Department of Transport and Main Roads

Queensland
Good **jobs**
Better **services**
Great **lifestyle**

Priority port master planning

Master plan
Priority Port of Abbot Point

Queensland | Australia | 2023

Queensland Government

Acknowledgement of Traditional Owners

The Department of Transport and Main Roads acknowledges the Traditional Owners and Custodians of this land and waterways. We also acknowledge their ancestors and Elders both past and present.

The Department of Transport and Main Roads is committed to reconciliation among all Australians.

The Department of Transport and Main Roads (TMR) recognises, embraces and celebrates the Aboriginal and Torres Strait Islander peoples continued rights and responsibilities as the First Peoples of Queensland, including traditional ownership and connection to land and waters.

Recognising the Queensland Government's *Statement of Commitment*, TMR supports a reframed relationship between Aboriginal and Torres Strait Islander peoples and the Queensland Government.

Master planning has worked with the Juru people through the Kyburra Munda Yalga Aboriginal Corporation, ensuring their knowledge, experiences and connection to Country were considered in preparing the port master planning documents.

TMR is committed to working with the Juru people to ensure their knowledge, experiences and connection to Juru Country informs master planning for the priority Port of Abbot Point.

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Overview

The master plan for the priority Port of Abbot Point (the master plan) recognises the priority Port of Abbot Point is a critical trade gateway and is well positioned to facilitate emerging industries and renewable energy opportunities.

Abbot Point has the strategic advantage of a natural deep-water port adjacent to the Abbot Point State Development Area (APSDA). The APSDA is designed to facilitate large-scale industrial and port- related development that can support new trading opportunities and promote Queensland's transition towards net zero emissions by 2050. The master plan seeks to strike a balance for the sustainable development of the Port of Abbot Point and the long-term protection of environmental and cultural values, including the Great Barrier Reef World Heritage Area (GBRWHA) and the Caley Valley Wetlands.

In achieving this balance, the master plan recognises the Port of Abbot Point's critical role in the state and regional economies as a major asset for trade, connecting communities that rely on the state's existing and emerging industries.

The master plan is prepared under the Sustainable *Ports Development Act 2015* (Ports Act), which fulfils key port-related actions and commitments from the *Reef 2050 Long-Term Sustainability Plan* (Reef 2050).

Promoting sustainable trade

The master plan recognises the potential of the priority Port of Abbot Point to be a major contributor to Queensland's green energy production, including renewable hydrogen.

The master plan seeks to support existing port operations, but also provides the framework for encouraging new trades and industries to promote sustainable port development and support trade diversification as a pathway to net zero by 2050. The master plan outlines land and sea areas to support economic activity generated by the port and emerging industries to capitalise on investment opportunities.

Backing Queensland's economy

Abbot Point is a trade gateway and major driver of economic and regional development. The master plan supports existing industries and provides a framework for continued sustainable development. By encouraging the advancement of new trades and industries, the master plan will support resilience of local communities and step changes toward a carbon neutral economy.

The master plan outlines land and marine areas to support economic activity generated by port industries enabling effective future planning and investment certainty for port-related development.

Protecting the Great Barrier Reef and the Caley Valley Wetlands

The master plan establishes a strategic and coordinated approach that ensures the Outstanding Universal Value (OUV) of the GBRWHA is an intrinsic consideration in the management of port-related development and the Caley Valley Wetlands. This approach complements other initiatives undertaken by the Queensland Government and port authorities to manage port operations and development within the GBRWHA.

Port optimisation

The master plan seeks to optimise the use of supply chain infrastructure to support existing and emerging industries. It sets a strategic direction to deliver efficient solutions and encourage the development of new industries that will maximise trade opportunities in renewable energy.

Implementation

The master plan is a strategic document implemented by the port overlay. The port overlay operates with existing planning instruments to guide development in the master planned area. Master planning complements the existing regulatory system and does not remove regulatory processes required for planning and assessing proposals associated with port-related development. Additional regulation through the port overlay will only occur where gaps are identified in the existing regulatory framework.

Consultation

The final master plan was developed as a result of the key stakeholder and public consultation process. All comments raised were considered and amendments incorporated to address agreed outcomes.

Aerial view of the Port of Abbot Point. Source: NQBP

Introduction

Introduction

The purpose of the master plan for the priority Port of Abbot Point is to provide strategic direction and guide the long-term sustainable development of the port and surrounding land and marine areas to 2050.

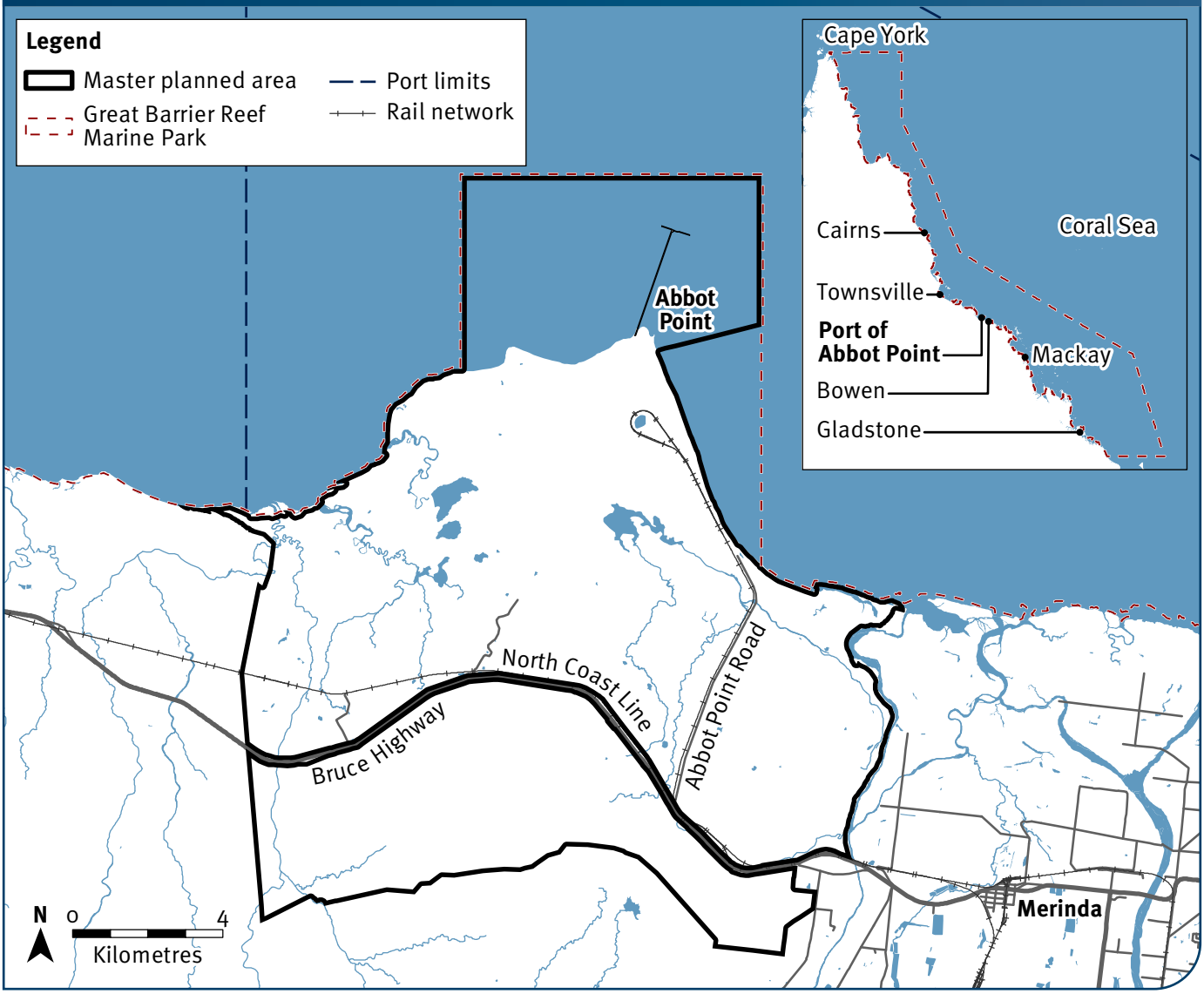
The extent of the master planned area for the priority Port of Abbot Point identified in **Figure 1** includes land and marine areas required for the efficient development and operation of the port and the long-term protection of the Great Barrier Reef. The map of the master planned area is also provided in **Appendix A**.

What is a master plan?

Master plans for the priority ports are strategic documents that have a long-term outlook for the sustainable development of port operations to 2050. Long-term master planning provides a strategic and coordinated approach to managing port-related development and considers issues including marine and land-based impacts and port and supply chain infrastructure optimisation. Master planning ensures the OUV of the GBRWHA is an intrinsic consideration in managing port-related development.

Berth at the Port of Abbot Point. Source: NQBP

Figure 1 — Master planned area



Master plan at a glance

The master plan for the priority Port of Abbot Point consists of several parts which set out the background, state interests, strategic vision, spatial extent, environmental management framework, and implementation of the master plan.

Introduction: describes the master plan, how it is implemented and relates to other policy initiatives and identifies state interests for the port.

Part A – Context: identifies the significance, role and function of the priority Port of Abbot Point, as well as key considerations to manage sustainable growth.

Part B – Strategic vision, objectives and desired outcomes: states the long-term vision of the master planned area that considers the principles of ecologically sustainable development (ESD), with objectives and desired outcomes which outline how the strategic vision will be achieved.

Part C – Master planned areas and precincts: identifies a spatial area which the master plan applies and precincts that outline the development intent for distinct areas within it.

Part D – Environmental management framework: identifies the environmental values within and surrounding the master planned area (also refer to **Appendix B** for the associated mapping), describes potential impacts and outlines how impacts on environmental values are managed.

Part E – Master plan implementation: outlines the implementation of the master plan through the existing regulatory framework and a separate port overlay instrument.

Appendix A – Priority Port of Abbot Point master planned area regulation map: provides the regulatory map of the master planned area.

Appendix B – Mapping of the OUV of the GBRWHA and other environmental values: provides consolidated mapping of the environmental values within and surrounding the master planned area.

Appendix C – Local attributes of OUV of the GBRWHA: identifies the natural features of OUV expressed within and surrounding the priority Port of Abbot Point. These are assessed as having a significant, moderate, or a minor contribution to the GBRWHA.

Appendix D – Potential impacts on environmental values: outlines potential impacts on environmental values within and surrounding the master planned area.

Appendix E – Dictionary: provides a table of definitions relevant to the master plan.

Appendix F – Abbreviations and acronyms: provides a table of abbreviations and acronyms used in the master plan.

Why is there a master plan?

Reef 2050 Long-Term Sustainability Plan (Reef 2050)

Commencing in 2015, Reef 2050 is a long-term strategy developed by the Australian and Queensland Governments to support the health and resilience of the Great Barrier Reef. Key achievements of the first five years of the plan contributed to the protection and management of the OUV of the GBRWHA, including significant reform in port regulation and cooperative management.

The achievements include the restriction of capital dredging to the master planned area of the four priority ports of Gladstone, Townsville, Hay Point/Mackay and Abbot Point; prohibiting the sea-based placement of capital dredge material in the GBRWHA from port-related development unless it is beneficially reused; and limiting port development to existing locations.

An updated Reef 2050 released in December 2021 includes a greater focus on acting against climate change alongside an increased reflection on and inclusion of Traditional Owner aspirations.

Climate change is the single biggest threat to coral reefs globally and exacerbates localised impacts on the Great Barrier Reef. The long-term outlook for the GBRWHA is critically dependent on limiting global temperature rise to the maximum extent possible, as quickly as possible. Reef 2050 identifies actions to limit the impacts of climate change by contributing to global efforts to reduce emissions and supporting adaptation of reef habitats and communities.

The Australian and Queensland Governments will engage and support Traditional Owners to develop a Traditional Owner Reef 2050 Implementation Plan.

The updated Reef 2050 includes master planning for priority ports as a support program to manage port development in the GBRWHA.

Sustainable Ports Development Act 2015

The Ports Act provides a legislative framework for sustainable port planning and development in Queensland. The Ports Act implements several Queensland Government port-related commitments and actions made under Reef 2050 and responds to United Nations Educational, Scientific and Cultural Organization World Heritage Committee (UNESCO WHC) recommendations on the reef, ensuring the OUV of the GBRWHA is an intrinsic consideration in future port development.

The purpose of the Ports Act is to provide for the protection of the GBRWHA through the management of port-related development in and adjacent to the area. This is achieved through the following measures:

- concentrating port development in the GBRWHA to the priority ports
- mandating the preparation of master plans and port overlays for each priority port to establish a long-term vision for future port development
- restricting capital dredging for the development of new or expanded port facilities to within the master planned area of the priority ports

- prohibiting sea-based placement of capital dredged material from port-related development within the Great Barrier Reef Marine Park (GBRMP) and Great Barrier Reef Coast Marine Park (GBRCMP)
- mandating the beneficial reuse of port-related capital dredged material.

The Ports Act provides requirements for the master plan to include existing and future state interests, strategic vision, objectives and desired outcomes for the master planned area.

The master planned area identifies land and marine areas critical to the effective operation of the port network. This allows for consideration of issues beyond port-owned land to effectively manage future port-related development and the protection of the GBRWHA.

The Ports Act continues to implement several Queensland Government port-related commitments made under Reef 2050.

Under the Ports Act, master plans must include an Environmental Management Framework (EMF). The EMF provides for the identification and management of development impacts on environmental values including objectives and measures (priority management measures) for managing potential impacts on environmental values.

The master plan must also adequately consider the principles of ESD, which promotes the conservation and use of natural resources in development. It recognises the role of indigenous people in the preservation of Australia's biodiversity.

The master planning process has been and will continue to be guided by the principles outlined in the *Statement of Commitment to reframe the relationship between Aboriginal and Torres Strait Islander peoples and the Queensland Government*, including self-determination, respect for Aboriginal and Torres Strait Islander cultures and empowerment. This commitment focuses on building partnerships and continuing to work with the leadership of First Nations communities to support economic development opportunities, including the generation of employment, skills and training and business development opportunities over the long term.

The Ports Act requires the master plan to be reviewed at least every 10 years to provide an adaptive management approach and respond to major changes in policy or legislation, including Reef 2050.

How is the master plan developed?

The master plan is developed through a process that is reflected below in **Figure 2**. The Traditional Owners of the areas surrounding Abbot Point, the Juru people, have been consulted throughout the development of the master plan to ensure their connections to the Land and Sea Country are reflected.

Figure 2 — Priority port master planning process

Notice of proposal

Informing intention to prepare or amend a priority port master plan

A notice of proposal:

- is issued by the Minister to the port authority and local government at the priority port
- formally initiates the master planning process under the *Sustainable Ports Development Act 2015*
- enables each entity to make an early submission about the proposal to prepare a master plan.

Evidence base

Master plan preparation

Evidence based planning provides a balanced and objective approach to:

- inform the preparation of the master plan by analysing the economic, environmental, and social factors relevant to the priority port, including the OUV of the GBRWHA
- identify long-term infrastructure, supply chain, and port development requirements
- undertake an assessment of the regulatory framework to understand how impacts from development will be sustainably managed.

Master plan

Master planning

The master plan is a strategic document that:

- outlines the role and function of the port and factors to manage sustainable growth
- states the long-term strategic vision, outcomes, and objectives for the master planned area
- establishes land and marine precincts within the master planned area
- identifies environmental values, potential impacts, and how impacts are managed.

Port overlay

Implementing the master plan

The port overlay is the statutory instrument that:

- adopts a regulation by exception approach to implement the master plan
- states how priority management measures will be achieved
- operates alongside existing planning instruments to achieve the outcomes of the master plan.

Review

Reviewing the master plan

The Ports Act requires the master plan be reviewed at least every ten years to assess changes since the first master plan was made including:

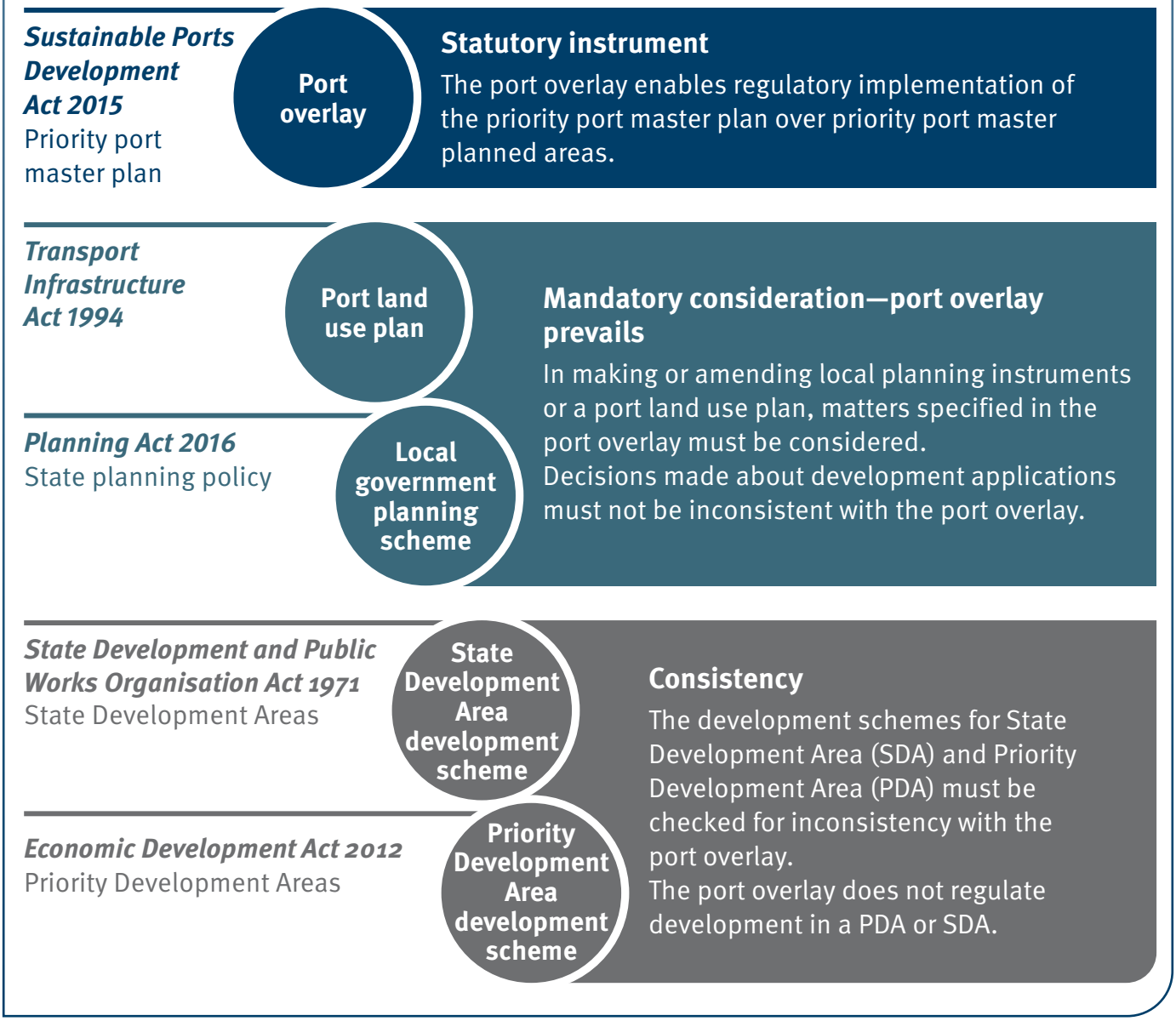
- the boundaries of the master planned area
- the effectiveness of the implementation of the priority management measures.

How is the master plan implemented?

Under the Ports Act, master plans are strategic documents which are implemented by a port overlay. The port overlay operates with existing planning instruments, as shown in **Figure 3**, to guide future port-related development in the master planned area to achieve the long-term vision.

The master plan complements the existing regulatory system and does not remove or replace any existing processes. Additional regulation through the port overlay to guide port-related development outcomes will only occur where gaps are identified in the existing regulatory framework that would impact the delivery of master planning outcomes. This approach recognises the outcomes sought by the master plan are in many cases already achieved through existing provisions and reduces duplication of provisions.

Figure 3 — Implementation of the port overlay within the relevant planning frameworks



Regulating port operations

Queensland ports operate within a comprehensive regulatory framework and must satisfy many federal, state and local government planning and other regulatory requirements. Master planning is just one component of the regulatory and compliance framework in which ports operate.

The master plan and the port overlay complement this system and do not remove or replace any existing environmental assessment or state and local planning processes in accordance with relevant legislation.

Environmental assessment

Federal and state Environmental Impact Statement (EIS) assessment processes under the *Environmental Protection Act 1994* (EP Act), the *State Development and Public Works Organisation Act 1971* (SDPWO Act) and the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act) currently provide for rigorous assessment of major projects to ensure development occurs in a sustainable manner and unacceptable impacts on environmental values are avoided or effectively managed. This includes the appropriateness and acceptability of identified environmental management arrangements.

The EP Act also provides a framework for regulating environmentally relevant activities (ERAs) through a permit and licensing system. This system ensures ERAs manage, enhance or protect environmental values through conditions or enforcement processes.

Environmental protection policies such as the *Environmental Protection (Air) Policy 2019*, *Environmental Protection (Noise) Policy 2019* and E*nvironmental Protection (Water and Wetland Biodiversity) Policy 2019* outline thresholds, indicators and objectives for enhancing or protecting environmental values, and provides a framework for consistent and informed decisions about managing ongoing environmental impacts.

State and local planning processes

State planning instruments, including the State Planning Policy (SPP) and regional plans, set out critical planning matters, which guide local planning instruments to achieve development outcomes in each local government area. The SPP acknowledges the 'avoid-minimise-offset' hierarchy embedded in Queensland's planning and environment legislation.

The *Planning Regulation 2017* identifies certain development must also be assessed against the State Development Assessment Provisions (SDAP) to ensure impacts on matters including transport corridors, coastal development, native vegetation, marine plants and fish habitat areas are subject to rigorous assessment and appropriate conditions put in place to control the potential impacts from development.

SDAs promote economic development by concentrating development such as industrial hubs and infrastructure corridors in selected areas to ensure efficient land use and infrastructure optimisation to avoid or minimise environmental impacts.

Land use plans under the *Transport Infrastructure Act 1994* have an important role in planning for port development on Strategic Port Land (SPL) by identifying where and how particular land uses should occur. Port land use plans for priority ports must be consistent with the approved master plan and port overlay.

Regulating development within the master planned area

There are a range of Australian and Queensland government controls that apply to development within the master planned area. All environmental legislative requirements continue to apply to development proposals.

The following instruments currently provide assessment requirements which regulate development in the master planned area (see **Figures 4** and **5**):

- APSDA Development Scheme under the SDPWO Act
- Port of Abbot Point Land Use Plan under the *Transport Infrastructure Act 1994*
- Whitsunday Regional Council Planning Scheme under the *Planning Act 2016*.

Figure 4 — Planning from the international to the local level

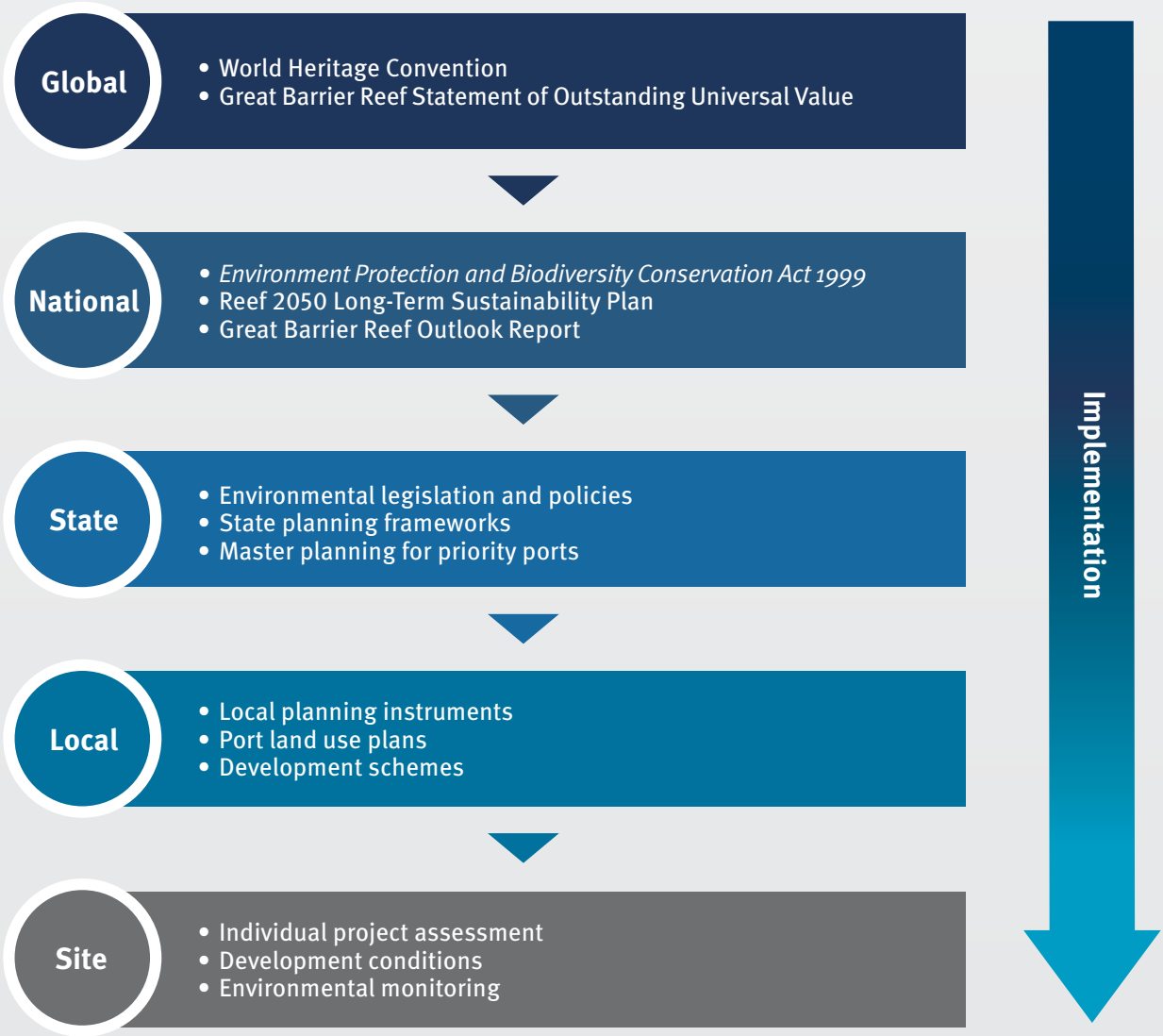
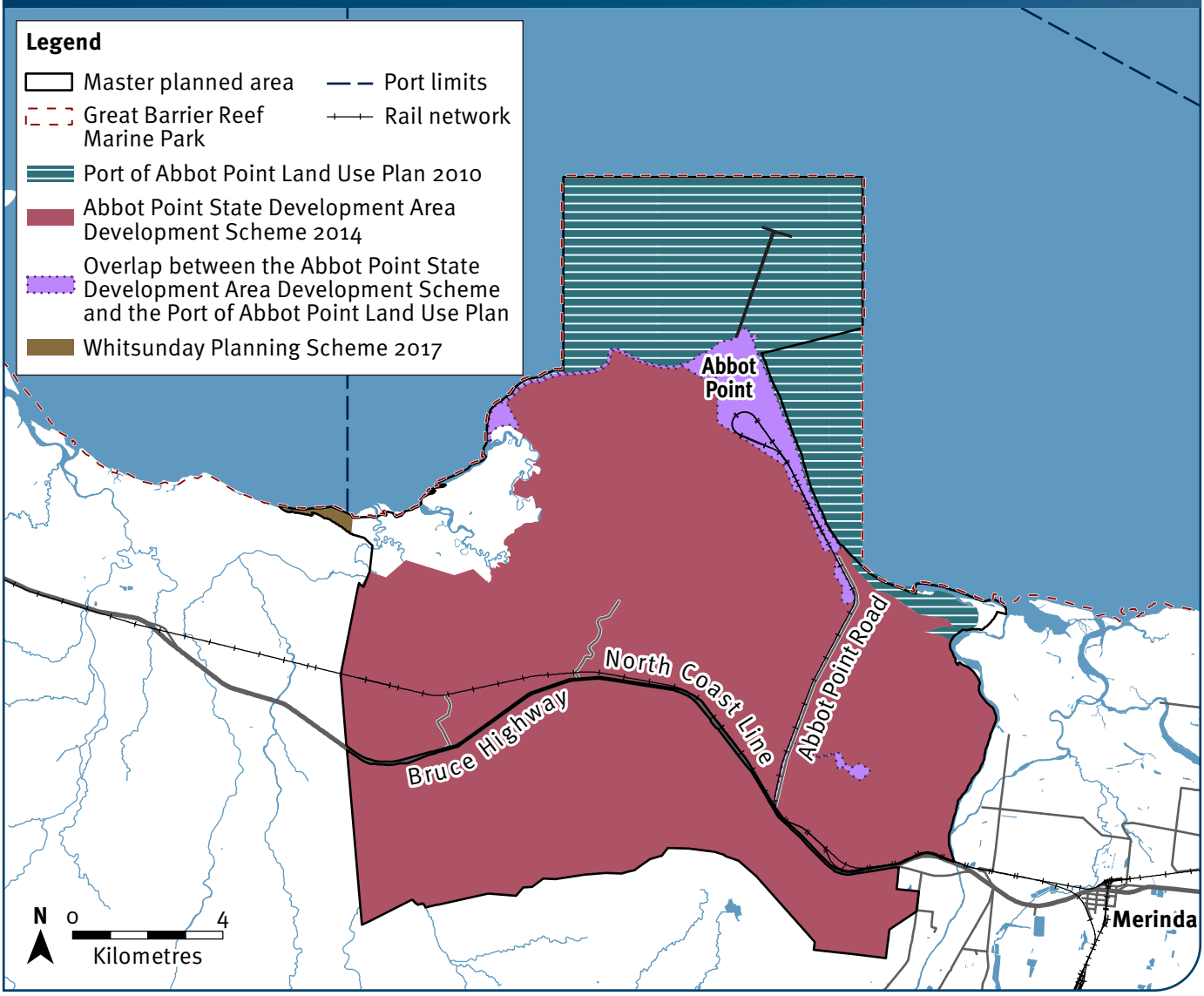


Figure 5 — Planning instruments operating within the master planned area



The master plan outlines a strategic approach and recognises that further studies for the Abbot Point area will enable effective management of long term cumulative impacts under both state and federal assessment processes.

