Anchorages at priority ports

Gladstone | Townsville | Hay Point/Mackay | Abbot Point

Queensland Government

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Contents

Tug approaching the Port of Townsville
Source: Port of Townsville Limited

1 Shipping and anchorages

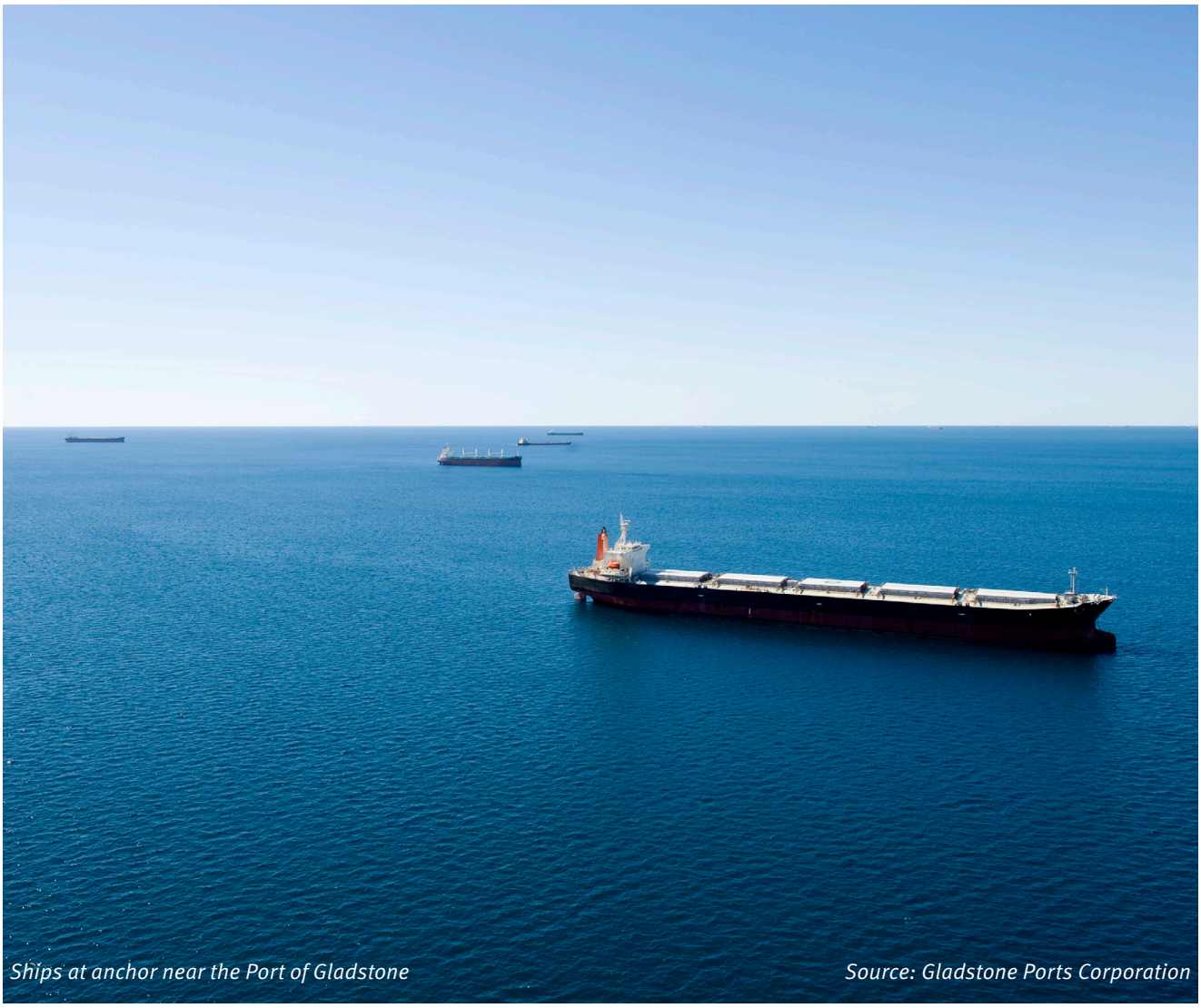
Globally, shipping accounts for over 90 per cent of the world's trade. Shipping is not only cost effective, but also one of the most carbon-efficient forms of moving freight.

As an island nation, Australia is highly dependent on shipping for the import and export of goods. Queensland is no different, its trading ports act as gateways that grow the economy and support regional industries and communities.

The priority ports of Gladstone, Townsville, Hay Point/Mackay and Abbot Point, as established by the *Sustainable Ports Development Act 2015* (Ports Act), are the major bulk commodity ports operating in and adjacent to the Great Barrier Reef World Heritage Area (GBRWHA). They account for a significant proportion of throughput across Queensland's ports.

Often ships need to anchor and wait prior to using port facilities while their movement and arrival into the port is scheduled, to avoid bad weather or undertake emergency repairs. Anchoring may occur within a general area known for safe anchorage, at a suitable location chosen by the ship's master, or at a specific and charted designated anchorage area.

This document discusses the purpose of designated anchorages, why they are important and how they are managed. While the focus is on the four priority ports, many of the management practices outlined in this document are applied across other ports operating in and adjacent to the GBRWHA.



Ships at anchor near the Port of Gladstone *Source: Gladstone Ports Corporation*

2 Why are anchorage areas important?

Designated anchorage areas are an important component of shipping and port operations as they facilitate port efficiency, safety, maintenance operations and assist in minimising potential environmental impacts.

2.1 Designated anchorages at priority ports

Designated anchorages can be identified and implemented when the number of ships visiting a port increases to a level that requires greater coordination. They can be located within or outside port limits, within permitted areas of the Great Barrier Reef Marine Park (Marine Park) and the Designated Shipping Area (DSA). The DSA is an area that ships must travel through when transiting the Marine Park and a key environmental control designed to minimise the impact of the shipping industry.

Anchorages are generally located in close proximity to ports, within areas of good holding ground, near sheltered waters (where possible) and may be close to pilot boarding places.

