Yawuru Minyirr Buru Conservation Park

Joint management plan 2018

Version 10

Shire of Broome
people • place • prosperity

Department of Biodiversity, Conservation and Attractions
GOVERNMENT OF WESTERN AUSTRALIA

PARKS AND WILDLIFE SERVICE

YAWURU

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Joint Management Plan for the Yawuru Minyirr Buru Conservation Park

Version 10 – 20 March 2018

In Confidence. Not for Distribution.

A Management Partnership between the

Yawuru Registered Native Title Body Corporate

and the

Shire Of Broome

Version Control

Date	Year	Version	Comments
6-10 February	2012	Development	First Broome visit- workshops, field trip and meetings with Yawuru/ Shire/ DBCA.
26-30 March	2012	Development	Second Broome visit- workshops, field trips and meetings with Yawuru/ Shire/ DBCA
10 April	2012	Development	First draft of: a) enjoyment of country and customary practice; b) commercial tourism; c) fire; and d) drainage circulated to Yawuru/ Shire/ DBCA through Yawuru Park Council working group.
16-20 April	2012	Development	Third Broome visit. Workshops, field trips and meetings with Yawuru/ Shire/ DBCS.
26 April	2012	1	First draft circulated to Yawuru, Shire and DBCA through Yawuru Park Council Working Group
10 May	2012	1 A	Amendments from discussions with Yawuru and Sarah Yu.
24 May	2012	1 B	Amendments following DBCA review.
8 June	2012	2	Second draft circulated to Yawuru, Shire and DBCA through Yawuru Park Council Working Group.
12 June	2012		Workshop/ handover of draft scheduled for Yawuru/ Shire cancelled (to be rescheduled for August TBC).
19 July	2012	2 a	Update to document control section and removal of some incorrect referencing. Circulated to Yawuru/ Shire/ DBCA through Yawuru Park Council working group.
9 October	2012		Workshop/ presentation to Yawuru Board, Shire of Broome Councillors and staff.
13 March	2013		Received CCS strategic report from Shire of Broome for tabling at next YPC meeting.
15 May 2013	2013		Shire of Broome confirmed that the CCS strategic document is the position of the Shire (excluding the recommended next stages).
July	2013	3	Updated to align with CCS Strategic information and updated Out of Town / Marine and Intertidal plans.
20 March	2014	4	Update of V3 framework as developed by YPCWG (19 March 2014).
April	2014	5	Update as requested by YPC meeting (7 April 2014).
11 December	2014	6	Senior Officer Group (SoG) to confirm Version Control to progress plan from 12 December 2014.
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July	2016	7.1	Incorporation of comments from stakeholder group ahead of endorsement.
July	2016	8	Updated draft based on ongoing discussions with stakeholder group.

Date	Year	Version	Comments
19 July	2016	8.1	Minor edits ahead of Yawuru Board and Shire of Broome Council meetings
July	2017	9	Suggested changes based on comments received during the community consultation process (11 May – 23 June)
02 November	2017	9.1	Incorporation of changes suggested during community consultation process, addition of maps, photos and other figures
13 November	2017	9.2	Additional photographs
20 March	2018	10	Final, minor edits
Please note all Versions were progressed via the Yawuru Park Council Working Group (YPCWG). Representatives include Yawuru RNTBC, Shire of Broome and Parks and Wildlife.			

The Yawuru Minyirr Buru Conservation Park Joint Managers Senior Officer Group (SOG) comprising the Yawuru NBY General Manager, the SoB CEO and the West Kimberley Manager of the Department of Biodiversity, Conservation and Attractions declare that this is the correct version for the Joint Management Partners to progress and finalise.