Related policy initiatives

There are a number of Australian and Queensland policy initiatives and projects that are relevant to master planning for the priority Port of Abbot Point. The master plan does not seek to amend these policies but recognises the important role each of these initiatives play in the ongoing sustainable development of the port. These initiatives highlight the economic significance of the port to the region and the importance of managing environmental values and social impacts.

Queensland Government

Queensland's COVID-19 Economic Recovery Plan

The updated *Queensland's COVID-19 Economic Recovery Plan* is the government's response to the COVID-19 health and economic crisis. The plan references the strong economic position prior to the pandemic and continued commitment to deliver the support, stimulus and reform to drive sustainable economic growth and create ongoing jobs in the key priority areas. These include safeguarding health, backing small business, making it for Queensland, building Queensland, growing our regions and investing in skills.

Mackay-Whitsunday Regional Recovery Action Plan

The regional recovery action plans recognise Queensland's regions are the key to building Queensland's economic recovery. The *Mackay-Whitsunday Regional Recovery Action Plan* recognises traditional sectors like agriculture, mining and tourism remain the backbone of the region and seeks to take advantage of emerging opportunities by connecting to international markets through the priority Port of Abbot Point. Investment in transport, energy and water infrastructure will build resilience and support long-term jobs growth and economic recovery.

Our Future State: Advancing Queensland's Priorities

The Queensland Government has committed to 'Protect the Great Barrier Reef' as one of its key priorities identified in the *Our Future State: Advancing Queensland's Priorities*. Protecting the environmental, social and economic value of the Great Barrier Reef drives many Queensland Government environmental policies and activities, including priority port master planning.

Queensland New-Industry development strategy

The Queensland New-Industry development strategy sets out the Queensland Government's approach to proactively developing the industries that will be in demand in a decarbonising world. It details a commitment to growing the economy in the regions and communities by delivering a new wave of sustainable economic growth and future-facing industry development. Regionally specific infrastructure and land use plans will be aligned with the economic and social aspirations of each region and will work with local communities to take a place-based approach to assisting with economic transition.

Queensland Renewable Energy Zones

Queensland Renewable Energy Zones (QREZ) are areas with high quality renewable resources like wind and solar to support existing industries and emerging opportunities like the hydrogen economy. As part of the *Queensland's COVID-19 Economy Recovery Plan*, the Queensland Government committed to establish renewable energy zones and support reliable, secure and affordable energy targets. The plan reaffirmed the 50% renewable energy target by 2030 and set two new renewable energy targets of 70% by 2032 and 80% by 2035. Abbot Point is in the northern QREZ, which aims to take advantage of the rich renewable resources.

The Queensland Renewable Energy Zone Roadmap identifies three regions for developing REZs in Northern, Central and Southern Queensland. The Queensland Government has allocated $6 million to undertake assessment in these regions and work with the communities to identify targeted areas for renewable development, balancing other land uses and strategic objectives. The port's infrastructure can support REZ development by importing and exporting renewable energy parts.

Queensland Energy and Jobs Plan

The Queensland Energy and Jobs Plan outlines the State Government's pathway to deliver clean, reliable and affordable power, reaffirming its commitment to achieving 50 per cent renewable energy by 2030 and set two new renewable energy targets of 70 percent by 2032 and 80 per cent by 2035. The Queensland SuperGrid Infrastructure Blueprint (the Blueprint) has also been released, which outlines the State's optimal infrastructure pathway to transform the electricity system. It will require substantial public and private sector investment over the next 10-15 years.

This plan includes the Supercharging Hydrogen Hubs program and $8.5 million funding under the Abbot Point Activation Initiative to support detailed planning and technical studies to progress development of renewable hydrogen and ammonia projects at the port.

Queensland Hydrogen Industry Strategy 2019–2024

The *Queensland Hydrogen Industry Strategy 2019–2024* demonstrates the Queensland Government's commitment to developing a sustainable hydrogen industry by 2030. There is the potential for the priority Port of Abbot Point and the Port of Hay Point to be considered as major hubs for green hydrogen exports. The master plan supports this vision through the identification of land for potential development while ensuring environmental values of the area are protected.

Abbot Point presents a unique opportunity on government-owned land, with existing deep water, port infrastructure and proximity to one of Australia's best renewable energy zones for renewable hydrogen production and ammonia production in North Queensland. The Abbot Point Activation Initiative (APAI) was announced in July 2023 to provide for a coordinated whole-of-government approach to facilitate large-scale hydrogen projects at Abbot Point. The master plan and port overlay for the priority port of Abbot Point provide strategic policy direction to underpin the APAI commitments.

Queensland Space Industry Strategy

The *Queensland Space Industry Strategy* sets out how the Queensland Government is supporting the space industry achieve its potential for growth and create high value jobs. The two-part action plan focuses on strengthening capability, including through enabling infrastructure, and growing the industry through promotion and connecting industry to markets.

Queensland Climate Action Plan

The *Queensland Climate Action Plan* sets out the priority sectors for action over the next decade to achieve zero net emissions by 2050, power Queensland with 50 per cent renewable energy by 2030 and reduce greenhouse gas emissions by at least 30 per cent below 2005 levels by 2030. Climate action provides the strong foundation needed for Queensland to meet its targets, attract investment, and create more jobs in the future economy.

Zero Net Emissions for Transport Roadmap

The Queensland Government is developing the Zero Net Emissions for Transport Roadmap to chart a pathway towards zero net emissions by 2050 for Queensland's transport sector. The Transport Roadmap is one of several sectoral roadmaps in development to support Queensland Government efforts to address climate change, including energy, buildings, agriculture, and infrastructure. Transport

Roadmap actions and targets will contribute to the Queensland Climate Action Plan's 2030 and 2050 emission reduction targets.

A Study of Long-Term Global Coal Demand

Queensland Government's *Study of Long-Term Global Coal Demand* examines key characteristics of the coal industry in Queensland and the broader global trends. The study recognises that coal is a major commodity in Queensland's trade and is critical to the state's economy. The report looks at metallurgical and thermal coal and recognises the significance of the coal industry for regional Queensland.

Queensland Resources Industry Development Plan

The *Queensland Resources Industry Development Plan* recognises the mining industry supports around 80,000 jobs and that royalties help pay for services like schools, hospitals and roads. The plan sets out a clear 30-year vision for Queensland's resources industry to evolve and diversify to meet the needs of the Queensland economy and our international trade partners.

Mackay, Isaac and Whitsunday Regional Plan

The *Mackay, Isaac and Whitsunday Regional Plan* provides strategies to inform future planning and development decision-making, setting out a regional framework and desired outcomes responding to challenges and opportunities. The plan identifies strategic infrastructure and supply chain corridors to support the Port of Abbot Point. It recognises the development of the APSDA and upgrades to port infrastructure as potential opportunities for economic growth in diversified industries.

Mackay Isaac Whitsunday Regional Transport Plan

The *Mackay Isaac Whitsunday Regional Transport Plan* sets out the regional transport priorities and actions for developing an integrated transport system that supports regional goals for the community, economy and environment in the Mackay Isaac Whitsunday region. The plan covers all modes of transport with a focus on accessible networks and services, including port, rail and air, and the inter-regional and international connections that are vital to moving a broad range of commodities to support the region's economic and social prosperity.

Transport Coordination Plan 2017–2027

The *Transport Coordination Plan 2017–2027* (TCP) is a framework for coordinated planning and management of transport, including a strong focus on customer needs and technology for the next 10 years. The TCP includes a specific objective for transport to facilitate the efficient movement of people and freight to grow Queensland's economy and a commitment to focus on improving connectivity along key freight corridors in regional areas.

Queensland Transport Strategy

The *Queensland Transport Strategy* sets a clear vision over 30 years for the transformation of Queensland's transport system that will flexibly respond to customer preferences, global trends and emerging technologies.

Queensland Freight Strategy - Advancing Freight in Queensland

The *Queensland Freight Strategy - Advancing Freight in Queensland* (QFS) is a 10-year strategy to support the development of an integrated, resilient and safe freight system for Queensland. The QFS highlights the importance of developing smart and sustainable freight solutions in partnership with industry to deliver economic, social and environmental outcomes. The strategy aligns with priority port master planning and informs and guides the rolling two-year *Queensland Freight Action Plan* (QFAP).

Queensland Freight Action Plan 2020-2022

QFAP sets out key steps to implementing the commitments outlined in the QFS. Actions and activities progressed over QFAP's rolling two-year program ensuring Queensland's integrated

transport system continues to enable the vital components of our economy, including production, distribution and trade, while keeping pace with the changing and expanding freight and supply chain environment. QFAP includes the development of priority port master planning as a key deliverable. *Queensland Freight Action Plan 2023-2025* is currently in development.

Smarter Solutions: network optimisation framework

The *Smarter Solutions: network optimisation framework* prioritises the consideration of low cost and non-infrastructure solutions within the planning and investment process. The framework encourages network optimisation solutions to ensure the existing transport network and infrastructure is optimised before major investment. In certain situations, this may generate similar outcomes to new infrastructure, reducing or delaying the need for significant capital expenditure and potential environmental impacts that may arise from new development.

State Infrastructure Strategy 2022

The *State Infrastructure Strategy 2022* (SIS) sets out a framework to build a strong, resilient and sustainable Queensland to guide future infrastructure planning and investment over the next 20 years. The strategy is supported by seven regional infrastructure plans that recognise the significant role infrastructure plays in catalysing regional economic recovery, growth and liveability, taking a place-based approach to ensure significant infrastructure needs are considered and prioritised.

One of the key actions of the SIS is to enhance the transport network's security, sustainability and resilience. The intent is to improve planning, design, delivery and operations to incorporate risks related to natural disasters, climate change and disruptions from all hazards. The strategy also refers to Queensland's potential to become a renewable energy superpower with advanced skills in manufacturing.

State Planning Policy

The SPP outlines the state interests[1] in land use planning and development that must be considered in every planning scheme across Queensland. The SPP recognises the importance of ports to the national and state supply chains. It includes a state interest in protecting the growth and supporting the development of strategic ports. The Port of Abbot Point is designated as a strategic port in the SPP and a priority port in the Ports Act.

'For priority ports, development is also consistent with the requirements of priority port master plans and priority port overlays as these are approved under the Ports Act.'

Maintenance Dredging Strategy for Great Barrier Reef World Heritage Area Ports

The *Maintenance Dredging Strategy for Great Barrier Reef World Heritage Area Ports* (Maintenance Dredging Strategy) provides for sustainable, leading practice management of maintenance dredging. Under the Maintenance Dredging Strategy, North Queensland Bulk Ports Corporation Limited (NQBP) has developed a Long-Term Maintenance Dredging Management Plan which is reflected in the *Guidelines for Long-Term Maintenance Dredging Management Plans*. Further details about this is provided in the maintenance dredging section below.

Wetlands in the Great Barrier Reef Catchments Management Strategy 2016–2021

The *Wetlands in the Great Barrier Reef Catchment Management Strategy 2016–2021* recognises the extent, values and ecological processes of wetlands that contribute to the health and resilience of the Great Barrier Reef ecosystem. The purpose of this strategy is to provide a range of objectives and activities to improve wetlands

1. State interests in the *State Planning Policy* are defined under the *Planning Act 2016*, and separately under the *Economic Development Act 2012* and the Ports Act.

management, including targets in Reef 2050. This strategy promotes an integrated approach to catchment management that considers the multiple values of wetlands in a whole-of-catchment context.

Australian Government

Aboriginal and Torres Strait Islander Heritage Strategy for the Great Barrier Reef Marine Park

The *Aboriginal and Torres Strait Islander Heritage Strategy for the Great Barrier Reef Marine Park* is the Great Barrier Reef Marine Park Authority's (GBRMPA) long-term strategy to strengthen protection for Aboriginal and Torres Strait Islander Reef heritage. The strategy sets out a collaborative approach to the reef where the enduring culture and connection of Reef Traditional Owners with their Sea Country is widely recognised, Indigenous heritage is protected, and the reef is co-managed. It is a significant step in acknowledging and valuing Traditional Owner connections to the Great Barrier Reef, and increasing protection of the OUV of the GBRWHA.

2021 Australian Infrastructure Plan

The *2021 Australian Infrastructure Plan* identifies infrastructure reforms and investments required to manage population growth, the Asia-Pacific's growing demand for Australian goods and services and environmental challenges. The plan focuses on opportunities to develop the economy of northern Australia and develop all transport modes to seamlessly connect people and goods, while developing clean energy from high-tech, low-cost, low-emissions energy system for export.

Australia's Long-Term Emissions Reduction Plan

The Australian Government has committed to a whole-of-economy plan to achieve net zero emissions by 2050. The plan focuses on building existing industries and supply chains to capitalise on new export opportunities while supporting regional industries. The plan outlines key principles to reduce the cost of new and low emission technologies to drive demand shifts and create environments for investment. It does not stop coal or gas outputs or displace agricultural production.

Australia's National Hydrogen Strategy

Australia's National Hydrogen Strategy sets a vision for a clean, innovative, safe and competitive hydrogen industry that positions the Australian hydrogen industry as a major global player by 2030. The strategy identifies available resources and experience to develop clusters of large-scale demand and integrate low-cost renewable generation, reduce dependence on imported fuels to assist in reducing carbon emissions.

Our North, Our Future: White Paper on Developing Northern Australia

The *Our North, Our Future: White Paper on Developing Northern Australia* sets out the long-term policy vision for northern Australia's sustainable economic development recognising the requirement for resilient export related infrastructure. This next stage will develop a master plan for the next priority Region of Growth corridor, from Cairns to Gladstone, which includes Abbot Point, and maps out investment pipelines in various sectors, including ports and supply chain logistics.

National Freight and Supply Chain Strategy

The *National Freight and Supply Chain Strategy* recognises Australia's supply chains are critical to meet growing freight demands, requiring greater efficiency, reliability and cost-competitiveness across the whole sector. The strategy outlines an integrated, national approach for the movement of goods to ensure freight systems and infrastructure work across state and territory borders.

National Ports Strategy

The *National Ports Strategy* recognises the important economic role of ports and related

freight supply chains. The strategy prioritises planning for ports to improve efficiency, reliability, security and safety. Master planning for priority ports is consistent with this strategy.

North-East Shipping Management Plan

The Australian Maritime Safety Authority (AMSA) released the *North-East Shipping Management Plan* to demonstrate how shipping is managed in sensitive marine environments and proposes actions to minimise environmental impacts on the OUV of the GBRWHA, ensure safety and manage shipping traffic increases. The North-East Shipping Management Group, which includes both Australian and Queensland Government agencies, implements the actions on an ongoing basis.

Queensland Coastal Passage Plan

AMSA produced the *Queensland Coastal Passage Plan* (QCPP) to improve pre-pilotage communications and the readiness of vessels transiting coastal pilotage areas within the Great Barrier Reef. The QCPP operates with the Great Barrier Reef and Torres Strait Vessel Traffic Service ship reporting system based in Townsville and Under Keel Clearance Management requirements to assist safe passage of vessels transiting through the Great Barrier Reef.

Caley Valley Wetlands. Source: Gary Cranitch Copyright Queensland Museum

State interests

Under the Ports Act, state interests are matters that are affected, or likely to be affected by existing uses in the master planned area and future development at, or for, the priority port.

The purpose of the state interests is to provide a clear, consolidated and comprehensive view of the interest of the state in port- related development within the master planned area.

The state interests have been identified to balance and deliver the interests of the state within the master planned area. State interests are consistently applied across the master planned area through the strategic vision, objectives and desired outcomes to implement the master plan.

Figure 6 — State interests for the master plan

Part A

Context

Part A: Context

The Port of Abbot Point

The priority Port of Abbot Point plays a critical role in Australia's economy. The port has the strategic advantage of being adjacent to the APSDA. The APSDA will facilitate large-scale industrial and port- related development that will assist Queensland's transition to a low carbon economy.

Role and function of the priority Port of Abbot Point

The Port of Abbot Point has operated as a dedicated coal port since 1984, exporting both metallurgical and thermal coal. It is of significant strategic value as one of the few locations along Queensland's eastern seaboard where deep water is close to shore and away from urban communities.

Supporting the regional economy

The port plays an important role in supporting the regional economy by providing a trade gateway to the mining industry in the northern Bowen Basin and the Galilee Basin, which is a major employer in the region. The port supports supply chains, connecting major resource areas to global economies and production centres.

Emerging industry opportunities

The APSDA and Port of Abbot Point are strategically located to accommodate a range of emerging industries, including those associated with green energy production and export, based on access to the deep-water port, infrastructure connections and state-managed land. The APSDA also has the potential to facilitate the development of other renewable industries where synergies can be coordinated.

Energy

The Port of Abbot Point plays an important role in providing international markets with a reliable supply of high-quality coal. Coal production and export is vital to the Queensland economy as a major regional employer and supporter of regional businesses.

The Queensland Government recently supported a study that investigated the opportunity to establish the priority Port of Abbot Point as a hydrogen export super hub.

Connection to Country

The Juru people are the original custodians and Traditional Owners of the Abbot Point area. The Juru people continue to have a strong spiritual connection to this area and maintain cultural and traditional affiliations with the land, waterways and sea within and surrounding the master planned area.

The Juru people have a strong knowledge and understanding of the Land and Sea Country and contribute to the land management practices in and around the port, which is considered key to protecting the environmental values for future generations.

Figure 7 — Snapshot of the priority Port of Abbot Point

Australia's most **northern coal export** port with **natural deep-water** vessel access

Opportunities to support **emerging industries** across northern and central Queensland

Supports international demand for **steel making** and **electricity making** coal

Adjacent to the **16,885 hectare** Abbot Point State Development Area, a potential future industrial hub

Trade gateway to Asia with connections to India, Vietnam, Japan, China, Korea and Indonesia

Integral to the Mackay Isaac Whitsunday resources industry which supports more than **11,000 jobs in the region**

Located near the nationally significant **Caley Valley Wetlands**

*2020/21 figures

Abbot Point State Development Area

The APSDA is an area of land dedicated for industrial development of regional, state and national significance. The APSDA was declared in 2008 and provides 16,885 hectares of land with access to supply chain infrastructure and a local skilled labour force. For industry investors, the APSDA represents greater planning and development certainty and fast-tracking economic development through efficient processing of applications and requests. Managed by the Coordinator-General, the APSDA supports the region's existing and emerging industries, job creation and surrounding infrastructure in a way that considers environmental, cultural and social values, including the Caley Valley Wetlands. The APSDA offers strategic advantages for co-locating industries requiring larger footprints, access to road and rail supply chains, distance from communities and other sensitive receptors, and global trading partners. The APSDA, next to a deep-water port, provides significant opportunities for the state's emerging renewable energy industry supporting trade diversification and a pathway to a zero emissions future.

Great Barrier Reef

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 OUV. The International Union for Conservation of Nature evaluation stated that '*... if only one coral reef site in the world were to be chosen for the World Heritage List, the Great Barrier Reef is the site to be chosen*'.

The Port of Abbot Point operates within the GBRWHA, so it is important that port-related development is managed to protect the environmental values of the Great Barrier Reef. Port activities were specifically recognised by the UNESCO WHC as an existing, long-established ongoing activity within the GBRWHA in the retrospective statement of OUV.

The master plan seeks to balance port development whilst protecting the OUV of the GBRWHA and the Caley Valley Wetlands, located adjacent to the port and within the APSDA. Master planning facilitates sustainable development of the port, optimises existing industries while promoting emerging industries and protecting environmental values.

Figure 8 – Abbot Point freight paths

Rail at Abbot Point. Source: EIS

The master plan adopts an approach for managing potential impacts from development within the master planned area by implementing an approach to environmental management at a strategic level and more specifically for development assessment, supporting the hierarchy of "avoid - minimise - offset", central to the EMF.

In the context of the master planned area, the marine environment of the GBRWHA supports a range of terrestrial and marine species, corals, seabirds, seagrass, dugongs, mangrove communities, marine turtles, Threatened Ecological Communities, wetlands and fringing reefs. Within the GBRWHA are the GBRMP and the GBRCMP.

Around 99 per cent of the GBRWHA lies within the GBRMP and the GBRCMP which provides protection for Queensland tidal lands and waters. Both the Australian and Queensland governments have shared legislative responsibilities for the GBRWHA. The state government has jurisdictional responsibility within coastal waters of the GBRWHA that are outside the GBRMP.

As an outcome of Reef 2050 and in accordance with the Ports Act, the OUV of the GBRWHA must be an intrinsic consideration in managing port-related development within the master planned area. The master planning approach achieves this objective by:

- recognising existing regulatory processes that provide for the protection of OUV
- identifying the local attributes of OUV and their contribution to the OUV of the GBRWHA (refer to **Part D** and **Appendix E**)
- identifying potential impacts on the OUV of the GBRWHA from development in the master planned area
- stating EMF objectives and measures to manage the OUV of the GBRWHA
- incorporating the principles the principles of ESD and contributing to wider actions under the Reef 2050.

In addition to its environmental values, the Great Barrier Reef is important for the Queensland and Australian economies. It supports tourism while generating important social, cultural and economic contributions from fishing, recreational and scientific activities in the region.

Cumulative impact management

The Queensland Government has committed to 'Protect the Great Barrier Reef' as one of its key priorities identified in *Our future state: Advancing Queensland's Priorities*.

The management of system-wide cumulative impacts on the Great Barrier Reef is important to ensure continuous improvement in managing potential threats to the Great Barrier Reef. The Queensland Government is managing cumulative impacts on the Great Barrier Reef through a range of policy initiatives:

- taking strong action on climate change through renewable energy and emissions reductions targets by 2050
- managing impacts of poor water quality and crown-of-thorns starfish outbreaks by managing water runoff from land catchments through the *Reef 2050 Water Quality Improvement Plan 2017–2022*
- investing in activities for carbon storage and rehabilitation of wetlands in the Great Barrier Reef catchments through the Land Restoration Fund
- providing guidance on the range of cumulative impacts affecting the reef, as well as assessment and management tools through the Reef 2050 Cumulative Impact Management and Net Benefit policies
- providing guidance on sustainable, leading practice management of port-related maintenance dredging through the Maintenance Dredging Strategy
- improving the health and resilience of fish stocks in the Great Barrier Reef through the *Queensland Sustainable Fisheries Strategy 2017–2027*
- strengthening vegetation clearing legislation including better protection near watercourses in Great Barrier Reef catchments.

The protection of the Great Barrier Reef and cumulative impact management is also a central concept in Queensland's environmental assessment and planning systems. This includes the environmental impact assessment processes and state and local planning processes as described in the 'regulating port operations' section.

The Ports Act plays a key role in cumulative impact management by restricting capital dredging to the four priority ports, prohibiting sea-based disposal of this material unless it is beneficially reused and mandating master planning for an integrated approach to port management.

Master planning complements existing assessment processes and does not replace or remove existing requirements. The EPBC Act assessment process requires an action that is likely to have a significant impact on a matter of national environmental significance (MNES) (which includes the Great Barrier Reef) to be referred to the Australian Government to determine if assessment and approval is required, including the assessment of cumulative impacts.

The master plan establishes a strategic approach by constraining port-related development and capital dredging to a defined master planned area. The master planned area limits cumulative impacts by using a precinct-based approach to concentrate development in locations that avoid areas of environmental significance, where possible. Objectives for specific locations within the master planned area are identified to ensure impacts from development are managed to limit cumulative impacts on important environment values including the Caley Valley Wetlands.

The Ports Act requires the master plan to be reviewed at least every 10 years to provide an adaptive management approach and respond to major changes in policy or legislation, including Reef 2050.

Managing sustainable growth

Sustainable development is managed by the master plan through supporting existing trades and promoting emerging industry opportunities related to renewable energy, including hydrogen. Port optimisation and supply chain infrastructure, including capital and maintenance dredging, are critical to the long-term sustainable port development.

Port optimisation

The priority Port of Abbot Point is a critical node in Queensland's transport network. The port relies on the region's integrated infrastructure network to operate efficiently. This network comprises of road, rail, marine and other transport infrastructure, including telecommunications, water, pipelines, electricity generation and transmission assets.

Port optimisation is a key objective of efficient planning and operation of port infrastructure and activities to support the sustainable development of the port and improve economic, environmental and social outcomes.

There are a variety of factors that can promote or hinder optimisation initiatives. The Australian and Queensland Governments have released policy and planning documents that consider public and private opportunities for optimisation at the planning and investment stages of projects and initiatives.

At a national level, the *2021 Australian Infrastructure Plan* seeks to improve the efficiency of infrastructure networks to drive greater sustainability. This approach has been reflected in various Queensland Government policies, plans and project assessment frameworks which focus on maximising the use of existing infrastructure and planning for smart solutions for new infrastructure.

The Queensland Government's SIS reflects this approach by driving collaborative state infrastructure planning to boost productivity, grow the economy, enhance infrastructure resilience and create jobs throughout the state. The SIS sets the statewide priorities and provides a framework for how government will plan and invest in infrastructure over the next 20 years. It recognises that infrastructure is a critical component of *Queensland's COVID-19 Economic Recovery Plan* and optimising the Queensland port network will facilitate trade and drive growth by increasing the efficiency and effectiveness of port services and infrastructure.

At a master planning level, designation of precincts within the master plan supports port optimisation by providing guidance on where development could be consolidated or co-located, and where development should be limited. This approach means the infrastructure required to support development areas can be delivered more efficiently and is more likely to be shared.

