Port Nelson Limited's Maritime Operations Manager
- Nelson City Council Website (upon adop)

2.0 ORGANISATION

This section describes the Harbourmaster's specific responsibilities and the responsibilities of those stakeholders directly involved in Harbour safety.

2.1 Roles and Responsibility

The Harbourmaster has overall responsibility and accountability for effectiveness of the Harbour SMS and compliance with the Code. He has direct access to the Port Nelson Limited and Nelson City Council's Chief Executives for matters regarding the SMS and compliance with the Code. The following table provides a brief overview of the responsibilities of key personnel in complying with the Code:

TABLE 2-1: ROLES AND RESPONSIBILITIES

Position	Roles & Responsibilities
Chief Executives	<p>The Chief Executives (CE) have ultimate responsibility for ensuring the Nelson Harbour is operated safely, efficiently and in a manner consistent with the content and objectives of the Code. The CEs have the following responsibilities:</p> <ul style="list-style-type: none"> • Provide visible support for the Code and its application in Nelson Harbour • Reporting the results of risk management and annual joint assessment to their Boards • Support the Designated Persons in the execution of their roles • Ensures appropriate resources are made available in support of the Harbour's safety system
Harbourmaster	<p>The Harbourmaster is Nelson Harbour's Code Designated Person and is responsible for navigational safety in the Nelson region and carrying out the day to day functions and management of that office as delegated by the Nelson City Council. He or she also ensures:</p> <ul style="list-style-type: none"> • The Harbour SMS is functioning effectively • The Harbour SMS is independent of commercial interests • A collaborative working arrangement with relevant port personnel exists • Coordination and integration of the port operator's SMS within the Harbour SMS
Marine Operations Manager	<p>The Marine Operations Manager is the port's Code Designated Person. He or she reports to the Chief Executive on the implementation of the SMS and promotes compliance with the Code. He or she has the following responsibilities:</p> <ul style="list-style-type: none"> • Conducts a port risk assessment • Ensures that the port's SMS is complete and functioning effectively • Leads Port Nelson Limited's marine team to operational excellence • Manages Port Nelson Limited's marine operations, ensuring a high standard of safety is achieved, assets are properly maintained, and systems are robust. • Ensures a safe and effective port security system is maintained

2.2 Harbourmaster

The Harbourmaster shall ensure that the Nelson Harbour SMS is functioning effectively and independently of commercial interests. The Harbourmasters shall work collaboratively with relevant port personnel, in particular with the Port Operations Team, and coordinate the integration of Port Nelson Limited's SMS into the wider Harbour SMS. The Harbourmaster has overarching responsibility for ensuring maritime safety within Nelson Harbours and the wider waters of Nelson region. Further detail on Harbourmaster's roles and responsibilities are provided in their position description. The organisational structure is provided in Appendix 1.

The Nelson City Council Harbourmaster and deputy Harbourmaster currently has the following delegations by Nelson City Council under the Maritime Transport Act 1994:

- S.33F(1)(a),(b),(c),(g),(h) and (i) Harbourmasters' general powers
- Section 33I(1)(a) Harbour works
- Section 33J Removal of wrecks
- Section 33L Removal of abandoned ships
- S.33P Infringement Notices

The Nelson City Council Harbourmaster (Stuart Whitehouse) also holds Delegations under the MTA from MNZ:

S.48 Power to set, conduct and administer examinations and tests

S.60(2) Power to direct a pilot be taken on board a ship

S.200(7) Power to approve a person to erect or place a navigational aid

Sub-Delegations under the MTA from Nelson City Council CEO:

Sections: 270(1), 272, 272(3), 275(1)(a), 275(1)(b), 275(2), 396(1), 396(2), 396(3)(a)- Powers in relation to marine protection documents and audit/inspection of oil transfer sites.

Maritime Rule Part 130B: 130(B.5(2), 130B.10(3)(b)(iii)- Application and testing/review of oil spill contingency plans.

2.3 Appointing Harbourmasters

Harbourmasters have a critical maritime safety function. They have the authority to exercise operational powers to manage the safety of marine activities in the Nelson Region. Because Harbourmasters have significant powers of direction, Nelson City Council must be satisfied that they have appointed a suitably qualified, competent and medically fit person for the role.

Prior to appointment, a structured training plan shall be developed to ensure that the Harbourmaster is thoroughly inducted into their new role and a structured training plan developed to ensure they have the competencies required to be successful in this safety-critical role. Once appointed, the Harbourmaster should develop an annual continuous professional development program to ensure his or her competence is consistent with the evolving demands of the role.

When appointing a Harbourmaster, care shall be taken to avoid any potential conflicts of interest.

2.4 Enforcement Officers

Councils can give enforcement officers and authorised council officers some of the same powers as Harbourmasters. Police are already provided with some powers of a Harbourmaster by the MTA. Navigation Safety Enforcement Officers primary role is education. Enforcement actions require the approval of the Harbourmaster. The Harbourmaster shall be consulted in the selection, training and retention of Navigation Safety Enforcement Officers.

2.5 Developing and Enforcing Bylaws

Navigation Safety Bylaws are made to provide a general framework for the rules of navigation that apply to all marine craft in the Nelson region. When making Navigation Safety Bylaws the Harbourmaster shall ensure they are consistent with maritime rules.

2.6 Issuing Harbourmaster's Directions

The Harbourmaster may control the safe operation of vessels for the purpose of mitigating risks to maritime safety. In order to achieve this they may direct a vessel and/or related maritime activities to be conducted in accordance with the applications, purposes and requirements of a Harbourmaster's Direction. Such a Direction shall be in accordance with:

- Section 33F of the Maritime Transport Act 1994; and
- Section 48 and section 60A(2) of the Maritime Transport Act 1994, as delegated by the director to the Harbourmaster under section 444(2) of the Act and consented by the Minister of Transport under section 444(4) of the Act; and
- Maritime Rules; and
- Navigation Safety Bylaws

Harbourmasters may direct:

- When and how ships enter, depart or move within Nelson's waters
- The position, mooring and placement of marine craft
- The use of tugs and other forms of assistance
- How ships receive or discharge cargo
- How cargo is secured where there is a risk of it being lost overboard and becoming a navigational hazard

Under the MTA, the Director of Maritime NZ may delegate powers to harbourmasters so they can:

- Direct the Master of a ship to carry a pilot, irrespective of any requirement for compulsory pilotage, or whether they hold a pilotage exemption certificate (PEC)

- Approve certain aids to navigation.

2.7 Participating in Panel Reviews

The Harbourmaster may, from time to time, be requested to add his or her expertise to a Port and Harbour Marine Safety Panel Review. Participation in a Review Panel is an important contribution to national port and harbour safety and is an excellent vector for introducing improvements to Nelson's own Harbour. As such, any opportunity to contribute to a Panel Review should be taken.

3.0 NELSON HARBOUR

This section describes Nelson Harbour.

3.1 Nelson Harbour Limits

Nelson Harbour Limits are the area of coastal waters within the Nelson region shown in Nelson Navigation Safety Bylaws Map 2 that is landside of the pilotage limit line and the Nelson City boundary and includes all the waters of Nelson Haven and Waimea Inlet within the City boundary.

Nelson Harbour Limit is an arc of 5 nautical miles centred on position 41° 17'S, 173° 12'E (eastern extremity of Rabbit Island). Maps illustrating geographic limits are provided in Appendix 3.

3.2 Pilotage Limit

Pilotage is compulsory within the limits of the Nelson pilotage area for all tankers irrespective of size and for all other vessels of more than 40m in length, unless the master of a vessel holds a Pilotage Exemption Certificate.

Pilotage Limit is an arc of 3 nautical miles centred on position 41° 15.3'S, 173° 15.9'E (old lighthouse)

3.3 Operating Limits

Port Nelson Operational Area Means¹ that area of the harbour which is taken up by berths or wharves under the operational control of Port Nelson Limited, or any other commercial operation, and includes the slipway basin, and slipway and the fishing wharf which parallels Vickerman Street but excludes the marina.

Port Nelson Limited have established the following weather and tidal condition guidelines for the safe navigation of visiting ships.