Peter Yu Chief Executive Officer **Yawuru Nyamba Yawuru Pty Ltd** *Signature of* *General Manager*	Sam Mastrolembo Chief Executive Officer **Shire of Broome** *Signature of* *Chief Executive Officer*	Craig Olejnik West Kimberley Manager **Department of Biodiversity, Conservation and Attractions** *Signature of* *West Kimberley Manager*
▶ Date		

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Summary

The Yawuru Minyirr Buru Conservation Park incorporates a number of small coastal and inland reserves within the Broome Town site.

These reserves are one important component of the Yawuru Conservation Estate which comprises intertidal, sub-tidal and adjacent terrestrial reserves in and around Broome and Roebuck Bay. While the land subject to this management plan is referred to as the Yawuru Minyirr Buru Conservation Park, the land is not a Conservation Park as defined in, or for the purposes of, the *Conservation and Land Management Act 1984* (WA).

The Minyirr Buru Conservation Park (Park) incorporates areas which are a living cultural landscape the Yawuru people value, use for customary practice and have a responsibility to manage. The responsibility for management of Country is of fundamental importance for the Yawuru people. The location of the reserves comprising the Park makes them of great significance for the local Broome community and visitors to Broome. In recognition of the importance to Yawuru and the Broome community, these reserves will be jointly 'owned' and managed by the Yawuru and the Shire of Broome.

With a population of approximately 15,000, and which rises to 35,000 – 40,000 or more in the high season (July – September), the coastal sites are heavily used for boat launching, swimming, fishing, sporting, sightseeing and other visitor and recreational activities. These areas are valued by the local community and contribute to the Broome lifestyle. The Park encompasses sites that are major attractions for visitors to Broome such as Cable Beach, Gantheaume Point and Minyirr Park which must be maintained to support the local tourism industry.

The close proximity of the reserves to an increasing resident population and a strong tourism industry will place increasing pressure on these sites from local people and visitors. Past use had an impact on these sites and careful and increased management is required to ensure the cultural, environmental, recreational and aesthetic values are maintained and managed for the future.

The reserves are adjacent to the Port of Broome. The Port is the only all tide port in the Kimberley and its ongoing operations and growth are essential to the local and regional economy as well as the future infrastructure capacity of the Kimberley.

This Management Plan has been prepared by Yawuru, the Shire of Broome and the Department of Biodiversity, Conservation and Attractions (DBCA; the Department) and outlines a range of proposed management actions for the next ten years to ensure these important areas are managed sustainably and for the use and benefit of Yawuru people, the broader Broome community and visitors to Broome.

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1.0 Yawuru Minyirr Buru Conservation Park Management Context

This Management Plan (Plan) describes the proposed management arrangements for the Yawuru Minyirr Buru Conservation Park (Park), one part of the Yawuru Conservation Estate recently established in and around Broome, Western Australia (Figure 1).

This plan is one of a suite of management plans that will apply to the Yawuru Conservation Estate (Figure 5). The Yawuru Conservation Estate will be managed by the Yawuru Registered Native Title Body Corporate (YRNTBC) in partnership with a number of joint management partners. The entire Yawuru Buru Conservation Estate will be jointly managed, although the management parties and arrangements vary across the conservation estate.

This plan has been prepared in accordance with the Indigenous Land Use Agreements (ILUA) (2010). The Park includes a number of A-class reserves that will be jointly managed by the Yawuru RNTBC and the Shire of Broome (Shire).

The joint management principles for the Yawuru Minyirr Buru Conservation Park as documented in the ILUA are:

i. preservation and promotion of Aboriginal cultural and heritage values of the Conservation Estate

ii. preservation and promotion of the natural and environmental values

iii. preservation and promotion of archaeological values

iv. provision of recreational facilities and facilitation of recreational activities, particularly in the Townsite area

v. regulation of public access to the freehold areas, Intertidal Reserves and Marine Park areas of the Conservation Estate

vi. access to and use of the land by Yawuru people in accordance with their cultural and other objectives

vii. access to, and occupation and use of, the Conservation Estate by the Yawuru people for purposes consistent with Yawuru culture and tradition, and to preserve and sustain native title rights and interests recognised in the Determination

viii. employment, service provision and training opportunities for the Yawuru people in the administration, management and control of the Conservation Estate

ix. commercial and economic opportunities are made available to the Yawuru community and the Yawuru RNTBC in preference to any other applicant, subject to activities being consistent with the management of the Conservation Estate

x. implementation, monitoring, assessment and audit of the effectiveness of the Management Plan

xi. provision, construction, repair, maintenance and replacement of buildings and infrastructure in the Coastal Park for any of the foregoing purposes, Yawuru people and the Yawuru corporations.