All four priority ports have designated anchorage areas to manage shipping. Details on these anchorages are provided in **Section 7**.

Ships at the Port of Mackay *Source: North Queensland Bulk Ports*

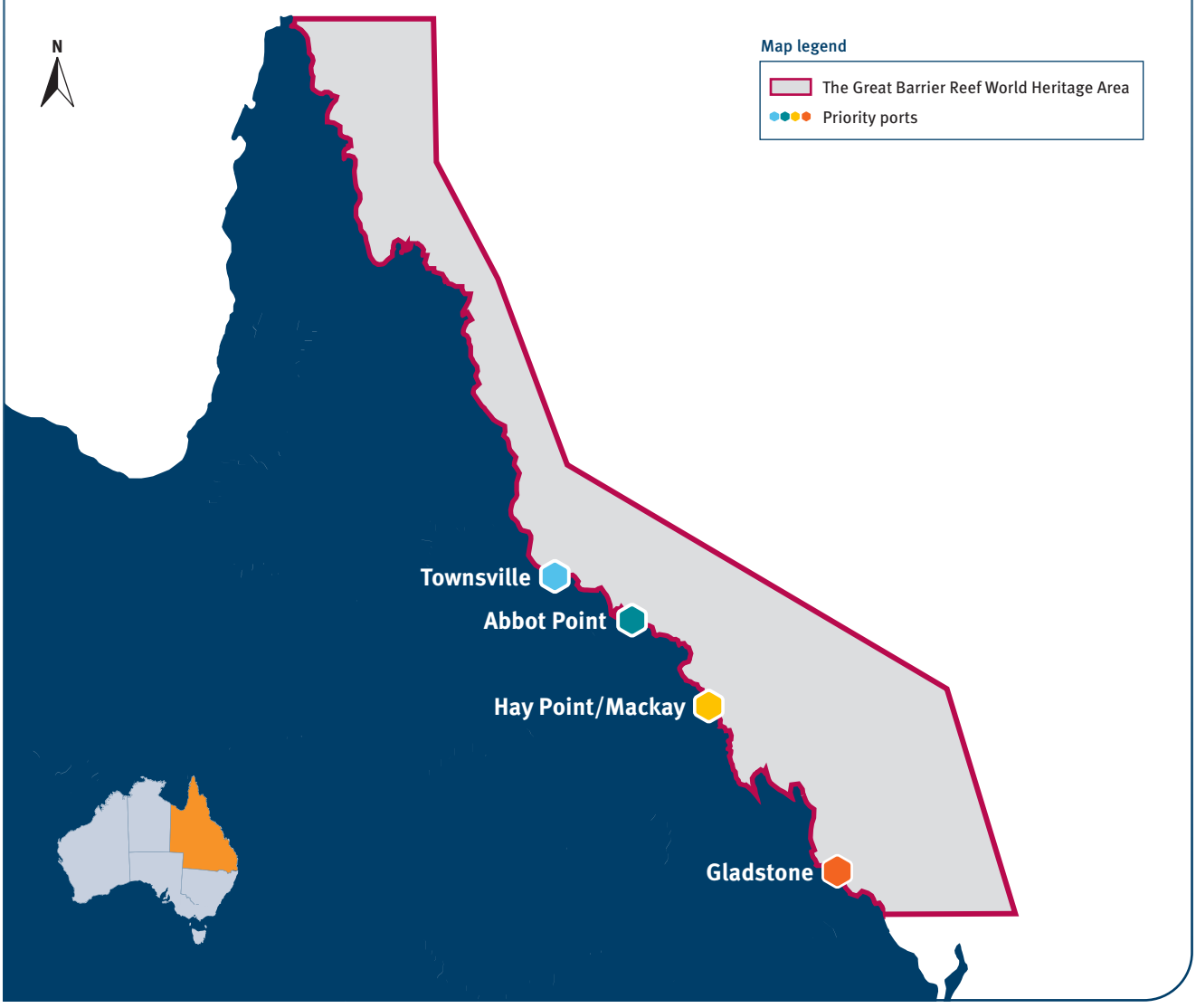
3 The Great Barrier Reef World Heritage Area and supporting policy

The GBRWHA extends along the Queensland coast from the top of Cape York to just north of Bundaberg. It extends out into the Coral Sea to the outer boundary of the Great Barrier Reef Marine Park and covers an area of approximately 344,400 square kilometres.

Commercial shipping and the ports have been operating in the Great Barrier Reef for approximately 150 years. The Great Barrier Reef is one of the natural wonders of the world and was inscribed on the World Heritage List in 1981 in recognition of its Outstanding Universal Value. The GBRWHA is shown in **Figure 1**.

The complexities of commercial shipping in and around the GBRWHA are recognised through Queensland and Australian governments' rigorous regulatory regimes in conjunction with international requirements. Collectively, they intend to ensure shipping and anchorages are managed in a sustainable and appropriate way.

Figure 1 — The Great Barrier Reef World Heritage Area



3.1 Relevant policy for anchorages at Queensland's priority ports

At Queensland's priority ports there are key Australian and Queensland government policy documents that are relevant to shipping and by-products of shipping, such as anchorages.

3.1.1 Reef 2050 Long-Term Sustainability Plan

The Reef 2050 Long-Term Sustainability Plan (Reef 2050 Plan) is the Australian and Queensland governments' overarching framework for protecting and managing the GBRWHA to 2050. The Reef 2050 Plan includes commitments that relate to managing port related development and shipping.

A key foundational activity for the Reef 2050 Plan is supporting the North-East Shipping Management Group (NESMG) and implementation of environment protection measures, preparedness and response protective measures, management of major anchorages, and stakeholder engagement. The NESMG comprises of senior representatives from relevant agencies, including the Australian Maritime Safety Authority (AMSA), Great Barrier Reef Marine Park Authority (GBRMPA) and Maritime Safety Queensland (MSQ), and has developed the North-East Shipping Management Plan (NESMP). To view the Reef 2050 Plan go to *www.environment.gov.au/marine/gbr/long-term-sustainability-plan*

3.1.2 North-East Shipping Management Plan

The NESMG developed the NESMP to improve maritime safety and environmental protection of the GBRWHA by addressing potential shipping related issues in the north east region of Australia. The NESMP includes actions relating to improving ship activity and/or supporting port operations that are associated with anchorages. The plan is reviewed approximately every five years.