TABLE 3-1 VESSEL MOVEMENT GUIDELINES

VESSEL CLASS	DESCRIPTION	TIDAL CURRENT LIMIT (Kt)		TUGS	LINESMEN	WIND LIMIT (Kt)	MINIMUM SUKC
		FLOOD	EBB				
A	Car carriers LOA ≥ 199m All other vessels LOA ≥ 210m LOA ≥ 225m subject to formal risk assessment	1.0	0.5	2 in, 2 out Irrespective of manoeuvrability	4 in, 4 out	Car carriers 20 knots LOA ≥ 225m 20 knots All other vessels 25 knots Subject to tug and thruster power	1.2m static
B	181m < LOA < 210m	1.0	0.5	2 in, 2 out Irrespective of manoeuvrability	4 in, 4 out	25 knots Subject to tug and thruster power	10% of deepest draft
C	130m ≤ LOA ≤ 180m 7.5m ≤ Draft < 8.5m Tankers any draft	1.5	1.0	2 in, 2 out Subject to manoeuvrability	4 in, 4 out	25 knots Subject to tug and thruster power	10% of deepest draft
D	130m ≤ LOA ≤ 180m Draft < 7.5m Excludes tankers	2.0	1.0	2 in, 2 out Subject to manoeuvrability	4 in, 4 out	25 knots Subject to tug and thruster power	10% of deepest draft
D2	80m ≤ LOA < 130m Draft < 7.5m	2.5	1.5	1 in, 1 out Subject to manoeuvrability	4 in, 2 out	30 knots Subject to tug and thruster power	10% of deepest draft
D3	LOA < 80m Draft < 7.0m	2.5	2.5	Subject to manoeuvrability	2 in, 2 out	30 knots Subject to tug and thruster power	10% of deepest draft

3.4 Approaches

3.4.1 Outer Leading Light Beacons

From the vicinity of the pilot boarding place, the leading light beacons, guide vessels along the outer dredged channel in a direction of 164.7°

- Front lead depicted by white triangle mounted point up on piles, by night, directional white, red, green sector light (41° 16.2'S, 173° 15.4'E)
- Rear lead depicted by white triangle mounted point down, by night, fixed blue neon) 3 25 cables South-South-East of front lead)

Trees on Haulashore Island can partially obscure the rear leading light beacon from vessels approaching from northeast.

The dredged outer channel is 180 metres wide with shoals on either side near the entrance. The shoal on the northern side of the entrance is known as the "outer shoal". In bad weather and when the wind is against the tide this shoal produces waves which are dangerous to small craft.

3.4.2 Inner Leading light Beacons:

The outer leading light beacons guide vessels onto the 135.4° line of the inner leading light beacons. Entering vessels make the turn from the outer leads to the line of the inner leading light beacons when about 3 cables from the main entrance (also referred to as the Cut)

- Front lead depicted by white triangle mounted point up, by night fixed neon green light (41° 16.2'S, 173° 15.4'E)
- Rear lead depicted by white triangle mounted point down, by night fixed neon green light (1.75 cables south-east of front lead).

The dredged inner channel (The Cut) is 150 metres wide and passes between south mole which extends Northwest from Haulashore Island on the South West side of the channel and Boulder Bank on the Northeast side of the channel. The port-hand side of the Cut is marked by a series of light beacons that provide a visual reference for vessels making the 95° turn into the main port operational area.

3.5 Anchorages

3.5.1 Cruise Ship Anchoring Area

Cruise ships may be directed to anchor in the designated Cruise Ship Anchoring Area as shown on the so named map in Appendix 3.

3.5.2 Explosives Anchorage

The Nelson City Council Navigation Safety Bylaws require the master of a vessel having on board, or intending to load, greater than 27kg of explosives must ensure that:

- i. The vessel remains within the explosive's anchorage outside the harbour entrance to be specified on each occasion by the Harbourmaster, and
- ii. No person loads or unloads explosives outside the explosive's anchorage, unless otherwise permitted by the Harbourmaster, and
- iii. The Harbourmaster is provided with the Dangerous Goods declaration for the explosives at least 48 hours prior to the loading or discharging. For weekend loading or discharging documentation shall be provided no later than 12 noon on the preceding Friday.

The above requirements do not apply to any vessel which:

- i. Is carrying less than 27kg of explosives, or
- ii. Is carrying, or intending to load, only explosives of Safety Ammunition Class 1.4S as defined under the Hazardous Substances (Classes 1 to 5 controls) Regulations 2001, or Fireworks of classes 1.3G, 1.4G or 1.4S as defined under the Hazardous Substances (Fireworks) Regulations 2001, in quantities which do not require a Hazardous Substance and New Organisms Approved Handler

3.6 Priority Use Areas

The Navigation Safety Bylaws identify Harbour areas that have areas assigned to named users who have been given priority of use over other users. These areas are illustrated in Appendix 3 Maps 3 - 6.

3.7 Tides and Currents

A current of about 0.2 knots sets generally westward along the seaward side of the Boulder Bank and across the main entrance to the port from east to west.

The normal duration of the ingoing and outgoing tidal streams is just over six hours but weather conditions may cause this to vary by more than an hour in either case.

In general the streams follow the dredged channels except at the entrance where they flow across the entrance setting to the southwest when flooding and to the northeast when ebbing. At the entrance they can attain a rate of three knots at spring tides; in the harbour they may attain a rate of one to two knots. The streams may be weak for a short period at slack water.

Eddies form continually off most berths, clockwise with an ingoing tidal stream and anticlockwise with an outgoing stream. They are caused by solid infill reclamation under the quays.

TABLE 3-1: NELSON TIDES

Tide	Detail
MHWS	4.32m
MHWN	329
MLWS	0.65m
MLWN	1.59m
Spring Range	3.67m
Neap Range	1.70m
Mean Sea Level	2.43m
HAT	4.74
LAT	0.20

3.8 Winds

Summer: characterised by overnight land breeze (SW) and daytime (thermal) sea breezes (NNW-NNE).

Summer sea breezes regularly reach 20-25kts. Combined with an ebb tide this creates significant wind against tide conditions in the cut- localised standing waves can reach 2-3m.

Spring/Autumn: characterised by SW/NW flows with associated frontal activity.

Port Nelson experiences strong localised SW flows after passage of low pressure and high pressure coming off the Tasman Sea. This creates a pressure differential between the West coast and Tasman Bay resulting in a 'gap wind'.

This can regularly reach 30-40kts and has significant effect on conditions in the pilotage area (wind against tide conditions).

With increasing La Nina conditions over recent years, Nelson receives SE-E flows increasingly (H pressure to S and L pressure to N). Easterly flows gust over the Richmond Ranges creating strong, localised offshore wind patterns. Winds dissipate offshore but are strongest with 2-3nm of the inner Harbour (pilotage area).

Winter: characterised by calmer winds with SW flow.

3.9 Hydrography

Port hydrography is described in the Port SMS.

The Harbourmaster is responsible for issuing Hydrographic Notifications to LINZ. MNZ should be copied into any notification given to LINZ. The detail required of this notification is contained in Section 7 of the MNZ Aids to Navigation guideline.

3.10 Berth Depths

Controlling depth is 7.6m in the main inside harbour channel at chart datum, and 8.1m in the outer channel at chart datum. Chart datum is the lowest expected tide level, on to which the tide gauge reading is added to give total depth at any time.

3.11 Aids to Navigation

The Harbourmaster has overarching responsibility for ensuring there is a safe system for assuring the functionality, availability, reliability, survivability and independence of Aids to Navigation (AtoN) in Nelson's waters.

3.11.1 Port Aids to Navigation

Port Nelson Limited is responsible for providing and maintaining AtoN in the port and its approaches (the compulsory pilotage area) namely Code areas 3,4,5,6,7, as per Appendix 3- pilotage and haven code application zones. This responsibility extends to providing timely promulgation of notices and warnings where AtoNs are inoperative or out of position. Port Nelson Limited shall provide and maintain AtoNs in accordance with the Maritime New Zealand guideline 'Aids to Navigation Guideline'.

Port Nelson Limited keep a register of all AtoN in a planned maintenance system (Maximo) to ensure that AtoN are managed in a methodical and structured way, and in doing so meets the requirements the MNZ guidelines. Nelson's AtoN are grouped into two groups of priority in terms of maintenance or repair.

3.11.2 Harbour AtoN

Nelson City Council is responsible for providing and maintaining AtoN's in the areas outside of Port Nelson Limited zones. Presently these consist of recreational special and reserve zone buoys but will be extended to included Aids for managing shipping in Code area 1 (Tasman Bay) as per MOU between Nelson City Council and TDC (in draft March 2023).