The Plan sets out the values within the Park, the threats, pressures and the associated management strategies. Different parts of the Yawuru Conservation Estate are subject to differing tenure and management arrangements, but the values of the terrestrial and marine areas are intrinsically linked to the values in this Plan. Planning and management will be integrated, complementary and as seamless as possible across the various components of the Conservation Estate.

Some Yawuru names (e.g. for places, plants and animals) are used throughout this Plan in italicised text. Map 3 shows some place names referred to in this Plan, and Yawuru names for places have been included as well as official names. The Yawuru place names are, however, not official or formally recognised. Note that Yawuru language can be spelt in alternative ways. A glossary of Yawuru language names used in this plan is provided in Section 5.0.

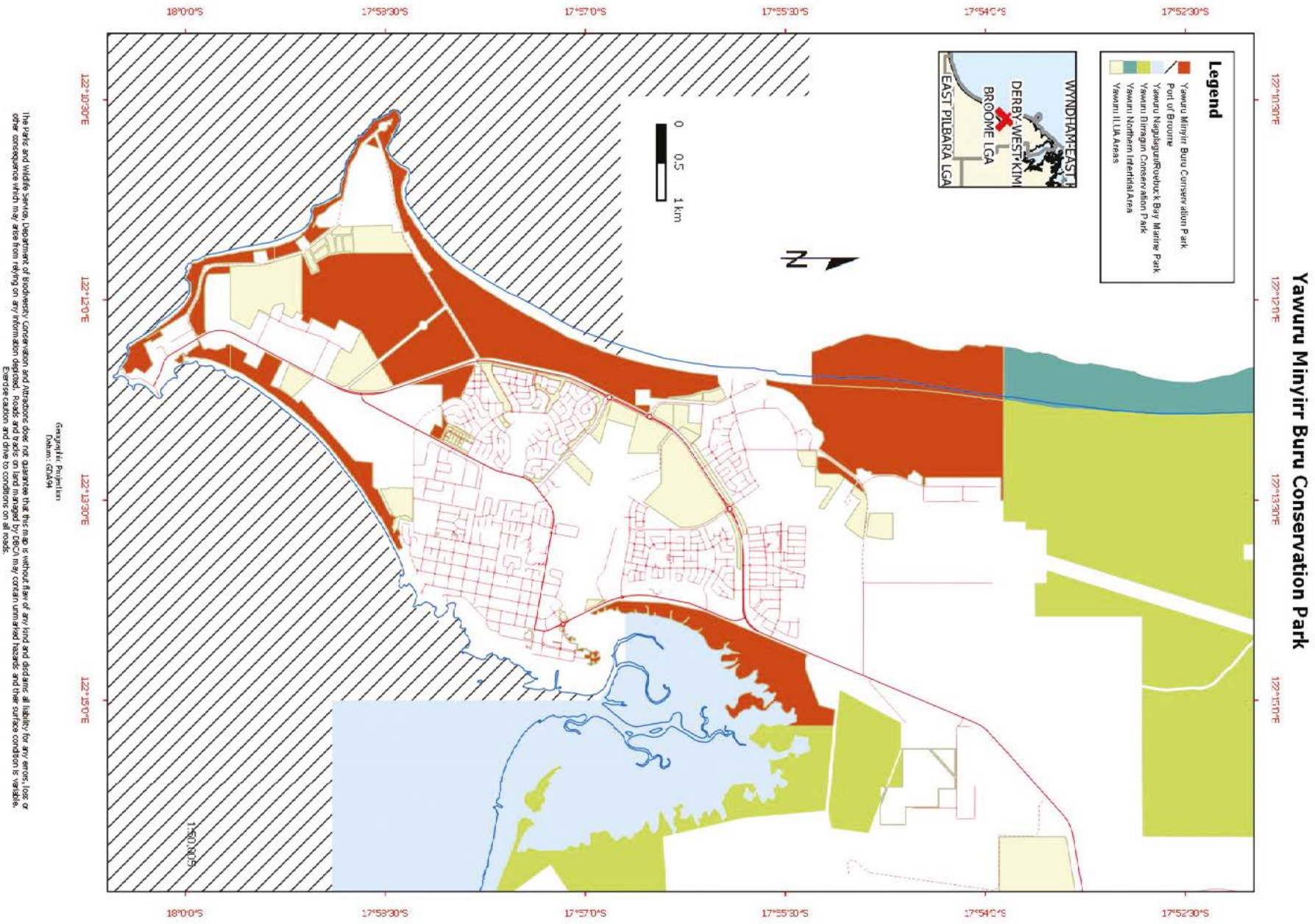

Yawuru Minyirr Buru Conservation Park
Legend
Yawuru Minyirr Buru Conservation Park
Port of Broome
Yawuru Nagulagun/Roebuck Bay Marine Park
Yawuru Buramagin Conservation Park
Yawuru Northern Intertidal Area
Yawuru ILUA Areas
WYNDHAM-EAST KIM
DERBY-WEST KIM
BROOME LGA
EAST PILBARA LGA
0 0.5 1 km
N
1:50,000
18°0'0"S
17°58'30"S
17°57'0"S
17°55'30"S
17°54'0"S
17°52'30"S
122°10'30"E
122°12'0"E
122°13'30"E
122°15'0"E
Geographic Projection
Datum: GDA94
The Parks and Wildlife Service, Department of Biodiversity, Conservation and Attractions does not guarantee that this map is without flaw of any kind and disclaims all liability for any errors, loss or other consequence which may arise from relying on any information depicted. Roads and tracks on land managed by DBCA may contain unmarked hazards and their surface condition is variable. Exercise caution and drive to conditions on all roads.

