

LIMMEN BIGHT MARINE PARK

PLAN OF MANAGEMENT

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A sanctuary for abundant marine and bird life, a cultural home for the Marra people where creation ancestors journeyed across the sea sharing their dreamings, and valuable resources through which sustainable management can support livelihoods and lifestyle.

Cover page - Dugong (Photo: courtesy of Damien Buisson)

Right (Photo: Jackson Groves courtesy of Tourism NT)





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PART A SETTING THE SCENE



INTRODUCTION

The Marra Aboriginal people are the traditional owners of the Limmen Bight region. They maintain a deep and abiding attachment to their “Sea Country” and adjoining lands.

About Limmen Bight Marine Park

The Limmen Bight Marine Park (Marine Park) is located in the Gulf of Carpentaria, stretching from the mouth of the Roper River in the north to the southern terrestrial boundary of Limmen National Park. Covering an area of 884 km², the Marine Park encompasses coastal waters from the mean low water mark to 5.5 kilometres (three nautical miles) offshore. It includes the waters surrounding Maria Island (Limmen National Park, NT Portion 2373), which lies about 20 km offshore (refer Figure 1. Limmen Bight Regional Map).

The traditional country of the Marra Aboriginal people, the Marine Park is covered with ancient Dreamings and sites of cultural significance. It is a natural home to important plant and animal species, providing critical feeding grounds and nurseries for dugongs, dolphins and sea turtles. As part of the wider Limmen Bight region rich in natural resources, the Marine Park is a valuable asset that supports local industry and employment. Its values for recreation and tourism are also significant.

The Limmen Bight Marine Park was declared by the Northern Territory Government in 2012 with the vision of developing a multiple-use Marine Park that would:

- Protect the rich marine environment and conserve its significant biodiversity values
- Protect the cultural and heritage values
- Develop employment opportunities for local Aboriginal people
- Support sustainable fisheries development
- Deliver sustainable tourism and recreational opportunities.

This is a remote part of the Northern Territory. The human population living near the Marine Park is very low, comprising just 6,505 people¹. The Marine Park cannot and should not be managed in isolation from surrounding land and sea. For this reason this Plan of Management refers frequently to the Limmen Bight region in the context of the Marine Park.

The Marra Aboriginal people are the traditional owners of the Limmen Bight region. They not only live in the region, but maintain a deep and abiding attachment to their “Sea Country” and adjoining lands. They are well positioned to play an important role in the day-to-day management of the Marine Park, indicating a strong desire to be involved in decision-making and for the wider Limmen Bight area, including the Marine Park, to be declared an Indigenous Protected Area (IPA).

The Limmen Bight region includes the existing Marra Aboriginal Land Trust (NT Portion 2099) to the north; the Limmen National Park (NT Portion 1334) to the west; the Commonwealth Limmen Marine Park to the east; and, Wuraliwuntya Creek (Lorella Station Pastoral Lease, NT Portion 1333) to the south.

The Opportunity

There are challenges for the region’s natural and cultural values, fishing industry and emerging tourism industry. Challenges include the region’s remoteness, limited access and unclear tenure boundaries, especially in the intertidal zone. In addition, cultural stories, plants, animals, habitats, nutrients and ocean currents move independently. Furthermore, our knowledge and understanding of the Marine Park’s natural, cultural and social values is limited.

The cultural, biodiversity and economic values of the region will be best served through a collective approach, whereby the interests of Marra Traditional Owners, local community, industry, Northern Territory Government and the Australian Government are integrated.

Cooperation across multiple marine tenures could enable catchment-to-coast-to-sea protection of the region’s significant values, while providing for sustainable economic and recreational opportunities and cultural ‘caring for country’ management outcomes for local Aboriginal people. The Marine Park represents an opportunity for regional partners to be stewards of the marine estate.

1. Australian Bureau of Statistics, 2016, *Census QuickStats*, viewed 26 March 2019, http://quickstats.censusdata.abs.gov.au/census_services/getproduct/census/2016/quickstat/LGA73600

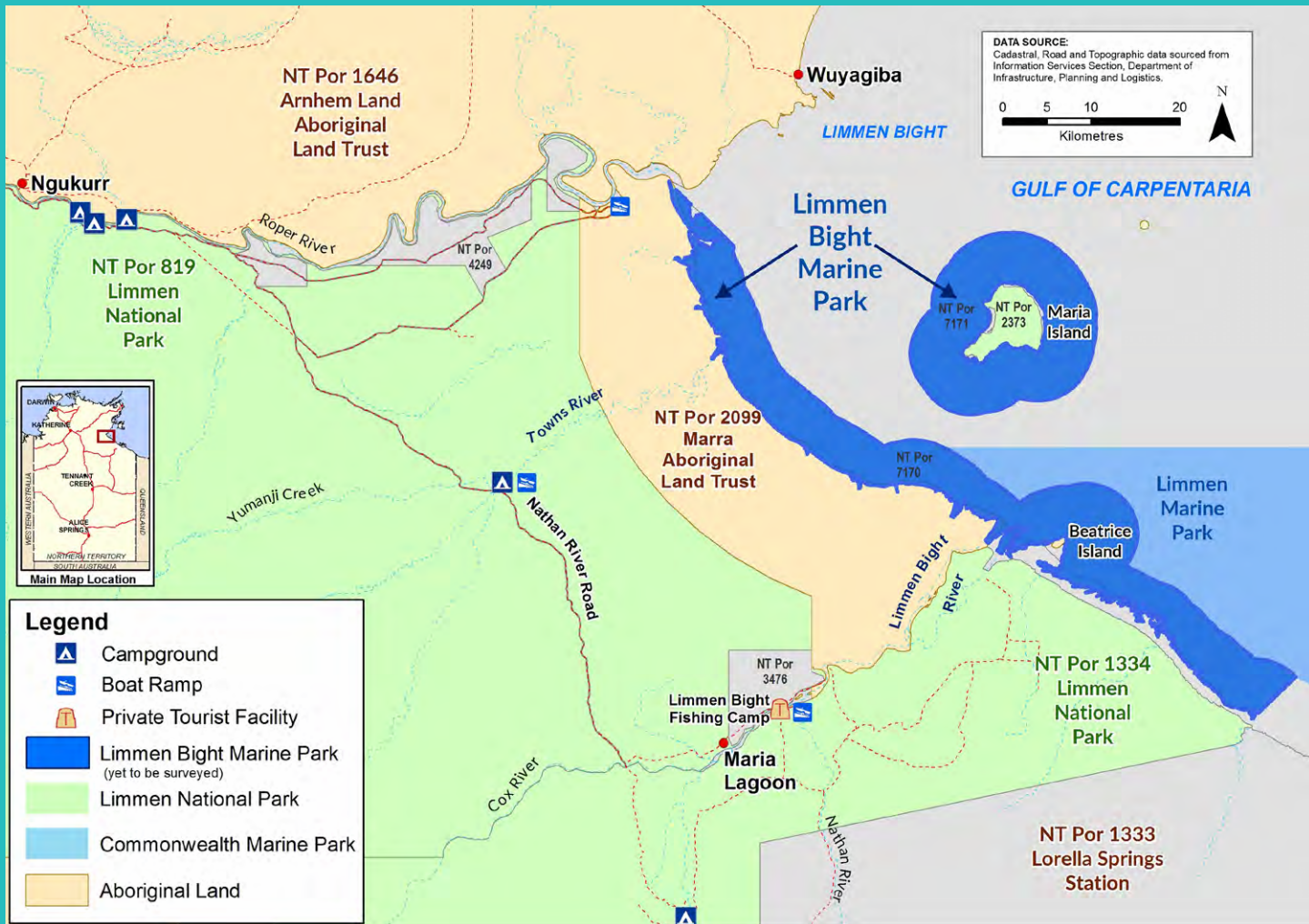


Figure 1. Limmen Bight Regional Map

Legislative and Policy Context

Northern Territory

The Marine Park was declared under the *Territory Parks and Wildlife Conservation Act 1976* (TPWC Act) on 16 July 2012. The purpose of the TPWC Act is:

‘to make provision for and in relation to the establishment of Territory Parks and other Parks and Reserves and the study, protection, conservation and sustainable utilisation of wildlife.’

In April 2013 the Territory Parks and Wildlife Conservation By-Laws for the Marine Park were amended to enable commercial and recreational fishing to continue unimpeded by land-based Park regulations regarding camping, trade and commerce, traps and the use of generators.

As the Marine Park is part of NT coastal waters, the Northern Territory *Fisheries Act 1988* (Fisheries Act) also applies.

The purpose of the Fisheries Act is:

‘to provide for the regulation, conservation and management of fisheries and fishery resources so as to maintain their sustainable utilisation, to regulate the sale and processing of fish and aquatic life, and for related purposes.’

Both Acts need to be considered in planning for the Marine Park; the TPWC Act’s definition of animals and plants includes marine mammals and marine reptiles, however it excludes all other aquatic life. The Fisheries Act provides for the ecological sustainable management of the aquatic resources of the Territory, whether managing a single fish species or an ecosystem. This allows for the management and protection of fish, aquatic life resources and marine habitats. The Fisheries Act also regulates fishing activities through Fisheries Regulations 1992 (NT), Fishery Management Areas and Fisheries Management Plans, which may apply to certain activities within the Marine Park.



An innovative
model of marine
management that
protects biodiversity,
respects Aboriginal
culture, safeguards
lifestyle and creates
sustainable jobs.

Photo: Professor Richard Lucas/Aberystwyth University in Wales

The Northern Territory Coastal and Marine Management Strategy (2019-29) outlines the vision for managing the Territory's coasts and seas. The Strategy aims to integrate informed co-operation among government agencies together with Traditional Owners, industry and the community.

The Limmen Bight Marine Park Plan of Management is a key deliverable in this Strategy to demonstrate integrated, cooperative management.

Commonwealth

In 2013 the Australian Government proclaimed the adjacent Limmen Marine Park (1,399 km²) under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The North Marine Parks Network Management Plan was finalised in 2018, which sets out how the eight Marine parks within the region, including Limmen Marine Park, will be managed.

The North Marine Parks Network Management Plan emphasises the need to establish partnerships with Traditional Owners, marine park users, stakeholders and governments.

It also defines key management programs to protect the marine environment, improve scientific understanding, support tourism, improve awareness and appreciation of marine parks, work with Aboriginal people to manage parks, assess and authorise activities, and ensure that people comply with the rules.

Limmen Marine Park is zoned a Habitat Protection Zone (IUCN category IV), to be managed to allow activities that do not harm or cause destruction to seafloor habitats while conserving ecosystems, habitats and native species in as natural a state as possible. An Implementation Plan and monitoring, evaluation and reporting framework are being developed.

IPA's are areas of land and sea managed by Aboriginal groups as protected areas for biodiversity conservation through voluntary agreements with the Australian Government. South East Arnhem Land IPA and the Anindilyakwa IPA lie to the north of the Limmen Bight region, while to the south lies the Yanyuwa (Barni – Wardimantha Awara) IPA.

These areas of land are incorporated into the National Reserve System and deliver environmental, cultural, economic, health, education and social benefits to Aboriginal communities.

Aboriginal Traditional Owners

The Blue Mud Bay High Court decision of 2008 under the *Northern Territory Aboriginal Land Rights Act 1976* (ALRA) recognised Aboriginal land ownership extends to the mean low water mark, giving Traditional Owners exclusive access rights to tidal waters over their land.

While commercial fishing licences continue to be issued under the Fisheries Act, additional permissions are required under ALRA for fishing in waters overlying Aboriginal land.

In 2018, Marra Traditional Owners developed the Marra Sea Country Access and Use Plan that includes management of the inter-tidal waters and coastline adjoining the Marine Park.

The Plan describes immediate, medium and long-term goals and subsequent strategies to help reach those goals. Separate monitoring and implementation plans supporting the delivery of each goal are also defined.

About this Plan

This Plan provides an opportunity for strategic alignment and collaboration with regional partners and stakeholders. It will guide the establishment of a comprehensive framework for the protection of key biodiversity and cultural values, economic development and enjoyment and appreciation of the coastal and marine environments within the Marine Park.

For the purposes of planning, the Limmen Bight is considered an integrated catchment-to-coast-to-sea area. This Plan seeks to complement and if possible, enhance the planning and management efforts carried out in the adjacent Aboriginal Land Trust on the eastern coast, intertidal areas and the Commonwealth Marine Park.