TABLE 3-2: ATON MAINTENANCE RESPONSE

IALA Category	AtoN Type	Availability	Response	Examples
Category 1	Considered to be of primary navigational significance	99.8%	Immediate	Any light essential for marking landfalls, primary routes, channels, waterways, dangers or the protection of the marine environment.
Category 2	Considered to be of navigational significance	99%	<24 hours	Lights that mark secondary routes and supplement marking of primary routes.
Category 3	Considered to be of necessary navigational significance	97%	Next working day	

3.11.3 Department of Conservation

The Department of Conservation (DOC) have responsibility for a number of AtoNs around recreational areas, e.g. marine reserves.

3.12 Port Facilities

Port facilities are described in the Port Nelson Limited SMS.

3.13 Removing Wrecks, Navigational Hazards and Abandoned Ships

As soon as possible after becoming aware of a wreck or danger to navigation, in or adjacent to Nelson Harbour, the Harbourmaster should assess the navigational risk to ships (including recreational vessels). This assessment may include analysis of AIS or other more informal means of establish vessel tracks. The following immediate controls should be considered to reduce navigational risk:

- Prompt placing of AtoN to mark the wreck
- Use of synthetic AtoN to mark the wreck
- Instructing harbour radio to promptly commence frequent VHF navigation warnings

The Harbourmaster should take reasonable efforts to contact the owner or agent of the wreck. Once in contact, the Harbourmaster shall notify the wreck's owner or agent to remove the wreck from the region within a specified time frame and in a satisfactory manner.

Where the owner or agent cannot be found or where the owner or agent has failed to remove all or part of the wreck within the specified time-frame, the Regional Council may:

- Take possession of the wreck
- Remove, destroy or dispose of the wreck
- Recover actual costs incurred in the removal of the wreck as a debt

The Harbourmaster, with delegation from the Regional Council may remove, or give direction for removing, any unauthorised or abandoned vessel from a berth, mooring or anchorage. The ability to remove, or give direction for removing, also applies to any vessel considered a navigational hazard. The costs of such action will be at the owner's expense.

In the event of a wreck, navigational hazard or abandoned vessel in the Tasman Bay Code application area 1 (TDC waters) then the Tasman District Council and TDC Harbourmaster are contacted. The Nelson City Council/TDC MOU proposes cross warranting Harbourmasters and Deputy Harbourmasters to facilitate this process.

4.0 HARBOUR SAFETY MANAGEMENT SYSTEM

This section discusses the structure of the Harbour SMS.

4.1 Stakeholder Engagement

The Harbourmaster should take appropriate steps to involve key stakeholders for identifying and understanding emerging and evolving Harbour risks, and when developing and maintaining the SMS. There is a Nelson Harbour Safety Group which meet quarterly, and invitations are extended to all stakeholders, commercial and recreational within the Nelson and neighbouring regions.

4.2 Code Application Assessment

The Code Application Assessment is a form of risk assessment that determines where the Code will be applied within the Nelson region. The Harbourmaster revisited the Code Application Assessment in 2021 as part of the revision of the SMS. The review identified the need to manage shipping in the wider Tasman Bay (including Tasman District Council (TDC) regional waters). The Code application area was extended to include waters within a line from Farewell Spit to Cape Soucis. This is designed to facilitate the oversight of ships anchoring in Tasman Bay, whether awaiting Port Nelson berthage or sheltering from adverse weather. It is acknowledged that Tasman Bay provides sheltered anchorage, particularly from the Southerly and Westerly quarters. The Code application identified a need to designate anchorages in order to quantify and manage risk, along with development of response training and drills for an incident in the wider Tasman Bay code application area. It is acknowledged that a response will likely involve Port Nelson Limited resources and expertise so the Tasman Bay Code application area be managed by Nelson Harbourmaster in collaboration with TDC Harbourmaster and Port Nelson Limited.

The Tasman Bay Code application area receives cruise ship and superyacht traffic that currently have no pilotage requirement on Tasman side (Abel Tasman National Park). While a pilotage area is not considered appropriate, limiting areas of access for vessels consistent with Nelson pilotage limits (40metres) will be considered, but would require incorporation into TDC Navigational Safety bylaw. This may be managed by Harbourmaster Directions in the interim period.

4.3 Harbour Safety Policy

The Harbourmaster has developed a Harbour Safety Policy to describe the Nelson City Council commitment to implementing the requirements of the Code. This policy is signed by the CE.

The Harbour Safety Policy statement should be placed in appropriate publications issued by the council such as annual reports, websites and LTPs to demonstrate the Council's commitment to the Code and maritime safety, and show the involvement of harbour and port users.

4.4 Harbour Safety Plan

The Harbour Safety Plan defines individual responsibilities at Nelson City Council for maritime safety in the Tasman Bay Code Application Area in accordance with the Memorandum of Understanding between Nelson City Council and Port Nelson Limited and (in draft at time of writing) MoU between Nelson City Council and Tasman District Council.

It summarises the processes and documents that comprise the Nelson City Council Marine Safety Management System.

It describes how the Nelson City Council Marine Safety Management System (Nelson City Council Marine SMS) functions in conjunction with Harbour stakeholders, Nelson City Council equipment and infrastructure. It also describes how marine risks are monitored, and how their associated controls are reviewed and improved.

4.5 Memorandum of Understanding

Port Nelson Limited and Nelson City Council have entered into an Agreement (MOU) Regarding management of navigational safety in the region.

4.6 Designated Person

The Designated Person for all Harbour safety issues is the Harbourmaster.

4.7 Harbour SMS Content Maintained Elsewhere

To avoid duplication, and reduce the opportunity for ambiguity, the following information is maintained solely in the Port's SMS:

- Pilotage
- Pilot training
- Marine services

Nelson Harbourmaster manages the Pilot Exemption Structured Training and Proficiency Plan.

4.8 Document Control

The Harbourmaster administers the control of all Harbour SMS documents. Live documents are stored on Nelson City Council Ndocs system. Shared resources with Port Nelson Limited use a Harbours/Port Nelson Limited Teams site.

4.9 Change Management

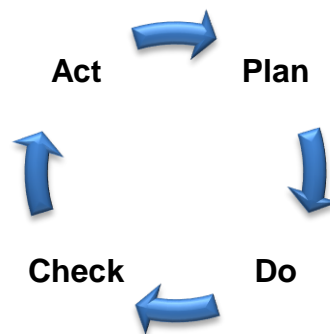
Change is inevitable within any harbour area. It arises from the need to respond and adapt to varying conditions. Modifications may be required prior to introducing new technology, port equipment, or operational policies and changes to organisational structure, formal stakeholder relationship or personnel. Whenever a change is made, the potential consequences of that change should be risk assessed before implementation. If a change is technically inappropriate, poorly executed, its risks poorly understood, or management fails to ensure communication to key personnel, accidents or other undesired consequences can result.

A formal and effective change management process is critical in preventing accidents and losses. A change management process is one of the most challenging aspects of implementing an SMS successfully. It requires organizational support, assignment of necessary resources, and a clear, defined process.

4.10 Continuous Improvement

The continuous improvement process is an imbedded business process, from planning through to execution, as illustrated in Figure 4-1 below. The Harbourmaster seeks to reduce the number and severity of accidents and incidents within the Harbour through good stakeholder engagement and development of an enduring commitment to systematic, risk-based, Harbour management.

Figure 4-1: Continuous Improvement Cycle



4.11 Review

The Harbourmaster shall review, and if appropriate, approve all changes to the SMS. This review shall be scheduled at least annually but may be more frequent if required by circumstances e.g. after an incident.

5.0 PILOT AND PILOT EXEMPTION TRAINING

Port Nelson's compulsory pilotage (40 metres length overall) is the area bounded by the seaward arc of a circle, radius 3 miles, centred on Boulder Bank Old Lighthouse (41°15.3'S, 173°15.9'E). Port Nelson Limited is responsible for ensuring pilots and pilot-exempt masters are competent in their navigation safety-critical role, in accordance with Maritime Rules Part 90.

5.1 Pilot Training Program

Port Nelson Limited maintains its Pilotage Licence / Certificate Structured Training Program and Proficiency Plan for Nelson Pilotage Area. The Harbourmaster should be consulted in each major revision of the Pilot Training Programme and Proficiency Plan before it is issued to MNZ for approval.

