North Kimberley Marine Park

Joint management plan 2016
Uunguu, Balanggarra, Miriuwung Gajerrong, and Wilinggin management areas

Management plan 89

GOVERNMENT OF WESTERN AUSTRALIA

Department of **Parks and Wildlife**

Conservation and Parks Commission

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December 2016

ISBN 978-1-921703-59-1 (print)
ISBN 978-1-921703-60-7 (online)

WARNING: This plan may contain names and images of deceased Aboriginal people.

This plan was developed by the Department of Parks and Wildlife in consultation with traditional owners and on behalf of the Conservation and Parks Commission.

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The recommended reference for this publication is:
Department of Parks and Wildlife 2016, *North Kimberley Marine Park Joint management plan 2016 Uunguu, Balanggarra, Miriuwung Gajerrong, and Wilinggin management areas*, Number plan 89 Department of Parks and Wildlife, Perth.

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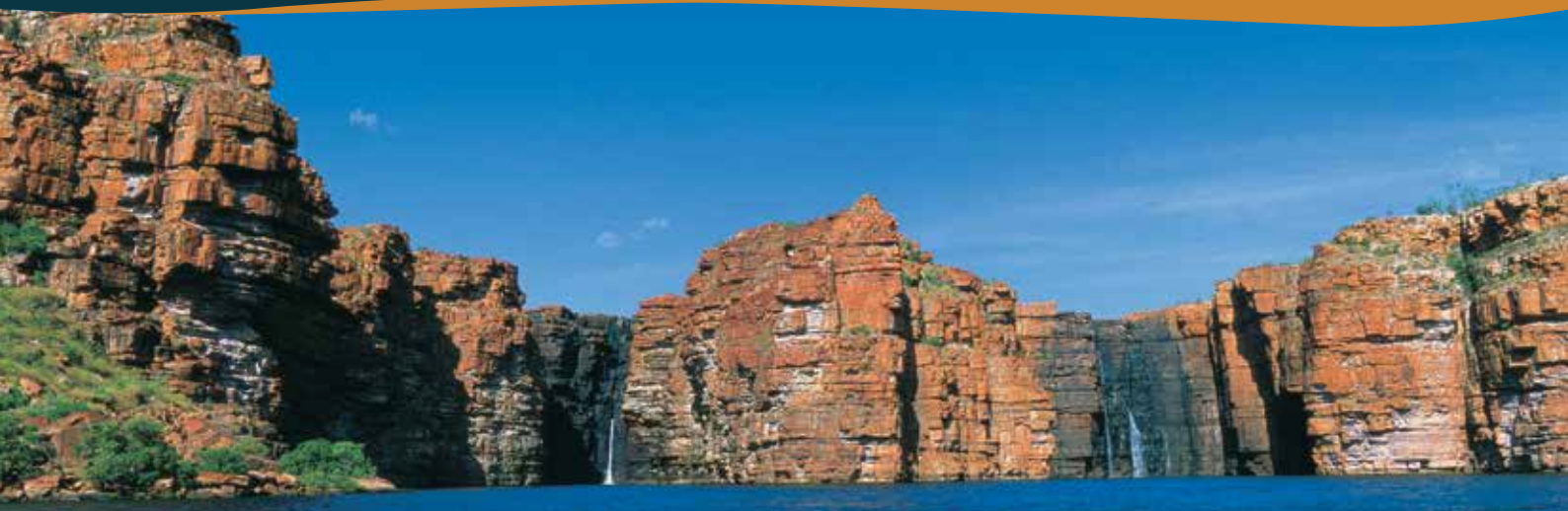


1. Introduction

The north Kimberley coast is one of the last remaining unspoilt coastlines on Earth, and is recognised as one of the world's most ecologically diverse marine areas. The region is rich in Aboriginal culture, with traditional owners continuing to practise traditional law and customs in the world's oldest continuous culture (Rasmussen *et al*. 2011). Kimberley Aboriginal people have a cultural, spiritual and social connection to country that exists and adapts with time and place and is embedded in the land and seascapes. The North Kimberley Marine Park will be jointly managed with traditional owners through the establishment of joint management arrangements. The long-standing connections, rights and interests of traditional owners have been recognised through native title determinations for the lands and waters in and adjacent to the North Kimberley Marine Park for the Wunambal Gaambera, Balanggarra, Ngarinyin and Miriuwung Gajerrong people.

The geomorphology of the Kimberley gives rise to dramatic seascapes and a complex variety of marine habitats. There are more than 1000 islands within the boundaries of the North Kimberley Marine Park, each providing an array of intertidal and subtidal habitats. The coral reefs of the north Kimberley have the greatest diversity in Western Australia and are some of the most pristine and remarkable reefs in the world (Richards *et al*. 2015, Wilkinson 2008). Large estuaries, mudflats and extensive mangrove forests support many threatened, protected and culturally important species such as dugongs, turtles and sawfish. The marine park aims to conserve and enhance these values for the benefit of present and future generations.

The *Kimberley Science and Conservation Strategy* is a commitment by the State Government to recognise and conserve the globally significant natural and cultural values of the area. The strategy provides for the creation of one of the world's largest networks of interconnected marine and terrestrial reserves. The Great Kimberley Marine Park consists of the North Kimberley Marine Park together with the Lalang-garram / Camden Sound, North Lalang-garram and Lalang-garram / Horizontal Falls marine parks (see Map 1). The North Kimberley Marine Park spans around 1,845,000 hectares and comprises more than half of the Great Kimberley Marine Park.

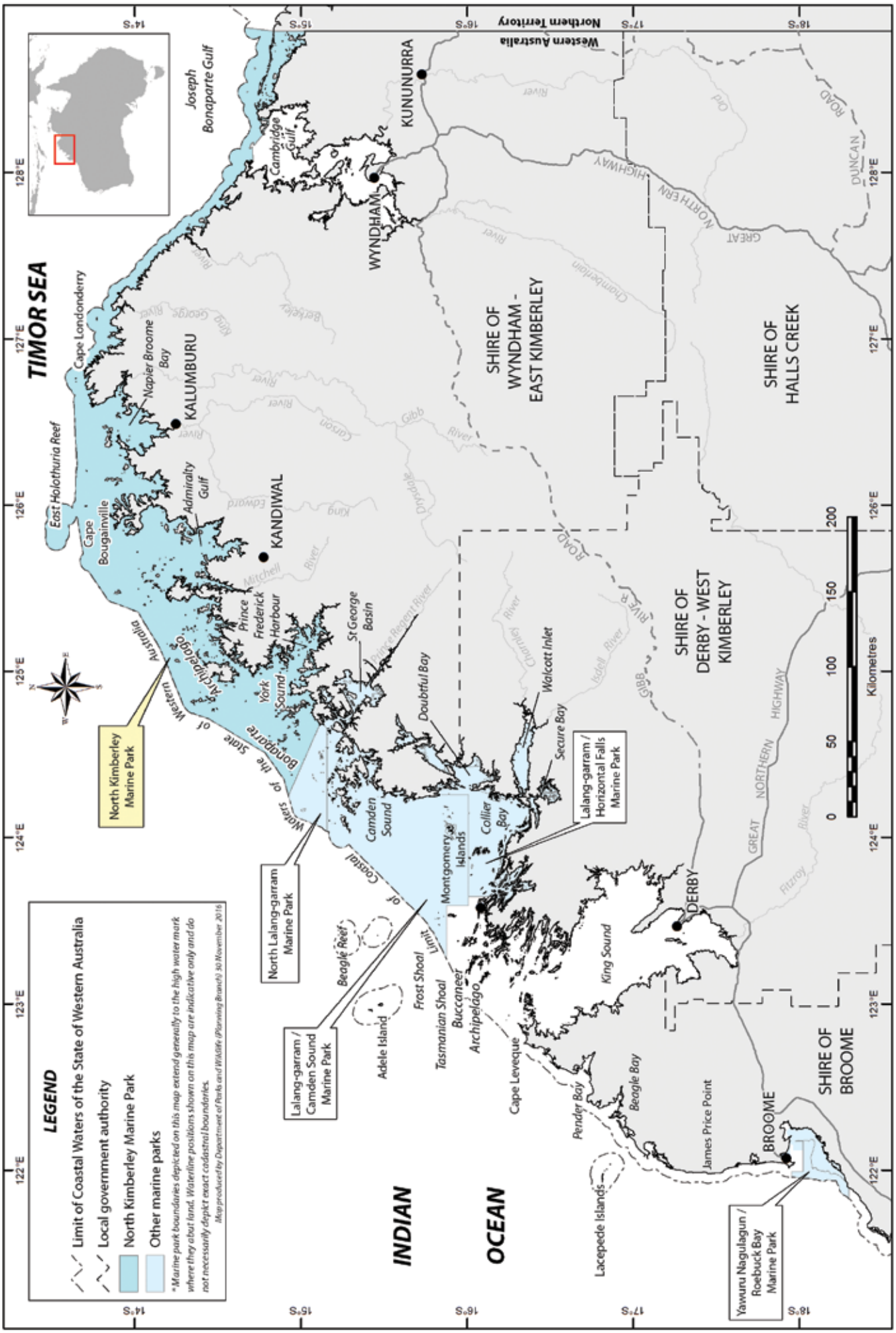
The marine park is within the west Kimberley region, included in the Australian National Heritage list for nationally significant natural, Aboriginal and historical values (Department of Environment 2015). The extraordinary seascape of the north Kimberley and Aboriginal culture attracts increasing numbers of tourists from around the globe. Marine and national parks, wildlife, scenic beauty and other natural attractions underpin a valuable and expanding nature-based tourism industry. The warm tropical waters and large tidal range of the marine park also provide optimal conditions for the production of high quality pearls from the South Sea pearl oyster (*Pinctada maxima*) and pearling has a historical and contemporary presence in the region.

Management of the park aims to achieve important social and economic outcomes and provide increased opportunities for Aboriginal involvement and employment in land and sea management, by promoting sensitive nature and culture based tourism and sustainable resource use while protecting park values.

The marine park is the largest in Western Australia at seven times the size of Ningaloo Marine Park, and the second largest State marine park in Australia. It will enhance opportunities for recreation and tourism, research and education, and protection of the area's cultural and natural values.

Above: King George Falls. Photo – Tourism WA

Map 1 Location of the North Kimberley Marine Park



South Coronation Island. Photo – Sarah Bignell/Parks and Wildlife

2. Planning area

The marine park is located in the Indian Ocean and the Timor Sea in the waters of Western Australia's Kimberley region. It extends north-east from York Sound, around Cape Londonderry and the Joseph Bonaparte Gulf to the Western Australian/Northern Territory border, and from the mainland high water mark to the limit of State coastal waters. The marine park covers approximately 1,845,000 hectares with its south-western boundary located about 270km north-east of Derby.

The north Kimberley lies within the broader North-West Marine Provincial Bioregion, which is characterised by a large area of continental shelf and continental slope. The marine park spans three marine bioregions: Kimberley, Bonaparte Gulf and Cambridge-Bonaparte, as defined by the Integrated Marine and Coastal Regionalisation of Australia (IMCRA Version 4).

The boundaries of the marine park and surrounding tenures are outlined in Maps 2 and 3. Sections of the marine park are adjacent to terrestrial conservation reserves including Prince Regent National Park, Mitchell River National Park, Mijing Conservation Park and the proposed Cape Domett, Cape Londonderry and Kimberley national parks.

The marine park will be gazetted as a Class A marine park and vested in the Conservation and Parks Commission (the Commission). Class A reservation provides the highest security of tenure.

It is intended that the marine park will extend to the high water mark where possible, subject to adjacent tenure and addressing native title requirements under the *Commonwealth Native Title Act 1993* (Native Title Act). The native title determination areas are shown in Map 2.

In recognition of the significant cultural values, as well as traditional owner's ongoing connection to and responsibilities for these areas, this plan envisages the marine park will be jointly managed by Parks and Wildlife and the Wunambal Gaambera, Balanggarra, Ngarinyin and Miriuwung Gajerrong traditional owners for each of their respective saltwater country management areas (Maps 3–5).

Left: Blue-green chromis and corals. Photo – John Huisman Right: Tawny nurse shark. Photo – Anna Smith/Parks and Wildlife

2.1 Uunguu management area

Wunambal Gaambera country extends from south of Prince Frederick Harbour to Napier Broome Bay in the north of the Kimberley (Map 3), and covers about 2.5 million hectares of land and *wundaagu* (sea). *Uunguu* means 'living home' – it is all the things in Wunambal Gaambera country and has been the home of their ancestors for thousands of years. Wunambal Gaambera people are progressively declaring Wunambal Gaambera Country as the Uunguu Indigenous Protected Area.

Holothuria Reef in the Uunguu management area. Photo – Andrew Heyward/AIMS

We, the Wunambal Gaambera people, are saltwater people; our old people travelled out to outer islands and reefs by raft and canoe and lived on the resources from the sea for thousands of years.

Recent circumstance has found the majority of our 650 Wunambal Gaambera population residing in communities and towns like Kandiwal, Kalumburu, Mowanjum, Kununurra and Derby. However we maintain strong connection to our *graa* – family homelands within Wunambal Gaambera Country – which is our *uunguu* – our living home.

The Wanjina Wunggurr Uunguu Native Title Determinations recognise that our native title extends beyond the many outer islands and reefs along our coast and includes around 1.4 million hectares of state waters and 340,000 hectares of Commonwealth waters (now part of the Kimberley Commonwealth Marine Park). We share our native title with the Ngarinyin people of Wilinggin Country and the Worrorra people of Dambimangari Country, and together we are the one Wanjina Wunggurr culture – having the same Wanjina Wunggurr creator ancestors.

In 2011 we released the *Wunambal Gaambera Healthy Country Plan 2010-2020* as the management plan for our whole country – land and saltwater. We have dedicated most of our land country as the Uunguu Indigenous Protected Area (IPA). We are now preparing to extend the Uunguu IPA over our saltwater country and have released a draft Saltwater Plan of Management for this marine part of our IPA. Just as our Uunguu IPA sits with the North Kimberley Marine Park in saltwater area, our Healthy Country Plan (and Saltwater Plan) complements this marine park management plan. Both assist and guide our communal need to look after our culture and obligations to maintain and pass on a strong Wunambal Gaambera existence, identity and community.

Wunambal Gaambera Aboriginal Corporation

2.2 Wilinggin management area

Wilinggin sea country includes a small area of the Roe River in Prince Frederick Harbour (Map 3). The land that makes up the Wilinggin Determined Area is divided into smaller areas of country called *dambra*, or clan estates. The names of the clans relate to the *gi* or totem of a particular part or aspect of country. The area of Wilinggin country that overlaps the marine park is bounded by the Brrejalngga, Galaru.ngarri and Jibli.ngarri clans, which are part of the Walinjaro Burri nation.

> Wilinggin country covers approximately 63,000km^2 (or 63 million hectares) of land in the central north Kimberley region of northern Australia, an area roughly the same as the Wanjina Wilinggin Wunggurr Native Title Determination Area. In some places Ngarinyin country flows beyond this boundary. This country has been home to Ngarinyin people for many thousands of years. Ngarinyin country is mostly land-locked, apart from two small saltwater areas on Walcott Inlet and Prince Frederick Harbour.
>
> The central Kimberley plateau, the heartland of the Ngarinyin people, consists largely of low wooded savanna grasslands growing in shallow valleys between rugged sandstone tablelands. These tablelands extend westwards through Worrorra country to the high sandstone cliffs, which rise as high as 250 metres along the deeply indented coastline, before dropping away into estuarine tidal mudflats with extensive mangrove systems. High tides along the north-western Kimberley coast run up to 11 metres, so these estuarine inlets, rich in food resources for local Aboriginal people, can extend a considerable distance inland.
>
> Ngarinyin country is essentially made up of ranges and rivers. This contrasts with Worrorra and Wunambal countries, which have coastline, sea country and islands.
>
> *Wilinggin Healthy Country Plan 2012-2022*

Estuarine crocodile on Roe River in the Wilinggin management area. Photo – Tim Willing

2.3 Balanggarra management area

Balanggarra *gra* (land and sea country) stretches from Napier Broome Bay to Cambridge Gulf and Wyndham, covering about 2.6 million hectares (Map 4). The Balanggarra IPA covers a large portion of the Balanggarra people's *gra*, including some parts of sea country.

Berkeley River in the Balanggarra management area. Photo – Ryan Scott/Parks and Wildlife

We, the Balanggarra people, lodged our Native Title Claim in 1999 to get our rights and interests recognised. These rights and interests in our land come from our traditional Balanggarra laws and customs. Balanggarra means "one mob together for country." Our old people gave this name to our claim for our *gra*, our country. Our *gra*, our land and sea country, covers about 2.6 million hectares in the north Kimberley region of northern Australia. After 14 long years, Balanggarra people's Native Title rights were recognised in 2013.

Some of our country has 'blue water', all that country from roughly north of the Forrest River drainage system west to Kalumburu plus all the saltwater, the reef and offshore islands, including Sir Graham Moore and Governor islands. The rest of our country we call 'brown water' which is in the southern part of our claim and takes in all the land drained by the Forrest River system, and the muddy waters and some offshore islands of the Cambridge Gulf, like Adolphus and Lacrosse islands.

Our Balanggarra law and culture gives us the rules and responsibilities for looking after Balanggarra culture, plants, animals, people and country. Today we are living in two worlds – the traditional world and the western world.

Fishing is a very important part of our traditional life as Saltwater People. We have strong traditions to collect and harvest saltwater-fish and other sea-foods from *Darkurr* (open sea) and our *Warrirr* (reefs). We are seasonal hunters and our traditional knowledge tells us when it is the right season to fish. Our traditional knowledge does not only tell us when to fish, but also how to prepare fish and other seafood. Saltwater fish and seafood is healthy when the ocean is not polluted and when we can go out and catch enough fish for our families. Because fish is so important for us Saltwater People, we have a cultural obligation to look after our resources today and for future generations.

Balanggarra Healthy Country Plan 2012-2022

2.4 Miriuwung Gajerrong management area

Miriuwung Gajerrong country extends from Cambridge Gulf into the Northern Territory (Map 5). Within their culture, Miriuwung Gajerrong people inherit specific group and personal relationships, as well as rights and responsibilities to particular tracts of country known as *Dawang*. *Dawang* groups are responsible for the upkeep of the land and protection of sites of cultural significance for community according to traditional laws and customs handed down from the *Ngarranggarni* (Miriuwung-Gajerrong Cultural Planning Framework, Hill *et al.* 2008). The *Dawang* responsible for the saltwater country included in the marine park is *Wardanybeng*.