The NESMP has two key functions:

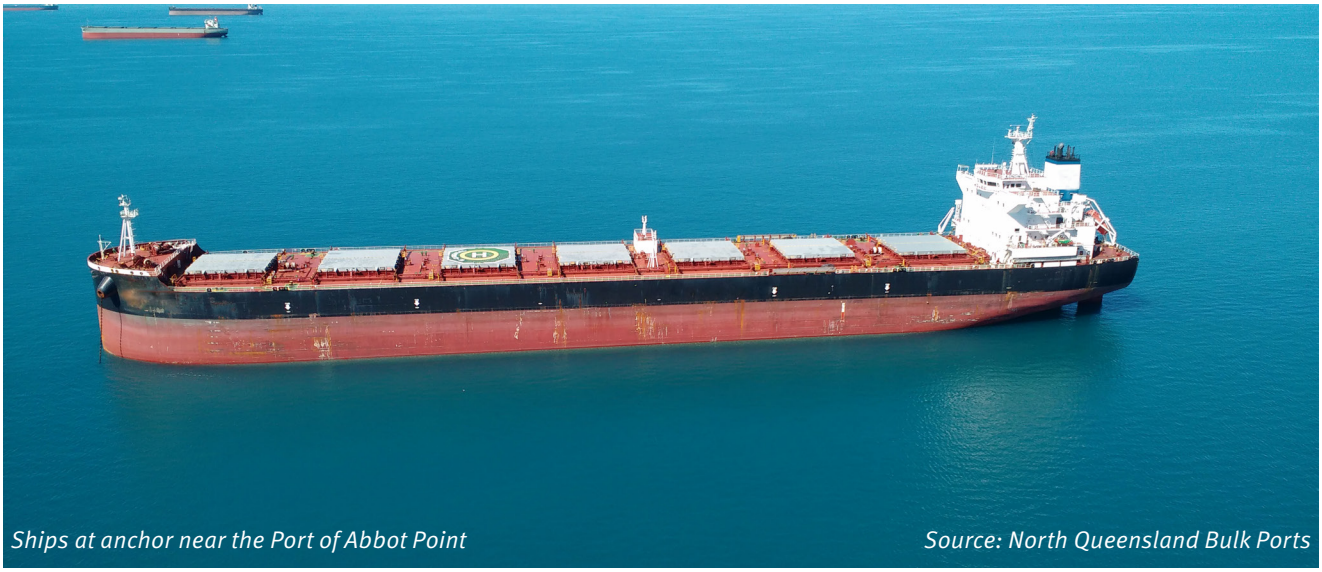
- describe current measures in place to manage the safety of shipping in the sensitive marine environments of north-east Australia (including but not limited to the GBRWHA) and propose additional measures to further minimise environmental impacts in the short, medium and long term.
- inform the Reef 2050 Plan of the current and proposed measures to mitigate the known and potential impacts of shipping affecting the Outstanding Universal Values of the GBRWHA.

The NESMP specifically identifies anchorages and anchorage management actions with a focus on protecting the GBRWHA and supporting the efficiency of ports.

Actions include:

- instigate research into ship-sourced copper leaching from antifouling paints at Great Barrier Reef port anchorage sites (this action was completed under the NESMP in 2016)
- investigate the use of Vessel Arrival Systems to assist in reducing the number of ships at anchor at any given time
- assess additional research opportunities that may help reduce potential impacts of critical anchorage operations.

To view the NESMP go to *www.amsa.gov. au/marine-environment/marine-pollution/north-east-shipping-management-plan*



Ships at anchor near the Port of Abbot Point *Source: North Queensland Bulk Ports*

4 What makes a good anchorage area?

Good anchorage areas provide safe and coordinated locations for ships to transit and anchor in a way that minimises their potential impacts on waterway users and the environment.

In 2019, MSQ distributed the *Anchorage area design and management guideline*. This discussion paper considers the criteria that should be examined when assessing the need, design and implementation of designated anchorages. The guideline is available at *www.msq.qld. gov.au/About-us/Maritime-statistics-and-reports-library*

A good anchorage area is likely to include the following characteristics:

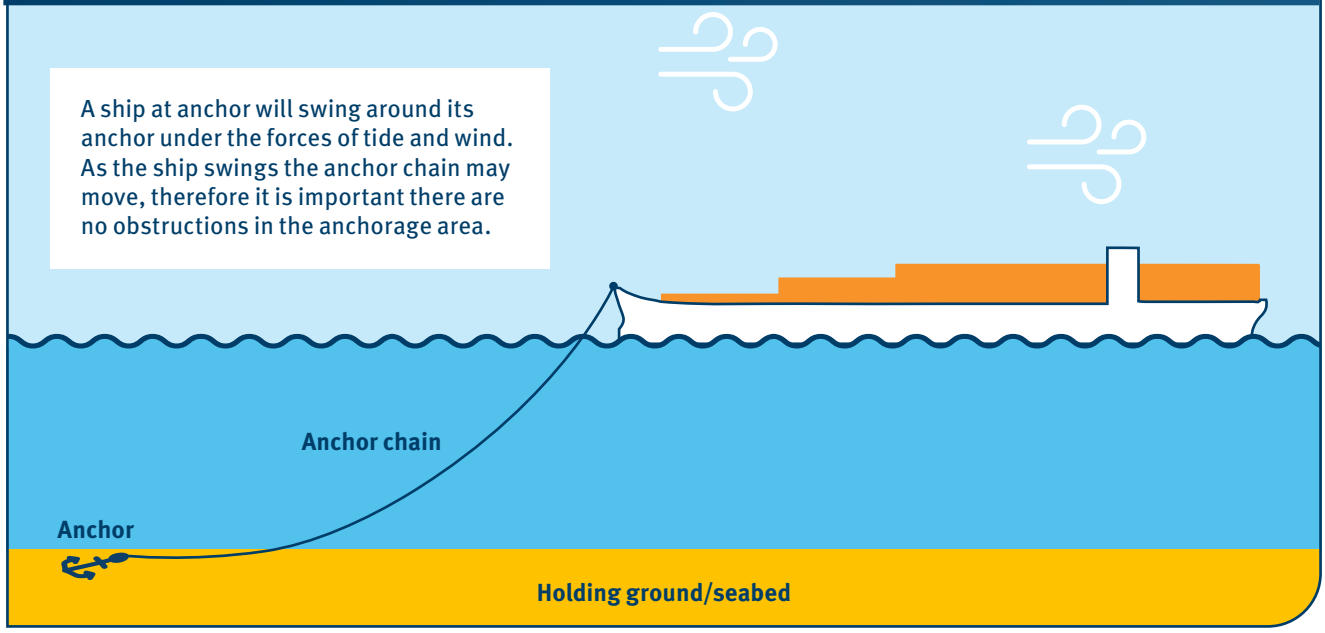
- large enough to accommodate the number, size and swing of ships servicing the port
- located in areas that support safe and efficient access to port infrastructure
- located away from sensitive areas
- water depth to safely accommodate the size and number of ships
- located away from areas prone to unsafe weather and tidal conditions
- good holding ground for the anchor, as per **Figure 2.**