Figure 1

1.1 Yawuru buru, Yawuru ngarrungunil – Yawuru Country, Yawuru People

For thousands of years Yawuru people have lived along the foreshores of Roebuck Bay, across the pindan plains, as far inland as the Walan-garr (Edgar Ranges) and along the fringes of the Great Sandy Desert.

Yawuru country is land and sea moulded by the cycle of seasonal change. It is a living cultural landscape with which Yawuru people have a dynamic and enduring relationship. In Yawuru law, everything comes from *Bugarrigarra*, the time when creative beings traversed the country, naming the landscape, defining the languages and setting down rules and customs. Created and given form by *Bugarrigarra*, country is the source of spirit, culture, language, and is where spirits return on death. From *Bugarrigarra* Yawuru people have responsibility to look after the country and to ensure that their traditions are passed on to future generations. Every time Yawuru people go out on country, hunting and fishing, they live culture – these activities are an expression of culture and enable Yawuru people to reconnect with country, spirit places, ancestors and *Bugarrigarra* (Yawuru Registered Native Title Body Corporate (RNTBC), 2011).

The relationship of Yawuru people to country is at the heart of their cultural responsibilities. This is expressed through *liyan* (well-being), *which* comes from Yawuru people's connection to country, ancestors and Yawuru way of life. It reflects a sense of belonging to Yawuru society, and represents the feeling people hold, individually and collectively, particularly when Yawuru people are on country.