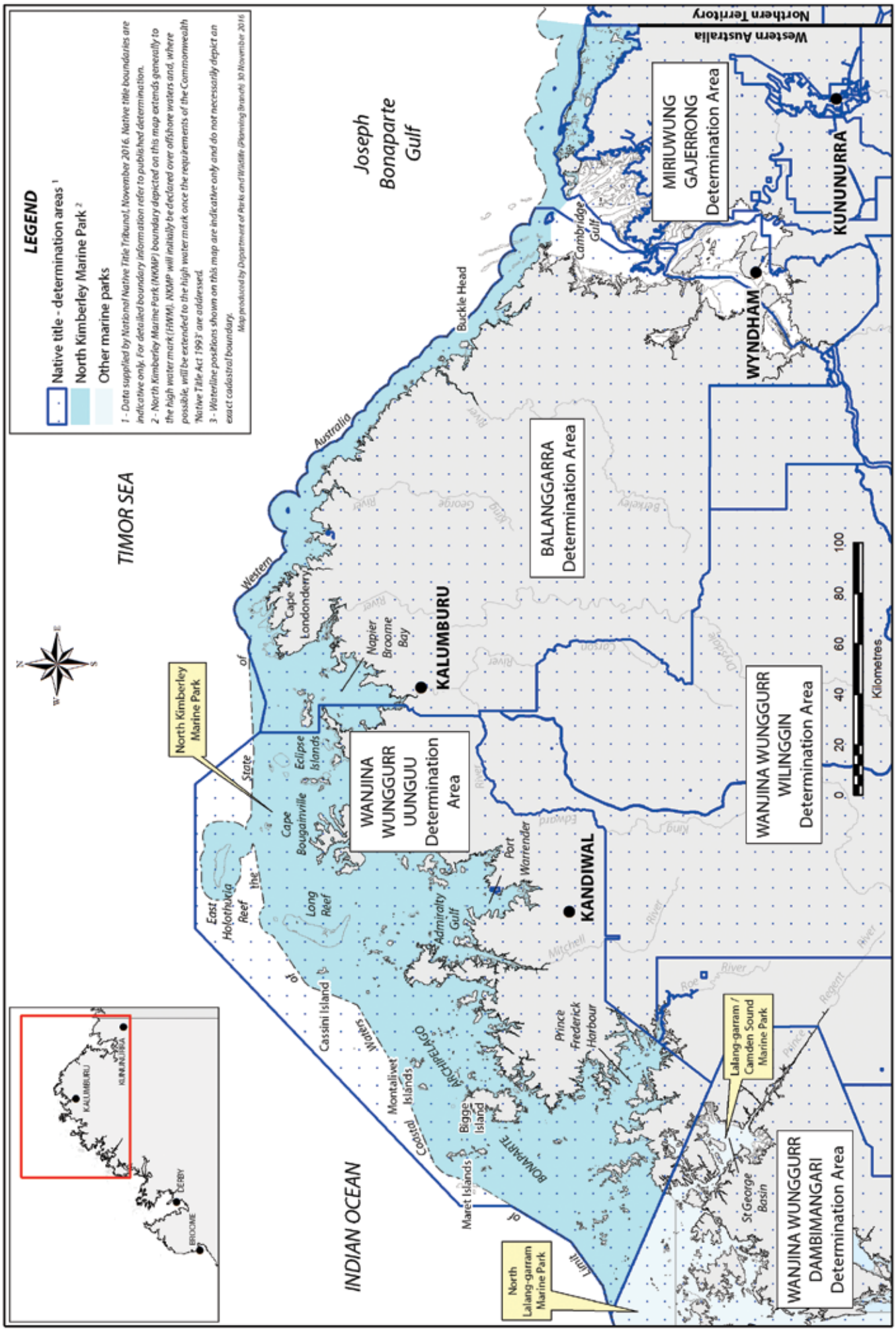
Cape Domett in the Miriuwung Gajerrong management area. Photo – Holger Woyt

Our ancestors created Miriuwung and Gajerrong country in the *Ngarranggarni*, the Dreaming. At the dawn of time our land was covered by the waters of an enormous flood. The waters eventually receded, placing some of the Dreamings, the ancestral beings, on the landscape. Other Dreamings roamed the land, creating creeks, billabongs, hills and escarpments on tracks through our country.

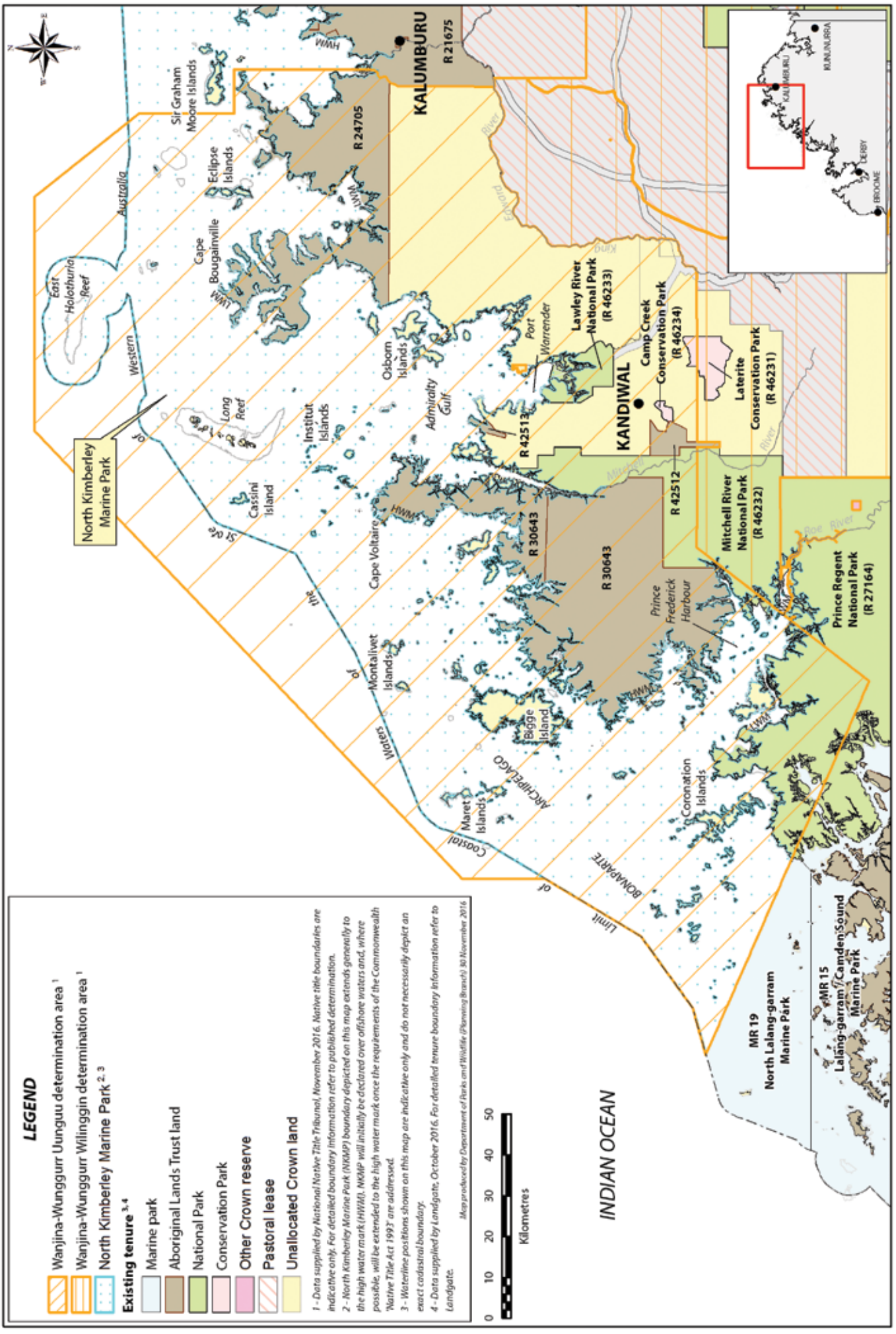
Our Dreamings became different features of our landscape, and are still present in our country today. Every part of our country has a song. Our Dreamings make connections between our people, plants, animals and parts of our country like water holes, creeks, hills, mountains and tracks through our country.

Miriuwung-Gajerrong Cultural Planning Framework, 2008

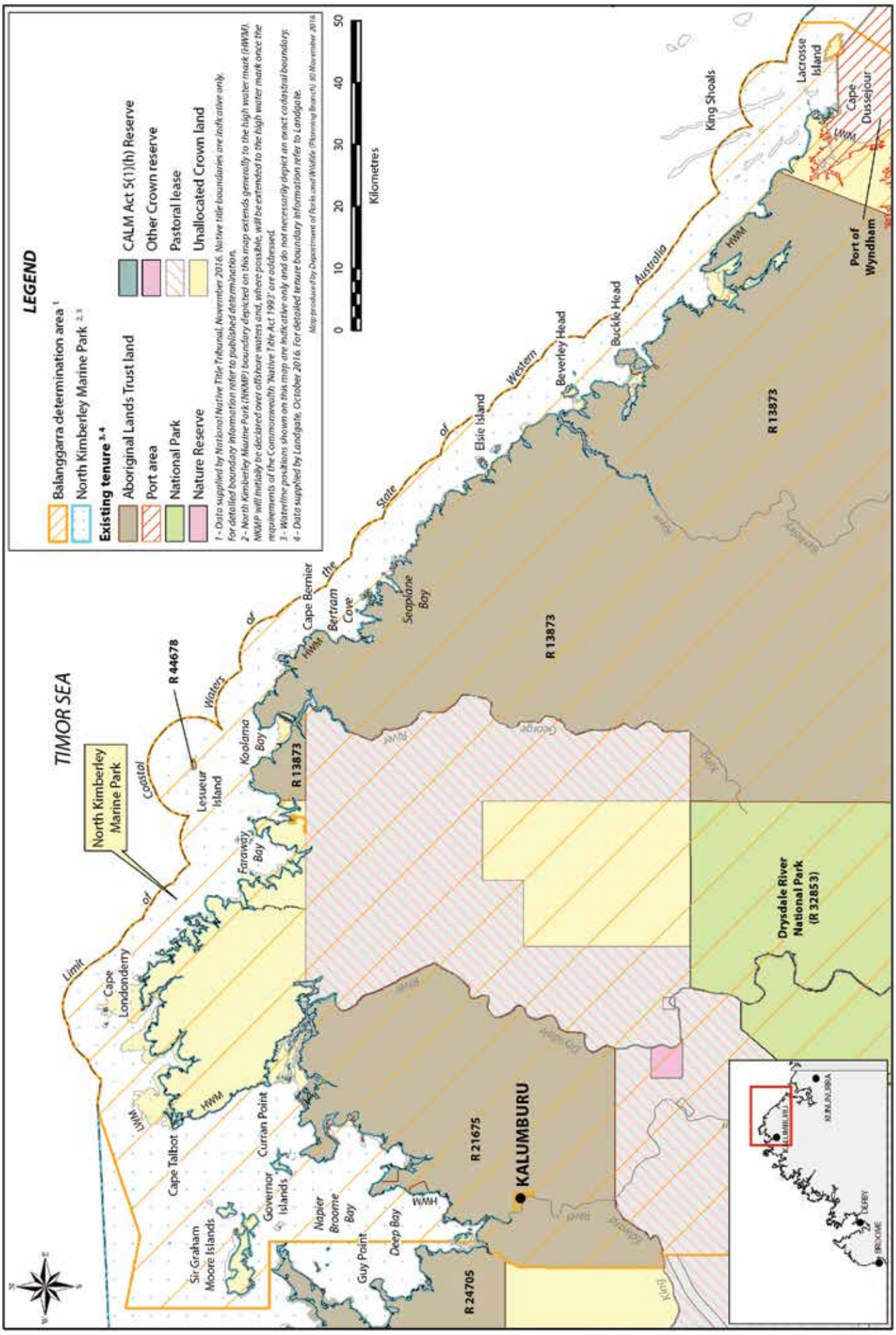
Map 2 Native title claim and determination areas within and adjacent to the park



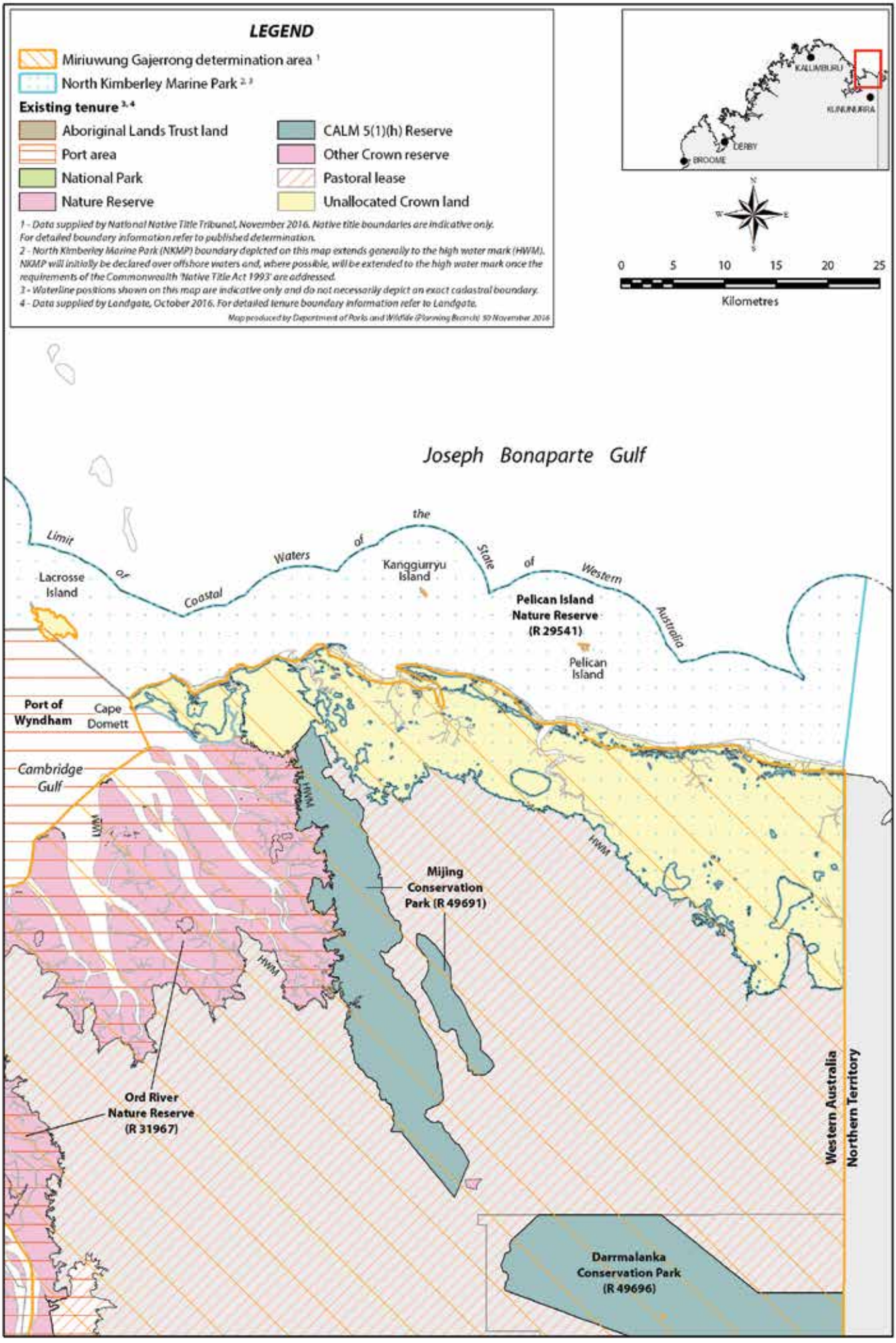
Map 3 Tenure within and adjacent to the Uunguu management area and Wilinggin management area



Map 4 Tenure within and adjacent to the Balanggarra management area



Map 5 Tenure within and adjacent to the Miriuwung Gajerrong management area



3. The management plan

3.1 Purpose of the plan

This joint management plan aims to conserve the values of the North Kimberley Marine Park for future generations. It states objectives and targets to be met and management strategies to be implemented over the 10 year life of the plan.

This plan will guide the development of operational documents that provide more specific direction to on-ground management actions. Performance assessment processes at both the management plan and operational levels will ensure management is adaptive.

The management of the marine park will be integrated with the Lalang-garram / Camden Sound Marine Park and the Lalang-garram / Horizontal Falls and North Lalang-garram marine parks. The plan aims to complement the management objectives and strategies outlined in the management plans for these parks.

This plan reflects the values, aspirations and management objectives articulated in a number of traditional owner documents such as the *North Kimberley Saltwater Country Plan* (North Kimberley Saltwater Steering Committee / Kimberley Land Council 2010), Wunambal Gaambera, Balanggarra and Wilinggin healthy country plans (Wunambal Gaambera Aboriginal Corporation 2010, Balanggarra Aboriginal Corporation / Kimberley Land Council 2011, Wilinggin Aboriginal Corporation 2012) and cultural planning guidelines (Hill *et al*. 2008).

3.2 Term of the plan

This joint management plan will guide management of the marine park for 10 years, or until a new joint management plan is prepared under the *Conservation and Land Management Act 1984* (CALM Act). A five year review will be undertaken by Parks and Wildlife and its joint management partners. If the management plan is to be amended, the proposed changes will be released for public comment. This plan will remain in force until a new plan is approved.

The zoning scheme and management plan can be amended through a formal public consultation process and does not require Parliamentary consideration. Any substantial change to the management plan requires a statutory two-month public comment period and approvals from the Minister for Environment, Minister for Fisheries and Minister for Mines and Petroleum.

3.3 Structure of the plan

An outcome-based management framework has been used to develop this plan. This involves evaluating the effectiveness of management actions in achieving the stated management objectives and targets to enable ongoing adaptive management. A summary of the parts of the plan is provided in the figure below.

Vision	What are we trying to achieve in the long term?	
Strategic objectives	What are the big things we need to aim for to achieve our vision?	Chapter 4: Management direction
Values	What do we value most about the area?	
Management issues	What opportunities and challenges do we face when protecting the values?	
Management objectives	What are the desired management outcomes?	Chapter 6: Management
Management strategies	How will we achieve them?	
Performance measures and targets	How are we going to track performance?	

Performance assessment

Management objectives, management strategies and key performance indicators are used to assess implementation of the plan. The key values of the planning area and the associated key performance indicators highlight management priorities. The prioritisation process for implementing the plan is reflected in the development of associated operational plans that provide more specific on-ground management direction. Performance assessment processes will also feed into adaptive management at both the strategic and operational planning level (detailed in Chapter 7: Monitoring, evaluation and reporting).