5.2 Pilot Exempt Masters

MNZ administers Pilotage Exemption Certificate (PEC) processes, as defined in Maritime Rule Part 90 Sub Part D. Nelson City Council has developed a PEC program, in consultation with Port Nelson Limited pilots. An experienced Port Nelson Limited Pilot will examine PEC candidates in conjunction with the Nelson Harbourmaster and make a recommendation to MNZ. Annual reviews are conducted once evidence of pre-requisite transits is provided to the Harbourmaster. This is verified by Port Nelson Limited 'Jade' system which Nelson City Council Harbourmaster has access to.

Nelson City Council Harbourmaster is responsible for reviewing and ensuring the PEC program is fit for purpose and its management.

5.3 Report of Defects

All ship defects that that render navigation or manoeuvring equipment and systems inoperative or otherwise malfunctioning shall be reported to the Harbourmaster by the master as early as practicable but at least prior to the ship entering pilotage waters. The initial report may be made directly to the Harbourmaster, or to the local harbour control service (Nelson Harbour Radio) who shall contact the Harbourmaster, with a recommendation as to whether the Pilot or PEC Master consider the planned arrival or departure is safe and/or what additional actions are required to make the situation safe.

6.0 RISK MANAGEMENT

This section describes the Harbour risk management framework, interrelationship with the Port Nelson risk management system and describes how the Harbourmaster uses risk-based decision making to make fully informed decisions in regard to Harbour risk management.

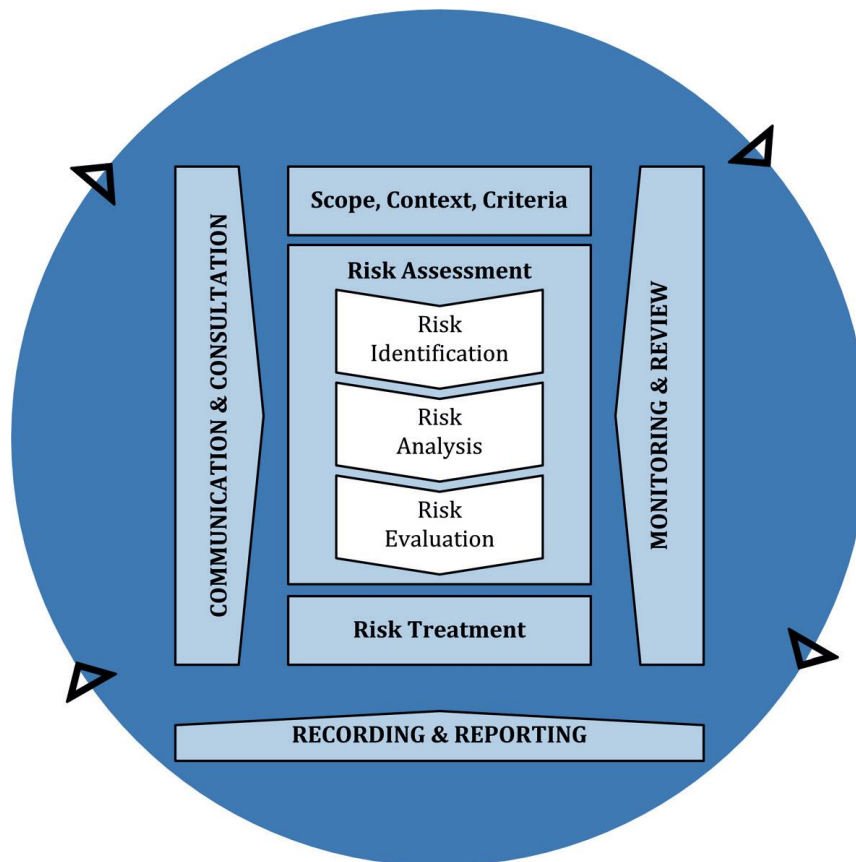
6.1 What is Risk?

The following are terms used by the Harbourmaster:

- Hazard may be defined as something with the potential for harm
- Risk is the chance that someone or something will be affected (positively or negatively) by the hazard, and is the product of the likelihood of a hazard occurring and the severity of the consequence
- Risk management is the coordinated activities required to reduce risk to an acceptable level

6.2 Risk Management Process

FIGURE 6-1: RISK MANAGEMENT



6.3 Risk Identification

Thorough risk identification is critical to effective marine risk management. If a hazard is not identified, it will not be assessed and may remain intolerably uncontrolled. The process used in identifying risk for Nelson Harbour shall be appropriate to the context, complexity and expected magnitude of risk. The risk identification process shall identify:

- What risks or opportunities are present
- Who or what may be affected
- Sources of risk, including those not under the Harbourmaster's control

6.4 Risk Analysis

Risk analysis is the process used to determine the level of risk. The level of risk is quantified by using the risk matrix to combine the risks worst credible consequence and likelihood of that consequence occurring. The risk rating matrix can be found in Appendix 2.

Assessment of consequence and likelihood is not an exact science, the Risk Matrix is a tool to guide assessment of risk and discussion so as to assist decision making. An experienced risk assessor should participate in risk assessment and reviews to help facilitate the process. The Harbourmaster utilises addition resource from Port Nelson Limited and Nelson City Council to review risk analysis and help identify

any blind spots. Internal audit of Harbours SMS within Nelson City Council has been conducted.

6.5 Risk Evaluation

Risk evaluation is the process of comparing the results of the above risk analysis with Port Nelson Limited's risk tolerance criteria (as illustrated in the risk matrix) to determine whether the risk is tolerable or not. Use the following table to evaluate marine risk:

TABLE 6-1: MARINE RISK EVALUATION

Risk Level	Acceptable	Action
Very Low	Yes	Acceptable risk and no further risk reduction required unless costs of risk treatment far outweighed by benefits achieved.
Low	Yes	Risk and associated controls must be monitored and maintained. Further risk treatment if required to meet changed regulatory or industry standards. Acceptable risk and no further risk reduction required unless costs of risk treatment far outweighed by benefits achieved.
Medium	Yes	Risk and associated controls must be monitored and maintained. Further actions are considered during risk review to reduce risk so far as is reasonably practicable (SFAIRP) - risk tolerable only if minimised SFAIRP. Benefit/cost type decision then to be made as to whether the risk treatments should be implemented.
High	No	Level of risk is unacceptable. Potential risk treatment options must be identified and implemented as a priority. Action required to reduce the risk in the short term (before next review). Existing risk and controls must be monitored and maintained.
Very High	No	Risk presents immediate and potentially uncoverable threat. Activity is not to be undertaken until risk reduction action has been taken.

Where a risk can have multiple consequences, i.e. safety, environment, financial or reputational, the higher consequence shall be used to determine the risk rating.

6.6 Risk Registers

The Port and Harbour Risk Register covers navigational safety aspects of the following marine risk groups:

- Marine operations outside of pilotage limits
- Recreational boating (and interactions with shipping)
- Moorings
- Marine events including temporary speed up liftings
- Wreck removal

This risk register is reviewed and updated at least annually. The review shall involve members of the Harbours operational team. The risk registers shall also be routinely updated following safety observations, hazard reports and incident investigations. A separate Recreational Risk Review has been completed and shared with the Harbour Safety Group. This shall be reviewed annually and assess incidents and growing trends in this sector and possible areas of conflict with shipping activities.

6.7 Consultation

The Harbourmaster is the designated person responsible for ensuring affected and interested parties have been consulted, as appropriate, throughout the risk management process. This is conducted by a Navigational Safety Survey and the Nelson Harbour Safety Group. The group hold quarterly meetings, but communications or relevant updates are completed as required and relevant.

7.0 EMERGENCY RESPONSE

This section describes incident management and emergency response.

7.1 Incident Management

The Harbourmaster shall investigate all significant incidents within Nelson waters. This will not aim to duplicate work conducted by MNZ or TAIC. Incident findings should become inputs into the Port and Harbour Risk Register. A log of incidents is kept by the Harbourmaster and where it impacts shipping activities these are recorded on the Port and Harbour Risk Register.

7.2 Vessel Emergency Response Plan

In the event of an emergency on a vessel in Nelson waters, the Harbourmaster will coordinate and work with agencies to ensure a coordinated effort. This may involve establishing or integrating into an Incident Control Point (ICP- at incident), Emergency Operations Centre (EOC- Local) or Emergency Coordination Centre (ECC- Regional) as the situation requires.

The Harbourmaster works closely with Police SAR coordinators and are part of the Marine Rescue Group for an inshore SAR response. The Nelson Harbourmaster vessel is logged with RCCNZ as an asset for deployment in the event of a RCCNZ led response and have regular contact.