The implementation, design and management of anchorages relies upon several operational, environmental and safety considerations.

Key authorities with an interest in port anchorages in Queensland are:

- Maritime Safety Queensland
- Australian Maritime Safety Authority
- Great Barrier Reef Marine Park Authority
- Port authorities.

Figure 2 —Ship at anchor



5 Managing the potential impacts of anchoring

Ships at anchor are still at sea and subject to laws, regulations and protocols in place to minimise the potential environmental impacts of shipping.

Due to the geographic spread of Queensland ports, anchorage areas are in a range of environments and careful management of potential impacts is required. For example, designating anchorages in areas that have been historically used by ships since the establishment of early port facilities is part of the approach to limit potential impacts.

Potential impacts can include:

- disturbance to seabed caused by the anchor and the chain connecting it to the ship
- the unauthorised (or inadvertent) disposal of waste from ships while at anchor
- marine pest introduction
- accumulation of antifouling compounds
- noise, light and visual amenity impacts.

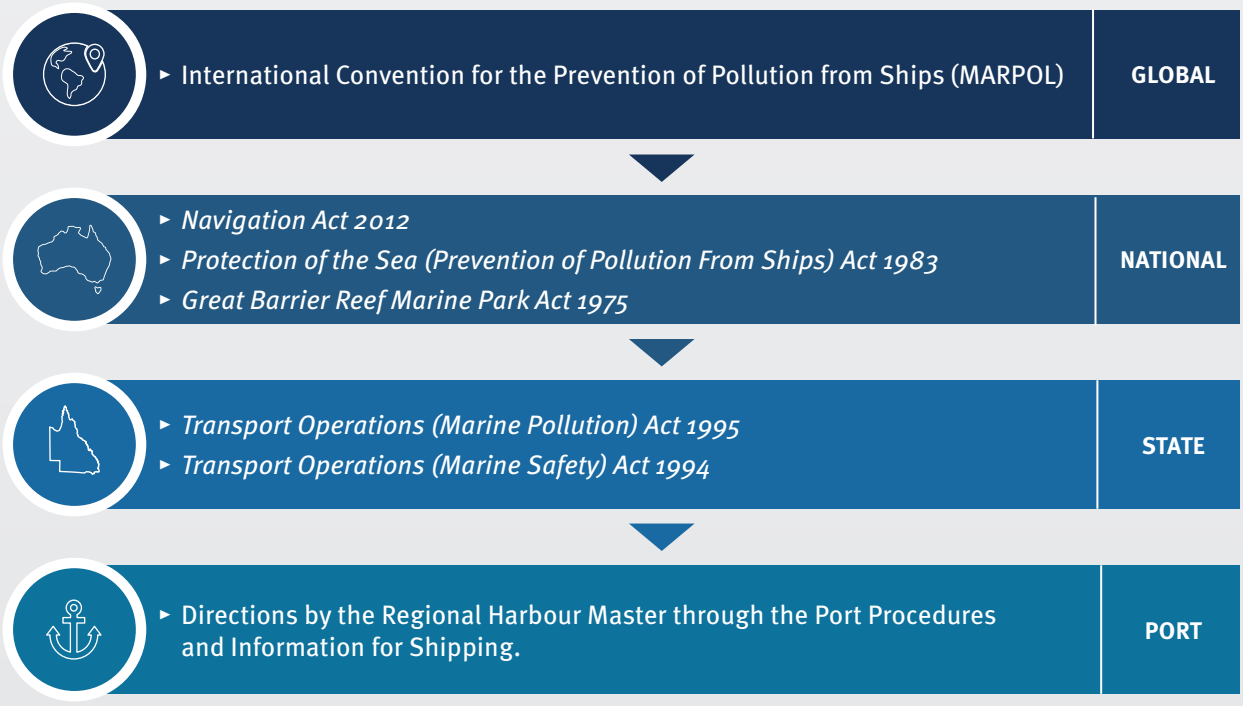
Agencies involved in anchorage management have implemented a range of protocols, regulatory controls and enforcement mechanisms to manage potential impacts.

Examples of these measures include:

- guidance on what activities are allowed, prohibited or controlled while at anchor
- reporting to monitor emissions and pollutants and enforcement against any discharge from ships in Queensland and Australian waters
- supporting navigation of large ships transiting in and out of anchor where there are marine species.

Figure 3 demonstrates some of the different levels of interconnected controls used to manage the potential environmental impacts of shipping.