Above: Reveley Island. Photo – Peter Nicholas/Parks and Wildlife

4. Management direction

Cape Londonderry. Photo – Anna Smith/Parks and Wildlife

4.1 Vision for the North Kimberley Marine Park

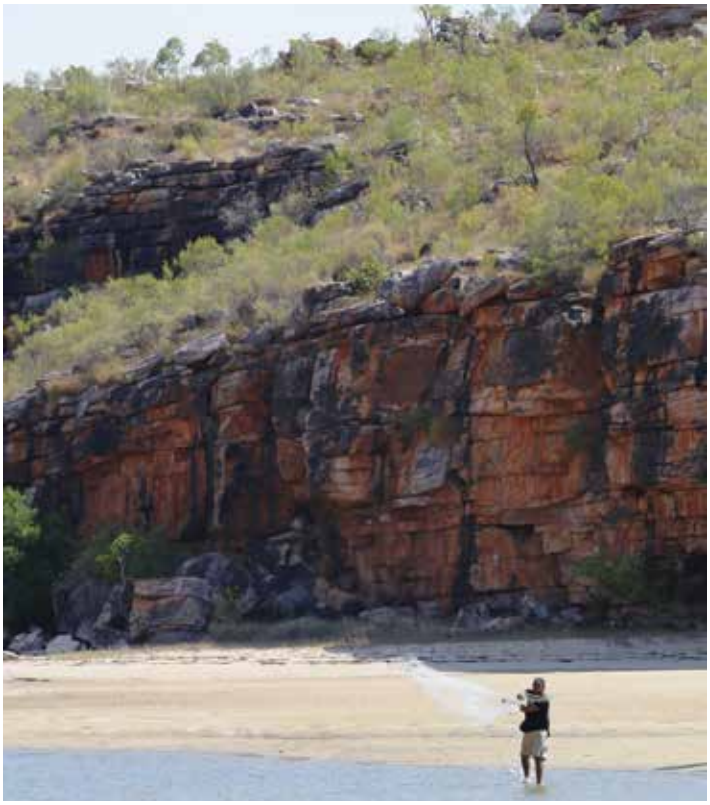
A place where traditional owners and Parks and Wildlife work together with the wider community to create a park where the natural and cultural values are protected, respected and celebrated by all.

4.2 Strategic objectives

The strategic objectives provide broad direction for management. They guide the development of the management objectives, zoning and strategies.

4.3 Values

Aboriginal cultural and heritage values



Traditional owner collecting bait. Photo – Chris Nutt/Parks and Wildlife

> *Wanjina Wunggurr* culture is strong when we are on country, in our living home, our *Uungu*, learning about country, passing on knowledge about how to burn country, hunt, fish, collect, prepare and cook bush tucker the right way.
>
> *Wunambal Gaambera Healthy Country Plan 2010–2020*

Aboriginal people have had a continuous association with the north Kimberley saltwater country for thousands of years. The saltwater people of the region continue to rely on coastal and marine environments and resources in the north Kimberley for their livelihoods, their cultural identity, health and wellbeing, and economy.

The Wunambal Gaambera, Balanggarra, Ngarinyin and Miriuwung Gajerrong people have traditional country in the area of the marine park recognised through determined native title rights and interests based on strong and ongoing cultural connections to the north Kimberley.

Aboriginal people have a deep spiritual connection to country through their Dreaming narratives. Importantly, the events of the Dreaming resonate in the present. Ancestral creator beings continue to inhabit the country where they manifest themselves as rock art, stone arrangements and other tangible and intangible features of the land and sea (Vigilante *et al*. 2013).

Under traditional law, Aboriginal people have a cultural responsibility to care for country and ensure their culture and knowledge is passed on to future generations. They do this through both customary activities and modern adaptations which include hunting for food, visiting important cultural places, making medicines, keeping rock art fresh, managing country through fire at the right time of year, looking after important saltwater species (such as turtle and dugong), and engaging in ceremonial events. These customary activities help Aboriginal people maintain their traditional relationships with their land and sea country, share knowledge and participate in traditional practices.

The North Kimberley Marine Park contains many places of cultural and spiritual importance to traditional owners. The majority of these places and their associated meaning are poorly known to wider Australian society. Most occur on land, but many are sea-related. Registered sites include those with artefacts, ceremonial and mythological paintings, fish traps, burial grounds, quarrying, man-made structures and middens. There are likely to be many sites that are not currently registered. All Aboriginal heritage sites, registered and unregistered, are protected under the *Aboriginal Heritage Act 1972*.

The significance of the cultural heritage values in the Kimberley region has been recognised as part of the West Kimberley National Heritage listing, protected under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

This plan includes objectives and strategies to assist traditional owners achieve and sustain these values and responsibilities. Management arrangements for the cultural and natural values aim to preserve, foster, advance and monitor the health of traditional owners' living cultural landscapes, traditional knowledge, customary practices, enjoyment and use of country and being responsible for country.

Traditional owner groups and Parks and Wildlife will continue to work together to document and describe cultural values in this section of the plan.

Wunambal Gaambera people — Uunguu management area

Wunambal Gaambera traditional owners follow the laws and beliefs of the *Wanjina* (creator ancestors) and *Wunggurr* (the creator snake). *Lalai*, for Wunambal Gaambera people, is our story and belief of how, when the world was soft, Wunambal Gaambera Country and people were created by our *Wanjina* and *Wunggurr* creator ancestors and why it is the only place in the world we can call home (Wunambal Gaambera Aboriginal Corporation 2010).

Porosus Creek in the Hunter River area of Prince Frederick Harbour, Wunambal Gaambera country. Photo – Chris Nutt/Parks and Wildlife

> Our creator ancestors gave us our Law, customs and languages. Saltwater *Wanjina* (*Gayarra*), like *Ngamali* and *Jagulamarra*, created our saltwater country and coasts and put all the things there. Some *Wunggurr* (creator snakes) travelled in the saltwater and still live in the *wundaagu* (sea) and can be seen as waves, tides and currents. Their heads, tails and backbones form the islands that we see today. The *Wunggurr* also form stone arrangements throughout our coastal country and have the power to hold back the sea. *Wunggurr* also live in waterfalls and waterholes like *Punamii-Unpuu* (Mitchell Falls).
>
> Some of our important cultural values, places and things have been recognised to be of national significance as part of the West Kimberley National Heritage Listed Place, including our *Wanjina Wunggurr* Cultural Tradition; our mangrove log raft maritime tradition; our interactions with Makassan seafarers harvesting *bujulum* (beche-de-mer) on our reefs; and our *jagoli* pearl shell resources that were traditionally harvested and traded.
>
> *Wunambal Gaambera Aboriginal Corporation*

Wunambal Gaambera people have strong customs and traditions for hunting *manggurru* (turtle) and *balguja* (dugong), collecting and harvesting fish and other seafoods from the *wundaagu* (sea) and *warrurru* (reefs) for ceremony, food, medicine and bait. These traditions from the *Lalai* are in our songs, oral traditions and paintings. In the past, Wunambal Gaambera traditional owners built stone fish traps to catch fish like *munungiyunga* (barramundi) and also fished from canoes and rafts. Saltwater fish such as *ngarrwan* (mangrove jack), *wunbarlu* (blue-bone groper), *munungiyunga*, *bunjumarru* (mud crabs) and *marlinju* (oysters) continue to be important food sources for Wunambal Gaambera people. Wunambal Gaambera people are working to ensure the continuing health of our country and the sustainable use of resources (Wunambal Gaambera Aboriginal Corporation 2016).

Looking after saltwater country

Our young people have the job of doing the work of the Healthy Country Plan and proposed Uunguu IPA plan. Important activities include patrolling our cultural places to ensure that visitors are being respectful; ensuring that marine pests and diseases do not establish in our waters; passing on Traditional Knowledge to young people through trips on country and supporting livelihoods so our people can live on country. We monitor important cultural species and cultural places. We have established permanent monitoring sites for turtle, dugong and seagrass on our country to ensure these species are not declining. We look forward to undertaking patrols in our waters with Parks and Wildlife and Fisheries in the future.

Wunambal Gaambera people have established the Uunguu Monitoring & Evaluation Committee (UMEC) that annually reviews progress in achieving our vision and objectives of the Healthy Country Plan. Our UMEC includes senior traditional owners, Uunguu Rangers and independent scientists including from Parks and Wildlife.

We have collaborative partnerships with research bodies operating in our waters including the Western Australian Marine Science Institution and the CSIRO to undertake and assist research and monitoring on our country.

We look forward to working in partnership with Parks and Wildlife and Fisheries to manage the North Kimberley Marine Park.

Wunambal Gaambera Aboriginal Corporation

The key Healthy Country and IPA goals for Wunambal Gaambera people are the need and obligation to:

- look after and protect the health of our saltwater cultural values, places and habitats
- build Wunambal Gaambera livelihoods and well-being from sustainable marine and coastal enterprise and income opportunities
- strengthen Wunambal Gaambera capabilities, including Uunguu Rangers, to ensure training, employment and engagement in all aspects of Marine Park–IPA management

so that they can pass on healthy *Wanjina Wunggurr* culture and saltwater country to future Wunambal Gaambera generations and the wider community to enjoy (Wunambal Gaambera Aboriginal Corporation, pers. comm., 2016).

Management objectives outlined in this plan are designed to align with, and support achievement of, these goals.

Ngarinyin people — Wilinggin management area

The culture of the *Wanjina Wunggurr* is shared across the Wunambal Gaambera people and the Ngarinyin people of Wilinggin country. Ngarinyin people believe that the *Wanjina* are their ancestors, who came and 'put themselves' in the rock when the world was soft. *Wunggurr* is the rainbow serpent, who usually lives in deepwater pools and is close to the *Wanjina*.

The *Wanjina* are made visible in the multi-coloured paintings in the sandstone caves of the region, but are also identified with certain features of the landscape, as animal and plant species, as pools of fresh water and sometimes salt water, and as rain clouds.

Wilinggin management area. Photo – Andrew Halford/Parks and Wildlife

Balanggarra people — Balanggarra management area

> "We have to look after our country and our old people and important places in our country. Some of us are the 'blue water mob' and some of us are the 'brown water mob' but we come together as one mob, 'Balanggarra' for all our country because we all follow the same rules, our rules for country and for family."
>
> *Balanggarra Healthy Country Plan*

The actions of creator beings of the Dreaming narratives give Balanggarra people their law, rules and responsibilities for looking after culture, plants, animals and country. Two important Dreaming narratives are *Wungkurr* (rainbow serpent) and *Wolara* (the creator). A male and female *Wungkurr* travelled from Sir Graham Moore Island in the far west of their country to King George Falls to become the majestic twin waterfalls. *Wolara* made the saltwater as he 'poled his canoe' in the coastal regions. Some of the islands are where his pole touched the seabed (Balanggarra Aboriginal Corporation / Kimberley Land Council 2011).

Balanggarra people have strong traditions to collect and harvest saltwater fish and other seafoods from *darkurr* (open sea) and the *warrirr* (reefs). They have many traditional stories for *abil* (dugong) and *mangkuru manya* (marine turtles), and their cultural use is interwoven with their traditional lifestyle. In the past, Balanggarra people speared *manya* (mullet), *mangkûra manya* (silver bream), coral trout and *bayalu manya* (stingrays) along rocky coast or shallow water. Saltwater fish, *mangkuru manya* (turtle), *abil* (dugong), mud crabs, *marlinji manya* (oysters) and *numbarru manya* (cockle shells) continue to be important food sources for Balanggarra people.

The deep understanding and traditional ecological knowledge that Balanggarra people have of plants, animals, the seasons and landscape features can also greatly inform scientific research and conservation programs in Balanggarra country. In recent years Balanggarra traditional owners and rangers have worked in partnership with a range of organisations to conduct research and field surveys for a number of important marine species such as *abil* (dugong), *mangkuru manya* (turtle) and *yinga* (dolphin) (Balanggarra Aboriginal Corporation / Kimberley Land Council 2011).

The key values identified in this plan complement the management targets for the Balanggarra IPA and the Balanggarra Healthy Country Plan.

Miriuwung Gajerrong Saltwater Country

The Miriuwung Gajerrong people have lived for thousands of years by the Law, languages and ceremonies established by their ancestral beings who were created during the *Ngarranggarni* (the Dreaming). At the dawn of time, Miriuwung Gajerrong land was covered by the waters of an enormous flood. The waters eventually receded, placing some of the Dreamings, the ancestral beings, on the landscape. Other Dreamings roamed the land, creating creeks, billabongs, hills and escarpments on tracks through our country. They created the different soils, plants and animals, and all the seasons of our country – *ying-geng* (the wet season), *gerloong* (big storm), *barndinyirriny* (dry season) and *wan-gang* (cold weather). During these sagas of journey and creation, the ancestral beings also established the all-encompassing moral and practical rules by which succeeding generations of Miriuwung Gajerrong people have lived for thousands of years – their Law, languages and ceremonies. Their Dreamings became different features of our landscape, and are still present in our country today. Every part of our country has a song. Their Dreamings make connections between our people, plants, animals and parts of our country like waterholes, creeks, hills, mountains and tracks through our country (Hill *et al.* 2008).

In the past, Miriuwung Gajerrong people used tidal saltwater areas, such as around mangroves, for hunting, fishing and gathering bush tucker and wood for spears. The hunting in these places is good for *bundungjiliwurrng* (saltwater turtle), *juinying* (saltwater crocodile) and *marri marri* (pelican). Miriuwung Gajerrong people would also hunt for *galak galak* (dugong). They go fishing in that area for *ngadagung* and *muwugang* (mullet), *durrgman* (saltwater salmon), *jaliwong* (barramundi), *jajan* (saltwater catfish), *kaiawung* (sharks) and *birin* (stingrays). They also get bush tucker in that area such as *marrmurrng* (edible fruits of mangrove), *gagoiyang* (big saltwater mussels), *woiyimbung* and *jaguli* (oysters), *mulgurreng* (big saltwater mudcrabs), *mulun ngalanggubiny* (saltwater worms from mangrove trunks) and *gurruwilng* (eggs from crocodiles, turtles, etc).

Flatback turtle hatchlings at Cape Domett. Photo – Andrea Whiting

Natural values of land and sea country

The north Kimberley sea country is remote, with extraordinary interconnected cultural and biodiversity values. The complex geomorphology gives rise to dramatic scenery and a complex array of marine habitats which are influenced by the macro-tidal regime (5-10m) and low wave energy of the area (Duke *et al*. 2010). The coastline is highly complex and consists of many islands, bays and estuaries with mangroves, sandy beaches, coral reefs, rocky reefs, seagrass meadows and sponge gardens.

Rivers and estuaries are important features of the Kimberley, influencing much of the coastline. The rivers are characterised by wet season floods, which create impressive waterfalls as they flow over sheer cliffs to the sea. The King George River plunges into tidal waters over sandstone cliffs 100m high to create King George Falls, the State's highest twin waterfalls. The run-off from north Kimberley rivers generally has a high, nutrient-rich, sediment load which, when combined with tidal mixing, significantly influences the low-nutrient waters of the Kimberley region (Wood and Mills 2008, Keesing 2014).

The park is dotted with thousands of islands with diverse and rich habitats. Marine turtle nesting sites and breeding sites for sea and shorebirds have been identified on the majority of the islands in the Kimberley, and fringing reefs line the shores of almost all the islands in the Kimberley bioregion (Wilson 2013). The productive deep waters that surround the islands and open sea reefs provide foraging habitat for marine mammals and pelagic finfish such as mackerel. The complex coastline of the mainland also creates a rich mosaic of habitats and communities. The intertidal reefs, for example, of the convoluted coastline and islands of Vansittart Bay are noted as being extremely rich in biodiversity (Walker *et al*. 1996) and this area is known to be important for dugongs, Australian snubfin dolphins and Australian humpback dolphins (Wunambal Gaambera Aboriginal Corporation 2010).

The swampy coastline and shallow nearshore waters to the east of Cambridge Gulf, in Miriuwung Gajerrong country, comprises a major distinctive coastal type unique to the 'Top End' of Australia and different from any other area in the marine park. The mangrove and muddy intertidal flats support microscopic algae which are considered to be one of the most important primary producers in the Kimberley. These microalgae provide food for sediment dwellers such as small nematodes, crustaceans and filter-feeding molluscs, and this creates important feeding habitat for migratory shorebirds (Halse *et al*. 1996). The murky nearshore waters provide exceptional habitat for sawfish and snubfin dolphins, and the small creeks and mangrove habitat support targeted species such as barramundi, threadfin salmon and mud crabs.

The diverse habitats of the Kimberley – on the mainland, surrounding islands and offshore – are connected through a variety of ecological processes. Mangroves, for example, play a critical role in capturing sediment from run-off water, which allows other habitat types such as coral reefs and seagrass beds to thrive in clearer waters. Many species also move between different habitats such as mangroves, seagrass and macroalgal beds, and coral reef at critical life stages. It has been shown in north-western Australia that targeted fish species such as spangled emperor (*Lethrinus nebulosus*) and bluebone (*Choerodon schoenleinii*) settle as juveniles on macroalgae and seagrass beds before moving to offshore habitats such as coral reefs (Wilson *et al*. 2015).

Emerging research shows that some of the most significant and extensive habitats in the Kimberley, such as coral reefs, are flourishing in environmental conditions that are often considered extreme with respect to temperature, turbidity and exposure (Richards *et al*. 2015). Understanding how these complex communities interact and persist in this hostile environment may have broader consequences for understanding responses to climate change generally.

Several natural values have been identified as performance indicators. These will guide a prioritised monitoring program to ensure management is effective. These values have been selected because of their high cultural, ecological and social value and/or because they are under the greatest threat (Simpson *et al*. 2015). These indicators have been developed to align with the 'targets' from the healthy country plans, which have been identified by traditional owner groups as the most important for keeping country healthy. Values identified as performance indicators are listed below and further information on specific measures and targets for each value are provided in Chapter 6.

Corals. Photo – Andrew Halford/Parks and Wildlife

Christmas tree worms. Photo – John Huisman

- **Coral reefs** are among the most productive and species-rich ecosystems on earth and the Kimberley has the richest coral fauna, in both species and genera, of any North West Shelf bioregion (Wilson 2013) (Map 5). Exceptional diversity of hard coral has been documented at islands in the northern Bonaparte Archipelago, including more than 210 species on the Maret Islands (Richards *et al*. 2015). Coral reefs globally are threatened by shifts in environmental regimes caused by a changing climate (Hughes *et al*. 2003) and the north Kimberley is within an area of increasing heat stress (Halpern *et al*. 2015).
- **Marine turtle species** identified in Western Australia include green turtles, flatback turtles, loggerhead turtles, hawksbill turtles, leatherback turtles and olive ridley turtles (Limpus 2009). Marine turtles are culturally important to Aboriginal saltwater people and integral to their stories, songlines, ceremonies and food (Wunambal Gaambera Aboriginal Corporation 2010, Balanggarra Aboriginal Corporation / Kimberley Land Council 2011). The flatback turtle is endemic to Australia and the Cape Domett nesting population is one of the largest, with several thousand turtles nesting there annually (Whiting *et al*. 2008).