The Limmen Bight Marine Park Plan of Management has been prepared consistent with Section 18 of the TPWC Act. This is the first Plan of Management for the Marine Park and it will remain in effect until amended or replaced by a new Plan.



VISION, OBJECTIVES AND PRINCIPLES

Vision: future generations benefit from regional cooperation, sustainable use and conservation of Limmen Bight Marine Park’s cultural and natural values.

This Vision will be supported by the following objectives:

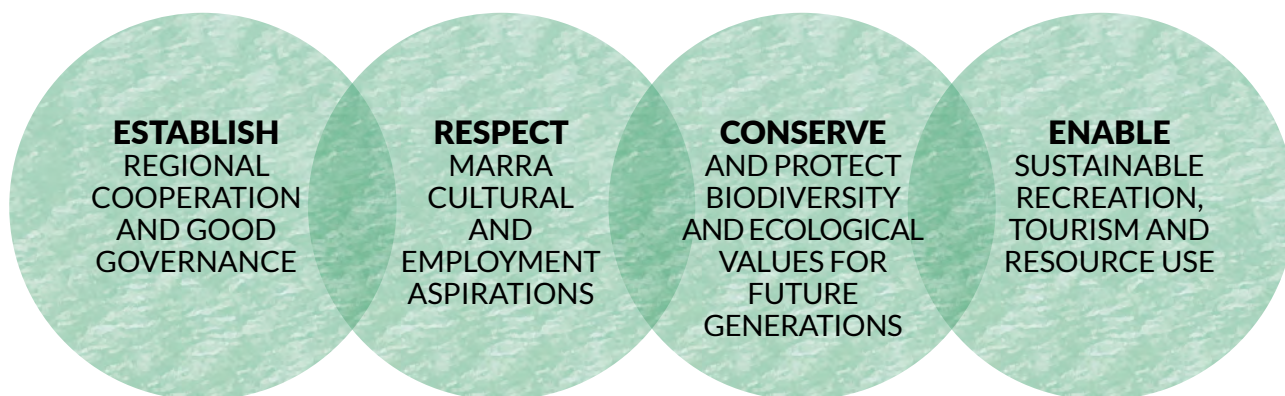


Figure 2. Four objectives that support the Plan of Management’s Vision

Principles for managing the Marine Park:

An integrated regional approach	An integrated approach should be adopted across the region, recognising that the values of Limmen Bight extend beyond the Marine Park. This approach will foster collaboration and partnerships between government agencies, land-owners, commercial industries and recreation groups to deliver results.
Respect for customary law	Customary Marra law is strong in Limmen Bight and all collaborations, programs and projects will be better served if this is respected. Decisions should be made in consultation with Marra Minirringki, Jungayyi and Darlyin, inclusive of customary law and with free, prior and informed consent.
Recognition of rights	Rights will be recognised in accordance with any relevant Commonwealth or Territory Legislation.
Sustainable use	Ecologically sustainable development is fundamental to livelihoods, the economy, culture, the customary practices of Aboriginal custodians and society. Management should focus on protecting natural, cultural and heritage values, while facilitating sustainable use and enjoyment of Limmen Bight.
Community benefit	Traditional Owners, local communities and local industry seek sustainable livelihoods, businesses and jobs for their children and future generations and should be key beneficiaries from economic activity in Limmen Bight.
Transparency	Local people and communities should be empowered to participate in decision-making associated with Limmen Bight. Processes used to make decisions should be easily understood by the public.
Evidence and risk-based decision-making	Decisions should be based on the best available knowledge, including scientific, traditional, community and business/industry knowledge.
Adaptive management	Management must be adaptive and continually improving. To achieve this it is important to monitor and evaluate change to the most important values and pressures, and pursue new knowledge where there are gaps. Management should encourage innovation, accommodate new information and allow for continual improvement.

PART B MEETING OUR OBJECTIVES



ESTABLISH REGIONAL COOPERATION AND GOOD GOVERNANCE

Governance is defined as the way decisions are made to achieve our objectives

Good decision-making should involve all stakeholders that have a direct interest in and are users of the wider marine and coastal system. The Marine Park is part of the wider Limmen Bight region in which the different groups and their varied interests include:

- Aboriginal Traditional Owners and custodians
- Seafood Industry
- Tourism Industry
- Recreational Fishers
- Community Groups, including conservation groups
- The wider community, who generally want to know that public values are being managed fairly and sustainably
- Government: Parks Australia (Australian Government) and departments and agencies of the Northern Territory Government

As the first Plan of Management for the Limmen Bight Marine Park, it is important that governance is flexible and decision-making is underpinned by knowledge and evidence, supported by research, monitoring and evaluation. This approach will enable collaborative understanding of issues and opportunities and help with achieving smart and informed decision-making.

A priority for the Marine Park is to establish a governance framework appropriate to the Marine Park's cultural, legal and environmental setting. Effective governance arrangements will see:

- Marra Traditional Owners providing a lead role in decision making
- A forum enabling stakeholders for the region to share perspectives
- Partnerships and stakeholders working together, each with an understanding of each other's roles
- Integrated, adaptive management programs delivering beneficial outcomes
- Wider community engagement and awareness building with local Traditional Owners, industry and visitors
- Increasing capability of local Aboriginal people in delivering effective land and sea management.



Figure 3. Proposed Governance Framework for Limmen Bight Marine Park

OBJECTIVE

Establish regional cooperation and good governance

STRATEGIES

STRATEGIES	WHAT WE WILL DO
Promote Regional Partnerships	Develop partnerships between adjacent landowners, government agencies, local industry and Non-Government Organisations to leverage and maximise efficient use of resources.
Governance Group	A Governance Group will oversee direction of the Marine Park and foster regional collaboration. A Governance Framework will be formalised with Traditional Owners providing a lead role to support planning and operational Marine Park management.
Indigenous Protected Area	Support the development of an IPA in the region, encompassing the Marine Park.
Aboriginal management	With Traditional Owners, the adjacent Marra Aboriginal Land Trust, Aboriginal Land and Sea Rangers, the Northern Territory and Australian Governments, develop a model of Aboriginal management supporting: <ul style="list-style-type: none"> • Local employment • Capacity development to manage Limmen Bight • Involvement in management decision-making for NT Waters and Australian Marine Parks.



Figure 4. Working Together
 - A future Governance Framework for the implementation of the Plan of Management

RESPECT MARRA CULTURAL AND EMPLOYMENT ASPIRATIONS

“All this country got a story, got dreaming, got kujika (song line), got ceremony. Poor bugger this country, old people been have to leave him, but we come back now still got a story. I still got to carry that law for this place, this country crying for people.”

(Tom Reilly Nawurrungu, 1984)

Marra people are tied to this land by their Ancestors, who have bestowed upon them responsibilities to care for the surrounding land and waters as custodians for future Marra generations. Their cultural ties are acknowledged through legally recognised rights to Aboriginal Land and overlying waters. Traditional use of the Marine Park is imperative for maintenance of Marra culture, fostering continued traditional lifestyles.²

Marra Country and Dreamings

The Marra identify as Saltwater People. They have actively managed the Sea Country of Limmen Bight according to their customary responsibilities for many thousands of years. Marra land and Sea Country is covered by the tracks of ancestral beings, Dreamings (*Yijan*), with sites on land, the islands and in the sea associated with their activities. The Dreamings underpin the cultural importance of the region and although stories of the ancestors may be in the past, Marra descendants can see their ancestors still moving on country. They left reminders for Marra men and women, stories in the rocks and rivers, plants and animals, carved and painted so that they will always remember.

In 1988 the now deceased Marra senior Law man, Musso Harvey, described the Dreaming as follows:

“White people ask us all the time, what is Dreaming? This is a hard question because Dreaming is a really big thing. The Dreamings made our Law. This Law is the way we live, our rules. This Law is our ceremonies, our songs, our stories; all of these things came from the Dreaming. The Dreamings are our ancestors, no matter if they are fish, birds, men, women, animals, wind or rain. It was these Dreamings that made our Law. All things in our country have Law, they have ceremony and song, and they have people who are related to them.”

The Dreamings named all of the country and sea as they travelled, they named everything they saw. The Dreamings gave us our songs. Those songs are sacred and we call them kujika. These songs tell the story of the Dreamings as they travelled the country, everything the Dreaming did is in the songs, the country is in the songs - the names of people are in the songs.”

Traditional Land Ownership, Kinship and Law

Through the Dreamings, the ancestors defined Marra language, kinship, social order (law) and identity. It is the Dreamings that give Marra rights, responsibilities, obligations and belonging to their clan and country (land and water). The Marra maintain these cultural connections to their ancestral country, taking responsibilities very seriously and continuing to pass on cultural knowledge to younger generations.

Social order is achieved by Marra with everything in the world divided into four groups or semi-moieties/clans - *Budal, Guyal, Mambali* and *Murrungun*. All people, country, animals, plants and phenomena (such as winds, rain, lightning) are divided between these four groups. Allocation to a clan is patrilineal; that is a person belongs to their father's clan or semi-moiety. The four groups are then divided into two patrimoieties, an approach which ensures strong kinship and avoidance of 'wrong skin', particularly for marriage.

² This section of the Plan draws from Bradley, JJ (2018). *Marra Sea Country: A report detailing the Limmen Bight Sea Country and Cultural Values*. Department of Tourism Sport and Culture, Northern Territory Government; and, Northern Land Council.

MARRA PEOPLE			
Patrimoiety		Patrimoiety	
semi-moiety/clan	semi-moiety/clan	semi-moiety/clan	semi-moiety/clan
Mambali	Murrungun	Budal	Guyal

Figure 5. Social structure associated with Marra clans³

These semi-moieties also define responsibility and which country a person belongs to:

- *Minirringki* (often translated as 'owner') - belong to land and sea through their father's father
- *Jungkayi* (often translated as 'guardian' or 'policeman') - speak for the country of their mother or mother's father
- *Darlyin* - these are people who can speak for the country of their mother's mother's brother.

Jungkayi have a particularly important role in the visiting and protection of sites. They ensure that sacred sites are not damaged and that restricted areas are not visited by people who do not have permission. The day-to-day working of the Minirringki, Jungakayi and Darlyin relationships represents a kin-centric form of politics. This complex system affirms the importance of family lineage and is based upon an understanding that no one man or woman can presume to speak on behalf of the wider groups of people that have interests in the land and sea of their country.

³ Adapted from Bradley, *Marra Sea Country Report*; and, *Marra Sea Country Access and Use Plan*. (2018). Northern Land Council. Darwin, Australia.

Ochre (Photo: Shaana McNaught courtesy of Tourism NT)



Connection to Sea Country and Significant Sites

“Oh big country, lot of law,
dangerous too, you got to know
where to walk on that country,
ceremony place that island.”

(Mack Reilly talking about Maria Island, 1993)

To Marra people, the sea is still country, it has names, it has Law, as do the islands, sandbanks and reefs. The Marra use the term ‘country’ to describe all of the islands, the sea and the land; people often speak of country in the same way one might speak about a human relative. People visit country and they listen to country, they sing for country and cry for country. They worry greatly about country and speak longingly of places they are unable to visit. Just as people feel their country, so too it is understood that country in return hears, thinks and feels about its human relatives.

People will often sit in silence and look over their country, recalling past trips, thinking about the Dreamings, the ceremonies of the old people. This is often called ‘listening to country’, moments of introspection and observation, and yet people also say that it is getting harder to listen to country now, there are far too many other things going on. In the Marra worldview, too many meetings, tourists, fishermen, pastoralists and miners, all detract from being able to listen to country and in turn affect the health of country and the people.

While Marra Traditional Owners welcome visitors to their country, they have significant concerns about damage to sacred sites, rubbish, pollution and over-extraction. They are particularly concerned about people accessing Maria Island (Kurrululinya), Beatrice Island (Yumunkuni) and other important sacred sites.