Mabu (good) *liyan* expresses Yawuru people's emotional strength, dignity and pride. The guiding principle for good management of Yawuru country is that Yawuru people have to maintain good, clear *liyan* with the country within the modern, ever-changing world. To ensure Yawuru people can keep *mabu liyan* they have to:

- visit country
- respect ancestors
- continue cultural traditions
- respect *Bugarrigarra*
- look after all the plants, animals and other resources that are part of country
- maintain and protect sacred places
- foster a relationship with country
- assume cultural responsibility as individuals and collectively for the future use and development of Yawuru country, and
- achieve balance between keeping things as they are and developing the country.

Yawuru people want to generate an understanding in the wider community of how Yawuru people feel about and relate to country, with respect for *Bugarrigarra* and cultural traditions and practices (Yawuru RNTBC, 2011).

For countless generations Yawuru people managed country in a sustainable way, relying on their intimate knowledge of the natural environment, and applying customary law and practices passed down from ancestors. As Yawuru people have always done, this knowledge is passed onto their children when they go hunting, fishing, gathering and camping. Understanding the subtle changes in country and following the seasons is part of Yawuru cultural heritage and provides Yawuru people with a guide to where and how to harvest and look after the resources of country. As Yawuru activities change in response to the annual cycle of the seasons, Yawuru people believe their way of living has minimal impact on the environment. They want to use this knowledge to guide and inform successful conservation and management of Yawuru land and sea (Yawuru RNTBC, 2011).

In recent times, Broome has undergone massive transformation as population, infrastructure, housing and industry have expanded. Yawuru people, the native title holders of their country, are well aware of the many challenges and opportunities such changes present for managing country and, in partnership with others, are well placed to meet them.

"Liyan is about relationships—with country, family, community. It is what gives meaning to people's lives. Yawuru people's connection to country and joy of celebrating our culture and society is fundamental to having good liyan."

Patrick Dodson

1.2 The Broome Community

Located at the southern gateway to the Kimberley, Broome has an extraordinary beauty, a unique cultural and natural history and is a favourite holiday destination for visitors from Australia and the world.

The Shire of Broome has a resident population of approximately 15,000 and more than 35,000 – 40,000 visitors annually. Broome's major industries include cattle, pearling trade, tourism, fishing, aquaculture, agriculture, horticulture, mining and exploration, community and cultural arts. The Broome Peninsula provides the township of Broome with a coastal frontage in almost every direction.

Broome has a rich multicultural history, including Aboriginal people from across the Kimberley along with European explorers, and Malaccan (Malay), Arabian, Chinese and Indonesian fishermen. Contact with other cultures is believed to date back as far as the 1500s and Dutchman, Dirk Hartog, is credited with the first known European contact in 1616. Abel Tasman passed by in 1644.

The first Europeans known to have set foot in this region were from William Dampier's ship *Roebuck*, when he came ashore in La Grange Bay in search of water in 1700. Dampier had visited the coast on an earlier voyage in 1688, when he careened the *Cygnet* in King Sound. Other visitors included the French explorer, Nicholas Baudin, who charted the coast in the *Geographe* and *Naturaliste* during his exploratory journey of 1801-1804, and the sailors from the *Beagle,* which lost an anchor while in Roebuck Bay in 1838 and were the first Europeans recorded as setting foot on the mangrove beaches of the Bay.

On 21 November 1883, when the town site of Broome was gazetted, the settlement at Roebuck Bay consisted of a few pearling camps along the foreshore near Dampier Creek. The camps were occupied by the Malay crews of the pearling luggers and by the European owners of small pearling boats. The first surveyed town lots formed an inverted L-shape along the peninsula and along the west-northwest alignment of the inland track, the latter giving Napier Terrace its characteristic bend. Lots 10, 12 and 13 were adjacent to the landing at the bottom of Napier Terrace and were gazetted as unnumbered reserves.