- **Dugongs** are most often found in protected shallow bays with deeper channels nearby, where they can feed on their preferred diet of seagrass but still escape to deeper water if they encounter predators. Australia contains the majority of the world's population of dugongs although accurate population estimates are lacking for the Kimberley region (Marsh *et al*. 2012). Recent studies estimate that there are about 12,000 dugongs (plus or minus a 12% error) in the north Kimberley, with hotspots occurring to the north-east of Bigge Island to the Maret and Montalivet islands and around the Anjo Peninsula in Vansittart Bay and Napier Broome Bay (Bayliss pers. comm. 2016). Dugongs are culturally important to Aboriginal coastal communities and are a highly valued traditional food (Wunambal Gaambera Aboriginal Corporation 2010, Balanggarra Aboriginal Corporation / Kimberley Land Council 2011). Indigenous knowledge will be integral to understanding the species, their seasonal movement patterns and changes over time.
- **Seagrass and macroalgal communities** are important sources of primary productivity in the north Kimberley marine ecosystem. They provide vital habitat for juvenile fish, turtles and dugongs. Meadows of seagrass, and many turtles and dugongs, can be found around Cape Londonderry (Balanggarra Aboriginal Corporation / Kimberley Land Council 2011).

Sargassum. Photo – John Huisman

- **Mangroves and saltmarshes** provide nutrients to surrounding waters, as well as important habitat and nursery areas for fish and invertebrates. The north Kimberley contains the most species rich system of mangroves in the world (Cresswell and Semeniuk 2011). Prince Frederick Harbour has the second greatest area of mangrove forest in the Kimberley bioregion. The mangrove and estuarine habitats of the north Kimberley support a range of threatened, protected and culturally important species including estuarine crocodiles, turtles, dolphins, sawfish, mud crabs, fish and specialist mangrove birds. Mangroves may be affected by changes in freshwater flow and sedimentation as well as changes in sea level. All of these processes will be influenced by climate change, which represents the greatest threat to the diverse and extensive system of mangroves along the north Kimberley coast.

Mangrove on Maret Islands. Photo – John Huisman

- **Finfish** are diverse in the marine park. Many nearshore species are targeted by commercial and recreational fishers, particularly barramundi (*Lates calcarifer*), threadfin salmon (*Polydactylus macrochir*) and mangrove jack (*Lutjanus argentimaculatus*). Fish are also an important resource for coastal Aboriginal communities. The region represents a globally significant area for sawfish (Stevens *et al*. 2005), which are currently listed as 'vulnerable' under the Commonwealth EPBC Act. There is a pronounced difference in the composition of fish species in the Kimberley between offshore and inshore regions, with only about 20% of species shared between the regions (Moore *et al*. 2014). Endemism of fish species is particularly evident in inshore reefs of the Kimberley (Moore *et al*. 2014).
- **Water and sediment quality** is essential to maintain healthy ecosystems. Rivers are considered the largest potential source of nutrients and sediment for inner shelf waters of the marine park (Brodie and Mitchell 2005) and future changes in water quality conditions may reflect the nature and intensity of land use. The accumulation of plastic debris is recognised nationally as a key threatening process, even in remote areas such as the Kimberley (Wilcox *et al*. 2015). During the north west monsoon, flotsam (including plastic bottles) from local and international sources reaches Kimberley shores, especially around the west side of the Bougainville Peninsula. Other potential sources of water contamination exist from oil and gas developments in neighbouring Commonwealth waters (such as at the Browse Basin).

Mangrove jack. Photo – Parks and Wildlife

Olive sea snake. Photo – Todd Winner/Shutterstock.com

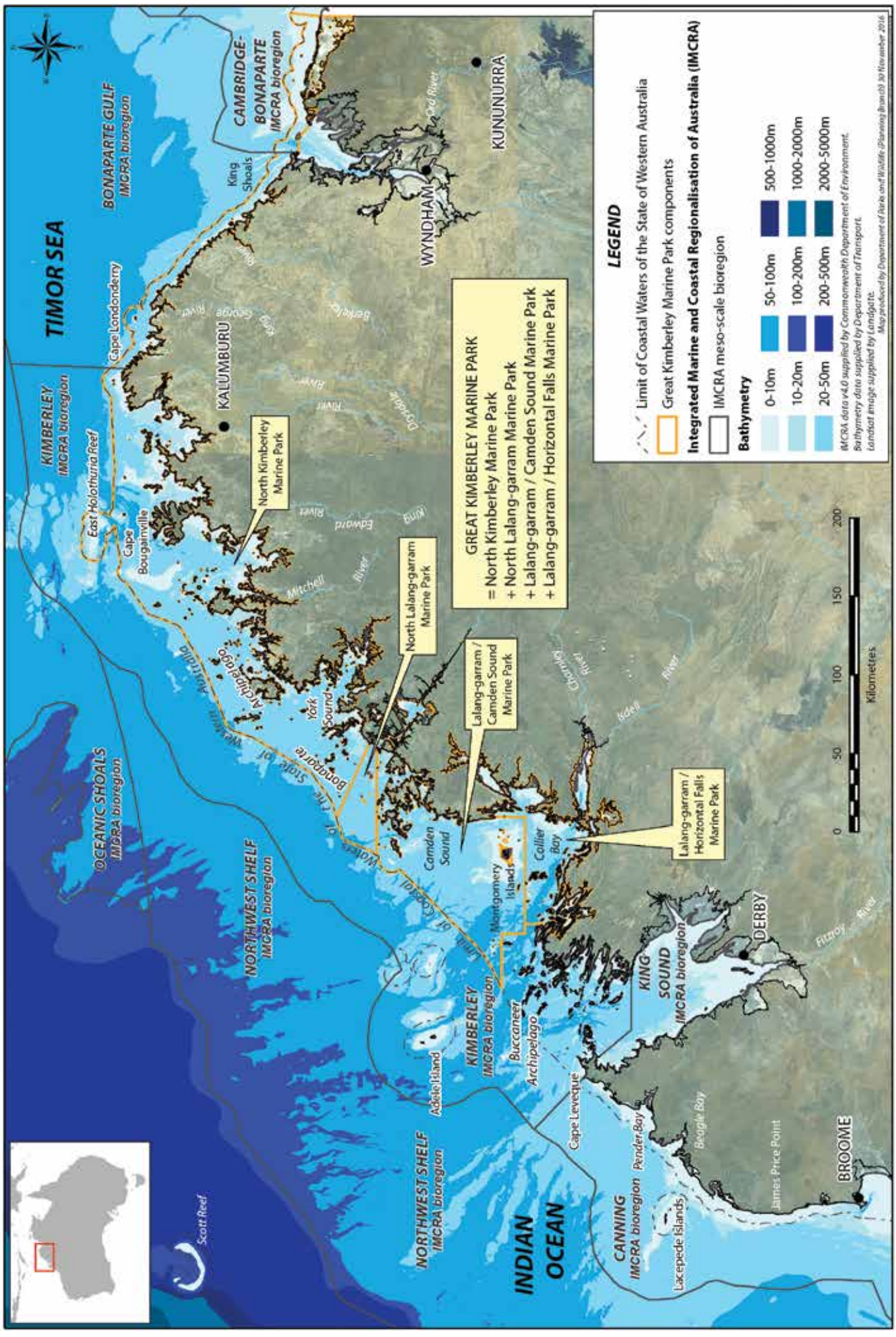
Species of special conservation interest include those that are protected under State or Commonwealth legislation and species listed as having special conservation status (e.g. threatened or vulnerable). These species include sea snakes, snubfin and humpback dolphins, and estuarine crocodiles.

The Kimberley has the world's highest recorded diversity of sea snakes supporting more than one third of all known species, with at least three species found only in the region (Somaweera and Sanders 2015). Sea snakes occur in the marine park, however, little is known about their populations.

Snubfin and humpback dolphins are found throughout the marine park, such as at Vansittart Bay (Wunambal Gaambera Aboriginal Corporation 2010), Napier Broome Bay and Berkeley River mouth (Balanggarra Aboriginal Corporation / Kimberley Land Council 2011). A recent study found hotspots of snubfin dolphins (3-5 individuals per 5km survey) in York Sound, around the Anjo Peninsula and in Napier Broome Bay (Bayliss pers. comm. 2016).

Estuarine crocodiles are apex predators and are important for maintaining the natural balance of wetland ecosystems. They are found throughout the park in estuarine areas, nearshore waters, oceanic waters and on islands (Semeniuk *et al*. 2011).

Map 6 Marine bioregions and the Great Kimberley Marie Park



Kimberley expedition cruising. Photo – Chris Nutt/Parks and Wildlife

Social values (recreation, tourism and community values)

The park features spectacular scenery, diverse wildlife and cultural heritage which provide excellent opportunities for nature based and cultural recreational activities and tourism experiences. Tourism is a significant industry for the Kimberley, generating economic, social and employment benefits for the region's communities. Tourism related infrastructure, amenities, events and services provide benefits for regional communities, adding to the social fabric of towns and making them more attractive places to live and work. It is estimated that in 2012 approximately 2500 people were directly employed and a further 1000-1500 people were indirectly employed in tourism in the Kimberley (Tourism Western Australia 2014). The developing nature and culture-based tourism industry provides excellent opportunities to contribute to social, economic and environmental outcomes for the Kimberley.

The expedition cruise boat industry operates in the dry season (April to October) between Broome and Wyndham or Darwin, and offers multi-day tours. Vessels range from small fishing and sightseeing tour boats to large luxury cruise ships carrying around 100 passengers. A recent study estimates the Kimberley cruise tourism expenditure for 2016 will be around $63 million (Carlsen 2015). Models employed for this study estimate this expenditure would result in additional benefits to the Kimberley coast economy of up to $28 million and 220 jobs. Visitors also access the coast by road, although a four-wheel drive is required. Each year more than 1000 people visit the coast near Kalumburu[1], where tourism camps are situated.

[1] Entry permits are required for transit through Aboriginal Reserves, including Kalumburu, and can be obtained from the Department of Aboriginal Affairs.

Coastal area around the King George River mouth. Photo – Chris Nutt/Parks and Wildlife

East Montalivet Island. Photo – John Huisman

A number of remote coastal camps and lodges provide unique wilderness tourism products, allowing visitors to experience spectacular scenery, wildlife watching and excellent fishing. Scenic flights and heli-fishing expeditions offer a spectacular way to enjoy the Kimberley coast and operate in connection with coastal accommodation or cruise boats, as well as from Broome, Derby, Kununurra and the Mitchell Plateau. Mungalalu-Truscott airbase provides logistics to offshore oil and gas operations and has the potential to be a tourism access hub. The Wunambal Gaambera Aboriginal Corporation Garmbemirri Ranger Camp near the airfield provides a base for ranger operations and visiting researchers.

Remote towns and communities close to the park are strongly connected to the saltwater and depend on the area for fishing, hunting and recreational activities. The largest settlement is the Aboriginal community of Kalumburu, situated on the banks of the King Edward River. The community, of approximately 400 residents, relies on King Edward River and Napier Broome Bay to provide a source of fresh food. The area holds significant cultural and recreational values for the community. The Aboriginal community of Kandiwal is located in a remote part of the Kimberley some 250km north of the Gibb River Road. Community members regularly fish and hunt in the area around Port Warrender, which is one of only four coastal areas accessible by vehicle in the north Kimberley.

The nearest towns to the park are Wyndham and Kununurra, with populations of approximately 800 and 7000 people respectively. Residents of these towns travel by boat to the east Kimberley coast to enjoy excellent fishing, to relax in the spectacular scenery and to visit popular camping spots.

The remote and spectacular north Kimberley holds intrinsic value for both the local and broader (including international) community (Strickland-Munro *et al*. 2014). Protecting this wilderness, rich in cultural and natural values, is recognised as being important, even by those who will never directly gain from it as a resource (for example, by visiting the area). Parts of the west Kimberley were added to the National Heritage list in 2011 with over 40 cultural, social and ecological values being recognised for their outstanding national heritage value. National Heritage places and the values they contain are afforded protection under the EPBC Act, including sections 15B and 15C. The portion of the marine park that is recognised as part of the West Kimberley National Heritage listed place, and the associated values, will be managed in accordance with the EPBC Act and regulations. Further information on the West Kimberley National Heritage listed place can be found on the Department of Environment website for the Australian Government (www.environment.gov.au/heritage/places/national/west-kimberley). National heritage values found in the North Kimberley Marine Park include the inspirational seascapes, ancient geology, biological richness, Aboriginal culture and European history. There are a variety of wrecks in and around the marine park including the B-24 Liberator Submerged Aircraft Crash Site.

Commercial values and resource use

The commercial fishing industry in the marine park provides regional economic benefits, employment opportunities and fresh fish to regional towns. Commercial fisheries operating in the park include the Kimberley Prawn Managed Fishery, Kimberley Gillnet and Barramundi Managed Fishery, Mackerel Managed Fishery, Northern Demersal Scalefish Managed Fishery, Beche de mer Fishery and Mud Crab Fishery. Other fisheries licensed to operate in the region include the Marine Aquarium Fish Managed Fishery and the Specimen Shell Managed Fishery, of which there is currently minimal fishing effort in the marine park. The Joint Authority Northern Shark Fishery has been inactive since 2008.

The pearling industry is one of Australia's longest continuing fisheries and one of the most valuable aquaculture sectors in northern Australia, generating a minimum of $200 million revenue per year. The Kimberley is one of the most important regions for pearl oyster production due to the remote and pristine conditions of the area and pearling has long been an important part of the Kimberley. Aboriginal people along the west Kimberley coast collected large pearl shells for use in rituals, ceremonies and for trade long before the arrival of Europeans. There are a number of pearl farms and leases within the North Kimberley Marine Park, with the majority of leases held in pearl farm groups around the Osborne Islands and Vansittart Bay.

There are no current mineral interests in the marine park, but significant interests and operations exist in adjacent areas along the coast, on islands, and in Commonwealth waters further offshore. There are current mining tenements on the Montalivet Islands, Crystal Head, Port Warrender, Cape Bougainville and Cape Londonderry, and an exploration tenement over Commonwealth waters in the Joseph Bonaparte Gulf. Adjacent Commonwealth waters hold significant petroleum resources and there is currently an application for a petroleum exploration permit (onshore) which overlays a portion of the marine park. The mining and petroleum industries are large contributors to regional, state and national economies, providing new investment, infrastructure development, employment and a range of other socio-economic benefits. Nickel, copper and cobalt concentrate extracted from adjacent areas is transported through the marine park to Wyndham for export. Wyndham Port, at the head of the Cambridge Gulf, is the northernmost sea port in Western Australia. The Port is the gateway to the east Kimberley and is the closest port for the Ord River Irrigation Area, Kimberley cattle exporters, mining and resource development and the Timor Sea resource development area.

The plan recognises traditional owners have a need and inter-generational obligation to obtain family livelihoods and sustain existence from their interconnected land and saltwater country and its resources. Identification and development of commercial opportunities and investments that can deliver incomes and capacity to sustain traditional owners living on and enjoying country will be an early and ongoing strategic park management focus.

The Northern Demersal Scalefish Fishery target species are goldband snapper and red emperor. Photo – Department of Fisheries, Finfish Research

Miriuwung Gajerrong traditional owners. Photo – Holger Woyt/Parks and Wildlife

5. Management context

5.1 Legislative context

The marine park will be managed in accordance with the provisions of the CALM Act, *Wildlife Conservation Act 1950*, Parks and Wildlife policy and other relevant legislation mentioned throughout this plan[2].

The creation of the park helps fulfil Australia's responsibilities under several international conventions, such as the Convention on Biological Diversity, and supports the International Union for the Conservation of Nature's Protected Areas Program. The marine park will contribute to the National Representative System of Marine Protected Areas.

The Department of Fisheries (DoF) will continue to manage fishing and aquaculture in the marine park and all commercial and recreational fishing activity remains subject to the *Fish Resources Management Act 1994* (FRM Act). DoF will also continue to manage pearling under the *Pearling Act 1990*.

5.2 Joint management

The area of the marine park is highly significant to the culture, heritage and existence of the Wunambal Gaambera, Balanggarra, Ngarinyin, and Miriuwung Gajerrong people. Joint management provides the structure to bring appropriate resources together using traditional saltwater knowledge and practices with modern techniques to achieve the cultural, ecological and social management objectives set out in this plan. Joint management will provide the opportunity for Parks and Wildlife and traditional owners to work together, with the wider community, to achieve the cultural, ecological and social management objectives set out in this plan. Traditional knowledge and understanding of the saltwater country will be incorporated into the management of the marine park, and traditional owners will be actively involved in managing the area.

Indigenous Land Use Agreements (ILUAs) between the Western Australian Government and native title holders provide for the valid creation of the marine park in accordance with the Native Title Act and provide the commitment that the park will be jointly managed. The Western Australian Government has negotiated an ILUA with Balanggarra Aboriginal Corporation (BAC) and this enables the reservation of intertidal areas within the Balanggarra management area. The Western Australian Government is currently negotiating ILUAs with Wunambal Gaambera Aboriginal Corporation (WGAC) and Yawoorroong Miriwoong Gajirrawoong Yirrgeb Noong Dawang Aboriginal Corporation (MG Corporation).

[2] Relevant legislation and policies can be found on the Parks and Wildlife website at www.dpaw.wa.gov.au/about-us/36-policies-and-legislation.

Joint management is given effect under the CALM Act through a section 56A Joint Management Agreement (JMA) between traditional owners and Parks and Wildlife. Joint management can commence once the JMAs have been signed and attached to the plan. Each JMA will establish a Joint Management Body (JMB) with representatives from the relevant Aboriginal corporation and Parks and Wildlife to manage the marine park in accordance with the agreement and the CALM Act. The JMBs will oversee management of the park, make management decisions, provide strategic input into how management strategies are implemented, and monitor implementation of the plan. For formal joint management to occur, this joint management plan requires the Chief Executive Officer of Parks and Wildlife to jointly manage the park.

Traditional owners have determined native title rights and interests based on strong and ongoing cultural connections over their land and saltwater country. This plan does not provide any additional restrictions on the exercise of native title rights save to the extent otherwise agreed by native title holders and in accordance with the CALM Act and Conservation and Land Management Regulations 2002 (CALM Regulations). Determined native title rights within the marine park include the right to:

- enter, travel and remain on the waters
- hunt, fish, gather and use resources for personal, domestic and communal needs
- undertake cultural activities
- take and use water.

5.3 Implementation

The Parks and Wildlife East Kimberley District Office and relevant joint management partners have the primary responsibility for coordinating and implementing the management plan. Other organisations may also be required to provide support, as necessary, to implement the action within the scope of their statutory responsibilities. Where other organisations are required to support implementation of a management strategy, their name is listed in brackets next to the strategy. Where an agency or body is required to take a lead role in strategy implementation, their name (or acronym) is in bold in the management tables in Chapter 6. For all other strategies, Parks and Wildlife is the lead agency. Additional strategies may be required throughout the life of the plan, to ensure effective management of the marine park values. Where new strategies are required, and it is appropriate to do so, key stakeholder consultation will occur prior to implementation.