7.3 Drills and Exercises

The Harbourmaster shall develop an annual program of drills and exercises to prepare for actual emergencies. The Harbourmaster shall assist in local and central government emergency response planning to ensure an integrated response to foreseeable emergencies. The Harbourmaster also participates in the wider Port Nelson Limited program of drills and exercises for the Port.

7.4 Emergency Event Logs

All personnel involved in an emergency (including drills and exercises) shall maintain their own log of events. These logs shall be used to record all actions and conversations during an emergency. The information recorded in these logs shall be truthful and avoid subjective comment. These records are used during port-incident investigations and may be discoverable during a regulatory investigation.

7.5 Communications

No communications shall be made to third parties during, after, or about an actual emergency or a drill. Any party requesting information shall be directed to the Nelson City Council Chief Executive.

7.6 Records

At the completion of an emergency response or drill, Harbourmaster shall complete a debrief with participants involved in the response. The objective is to identify what went well and what can be improved. The Harbourmaster shall compile all emergency records, including any photos and video, into a single dossier which will be filed in the Nelson City Council archives.

8.0 COMMUNICATIONS

Good communications are essential to the Harbour safety. This section describes routine communications.

8.1 Quarterly Code Compliance and Status Meeting

Senior representatives of Port Nelson Limited, Nelson City Council and MNZ should meet with the Harbourmaster four times a year to discuss maritime time safety issues within the port limits. Senior representatives of Port Nelson Limited, Nelson City Council and MNZ should meet with the Harbourmaster four times a year to discuss maritime time safety issues within the port limits. The agenda of this meeting shall include:

- Changes in regulatory compliance
- Code compliance including MoU effectiveness and relationship with Harbourmaster's office
- Marine risk
- Marine incidents
- Results of audits, assessments and surveys
- Opportunities for improvement
- Emerging risks/new operations

The use of performance dashboards provide useful information on progress identify when and where improvement is needed. To assist with monitoring Harbour safety, appropriate key performance indicators should be selected, and reviewed annually.

8.2 Weekly Nelson City Council/Port Nelson Limited Meetings

The Harbourmaster frequently meets with Nelson City Council/Port Nelson Limited representatives to discuss day-to-day operational matters. This is established as regular contact with Port Nelson Limited Maritime Operations Manager, Operations team and Nelson City Council Harbourmaster. These are weekly meetings as well as regular attendance at Port Nelson Limited Pilots (weekly) and Floating Plant meetings (bi-weekly).

8.3 Nelson Harbour Safety Group Meetings.

The Harbourmaster arranges quarterly meetings with all interested parties in regional navigational safety. Invitations are sent out to all members of the maritime community. Regular attendees include Nelson City Council, Port Nelson Limited, MNZ, TDC Harbourmaster, Police, FENZ, Coastguard, Fishing companies, Tourism, Commercial Operators and Recreational groups. This is a forum to update the community on legislation, Code matters, incidents, learnings and identify emerging risks.

8.4 Recreation Club Meetings

The Harbourmaster arranges ad hoc meetings with representatives from reactional user groups conducting activities within the port area and approaches when appropriate. For example, proposed changes in port use, changes to navigational channels or preparation for capital works such as dredging. These informal meetings should ensure communication of harbour activity that may impact on recreational activity, or where recreational activity has the potential to increase or change risk. Recreational clubs are invited and involved in Harbour Safety Group meetings and communications, actively contributing. This has helped establish direct communications and relationships, for example, between Port Nelson Limited Pilots and Nelson Yacht Club to directly communicate activities.

9.0 MONITORING

System reviews are used to examine the effectiveness of the Harbourmaster's office against documented policies, procedures, standards, objectives and performance indicators. This section describes the key elements of these processes.

9.1 SMS Review

The Harbourmaster shall complete an annual review of the Harbour SMS. Additional reviews may be scheduled if there is a significant change to regulations, codes of practice or if short comings are identified following an accident or incident. The SMS review shall consider:

- Compliance with relevant legislation, including the requirements of the Code
- Consistency with Port Nelson Limited's SMS and Harbour SMS
- Progress towards achieving objectives

System reviews should identify:

- Areas for improvement
- Areas for reduced risk
- Areas of deficiency
- Actions on deficiencies
- Areas of potential similar deficiencies
- Formal resolution of deficiencies

The frequency of these periodic reviews is included in the table below:

TABLE 9-1: PERIODIC REVIEWS

Element	Frequency
Code Joint Self-Assessment	Annual
Nelson Harbour SMS	Annual
MOU	Annual
Nelson Port and Harbour Risk Assessment	Annual
Emergency Procedures (Marine)	Annual
Pilot Training Programme & Proficiency Plan	Annual
Passage/Pilotage Plan	Annual
Aids to Navigation	Annual
Dredging and Hydrography	6 monthly
MTOP	Annual

9.2 Joint Self-Assessment

The Harbourmaster shall undertake an annual SMS self-assessment using the form distributed by the Code secretariat. The results of each annual self-assessment are provided to the Nelson City Council and Port Nelson Limited Chief Executives and boards. A summary of the assessment should also be provided to the PHMSC Secretariat for monitoring and reporting to the Code Steering Group.