Maria Island (Photo: Kim Brennan courtesy of DENR)





Figure 6. Map of cultural values and importance of Limmen Bight and the surrounding region

GULF OF CARPENTARIA

Limmen Bight Marine Park



Kurrululinya Maria Island

LIMMEN BIGHT

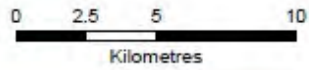
DATA SOURCE:
Cadastral, Topographic, and Land Claim data sourced from Information Services Section, Department of Infrastructure, Planning and Logistics

Imagery copyright © Earthstar Geographics

Indigenous Protected Area data sourced from the Department of the Environment. © Copyright Commonwealth of Australia 2017

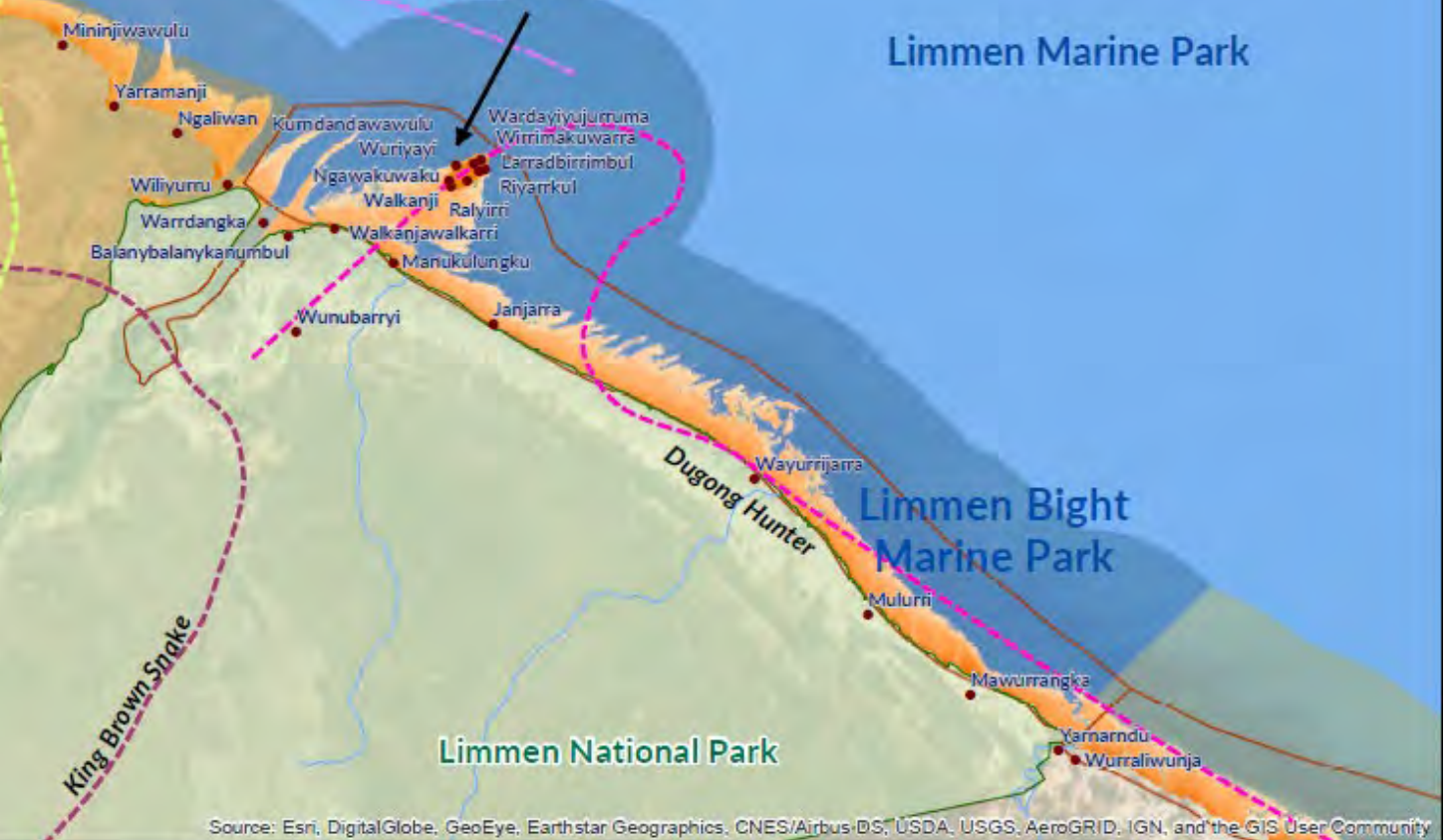
WARNING: Land Claim areas are indicative representations only and are bound by intertidal zones and beds and banks of the creeks and rivers they lie within.

Intertidal Area data sourced from Geoscience Australia. © Copyright Commonwealth of Australia (Geoscience Australia) 2018.



Yumunkuni Beatrice Island

Limmen Marine Park



Limmen National Park

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus-DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Access and Use

For millennia the Marra have sustainably harvested the resources of their environment including marine turtles, dugongs and turtle eggs. These and other animals are culturally significant and most have Dreamings associated with them. Fish and shellfish, including mud crabs, also help sustain Marra people both physically and spiritually. In addition to protecting and conducting traditional cultural activities within the Marine Park, Marra retain the rights to hunt, gather, fish, to have access to and use waters within the Marine Park. As a coastal people their lives are intrinsically linked with these resources and under custodial law, they have rights over, and responsibilities towards them.

Partnerships with Aboriginal Ranger Groups

Management capability in the region lies with Traditional Owners who seek new opportunities for employment, regional development and taking a lead role in management. Natural resource management is now a significant employer across the Top End. Marra Traditional Owners acknowledge and commend the hard work and achievements of neighbouring ranger groups including the Ngukurr-based Yugul Mangi Rangers, Numbulwar's Numburindi Rangers, Groote Eylandt's Anindilyakawa Rangers and Borroloola's Li-anthawirriyarra Sea Rangers. These Ranger groups help people keep connection to country, and by respecting and combining traditional knowledge with Western science they keep country healthy.

The foreseeable future management of Limmen Bight rests with Aboriginal Rangers. With the right organisation, resources, training and equipment Marra Traditional Owners believe a dedicated land and sea organisation and ranger program for Limmen Bight would benefit their lands, the intertidal waters, the NT Marine Park, the Australian Marine Park and beyond.

Marra Traditional Owners believe having a ranger group based in their country will allow them to be present, to monitor peoples' activities and manage their Sea Country. They also see it as an opportunity to work with others for mutual benefit. A ranger program could provide a model for ongoing employment opportunities for Traditional Owners.

*Li-anthawirriyarra Sea Ranger David Barrett on Maria Island
(Photo: courtesy of Li-anthawirriyarra Sea Ranger Unit Mabunji)*





OBJECTIVE

Respect Marra cultural and employment aspirations

STRATEGIES

STRATEGIES	WHAT WE WILL DO
Marranbala Land and Sea Ranger Program	Support the establishment of the Marranbala Land and Sea Ranger Program for Limmen Bight enabling Marine Park management such as surveillance, monitoring and threat mitigation.
Promote other employment and Sea Country management opportunities	Continue to support and expand agreements and partnerships (individually or collectively) between Traditional Owners, tourism industry, fisheries and government agencies to improve Aboriginal employment and Sea Country management outcomes.
Communication and education program	Develop a communication and education program to: <ul style="list-style-type: none">• Ensure Marra Traditional Owners have ongoing input into Marine Park management• Collaborate with the Marra Traditional Owners to promote the significance of Marra sites and Sea Country• Provide interpretation to promote the Marine Park's values and rules, particularly at regularly visited sites.
Enforcement capacity for Aboriginal Rangers	Support training programs enabling Aboriginal Rangers to become Conservation Officers under the TPWC Act and NT Fisheries Inspectors under the Fisheries Act.
Local industry partnerships	Encourage local industry and Non-Government Organisations to contribute to: <ul style="list-style-type: none">• Resourcing Aboriginal Ranger operations• Funding research and recording of Marra cultural sites• Funding country visits and monitoring sites of cultural significance• Contributing to regional meeting costs.
Respecting culture	<p>Northern Territory Government policies and programs will recognise, respect and promote Traditional Marra cultural responsibilities to care for Sea Country. 'Right way' Traditional Governance will provide a basis for decision-making for the Sea Country of Limmen Bight.</p> <p>Consideration will be given to renaming the Marine Park and places of interest in consultation with Traditional Owners, subject to Commonwealth and Northern Territory legislation.</p> <p>Aboriginal sacred sites in the Northern Territory are protected by the Aboriginal Areas Protection Authority (AAPA) in accordance with the <i>Northern Territory Aboriginal Sacred Sites Act 1989</i>.</p>

CONSERVE AND PROTECT BIODIVERSITY VALUES

Limmen Bight Marine Park is home to an astonishing array of marine animals, including threatened sawfish and among the most concentrated dugong populations in the Northern Territory.

The Limmen Bight Marine Park is a highly valued marine and coastal area of local, national and international importance. The Marine Park has multi-layered biodiversity values, with coastal and benthic (seabed) habitats and extensive seagrass meadows, which support large populations of marine mammals, birds, marine reptiles, fish and invertebrates. The Marine Parks' biodiversity values require integrated catchment-to-coast-to-sea management if maximum conservation benefits are to be achieved.

Protection from Threats

Key threats to the Marine Park's coastal and marine biodiversity values include climate change and variability (sea level rise, increased sea temperatures, more frequent and intense cyclones), pollution (light, noise and chemical), habitat modification and loss, reduction in water quality, marine debris, fisheries bycatch and boat strike.⁴

The following maps and illustrations demonstrate existing values.

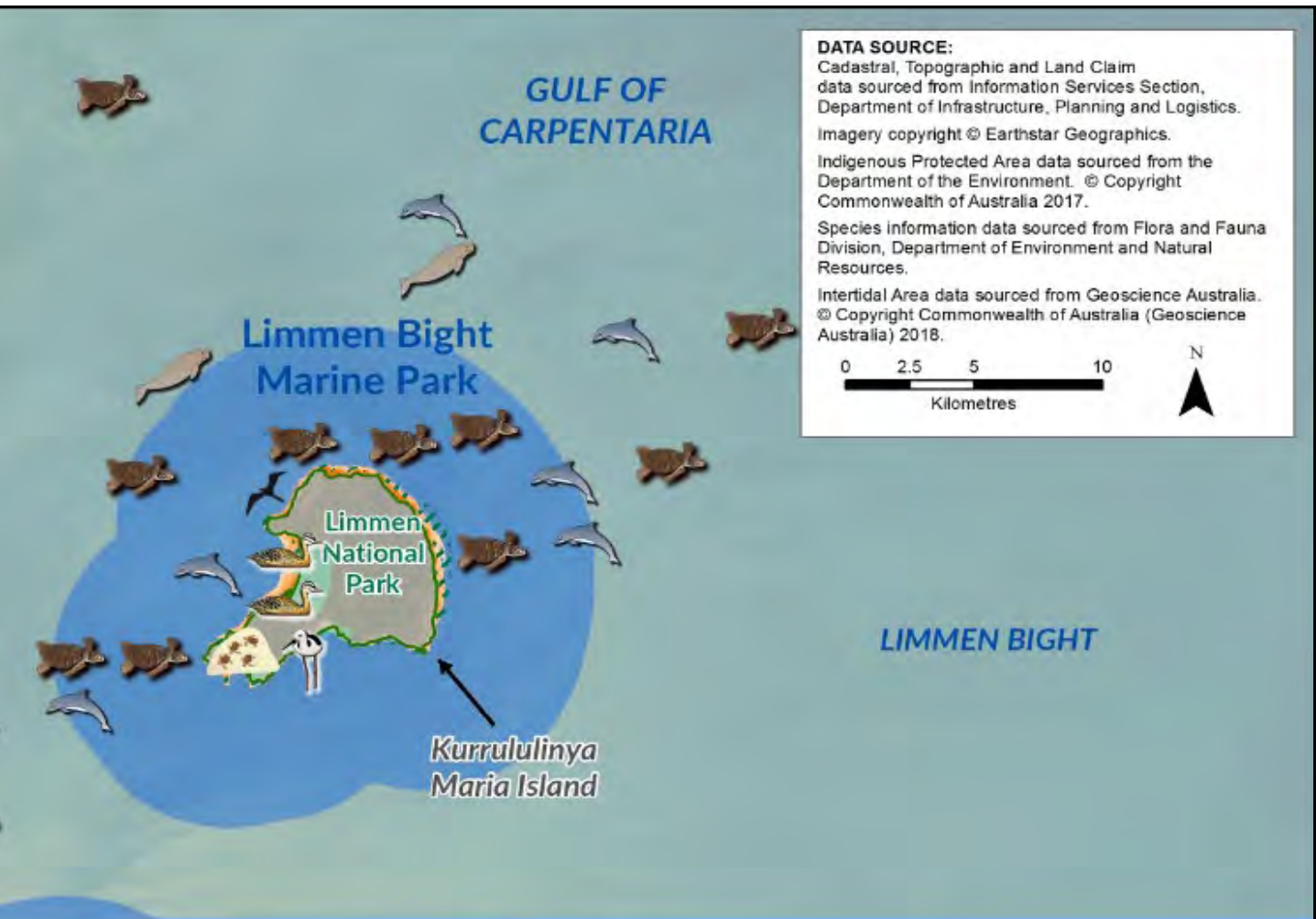
⁴ This section of the Plan draws from Palmer C, Smitt N (2019). Limmen Bight Marine Park: Marine and coastal biodiversity values. Department of Environment and Natural Resources, Northern Territory Government.