With the introduction of hard-hat diving technology, Chinese, Filipinos, Malays, Koepangers, and Japanese were recruited as divers and boat crew and Chinatown was originally known as 'Japtown' because of the large number of Japanese divers resident there, with former becoming more popular after World War 2. Many of the businesses in the area were run by Chinese, who were also cooks, gardeners and tailors.

Broome evolved as a segregated town, with wealthy pearlers and Europeans living at one end in elegant bungalows surrounded by tropical gardens and tended by mostly Aboriginal servants. At the other end was Chinatown where the Asian and 'coloured' populations lived and played, and where much of the commercial and business activities took place. The pearling masters were distinguished by their white suits, an anachronism in a town of red dirt and bore water. With the proximity of rich pearl shell beds in Roebuck Bay and 80 Mile Beach, Broome soon became known as the pearling capital of the world.

Broome's pearling workforce was halved in 1914 with the commencement of World War 1 as men enlisted and European markets for mother-of-pearl collapsed. War returned to Broome in 1941 when the Japanese attacked Pearl Harbour and Japanese residents of Broome were interned in camps. In March 1942, Japanese Zeros bombed aircraft in Roebuck Bay and at the aerodrome, destroying 16 Flying Boat planes. Over time, Broome recovered and the pearling industry evolved into a new market in cultured pearls in the 1950s, changing the way pearl shell was harvested as smaller live shell were collected for the pearl farms. These changes remain today.

Broome also developed as the administrative and service centre for the region. Oil exploration within the Kimberley region and offshore was headquartered at Broome, and a new deep water port and jetty were opened at Entrance Point in 1966 to cater to the growing beef export industry and larger ships. Air services expanded, a new meatworks was built in the town and Shire offices replaced the old Roads Board office in 1968. Improved services such as refrigeration and air-conditioning were available, and a new supply of fresh water, and modern sewerage and electricity facilities were installed.

Since the 1970s, tourism has expanded with increased flights to and from the town, along with improved roads making Broome more accessible. The growth of the tourism and other industries has brought great changes to the town, extending it westwards to Cable Beach as the population has expanded. Growth in population and general wealth have meant the expansion of facilities and services for residents, seen in the areas of administration, health, education, recreation, capital works, and specialist services, particularly noticeable in the area of services for the Aboriginal communities.

1.3 Native Title Determination and Indigenous Land Use Agreements

With the High Court decision in Mabo and Wik the Commonwealth Government introduced the *Native Title Act 1993* (Cwlth) (Native Title Act).

Subsequently, the Yawuru people began a 12-year journey to seek recognition of their native title rights through the Federal Court of Australia and negotiations with the State Government. On 28 April 2006, the Federal Court determined that the Yawuru people are the recognised native title holders of the lands and waters in and around Broome.

In February 2010, the Yawuru RNTBC, the Government of Western Australia, the Shire and other relevant parties signed two ILUAs – the *Yawuru Prescribed Body Corporate Indigenous Land Use Agreement* and the *Yawuru Area Agreement Indigenous Land Use Agreement* (National Native Title Tribunal 2010a, 2010b). An ILUA is an agreement under the Native Title Act between a native title group and others about the use and management of land and waters. These ILUAs resolved compensation issues and clarified that native title continued to exist for the Yawuru people. The ILUAs provide for the establishment and joint management of the Yawuru Conservation Estate.

More information on native title, the Yawuru people's journey for native title determination and the ILUAs can be found on the website for the National Native Title Tribunal (National Native Title Tribunal 2010c), on the Yawuru website (www.yawuru.com) and in the *Yawuru Cultural Management Plan*.

1.4 Holistic Management Across Yawuru Conservation Estate

While this Plan is proposed as one of a suite of joint management plans that will apply to the Yawuru Conservation Estate, the cultural, ecological, social and economic values of the Yawuru terrestrial and marine conservation reserves are implicitly linked.