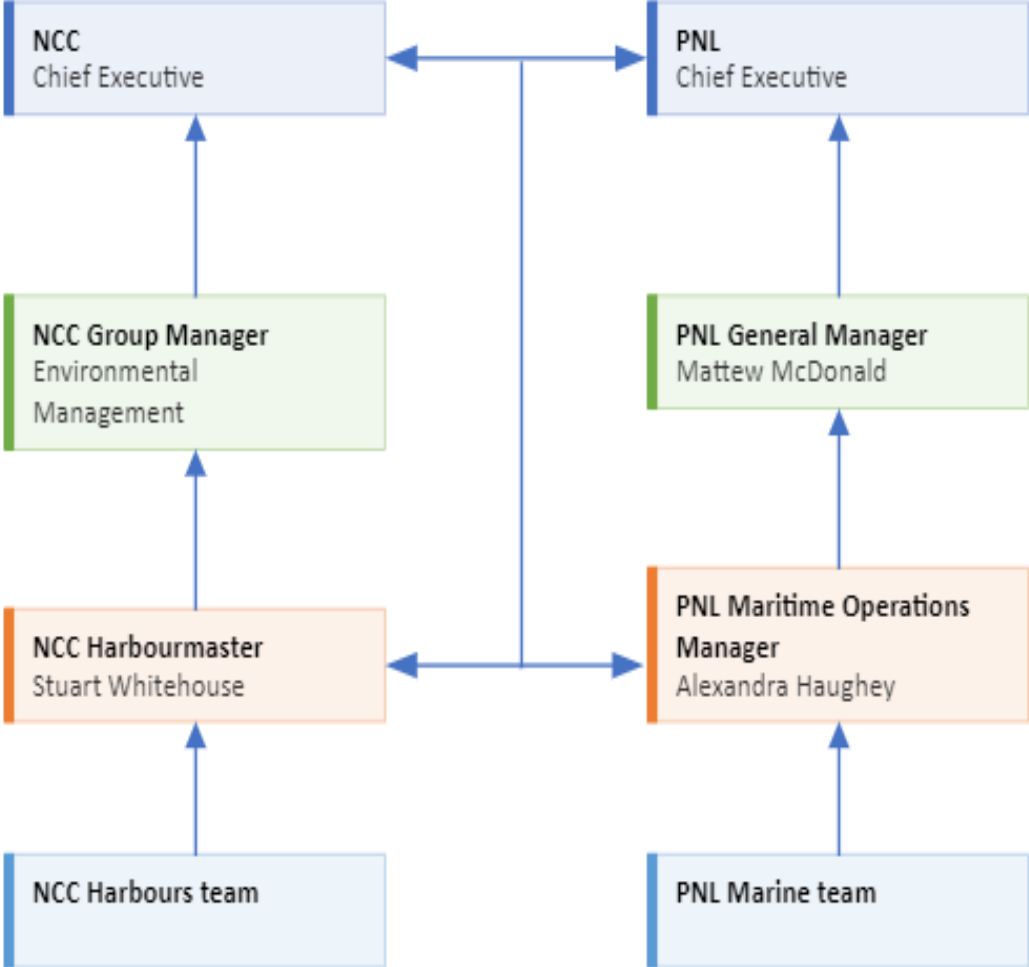
10.0 REFERENCE DOCUMENTS

TABLE 10-1: REFERENCE DOCUMENTS

REFERENCE	DOCUMENT TITLE
NDOCS-1940938042-1678	Nelson City Council Harbour Safety Plan
NDOCS-1940938042-1687	Nelson City Council Harbourmaster SMS Manual
NDOCS-1940938042-1777	Nelson City Council Harbour Operational Policies
Seaflux software	Nelson City Council MOSS documents
RELEVANT LEGISLATION/GUIDANCE	
Maritime Legislation	
Maritime Transport Act 1994 (MTA)	
Ship Registration Act 1992	
Nelson City Council Navigational Safety Bylaw 218 (2019)	
Maritime Rules	
Part 19	Maritime Transport Operator – Certification and Responsibilities
Part 20	Operating Limits
Part 21	Safe Ship Management Systems
Part 22	Collision Prevention
Part 23	Operational Procedures and Training
Part 24A	Carriage of Cargoes – Dangerous Goods
Part 24B	Carriage of Cargoes – Stowage and Securing
Part 24C	Carriage of Cargoes – Specific Cargoes
Part 24D	Carriage of Cargoes – Convention Containers
Part 24E	Carriage of Cargoes – Offshore Containers
Part 25	Nautical Charts and Publications
Part 31	Crewing and Watchkeeping
Part 32	Seafarer Certification
Part 34	Medical Standards
Part 35	Approval of Training for Purposes of Part 32, Assessments and Examinations, and Industry Specific Certificates
Part 40C	Design, Construction and Equipment – Non-SOLAS Ships, Non-Passenger Ships
Part 41	Anchors and Chain Cables
Part 42A	Safety Equipment – Lifesaving Appliance Performance Standards
Part 42B	Safety Equipment – Fire Appliance Performance Standards
Part 43	Radio

Part 44	Surveyor responsibilities and survey, certification, and maintenance for ships in maritime transport operations
Part 45	Navigational Equipment
Part 46	Surveys, Certification and Maintenance
Part 47	Load Lines
Part 48	Tonnage Measurement
Part 49	Ships' Lifting Appliances
Part 50	Medical Stores
Part 51	Crew Accommodation
Part 52	Maritime Labour Convention
Part 53	Pilot Transfer Arrangements and Ship-Helicopter Pilot Transfers
Part 73	Logbooks
Part 90	Pilotage
Part 91	Navigation Safety Bylaws
Part 100	Port Reception Facilities – oil, noxious liquid substances and garbage
Part 121B	Ship Design and Construction – Ships other than Oil Tankers
Part 122	Marine Protection Products – Oil
Part 123A	Documents – Oil
Part 123B	Documents (Record Books and Manuals)
Part 130A	Shipboard Marine Oil Spill Contingency Plans
Part 170	Prevention of Pollution by Garbage from Ships & Offshore Installations
Part 180	Dumping of Waste or Other Matter
Part 190	Mandatory Ships Routing
Part 300	Ballast Water Management
International Maritime / Industry Codes and Guidelines	
Various International Maritime Contractors Association (IMCA) Guidelines	
Non-Maritime Legislation, Rules and Regulations	
Employment Relations Act 2000	
Health and Safety at Work Act 2015 (HSAW)	
Health and Safety at Work (Hazardous Substances) Regulations 2017	
Resource Management (Marine Pollution) Regulations 1998	
Other Codes and Standards	
Maritime Labour Convention (MLC) 2006	

APPENDIX 1: NELSON CITY COUNCIL/PORT NELSON LIMITED ORGANISATIONAL STRUCTURE



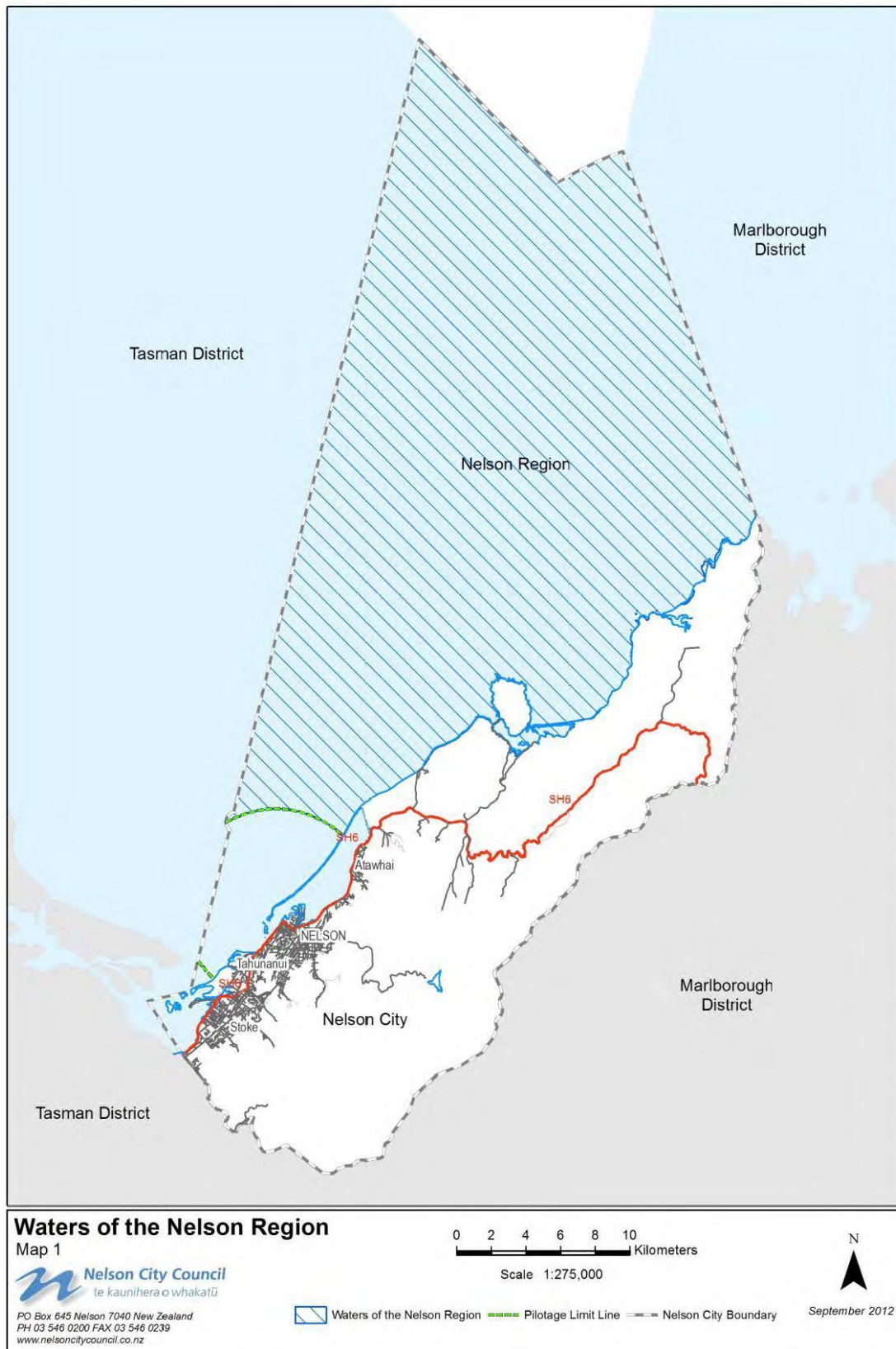
APPENDIX 2: RISK MATRIX

CONSEQUENCE					
	Insignificant (1)	Minor (2)	Moderate (3)	Major (4)	Catastrophic (5)
Safety	First aid injury (FAI) Injury requiring first aid treatment or less	Medical Treatment Injury (MTI) Injury requiring medical treatment	Lost Time Injury (LTI)/Serious Harm Injury requiring hospitalisation or full days off work.	Single Fatality (SF) or serious permanent disability	Multiple Fatality (MF)
Environment	Small amount of environmental damage controlled within the site	Limited environmental damage to low significance area without permanent effect; or exceeding a statutory or prescribed limit	Limited environmental damage recoverable within one year, or exceeding a statutory or prescribed limit repeatedly	Severe environmental damage requiring extensive rehabilitation; or exceeding a statutory or prescribed limit over 2-5 years	Persistent severe environmental damage; the damage will require > 5 years to rehabilitate; or the damage cannot be rehabilitated
Financial	Less than \$5,000 loss; or less than 4 hours lost production	\$5,000 - \$50,000 loss; or 4hours – 2 days of lost production	\$50,000 - \$500,000 loss; or 2 days – 1-week lost production	\$500,000 - \$2M; or 1 week – 2 weeks lost production	Greater than \$2M loss; or more than 2 weeks lost production
Reputation	Little internal or external attention; or a customer issue raised	Workforce attention; limited external attention; or a customer complaint	Repeated complaints; regulatory notification; or negative stakeholder, media or customer attention	Negative national media coverage; significant negative perception by shareholder or key stakeholder; or a customer disruption	Negative international media coverage; shareholder or key stakeholder outage; or loss of a key customer