Leading practice optimisation will vary depending on the location, nature of the matter, or type of infrastructure considered. No single approach or technology can be applied in all situations. The relevant environmental, social or economic considerations will dictate appropriateness and likelihood of success.

Efficient vessel movements also play an important role in port optimisation by ensuring that vessels safely navigate within the port waters and in anchorages and pilot areas. The *Port Procedures and Information for Shipping* manual for the Port of Abbot Point is issued by the Regional Harbour Master under the *Transport Operations (Marine Safety) Act 1994*. The manual provides direction to all ship owners, masters and other persons to ensure maritime safety and minimise potential environmental impacts.

Blue Carbon

'Blue Carbon' describes carbon that is captured and stored (sequestered) by coastal vegetated ecosystems, including seagrass meadows, mangrove forests, and tidal marshes.

Substantial areas of Blue Carbon occur within the port limits and strategic port land at the priority Port of Abbot Point. NQBP has worked with James Cook University (JCU) and the Blue Carbon Lab (Deakin University) to quantify the areas of Blue Carbon at the port. This work was based on monitoring and mapping of habitats under the JCU/NQBP partnership and modelling of their blue carbon storage capacity. The studies identified substantial storage of organic carbon in sediment of seagrass, mangroves and saltmarshes within the port limits.

NQBP's commitment to sustainable port planning, monitoring and management of these habitats ensures these ecosystems continue to play an important role in climate change mitigation by drawing down carbon and locking it away.

Land stewardship at Abbot Point

Juru Enterprises Limited (JEL) is the business arm of the Kyburra Munda Yalga, the Native Title Body Corporate for areas around the Port of Abbot Point. JEL was established to provide wealth and growth opportunities for the Juru for future generations to come by maintaining and protecting the Land and Sea Country and culture.

JEL works with NQBP and the Office of the Coordinator-General (OCG) to undertake land and sea management at Abbot Point. This collaboration has facilitated business growth and assisted in developing the skills of the Juru people. This stewardship includes a weed management program across all NQBP lands, targeting Weeds of National Significance and includes restoration works in targeted areas. The detailed annual work program includes monitoring of nesting marine turtles along the beaches of Abbot Point, which includes nest protection as required. As part of the best practice land management works, NQBP, the Office of the Coordinator General and JEL work to ensure protection of the numerous areas of cultural significance across Abbot Point.

Figure 9 — Port of Abbot Point sustainability initiatives

Environmental custodianship

Internationally Certified ISO 9001, 48001 and 14001 accredited Quality, Safety and Environmental Management Systems	Surface water, stormwater and groundwater monitoring program
Coral monitoring program and associated publicly accessible coral dashboard	Biosecurity and pest monitoring and management in partnership with local government and the Department of Agriculture and Fisheries
Marine water quality monitoring program	Blue carbon assessment studies
Real-time air quality monitoring	Land management undertaken by Juru Traditional Owners
Seagrass monitoring and research program and publicly accessible seagrass dashboard	Turtle monitoring undertaken by Juru Traditional Owners

Research partnerships

James Cook University Tropical Water and Aquatic Ecosystem Research (TropWATER) - marine environment monitoring (water quality, coral, seagrass)	NQBP membership of the World Association for Waterborne Transport Infrastructure
NQBP membership of Ports Australia Environment, Planning and Sustainability Working Group and Queensland Ports Association Environment and Planning Working Group	

Community investment and partnerships

NQBP Reconciliation Action Plan	James Cook University TropWATER intern opportunities, scholarship program, and guest lecture program
Community sponsorship and donation programs	New rescue vessel for Bowen Volunteer Marine Rescue
Local Marine Advisory Committee representation	Bowen Collinsville Enterprise Committee Representation
Port Advisory Group	Bowen Chamber of Commerce Membership
Bowen Tourism membership	

Supply chain infrastructure

The efficient operation and protection of supply chain infrastructure supports the important role of the priority port as the first and last link in the regional transport network, which operates 24 hours a day, every day of the week. Supply chain infrastructure comprises a network of road, rail and marine-based infrastructure connecting the port to domestic and international economic markets.

Supply chain infrastructure is critical to the effective operation of the port network and regional industries. Supply chain corridors are part of an integrated transport network and provide opportunities for increased trade diversification to service the catchment and industry.

The supply chain infrastructure supporting the port is summarised in **Table 1**. New or upgraded supply chain infrastructure which increases the capacity and efficiency of infrastructure networks servicing the port, will support increased and diversified trade and enhance economic opportunities.

Table 1 — Supply chain infrastructure

Type of supply chain infrastructure: Road

Supply chain infrastructure	Function	Significance
Bruce Highway	The state's major north-south freight and commuter corridor, connecting Brisbane to Far North Queensland, linking west-east road networks	Primary freight and commuter link for the resource sector
Abbot Point Road	NQBP controlled road intersecting with the Bruce Highway and connecting to the Abbot Point terminal	Provides the only road access from the Bruce Highway to the port

Type of supply chain infrastructure: Rail

Supply chain infrastructure	Function	Significance
Central Queensland Coal Network includes Newlands Rail and Carmichael Rail Line	The rail freight system servicing the Central Queensland Coal network and linking mining resources with customers	Connects the Bowen and Galilee Basins to the port
North Coast Line	The state's principal regional freight and passenger line within the Queensland Rail network, connecting Nambour to Cairns	Provides the physical link between the Newlands System and the branch line to Abbot Point

Table 1 — Supply chain infrastructure

Type of supply chain infrastructure: Marine

Supply chain infrastructure	Function	Significance
Trestles, shiploaders, jetties and seafloor navigational infrastructure including aprons and berth pockets	Facilitates deep water access for ship movements	Critical infrastructure for vessel access to the port
Tugs and moorings	Assists mooring or berthing operations of ships accessing the Port of Abbot Point Tugs berth at Bowen wharf for servicing	Ensure the safe and efficient shipping operations

Type of supply chain infrastructure: Port (land side)

Supply chain infrastructure	Function	Significance
Marine Offloading Facility (MOF) and nearby laydown areas	Access for project and break-bulk cargo and port operations such as launching and mooring light and emergency vessels	Provides flexibility and efficiency for cargo and material handling
North Queensland Export Terminal	Provides for cargo and material handling, storage and transport of goods within the port and export gateway to international markets	Critical for ongoing efficiency of port operations
Rail loops, conveyors, hoppers and stockpiles	Supports current and increased capacity to unload, store and transport coal within the terminal	Optimised supply chain infrastructure maximising land and infrastructure utilisation

Type of supply chain infrastructure: Other

Supply chain infrastructure	Function	Significance
Powerlink transmission line, Bowen North and Merinda Substations	Supplies power to port infrastructure	Critical for ongoing port and terminal operations
Stormwater and water supply	Stormwater return dam, borefield and storage reservoirs manage, treat and store stormwater, providing a reliable water supply for port operations including washdown facilities	Critical for existing port operations
Quarries (2)	Important source of material for future port facilities near the port	Armour rock may provide a suitable source of fill for future infrastructure

Sustainable trade development

Under the *Queensland Climate Action Plan*, the Queensland Government has set goals of generating 50 per cent of the state's energy from renewable sources by 2030 and achieving net zero emissions by 2050. Queensland's ports, including Abbot Point, will play a critical role in reaching these goals as first and last links of international supply chains.

Abbot Point is a world-class port with current strengths in exporting commodities for global steel and energy industries, supported by rail and road infrastructure and the APSDA. Abbot Point is also located within the Northern QREZ, which has reliable wind and solar resources suitable for renewable energy development

The APSDA is supported by infrastructure corridors connecting inland areas which can accommodate new renewable energy infrastructure, including electricity transmission, hydrogen and water pipelines, essential to achieving production-scale capacity for exporting renewable energy internationally.

The combination of the Northern QREZ and strategic infrastructure planning provides an opportunity for a clean energy industrial hub at Abbot Point to diversify trade and deliver large-scale renewable hydrogen exports to the world.

The future sustainable development of Abbot Point can deliver port and supply chain optimisations that represent a new era of renewable energy production and export. Critical to this will be collaboration between project proponents, all levels of government and landowners to coordinate and optimise the delivery of major infrastructure, land utilisation and supply chain efficiency.

The master plan supports the optimisation of the port, industrial land and supply chains, by identifying precincts to manage growth. The master planned area recognises and preserves a corridor connecting the APSDA to port facilities enabling new supply chain infrastructure vital for Queensland's emerging renewable energy industry.

The master plan outlines the strategic approach for Abbot Point's sustainable development by guiding the location and configuration of future facilities and infrastructure to balance future growth with the protection of environmental and cultural values.

Green energy infrastructure

The *Queensland Hydrogen Industry Strategy 2019–2024* supports opportunities in the production and export of renewable hydrogen, and ammonia with the push towards net zero emissions. The Port of Abbot Point has potential to become a significant hydrogen hub involving production, storage and export capabilities.

Multi-user infrastructure solutions across the hydrogen value chain at Abbot Point are supported. This may involve improvements to existing infrastructure, new port facilities, capital dredging and marine infrastructure, production, liquefaction, storage facilities, and supply chain corridors for water, electricity transmission and road access.

Large scale hydrogen production or derivatives require significant volumes of water and additional distribution, and available renewable energy transmission infrastructure. It is recognised that access to water is a critical dependent and proponents must address specific project requirement including allocations for competing uses such as agriculture, urban and resource industries.

Figure 10 — Abbot Point trade synergies

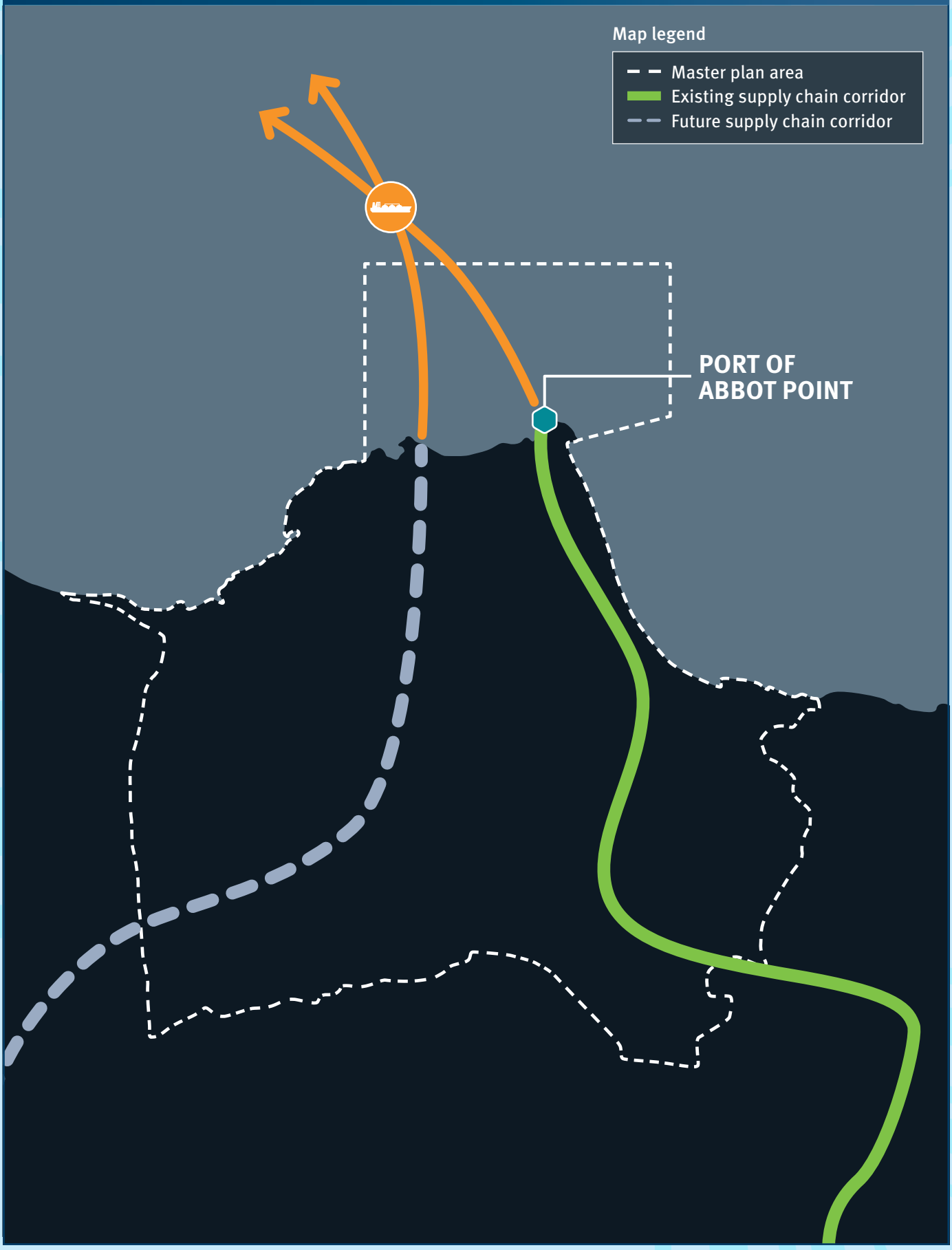
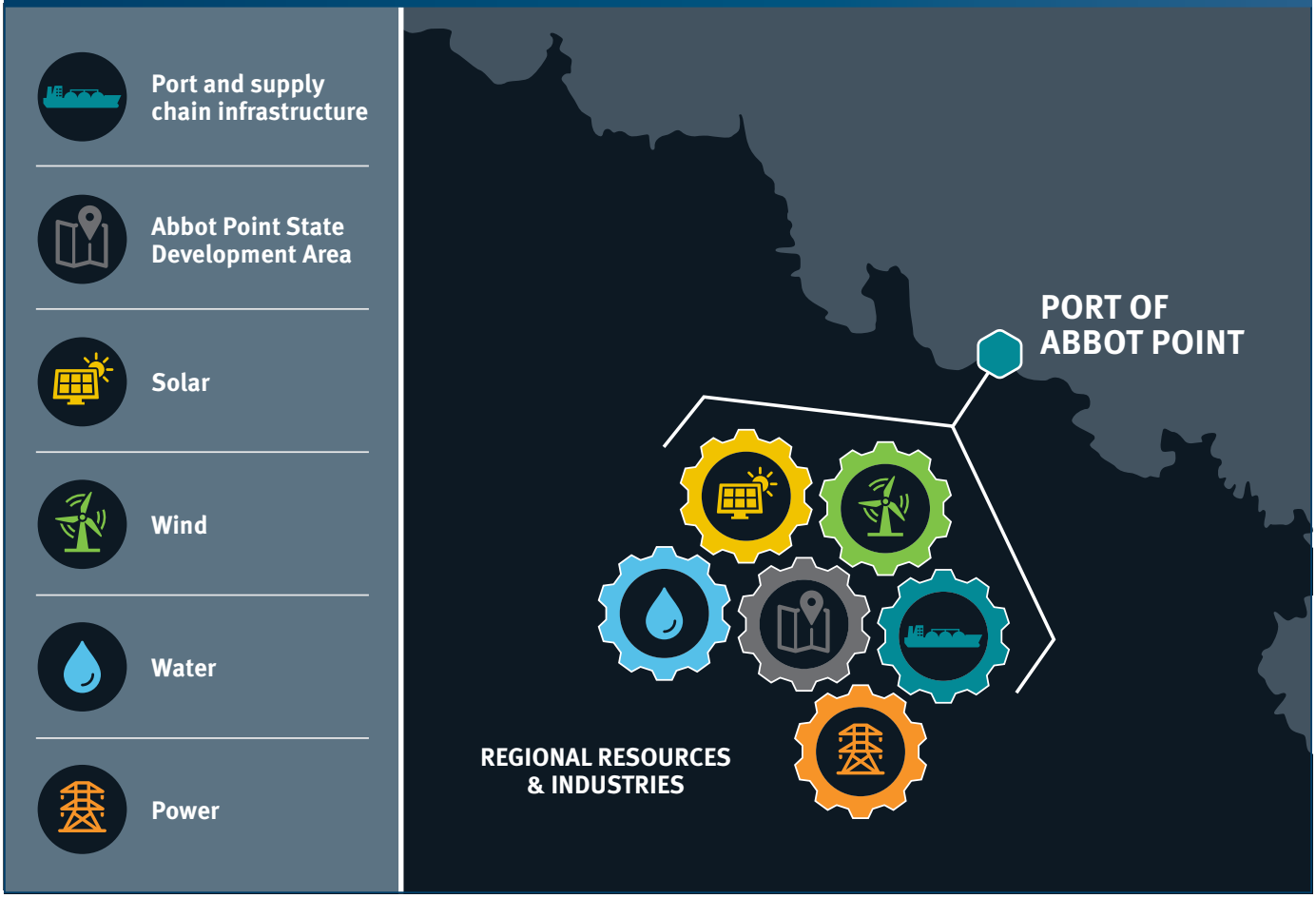


Figure 11 — Emerging industries at Abbot Point



Dredging requirements

The Ports Act restricts port-related capital dredging within the GBRWHA to only within a master planned area for a priority port and mandates the beneficial reuse of material generated from capital dredging. Capital dredging includes creating or enlarging channels, basins and berths. Capital dredging is different to maintenance dredging, which involves removing mobile natural sediments that have accumulated in existing navigation channels, berth pockets, approaches and swing basins to maintain existing approved dredging areas and ensure continued safe navigational movement of vessels.

Dredging is an essential component in the safety of ongoing port operations and to improve navigational areas to meet the needs of port users. Potential impacts are covered in **Appendix D**.

Capital dredging

Capital dredging may be required to expand the capacity of the port by allowing the safe and efficient movement of larger vessels, and increased vessel movements, to support trade opportunities.

Subject to obtaining all necessary federal and state permit approvals, the Ports Act only allows capital dredging to be undertaken within the master planned area and requires the material dredged to be beneficially reused. Beneficial reuse is the practice of using dredged material for a purpose that provides social, economic, or environmental benefits (or a combination of these). This means dredged material is managed as a valuable resource rather than a product destined for disposal.

Future port-related capital dredging cannot occur outside the master planned area. Capital dredging will only occur within defined operational port areas such as the Marine Infrastructure Precinct (refer to **Part C**). Future capital dredging projects will need to determine the best option for beneficial reuse of material.

Maintenance dredging

Maintenance dredging is required to remove natural sediments that accumulate in port areas such as shipping channels, swing basins and berth pockets. Maintenance dredging is essential to facilitate safe passage of vessels. Without maintenance dredging, navigation areas would become shallow, restrict the safe passage of vessels and impact on the efficient operation of the port and associated supply chains. Maintenance dredging and the sea-based placement of dredged material is regulated through a comprehensive approval system managed by both the Australian and Queensland governments in accordance with international agreements and the requirements of federal and state legislation. The master plan does not modify the regulatory requirements that apply to maintenance dredging including assessment processes, consultation requirements and obtaining approvals.

Existing berth pockets and aprons at the priority Port of Abbot Point are in naturally deep water. Relatively low sediment transport rates in the area results in minimal sediment accumulation and infrequent maintenance dredging unless required by storm or cyclonic activity. The MOF to the east of the port requires more frequent maintenance dredging.

NQBP undertake comprehensive marine environmental monitoring programs at the Port of Abbot Point. These ongoing ambient programs can be scaled for effective management of maintenance dredging activities when they occur, which at Abbot Point is infrequent. Satellite derived monitoring is an additional tool used to inform actions and response to prevent environmental harm and contributes to a continual improvement program.

Dredged material placement areas

The material derived from maintenance dredging may be placed at sea or on land in accordance with federal and state regulations. The current approved Dredged Material Placement Area (DMPA) is located five kilometres to the north west of the port although material from the MOF has typically been used for beach nourishment.

The master plan does not restrict future consideration of alternative sites for the placement of maintenance dredged material. Any proposal to relocate the DMPA will need to meet all federal and state regulatory requirements which involves a process independent of the master plan.

Long-Term Maintenance Dredging Management Plan

NQBP's Long-Term Maintenance Dredging Management Plan documents the strategy for managing natural sediment accumulation at the Port of Abbot Point, in a way that ensures the safe and efficient operation of the port and the ongoing protection of local environmental values and the OUV of the GBRWHA.

Level crossing at Abbot Point. Source: TMR

Part B

Strategic vision, objectives and desired outcomes

Part B: Strategic vision, objectives and desired outcomes

Strategic vision

Long term strategic vision for the master planned area to 2050:

The priority Port of Abbot Point will be a critical gateway for significant industries and emerging trade opportunities driving the long-term growth of Queensland. Sustainable port development will manage the diverse environment, rich cultural and social values contributing to the protection of the Outstanding Universal Value of the Great Barrier Reef World Heritage Area and the Caley Valley Wetlands.

Caley Valley Wetlands. Source: Gary Cranitch, Copyright Queensland Museum

Objectives

The objectives for the master planned area identify how the strategic vision will be achieved and alignment with state interests. Objectives may align with more than one state interest.

Table 2 — Objectives

State interest: Management of port-related development

Objectives
Sustainable development – enable ongoing sustainable trade growth through the priority Port of Abbot Point
Efficient land use – use, adapt and develop land and marine infrastructure efficiently to minimise impacts on surrounding areas
Port optimisation – maintain and enhance the effective and efficient operation of the port

State interest: Economic

Objectives
Economic prosperity – facilitate economic growth and enable regional economic development
Sustainable trade – ensure the port is positioned to support emerging industry and trade diversification

State interest: Environment

Objectives
Protecting the GBRWHA – port-related development contributes to the protection of the OUV of the GBRWHA and the Caley Valley Wetlands
Environmental values – protect and manage ecological processes and systems, including hydrological processes. Apply the hierarchy - avoid, minimise, mitigate, offset – to impacts from development on environmental values within and surrounding the master planned area

State interest: Infrastructure

Objectives
Supply chain efficiency – safeguard land required for supply chain infrastructure to maximise the effective operation of the port
Infrastructure utilisation – locate port-related development to support efficient operation of supply chain infrastructure
Industrial opportunities – coordinate port and supply chain infrastructure to support emerging industries

Table 2 — Objectives

State interest: Community

Objectives
Community safety – provide for the safety and security of people, shipping, and property
Connection to Country – recognise the ongoing cultural and spiritual connection the Juru people have with Land and Sea Country and advance knowledge, culture and tradition[2]

2. The master plan supports working with Traditional Owners to advance Aboriginal and Torres Strait Islander Interests in land use planning to value, protect and promote Aboriginal and Torres Strait Islander knowledge, culture and tradition.

Desired outcomes

The desired outcomes for the master planned area will contribute to achieving the strategic vision and are summarised as follows. Outcomes may align with more than one state interest.

Table 3 — Desired outcomes

State interest: Management of port-related development

Desired outcomes
Port optimisation – land and marine areas are optimised for port operations and associated industries
Capital dredging – capital dredging is undertaken, where necessary, to support the safe and efficient growth of the priority Port of Abbot Point
Maintenance dredging – maintenance dredging is undertaken to ensure safe and efficient navigation of waterways in accordance with relevant legislative requirements

State interest: Economic

Desired outcomes
Industrial powerhouse – port development and related industries of state and national significance are encouraged
Employment opportunities – sustainable development and trade diversification create regional job opportunities
Extractive resources – the strategic value of extractive resources and other minerals to national, state and regional economies is recognised
Emerging industry – the establishment and growth of emerging industries that support the strategic vision is enabled

Table 3 — Desired outcomes

State interest: Environment

Desired outcomes
Beneficial re-use – material generated from capital dredging is beneficially re-used
Sustainable port development – biodiversity, environmental values and ecological processes are protected, including the Caley Valley Wetlands and values that contribute to the OUV of the GBRWHA
Leading environmental practice – existing federal and state legislation, planning processes and policies are addressed to achieve leading practice in a Great Barrier Reef context

State interest: Infrastructure

Desired outcomes
Supply chain infrastructure – critical supply chain corridors and infrastructure are protected including connections between port operations and areas of industrial development
Common user infrastructure – infrastructure is planned and provided to support changing technologies, facilitate use by multiple proponents and promote port utilisation
Optimised infrastructure – the capacity of port and supply chain infrastructure is optimised to encourage efficient land use, including optimised land use planning and allocation supporting common user infrastructure outcomes

State interest: Community

Desired outcomes
Health and safety – industrial activities including hazardous chemical facilities are designed, located and managed to minimise risks to human health and safety and the built environment
Cultural significance – development and activities are managed to afford protection to cultural heritage and connections with Land and Sea Country

The strategic vision, objectives and desired outcomes provide higher order strategic outcomes applicable across the master planned area which are consistent with the principles of ESD.

Caley Valley Wetlands. Source: Gary Cranitch Copyright Queensland Museum

Part C

Master planned area and precincts

Part C: Master planned area and precincts

Overview

The spatial extent of the master planned area encompasses land and marine areas needed for efficient development and operation of Abbot Point.

Within the master planned area, precincts have been identified to indicate the long-term intent for port-related development at specific locations.

Master planned area

Under the Ports Act, the master planned area may include land that is outside SPL. This allows for the identification of land critical to the long-term operation of the port, supply chain infrastructure and to ensure a coordinated planning approach for port-related development.

The master planned area includes land identified in existing planning frameworks for port-related industrial development and supply chain infrastructure. This land provides sufficient area for port-related development to occur out to 2050.

The marine extent of the master planned area is within port limits but outside of the GBRMP and GBRCMP. Capital dredging for a port facility will only occur within the master planned area, consistent with federal and state requirements and subject to approvals and permits.

The master planned area includes the land and marine areas shown in **Figure 1** and in **Appendix A**. The master planned area covers approximately 21,500 hectares. The land component has an area of 18,000 hectares while the marine component covers 3,500 hectares.

The master planned area covers:

- Port of Abbot Point SPL
- APSDA
- part of the Whitsunday Regional Council local government area
- marine areas within the Port of Abbot Point port limits that are not within the GBRMP or GBRCMP
- part of the GBRWHA.

Abbot Point Marine Offloading Facility. Source: NQBP

Precincts

A precinct-based approach has enabled identification of areas suitable for long-term industrial development and areas where environmental values are the predominant consideration.

The role of precincts is to identify the long-term purpose and intent for specific areas within the master planned area. The precincts provide for the spatial implementation of the master plan. The use of precincts supports cumulative impact management within the master planned area by identifying areas with environmental values where development should be limited, as well as areas that may be suitable for development.

The designation of a precinct does not imply that all land can be developed. For example, land may be subject to local constraints such as access, flooding or environmental values. Future planning processes and development proposals will need to undertake planning and environmental studies, assessment and approvals under federal and state regulatory requirements, and ensure that relevant tenure holders of existing resource authorities under the *Minerals Resources Act 1989* are contacted.

Similarly, appropriate tenure of the land will need to be obtained prior to submission of any development applications. This includes seeking land tenure from the Department of Resources for any proposed developments on unallocated State land, including any native title requirements. Inclusion of a land parcel within a master planned area does not infer any land tenure rights to develop.

The precinct outcomes apply to specific areas within the master planned area whereas the desired outcomes (identified in **Part B**) apply more broadly to the master planned area.

The EMF objectives have been identified for each of the precincts to provide for the management of potential impacts from development on environmental values. All elements of the precincts combine to achieve the strategic vision for the master planned area.