As such, a well-integrated management approach capable of protecting and managing the values in a culturally appropriate manner across the Yawuru Conservation Estate is required. Management objectives, strategies, performance measures and targets identified in this Plan will complement those for the other Yawuru Conservation Estate management plans.

The various components of the Yawuru Conservation Estate are subject to varying tenure arrangements and therefore a suite of management plans (Figure 2) will apply to Yawuru Conservation Estate:

- Yawuru Minyirr Buru Conservation Park Management Plan (this Plan)
- Yawuru Birragun Conservation Park Management Plan
- Northern Intertidal Area Management Plan
- Yawuru Nagulagun/Roebuck Bay Marine Park Management Plan.

These plans are all informed by the *Yawuru Cultural Management Plan*.

"History hasn't always been kind to Yawuru people. We had no say when our land, our home, was taken from us and we were pushed towards the edges. But we stayed strong and true to our culture. We can now take our rightful place in the Broome community."

Gajai Frank Sebastian (Yawuru RNTBC 2011)

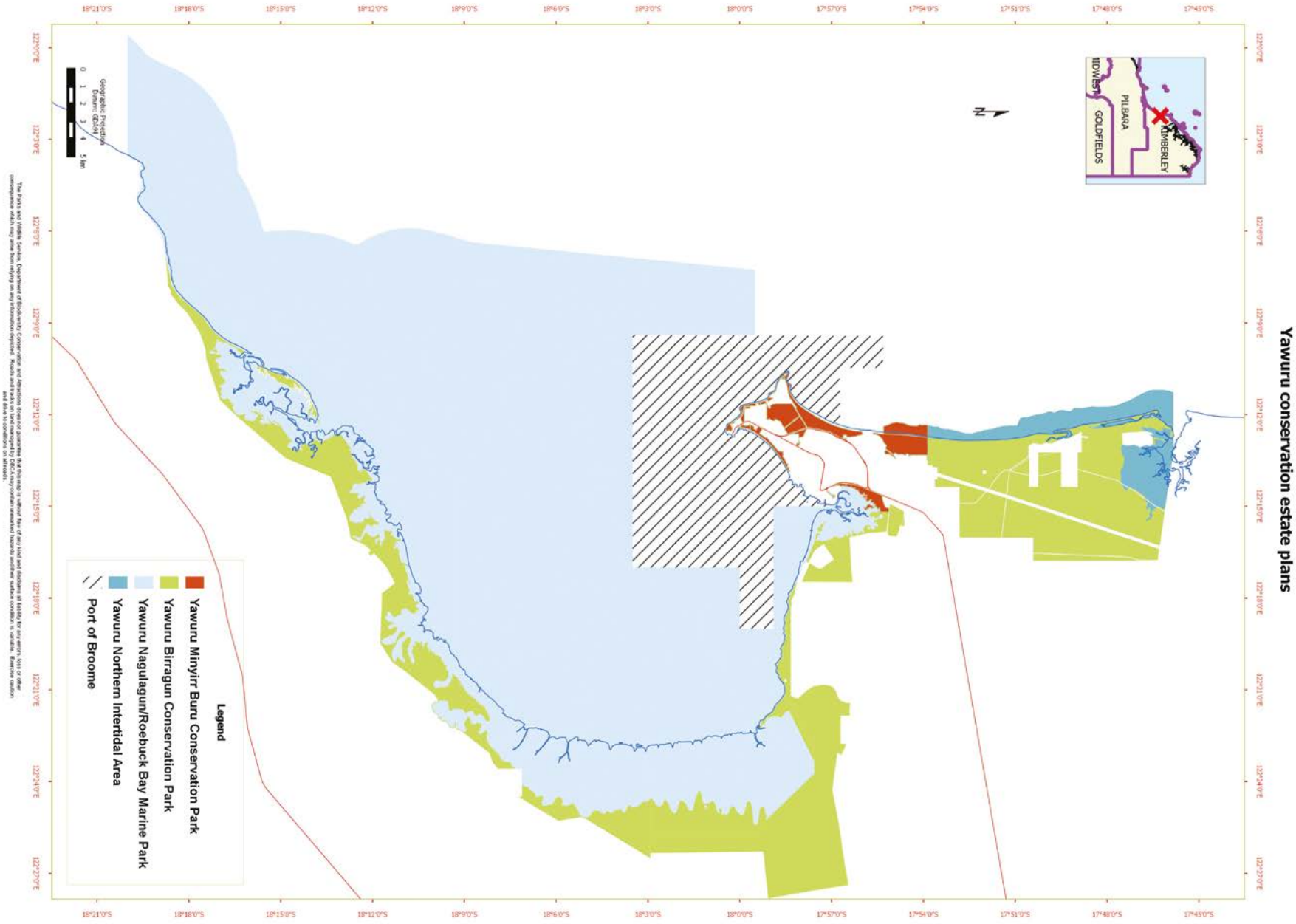


Figure 3: *Yawuru Cultural Management Plan*

1.5 Walyjala-jala buru jayida jarringgun buru nyamba Yawuru ngan-ga mirli mirli (Planning for the Future: Yawuru Cultural Management Plan)

The *Yawuru Cultural Management Plan* (Figure 3) was developed by the Yawuru RNTBC, as agreed in the ILUAs, to provide a foundation document to guide planning and management of the Yawuru Conservation Estate.

The plan addresses Yawuru customs, practices and customary law, and provides detail on Yawuru policies, visions and requirements to be taken into account during the development of management plans for the Yawuru Conservation Estate.

As a comprehensive articulation of the aspirations and responsibilities of the Yawuru native title holders, the *Yawuru Cultural Management Plan* is an authoritative information source for the various joint management partners and the wider community. The development of the *Yawuru Cultural Management Plan* involved all facets of the Yawuru organisational system and it will remain a key document for the joint management of the Yawuru Conservation Estate.