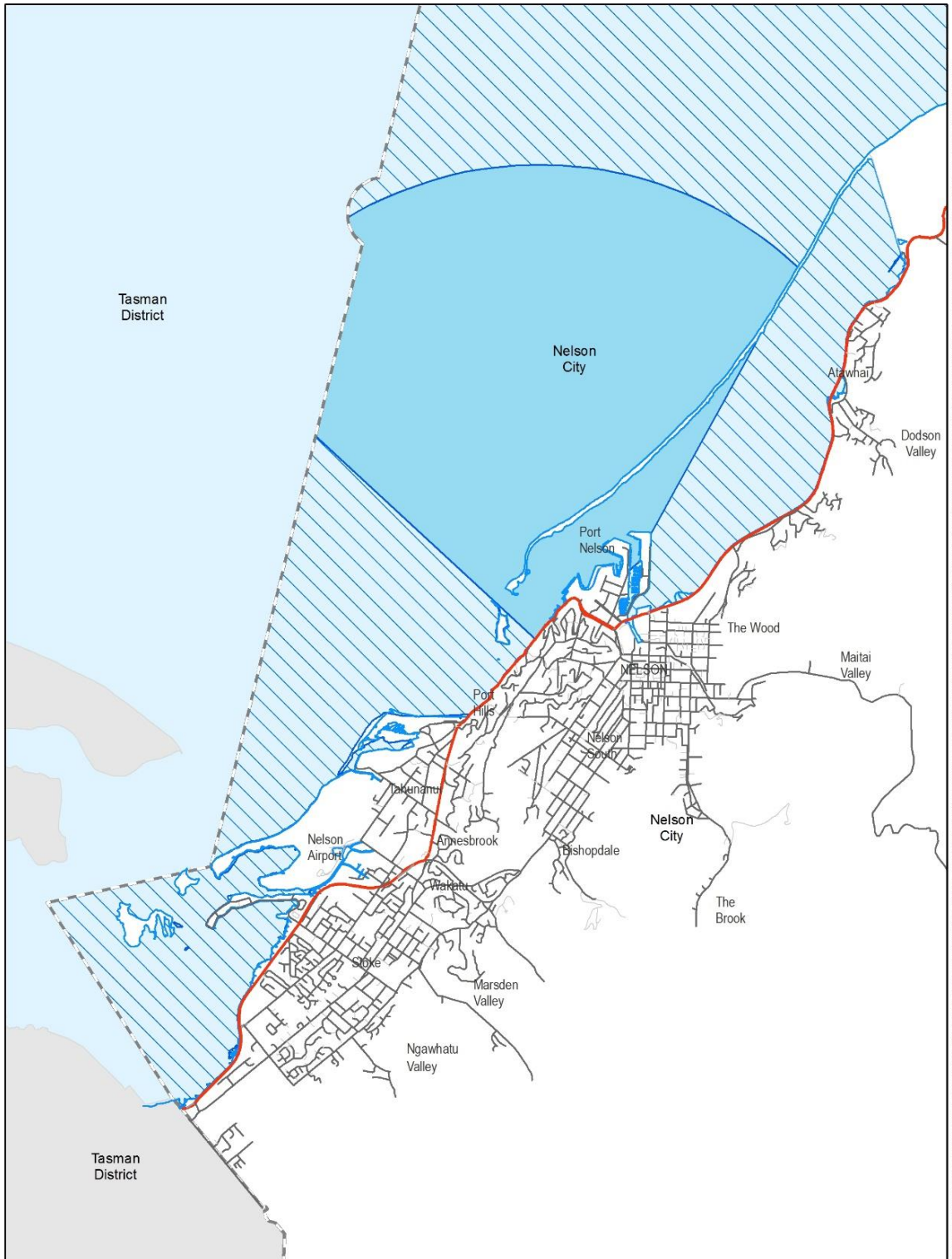
LIKELIHOOD					
	Rare (1)	Unlikely (2)	Possible (3)	Likely (4)	Almost Certain (5)
Identify the worst credible consequence of the risk then use this scale to rate Likelihood	<ul style="list-style-type: none"> Not expected to ever occur again Conceivable but only in rare circumstances Less than 10% chance of happening under these conditions 	<ul style="list-style-type: none"> Could occur in your working life (1 in 33 years) Unlikely to occur under normal circumstances Around 10% chance of happening under these conditions 	<ul style="list-style-type: none"> Could occur once in 10 years Could reasonably be expected to occur under normal circumstances Around 50% chance of happening under these conditions 	<ul style="list-style-type: none"> Could occur several times in 5-10 years Likely to occur under normal circumstances Over 75% chance of happening under these conditions 	<ul style="list-style-type: none"> May occur at any time or at least once per year Expected to occur under normal circumstances Over 90% chance of happening under these circumstances

RISK MATRIX		CONSEQUENCE				
		Insignificant (1)	Minor (2)	Moderate (3)	Major (4)	Catastrophic (5)
LIKELIHOOD	Almost certain (5)	Medium (5)	Medium (10)	High (15)	Very High (20)	Very High (25)
	Likely (4)	Medium (4)	Medium (8)	High (12)	High (16)	Very High (20)
	Possible (3)	Low (3)	Medium (6)	Medium (9)	High (12)	High (15)
	Unlikely (2)	Very Low (2)	Low (4)	Medium (6)	Medium (8)	High (10)
	Rare (1)	Very Low (1)	Very Low (2)	Low (3)	Medium (4)	Medium (5)

APPENDIX 3: MAPS SHOWING VARIOUS JURISDICTIONAL LIMITS



Map 1 - Waters of Port Nelson and approaches out to Nelson City Council limit – From Bylaw no. 218



The map is approximate only and must not be used to determine the location or size of items shown, or to identify legal boundaries. To the extent permitted by law, the Nelson City Council, its employees, agents and contractors will not be liable for any costs, damages or loss suffered as a result of the data or plan, and no warranty of any kind is given as to the accuracy or completeness of the information represented by the GIS data. This publication is copyright reserved by Nelson City Council. Cadastral information derived from the CRS - CROWN COPYRIGHT RESERVED. IJT. Original map size A4. File Ref. 137827

Waters Within the Nelson Harbour
 Map 2

Nelson City Council
 te kaunihera o whakatū

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 www.nelsoncitycouncil.co.nz