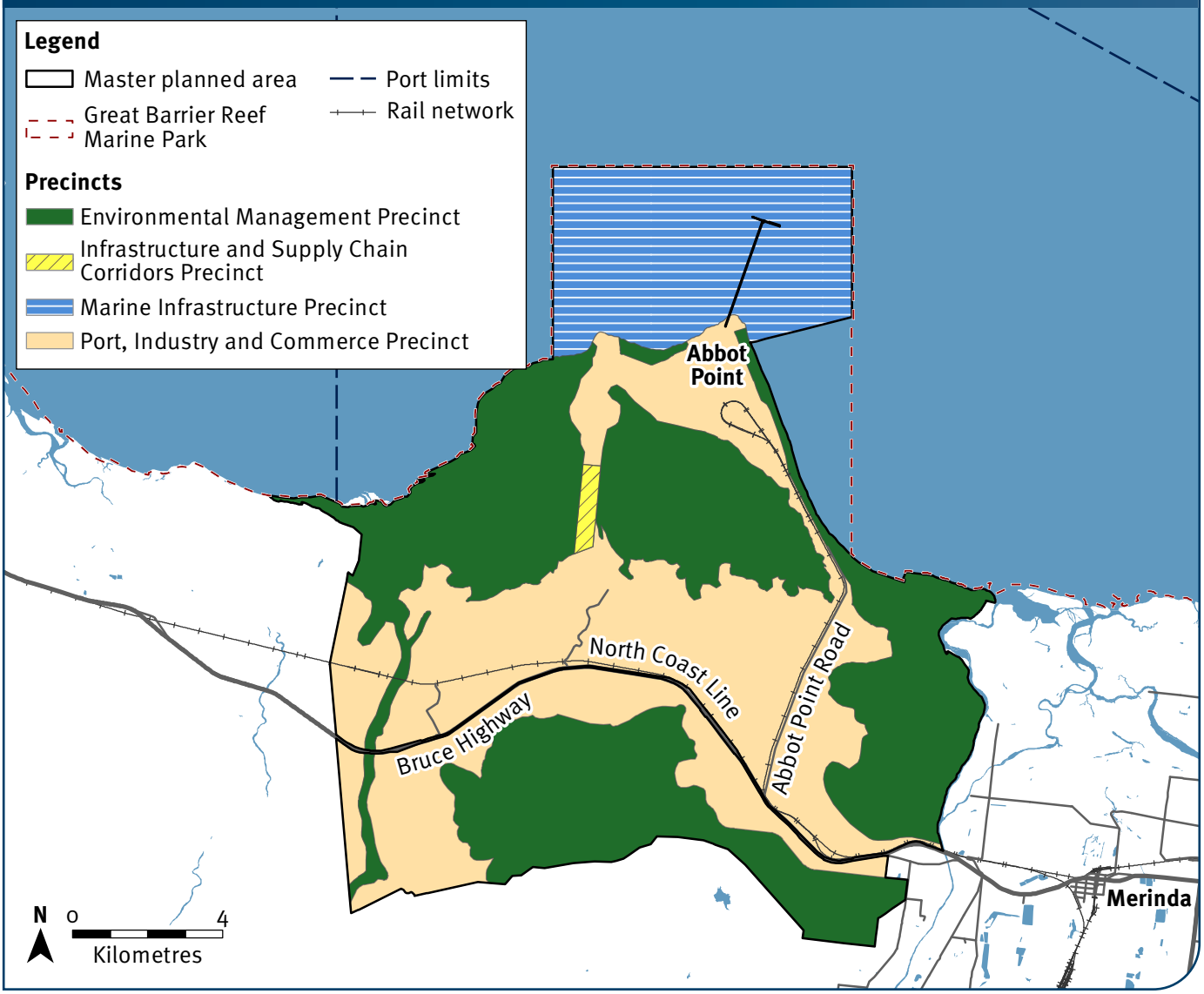
The following precincts are included within the master planned area:

- Environmental Management Precinct
- Infrastructure and Supply Chain Corridors Precinct
- Marine Infrastructure Precinct
- Port, Industry and Commerce Precinct.

Each precinct (see **Figure 12**) is explained in the following sections, by describing the:

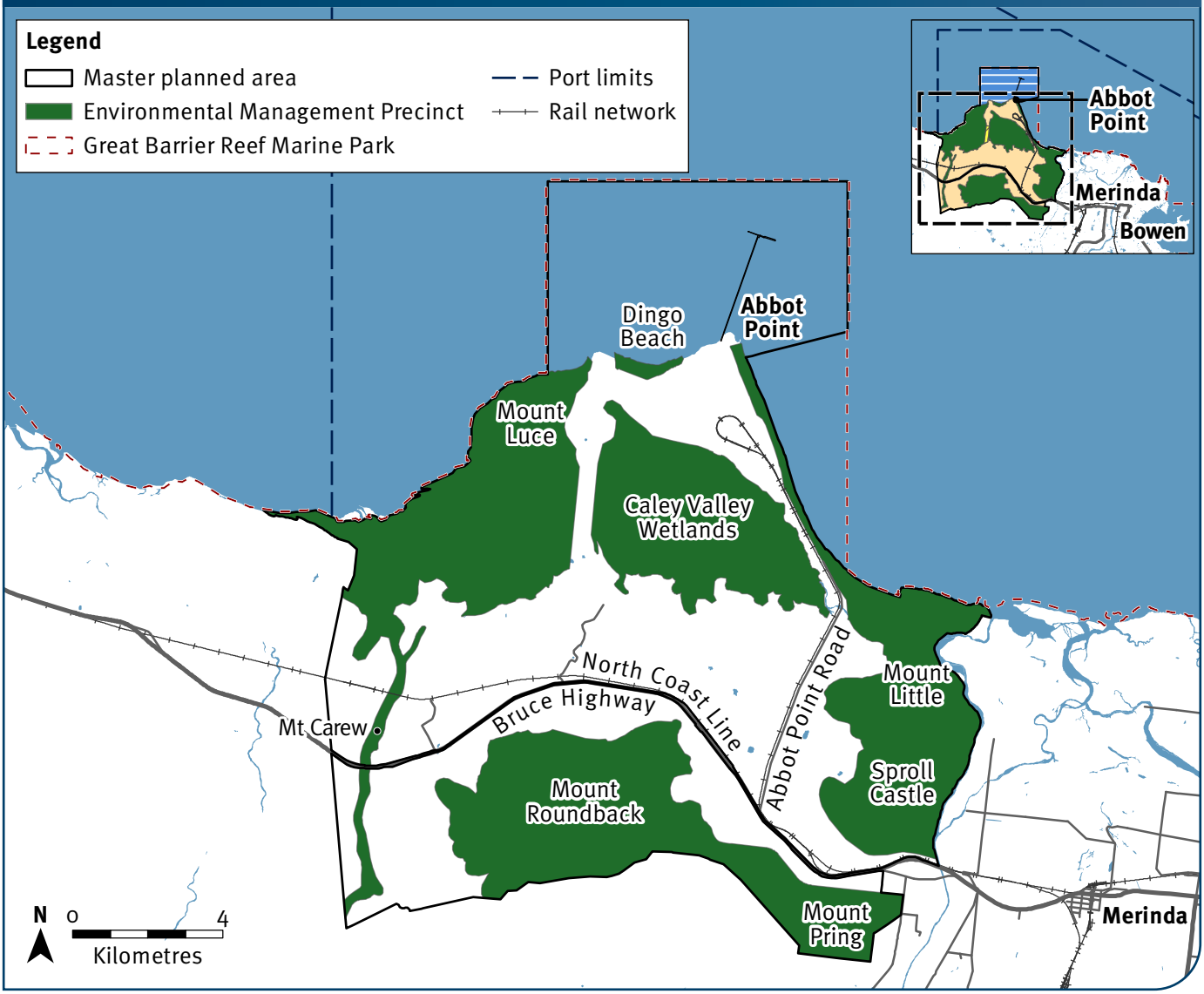
- long-term purpose of the precinct
- precinct description
- precinct outcomes
- EMF objectives.

Figure 12 — Master planned area



Environmental Management Precinct

Figure 13 — Environmental Management Precinct



Purpose

The purpose of the Environmental Management Precinct is to preserve areas of environmental and cultural significance.

Description

The precinct comprises areas of environmental or cultural significance to be protected from potential adverse impacts. Significant areas include habitat for endangered or vulnerable species, landforms, coastal dunes, marine plants and other values that contribute to the local expression of the OUV of the GBRWHA, including the Caley Valley Wetlands and areas of significance to the Juru people.

The precinct may also include areas containing Matters of State Environmental Significance (MSES) and national environmental significance, such as regulated vegetation or essential habitat.

Outcomes

- The health and resilience of biodiversity is maintained or enhanced.
- Cultural values, ecological processes and habitat connectivity are protected.
- The water quality of wetland areas, such as the Caley Valley Wetlands and associated hydrological processes, ecosystem functions and species richness are protected.
- Potential adverse impacts on marine and intertidal areas, especially light and water quality impacts, are minimised.
- Essential infrastructure to service adjoining industry (such as pipelines, telecommunications, electricity network infrastructure and service roads) may be located in this precinct if other Environmental Management Precinct outcomes are achieved.
- Restoration of natural areas through weed and feral pest management and replanting of natural habitat is encouraged.
- Sensitive areas containing fish habitat, including waterways and marine plants below and adjacent to Highest Astronomical Tide (HAT), are managed in accordance with the SPP and/or the relevant SDAP regulatory codes.

EMF objectives

Development avoids, minimises and offsets potential impacts (direct, indirect and cumulative) on environmental values within and surrounding the precinct with particular regard to:

- freshwater and estuarine water quality and hydrological processes that support aquatic ecosystems
- marine plants
- coastal processes
- marine reptiles, marine mammals and migratory marine species
- terrestrial vegetation communities and regional ecosystems
- MSES regulated vegetation and essential habitat
- listed threatened and migratory species and associated habitat
- threatened ecological communities under the EPBC Act
- surface water and groundwater resources, including water quality that supports aquatic ecosystems and hydrological processes
- turtle nesting areas
- wetlands of high ecological significance.

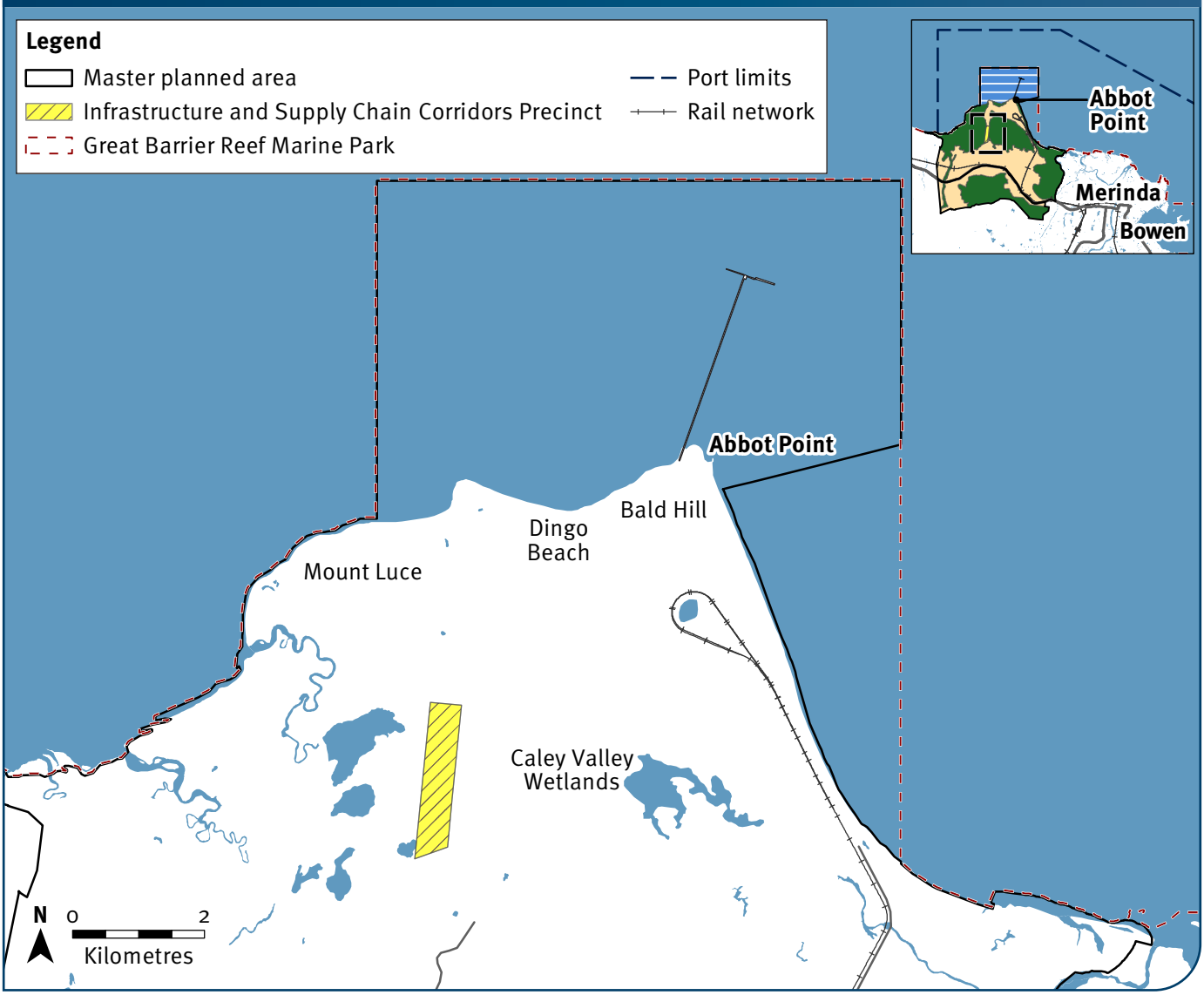
Development protects areas of cultural significance for the Juru people to maintain the ongoing connection to Land and Sea Country.

Development protects and enhances ecological processes of the Caley Valley Wetlands including:

- biological integrity and hydrological processes of the wetland system
- mangroves, saltmarsh and other marine plant communities
- conservation of habitat and connectivity for threatened and migratory species under the EPBC Act and *Nature Conservation Act 1992* (NC Act).

Infrastructure and Supply Chain Corridors Precinct

Figure 14 — Infrastructure and Supply Chain Corridors Precinct



Purpose

The purpose of the Infrastructure and Supply Chain Corridors Precinct is to safeguard land for infrastructure that supports the sustainable development of the port, providing a connection between parcels of land in the Port, Industry and Commerce Precinct.

Description

The precinct provides a new multi-user infrastructure corridor to accommodate transport, pipelines, telecommunications, powerlines, conveyors and other required infrastructure. The precinct facilitates the development and efficient operation of the port and enables new industrial and trade development opportunities.

Outcomes

- Corridors are safeguarded to support the safe and efficient operation of the port and port-related industrial uses.
- The safe and efficient operation and management of supply chain infrastructure is maintained or enhanced.
- Environmental and cultural values are protected from adverse impacts of development.
- The water quality of wetland areas, such as the Caley Valley Wetlands, and associated hydrological processes are protected.
- Multi-user infrastructure is facilitated and could enable the maximum number of complementary uses, where practical.
- Sensitive areas containing fish habitat, including waterways and marine plants below and adjacent to HAT, are managed in accordance with the SPP and/or the relevant SDAP regulatory codes.

EMF objectives

Development avoids, minimises and offsets potential impacts (direct, indirect and cumulative) on environmental values within and surrounding the precinct with particular regard to:

- freshwater and estuarine water quality and hydrological processes that support aquatic ecosystems
- marine plants
- terrestrial vegetation communities and regional ecosystems
- listed threatened and migratory species and associated habitat
- surface water and groundwater resources, including water quality that supports aquatic ecosystems and hydrological processes
- wetlands of High Ecological Significance.

Development protects areas of cultural significance for the Juru people to maintain the ongoing connection to Land and Sea Country.

Development protects and enhances ecological processes of the Caley Valley Wetlands including:

- biological integrity and hydrological processes of the wetland system
- mangroves, saltmarsh and other marine plant communities
- conservation of habitat and connectivity for threatened and migratory species under the EPBC Act and NC Act.

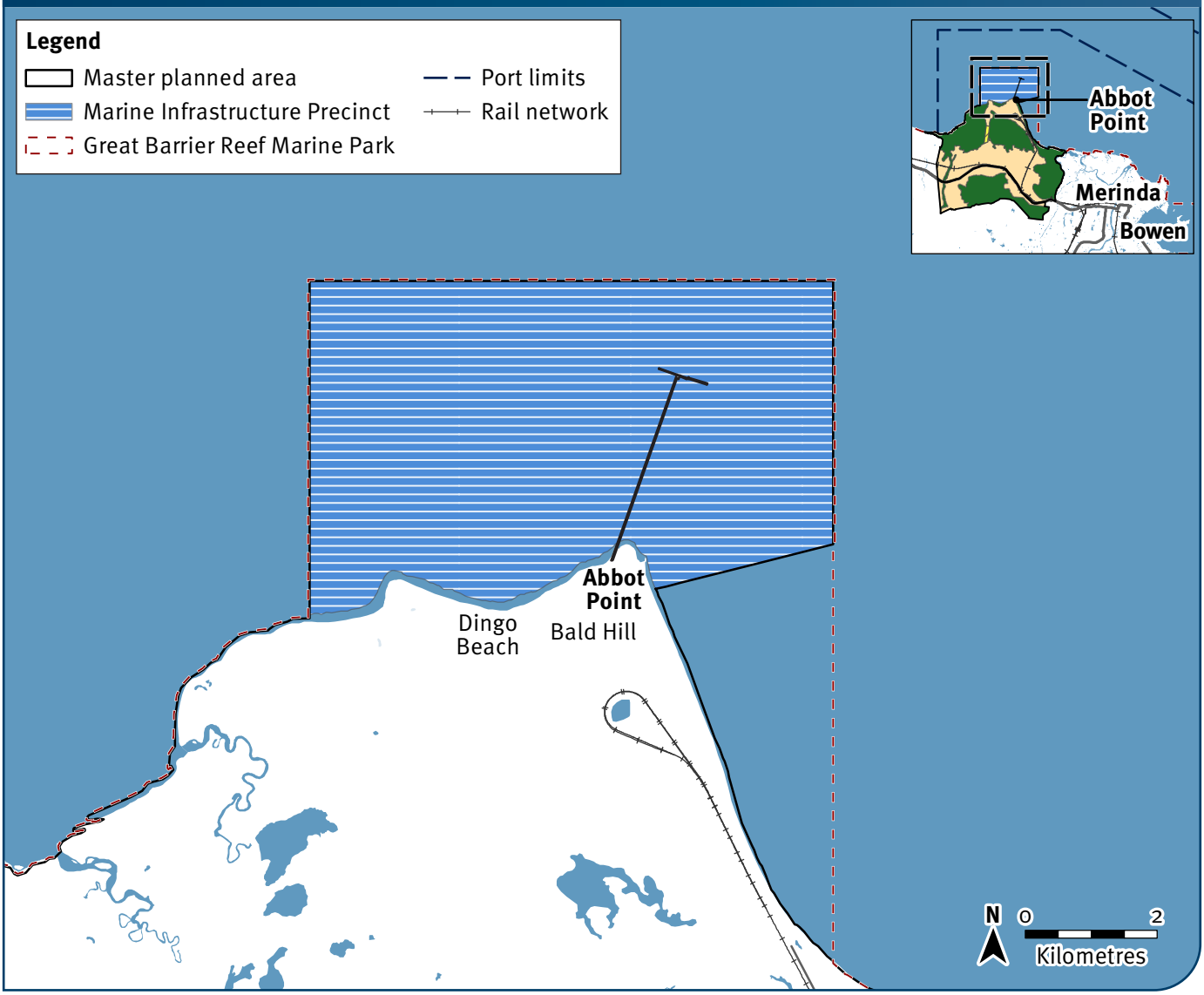
Infrastructure is located, designed and operated to minimise potential impacts on groundwater and catchment hydrology.

Adaptive management controls are applied to respond to sea level rise and associated changes to coastal processes.

Monitoring and reporting provide a transparent framework with public access to information on ecosystem health and resilience.

Marine Infrastructure Precinct

Figure 15 — Marine Infrastructure Precinct



Purpose

The purpose of the Marine Infrastructure Precinct is to make provision for marine-based port infrastructure.

Description

This precinct accommodates existing and future port facilities including offshore jetty structures, breakwaters, swing basins, berth pockets and onloading and offloading facilities.

Development to establish new infrastructure and increase the port's capacity may require capital dredging and/or reclamation within this precinct.

Outcomes

- Marine-based infrastructure is designed and operated to optimise its effectiveness and efficiency, including efficient shipping and berths infrastructure.
- Adverse impacts on marine life, especially light and water quality impacts, are minimised.
- The safe navigation and operation of port waterways are maintained or enhanced by capital or maintenance dredging (and associated works).
- Material from capital dredging must only be placed within the precinct if beneficially re-used.
- Avoid or minimise the impacts of artificial light from marine infrastructure on any turtle nesting areas.
- Sensitive areas containing fish habitat, including waterways and marine plants below and adjacent to HAT, are managed in accordance with the SPP and/or the relevant SDAP regulatory codes.

EMF objectives

Development avoids, minimises and offsets potential impacts (direct, indirect and cumulative) on environmental values within and surrounding the precinct with regard to:

- estuarine water quality and hydrological processes that support aquatic ecosystems
- marine plants
- coastal processes
- coral reefs including near-shore and mid-shelf reefs
- marine reptiles, marine mammals and migratory marine species
- turtle nesting areas.

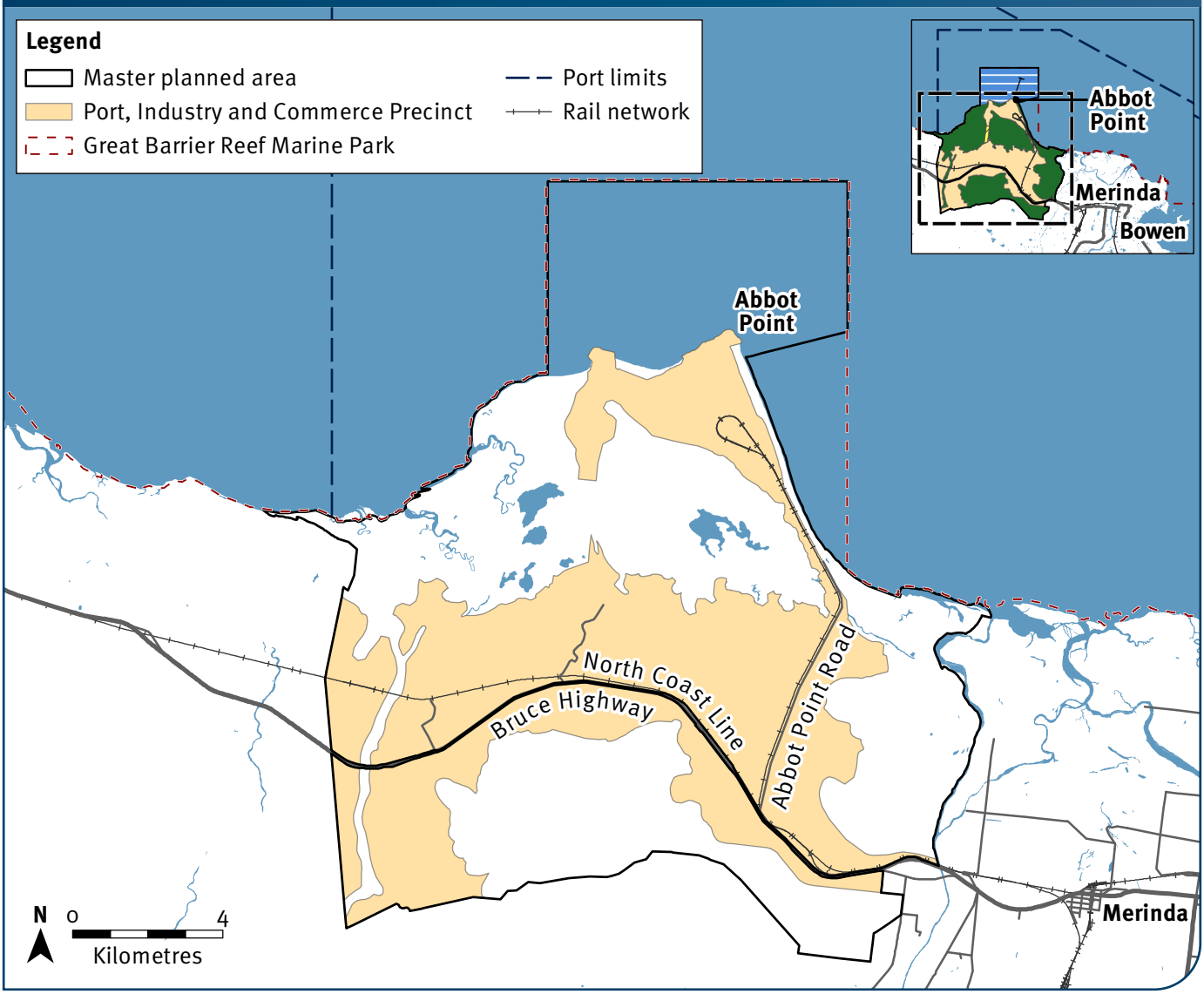
Development protects areas of cultural significance for the Juru people to maintain the ongoing connection to Land and Sea Country.

Marine infrastructure is established to balance maritime access, industrial activities and adverse impacts on the local expression of the OUV of the GBRWHA and other environmental values.

Development increases the understanding of the presence and contribution of attributes associated with the local expression of the OUV of the GBRWHA through data and information collection.

Port, Industry and Commerce Precinct

Figure 16 — Port, Industry and Commerce Precinct



Purpose

The purpose of the Port, Industry and Commerce precinct is to accommodate port operations, industry, port-related commercial activities, and other supporting or related development.

Description

This is the primary industrial and commercial hub supporting growth opportunities for industrial uses, port-related development, and commercial activities.

It provides for large-scale port and industrial development, including terminal operations, commodity handling, emerging industries (including hydrogen manufacture), buffer zones, supporting infrastructure including power, pipelines and water storage and associated supply chain infrastructure and corridors.

Outcomes

- Ongoing access to and from cargo handling areas is maintained.
- Supply chain and infrastructure corridors are appropriately located, designed and constructed to support sustainable development and optimisation of the port.
- Similar industrial and commercial activities are co-located where this would achieve land, infrastructure and supply chain efficiencies.
- Adverse impacts on marine life especially water quality are minimised.
- Impacts from industry of artificial light and noise on any turtle nesting beaches are avoided or minimised. Use turtle friendly lighting where possible in any potential impact area.
- The safe and efficient operation of current and future planned road and rail networks is protected, and potential corridors preserved.
- Long-term efficient utilisation of the port and industrial land is prioritised to maximise trade opportunities.
- Appropriate buffer zones/separation distances around industrial installations are provided.
- Sensitive areas containing fish habitat, including waterways and marine plants below and adjacent to HAT, are managed in accordance with the SPP and/or the relevant SDAP regulatory codes.
- Impacts from industry involving hazardous chemical facilities, are managed in accordance with the SPP and/or the relevant SDAP regulatory codes.

EMF objectives

Development avoids, minimises and offsets impacts (direct, indirect and cumulative) on environmental values within and surrounding the precinct with regard to:

- coastal processes
- marine and estuarine water quality and hydrological processes that support aquatic ecosystems
- marine plants
- fish habitat areas
- threatened ecological communities
- terrestrial vegetation communities and regional ecosystems
- listed threatened and migratory species and associated habitat
- surface water and groundwater resources, including water quality and hydrological processes that support aquatic ecosystems
- turtle nesting areas
- wetlands of High Ecological Significance.

Development minimises impacts to connectivity between areas of the environmental management precinct to the greatest extent possible.

Development protects and enhances ecological processes of the Caley Valley Wetlands including:

- biological integrity and hydrological processes of the wetland system
- mangroves, saltmarsh and other marine plant communities
- conservation of habitat and connectivity for threatened and migratory species under the EPBC Act and NC Act.

Development protects areas of cultural significance for the Juru people to maintain the ongoing connection to Land and Sea Country.

Development increases the understanding of the presence and contribution of attributes associated with the local expression of the OUV of the GBRWHA.

Caley Valley Wetlands. Source: Gary Cranitch Copyright Queensland Museum

Part D

Environmental Management Framework

Part D: Environmental Management Framework

Overview

The Ports Act establishes the legislative requirement for a master plan to include an EMF. The EMF describes the interaction of port-related development with environmental values.

The master plan identifies environmental values that relate to the natural, cultural and social environments with a focus on MNES, MSES and environmental values that contribute to the local expression of the OUV of the GBRWHA.