Bar-tailed Godwit Limosa lapponica





FIGURE 7. Biodiversity values of the Limmen Bight region



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

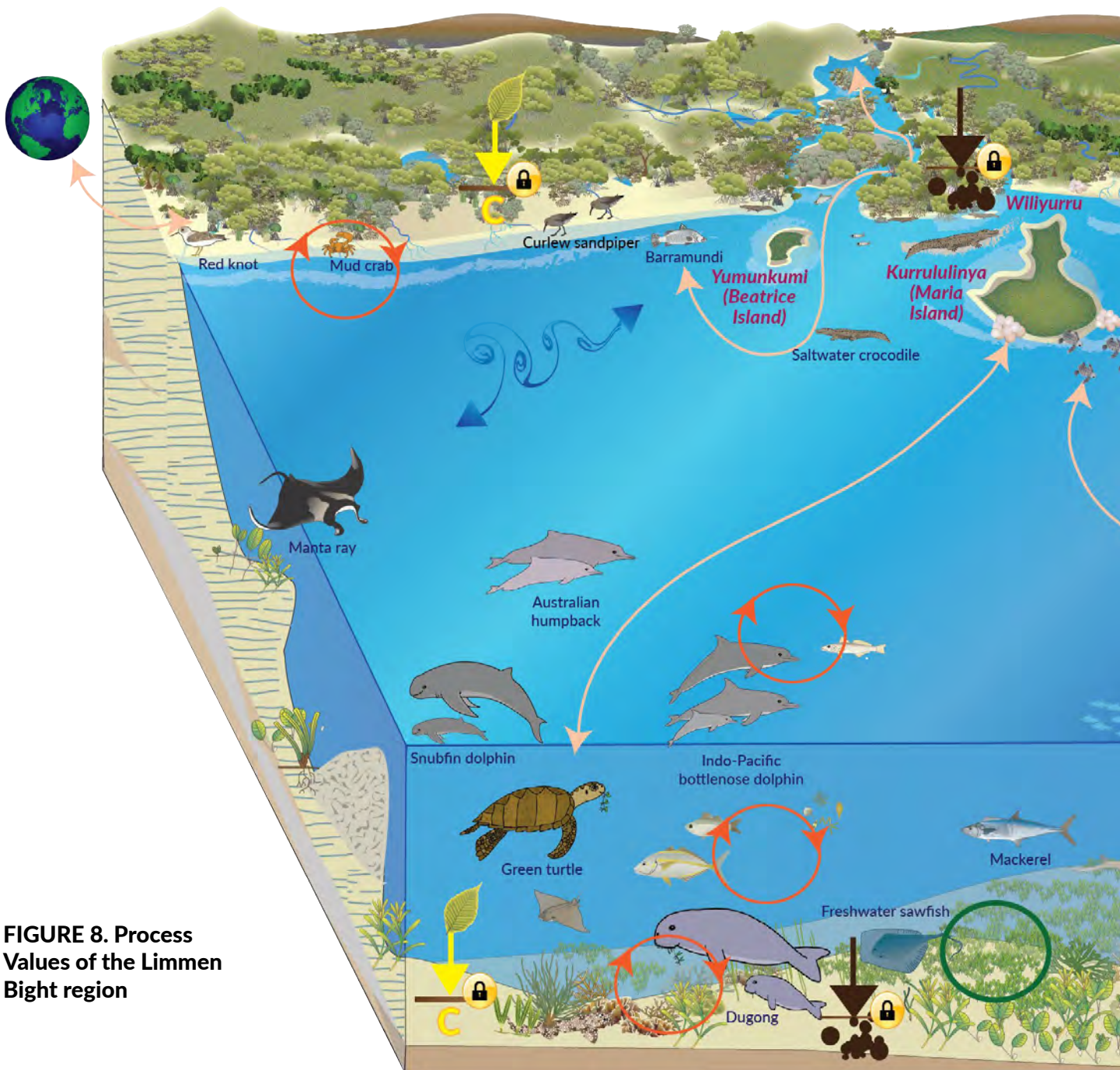



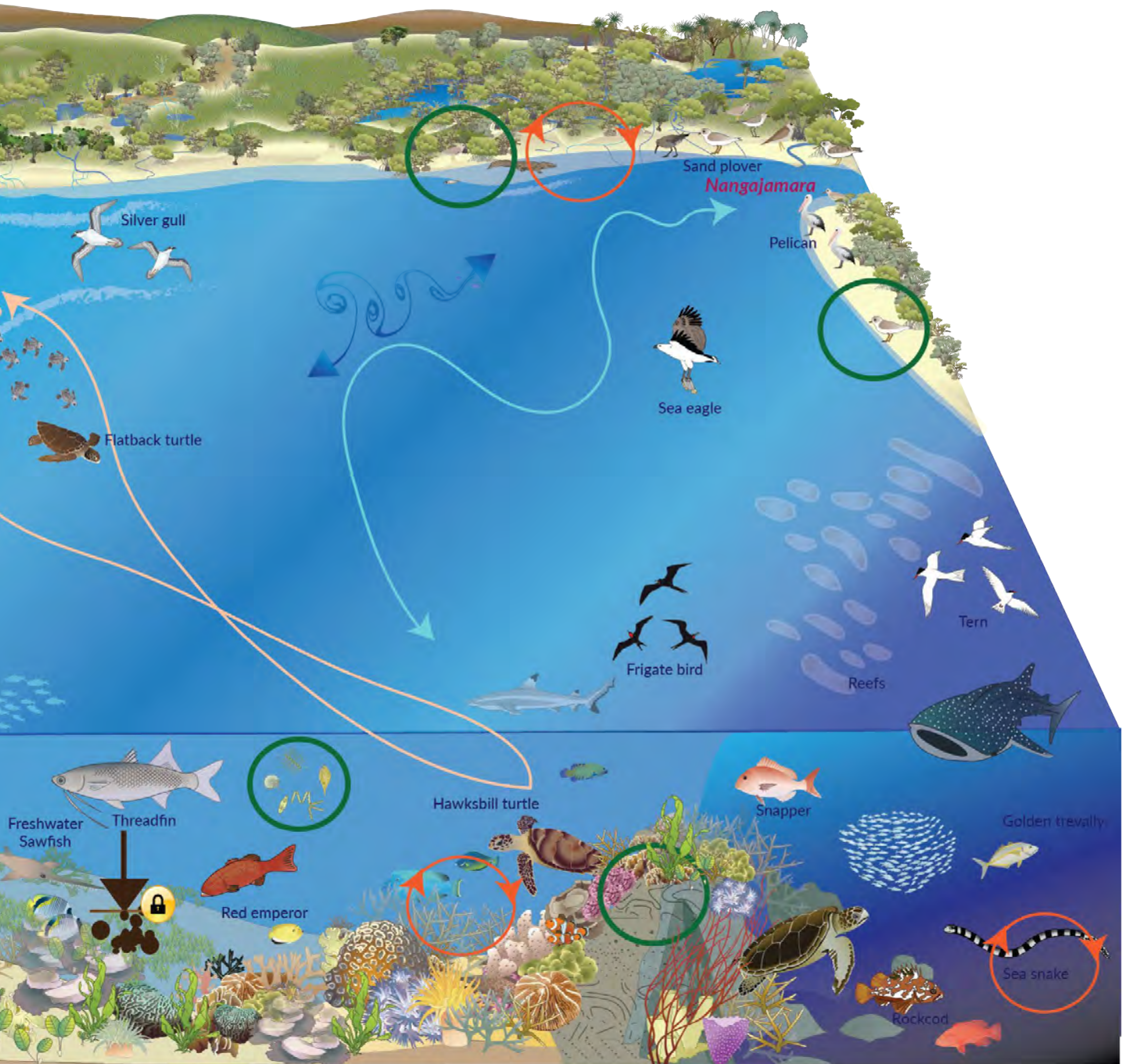


FIGURE 8. Process Values of the Limmen Bight region

Marine Ecological Process Values

Marine ecological processes demonstrate the critical relationship the various components play in supporting other values. These processes include the cycle of food webs, the elements needed to sustain marine productivity such as sunlight and seasonal changes, connecting rivers and streams and the influence of fresh and saltwater, the role mangroves and seagrasses play in carbon storage, and migratory species moving throughout the region.

- 
Food webs - connectivity and nutrient cycling between species. Commercial fisheries and crustaceans form part of the food web.
- 
Primary productivity - performed by living organisms in the presence of sunlight that forms the basis for all major food webs. Freshwater runoff during the wet bring nutrients into the deeper waters and warmer waters support high primary production from phytoplankton, seagrass, algae and coral communities.
- 
Hydrological connectivity - including connections between fresh and salt water, tidal flows and ocean currents; supports the movement of species locally and along migratory routes and the dispersal of seeds and spawning events.



Biological connectivity - maintains healthy environments for feeding and breeding and safe paths between them is vital for the well being of internationally significant migratory species and those that require access to different habitats eg. fresh and saltwater (eg. barramundi) or terrestrial sites (marine turtles) at different life stages or to meet different needs. The globe indicates significant international migratory connections.



Sediment capture and stabilisation - improves water quality, provides protection for coastline from erosion and storm surges. Can include carbon capture.



Carbon capture and storage - mangroves, seagrass beds and soft sediments capture and store significant quantities of atmospheric carbon dioxide.

Habitat Values

The Limmen Bight contains a wide variety of coastal and marine habitats, including beaches, chenier plains and dunes, saline flats, mangroves, seagrass, sand and mud flats, banks and reefs. An overview of each of the habitats and their values within the Marine Park are illustrated below.

Soft Sediment Habitats

Sedimentary habitats are key for nutrient cycles and lock up pollutants and contaminants. These habitats are critical for keeping marine ecosystems healthy.

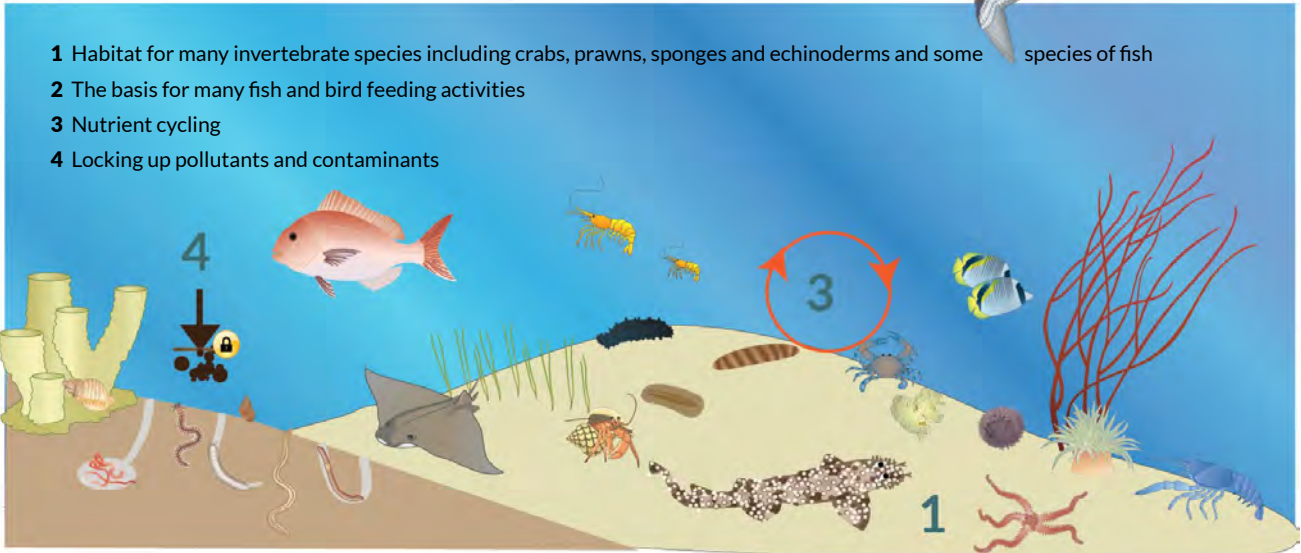


Figure 9. Soft Sediment habitat values

Seagrass

Seagrasses form one of the most important habitats worldwide. Growing usually in shallow waters, seagrass meadows provide food and shelter for many fish and marine invertebrates, are important to nutrient cycling (as a sequester of carbon) and in stabilising the substrate. In particular, seagrass habitats in the Gulf of Carpentaria are an important nursery habitat for commercial prawns and feeding habitat for dugong and green turtle.