Figure 3 —Controls to minimise potential environmental impacts of shipping*



*List not exhaustive

6 Agencies and partners that manage and regulate anchorage areas

Anchorage areas are regulated by a range of Queensland and Australian government agencies and supported by key partners.

MSQ published a paper in 2016 entitled *Anchorages - Jurisdictional Responsibility for Anchorages in Queensland*. This paper outlines the jurisdictional matters that must be considered when designating and managing anchorages in Queensland. The paper is available at www.msq.qld.gov.au/About-us/Maritime-statistics-and-reports-library.

6.1 Great Barrier Reef Marine Park Authority

GBRMPA is Australia's lead management agency for the Marine Park, working to protect its values and ecological sustainability through a robust regulatory framework. Through the DSA and General Use Zone, commercial trade ships are shown where to navigate and anchor their ship while in the Marine Park. The application of these zones avoids sensitive reef habitats being used as shipping and anchorage areas.

A ship is permitted to anchor within the DSA as long as it is safe to do so. **Figure 4** shows the location of the DSA around the priority ports. Ships are required to obtain a permit from GBRMPA if anchoring outside of the DSA or General Use Zone. For more information on the DSA see www.gbrmpa.gov.au/our-work/Managing-multiple-uses/shipping/designated-shipping-areas.

Ships at anchor near the Port of Gladstone *Source: Gladstone Ports Corporation*

Figure 4 - Designated shipping area

6.2 Australian Maritime Safety Authority

AMSA is the national maritime regulator responsible for maritime safety, protection of the marine environment and maritime aviation search and rescue. AMSA provides guidance to vessels through its marine notices and ensures compliance with the various international conventions and national legislation for ships entering Australian ports or using Australian waters through its port state control inspections.

6.3 Maritime Safety Queensland

MSQ's purpose as Queensland's maritime regulator is to protect and ensure safety in Queensland's waterways. One of MSQ's roles is to manage shipping activity in Queensland waters and in proximity with ports. MSQ sets specific rules in the Port Procedures and Information for Shipping Manuals (port procedure manuals) and official navigation charts.

Port procedure manuals are found at *www.msq.qld.gov.au/Shipping/Port-procedures*

6.3.1 Regional Harbour Master

MSQ, through the Regional Harbour Master (RHM), has jurisdiction over shipping in Queensland coastal waters associated with port activities. This includes vessel traffic management and ship scheduling into ports, relying on anchorages for operation.

The RHM is responsible for ensuring the safe and efficient movement of ships at a port. The RHM has extensive knowledge of their port and coordinates ships surrounding the port and anchorages. The RHM uses the port procedure manuals as a lawful direction under the *Transport Operations (Marine Safety) Act 1994* (TOMSA).

The RHM's directions are limited to ensuring safety and directing a ship to anchor within a defined area around a port known as a pilotage area. A pilotage area is where a local pilot familiar with the area guides the ship to the port.

6.3.2 Vessel Traffic Services

Vessel Traffic Services (VTS) are traffic control centres located in strategic ports along Queensland's coast. MSQ operates five VTS in Gladstone, Hay Point, Townsville, Cairns and Brisbane. Each VTS is overseen by the RHM who controls port specific traffic and control services. Collaboratively, they provide 24-hour shore- based tracking and navigation services for ships travelling through the GBRWHA and state managed waters.

Vessels arriving at Queensland ports are assigned a designated anchorage position by VTS to ensure safe and efficient movements in ports and surrounding waterways. The VTS monitor and communicate with ships about traffic scheduling, weather warnings, movements, pollution incidents, defective navigation aids and other maritime shipping requirements.

The Townsville VTS provides the Great Barrier Reef and Torres Strait Vessel Traffic Service (Reef VTS). Reef VTS was established to enhance navigational safety and environmental protection in the Great Barrier Reef and Torres Strait region.

The VTS at the Port of Hay Point

6.4 Port Authorities

Queensland's port system principally operates under the provisions of the *Transport Infrastructure Act 1994* and the *Government Owned Corporations Act 1993*. Under these Acts, Queensland's priority ports are managed and operated by government owned port authorities to ensure safety and efficiency.

The port entities responsible for the operation and management of Queensland's priority ports are:

- Gladstone Ports Corporation Limited
- Port of Townsville Limited
- North Queensland Bulk Ports Corporation Limited (NQBP).

Each port authority provides a broad range of facilities and expertise that cater for the different land/sea interface requirements of their trade catchment areas, including accommodating various types of vessels, access to the port, weather conditions and hazards.

The ports provide infrastructure to enable the import and export of mineral and agricultural produce, as well as general and containerised trade.

Port authorities support anchorage management through collaboration with MSQ.

6.4.1 Port Authorities and monitoring programs

Port authorities have monitoring programs in place to manage potential environmental impacts within waterways.

- At the Port of Gladstone, the Port Curtis Integrated Monitoring Program analyses water quality, sediment and bioaccumulation. This information feeds into the Gladstone Healthy Harbour Partnership annual report card, which examines sea grass, coral and mangrove health.
- At the Port of Townsville, water quality and seagrass in Cleveland Bay are monitored and data is supplied to the Dry Tropics Partnership for Healthy Waters annual report card.
- At the ports of Abbot Point and Hay Point/Mackay, monitoring programs are in place for water quality, seagrass and coral. Information on the programs is available on NQBP's website at www.nqbp.com.au/sustainability/research-and-reports

Ship approaching the Port of Gladstone *Source: Gladstone Ports Corporation*

7 Anchorages at the priority ports

The priority ports of Gladstone, Townsville, Hay Point/Mackay and Abbot Point experience increased traffic and throughput when compared to other ports in the GBRWHA. Anchorages enable the priority ports to effectively manage shipping and scheduling and operate safely, efficiently and sustainably.