The role of the EMF in the master plan includes:

- **identifying environmental values:** identifying and mapping environmental values within the master planned area and surrounding areas, including those that contribute to the OUV of the GBRWHA
- **identifying potential impacts:** identifying any potential impacts that development in the master planned area may have on environmental values
- **managing impacts:** stating the EMF objectives and measures (priority management measures) for managing impacts that have been identified.

The master plan and its EMF seeks to achieve outcomes that protect environmental values and more broadly to support the environmental management hierarchy of avoid, minimise, mitigate, offset in accordance with the State Planning Policy and related environmental management policies.

The environmental management framework considers the broader scale outcomes of ecological processes and systems. In the first instance, development should be in areas that avoid potential adverse impacts on environmental values.

Where development occurs, and avoidance is not practical (within the context of the principles of ESD), the development assessment process will introduce measures to minimise or mitigate impacts to reduce the extent, severity and/or duration of potential impacts on environmental values as a result of development.

If development, after applying all practicable avoidance and mitigation measures, results in a significant residual impact on an environmental value, an offset may be required, if appropriate and in accordance with federal and state legislation and policies, in order for the development to proceed.

A review of potential development activities was undertaken in a Planning and Environment Analysis to identify potential impacts on the environmental values within and surrounding the master planned area. This process considered the existing federal and state legislation, state and local planning instruments, operational environmental management measures, and approvals, in managing potential impacts from development on environmental values.

Environmental values within and surrounding the master planned area were identified through a review of relevant documents, including publicly available databases, statutory mapping and EIS technical reports prepared in accordance with federal and state legislation. Information from new validated data sources was added as part of the process. At the time of preparation, consultation with stakeholders and data custodians occurred to confirm the accuracy of information.

The environmental, social and cultural values providing a local contribution to the OUV of the GBRWHA were identified to inform the master planning process. For further information, please refer to the evidence base materials on the TMR website.

Environmental values within and surrounding the master planned area

Land and marine areas within and surrounding the master planned area contain sensitive terrestrial and marine environments of national and international significance. These are recognised and protected through federal and state legislation.

The landscape includes a diverse range of habitats including mangroves, saltmarshes, saline grasslands and sedgelands, vegetated swamps, landforms such as Mount Roundback and Mount Luce, dunes and wetlands coastal vine thickets and tussock grasslands. Marine areas support rich-coastal ecosystems, supporting values such as corals, seagrass, turtles, dugong, whales and dolphins.

Migratory birds are protected under international agreements and federal and state legislation due to their important role in ecological processes.

Caley Valley Wetlands

The Caley Valley Wetlands is an important environmental asset providing significant cultural value to the Juru people. It is a nationally important wetland and habitat for large numbers of threatened migratory birds and shorebirds, many migrating from around the globe. It also contains a diverse range of habitat for many plant and animal species, coastal open waters, mangrove forests, marsh areas, lakes and streams.

The proximity of the Caley Valley Wetlands to the GBRWHA provides connectivity between the reef and other aquatic environments including abundant feeding, roosting and breeding areas for migratory birds, shorebirds and seabirds which provide a significant contribution to the local expression of OUV of the GBRWHA.

Mapping of identified environmental values within and surrounding the master planned area, including those that contribute to the OUV of the GBRWHA are included at **Appendix B**.

Environmental values that contribute to the local expression of Outstanding Universal Value

To ensure OUV is an intrinsic consideration in priority port planning, management and governance, an evidence-based assessment was undertaken to identify the local expression of OUV relative to the whole GBRWHA.

The local expression of OUV for the priority Port of Abbot Point predominantly arises from

the significant diversity of both marine and terrestrial species within and surrounding the master planned area:

- **Migratory birds, shorebirds and seabirds** are key environmental values that have international environmental significance. Migratory shorebirds forage and roost in intertidal mudflats, sandy beaches, salt pans and rocky intertidal areas and include a significant number of threatened and endangered species.
- **Mangrove forests**, including the Caley Valley Wetlands provide habitat for other values. Other important areas of mangroves include the tidal channels of Curlewis Bay, Saltwater Creek, Euri Creek and Menilden Creek. Mangroves are also present on islands, including Cape Upstart, North Head Island and Stone Island.
- **Marine turtles** including Loggerhead turtles, Green turtles, Leatherback turtles, Hawksbill turtles, Olive-ridley turtles and Flatback turtles are present. Green turtles nest at Edgecumbe Bay and there are small populations near the mouths of Saltwater Creek and Euri Creek.
- **Marine mammals** utilise marine areas where suitable habitat (such as seagrass) is present, including humpback whales, Indo-Pacific humpback dolphins, Australian snubfins dolphins and dugongs.
- **Coral reefs** are located away from port operations at Camp Reef, Middle Island Reef, Holbourne Island, Stone Reef, North Head Reef and Thomas Reef consisting of near-shore and mid-shelf reefs comprising hard and soft corals.

All attributes contribute to the structure and diversity of the local ecosystem.

Table 6 in **Appendix C** summarises the local attributes and associated environmental values within and surrounding the master planned area. **Figure 17** provides an illustrative representation of OUV at the priority Port of Abbot Point.

Contribution classifications for OUV vary for each world heritage criterion and specific environmental values. The classifications relate to the attributes' significance relative to the whole GBRWHA, and do not contradict any conservation listings under legislation or conventions, condition/trends in outlook reports, status in the retrospective statement of OUV or otherwise.

The classifications used in **Table 6** and referenced in **Appendix C** are generally defined as:

- **Significant contribution:** The attribute represents locally important examples of the attribute relative to the nature of the attribute across the GBRWHA. Such an attribute may be specifically referred to within the retrospective statement of OUV for the GBRWHA or defined by other legislation, planning instruments or values assessment (for example in the Great Barrier Reef Outlook Report). The occurrence of the attribute locally is a prime example of the features mentioned in the retrospective statement of OUV.
- **Moderate contribution:** The attribute occurs in moderate abundance or across a moderately large area but is not the prime occurrence or representation of the attribute within the GBRWHA. The attribute does, however, represent a feature for which the Great Barrier Reef was listed as World Heritage.
- **Minor contribution:** The attribute is present however it occurs in low abundance or singularly and is:
  - **not essential to the sustainability of the attribute**
  - **not recognised as a key feature of the GBRWHA**
  - **not included in the retrospective statement of OUV**
  - **not iconic, unique or a high-quality example of the attribute.**

Further information about how the contribution of these attributes align with specific OUV criterion is at **Appendix C**.

Other environmental and heritage values

There are also important environmental values within and surrounding the master planned area

that are significant, but not identified as directly contributing to the OUV of the GBRWHA. The area supports a range of environmental values, particularly terrestrial, aquatic and marine ecological values, including MSES such as regulated vegetation and critical wildlife habitat.

Indigenous cultural heritage: Land and Sea Country are significant for social and cultural practices for the Juru people.

The Traditional Owners of the Land and Sea Country are the Juru people with land and marine areas highly significant and connections are actively maintained.

Freshwater, marine and estuarine water quality: marine waters, fresh waters, and aquatic ecosystem values providing ecosystem services are protected under state legislation.

The major waterways include Saltwater, Euri and Splitters Creeks, with waterways draining northwards towards Abbot Bay and the Coral Sea. There are also three wetlands of national importance - Caley Valley Wetlands, Southern Upstart Bay and the GBRMP.

Listed threatened and migratory species: identified under international agreements and protected under federal legislation.

A diverse range of species including threatened ecological communities, endangered and vulnerable species can be found within and surrounding the master planned area. Marine mammals include the Blue Whale, Humpback Whale and Dugong. The area provides habitat for the transition of humpback whales on their southern migration from calving grounds while the Indo-Pacific humpback dolphin and Australian snubfin dolphin are also present.

Protected areas: including National Parks and Conservations Parks, listed under the provisions of federal and state legislation.

Protected areas include Abbot Bay Conservation Park, Cape Upstart National Park, Gloucester Island National Park, Holbourne Island National Park and the GBRCMP providing environmental conservation and recreational opportunities.

Regional ecosystems: remnant vegetation and ecological communities identified and protected under federal and state legislation.

There are several remnant vegetation communities including vegetated mountains, riparian areas and islands providing habitat for native fauna and flora and ecological connectivity.

Marine plants: mangrove and marine plants provide habitat and food sources for a range of invertebrates, birds and fish and are protected under state legislation.

There are approximately 673 hectares of mangrove forests within the Caley Valley Wetlands. There are mangroves on Cape Upstart Island, North Head Island and Stone Island.

Seagrass and macroalgae:

located in offshore areas and attract dugongs to forage between the Dugong Protection Area at Upstart Bay and the Dugong Sanctuary at Edgecumbe Bay.

Surface and coastal waters:

Environmental values for the surface waters of the Strategic Port Lands and the coastal waters within the Restricted Use Areas to protect the intrinsic value of aquatic ecosystems, habitat and wildlife; the cultural and spiritual values significant to Aboriginal people, and the suitability of the surface and coastal waters for industrial uses.

Groundwater:

Groundwater environmental values for the Abbot Point Port Strategic Port Land include the protection of aquatic ecosystems and cultural and spiritual values, additionally protection of the groundwater to ensure its suitability for drinking water and stock water is required.

Potential impacts from development on environmental values

As part of the Planning and Environment Analysis, future port-related development activities within the master planned area out to 2050 were reviewed. Development that may have the potential to impact on environmental values has been identified and considered against the capacity of the existing statutory requirements and operational measures in place to manage impacts on environmental values.

The potential impacts from development on environmental values have been identified in **Appendix D**.

The Planning and Environment Analysis considered impacts at a high level, due to the large spatial extent of the master planned area and the wide range of activities that could potentially occur within the precincts up to the year 2050.

The Planning and Environment Analysis recognised that assessment processes currently provide for the detailed consideration of potential impacts on environmental values in accordance with existing legislation.

The following port-related development activities were identified as having potential impacts on environmental values within and surrounding the master planned area:

- capital dredging
- new or expanded port and supply infrastructure
- establishment of new port-related industries.

The federal and state assessment processes allow detailed identification of potential environmental impacts from any capital dredging, land reclamation, construction and operation associated with development.

Proposed development in all precincts needs to comply with the SDAP.

Parts of the master planned area are within either the State's Coastal Management District or Erosion Prone Area. Proposed development may be triggered for assessment against the State Development Assessment Provision and in particular performance outcomes in State Code 8: Coastal development and tidal works.

Fisheries resources, including marine plants, are likely to be present on and adjacent to tidal lands (areas below HAT). When triggered under SDAP, the purpose statement and performance outcomes in State Code 11 for the removal, destruction or damage of marine plants and State Code 18 for constructing or raising waterway barrier works in fish habitats must be considered.

Figure 32 shows areas below HAT within the priority port master planned area.

Appendix D contains further information about activities, potential impacts and values associated with future port-related development.

Managing impacts

The Ports Act states that objectives and measures are required to manage impacts from development on environmental values within the master planned area.

The master plan adopts an approach for managing impacts which involves regulating development by exception only where requirements for port-related development are necessary.

This recognises that existing planning and regulatory frameworks across all levels of government provide a comprehensive system for the management of environmental impacts.

The framework for the management of potential impacts from development within the master planned area is provided by existing federal and state statutory requirements and environmental management measures. These statutory requirements and other environmental management measures will continue to manage environmental impacts within the master planned area.

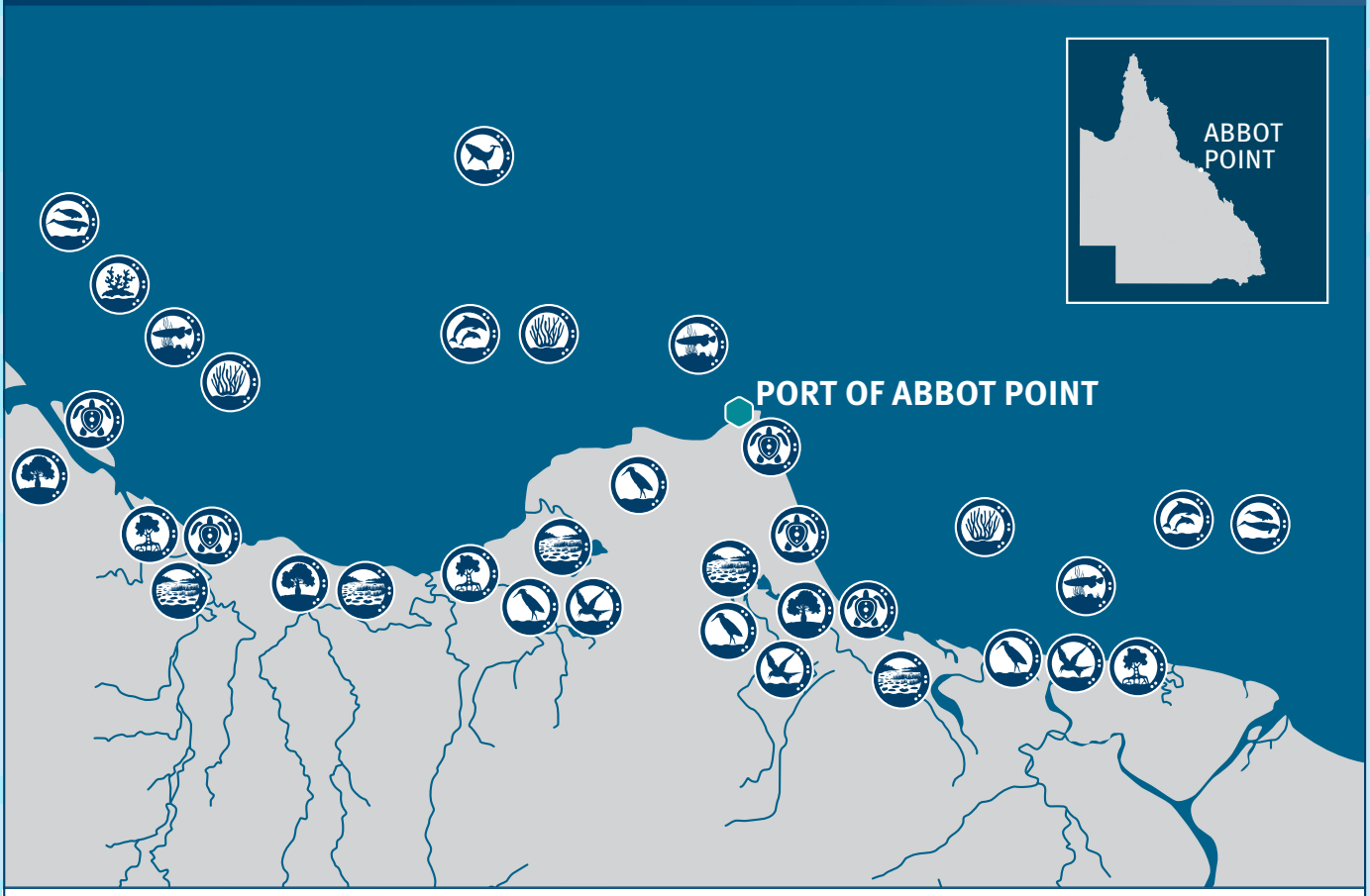
The Planning and Environment Analysis considered the existing federal and state legislation, state and local planning instruments, operational environmental management measures and approval processes, in managing potential impacts on environmental values from development.

The master plan adopts an approach for managing potential impacts from development within the master planned area by supporting the environmental management hierarchy of avoid, minimise, mitigate, offset applied to development assessment outlined in existing legislation and state and local planning instruments.

When a proposed development is likely to contribute to pressures on Great Barrier Reef values, cumulative impacts need to be considered in line with the Reef 2050 Plan – Cumulative Impact Management Policy.

Berth at the Port of Abbot Point. Source: NQBP

Figure 17 — Local expression of OUV at the priority Port of Abbot Point



Map legend

- Turtles
- Seagrass
- Migratory birds
- Dugong
- Wetlands
- Fish
- Mangroves
- Shorebirds and seabirds
- Whales
- Dolphins
- Coral
- Threatened ecological communities

Disclaimer: This map has been prepared for illustrative purposes only and is not an exhaustive representation of environmental values that contribute to OUV. For more detailed mapping of environmental values and limitations of datasets, refer to Appendix B. For further detail on the local expression of OUV, including specific environmental values that contribute to this, refer to Appendix C.

Environmental Management Framework objectives

The EMF objectives have been identified for each of the precincts to manage potential impacts from development within the master planned area on environmental values, including the OUV of the GBRWHA, MNES and MSES. The EMF objectives for each of the master planned area precincts are identified in **Part C**. These objectives refer to environmental values within and surrounding the master planned area. Due to the range of potential development activities within the master planned area, the different potential impact pathways, varying sensitivities of receptors and different biological traits of receptors (for example behaviours and responses to stress), and the surrounding areas may vary from precinct to precinct.

The port overlay identifies the EMF objectives as matters that must be considered when making and amending planning instruments, or when making development decisions, within the master planned area. This ensures the EMF objectives are addressed in future development assessment processes.

Priority management measures

A single priority management measure (PMM) for the master planned area is identified in **Table 4** below. This PMM is designed to ensure the Caley Valley Wetlands are not only protected, but enhanced in accordance with *Reef 2050 Plan - Net Benefits Policy* and the PMM will support the long-term sustainable development of the Port of Abbot Point.

Table 4 — Priority management measures

Priority management measure

Protect and enhance the Caley Valley Wetlands

Prepare and implement a **coordinated management strategy** which integrates economic, environmental and cultural values to protect and enhance the Caley Valley Wetlands and associated environmental values.

Master planned area precinct
Environmental management
Infrastructure and supply chain corridors
Marine infrastructure
Port, industry and commerce

Abbot Point Offshore Berth and Shiploader. Source: NQBP

Part E

Master plan implementation

Part E: Master plan implementation

The master plan is a strategic document that will be implemented through the port overlay. The port overlay implements the master plan by providing requirements that are delivered through existing planning instruments that regulate development within the master planned area.

The following planning instruments regulate development within the master planned area:

- the Port of Abbot Point Land Use Plan under the *Transport Infrastructure Act 1994*
- the APSDA Development Scheme under the *State Development and Public Works Organisation Act 1971*
- the Whitsunday Regional Council Planning Scheme under the *Planning Act 2016*.

It should be noted that the assessment triggers and benchmarks in the Planning Regulation 2017 also apply within the master planned area.

The port overlay only regulates development in those parts of the master planned area where further requirements are necessary to implement the master plan in addition to existing planning instruments. This recognises that the outcomes sought by the master plan are, in many cases, already achieved through existing processes, which reduces duplication and minimises the potential for conflict between provisions that operate under different legislative heads of power.

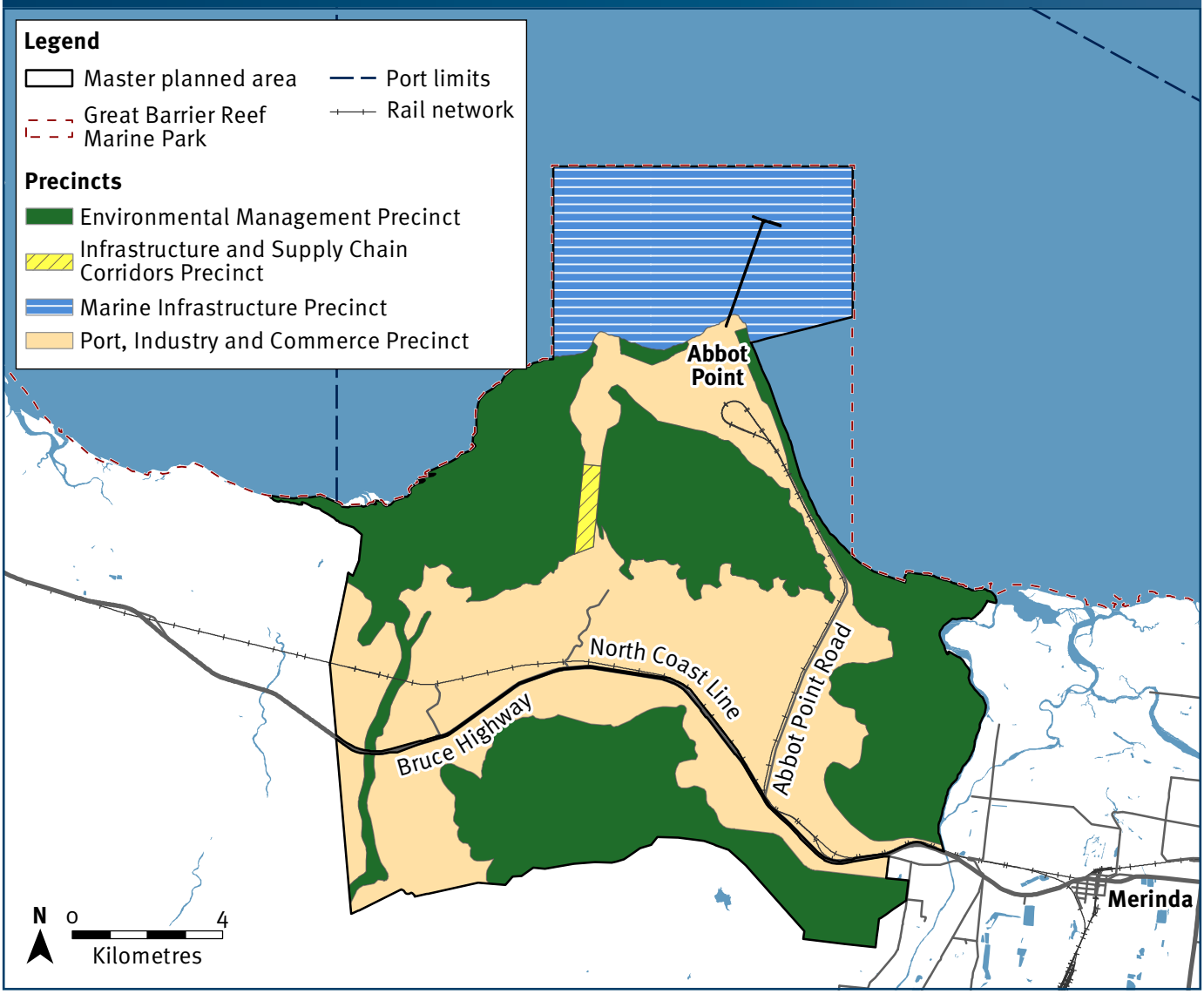
Decisions made prior to the master plan and port overlay coming into effect, about relevant planning instruments and environmental legislation in the master planned area, will not be modified retrospectively by the port overlay, but will continue to apply.

Under the Ports Act, the port overlay cannot regulate development under the APSDA Development Scheme.

Appendices

Appendix A
Priority Port of Abbot Point master planned area regulation map

Figure 18 — Priority Port of Abbot Point proposed master planned area regulation map



Appendix B

Mapping the local expression of the OUV of the GBRWHA and other environmental values

The mapping in this appendix has been prepared using existing datasets as current at the time of master plan publication. Some of these datasets have been synthesised using field collected data. Other datasets are the result of desktop studies. Not all mapping has been confirmed through field surveys. Data sources are referenced on each map.

It should also be noted that some mapping has been prepared over a period of time to account for seasonal variability of environmental values (for example, seagrass meadows) and should be considered as indicative only.

The mapping presented in this appendix is not exhaustive, and there may be other areas of environmental, social or cultural value that are not specifically identified or mapped.

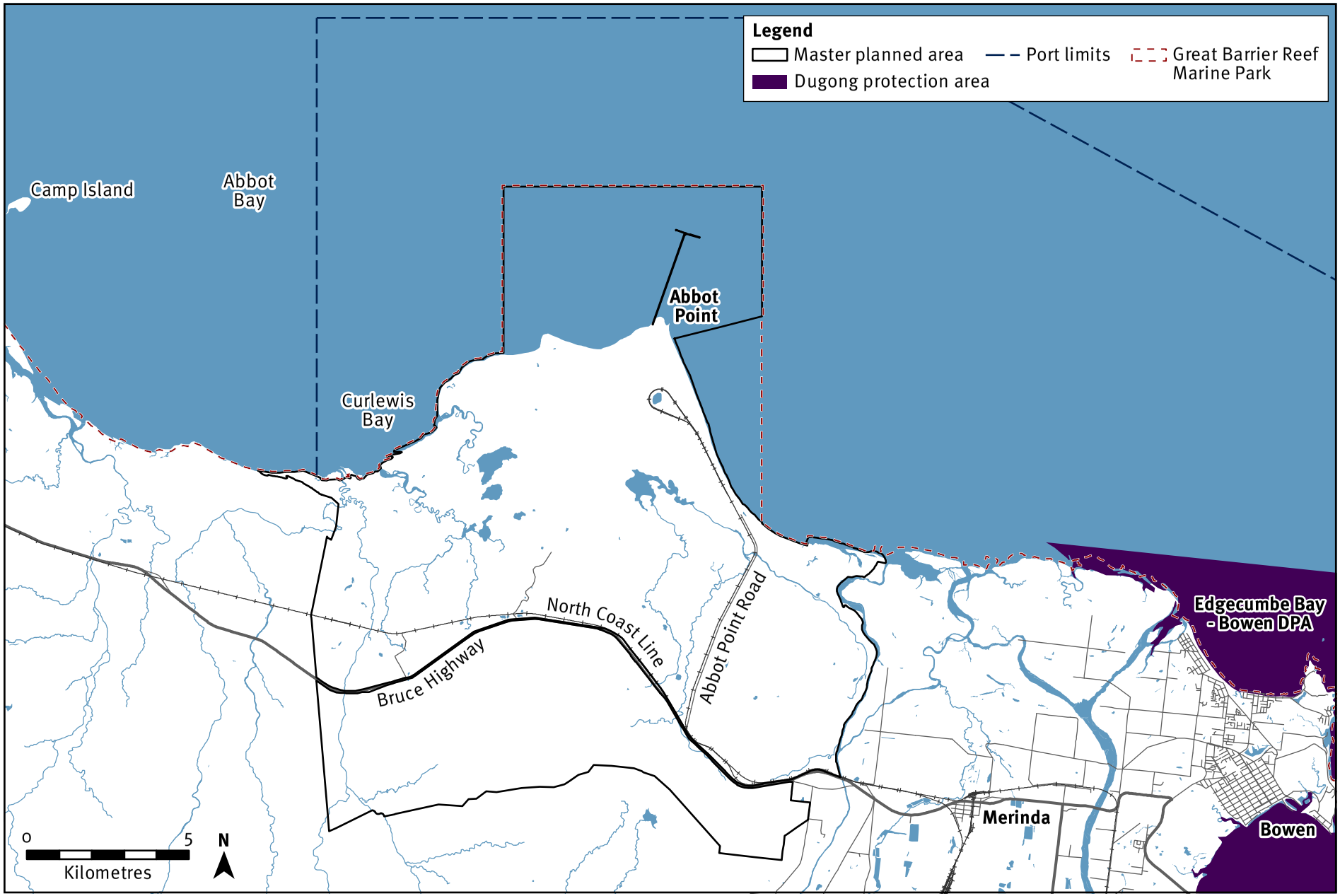
The mapping identifies environmental values that contribute to the local expression of OUV.