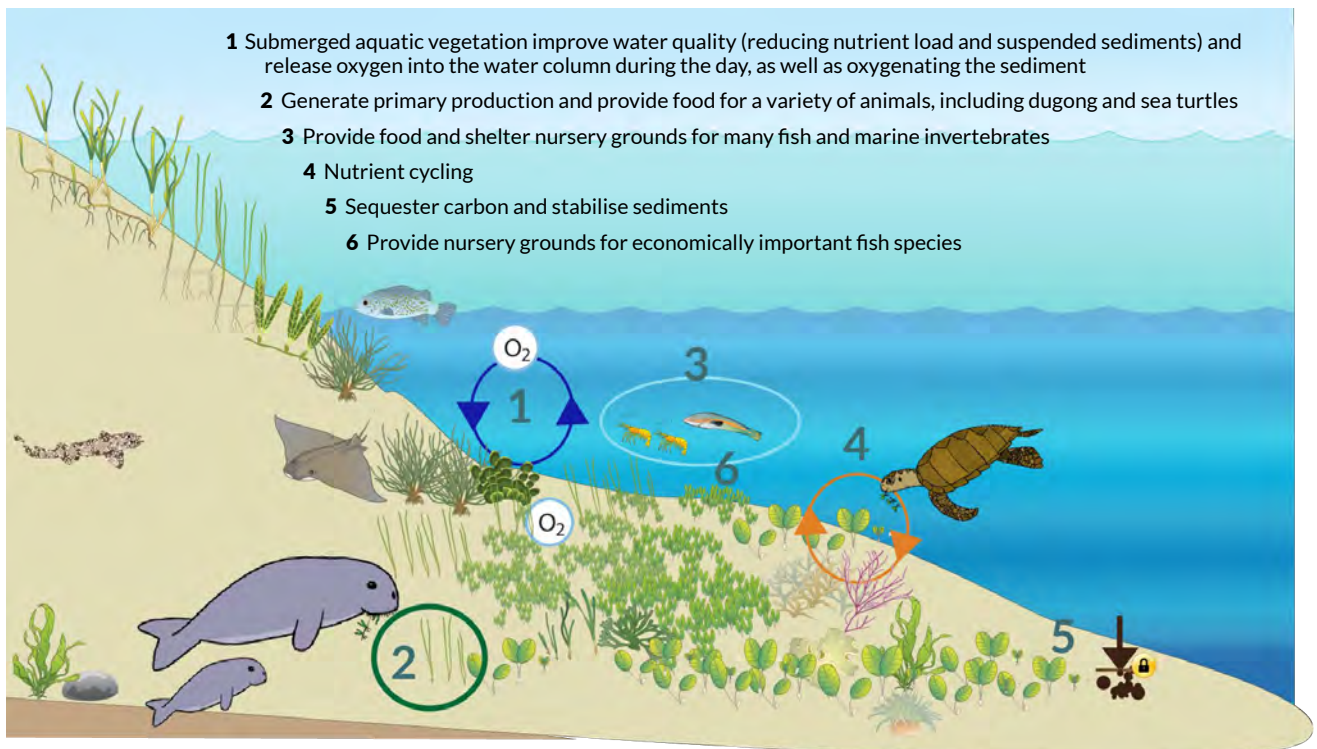


Figure 10. Seagrass habitat values

Reefs

Reefs are biodiversity hotspots and important nursery grounds for economically valuable fish species. Reef communities fringe the islands in the Limmen Bight. They provide habitats for bottom dwelling and open ocean fish including planktivorous and schooling fish; top predators such as shark, snapper, tuna and mackerel; as well as foraging sea turtles.

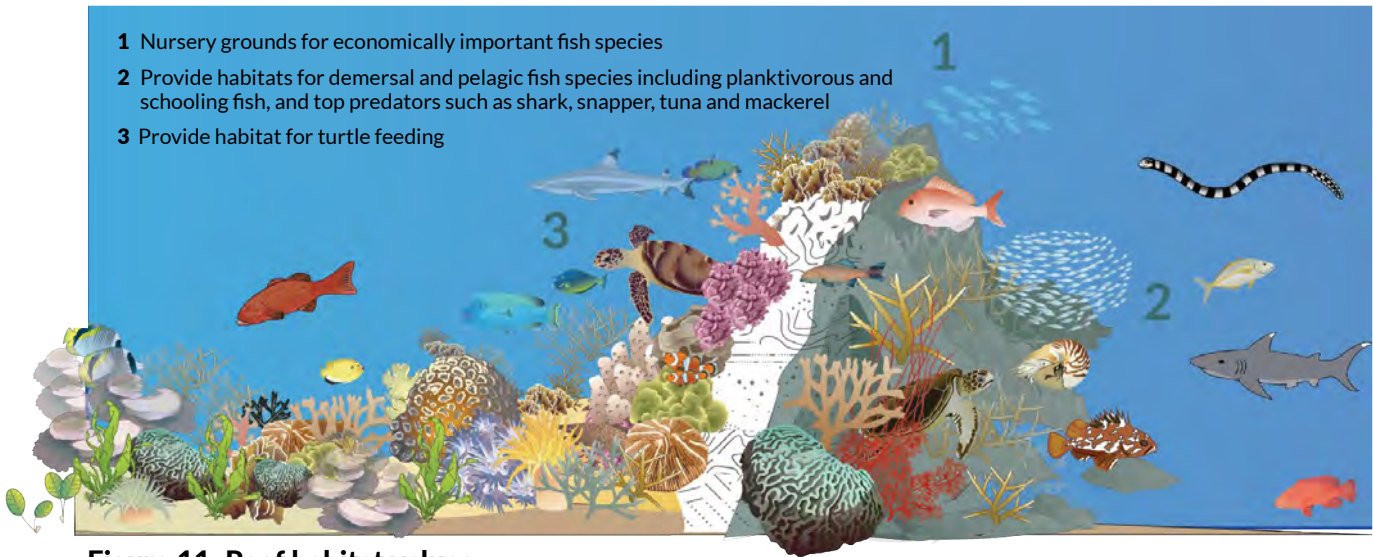
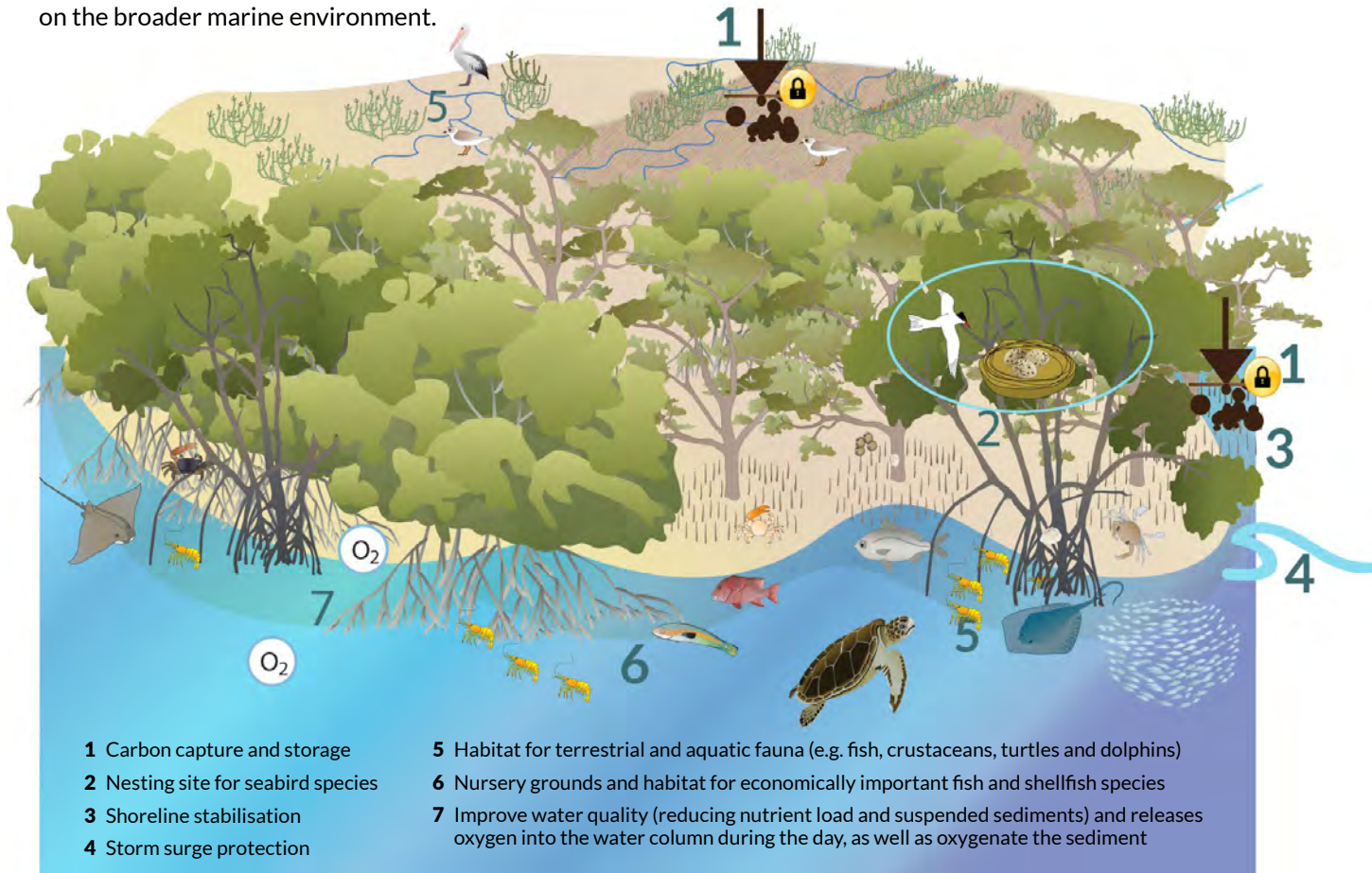


Figure 11. Reef habitat values

Mangrove and Salt Flats

Mangroves dominate the banks of the rivers and many small creeks that run into the coast. Mangrove habitats provide an important array of values including nesting sites for seabirds, terrestrial and marine fauna and carbon capture. When mangrove dieback occurs due to extreme weather conditions, it has a significant impact on the broader marine environment.



- | | |
|------------------------------------|--|
| 1 Carbon capture and storage | 5 Habitat for terrestrial and aquatic fauna (e.g. fish, crustaceans, turtles and dolphins) |
| 2 Nesting site for seabird species | 6 Nursery grounds and habitat for economically important fish and shellfish species |
| 3 Shoreline stabilisation | 7 Improve water quality (reducing nutrient load and suspended sediments) and releases oxygen into the water column during the day, as well as oxygenate the sediment |
| 4 Storm surge protection | |

Figure 12. Mangrove and salt flat habitat values

Beach and Sand Dunes

Beaches and sand dunes provide a buffer between the land and sea, serving as important protection to the coast. They are naturally active environments, constantly changing in size and shape due to variations in the wind, waves and tides. Beaches and dunes are important feeding, breeding and nesting grounds for sea turtles and shorebirds.



Figure 13. Beach and sand dune habitat values

Wildlife Values

The marine and coastal region of the Limmen Bight is a rich environment that contains wildlife of national and international significance. Each of the habitats described above are havens for wildlife species such as dugong, coastal dolphins, whales, waterbirds, sea turtles, saltwater crocodiles, sea snakes, various fish species, sawfishes, and marine

invertebrates such as snails, clams, squids, crabs, prawns, jellyfish and corals.

Marra people have been relying on these resources through sustainable use for thousands of years and they continue to hunt and gather traditionally.