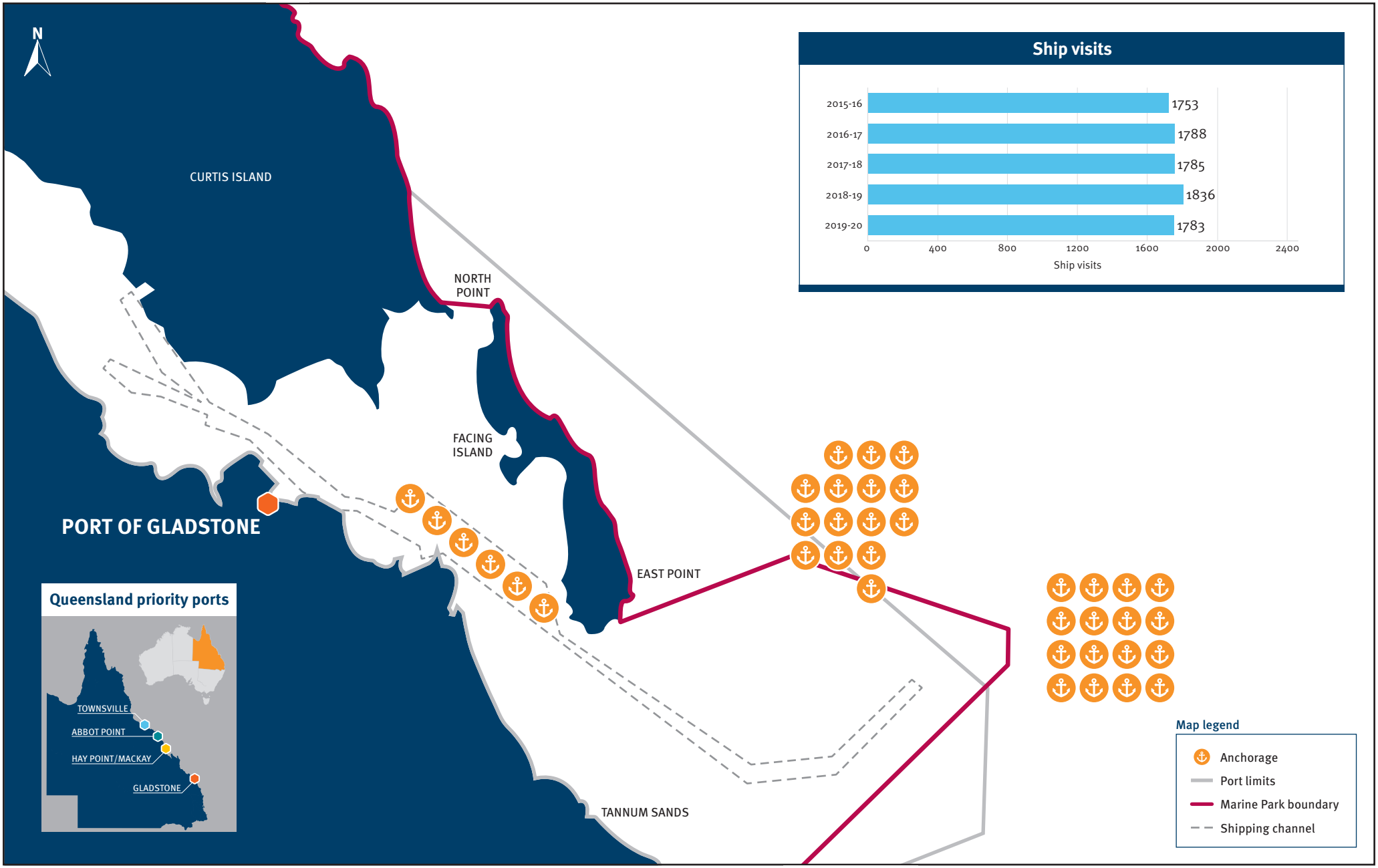
7.1 Anchorages at the Port of Gladstone

The Port of Gladstone is approximately 525 kilometres north of Brisbane. It is internationally recognised as a major bulk port and is Queensland's largest multi-commodity port.

All anchorages at the Port of Gladstone are designated anchorages. There are a total of 37 anchorages, 31 are external anchorages, with the majority outside of port limits and within in the General Use Zone and DSA of the Marine Park. There are six internal anchorages within the port limits and outside of the Marine Park, including a designated emergency anchorage, as per **Figure 5**.

Ships at anchor near Facing Island, Gladstone *Source: Gladstone Ports Corporation*