A Memorandum of Understanding has been developed between the Minister for Environment and the Minister for Fisheries to establish principles of cooperation and integration between Parks and Wildlife and DoF in the management of the State's marine parks and reserves. Collaborative operational plans will be developed to ensure efficient and effective delivery of a range of programs where there is shared agency responsibility or mutual interests, including education, compliance, research and monitoring. The use of formal and informal mechanisms for communication and engagement between park managers and key stakeholders will also be important throughout the life of the plan to ensure effective ongoing and adaptive management.

Conducting drop camera surveys at Cape Talbot. Photo – Chris Nutt/Parks and Wildlife

6. Management

Objectives and strategies have been developed to address management issues that have been identified for the marine park. The subsections below summarise the main challenges and opportunities faced, and how the management will respond to these. A risk assessment was used to identify and analyse current and future pressures on natural values (and thus challenges faced), such as climate change. Targets and performance measures have been specified for a selection of key values, known as performance indicators, against which management effectiveness will be assessed. The performance indicators have been selected to reflect the highest management priorities of the Commission, traditional owners, Parks and Wildlife and the community.

6.1 Connection to country (cultural values)

Joint management of the marine park will provide opportunities for Aboriginal people to fulfil their cultural obligations to look after country, record and share culture and language, and pass traditional knowledge onto future generations.

For Aboriginal people, undertaking customary activities on their traditional lands is central to maintaining the culture and heritage of the land. Customary activities are permitted in the marine park and include fishing and hunting for food and preparing medicine. These activities enable the maintenance of traditional relationships with the land and water; sharing of knowledge; engagement in traditional practices; and accessing and looking after places of significance.

Wunambal Gaambera Traditional Owner Jazzlyn Phillips takes water samples in the North Kimberley Marine Park. Photo – Anna Smith/Parks and Wildlife

Table 1 Management of cultural values

Looking after country		
Management issues	**Management objectives**	**Management strategies**
• Ensuring visitation is respectful and culturally appropriate. • Ensuring activities in the marine park do not impact culturally important places and sites, and do not significantly affect the rights of traditional owners to have ongoing cultural connection to country. Providing visitors with the opportunity to learn and experience Aboriginal culture to build respect, recognition and understanding. • Recording traditional knowledge and maintaining traditional owner rights to their own knowledge. • Sharing traditional knowledge between generations to keep law and culture strong. • Providing employment and training opportunities for Aboriginal people to manage country. • Caring for country to maintain healthy populations of plants and animals.	• To ensure that Aboriginal culture and heritage sites in the marine park are protected and conserved. • To support traditional owner connection to country including spiritual and cultural values. • To enable traditional owners to realise livelihoods from their country. • To provide recognition of and support for traditional owner rights to continue customary practices and to benefit from their country consistent with the purpose of the marine park. • To facilitate and maintain the opportunity for Aboriginal people to fulfil their cultural obligations as protectors and managers of their country.	1. The CEO will jointly manage the North Kimberley Marine Park with the Balanggarra Aboriginal Corporation RNTBC. 2. Support traditional owners to record the culture and heritage values of the park to inform management [relevant Aboriginal Corporations]. 3. Support traditional owners to visit their saltwater country with younger generations to support cross-generational exchange of information and maintain connection to country [relevant Aboriginal Corporations]. 4. Support traditional owners to develop and apply management targets and performance measures for Aboriginal culture and heritage values [relevant Aboriginal Corporations]. 5. Support traditional owners to develop protocols for the recording, storage and use of cultural information to protect the intellectual property rights of traditional owners and address confidentiality requirements [relevant Aboriginal Corporations][3]. 6. Integrate traditional or cultural knowledge with contemporary research and monitoring, such as by ensuring traditional owners are given opportunities to participate in research programs [relevant Aboriginal Corporations][3]. 7. Develop and implement protocols to ensure research is conducted in a culturally appropriate manner [relevant Aboriginal Corporations][3]. 8. Support traditional owners to develop and implement tools to measure and monitor impacts on cultural heritage values and sites and implement strategies to address issues where appropriate. Use existing guidelines such as The Burra Charter: The Australian ICOMOS Charter for Places of Cultural Significance (2013), where appropriate [relevant Aboriginal Corporations]. 9. Support traditional owners to assess the effectiveness of management arrangements for protection of cultural heritage values [relevant Aboriginal Corporations]. 10. Support traditional owners to develop and apply management targets and performance measures for Aboriginal culture and heritage values [relevant Aboriginal Corporations]. 11. Develop and implement cultural awareness communication tools, emphasising the importance of cultural and heritage values [relevant Aboriginal Corporations]. 12. Regulate access to culturally sensitive sites in the marine park that traditional owners consider unsuitable for visitation (through commercial operator licences, by regulation or other mechanisms as relevant) [relevant Aboriginal Corporations]. 13. Undertake a five-year review of the adequacy of management arrangements, including the zoning scheme, for the marine park [Commission, Joint Management Bodies]. 14. Support the declaration of the marine park as an IPA where relevant [relevant Aboriginal Corporations]. 15. Continue to support and develop ranger programs [relevant Aboriginal Corporations]. 16. Support traditional owners to manage sustainable populations of traditionally hunted species, and ensure that research and monitoring programs provide information to traditional owners on the health of local populations of hunted species [relevant Aboriginal Corporations]. 17. Develop Aboriginal names for specific zones in conjunction with traditional owners and where an Aboriginal name is identified, amend zone names [relevant Aboriginal Corporations].

Holothuria Reef, Wunambal Gaambera country. Photo – Anna Smith/Parks and Wildlife

Key performance indicators	
Target	To be developed by traditional owners
Performance measure	
Reporting	

[3] The Western Australian Marine Science Institution (WAMSI) is undertaking an indigenous knowledge project relevant to this strategy.

King George River Gorge. Photo – Ryan Scott/Parks and Wildlife

6.2 Caring for country (natural values)

Maintaining the current condition of the natural values, both for their intrinsic value and for the cultural, recreational and commercial benefits they provide, is a key focus for management of the marine park. A knowledge base of biodiversity, key ecological processes and human-induced pressures on these values is required to support effective adaptive management. Research will be a strong focus for the implementation of the management plan and will be designed to fill key knowledge gaps.

As part of the *Kimberley Science and Conservation Strategy*, the State Government provided significant funding of $14.2 million for a major marine science program in the Kimberley, with 10 partner agencies working on 26 research projects along the 13,500km Kimberley coastline (see www.wamsi.org.au). Building partnerships with traditional owners, communities, tourism operators and industry to deliver research outcomes is essential and will also influence the success in the uptake of research findings.

One of the major pressures on natural values is climate change, as the marine environment of the Kimberley is highly vulnerable to projected climate change effects (Halpern *et al*. 2015, Climate Commission Secretariat 2013). The significant challenge for marine park management is that climate change impacts are occurring at the same time as a range of other human-induced pressures, such as land degradation resulting in increased levels of sediment. This convergence of multiple pressures places vulnerable habitats, such as coral reefs, at risk. The management response will focus on zoning as a tool to maintain or improve the resilience of ecosystems susceptible to climate change, and will include a network of sanctuary and special purpose zones to protect vulnerable habitats from multiple pressures. Research to improve understanding and identify appropriate climate change adaptation strategies will also play an important role.

Land management of river catchments and areas adjacent to the marine park will also be critical for protection of the marine park's natural values. There are several current and proposed conservation reserves and parks adjacent to the marine park, which will facilitate integrated land-sea management.

The following management issues, objectives and strategies have been developed to align with the targets and issues highlighted in the healthy country plans prepared by traditional owners.

Table 2 Management of natural values

Natural values		
Management issues	**Management objectives**	**Management strategies**
• Caring for country to maintain healthy populations of plants and animals. • A significant challenge is the current lack of knowledge about natural values, and human-induced pressures on them. • Climate change is a major pressure already affecting the natural values of the park. • Other potential and current pressures include: – recreational and commercial fishing, aquaculture and pearling – plastic debris – major oil spills or pollution events, e.g. from large industrial vessels – minor oil spills, e.g. at refuelling sites within the park – biosecurity risks – dredging and dredge spoil dumping. • There will be opportunities for two-way learning by involving the local communities and traditional owners in research projects and monitoring programs. • Mitigating impacts of physical disturbance from vessels (e.g. anchoring, propeller scour, wake/wash) and people or animals (e.g. trampling and reef walking).	• Natural values are not significantly impacted by human activities in the marine park and baseline status is maintained (or improved) across their natural range. • Obtain an adequate biophysical, social and cultural knowledge base of values to support future management requirements. • Acquire adequate knowledge of the implications of climate change and develop applicable management strategies within the marine park. • Investigate the extent and significance of current impacts and potential pressures, and if necessary implement management strategies. • Increase local community and visitor knowledge of the cultural, ecological and social importance of key natural values.	1. Implement the zoning scheme for the marine park (refer to the zoning section on pages 31–44) [DoF]. 2. Prepare and implement a coordinated and prioritised research plan (in collaboration with the Western Australian Marine Science Institution [WAMSI]). The research plan will seek to: • improve knowledge and understanding of the abundance, distribution and natural variability of natural values, and how potential pressures affect natural values in the marine park • improve understanding of key ecological processes, such as connectivity and terrestrial–marine linkages • assess the extent of human usage and potential impacts on biodiversity • improve understanding of ecological implications and potential adaptations to climate change • establish baselines for key performance indicators (refer to the 'interim targets' below) [DoF – in relation to important habitat for fish, sharks and rays]. 3. Develop and implement a coordinated and prioritised monitoring program for the marine park that: • assesses the effectiveness of the zoning scheme and management arrangements for protection of the park's values, with a focus on condition, pressure and response indicators and metrics for high priority values • assesses the nature, level and potential impacts of pressures (from human activities and external pressures such as climate change), including early warning of critical changes in pressure trends • provides a better understanding of the dynamic nature of undisturbed marine ecosystems as reference points for comparisons with altered environments • uses traditional ecological knowledge and, where possible, provides capacity building and employment opportunities for traditional owners • meets the requirements of the Commission for assessing the implementation of the management plan [DoF]. 4. Undertake a five-year review of the adequacy of management arrangements, including the zoning scheme, for the marine park [Commission, Joint Management Body]. 5. Where possible, develop regional and local level adaptive management responses to climate change for the protection of park values, informed by research and monitoring outcomes. 6. Identify and communicate high priorities for research and monitoring projects to appropriate external organisations and funding bodies, and facilitate research and monitoring by appropriate external organisations where possible. 7. Ensure all research projects undertaken by or on behalf of Parks and Wildlife comply with the department's Science Policy (No. 78) and associated guidelines, and ensure granting and renewal of research permits is consistent with the management plan. 8. Facilitate knowledge transfer and uptake of research and monitoring outcomes to adaptive marine park management, planning and policy.

Soldier crabs at Cape Domett. Photo – Holger Woyt/Parks and Wildlife

Tests (the outer shells) from two different species of heart urchin.
Photo – Chris Nutt/Parks and Wildlife

9. Liaise with industry, other government agencies and non-government organisations to access information held on ecological research and monitoring in the area.
10. Work collaboratively with tourism operators to develop systems for recording ecological information and sharing knowledge.
11. Develop and implement a marine pest early warning and monitoring program [**DoF**].
12. Ensure development proposals in the marine environment include provisions for marine quarantine management.
13. Where required, provide support in the development and implementation of Parks and Wildlife's maritime incident response plans, which support the State Emergency Management Plan for Marine Oil Pollution [Department of Transport (DoT)].
14. Finalise and implement the Kimberley Oiled Wildlife Response Plan.
15. Regulate foot access to intertidal areas considered unsuitable for visitation e.g. intertidal coral reefs (through commercial operator licences, by regulation or other mechanisms as relevant).

Key performance indicators	
Interim target	Determine baseline[4] condition of key performance indicators
Coral reef communities	
Target	**Sanctuary zones, special purpose zones (recreation and conservation) and special purpose zones (cultural heritage)** – No change in community composition or loss of cover relative to baseline levels due to human activities in the marine park[5]. **General use zones** – No change in community composition or loss of cover relative to baseline levels due to human activities in the marine park, except in areas approved by the appropriate government regulatory authority[6].
Performance measure	1. Community composition 2. Live coral cover
Reporting	To be determined.
Mangrove and saltmarsh communities	
Target	**Sanctuary zones, special purpose zones (recreation and conservation) and special purpose zones (cultural heritage)** – No change in community composition or loss of extent and density of mangrove and saltmarsh communities as a result of human activities in the marine park[4]. **General use zones** – No change in community composition or loss of extent and density relative to baseline levels due to human activities in the marine park, except in areas approved by the appropriate government regulatory authority[6].
Performance measure	1. Community composition 2. Extent 3. Density
Reporting	To be determined.
Seagrass and macroalgae communities	
Target	**Sanctuary zones, special purpose zones (recreation and conservation) and special purpose zones (cultural heritage)** – No loss of distribution or community composition relative to baseline levels due to human activities in the marine park[4]. **General use zones** – No loss of community composition; and no loss of distribution relative to baseline levels due to human activities in the marine park, except in areas approved by the appropriate government regulatory authority[7].
Performance measure	1. Community composition 2. Distribution
Reporting	To be determined.
Turtles	
Target	**All zones** – No loss of abundance of nesting turtles or breeding success as a result of human activities[4,6], or feral animal predation in the marine park.
Performance measure	1. Population indices
Reporting	To be determined.

Dugongs	
Target	**All zones** – No loss of abundance or change in distribution relative to baseline levels due to human activities[4,6] in the marine park.
Performance measure	1. Abundance 2. Distribution
Reporting	To be determined.
Finfish	
Targets	**All zones** – No loss of finfish diversity as a result of human activities[4,6] in the marine park. **Sanctuary zones** – No change in distribution, loss of abundance or change in size composition of finfish species relative to baseline[3] levels due to human activities in the marine park. **Special purpose zones (recreation and conservation), special purpose zones (cultural heritage) and general use zones**: 1. No loss of non-targeted finfish abundance as a result of human activities within the marine park. 2. Management targets for targeted finfish species to be determined in consultation with DoF (in its role as the lead agency for managing fisheries), the community and stakeholders.
Performance measure	1. Community composition 2. Abundance
Reporting	To be determined.
Water and sediment quality	
Targets	**Sanctuary zones** – No significant change relative to baseline levels due to human activities in the marine park[4]. **Special purpose zones (recreation and conservation), special purpose zones (cultural heritage) and general use zones** – No change relative to baseline levels due to human activities in the marine park, except in areas approved by the appropriate government regulatory authority[6].
Performance measure	1. Nutrients 2. Toxicants 3. Pathogens 4. Litter
Reporting	To be determined.

[4] Baseline refers to the starting point (a certain date or state) against which changes in the condition of a variable or a set of variables are measured. For the North Kimberley Marine Park, the assessment of baseline status for all the key performance indicators is the interim target.
[5] Excludes loss of a minor or transient nature
[6] Acceptable limits of change to be determined following the development of baselines.
[7] Excludes loss as a result of sustainable customary take.

6.3 People on country (recreation, tourism and community values)

Visitation to the marine park is expected to increase over time as the Kimberley's reputation as a premier destination for cultural and nature-based tourism continues to develop. The growing nature-based economy provides significant opportunities to contribute to social, economic and environmental outcomes. Use and visitation will require careful management to ensure that the ecological, cultural and social values of the marine park are conserved, and that visitor experiences are maintained. The expansive and remote nature of the park also creates further challenges for management.

Management focuses on working collaboratively with communities and tourism operators to foster a sense of custodianship of this amazing place, and to provide visitors with the opportunity to learn about and experience the park's incredible natural and cultural values. It will be essential to closely monitor growth in user numbers, the status of values at the most popular visitor sites and the effectiveness of the management strategies in place.

One priority for joint management is to establish appropriate visitation protocols, so that people are being respectful when visiting country, to protect and conserve the unique ecological and cultural values of the park, in particular sensitive cultural sites. Parks and Wildlife will work in partnership with traditional owners to develop visitor management and access arrangements that are culturally appropriate. Exclusive possession native title occurs above the high water mark around much of the coast and islands adjacent to the marine park, and people wishing to visit these areas will need to obtain permission from Aboriginal traditional owners before their visit. There are also exclusive possession native title areas which extend to the low water mark on the eastern side of Vansittart Bay. Visitors to Aboriginal Lands Trust (ALT) reserves also need to obtain permission for entry from the ALT or, in the case of Vansittart Bay, from the Wunambal Gaambera Aboriginal Corporation.

Recreational fishing in the park. Photo – Carolyn Thomson-Dans/Parks and Wildlife

The remote nature of the marine park and the many natural hazards that exist within the area pose a significant risk to the unwary visitor. Parks and Wildlife will work with relevant JMBs to undertake periodic assessments of visitor risk and mitigate identified risks wherever possible.

It is important to allow natural coastal processes governing sand movement in the marine park to continue to function without mechanical intervention wherever possible. In the event that dredging may become necessary to maintain visitor access and public safety, the situation will be assessed according to its necessity and impact on the ecological and social values of the marine reserves. In the first instance, dredging will be discouraged unless undertaken to ensure that boat launching facilities remain functional.

Table 3 Management of recreation, tourism and community values

Recreation, tourism and community values		
Management issues	**Management objectives**	**Management strategies**
• Maintaining the quality of the tourism and recreation experience (including recreational fishing). • Providing visitors with educational and interpretive material to enhance their experience and increase understanding of the park's values. • Ensuring visitation is respectful and culturally appropriate (also refer to Table 1). • Ensuring that park users understand the requirements to access adjacent areas. • Ensuring the safety of visitors to the marine park, especially in high risk areas. • Ensuring tourism activities do not adversely affect cultural, natural and other commercial, recreational, tourism and historic values.	• To promote visitor access to and enjoyment of the marine park while maintaining the outstanding cultural and natural values. • To increase community understanding and appreciation of the marine park's values and support for management arrangements. • To support continued enjoyment of recreational fishing opportunities within the marine park while maintaining the outstanding cultural and natural values. • To minimise risks to visitors, and encourage appropriate visitor behaviour. • To ensure that human activities do not significantly impact on historic sites in and adjacent to the marine park.	1. Engage with tourism operators and facilitate the establishment of high quality commercial tourism operations that: • demonstrate a commitment to protect and promote the park's cultural, natural, recreation and tourism values • ensure staff and passengers behave appropriately and respectfully at cultural sites • conduct operations according to Parks and Wildlife policy and licence conditions [Tourism WA]. 2. Prepare education and interpretative material to: • increase visitor enjoyment and safety • provide information on natural and cultural values, including research and monitoring outputs • reduce impacts on sites • ensure visitors are aware of cultural laws and protocols • encourage appropriate behaviour including compliance with the management plan. 3. Work with peak bodies and tourism providers to highlight the unique fishing experiences available in the Kimberley, and to raise awareness of sustainable fishing practices and fishing restrictions [DoF]. 4. Conduct periodic assessments and monitoring to determine the effect of management arrangements on visitor safety, and adapt management strategies as required.