Sea Turtle hatchlings



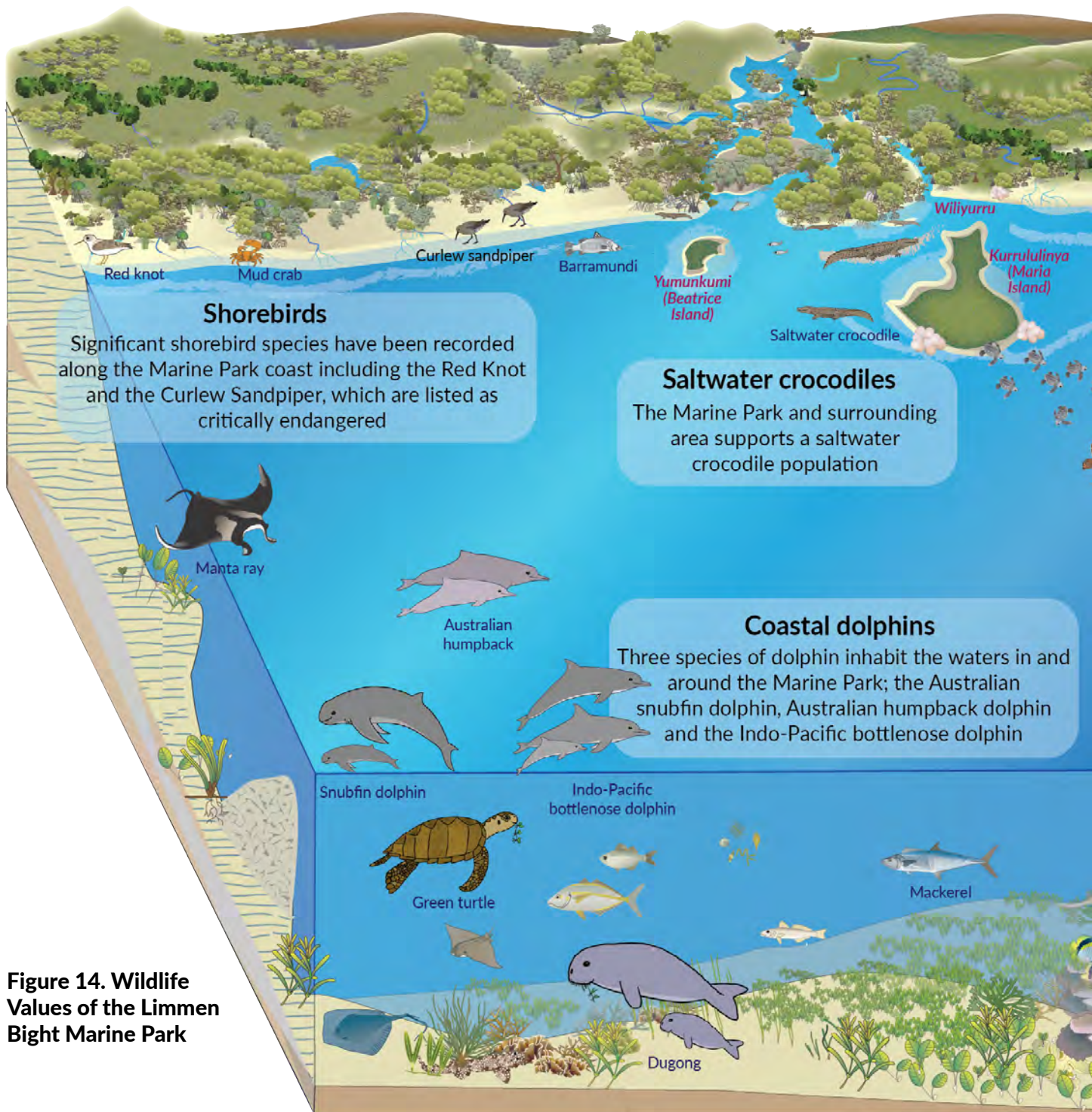


Figure 14. Wildlife Values of the Limmen Bight Marine Park

Shorebirds

Significant shorebird species have been recorded along the Marine Park coast including the Red Knot and the Curlew Sandpiper, which are listed as critically endangered

Saltwater crocodiles

The Marine Park and surrounding area supports a saltwater crocodile population

Coastal dolphins

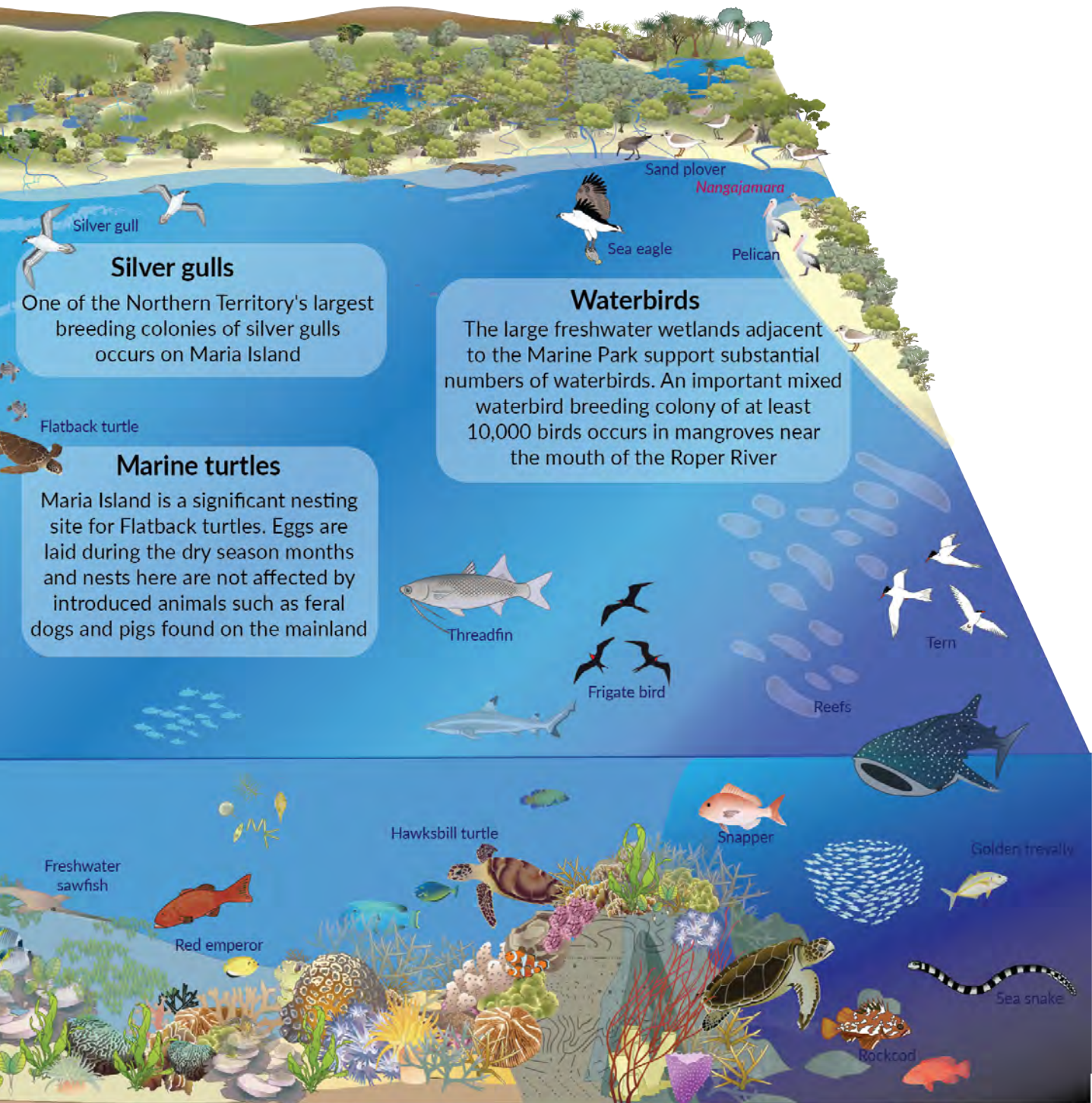
Three species of dolphin inhabit the waters in and around the Marine Park; the Australian snubfin dolphin, Australian humpback dolphin and the Indo-Pacific bottlenose dolphin

Dugong

The Marine Park and surrounding waters support significant populations of dugongs. Dugong populations are heavily dependant on seagrass beds, which occur extensively within the Marine Park. Dugong are of high cultural and conservation significance

Fish

The Marine Park is home to species of recreational/commercial importance such as barramundi, golden snapper, mackerel and blue/king threadfin. Other significant species have been recorded such as pipefish, manta rays and the endangered sawfish.



Silver gulls
 One of the Northern Territory's largest breeding colonies of silver gulls occurs on Maria Island

Waterbirds
 The large freshwater wetlands adjacent to the Marine Park support substantial numbers of waterbirds. An important mixed waterbird breeding colony of at least 10,000 birds occurs in mangroves near the mouth of the Roper River

Marine turtles
 Maria Island is a significant nesting site for Flatback turtles. Eggs are laid during the dry season months and nests here are not affected by introduced animals such as feral dogs and pigs found on the mainland

Invertebrates

Many invertebrate species occur in the Marine Park. This includes coral, sea stars, snails, clams, squid, polychaete worms, crabs, prawns, sea lice, sponges and jellyfish. A large percentage of invertebrates in the NT coast are endemic to Australia (meaning they are found nowhere else in the world) and the north Australian sponge fauna is considered unique. Invertebrates are critical components of healthy ecosystems.

OBJECTIVE

Conserve and protect biodiversity and ecological values for future generations

STRATEGIES

STRATEGIES	WHAT WE WILL DO
Adaptive management	<p>In partnership with Parks Australia, Northern Territory Government agencies, Industry, Traditional Owners, Northern Land Council (NLC) and Aboriginal Ranger Groups (Ref. Governance Section), develop an Integrated Management Strategy to improve the protection of key natural and cultural values, link management with other plans and maximise employment and economic opportunities for Traditional Owners and local Aboriginal people. The Strategy will include:</p> <ul style="list-style-type: none">• Comprehensive values mapping of key values of Limmen Bight with measurable indicators of health identified for selected key values.• Integration of cultural, scientific and local knowledge as a basis to support cooperative management and coordination with Aboriginal Ranger Groups.• Strategic risk assessment to evaluate threatening processes and risks to key values. This will enable prioritisation of management programs, zoning scheme approaches and monitoring and research programs to provide appropriate protection of significant habitats.• A systematic Monitoring, Evaluation, Reporting and Improvement (MERI) program to assess the effectiveness of management of key values, with a focus on condition, pressure and response indicators and measures. The program will also assess the nature, level and potential impacts of pressures (from human activities and external pressures such as climate change), including provision for early warning of critical changes in pressures on Marine Park values. Reports will be publicly available and shared with local stakeholders.• The strategy will provide a platform for dialogue between key stakeholders to review performance and identify options for improving outcomes.• A Zoning Scheme approach. Within two years of the plan, the MERI program will be implemented. The program will subsequently enable scientifically determined management zones to be identified. <p>The Strategy will be a living document, ensuring improved understanding is incorporated and adaptive management is progressed.</p>
Research Partnership Program	<p>A research and partnership program will address knowledge gaps to support future plans and improve management. Priorities will include:</p> <ul style="list-style-type: none">• Research and scientific advice from DENR, DPIR and stakeholders on marine processes, habitats and priority species, informing future versions of the Integrated Management Strategy and progressing adaptive management.• Integrating both traditional knowledge and science into conservation programs.• Establishing environmental baselines for monitoring ecological change, particularly in potentially high impact areas.• Improving understanding of key ecological processes.• Assessing the extent of human impacts on biodiversity.• Considering the ecological implications of and potential adaptations to climate change.

SUSTAINABLE ECONOMIC OPPORTUNITIES

With a diversity of economic interests overlaying the remote waters of the Limmen Bight region, it is imperative that key stakeholders collaborate to ensure that resource use is sustainable and that cultural and ecological integrity is maintained into the future.

For many years the Limmen Bight and waters of the Marine Park have supported commercial and recreational fishers. Emerging tourism experiences are associated with Limmen National Park and the Lorella Springs Wilderness Park. There has been mining activity within the Limmen Bight Marine Park's catchment and interest in seabed mining within the Marine Park itself.

During Sea Country planning processes, Marra Traditional Owners expressed an interest in developing ways to benefit socially and economically from Limmen Bight. They know that commercial fishers rely on intertidal waters for their livelihood and that people come from all over Australia and overseas to enjoy recreational fishing in the region. They also see tourism operators and charter boat owners making a living by providing services to people visiting the region. The emerging ecosystem services industry is another area of interest to them, including blue carbon offsets.