Table 5 — Mapping datasets and sources

Figure Title	Key dataset/s	Sources
Dugong Protection Areas	Edgecumbe Bay Dugong Protection Area	Dugong protection areas, published 24/03/2013, downloaded 22/03/2023 Department of Agriculture and Fisheries, Queensland Government (2013)
Freshwater, marine and estuarine water types	Marine and estuarine waters from the Environmental Protection (Water and Wetland Biodiversity) Policy 2019	Environmental Protection (Water and Wetland Biodiversity) Policy 2019 - Water Types, downloaded 02/05/2023 Department of Environment and Science (Queensland Government 2023)
Great Barrier Reef Marine Park zoning	Great Barrier Reef zones	Downloaded 29/05/2023 Great Barrier Reef Marine Park Authority 2023
Habitat for threatened terrestrial flora and fauna	Essential habitat regulated under the *Vegetation Management Act 1999* Threatened ecological communities listed under the *Environment Protection and Biodiversity Conservation Act 1999*	MSES - Regulated vegetation - essential habitat, published 07/08/2022, downloaded 21/03/2023 (Queensland Government 2023) Vegetation management regional ecosystem map v12.02, published 06/03/2023, downloaded 23/03/2023 (Queensland Government 2023) Species Profile and Threats Database (Australian Government 2022)

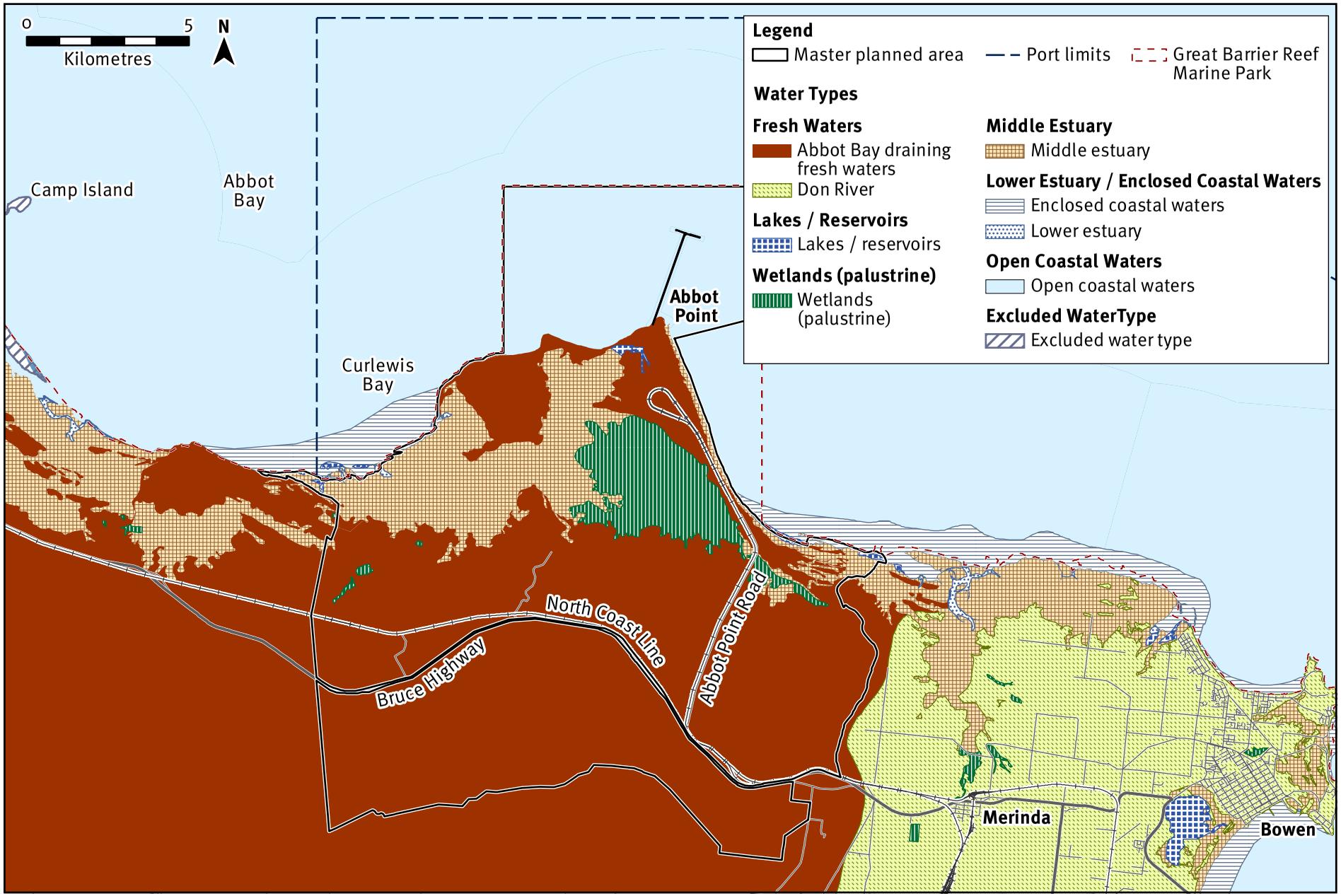
Table 5 — Mapping datasets and sources		
Figure Title	**Key dataset/s**	**Sources**
Highest Astronomical Tide	Highest astronomical tide – Queensland	Highest astronomical tide – Queensland, published 28/05/2013, supplied by TMR 12/06/2023 (Queensland Government 2023)
Marine turtles	Nesting areas	Sea turtle nesting areas, published 06/07/2022, downloaded 02/05/2023 Department of Environment and Science (Queensland Government 2023)
Migratory birds, shorebirds and seabirds	Count data during wet surveys	Queensland Wader Study Group 2012
Migratory birds, shorebirds and seabirds	Count data during wet surveys	Queensland Wader Study Group 2012
Migratory birds, shorebirds and seabirds	Count data during dry surveys	Queensland Wader Study Group 2012
Protected areas	Protected areas of Queensland under the *Nature Conservation Act 1992*	MSES - protected area – estates, published 08/09/2021, downloaded 21/03/2023 (Queensland Government 2023)
Reefs and shoals	Reef communities	Reefs and shoals, published 08/09/2022, downloaded 21/03/2023 (Queensland Government 2023)
Regional ecosystems	Regional ecosystem status under the *Vegetation Management Act 1999*	Vegetation management regional ecosystem map v12.02, published 06/03/2023, downloaded 23/03/2023 (Queensland Government 2023)
Regional ecosystems containing mangroves, saltmarsh communities and marine plants	Vegetation management regional ecosystem map under the *Vegetation Management Act 1999*	Vegetation management regional ecosystem map v12.02, published 06/03/2023, downloaded 23/03/2023
Seagrass meadows	Historical seagrass monitoring data	Annual seagrass monitoring surveys - combined data 1987 to 2022 (Centre of Tropical Water and Aquatic Ecosystem Research (TropWATER), James Cook University 2023)

Table 5 — Mapping datasets and sources		
Figure Title	**Key dataset/s**	**Sources**
Wetlands and watercourses	Wetlands under the *Vegetation Management Act 1999* and the Environmental Protection (Water and Wetland Biodiversity) Policy 2019 Directory of Important Wetlands	MSES - High ecological significance wetlands, published 06/07/2022, downloaded 21/03/2023 (Queensland Government 2023) MSES - High ecological value waters wetlands, published 14/12/2022, downloaded 21/03/2023 (Queensland Government 2023) Directory of important wetlands – Queensland, published 02/01/2005, downloaded 28/03/2023 (Queensland Government 2023) Wetland protection area – GBR High ecological significance wetland, published 06/07/2022, downloaded 28/03/2023 (Queensland Government 2023) Wetland protection area - trigger area Map of Queensland wetland environmental values, published 06/07/2022, downloaded 28/03/2023 (Queensland Government 2023) Vegetation management watercourse and drainage feature map (1:100000 and 1:250000) - Queensland except South East Queensland Version 6.00, published 08/09/2022, downloaded 28/03/2023 (Queensland Government 2023)



Coordinate System: GCS GDA 1994

Figure 19: Dugong Protection Areas



Coordinate System: GCS GDA 1994

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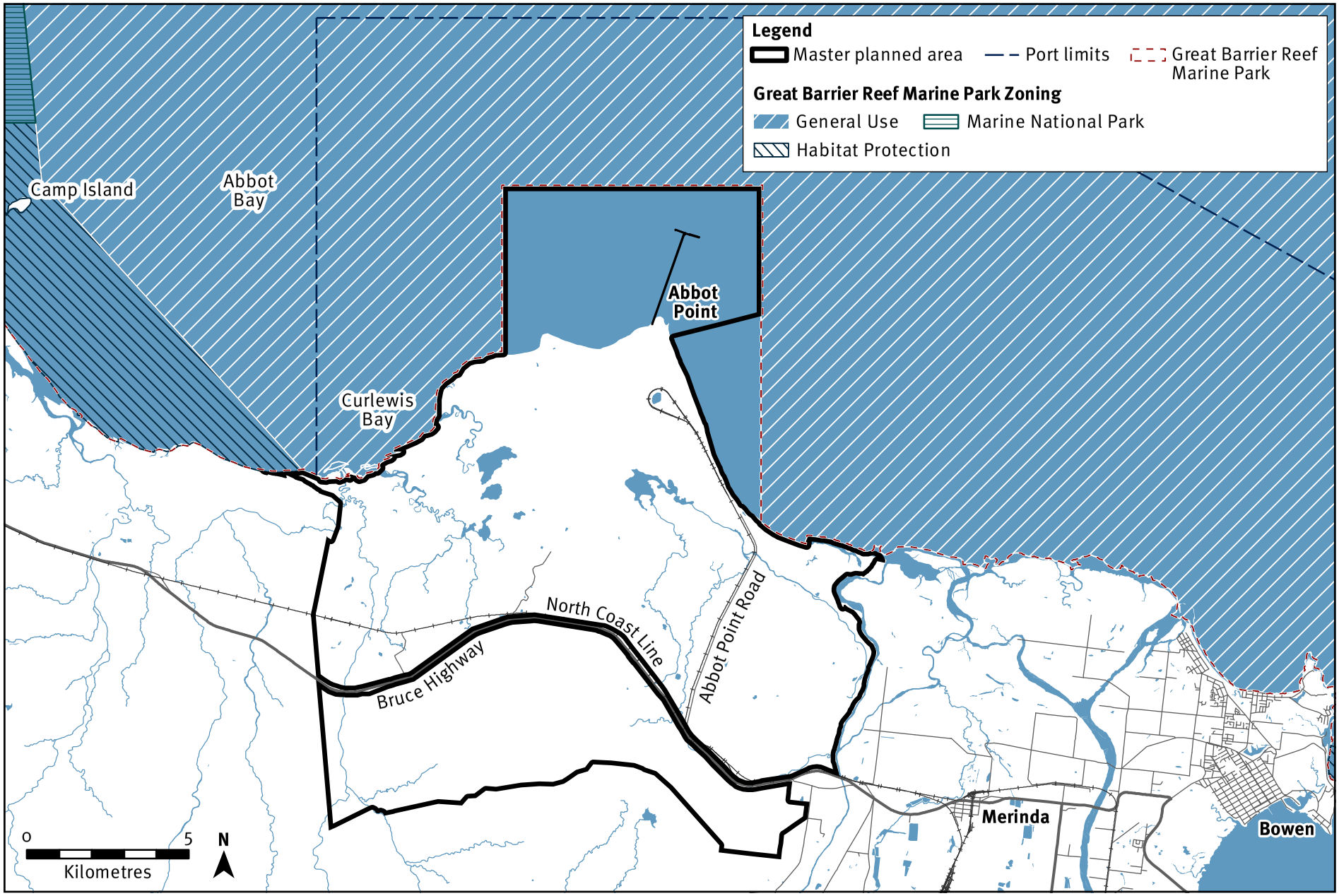
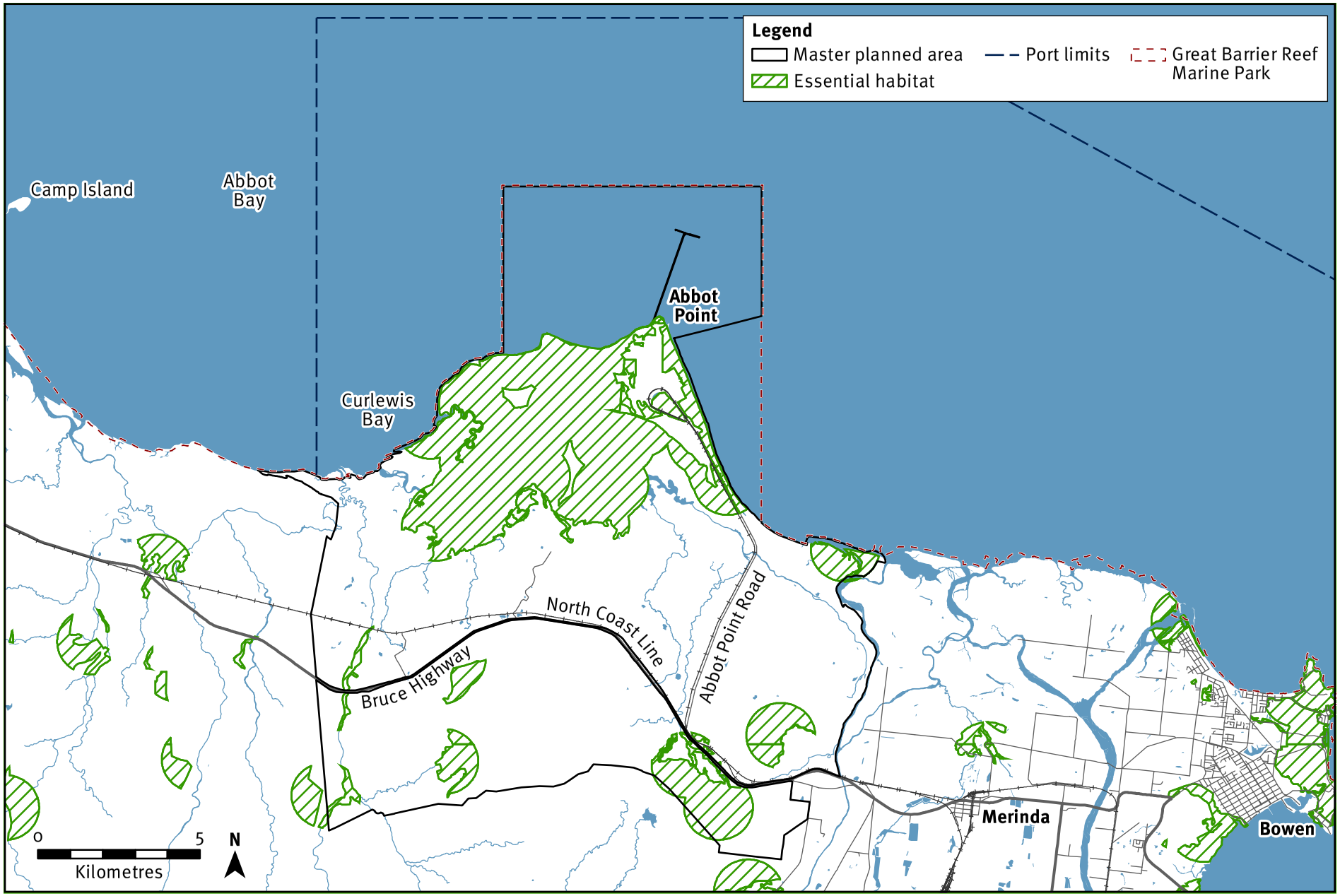
Figure 20: Freshwater, marine and estuarine water types



Coordinate System: GCS GDA 1994

Figure 21: Great Barrier Reef Marine Park zoning



Coordinate System: GCS GDA 1994

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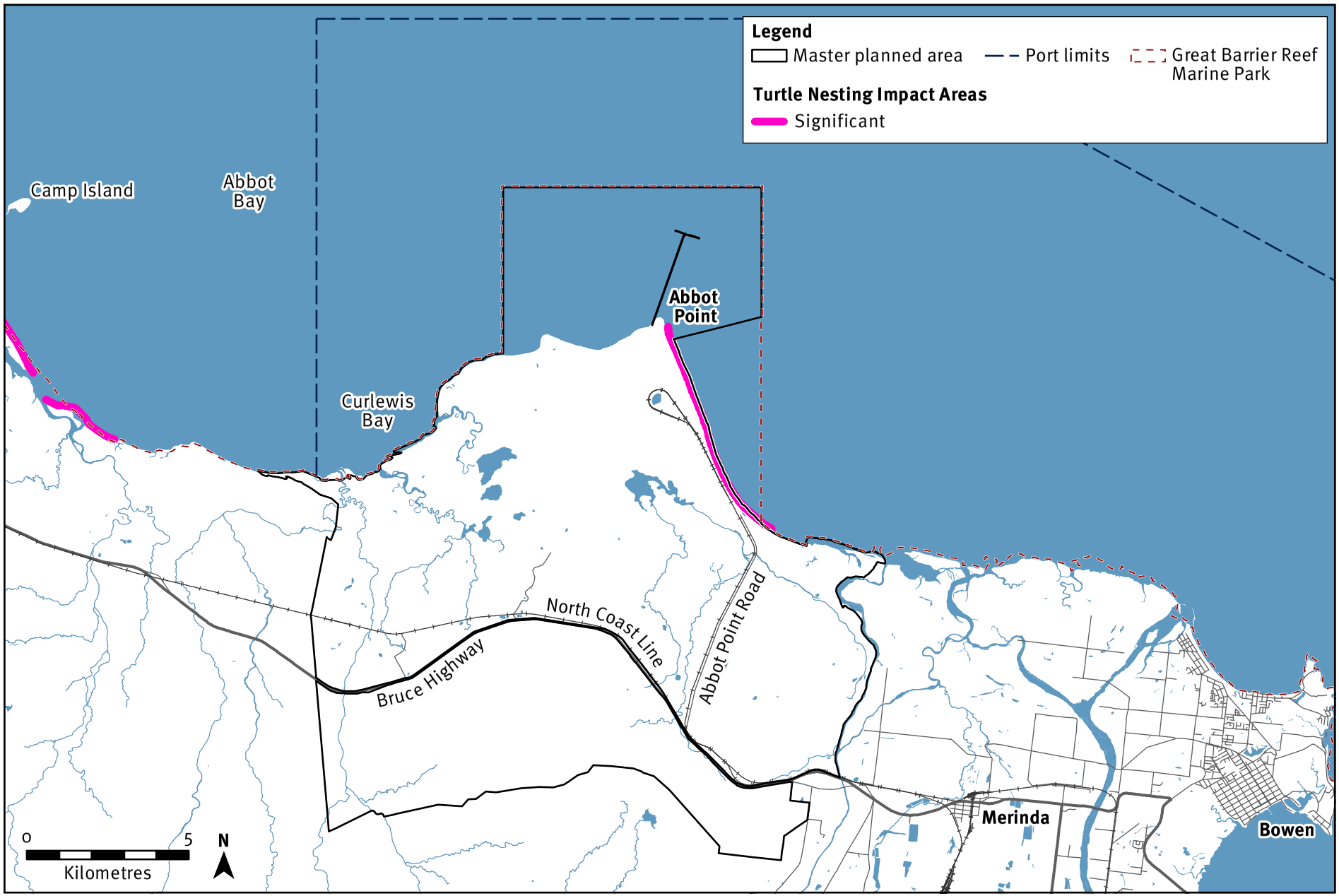
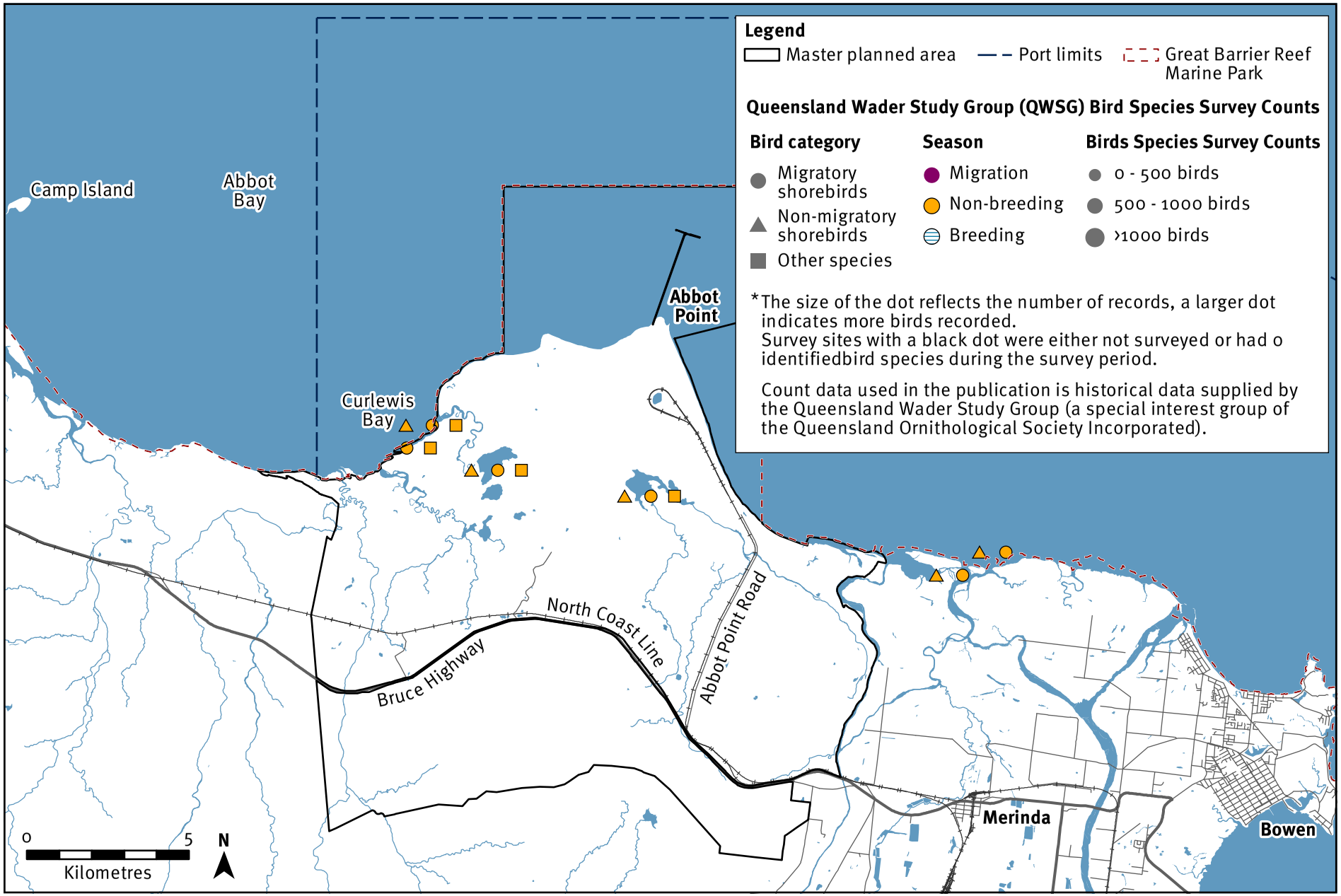
Figure 22: Essential Habitat



Coordinate System: GCS GDA 1994

Figure 23: Turtle Nesting Impact Areas

Note: The pink lines on the map represent turtle impact areas derived from state mapping dataset "Sea Turtle Nesting Areas". These areas extend beyond nesting beaches, to nearby rocky coastlines and headlands. This recognises that nesting adults and hatchlings can become disoriented by light pollution from development on rocky coastlines and headlands. Significant refers to a location that more than 1% of the relevant species relies upon to reproduce. Present refers to a known nesting location which less that 1% of the relevant species relies upon to reproduce.



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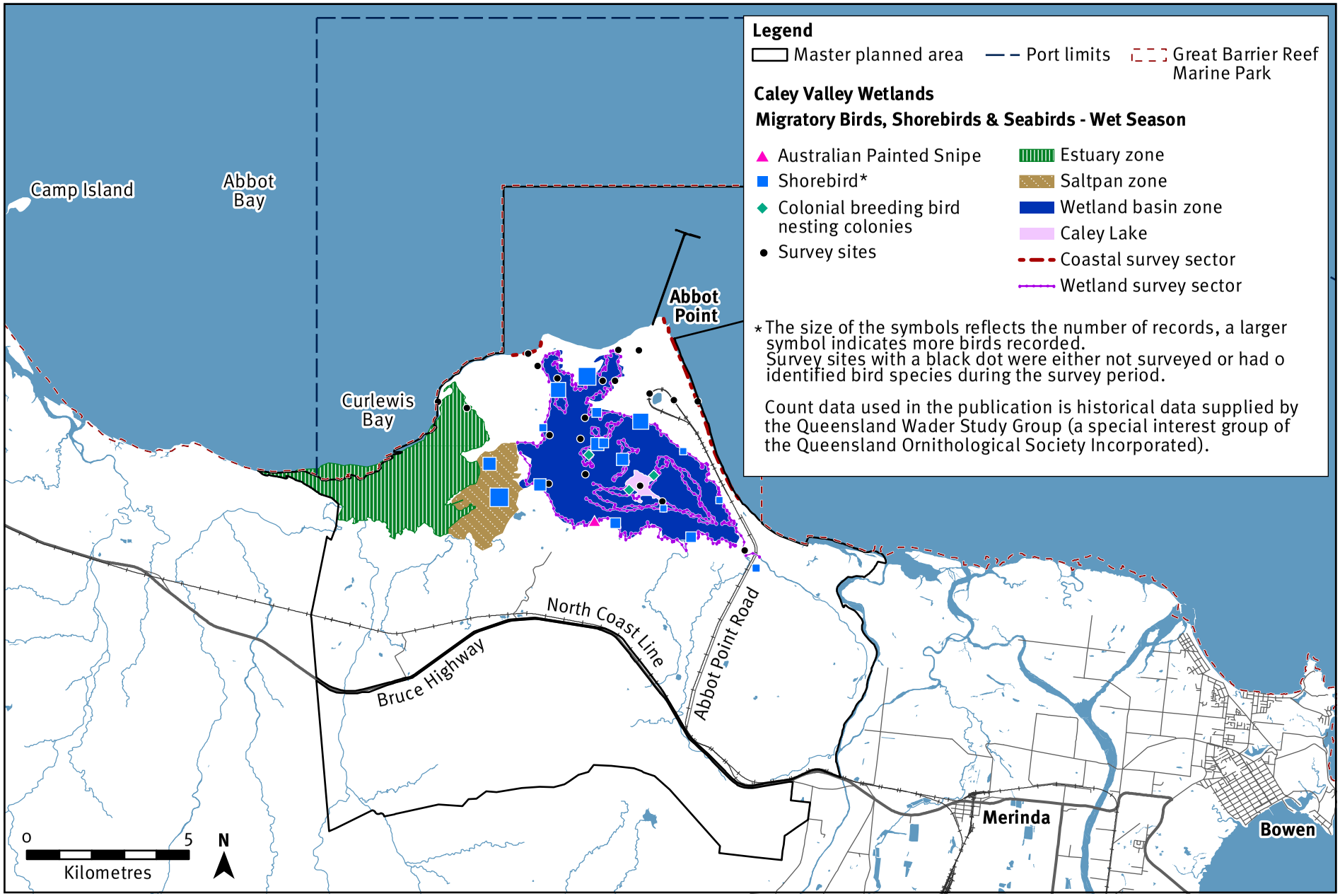
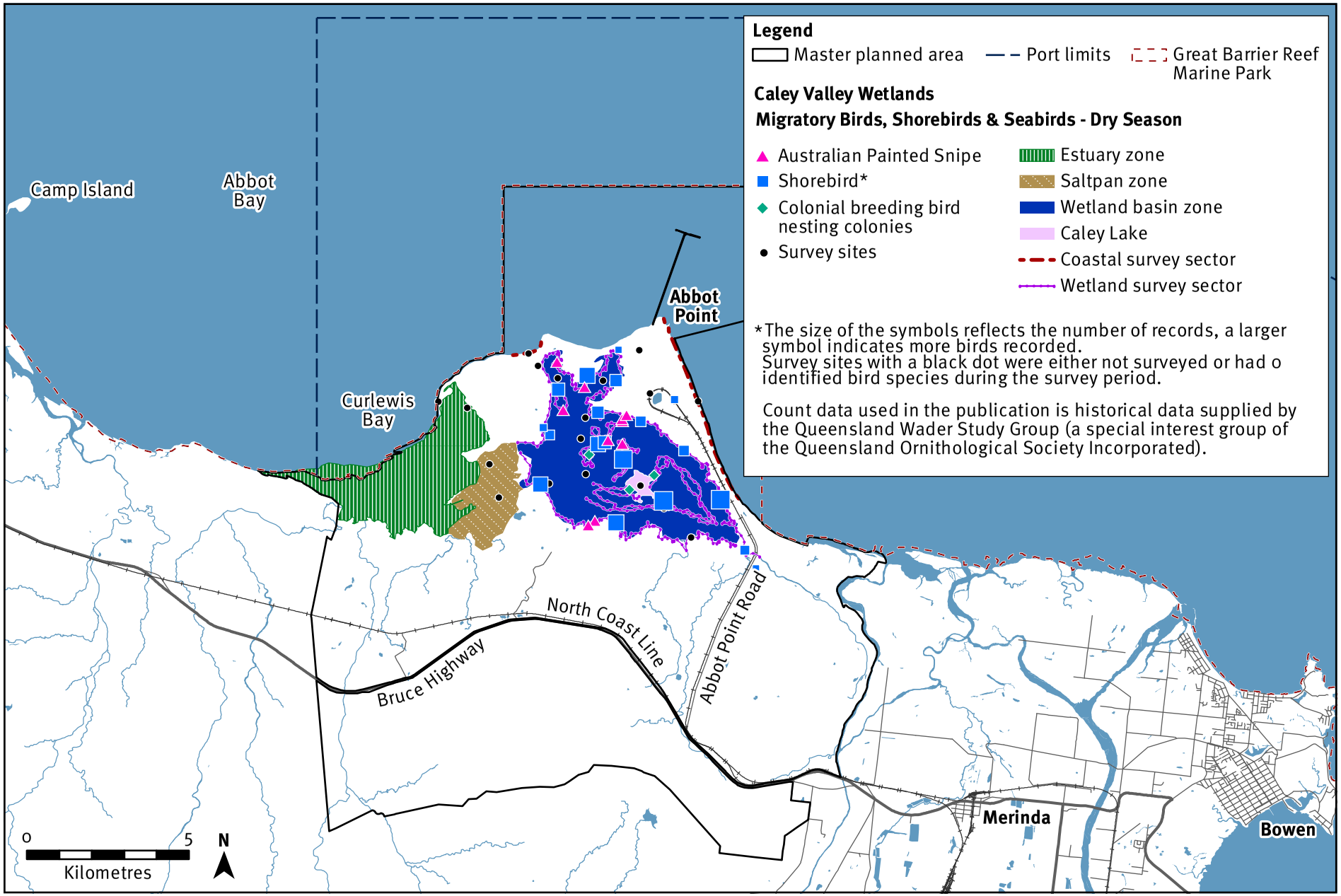
Coordinate System: GCS GDA 1994