Figure 5 — Anchorages at the Port of Gladstone



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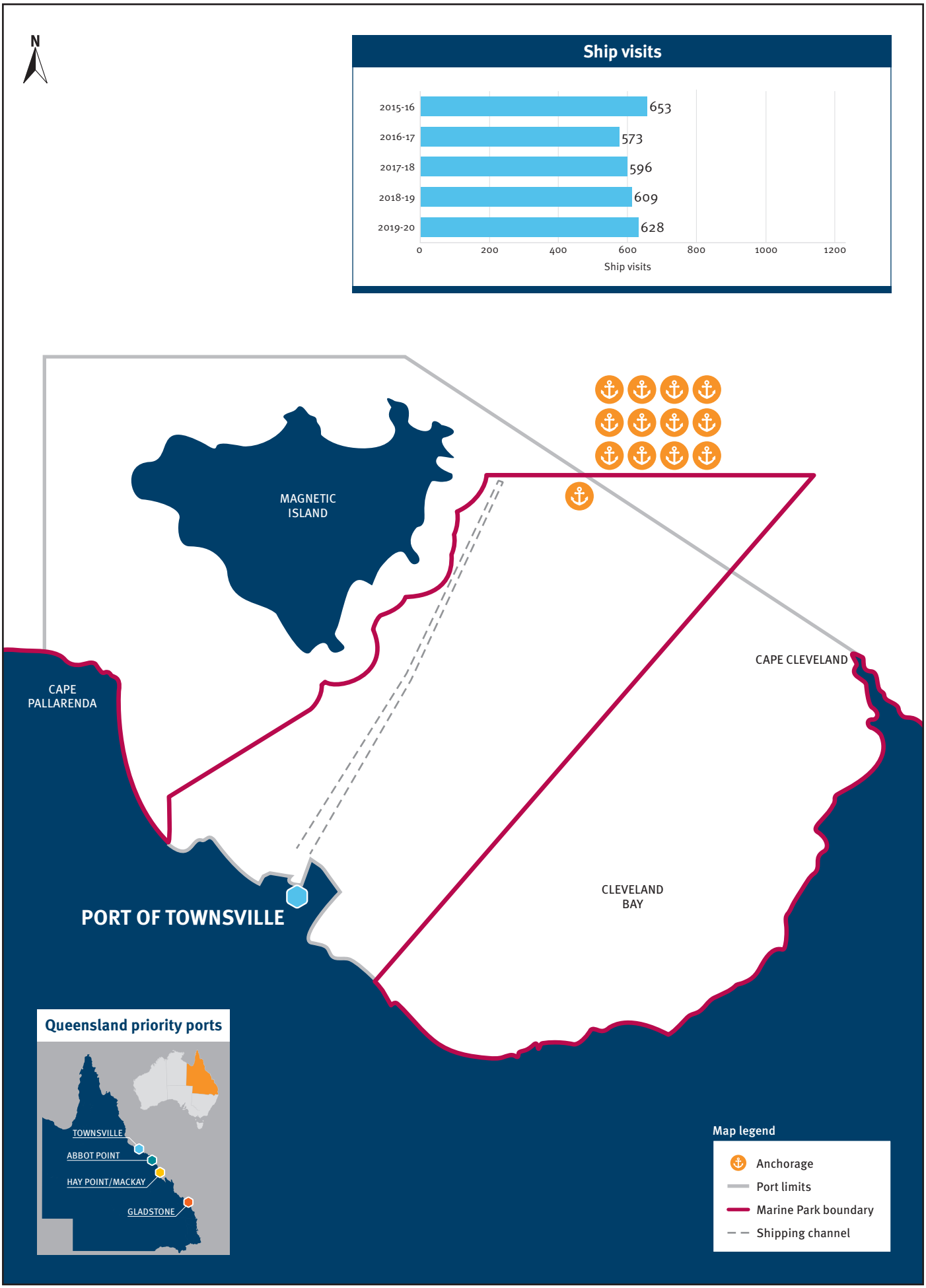
7.2 Anchorages at the Port of Townsville

The Port of Townsville is approximately 1330 kilometres north of Brisbane, located at the mouth of Ross Creek near the Townsville city centre. The port services the North West Minerals Province and is northern Australia's largest general cargo and container port.

All anchorages at the Port of Townsville are designated anchorages. The Port of Townsville has one anchorage within port limits and outside the Marine Park. This anchorage is generally used for ships to conduct personnel transfers. There are 12 anchorage areas outside port limits within the General Use Zone and DSA of the Marine Park, as per **Figure 6**.

Tug approaching the Port of Townsville *Source: Port of Townsville Limited*

Figure 6 — Anchorages at the Port of Townsville



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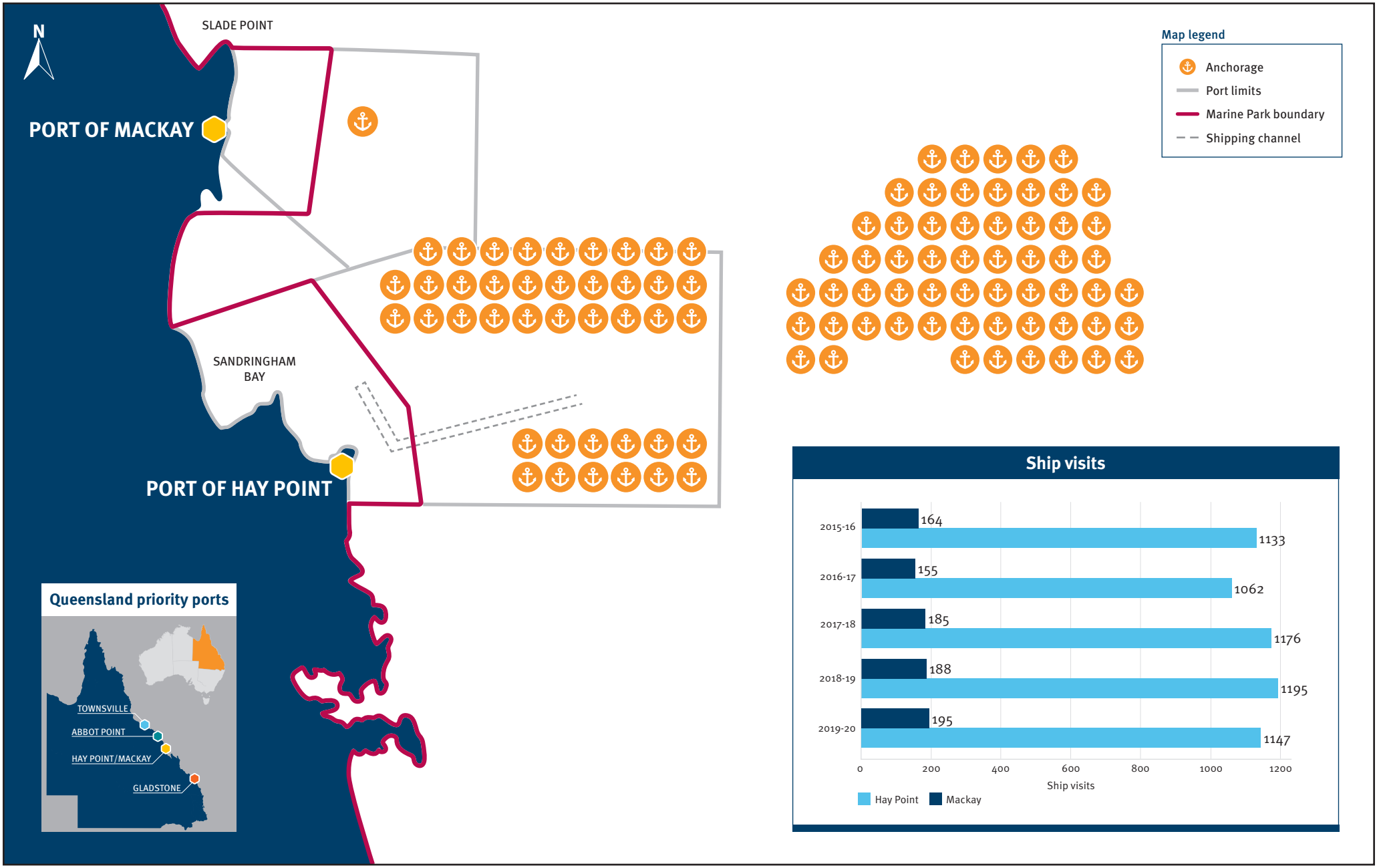
7.3 Anchorages at the Port of Hay Point/Mackay