Brochures and electronic media help increase visitor enjoyment and safety. Photo – Peter Nicholas/Parks and Wildlife

5. Implement a collaborative education and compliance program to maximise compliance with the management plan (including commercial operator licence conditions), such as undertaking patrols. Adapt management strategies to address any non-compliance issues [DoF].
6. Investigate whether populations of recreationally targeted species are sustainable in the marine park and undertake adaptive management strategies if required [**DoF**].
7. Ensure granting and renewal of commercial tour operator licences is consistent with the management plan and contains appropriate conditions.
8. Assess the need for a mooring and anchoring plan and prepare and implement if necessary.
9. Facilitate cross-authorisation of enforcement officers as appropriate [DoF, DoT].
10. Identify sites with maritime heritage value within the marine park to facilitate long-term management [WAM, Heritage Council of WA].
11. Provide visitor facilities and/or interpretive information to enhance visitor enjoyment of, and where appropriate to mitigate or stop impacts on, maritime heritage values in the marine park.
12. To ensure visitor safety, consult with DoT concerning the assessment and statutory licensing of jetties and boat ramps.

Performance indicator	Performance measure	Target
Visitor satisfaction	Visitor satisfaction (e.g. experiences and expectations) as determined by the Visitor Monitoring Program[8].	Visitor satisfaction level is 85% or above.
Visitor safety	Number of reported incidents relating to visitor safety.	Number of incidents per capita relating to visitor safety decreases compared to baseline levels.

[8] See parks.dpaw.wa.gov.au/for-business/dpaw-visitor-monitoring-program for more information.

Scenic flights and heli-fishing expeditions offer a spectacular way to enjoy the Kimberley coast and operate in connection with coastal accommodation or cruise boats. Photo – Anna Smith/Parks and Wildlife

6.4 Commercial values and use of country (sustainable resource use)

Our social, economic and environmental wellbeing depends on the sustainable management of natural resources. Understanding the marine environment, and having the right information available to make decisions for the long term, is fundamental to effective resource management. The main focus of management for the marine park will be working with other agencies, institutions and industry members to address key knowledge and capability gaps (for example, refer to *The Blueprint for Marine Science 2050*). Working in collaboration with industry is also essential to finding effective management solutions to issues, such as the risk of by-catch from commercial fishing.

Table 4 Management of commercial values

Commercial fishing		
Management issues	**Management objectives**	**Management strategies**
• Working in collaboration to identify management solutions, where necessary. • Ensuring commercial fishers are aware of and comply with management arrangements and zoning, and conduct activities in a culturally sensitive manner.	• To recognise and allow for commercial fishing whilst maintaining the cultural and natural values of the marine park.	1. Educate commercial fishers on the zoning scheme and any restrictions that may apply to their activities in the marine park, and monitor compliance [DoF]. 2. Monitor commercial fishing catch and effort in the marine park and report the results to Parks and Wildlife, the JMB and the Commission [DoF]. 3. Work in collaboration with commercial fishers to investigate the extent and significance of interactions between commercial fishing and protected species and, where required, develop appropriate management strategies [DoF]. 4. Work with commercial fishers to ensure commercial fishing activities are conducted in a culturally sensitive manner [DoF]. 5. Identify opportunities for collaboration with commercial fishers in developing and implementing management actions [DoF].

Pearling and aquaculture		
Management issues	**Management objectives**	**Management strategies**
• Ensuring the environmental conditions required for pearling are maintained e.g. water quality and marine park values. • Working in collaboration to identify management solutions, where necessary. • Ensuring the pearling industry is aware of and complies with management arrangements and zoning, and conducts activities in a culturally sensitive manner.	• To recognise the historical and socio-economic value of pearling by providing for the maintenance of a viable pearling industry while maintaining the cultural and natural values of the marine park.	1. Educate the pearling industry on the zoning scheme and any restrictions that may apply to its activities, including ancillary activities in the marine park, and monitor compliance [DoF]. 2. Work with the pearling industry to ensure pearling activities are conducted in a culturally sensitive manner [DoF]. 3. Identify opportunities for collaboration with the pearling industry in developing and implementing management actions [DoF].

Mineral extraction (oil, gas and mining)		
Management issues	**Management objectives**	**Management strategies**
• Ensuring that mineral exploration and development proposals in the park are assessed and managed in recognition of marine park values.	• To ensure industry and associated activities are managed in a manner consistent with the objectives of the marine park.	1. Provide formal advice to the Commission and Environmental Protection Authority for the environmental assessment of proposed mineral, petroleum and pipeline activities in and adjacent to the marine park [Department of Mines and Petroleum (DMP), DoF, Department of State Development, Office of the Environmental Protection Authority (OEPA), DSD]. 2. Provide advice on the assessment, setting of conditions, and monitoring and reporting requirements for mineral, petroleum and pipeline activities consistent with management objectives and management targets for the marine park [DMP, OEPA, DSD]. 3. Consider the quality of the remote seascapes of the marine park in site planning and assessment of development proposals. 4. Monitor commercial operations to ensure compliance with licence conditions [DMP]. 5. Work with industry to ensure commercial activities are conducted in a culturally sensitive manner [DMP, DSD]. 6. Where appropriate, liaise with industry to gain access to information held on ecological research and monitoring in the area.

Economic opportunities for traditional owners		
Management issues	**Management objectives**	**Management strategies**
• Recognise the need of traditional owners to derive livelihoods and existence from their traditional saltwater and adjacent lands as their ancestors did and so that traditional knowledge can be passed on to future generations. • Ensuring that traditional owners have opportunities to utilise the saltwater and resources of the marine park to support and sustain their livelihoods.	• Enable traditional owners to assess and realise commercial opportunities for their benefit. • To provide for traditional owner subsistence and commercial enterprises and activities consistent with maintaining cultural and natural values of the marine park.	1. Identify opportunities to provide employment, business and training for traditional owners on country (such as cultural and eco-tourism businesses) [relevant Aboriginal Corporations]. 2. Support traditional owners to identify and realise sustainable commercial development opportunities, for example by developing an economic plan to identify and assess feasibility of commercial opportunities [relevant Aboriginal Corporations, relevant government agencies]. 3. Support traditional owners to realise sustainable commercial development opportunities by licensing traditional owner enterprises as appropriate [relevant Aboriginal Corporations, relevant government agencies]. 4. Recognise and take account of commercial opportunities for traditional owners when reviewing the plan, including revision of the zoning scheme where appropriate, to enable traditional owners to undertake commercial opportunities whilst maintaining the cultural and natural values of the marine park. 5. Recognise and take account of economic opportunities for traditional owners when assessing commercial development proposals.
Key performance indicators		
Target	To be developed by traditional owners	
Performance measure		
Reporting		

6.5 Zoning and permitted uses

Zoning design

Multiple use zoning helps to manage and protect the values of the marine park that people enjoy. Zoning is a key strategy for protecting the health and resilience of the area, while supporting ongoing tourism and recreation, commercial activities and fishing.

The CALM Act requires marine parks to be zoned as one or a combination of sanctuary, recreation, special purpose or general use zones[9]. The zones provide for varying levels of conservation, recreational and commercial use. Through multiple-use zoning, marine parks will provide economic, recreational and cultural benefits for local communities, as well as environmental benefits. Where possible and appropriate, the development of marine park zoning seeks to accommodate existing uses. The zoning scheme complements other management strategies for the marine park.

The zoning scheme for this park should be considered in the context of the zoning schemes for other marine parks within the region. It has been developed using a network based approach, building on the outcomes of the Lalang-garram / Camden Sound Marine Park and the Lalang-garram / Horizontal Falls and North Lalang-garram marine parks.

The zoning scheme has been designed to:

- include a system of comprehensive and representative 'no-take' or sanctuary areas for the primary purpose of marine biodiversity conservation and increasing resilience to natural and human disturbances
- take special account of the needs of vulnerable species and the current or projected future pressures on these species
- protect and conserve the value of the marine park to the culture and heritage of Aboriginal people
- provide opportunities for recreation and tourism, and allow for ongoing sustainable commercial use
- provide areas relatively free of human impact for research and monitoring, nature appreciation and education
- apply the precautionary principle
- minimise impacts on the existing uses
- be simple for users to understand
- complement proposed or existing terrestrial parks and reserves
- be one in a complementary suite of management mechanisms for the marine park.

Zoning scheme

The zoning scheme for the North Kimberley Marine Park is shown in Maps 6–10 and a summary of the activities permitted in each zone is presented in Table 5. The zoning scheme comprises:

- eight sanctuary zones covering approximately 340,000 hectares or 18.4% of the park
- nine special purpose zones (recreation and conservation) covering approximately 235,000 hectares or 12.7% of the park
- two special purpose zones (cultural heritage) covering approximately 29,000 hectares or 1.6% of the park
- general use in the remainder of the park, covering approximately 1,241,000 hectares or 67.3% of the park.

Special purpose zones (recreation and conservation) acknowledge the high recreational and cultural value of the area and allow for compatible commercial activities whilst providing enhanced protection and conservation for ecological values. Within these zones, people can continue to enjoy recreational activities such as fishing. Commercial prawn trawling and commercial gillnet fishing are not permitted within these zones to provide increased protection to important ecological values such as seagrass and macroalgae, finfish, turtles and crocodiles.

Special purpose zones (cultural heritage) provide for the recognition and protection of sites of high cultural significance to the traditional owners. They provide a focus for increased education and interpretive information about traditional owner connection to country and culturally significant areas. This is intended to increase visitor respect for these areas and to encourage culturally appropriate behaviour. Within these zones, people can continue to enjoy recreational activities, such as fishing, and sustainable commercial uses. See Table 5 for further information on permitted activities and uses.

The sanctuary zones play a central role in protecting areas of critical habitat to maintain the healthy functioning of the complex ecosystems that make up the marine park. Sanctuary zones act as benchmarks to compare to other areas with similar habitats and ecosystems that are subject to extractive use. This allows managers to gain a better understanding of local and regional pressures on the marine environment over time. As such, sanctuary zones provide important

[9] For more information on zone types, go to www.dpaw.wa.gov.au/management/marine/marine-parks-and-reserves/71-know-your-zones.

opportunities for education, research and monitoring. Research may include traditional owners assessing commercial opportunities for present and future sustainable livelihoods, and future reviews of the plan will assess the need for zoning revisions to enable these opportunities to be realised.

Coronation Islands Sanctuary Zone

The Coronation Islands Sanctuary Zone will protect an archipelago of more than 40 islands, with representative examples of a diverse range of habitats. The offshore islands are fringed by diverse intertidal platforms, coral reef and sandy beaches, and are surrounded by sheltered subtidal habitats, such as seagrass and macroalgae, and productive deep-water habitats associated with the edge of the continental shelf. This zone will protect an important area for turtles (Wunambal Gaambera Aboriginal Corporation 2010) as many of the islands support turtle nesting. Pods of humpback whales, including mothers and calves, have been observed in this area, which is thought to provide an area for feeding and resting following calving (Commie-Grieg and Abdo (eds) 2014). The Coronation Islands Sanctuary Zone provides for conservation, recreation and tourism.

Prince Frederick Harbour Sanctuary Zone

The Prince Frederick Harbour Sanctuary Zone encompasses diverse mangrove covered tidal flats. The sanctuary zone includes important nursery habitat for prized finfish such as barramundi and threadfin salmon. Two major rivers (the Hunter and Roe rivers) feed into this area, which is adjacent to a deep water channel created by a drowned river valley. With such unique geomorphological features, the zone will likely play an important role in connectivity, and benefit finfish species dependent on habitat within the zone for critical life stages, such as threadfin salmon.

Porosus Creek Sanctuary Zone

The Sanctuary Zone includes some of the most spectacular parts of the Hunter River within Prince Frederick Harbour. The area is extremely significant to the Wunambal Gaambera people. The sanctuary zone includes important nursery habitat for finfish such as barramundi and threadfin salmon. Mangrove communities provide important habitat and refuge areas for a variety of species, which in turn support wildlife viewing, and commercial and recreational fishing in areas adjacent to the zone.

Prince Frederick Harbour. Photo – David Pearson/Parks and Wildlife

Bigge Island. Photo – Landgate

Bigge Island Sanctuary Zone

This sanctuary zone, stretching from the western side of the island to the mainland, includes representative examples of coral reef communities (intertidal and subtidal), filter-feeding communities, sandy beaches, mudflats and significant mangrove communities on Bigge Island and the mainland coastline to the east. The area is important for turtle nesting, dugongs and dolphins (Wunambal Gaambera Aboriginal Corporation 2010, Comrie-Grieg and Abdo (eds) 2014). The zone has been designed to include the most significant and diverse range of habitats for conservation and tourism, while avoiding areas important for recreation (including fishing) on the west of the island, such as Boomerang Bay.

Long Reef and East Holothuria Reef Sanctuary Zone

This sanctuary zone will encompass two of the largest biogenic reef structures found within the Great Kimberley Marine Park. Long Reef is an emergent reef of some 150km rising out of approximately 30m water depth. The reef supports 'exceptionally rare' coral habitats, for example it contains the highest benthic coverage of the rare organ pipe coral (*Tubipora* sp.) ever recorded from any one location (Richards *et al.* 2013) and a high diversity of soft and hard corals. Corals are vital components of the nearshore Kimberley ecosystem and play an important role in carbon cycling and primary productivity. They provide critical habitat for a huge range of marine plants and animals. Many species rely on the East Holothuria Reef and Long Reef for sustenance and refuge at particular life stages, migrating between these reefs and other habitats, including green and flatback turtles and lesser frigatebirds (Commonwealth of Australia 2011).

East Holothuria Reef. Photo – Anna Smith/Parks and Wildlife

Drysdale River Sanctuary Zone

The Drysdale River drains the heart of the north Kimberley, and is the third longest river in the Kimberley. The Drysdale River constitutes the largest system of river pools in the high rainfall north-west of the Kimberley (National Land and Water Resources Audit 2002) and includes a complex range of wetland habitats (noted as Wetlands of National Significance; CSIRO 2009). This zone will protect representative areas of wetland and estuarine habitats, including critical nursery areas for mangrove jack and other finfish, and important habitat for saltwater crocodiles, sawfish, mud crabs and more than 20 species of waterbird (Department of Environment 2005).

Drysdale River Sanctuary Zone. Photo – Holger Woyt/Parks and Wildlife

Cape Londonderry Sanctuary Zone

This sanctuary zone will provide increased protection for some of the most remarkable fringing reef communities in the park. Extensive coral reef structures occur amongst large mudflats, mangrove forests and sandy beaches. Preliminary observations suggest that future research of these reef systems is likely to reveal highly unusual ecological processes that are perhaps without parallel elsewhere in Australia (Wilson *et al.* 2013). The zone also includes a section of Sahul Shelf which is a Commonwealth 'key ecological feature' (Commonwealth of Australia 2011). The carbonate banks and terrace system of the Sahul Shelf are regionally important because of their role in enhancing biodiversity and local productivity relative to their surrounds. The area provides critical habitat for green turtles, snubfin dolphins, seabirds and dugongs (Balanggarra Aboriginal Corporation / Kimberley Land Council 2011, Commonwealth of Australia 2011), and has the highest diversity of fish recorded in the Kimberley (Walker *et al.* 1996). The area is highly significant to the Balanggarra people: "*Rinjiibarda bindingei* is a reef to the north of Cape Londonderry where the Dreaming Star 'fell down' to become the very shiny and highly prized, ritually and socially important pearl shell" (Balanggarra Aboriginal Corporation / Kimberley Land Council 2011).

Cape Londonderry. Photo – Anna Smith/Parks and Wildlife

King Shoals Sanctuary Zone

The King Shoals Sanctuary Zone includes some of the Kimberley's only mapped tidal sand waves and sand banks, as well as carbonate banks (a key ecological feature of the region; Commonwealth of Australia 2011) and deep waters. Carbonate banks are thought to support a high diversity of organisms including reef fish, sponges, soft and hard corals, gorgonians, bryozoans, ascidians and other filter feeders. The banks are likely to be foraging areas for flatback turtles. The zone also provides protection for threatened species such as green and freshwater sawfish which occur in the area (Commonwealth of Australia 2011).

King Shoals. Photo – Landgate

Careening Bay Special Purpose Zone (recreation and conservation)

The location of this zone adjacent to Prince Regent National Park, which protects the catchment area of the Prince Regent River, provides excellent opportunities for integrated land-sea management to protect the area's threatened and priority wildlife. This area provides for recreation and tourism, and includes safe anchorages for people to use when visiting the historic Mermaid Boab Tree. The conservation purpose of this special purpose zone is the protection of mangroves, intertidal flats, sandy beaches and species inhabiting these areas (such as turtles). Commercial gillnet and trawl fishing are considered to be incompatible with the conservation purpose of this zone.

Careening Bay. Photo – Carolyn Thomson-Dans/Parks and Wildlife

Port Warrender. Photo – Holger Woyt/Parks and Wildlife

Port Warrender Special Purpose Zone (recreation and conservation)

Port Warrender is one of the few areas accessible by road within the park. There are also two coastal camps offering ecotourism experiences. The Port Warrender Special Purpose Zone contains representative areas of a wide range of habitat types, including exposed rocky headlands and coral reef, sandy beaches, and diverse mangrove communities and extensive mudflats associated with the Lawley River delta. The conservation purpose of this special purpose zone is the protection of threatened and priority wildlife including 20 shorebird and tern species, estuarine crocodiles, coastal dolphins and finfish. This zone supports ongoing use by local communities and tourism, including recreational fishing and nature appreciation. Commercial gillnet and trawl fishing are considered to be incompatible with the conservation purpose of this zone.

Vansittart Bay Special Purpose Zone (recreation and conservation)

This area encompasses a variety of important habitats and communities such as seagrass, fringing reefs, sandy beaches and mangroves. The conservation purpose of this special purpose zone is the protection of habitat important for species such as dugong, turtles, snubfin dolphins and humpback dolphins. This zone supports ongoing use by local communities and tourism, including recreational fishing and nature appreciation. Commercial gillnet and trawl fishing are considered to be incompatible with the conservation purpose of this zone.