With a diversity of economic interests overlaying the remote waters of the Limmen Bight region, it is imperative that key stakeholders collaborate to ensure that resource use is sustainable and that cultural and ecological integrity is maintained into the future.

Recreational Values

The recreation and tourism values of the Marine Park relate to the region's remoteness, near-pristine waters and low fishing pressure. Most visitors to the region are self-drive and self-sufficient, camping and travelling between the Top End and Queensland, and many visit specifically to go fishing. Recreational fishers target barramundi, queenfish, mangrove jack and mud crabs in the estuaries and along the Roper and Limmen Bight Rivers. Visitors access the Marine Park via Port Roper or Limmen Bight River Fishing Camp.

Tourism Values

The Marine Park lies in coastal waters between Ngukurr and Borroloola and has the potential to contribute to employment and economic development in both communities.

Barramundi Fishing Charter (Photo: courtesy of Tourism NT)

The Territory is looking to establish itself as the leading Australian Aboriginal tourism destination. Marra Traditional Owners are well placed to provide the authentic cultural tourism experiences that are currently undersupplied. Future initiatives may include ecotourism, cultural tours, fishing charters, scenic air tours and expanded recreational fishing opportunities (including associated facilities and infrastructure). Lorella Springs Wilderness Park is a local tourism destination with visitor numbers steadily increasing to approximately 12,000 visitors each year. Guests enjoy exploring many kilometres of remote coastline for hiking, four wheel driving, fishing and camping. Scenic helicopter flights are also arranged from Lorella Springs to see dugongs and turtles and appreciate the coastal and marine systems of Limmen Bight.

The Limmen National Park, known for remote camping, fishing, walking and incredible geological formations, is accessible during the dry season via four-wheel drive. In 2018, the Park recorded around 15,000 visitors. Remoteness and the relative lack of infrastructure challenge the development of tourism and recreation in the Limmen Bight region. With greater promotion of the region and increasing visitor numbers, Traditional Owners would like to know that visitors are respecting country.



Concerns for them include trespass on Aboriginal land, damage to sacred sites, rubbish and over fishing. Maria Island has powerful cultural significance and Traditional Owners want access to the island controlled.

Aboriginal Ranger Groups

Aboriginal Ranger Groups could play a role in managing future tourist activities and recreational fishing including as tour operators.

Ranger employment provides income for local people and stimulates the local economy. It helps people to maintain connection to country, keep traditional knowledge strong and protects sacred sites and fisheries. It is estimated that investment in well supported local Aboriginal institutions, such as Indigenous Protected Areas and Aboriginal Ranger Groups, can deliver threefold returns.

Commercial Fishing

The Limmen Bight supports a significant seafood industry, particularly the Northern Prawn Fishery, Mud Crab Fishery and Barramundi Fishery. These fisheries are vital economic contributors to the region. The value of the Mud Crab and Barramundi fisheries together with commercial tourism in Limmen Bight was estimated at \$1.25 million annually between 2013 and 2017.

The Northern Territory Government supports sustainable fisheries development. Commercial fishers recognise that their livelihoods depend on the healthy ecosystems of Limmen Bight. They seek to build a sustainable fishing industry by earning community trust and working with Marra Traditional Owners and other local stakeholders. Each fishery seeks to improve fishing practices, strengthen their Codes of Practice, improve legal compliance and reduce interactions with threatened and protected species. They also seek to monitor and report on impacts and interactions.

Marra Traditional Owners want to see more benefits from commercial fishing through sustainable practice and economic outcomes. This may include new business development for Traditional Owners and local Aboriginal communities through direct fishing operations or partnerships, or sub-leasing or licensing arrangements.

Northern Prawn Fishery - The Gulf of Carpentaria is the most lucrative prawn fishery in Australia with catches occurring in both Territory and Commonwealth waters. The large numbers of commercially harvested tiger, banana and endeavour prawns (*Penaeus spp.*) depend on seagrass meadows, as are found in Limmen Bight. Prawns are trawled

using two, three or four conical-shaped nets, which are spread over the seabed and towed behind the vessel. All trawl nets must have a turtle excluder and by-catch reduction devices. The industry is regulated by the Australian Government and guided by the Northern Prawn Fishery Management Plan (2012).

In recognition of the importance of the Limmen Bight region and its seagrass habitats, waters of the Limmen Bight that are within 3.7 kilometres (two nautical miles) of the mean low water mark are closed to prawn trawling. This includes the inner waters of the Marine Park. Prawn trawling is allowed in the outer waters of the Marine Park however, equating to approximately 29,000 ha of Marine Park waters. Prawn trawling is not allowed in the adjacent Commonwealth governed Limmen Marine Park which lies further offshore.

Mud Crab Commercial Fishery - Mud crab fishing takes place in tidal, coastal and estuarine areas, predominantly on mud flats. The NT Seafood Council estimates that 20% of the Territory's mud crab catch comes from the Marine Park, and one third of the mud crab licences are operated within the Marine Park. Mud crab fisher camps are located adjacent to the Marine Park. The industry is regulated by the Northern Territory Government and guided by the Northern Territory Mud Crab Fishery Management Plan (2017), and Management Framework for the Northern Territory Mud Crab Fishery (2017).

Barramundi Commercial Fishery - The inshore waters of Limmen Bight support important commercial quantities of barramundi. Populations of these fish are also important to recreational fishers. Commercial fishers use regional boat ramps for water access. The barramundi industry is regulated by the Northern Territory Government and guided by the Barramundi Fishery Management Plan (2018).

Seabed Mining

Seabed mining involves extracting mineral deposits from and under the seafloor. It involves dredging seabed habitats, removing minerals and dumping tailings. The entire NT coastline is protected under Reserve from Occupation 24494, gazetted in 2005 under the *Mining Act 1980* (now Reserved Land under the *Mineral Titles Act 2010*). This includes the entire Marine Park. Two permissible Mineral Authority applications were submitted in May 2010 for seabed mining in the Marine Park including the waters around Maria Island (see figure 15).

In 2012 the Northern Territory Government imposed a moratorium on seabed exploration and mining which will remain in effect until 2021. The applications can be processed once the moratorium is lifted.

The Northern Territory Government is committed to ensure there will be no seabed mining in the Marine Park.

Appropriate ongoing protection for the Marine Park will be set in place by way of gazetting the Park as Special Reserved Land under the *Minerals Titles Act 2010* and Reserved Blocks under the *Petroleum Act 1984*, *Geothermal Energy Act 2009* and *Petroleum (Submerged Lands) Act 1981*.

OBJECTIVE

Enable sustainable recreation, tourism and resource use

STRATEGIES

STRATEGIES	WHAT WE WILL DO
Integrate with other plans	Integrate with existing and new regional fisheries, tourism, employment and community development plans to develop and share resources and realise opportunities. Links will seek to expand employment and enterprise opportunities for Traditional Owners and support cooperative management and coordination with Aboriginal Ranger Groups.
Commercial development and benefits for Traditional Owners and other Territorians	Support market research and feasibility studies to identify commercial opportunities, partnerships and benefits for Traditional Owners and other Territorians including: <ul style="list-style-type: none"> • Commercial fishing • Guided fishing tour operations • Cultural tourism • Emerging sectors such as environmental offsets and blue carbon • Leveraging from private sector investment and expertise to support Aboriginal people's interests and capacity.
Tourism marketing	Promote the Limmen Bight region as a "remote adventure" destination. Pursue external resources such as tourism industry grant programs and initiatives that support regional visitor experience planning to facilitate tourism enterprise development and delivery of new in-demand visitor experiences.
Infrastructure	Review infrastructure requirements to support recreational fishing, guided fishing tours and charters and commercial fishers.
Fisheries Management Planning	Establish management actions based on strategic risk assessments to support sustainable fishing in Limmen Bight. Fisheries planning is the responsibility of the Department of Primary Industry and Resources, in collaboration with NT Seafood Council, Amateur Fishing Association of the Northern Territory and the NLC. Work with recreational and commercial fishers to ensure fishing activities are culturally sensitive, and zoning schemes and restrictions that may apply within the Marine Park are observed.
Partnerships	Encourage local and regional industry and Marine Park user partnerships that: <ul style="list-style-type: none"> • Contribute to resourcing Aboriginal Ranger operations • Establish joint business ventures with local Aboriginal people or organisations • Provide seed funding for Aboriginal enterprises • Enable training and employment of local Aboriginal people • Deliver measurable community and social benefit • Contribute to regional meeting costs.
Seabed mining	Reserve the Marine Park from seabed mining under the Mineral Titles Act.

Ecosystem Services

Ecosystem services is an emerging industry, providing a relatively new tool in achieving environmental goals.

Potential exists for local Aboriginal communities to benefit from the provision of ecosystem services and carbon offsets, including blue carbon. Blue carbon initiatives recognise the integral role of protecting coastal ecosystems, particularly seagrass beds and mangroves and in sequestering and storing carbon from the atmosphere and oceans. They have a key role in addressing climate change.