The Port of Hay Point is approximately 940 kilometres from Brisbane and 30 kilometres south of Mackay. The Port of Hay Point is one of the largest export ports in Queensland. The Port of Mackay is a multi-cargo port located five kilometres north of the Mackay Central Business District and has fewer ship movements than the Port of Hay Point. The ports of Hay Point and Mackay are defined as a single priority port under the Ports Act.

All anchorages at the priority Port of Hay Point/Mackay are designated anchorages. There are a total of 42 inner anchorages, 41 inside the port limits of the Port of Hay Point and one within the port limits of the Port of Mackay. The Port of Hay Point/Mackay has 59 anchorages outside port limits and they are all in the General Use Zone and DSA of the Marine Park. The anchorage areas are identified in **Figure 7**.

Port of Hay Point

Figure 7 — Anchorages at the Port of Hay Point/Mackay



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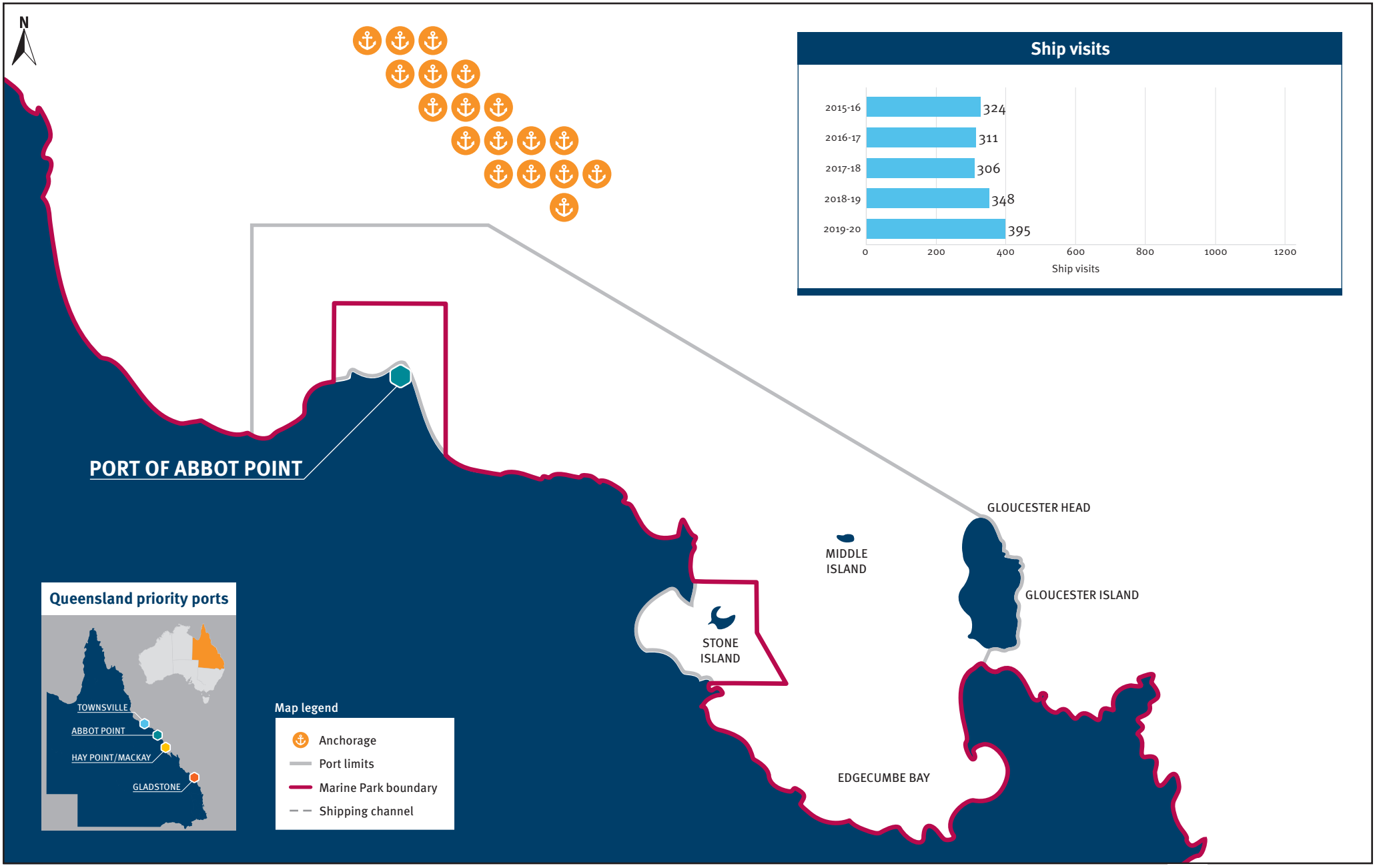
7.4 Anchorages at the Port of Abbot Point

The Port of Abbot Point is located approximately 1,160 kilometres north of Brisbane and almost 25 kilometres north west of Bowen. The Port of Abbot Point services the Bowen and Galilee Basins.

Following consultation in 2020, MSQ formally implemented designated anchorages at the Port of Abbot Point. There are 18 designated anchorages outside port limits but within the DSA of the Marine Park, as per **Figure 8**.

Ships at anchor near the Port of Abbot Point

Figure 8 — Anchorages at the Port of Abbot Point



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