Drysdale River and Napier Broome Bay Special Purpose Zone (recreation and conservation)

The zone encompasses significant areas of cultural importance for Wunambal Gaambera and Balanggarra people. The area is also of high significance to the Aboriginal community of Kalumburu and is one of few areas of the marine park with road access. The broader area of Napier Broome Bay includes a unique deep water 'basin' and diverse intertidal habitats. Drysdale River has 5670 hectares of Wetlands of National Significance (CSIRO 2009). The conservation purpose of this special purpose zone is the protection of critical habitats for a range of important fauna, including saltwater crocodiles, sawfish, mud crabs, finfish such as mangrove jack and Queensland groper, snubfin and humpback dolphins and dugongs. Commercial gillnet and trawl fishing are considered to be incompatible with the conservation purpose of this zone.

Drysdale River. Photo – Holger Woyt/Parks and Wildlife

This zone supports ongoing use by local communities and tourism, including recreational fishing and nature appreciation. A reduced recreational fishing daily bag limit of one fish has been applied to the Drysdale River portion of this zone to enhance protection of fish communities and ensure that recreational fishing in this beautiful and unique place can be enjoyed by future generations.

Sir Graham Moore Islands Special Purpose Zone (recreation and conservation)

This zone encompasses Sir Graham Moore and nearby Scorpion islands just north of the Anjo Peninsula. The southern and eastern shorelines are made up of long sweeping sandy beaches and rocky coves, while the northern shoreline has coral reefs which support a diversity of soft and hard corals. Beaches on the island are frequented by nesting turtles and have unique sand dune vegetation communities. The conservation purpose of this special purpose zone is the protection of ecologically and culturally important habitats, communities and fauna such as crayfish, crab and turtle species. This zone supports ongoing use by local communities and tourism, including recreational fishing and nature appreciation. Commercial gillnet and trawl fishing are considered to be incompatible with the conservation purpose of this zone.

Sir Graham Moore Island. Photo – Ray Masini

King George River. Photo – Chris Nutt/Parks and Wildlife

King George River Special Purpose Zone (recreation and conservation)

The zone includes a transect from the coast to offshore, encompassing habitats at different depths, from the estuarine habitats of King George River to fringing coral reef communities and deep subtidal habitats around Lesueur Island. The extraordinary King George River is a popular tourist attraction due to its spectacular scenery and the opportunity for wildlife watching. The river is of high cultural significance to the Balanggarra people, for whom the King George Falls are the male and female *Wungkurr*. The surrounding coastline adds to the attraction of the area, including cliffs, gorges, mangrove-lined bays and vast sand dunes. The conservation purpose of this special purpose zone is the protection of ecologically and culturally important habitats, communities and species, including dugongs, turtles, and humpback and snubfin dolphins. This zone allows for recreation and tourism activities, including recreational fishing and nature appreciation. Commercial gillnet and trawl fishing are considered to be incompatible with the conservation purpose of this zone.

Berkeley River Special Purpose Zone (recreation and conservation)

This special purpose zone encompasses the renowned cultural, natural and social values of the Berkeley River and its surrounds. The whole river system and Reveley Island have particular cultural significance to Balanggarra people (Balanggarra Aboriginal Corporation / Kimberley Land Council 2011). The zone represents a range of habitats including tidal flats and creek estuaries important for shorebirds and finfish, seagrass beds where dugongs feed, and ancient sand dunes and beaches where flatback turtles nest. The area is also known to provide important habitat for snubfin dolphins. About 170km north-west of Wyndham the area offers opportunities for recreation and tourism. The conservation purpose of this special purpose zone is the protection of ecologically and culturally significant fauna such as dugongs, flatback

Berkeley River. Photo – Chris Nutt/Parks and Wildlife

turtles, snubfin dolphins and lesser crested terns, and the habitats they use. This zone allows for recreation and tourism activities, including recreational fishing and nature appreciation. Commercial gillnet and trawl fishing are considered to be incompatible with the conservation purpose of this zone.

Institut Islands Special Purpose Zone (recreation and conservation)

The Institut Islands Special Purpose Zone (recreation and conservation) covers an area of complex island, intertidal and subtidal habitats and has been recognised for its outstanding natural values by the Western Australian Museum. The offshore islands and northern part of the Cape Voltaire peninsula are fringed with diverse intertidal coral reefs as well as sandy beaches which are used for turtle nesting. Many of the islands, including Sterna Island, are important bird nesting sites. The subtidal environment features unique geomorphology such as pinnacles, banks and shoals which provide for a diverse array of depth classes and ecological communities. The conservation purpose of this special purpose zone is the protection of intertidal and subtidal habitats and the species they support. This zone allows for recreation and tourism activities, including recreational fishing and nature appreciation. Commercial gillnet and trawl fishing are considered to be incompatible with the conservation purpose of this zone.

Institut Islands. Photo – Holger Woyt/Parks and Wildlife

Cape Domett Special Purpose Zone (recreation and conservation)

The Cape Domett Special Purpose Zone includes a globally significant nesting area for flatback turtles. The conservation purpose of this zone is the protection of an ecologically and culturally important marine ecosystem. The murky nearshore waters provide exceptional habitat for sawfish and snubfin dolphins, and the small creeks and mangrove habitat support species with high cultural and recreational significance such as barramundi, threadfin salmon and mud crabs. This zone allows for recreation and tourism activities, including recreational fishing and nature appreciation. Commercial gillnet and trawl fishing are considered to be incompatible with the conservation purpose of this zone. The need for temporal closures or vehicle access restrictions in this zone will be investigated during the implementation of the management plan.

The Needles at Cape Domett. Photo – Peter Nicholas/Parks and Wildlife

Special purpose zones (cultural heritage)

There are two special purpose zones (cultural heritage) within Wunambal Gaambera sea country: Prince Frederick Harbour and Mitchell River. The purpose of these zones is to provide for the recognition and protection of sites and places of high cultural significance to Wunambal Gaambera traditional owners. The Hunter River and Mitchell River estuaries are inhabited by the *Wunggurr* (creator snake). These special purpose zones will help ensure that *Wanjina Wunggurr* Law and culture is maintained and passed on to future generations of traditional owners, as well as being acknowledged and respected by visitors to these areas. Ground-disturbing mineral and petroleum activities are considered to be incompatible with the conservation purpose of this zone. Commercial and recreational fishing is allowed within this zone, as well as recreation and tourism activities such as wildlife viewing.

North Kimberley General Use Zones

All areas in the marine park not included in sanctuary or special purpose zones are zoned as general use. Management of general use areas is provided for through mechanisms under the CALM Act and CALM Regulations, as well as the implementation of management strategies. The general use areas provide for biodiversity conservation and a range of activities including recreational and commercial fishing and pearling. Pearling leases that exist prior to the establishment of a marine park have a right of renewal and cannot be displaced by the creation of a marine park. New proposals for pearling leases will be assessed on a case-by-case basis by DoF in liaison with Parks and Wildlife, the Commission and other stakeholders.

Estuarine crocodile in the Mitchell River. Photo – Parks and Wildlife

Permitted uses

The activities and uses table (Table 5) summarises the range of permitted activities across the zone types of the marine park. Marine park users should be aware that many of the listed activities are also regulated under complementary legislation and regulations – for example, regulations regarding wildlife interactions, the disposal of sullage, and size and bag limits for recreational fishing.

The CALM Act and Wildlife Conservation Regulations 2002 require some activities (e.g. commercial tourism, research) to obtain a licence to operate in marine parks.

The implementation of this joint management plan may require management actions such as temporal closures. Development of these management actions will aim to limit the impacts on the permitted activities whilst meeting the management objectives. An activity marked as 'assess' indicates an assessment is required by the appropriate agencies in accordance with relevant legislation and the management objectives and targets in this plan.

Boating on the Berkeley River. Photo - Chris Nutt/Parks and Wildlife

Table 5 Summary of permitted uses for the North Kimberley Marine Park

Activity	Sanctuary zones	Special purpose zone (recreation and conservation)	Special purpose zone (cultural heritage)	General use zones
Customary				
Customary activities (e.g. hunting and fishing)	Yes [a]	Yes [a]	Yes [a]	Yes [a]
Commercial				
Commercial gillnet fishing	No	No	Yes	Yes
Commercial prawn trawl fishing	No	No	Yes [b]	Yes [b]
Commercial fishing (other than gillnet and prawn trawl)	No	Yes	Yes	Yes
Pearling and associated activities	No	Assess	Yes	Yes
Aquaculture	No	Assess	Assess	Yes
Scenic flights (charter)	Yes	Yes	Yes	Yes
Ground-disturbing mineral and petroleum exploration and development [c]	No	Assess	No	Assess
Non-ground-disturbing geophysical surveys [d]	Assess	Assess	Assess	Assess
Ship loading and other mining related infrastructure (e.g. ship loading docks, cabling or pipelines)	No	Assess	No	Assess
General marine infrastructure (e.g. groynes or jetties)	No	Assess	Assess	Assess
Artificial structures (e.g. artificial reefs)	No	Assess	Assess	Assess
Dredging and dredge spoil dumping	No	Assess [e]	Assess [e]	Assess [e]
Charter tour operators – fishing	No	Yes	Yes	Yes
Charter tour operators – non-extractive (e.g. wildlife viewing)	Yes	Yes	Yes	Yes
Wildlife/fish feeding [f]	No	No	No	No
Recreational				
Boating (motorised and non-motorised)	Yes	Yes	Yes	Yes
Nature appreciation and wildlife viewing	Yes	Yes	Yes	Yes
Shore and boat fishing	No	Yes [h]	Yes	Yes
Other use				
Vessel transit [g]	Yes	Yes	Yes	Yes
Navigation aids	Yes	Yes	Yes	Yes
Research and monitoring	Yes	Yes	Yes	Yes
Anchoring (soft bottom only)	Yes	Yes	Yes	Yes
Seaplane, helicopter and remotely piloted aircraft (drone) launching and landing [i]	Assess	Assess	Assess	Yes
Vessel sewage discharge and de-ballasting	No	Yes [j]	Yes [j]	Yes [j]

Permitted activities provisions

[a] Customary take is confined to traditional owners, subject to the rights and interests provided by the Native Title Act and/or Indigenous Land Use Agreements (ILUAs), or where traditional owners have provided consent to another Aboriginal person or group.

[b] Prawn trawling is restricted in some areas through permanent inshore closures managed by the Department of Fisheries (DoF).
The York Sound closure, Admiralty Gulf closure & Napier Broome Bay closure restricts prawn trawling within the park (Fletcher, 2014).

[c] Ground-disturbing mineral and petroleum exploration and development activities include any activity that disturbs the seabed and/or subsoil within the marine park (e.g. drilling).

[d] Geophysical surveys such as aeromagnetics will be assessed by the Department of Mines and Petroleum (DMP).

[e] Activities permitted if activity is shown to be compatible with the specified purpose of the zone. Only small scale dredging for the purpose of public access and safety will be considered.

[f] Commercial operators seeking to conduct wildlife or fish feeding activities will require lawful authority under their commercial operator's licence provided by Parks and Wildlife and will need to comply with regulations under the *Fish Resources Management Act 1994* (FRM Act).

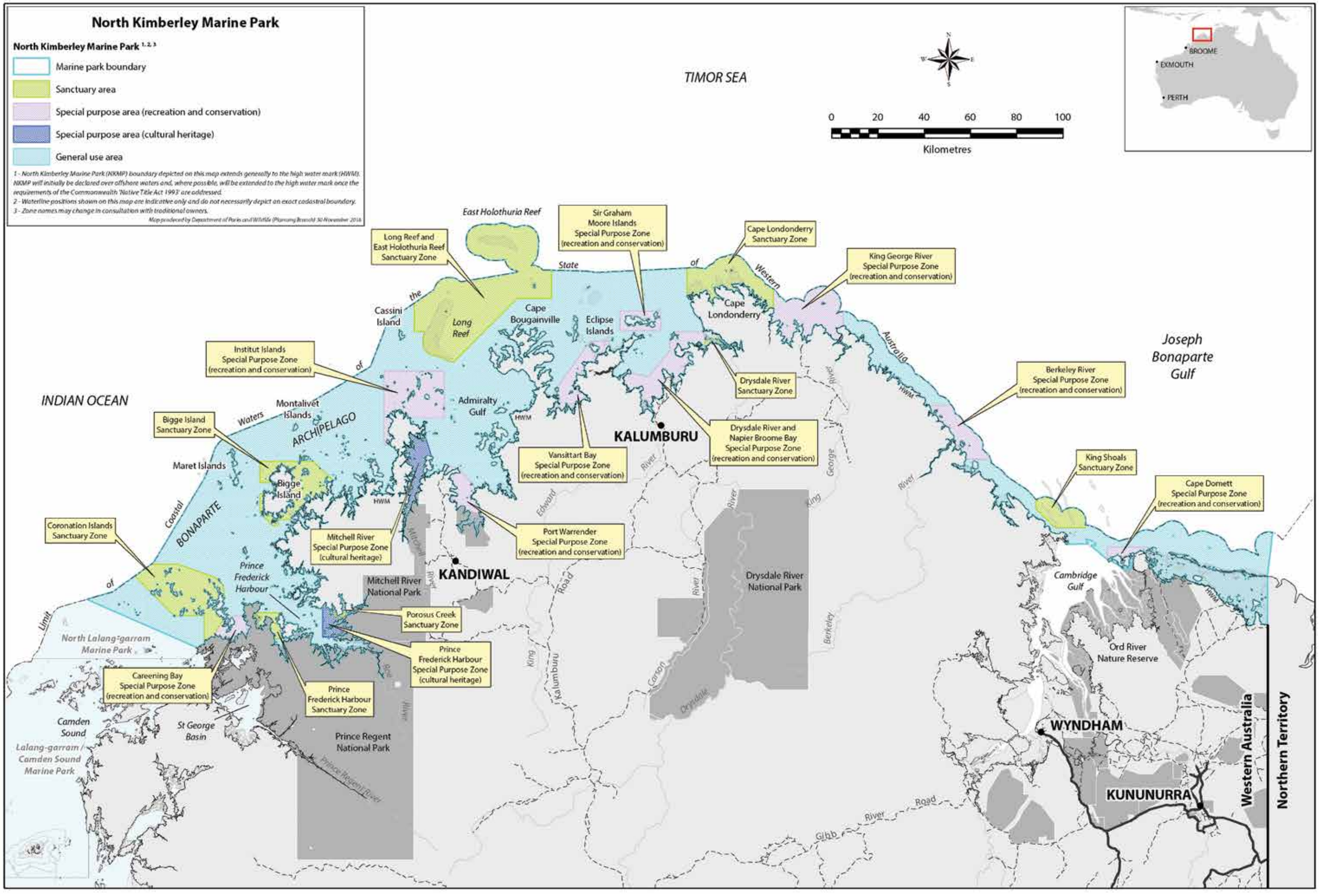
[g] No restrictions will be placed on commercial vessel transit to, from or within Cambridge Gulf.

[h] A bag limit of one fish per day applies in Drysdale River.

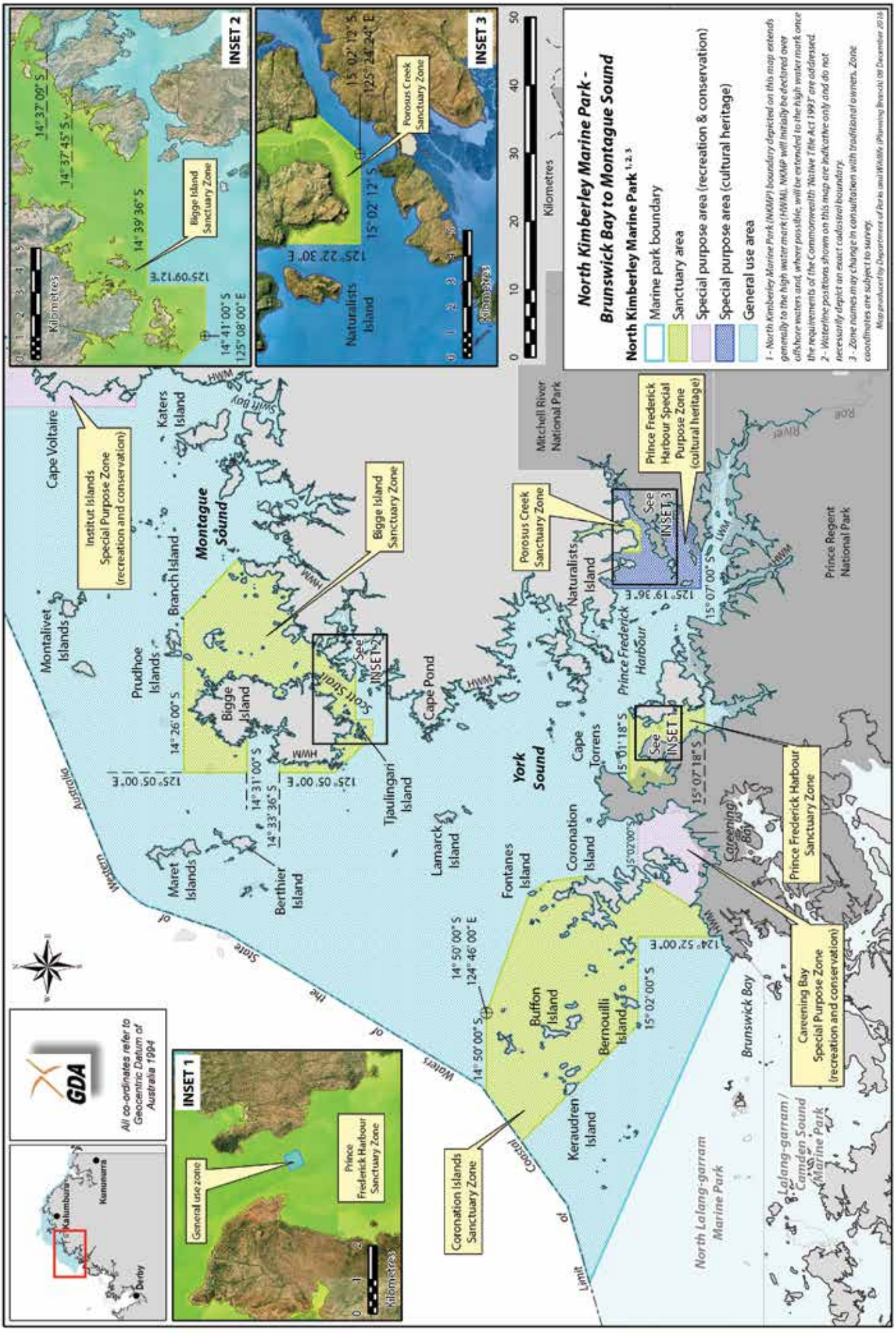
[i] Lawful authority must be obtained to launch, land or make a touchdown in an aircraft on CALM Act lands and waters.

[j] Impacts will be monitored and managed in accordance with applicable legislation such as the *Biosecurity Act 2015* and Biosecurity Regulations 2016.