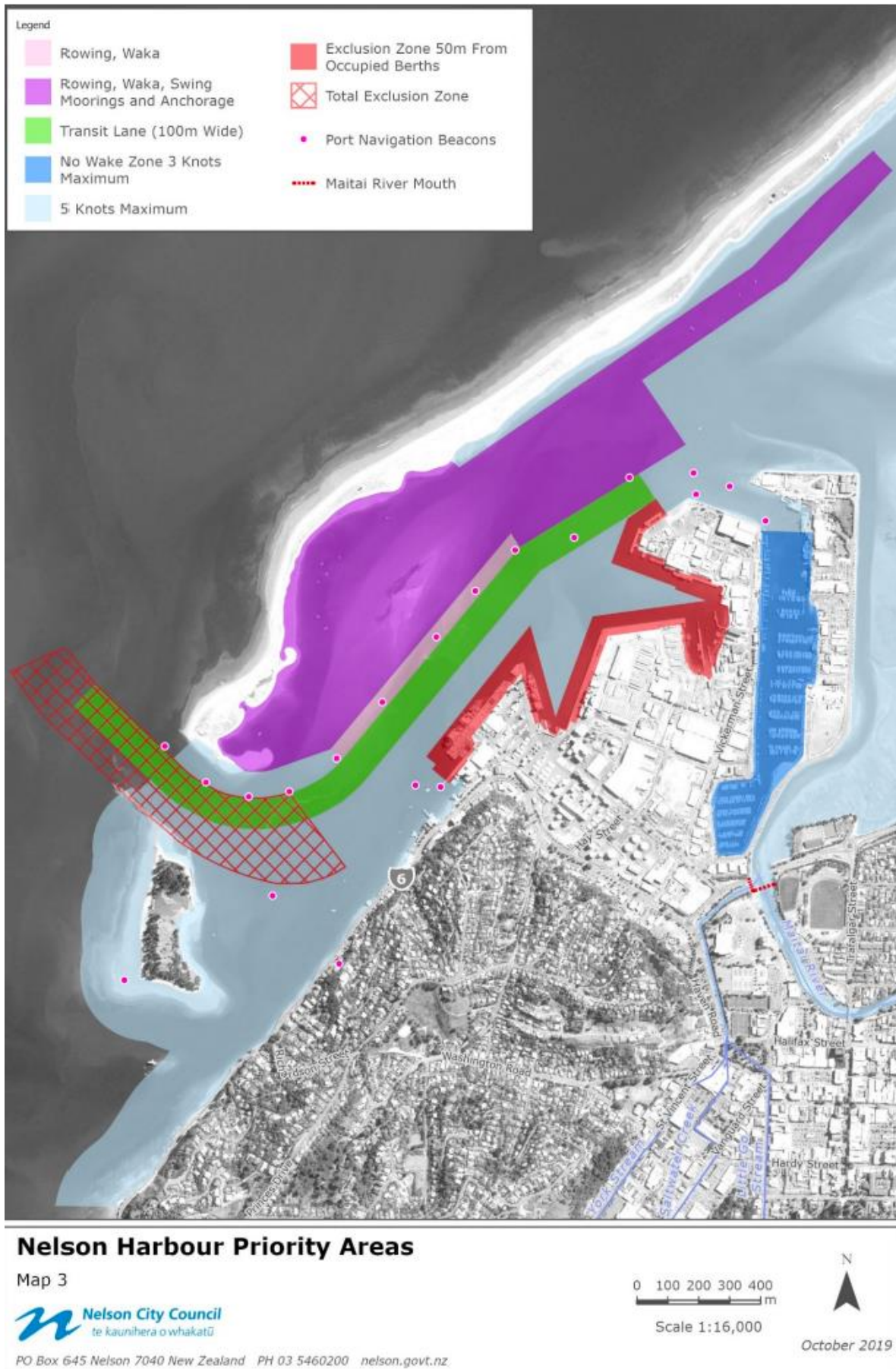
Nelson Harbour
 Waters of the Nelson Region
 Nelson City Boundary

0 1,000 2,000 3,000 4,000 5,000 m
 Scale 1:75,000

N

 September 2012

Map 2 - Waters of Port Nelson and approaches out to Nelson City Council limit – From Bylaw no. 218



Map 3 – Nelson Harbour Priority Area – From Bylaw no. 218



Nelson Marina

Map 4



PO Box 645 Nelson 7040 New Zealand PH 03 5460200 nelson.govt.nz

■ Marina Area - No Wake Zone 3 Knots Maximum

■ 5 Knots Maximum

■ Repair Grid

- - - Maitai River Mouth

● Port Navigation Beacons

0 50 100 150 200 m

Scale 1:8,000



October 2019

Map 4 – Nelson Marina – From Bylaw no. 218



Map 5 – Tahunanui Beach Recreational Area – From Bylaw no. 218

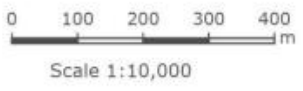


Monaco Activity Areas

Map 6



-  Area reserved for Skiing/Jet Skis
-  NCC Boundary



October 2019

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Map 6 – Monaco Activity Area – From Bylaw no. 218



Cruise Ship Anchoring Area

 Nelson City Council
te kaunihera o whakatū

 Cruise Ship Anchoring

0 250 500 750 m
Scale 1:20,000

N

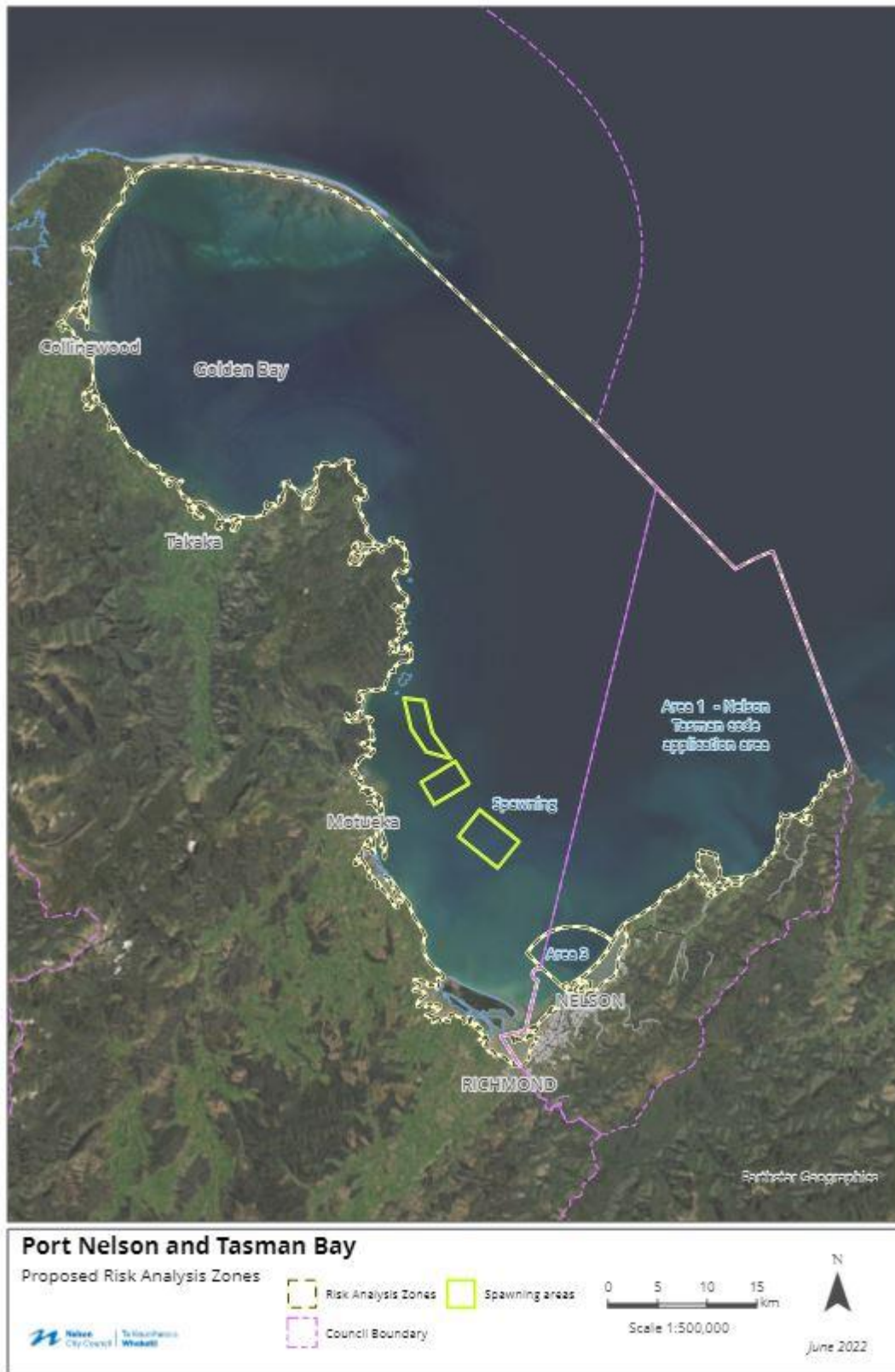
October 2019

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Map – Cruise Ship Anchoring Area – From Bylaw no. 218



Extract from navigation safety bylaw showing limits of Nelson Harbour and the pilotage limits for Port Nelson



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Tasman Bay Code Application Area



Port Nelson and Tasman Bay
Proposed Risk Analysis Zones

 Risk Analysis Zones
 Council Boundary




0 500 1,000 1,500 m
 Scale 1:60,000


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Nelson Pilotage Area- Code application zones



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Port Nelson and Tasman Bay
Proposed Risk Analysis Zones

Risk Analysis Zones

0 100 200 300 400
m
Scale 1:17,500

N
June 2022

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 Whakatane

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File Ref: A2910222
Ref: Original map 500-M4

Nelson Haven- Code application zones.