Figure 24: Queensland Wader Study Group (QWSG) Bird Species Survey Counts



Coordinate System: GCS GDA 1994

Figure 25: Migratory Birds, Shorebirds & Seabirds - Wet Season



Coordinate System: GCS GDA 1994

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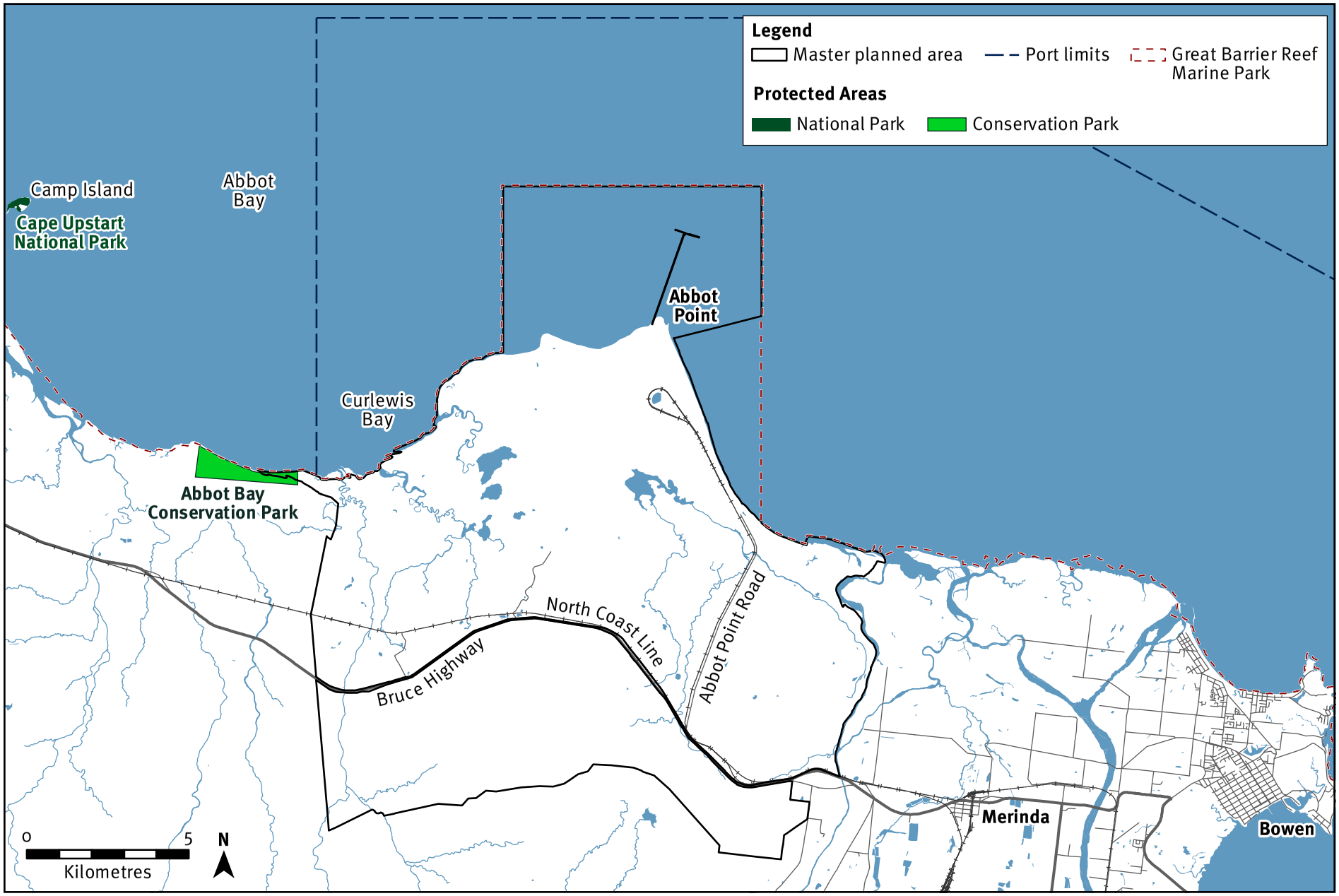
Figure 26: Migratory Birds, Shorebirds & Seabirds - Dry Season



Coordinate System: GCS GDA 1994

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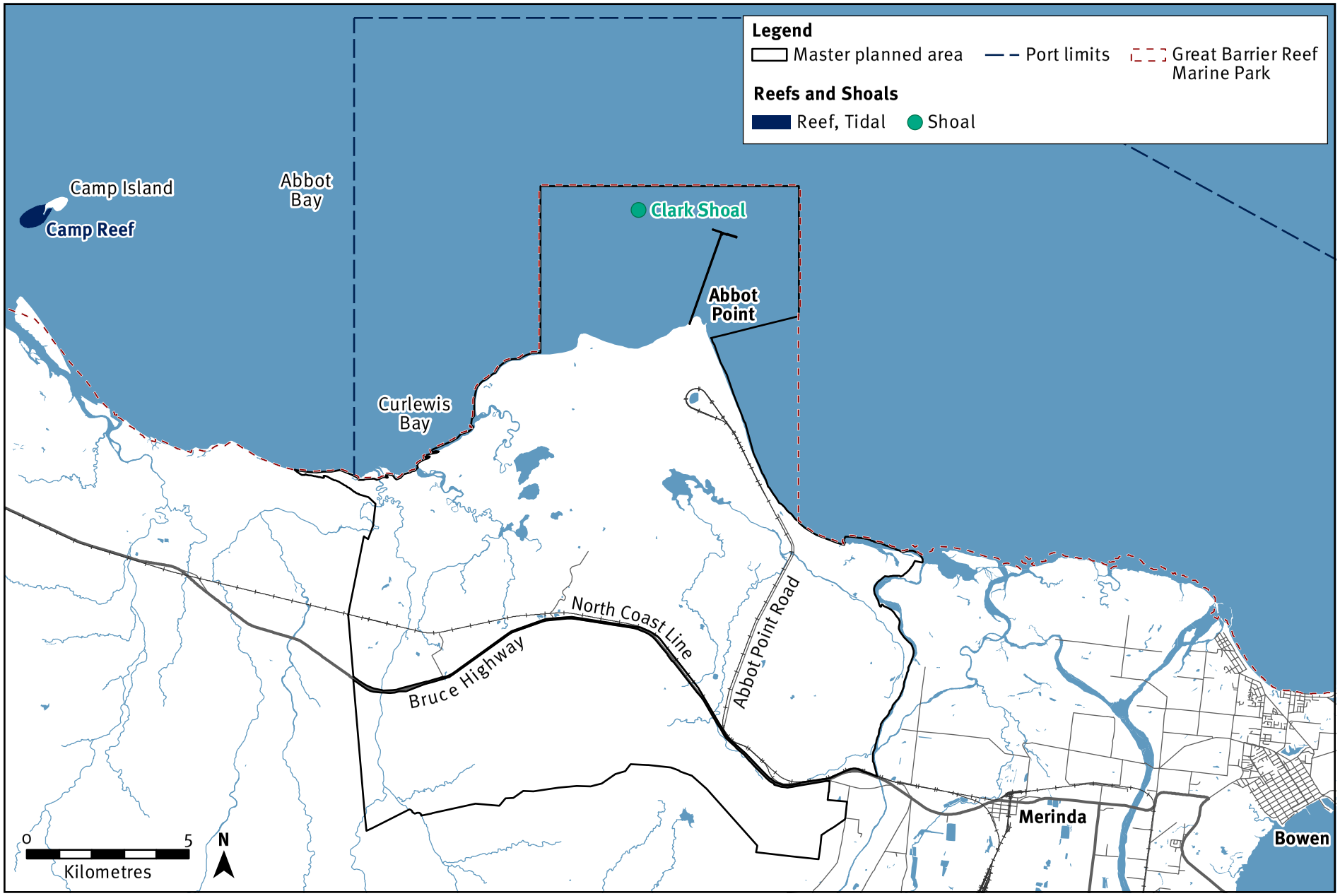
Figure 27: Protected areas



Coordinate System: GCS GDA 1994

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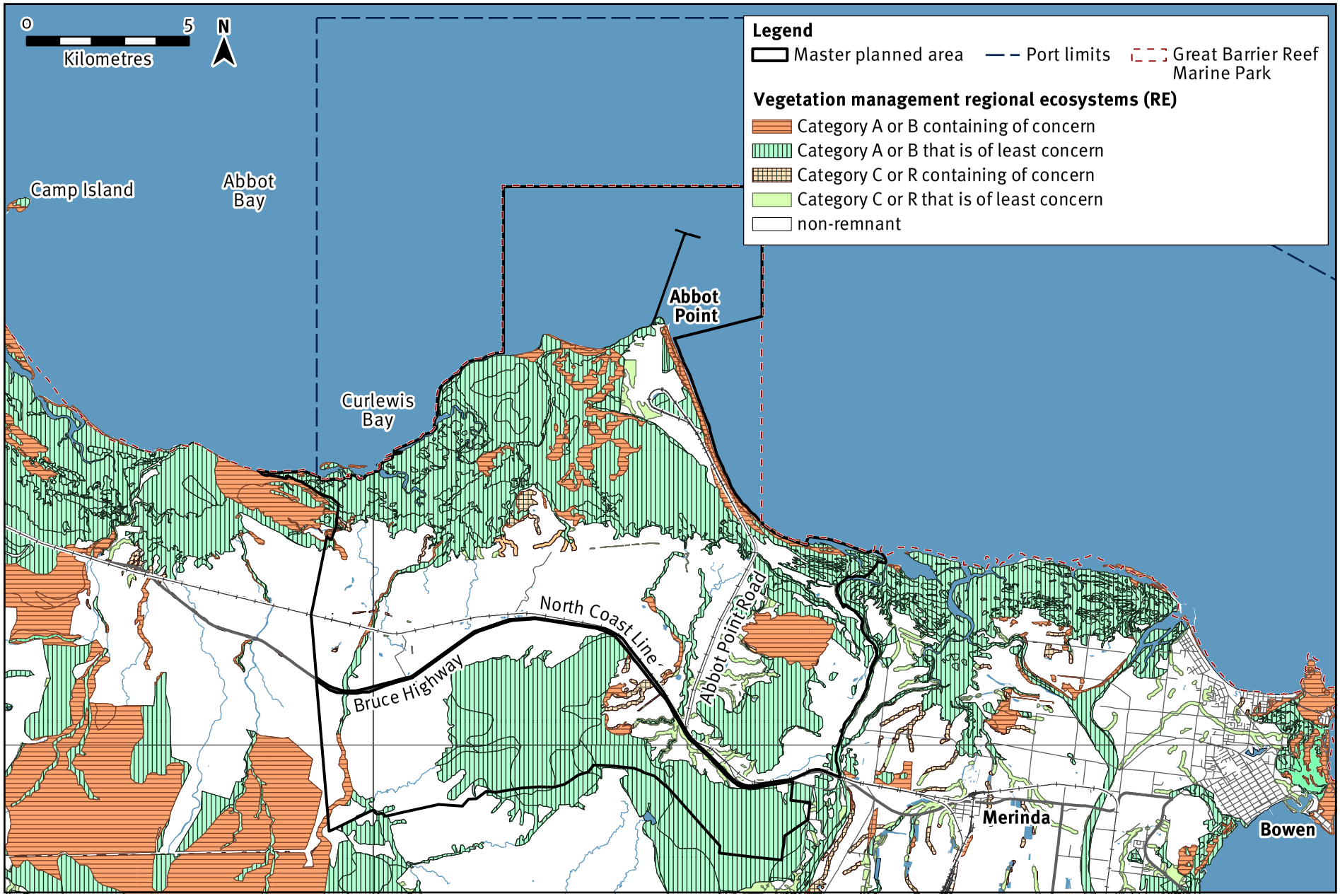
Figure 28: Reefs and shoals



Coordinate System: GCS GDA 1994

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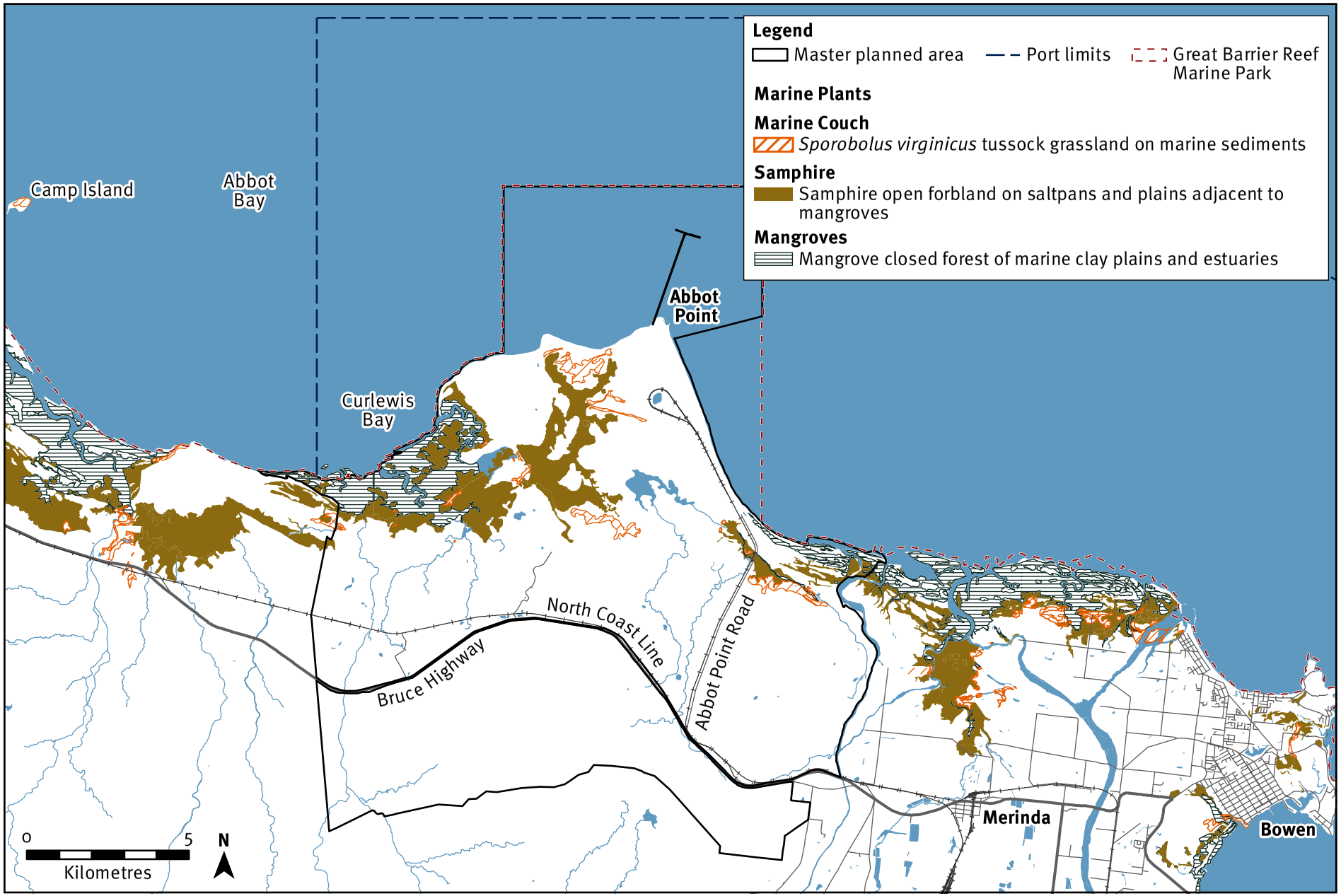
Figure 29: Regional Ecosystems



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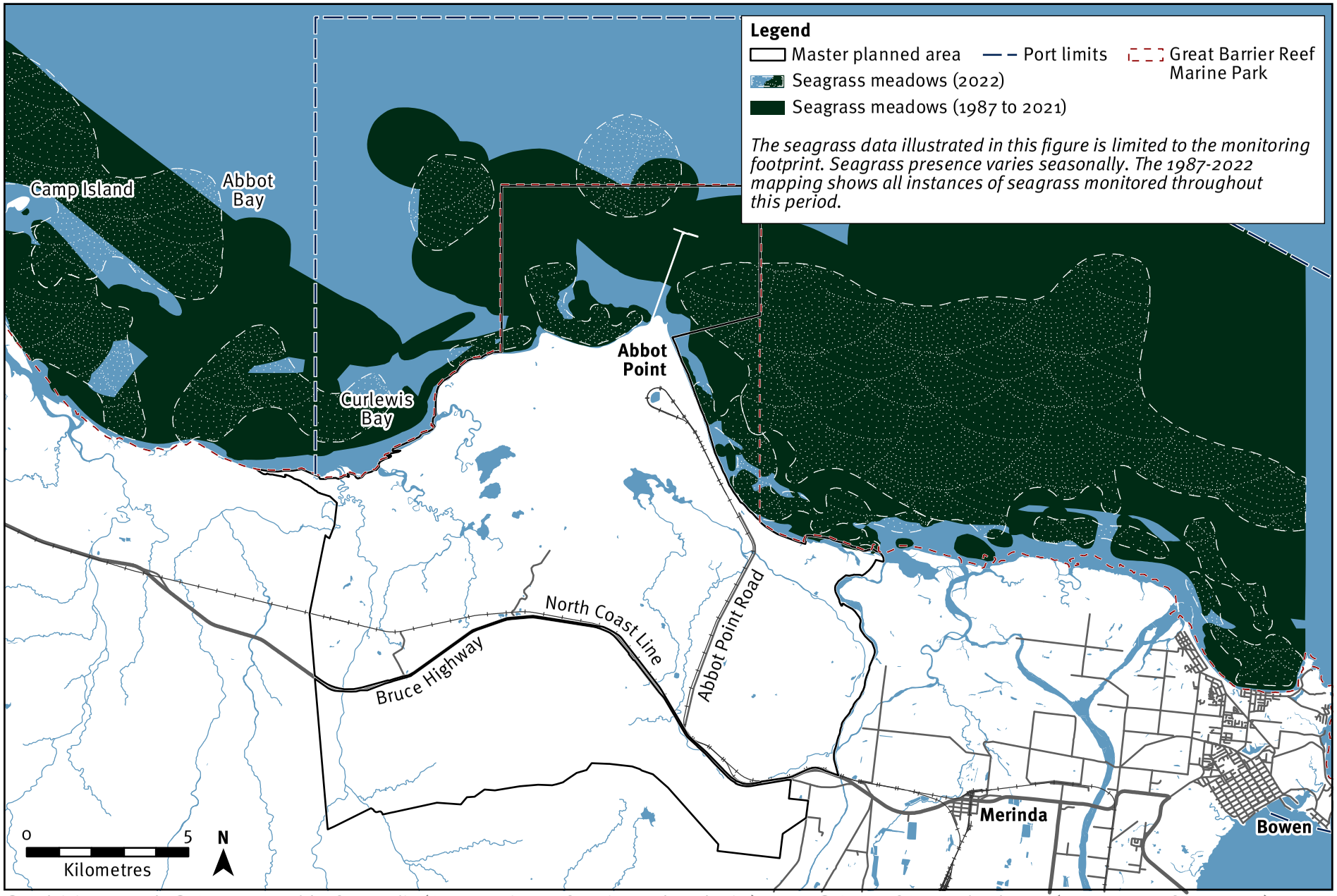
Coordinate System: GCS GDA 1994

Figure 30: Regional ecosystems containing mangroves, saltmarsh communities and marine plants



Coordinate System: GCS GDA 1994

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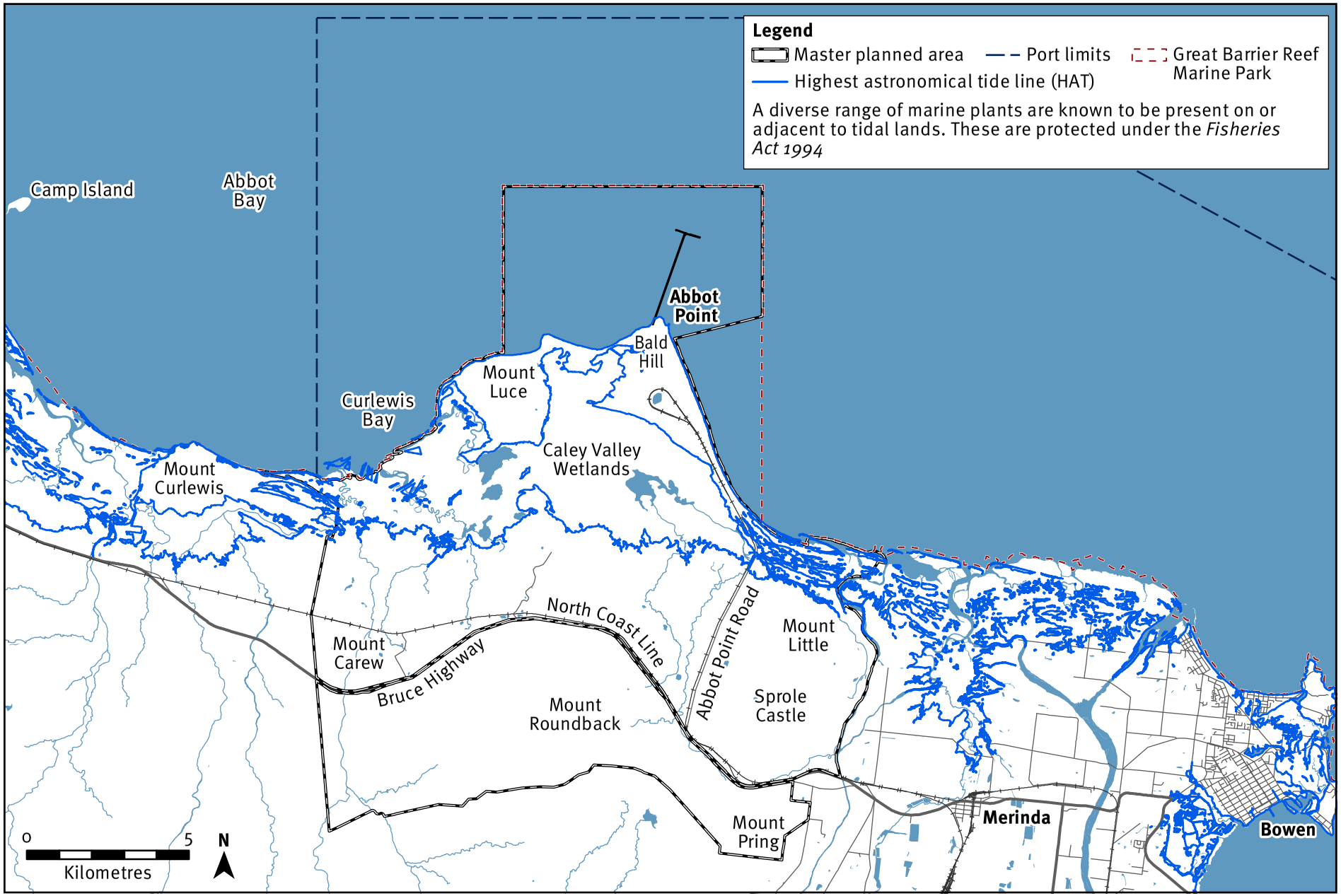
Figure 31: Seagrass Meadows



Coordinate System: GCS GDA 1994

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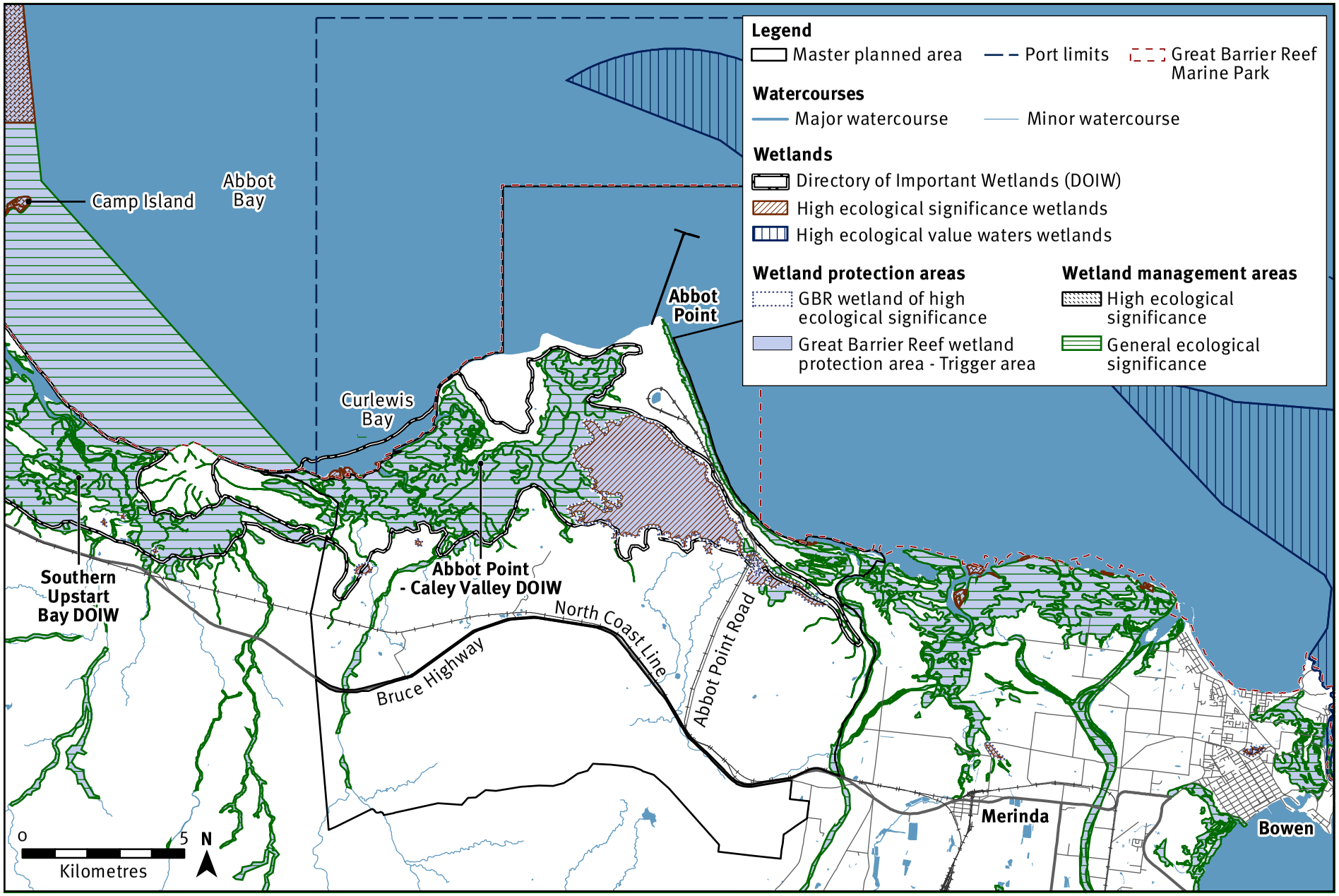
Figure 32: Highest Astronomical Tide



Coordinate System: GCS GDA 1994

Figure 33: Wetlands and watercourses

Appendix C

Local attributes of Outstanding Universal Value of the Great Barrier Reef World Heritage Area

OUV is the fundamental concept of the World Heritage Convention and underpins the listing of properties on the World Heritage List. For a World Heritage property to be considered to have OUV, it must:

- meet one or more of the 10 criteria set out in the convention
- meet the conditions of integrity
- meet the conditions of authenticity for cultural heritage properties
- have an adequate system of protection and management to safeguard its future.