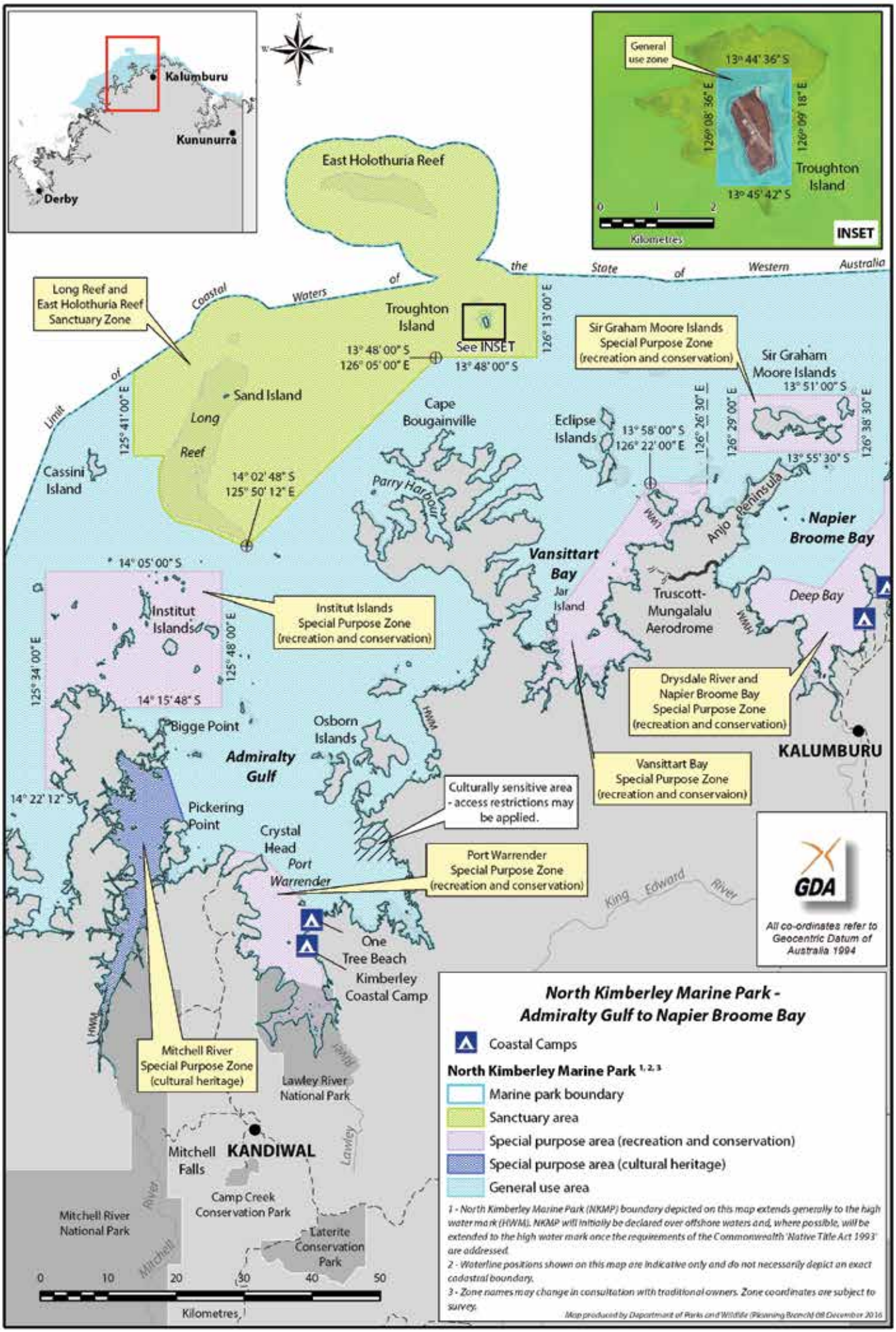
Map 7 Management zoning for the North Kimberley Marine Park



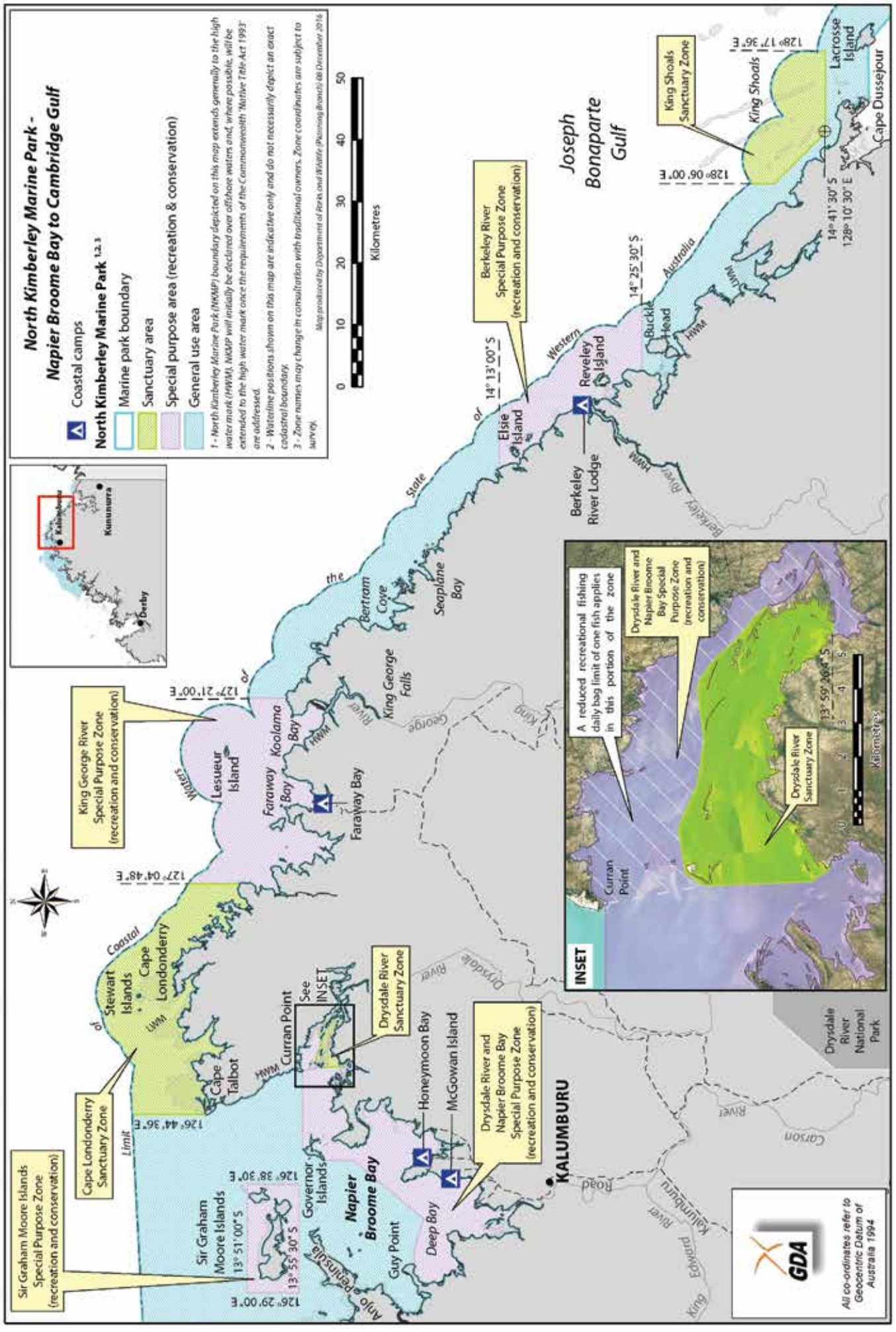
Map 8 Boundary and management zoning for the North Kimberley Marine Park – south-west



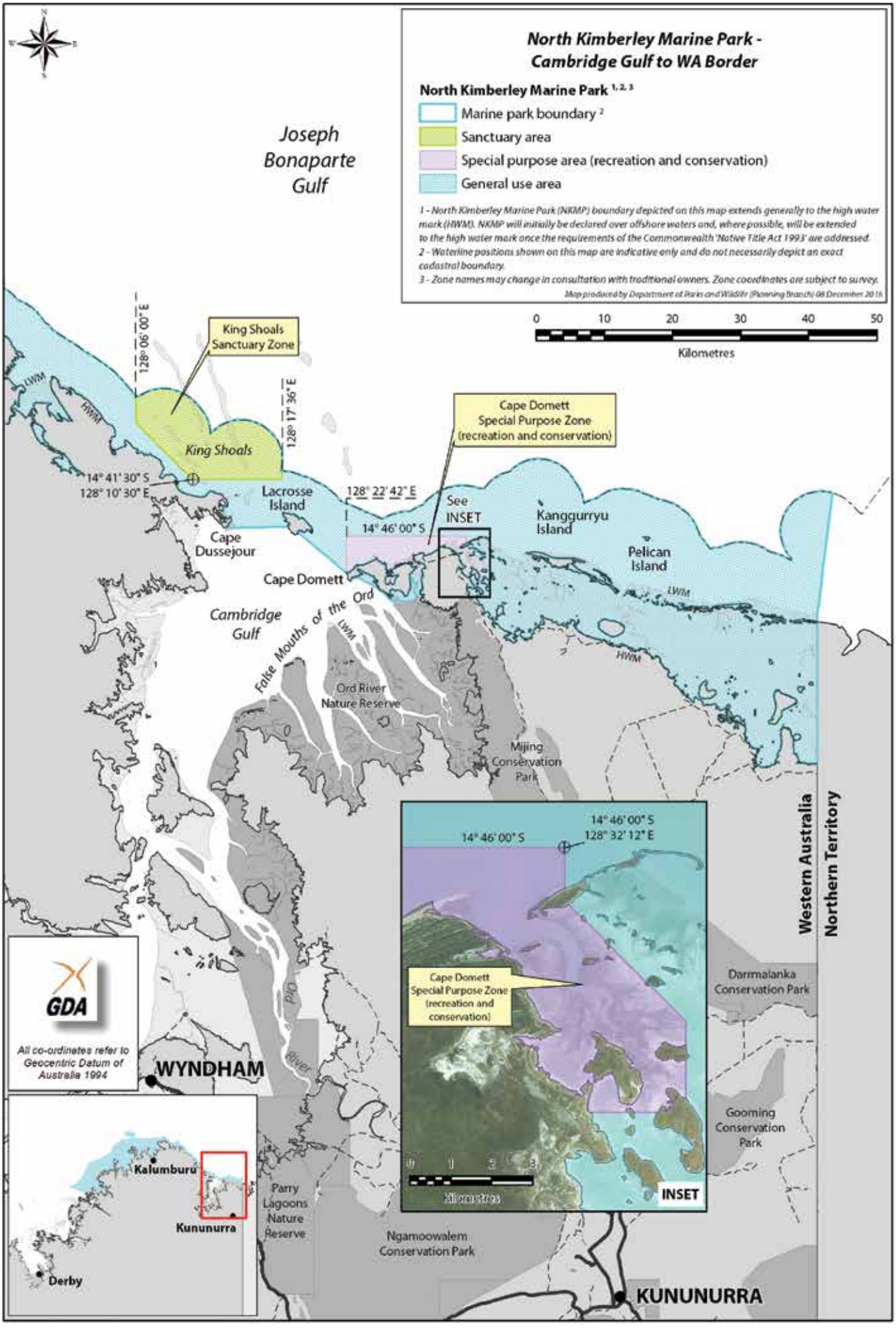
Map 9 Boundary and management zoning for the North Kimberley Marine Park – north-west



Map 10 Boundary and management zoning for the North Kimberley Marine Park – north-east



Map 11 Boundary and management zoning for the North Kimberley Marine Park – south-east



7. Monitoring, evaluation and reporting

Progress towards achieving the objectives and targets is demonstrated by regular monitoring, evaluation and reporting to investigate the effectiveness of management strategies and identify opportunities for improvement. Monitoring refers to ongoing and systematic collection of routine quantitative data and qualitative information. Evaluation and reporting refers to collating and communicating this information to systematically investigate the effectiveness of management activities. Adaptive management is the subsequent revision of management strategies based on the monitoring information and its evaluation.

7.1 Monitoring

The marine park offers excellent opportunities for ecological, anthropological and archaeological research. Cultural understanding and scientific knowledge of values are required to ensure the marine park is effectively managed. Long term monitoring of the condition of the marine environment and the pressures that impact that condition is also essential to evaluate management effectiveness and inform an adaptive management approach. Parks and Wildlife is progressively implementing the Western Australian Marine Monitoring Program (WAMMP), a systematic marine monitoring program in the State's marine parks and reserves to improve understanding of management effectiveness, and to inform future research, monitoring and decision making.

Monitoring will focus on determining trends in key ecological, cultural and social values within a 'condition-pressure-management response' framework that measures the 'health' of values against defined management targets. Where required, interim management targets will be developed or further refined to reflect meaningful short-term steps in achieving the longer term management targets and reserve objectives.

The delivery of the monitoring program will be undertaken by Parks and Wildlife in collaboration with joint management partners, Aboriginal ranger groups, DoF for fisheries related aspects, and through external providers such as the North Australian Indigenous Land and Sea Management Alliance, CSIRO, Australian Institute of Marine Science, universities and community groups where appropriate. Chapter 6 (Management) details the performance indicators for cultural, ecological and social values.

Miriuwung Gajerrong traditional owners monitoring turtle nests. Photo – Corrine Severin

The Parks and Wildlife Visitor Monitoring Program collects information about visitor use and visitor feedback that is used to assess visitor needs and expectations, as well as satisfaction with recreation and tourism facilities and services provided by Parks and Wildlife.

The annual visitor survey provides feedback from visitors about the main purpose of their visit, the activities undertaken during the visit and their overall level of satisfaction during their visit. The survey also provides feedback from visitors about important management issues within these areas. The information collected aids in the planning and management of these recreation areas for issues such as site planning and design, visitor communications, business and marketing plans and performance evaluation.

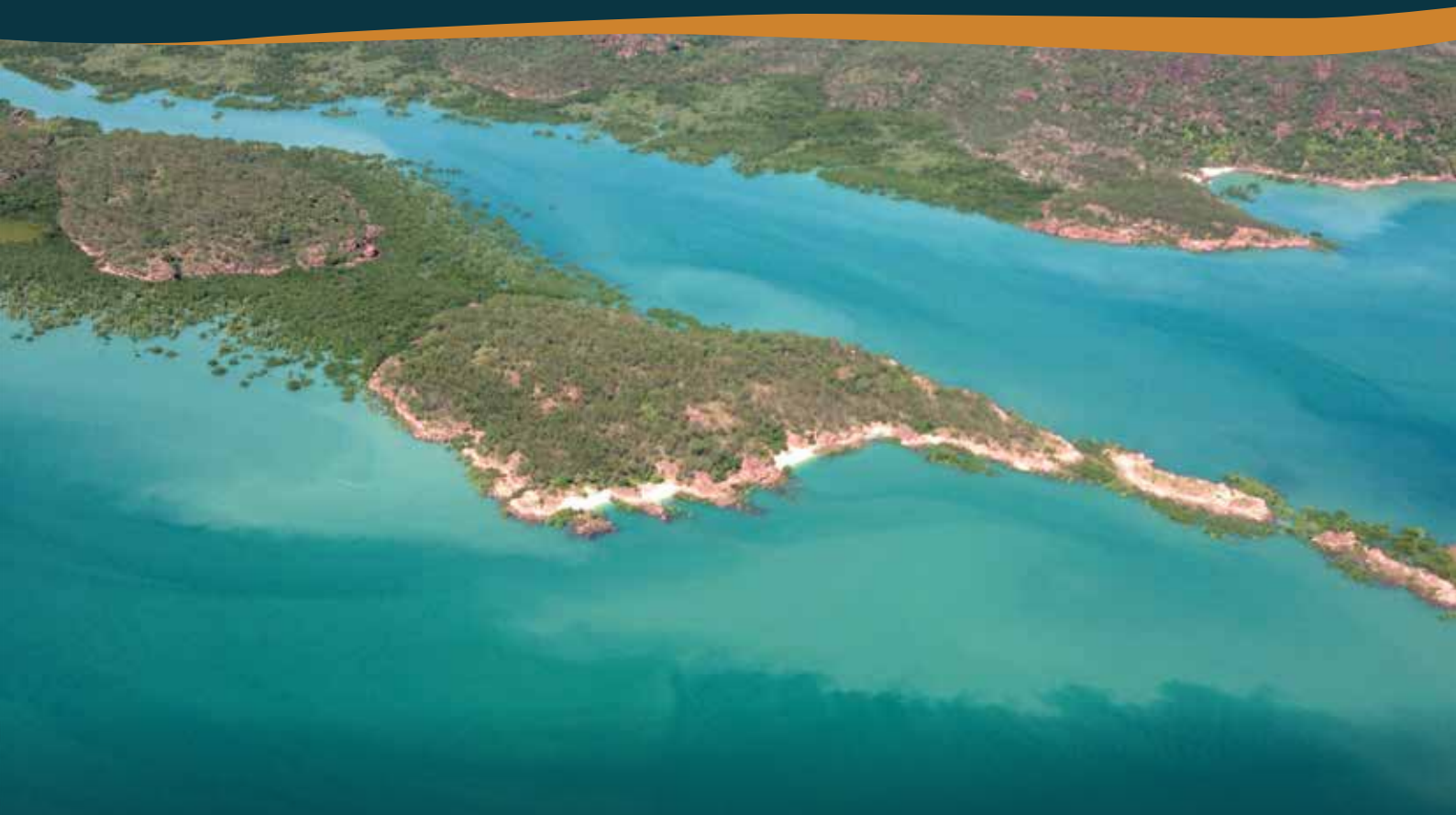
7.2 Evaluation and reporting

The management strategies outlined in the management plan will be implemented primarily through the annual works programs of Parks and Wildlife's East Kimberley District, Marine Science Program and other specialist branches in collaboration with joint management partners. The East Kimberley District will prepare an annual review of the implementation of the management plan for consideration by the JMBs and the Commission, which will oversee the management of the marine park. Key parts of the annual review will include:

- progress in implementing management plan strategies
- assessment of value condition, the pressures acting on values, management response and management effectiveness
- identifying issues affecting implementation
- resource allocation.

The Commission is the statutory body responsible for periodic assessment of this joint management plan. The Commission will measure the success of this plan in accordance with section 19(1)(g)(iii) of the CALM Act. The JMBs, Aboriginal Corporations (WGAC, BAC, MG Corporation and Wilinggin Aboriginal Corporation) and Parks and Wildlife will provide information from monitoring and other operational programs to the Commission to enable an assessment of the plan's implementation. Monitoring by the Commission will also be informed by healthy country assessments under the healthy country plans. This outcome-based approach provides a robust framework to support adaptive marine park management.

Balanggarra traditional owners, Parks and Wildlife planners and scientists in the King George River Special Purpose Zone.
Photo – Chris Nutt/Parks and Wildlife



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Three tern species on Sterna Island. Photo – Holger Woyt/Parks and Wildlife

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