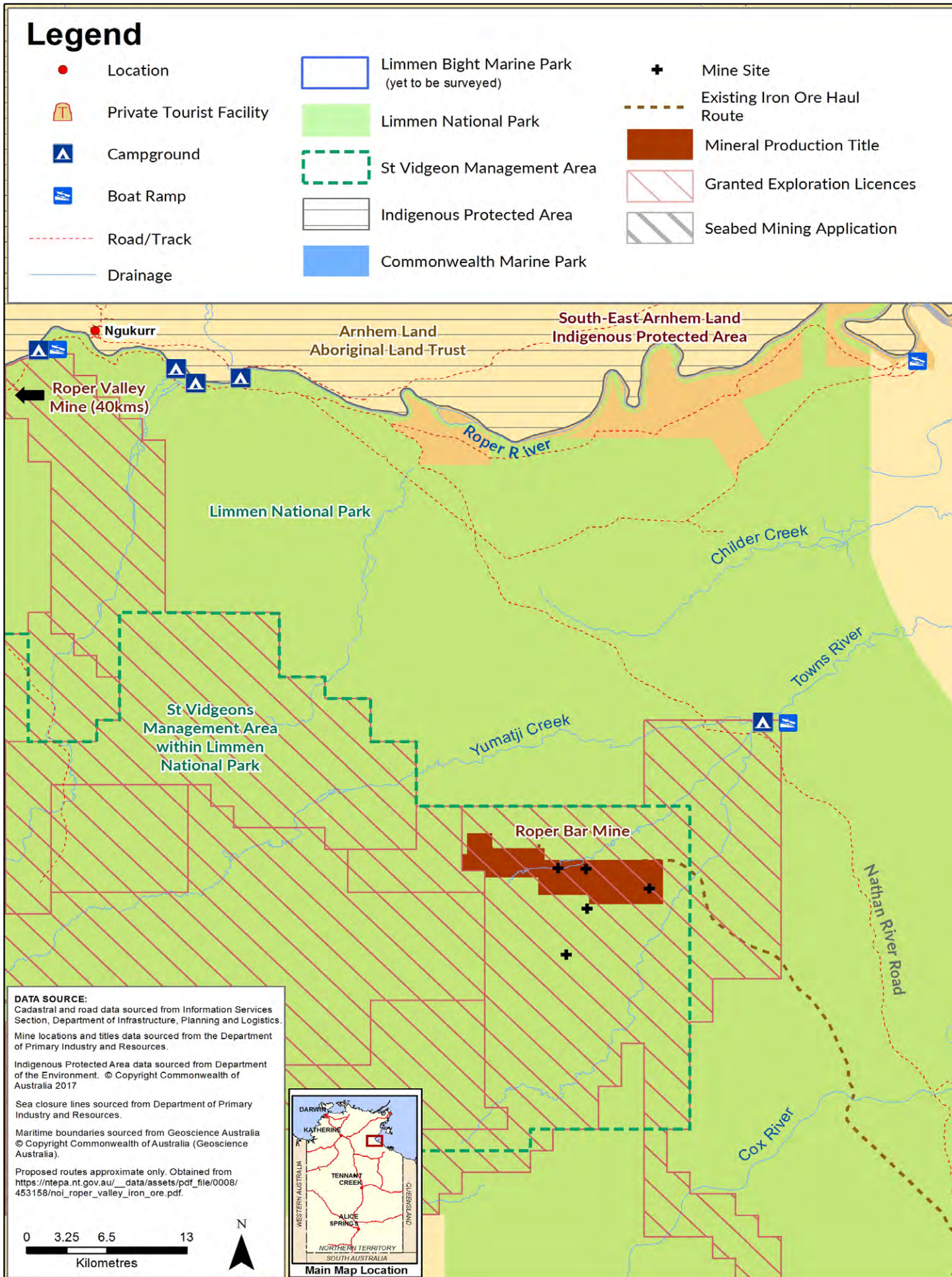
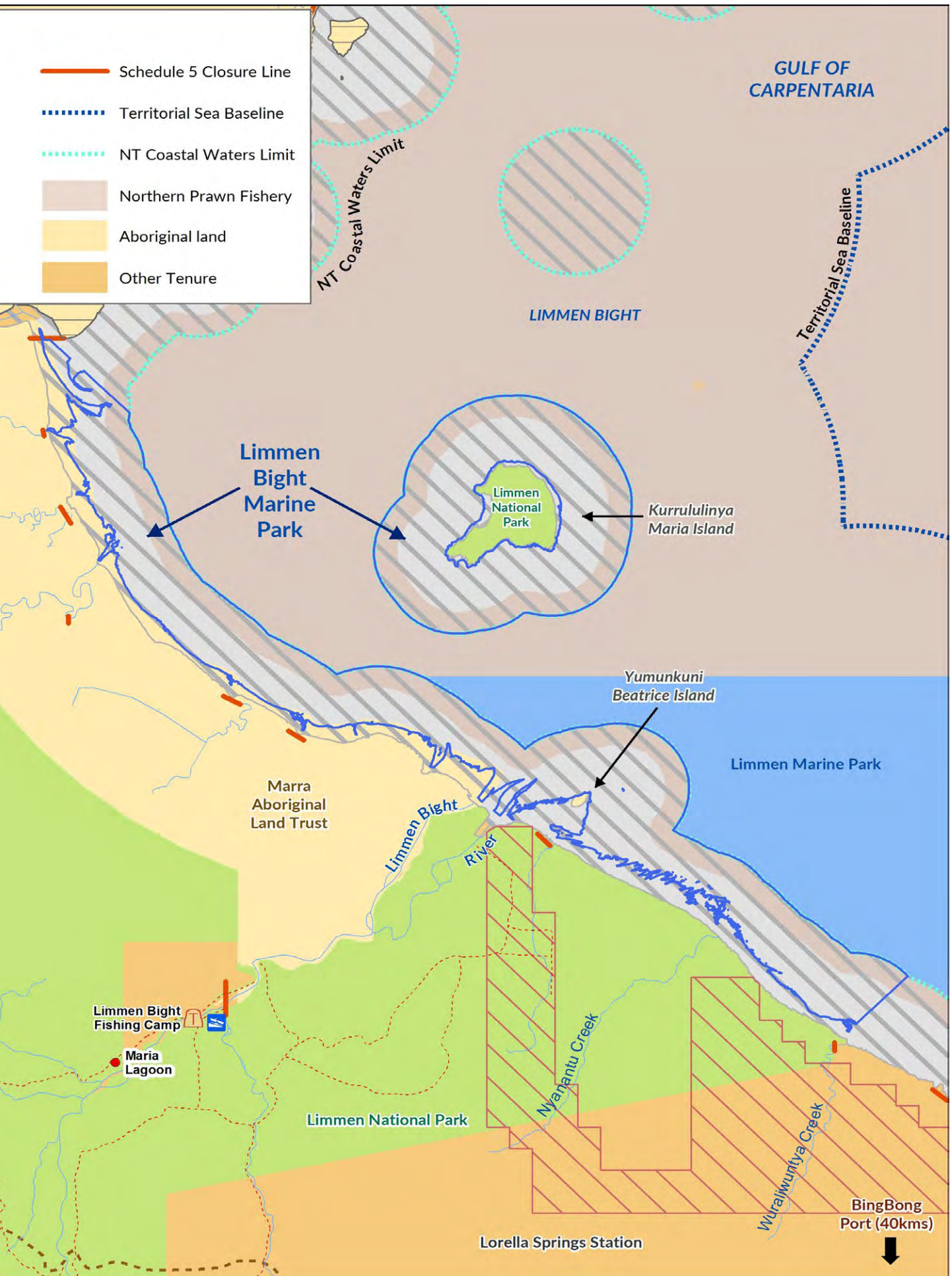


Figure 15. Limmen Bight Map indicating economic resources, infrastructure and potential commercial values



Eco-tourism

The marine park can support ecotourism opportunities such as scenic helicopter tours

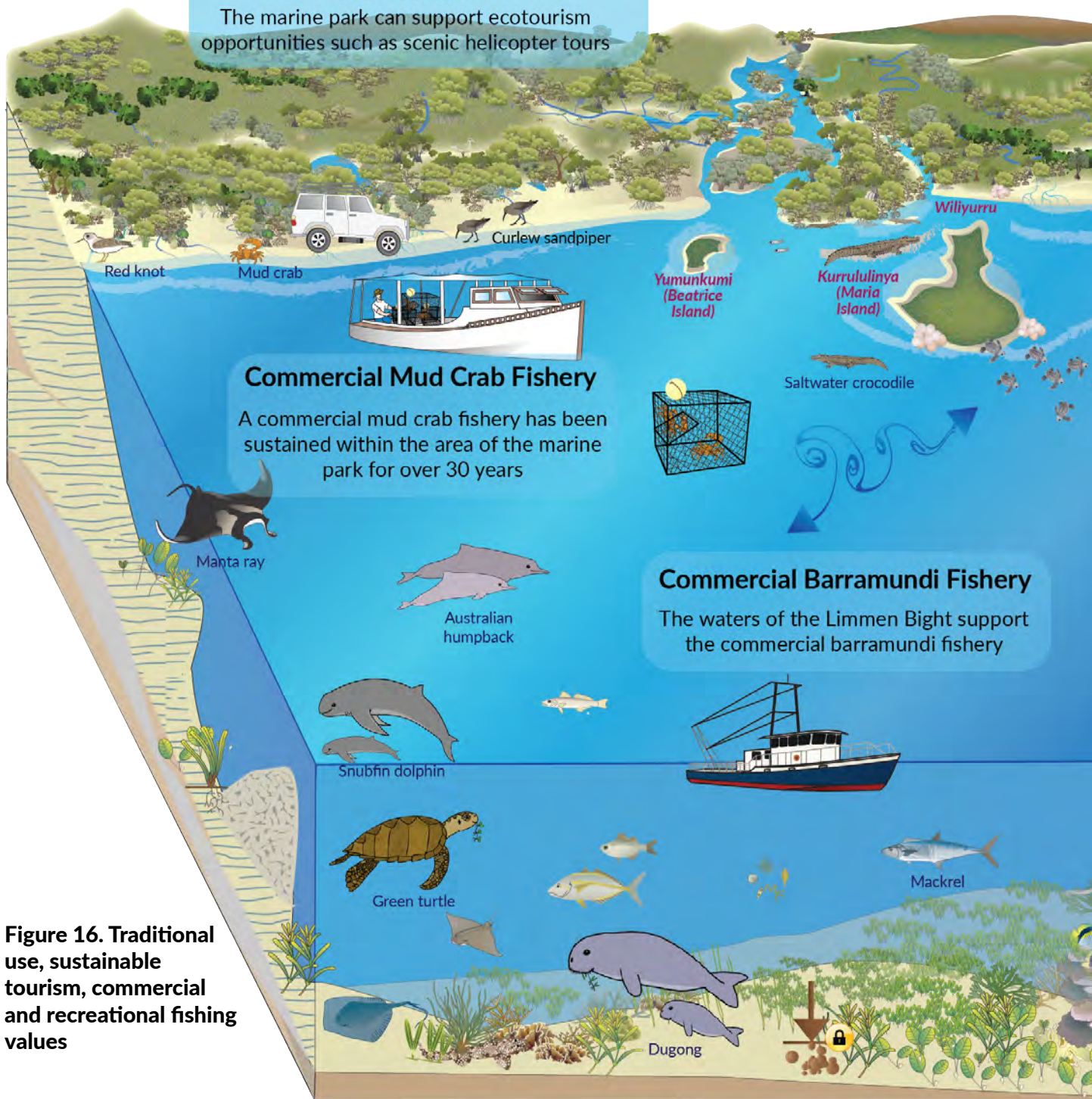
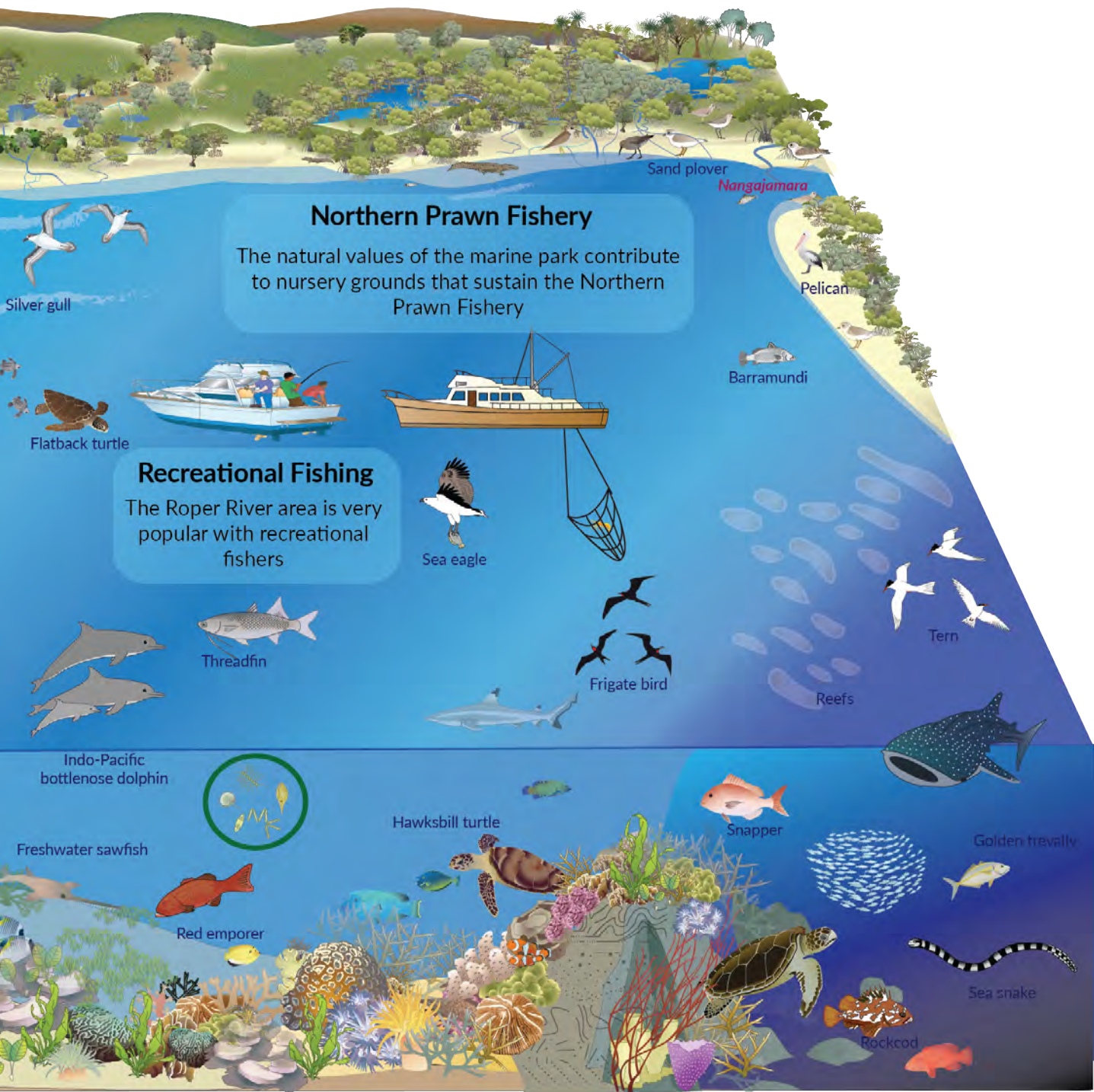


Figure 16. Traditional use, sustainable tourism, commercial and recreational fishing values



Northern Prawn Fishery

The natural values of the marine park contribute to nursery grounds that sustain the Northern Prawn Fishery

Recreational Fishing

The Roper River area is very popular with recreational fishers