The World Heritage Committee listed the Great Barrier Reef for the following criteria:

- criterion (vii): contain superlative natural phenomena or areas of exceptional natural beauty and aesthetic importance
- criterion (viii): be outstanding examples representing major stages of earth's history, including the record of life, significant ongoing geological processes in the development of landforms, or significant geomorphic or physiographic features
- criterion (ix): be outstanding examples representing significant ongoing ecological and biological processes in the evolution and development of terrestrial, freshwater, coastal; and marine ecosystems and communities of plants and animals
- criterion (x): contain the most important and significant natural habitats for in situ conservation of biological diversity, including those containing threatened species of OUV from the point of view of science or conservation.

The contribution classifications for each OUV local attribute and associated environmental values have been determined as part of a comprehensive, evidence-based assessment. That assessment took account of factors including, but not limited to:

- the history, current function and land uses of the port
- regulatory context of port operations
- environmental, social and cultural heritage values represented within and surrounding the master planned area, as well as more broadly across the GBRWHA
- potential for future development.

The master planning process used information that was available at the time. Detailed findings are reported in the evidence-based documentation available on the website, with key information extracted and presented to inform the local expression of values that contribute to the OUV of the GBRWHA.

The contribution classifications are generally defined as:

- **Minor contribution (Min):** The attribute is present however it occurs in low abundance or singularly and is:
  - not essential to the sustainability of the attribute
  - not recognised as a key feature of the GBRWHA
  - not included in the retrospective statement of OUV
  - not iconic, unique or a high-quality example of the attribute.
- **Moderate contribution (Mod):** The attribute occurs in moderate abundance or across a moderately large area but is not the prime occurrence or representation of the attribute within the GBRWHA. The attribute does however represent a feature for which the Great Barrier Reef was listed as World Heritage.
- **Significant contribution (Sig):** The attribute represents locally important examples of the attribute relative to the nature of the attribute across the GBRWHA. Such an attribute may be specifically referred to within the retrospective

statement of OUV for the GBRWHA or defined by other legislation, planning instrument or values assessment (e.g. Great Barrier Reef Outlook Report). The occurrence of the attribute locally is a prime example of the features mentioned in the retrospective statement of OUV.

Master planning assessed the local attributes of OUV. Those attributes which apply to the whole of the GBR that were not considered to differentiate between regions were excluded for the purposes of this assessment.

Where an attribute represented a holistic contribution across the GBR, it was excluded. Example attributes include: the extent of the GBR; and features illustrating the impact of evolutionary cycles; or if the attribute was considered more significant in different locations.

Table 6 summarises the locally expressed OUV attributes, contribution classifications relative to the OUV, and summarises the environmental values determined to be key contributors to the local expression of OUV of the GBRWHA within and surrounding the master planned area.

Table 6 — Local attributes of the OUV of the GBRWHA

Category: Corals

Local attribute	vii*	viii*	ix*	x*
Coral reefs (400 species of corals in 60 genera)				Min
Coral reef ecosystem		Min		
Inshore fringing reefs, mid-shelf reefs, and exposed outer reefs		Min		
Hard and soft corals	Min			
Coral reefs, sand banks and coral cays			Min	
Coral spawning	Min			

* *Relevant Outstanding Universal Value criteria and contribution classifications*

Coral reefs exist within the Abbot Point region and consist of near-shore and mid-shelf reefs. Reef communities comprising hard and soft corals exist at Camp Reef, Middle Island Reef, Holbourne Island, Stone Reef, North Head Reef and Thomas Reef. Coral diversity at Camp Island and Holbourne Island is dominated by fast growing species including *Acropora* and *Montipora*.

The inshore reefs of the region are relatively small and limited in extent in comparison to other inshore reefs. They have relatively low diversity and low cover.

Inshore reefs persisted over time, despite the climatic fluctuations driven mainly by cyclonic disturbances. As these reefs are relatively isolated from other systems, they tend to be regenerative.

The size and density of inshore reefs are not the result of the mass spawning events more commonly associated with mid-shelf and outer reefs. Local spawning is important for the ongoing presence of the inshore reefs, but it is not the result of the mass spawning phenomenon important for reef persistence across the wider world heritage area.

Table 6 — Local attributes of the OUV of the GBRWHA

Category: Mangroves

Local attribute	vii*	viii*	ix*	x*
Diversity of mangroves				Mod
Vast mangrove forests	Mod			

** Relevant Outstanding Universal Value criteria and contribution classifications*

The Caley Valley Wetland contains approximately 673 hectares of mangrove forests in the western estuarine zone where mangroves are associated with three tidal channels flowing in Curlewis Bay and Saltwater Creek.

To the south, mangroves are associated with the tidal channels of Euri Creek and Menilden Creek.

Milky Mangrove (*Excoecaria agallocha*) is the dominant mangrove species in the Saltwater Creek area, while the Red Mangrove (*Rhizophora stylosa*) and Yellow Mangrove (*Ceriops tagal*) dominate in the western estuarine zone of Caley Valley Wetlands.

There are small areas of mangroves present on Cape Upstart Island, North Head Island and Stone Island.

Category: Seagrass and macroalgae

Local attribute	vii*	viii*	ix*	x*
Beds of *Halimeda* algae			Min	
Diversity of seagrass				Min

** Relevant Outstanding Universal Value criteria and contribution classifications*

Three species of *Halimeda* have been recorded within areas of low mud content substrate.

The algae coverage at inshore fringing reefs in the study area fluctuates seasonally. Camp Island monitoring sites were dominated by *Sargassum* and Holbourne Island was dominated by *Padina*.

Seagrass and macroalgae occur in the inshore and offshore areas, the cover of which fluctuates seasonally. Seagrass presence is typical of other inshore areas throughout the region.

Table 6 — Local attributes of the OUV of the GBRWHA

Category: Marine turtles

Local attribute	vii*	viii*	ix*	x*
Marine turtles				Min
Green turtle breeding	Min			Min
Nesting turtles	Min			

** Relevant Outstanding Universal Value criteria and contribution classifications*

Species of marine turtle include: Loggerhead turtle, Green turtle, Leatherback turtle, Hawksbill turtle, Olive-ridley turtle and Flatback turtle.

There are low levels of nesting by Green turtles within port limits, with foraging and breeding areas at Edgecumbe Bay. There are small populations residing inside and adjacent to the mouths of Saltwater Creek and Euri Creek.

While all breeding is important, the contribution to population recruitment in comparison to other breeding areas is low.

Category: Marine mammals

Local attribute	vii*	viii*	ix*	x*
Migrating whales	Min			
Species of whales				Min
Dugong				Min
Species of dolphins				Min

** Relevant Outstanding Universal Value criteria and contribution classifications*

Humpback whale adults and calves have been recorded within the coastal waters of Abbot Point, potentially using the area for resting on their southern migration from calving grounds. No aggregation areas are known to exist in the vicinity of the port.

This area is of low conservation importance for Dugongs. Dugongs may forage in the seagrass beds as they move between the Dugong Protection Areas located to the north at Upstart Bay (44 kilometres north-west of Abbot Point) and Dugong Sanctuary at Edgecumbe Bay (35 kilometres south-east of Abbot Point).

The Indo-Pacific Humpback dolphin and the Australian Snubfin dolphin have been recorded during surveys of the Abbot Point marine area. The Abbot Point area provides suitable habitat for these species which prefer shallow (‹20 metres deep) coastal waters. In addition, the creek mouths and seagrass beds provide suitable preferred habitat for the Snubfin dolphin.

Table 6 — Local attributes of the OUV of the GBRWHA

Category: Landscapes and Seascapes

Local attribute	vii*	viii*	ix*	x*
Green vegetated islands	Min			
Vegetation of the cays and continental islands			Min	
Vegetated mountains	Min			

* *Relevant Outstanding Universal Value criteria and contribution classifications*

There are six islands present within or adjacent to the study site. Holbourne Island vegetation includes over 90 species of plants and four regional ecosystems including *Pisonia grandis*, *Xanthorrhoea latifolia* subsp. *latifolia* shrubland and *Timonius timon* shrubland. Pandanus and coastal she oaks are present as a small aggregate on a fore dune on the southern headland.

The other islands with a lessor coverage and diversity of vegetation and include: Camp Island, Gloucester Island, Stone Island, Middle Island and North Head Island.

Local attribute	vii*	viii*	ix*	x*
Unique and varied seascapes and landscapes		Min		
Significant diversity of reef and island morphologies that reflects ongoing geomorphic, oceanographic and environmental processes			Min	

* *Relevant Outstanding Universal Value criteria and contribution classifications*

A variety of seascapes and landscapes exist in the study area and surrounds including Mount Roundback, Mount Little, Mount Luce, wetlands, mangroves, sand beaches, mudflats, open water, coastal islands and coral reefs.

Local attribute	vii*	viii*	ix*	x*
Superlative natural beauty	Mod			

* *Relevant Outstanding Universal Value criteria and contribution classifications*

Large aggregations of shorebirds, seabirds and migratory birds at the Caley Valley Wetlands.

Ocean and island vistas.

Table 6 — Local attributes of the OUV of the GBRWHA

Local attribute	vii*	viii*	ix*	x*
Human interaction with the natural environment illustrated between Aboriginal and Torres Strait Islanders and their sea country	Sig			

* *Relevant Outstanding Universal Value criteria and contribution classifications*

Numerous shell deposits (middens) and fish traps, the application of story places and marine totems.

Category: Species diversity

Local attribute	vii*	viii*	ix*	x*
Over 4000 species of molluscs and over 1500 species of fish, plus a great diversity of sponges, anemones, marine worms, crustaceans			Min	
Thousands of species of reef fish	Min			

* *Relevant Outstanding Universal Value criteria and contribution classifications*

Marine fish are present in Fish Habitat Areas located adjacent to the project site and the seagrass and reef habitats within the project site.

There are a small number of mid-shelf and inshore reefs within the study area and surrounds which support reef fish communities.

Low density benthic macroinvertebrates populations are in deepwater areas at Abbot Point. Diversity is high and typical of deepwater communities found elsewhere in the region.

Reef communities in the area are not extensive or unique. Associated reef fish communities reflect the limited reef communities. It has been estimated that in this region there are approximately 132 species of reef fish from 51 families.

Table 6 — Local attributes of the OUV of the GBRWHA

Local attribute	vii*	viii*	ix*	x*
Diversity supporting marine and terrestrial species (global conservation significance)				Sig

* *Relevant Outstanding Universal Value criteria and contribution classifications*

The Caley Valley Wetlands is a nationally important wetland which provides habitat for large numbers of seabirds and shorebirds including threatened and migratory species. It supports a significant population of waterbirds with over 40,000 birds and 154 bird species recorded. This wetland while not in the GBRWHA, provides connectivity between the wetland and the World Heritage Area.

Holbourne Island also provides bird nesting habitat.

Species present include the Red knot, Curlew sandpiper, Great knot, Great sand plover, Lesser sand plover, Bar-tailed godwit, Australian painted snipe, Red-necked Stint, Sharp-tailed sandpiper, Latham's snipe and Great egret caspian tern.

Local attribute	vii*	viii*	ix*	x*
Plant species and endemism (species being unique to a defined geographic location)				Min

* *Relevant Outstanding Universal Value criteria and contribution classifications*

One Threatened Ecological Community, the Semi-evergreen vine thickets of the Brigalow Belt (North and South) and Nandewar Bioregions are recorded. Listed flora species include *Ristida granitica*, *Dicanthium setosum*, *Eucalyptus raveretiana*, *Omphalea celata* and *Ozothamnus eriocephalus*.

Local attribute	vii*	viii*	ix*	x*
Important role of birds, such as the pied imperial pigeon, in processes such as seed dispersal and plant colonisation			Min	

* *Relevant Outstanding Universal Value criteria and contribution classifications*

The seed dispersal role played by birds is important in terrestrial environments and particularly to help maintain biological and genetic diversity between vegetated islands and the mainland. The Imperial pigeon for instance migrates daily as flocks from the islands to the mainland rainforests to eat fruit, returning to the islands at dusk. These environments are limited and sparse in the Abbot Point area and as such the ecological role of birds in spreading seeds is minor.

Table 6 — Local attributes of the OUV of the GBRWHA				
Local attribute	**vii***	**viii***	**ix***	**x***
Breeding colonies of seabirds and marine turtles	Sig			
242 species of birds				Sig
22 seabird species breeding				Sig

* *Relevant Outstanding Universal Value criteria and contribution classifications*

19 listed bird species (EPBC Act) are known to or likely to occur in the study area. Seven species had habitat or roosting areas within the study area including the Red knot, Curlew sandpiper, Great knot, Great sand plover, Lesser sand plover, Bar-tailed godwit and Australian painted snipe.

The Caley Valley Wetlands is an important habitat for listed birds and overall species diversity. It has a significant number of shorebirds and suitable migratory shorebird habitat. There are six migratory bird species that have large populations in the wetland including the Red-necked stint, Sharp-tailed sandpiper, Latham's snipe, Great egret, Caspian tern and the endangered Australian painted snipe

Category: Coastal processes

Local attribute	**vii***	**viii***	**ix***	**x***
Cross-shelf, longshore and vertical connectivity			Min	

* *Relevant Outstanding Universal Value criteria and contribution classifications*

Offshore areas form part of the larger longshore connections within the Great Barrier Reef lagoon.

Appendix D
Potential impacts on environmental values

As described in the EMF in **Part D**, potential impacts have been identified based on potential development activities that may be needed to support infrastructure and supply chains within the master planned area to the year 2050. These activities were identified based on the current land uses, development potential, environmental values, and precinct purposes within existing planning instruments.

These activities were subject to a Planning and Environment Analysis to determine the likelihood and consequence of potential impacts from development on the environmental values. Where a development activity location was unknown, the potential impacts (direct, indirect and cumulative) assumed the highest conservation significance of the value.

Potential impacts from development have been identified at a high level for the purpose of master planning due to the wide range of activities that may occur across the master planning timeframe. While not a direct impact from development, it is acknowledged that climate change is the single biggest threat to coral reefs and exacerbates localised impacts on the Great Barrier Reef and other ecological processes. The Queensland Government has released a Queensland Future Climate Dashboard to identify climate projections, heatwave and rainfall information for Queensland.

Potential impacts due to climate change and climate change induced events may include:

- elevated levels of sediment, nutrients and contaminants from increased intensity of storm events and storm surge
- increased coastal vulnerability from sea level rise and associated coastal process change
- elevated sea surface temperature causing loss of coral reefs, coral habitat, marine plants and/or reduction of habitat quality due to elevation of sea surface temperature and increased ocean acidification
- loss of terrestrial vegetation communities, ecosystems and listed species due to increased risk of bushfire.

As identified in **Part D**, there are federal and state legislation, state and local planning processes, operational environmental management measures and approvals that provide for the management of the potential impacts (direct, indirect and cumulative) on environmental values.

Table 7 — Potential impacts on environmental values

Indigenous cultural heritage
Loss and/or degradation of Indigenous cultural heritage sites due to port-related development and increased access to these sites
Marine and estuarine water quality
Increased sedimentation and turbidity from maintenance and/or capital dredging
Elevated levels of sediment, nutrient and contaminants from stormwater runoff and from other construction and operational activities
Disturbance of acid sulfate soils during construction and operational activities

Table 7 — Potential impacts on environmental values
Coastal processes
Changes to coastal processes such as currents, waves and sediment transport due to development of port-related infrastructure
Marine plants
Loss and/or reduced quality of marine plant habitat including mangroves, saltmarsh, macroalgae and seagrass communities due to direct clearing and/or removal and the introduction of pests and weed species
Changes to coastal processes resulting in erosion and accretion of sediment leading to loss of marine plants and/or reduction of habitat quality
Impacts to marine plants and/or reduction of habitat quality due to stormwater runoff, air emissions and discharges
Coral reefs
Loss of coral reefs and coral habitat through development of port-related infrastructure
Changes to coastal processes including altered sediment transport impacting coral reefs, habitat and/or reduction of habitat quality
Loss of coral reefs, habitat and/or reduction of habitat quality due to stormwater runoff, air emissions and discharges
Fisheries resources and declared fish habitat areas
Loss of fish and fish habitat and/or reduction of habitat quality through development of port-related infrastructure, including vessel strike or entrapment, altered flow paths and water availability
Changes to coastal processes and/or surface water resources including altered sediment transport leading to loss of fish, fish habitat and/or reduction of habitat quality and connectivity
Stormwater runoff, emissions and discharges from port-related development causing a loss of fish habitat and/or decline in fish habitat quality
Deposits from offshore disposal of dredge material on marine organisms and marine plants
Elevated levels of noise, vibration and lighting from port-related development resulting in fish species and fish habitat loss
Marine reptiles, marine mammals and marine migratory species
Loss of individuals and habitat through development of port-related infrastructure including mortality or injury due to vessel strike or entrapment
Changes to coastal processes, including altered sediment transport resulting in a loss of habitat and/or decline of habitat quality
Stormwater runoff, air, noise, vibration, and light emissions and discharges from port-related development resulting in a loss of habitat and/or decline in habitat quality
Terrestrial vegetation communities and ecosystems
Loss of individuals and habitat through clearing of terrestrial vegetation communities and ecosystems

Table 7 — Potential impacts on environmental values
Stormwater runoff, air emissions and discharges resulting in a loss of habitat and/or decline of habitat quality
Modification to surface water and groundwater resources from construction and operational activities causing a loss of habitat and/or reduced habitat quality
Increased weeds and pests from port-related development causing a loss of habitat and/or reduction of habitat quality
Listed threatened and migratory species
Loss of threatened and migratory species and their habitat due to clearing of terrestrial vegetation communities and ecosystems for port-related development
Stormwater runoff, air emissions and discharges from port-related development causing a decline in quality of habitat and/or loss of species
Modification to surface water and groundwater resources from construction and operational activities causing a loss of habitat and/or reduction of habitat quality
Injury or mortality of listed threatened and migratory species due to port-related activities such as through vessel strike
Elevated levels of air, noise, vibration and lighting emissions from port-related development resulting in reduced habitat quality
Increased weeds and pests from port-related development causing a loss of habitat and/or reduced habitat quality
Surface water resources
Elevated levels of sediment, nutrient and contaminants from stormwater runoff and from other construction and operational activities
Disturbance of acid sulfate soils during construction and operational activities
Modification to surface water resources including altered flow paths and water availability due to construction and operational activities such as earthworks causing a loss of habitat and/or reduced habitat quality
Disturbance of historic mining site
Groundwater
Altered groundwater resource availability and quality along with surface water resource connectivity due to construction and operational activities
Wetlands, including Caley Valley wetlands
Clearing and/or loss of wetland habitat due to the development of port-related infrastructure
Stormwater runoff, emissions and discharges causing a decline in quality and/or loss of wetland habitat from port-related development
Elevated levels of air, noise, vibration and light emissions impacting wetland habitat quality and migratory species
Loss of wetland habitat and/or a decline in quality due to surface water and groundwater resource modification from operational and construction activities

Table 7 — Potential impacts on environmental values
Increased weeds and pests causing a decline in quality and/or loss of wetland habitat due to port-related development
Social values associated with amenity
Increased road traffic and associated road safety management issues due to construction and operational activities
Elevated levels of air, noise, vibration, light emissions and altered visual amenity of port land and surrounding areas due to construction and operational activities
Social values associated with industrial safety
Industrial incident from port-related development causing harm and/or health impacts to the workforce

Appendix E
Dictionary

Term	Definition
adjoin (or adjoining)	development that is directly adjacent (for example, shares a common boundary)
beneficial reuse	dredged material that has been used for a purpose that provides social, economic or environmental benefits (or a combination of these). That is, the dredged material is managed as a valuable resource rather than a product destined for disposal. Beneficial reuse can involve the placement of dredged material on-land and in the aquatic zone (i.e., underwater or in intertidal areas). Consideration of beneficial reuse in the Queensland context to date has been focused on applications that provide economic benefits such as on-land processing and industry reuse or land reclamation.
capital dredging	has the same meaning as in the Ports Act
dredged material	material excavated or removed from the bottom of water bodies by dredging. This may be from either capital or maintenance dredging
ecologically sustainable development (ESD)	development that improves the total quality of life, both now and in the future, in a way that maintains the ecological processes on which life depends (*EP Act, 1994*) The principles of ESD under the EPBC Act are: a) decision-making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations b) if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation c) the principle of inter-generational equity – that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations d) the conservation of biological diversity and ecological integrity should be a fundamental consideration in decision making e) improved valuation, pricing and incentive mechanisms should be promoted.
environmental value/s	has the same meaning as in the *Environmental Protection Act 1994*
Great Barrier Reef World Heritage Area	the GBRWHA extends from the top of Cape York in north-east Australia to just north of Bundaberg, and from the low water mark on the Queensland coast to the outer boundary of the Great Barrier Reef Marine Park (GBRMP), which is beyond the edge of the continental shelf. The area was declared a World Heritage Area in 1981 because of its OUV. About 99 per cent of the World Heritage Area is within the GBRMP but encompasses: • some 980 islands which are under Australian and Queensland jurisdiction • some internal waters of Queensland (for example, deep bays, narrow inlets or channels between islands) • all waters seaward of the low water mark from north of Bundaberg to Cape York.
Local expression of the Outstanding Universal Value of the GBRWHA	environmental values present within and surrounding the priority Port of Abbot Point master planned area that contribute to the OUV of the GBRWHA Note: The local expression of the OUV of the GBRWHA within and surrounding the priority Port of Abbot Point master planned area has been identified as part of the evidence base and is specifically referred to in the master plan EMF.

Term	Definition
maintenance dredging	dredging carried out for the purposes of removing sediments that have accumulated in existing channels, berths, approaches and swing basins of a port to maintain an approved capital dredging profile
marine plants	has the same meaning as in the *Fisheries Act 1994*
master planned area	see Ports Act, however for this master plan means all the area shown on **Figure 1** and **Appendix A**
matters of national environmental significance (MNES)	has the same meaning as in the EPBC Act Note: At the time of writing the matters of national environmental significance are: • world heritage properties • national heritage places • wetlands of international importance (often called 'Ramsar' wetlands after the international treaty under which such wetlands are listed) • nationally threatened species and ecological communities • migratory species • federal marine areas • the GBRMP • nuclear actions (including uranium mining) • a water resource, in relation to coal seam gas development and large coal mining development.
matters of state environmental significance (MSES)	means the natural values and areas listed for MSES in the State Planning Policy (Glossary)
offsets (environmental offset)	has the same meaning as in the *Environmental Offsets Act 2014*, see the relevant federal and state policies also
Outstanding Universal Value (OUV)	a concept that underpins the listing of world heritage properties such as the Great Barrier Reef. As defined in the *UNESCO Operational Guidelines for the Implementation of the World Heritage Convention* means cultural and/or natural significance which is so exceptional as to transcend national boundaries and to be of common importance for present and future generations of all humanity. As such, the permanent protection of this heritage is of the highest importance to the international community.
port limits	see *Transport Infrastructure (Ports) Regulation 2016*
port optimisation	the act of making a port system, design or decision as effective or functional as possible. This may include making efficient use of strategic port land, berths and/or land-based facilities, ability to control berthing allocations and scheduling, minimising capital-intensive marine-based infrastructure, minimising the distance between land-based facilities and berths and/or minimising capital or maintenance dredging.
port overlay	has the same meaning as in the Ports Act
precincts	zones of development for specific areas within the master planned area
priority management measures	has the same meaning as in the Ports Act

Term	Definition
priority ports	has the same meaning as in the Ports Act
sensitive land use or uses	has the same meaning as in the *Planning Regulation 2017*
Strategic Port Land	has the same meaning as in the *Transport Infrastructure Act 1994*
supply chain infrastructure	infrastructure, services and utilities identified as critical to supporting the future functioning of priority Port of Abbot Point and its associated trade and economic growth for the region Note: This may include road, rail, marine, port and other infrastructure that service the priority Port of Abbot Point and associated industrial development. See **Table 1** for further information.

Appendix F
Acronyms and abbreviations

Acronym / Abbreviation	Definition
AMSA	Australian Maritime Safety Authority
APSDA	Abbot Point State Development Area
DMPA	Dredged Material Placement Area
EIS	Environmental Impact Statement
EMF	Environmental Management Framework
EP Act	*Environmental Protection Act 1994*
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (Cth)
ESD	Ecologically Sustainable Development
GBRCMP	Great Barrier Reef Coast Marine Park
GBRMP	Great Barrier Reef Marine Park
GBRMPA	Great Barrier Reef Marine Park Authority
GBRWHA	Great Barrier Reef World Heritage Area
HAT	Highest Astronomical Tide
JCU	James Cook University
JEL	Juru Enterprises Limited
Maintenance Dredging Strategy	*Maintenance Dredging Strategy for Great Barrier Reef World Heritage Area Ports, November 2016*
MNES	Matters of National Environmental Significance
MOF	Material Offloading Facility
MSES	Matters of State Environmental Significance
NC Act	*Nature Conservation Act 1992*
NQBP	North Queensland Bulk Ports Corporation Limited
OUV	Outstanding Universal Value

Acronym / Abbreviation	Definition
PDA	Priority Development Area
PMM	Priority Management Measure
Ports Act	*Sustainable Ports Development Act 2015*
QCPP	*Queensland Coastal Passage Plan 2019*
QFAP	*Queensland Freight Action Plan 2020-2022*
QFS	*Queensland Freight Strategy - Advancing Freight in Queensland 2019*
QREZ	Queensland Renewable Energy Zone
Reef 2050	*Reef 2050 Long-Term Sustainability Plan*
SDA	State Development Area
SDAP	State Development Assessment Provisions
SDPWO Act	*State Development and Public Works Organisation Act 1971*
SIS	*State Infrastructure Strategy 2022*
SPL	Strategic Port Land
SPP	*SPP July 2017*
TCP	*Transport Coordination Plan 2017–2027*
TMR	Department of Transport and Main Roads, Queensland
UNESCO WHC	United Nations Educational, Scientific and Cultural Organization World Heritage Committee

About this artwork

The Artwork depicts the Country and the Sea that surround the Abbot Point and Bowen region - with the Great Barrier Reef, the Ocean and some of the landmarks of this area are clearly visible.

It shows how we have grown, making connections to country through roads. The artwork also shows how the birds and animals of this area, are still roaming this land. Although we have grown, it is important to maintain living together with the wildlife in this region.

Artist: Robert Paul Designs