Figure 3: Yawuru Cultural Management Plan. The ***Yawuru Cultural Management Plan*** was a primary information source for many of the culturally based concepts and values outlined in the Plan. Copies of the ***Yawuru Cultural Management Plan*** may be obtained through Nyamba Buru Yawuru Ltd (contact details available at the end of this document).

1.6 Joint Management of Yawuru Minyirr Buru Conservation Park

In accordance with the ILUAs, the Park, comprises a number of reserves (Appendix 1), created in accordance with Section 42 of the *Land Administration Act 1997* (WA) (LA Act) to be managed for the purpose of 'conservation, recreation and traditional and customary Aboriginal use and enjoyment'.

The Minister for Lands shall place the Townsite areas for care, control and management jointly with Yawuru RNTBC and the Shire of Broome under Section 46 of the *Land Administration Act 1997* (WA), with assistance to be provided by the Executive Body as per the Assistance Agreement under Section 33 (I)(f) of the *Conservation and Land Management Act 1984* (WA) (CALM Act).

In placing the care, control and management of the Park with Yawuru and the Shire through the LA Act, the local government may, as stipulated by Section 3.54 of the Act, do anything for the purposes of controlling and managing the land that it could do under Section 5 of the *Parks and Reserves Act 1895* (WA). The management of the Park will be pursuant to the *Yawuru Cultural Management Plan* and this Plan, which has been prepared in accordance with Section 49 of the LA Act and the Joint Management Agreement (JMA).

The JMA, a sub-agreement of the ILUAs, describes various management arrangements for the Yawuru Conservation Estate including management principles, roles and responsibilities for each party, decision-making processes and administrative functions. In accordance with the JMA, the Yawuru Park Council (YPC) has been established to jointly administer the management of the conservation estate. The YPC comprises representative members from the Yawuru RNTBC, the Department and the Shire, with administration of the Conservation Estate having regard to the differing joint management arrangements and associated responsibilities. The YPC's role includes:

- preparation of management plans for the jointly managed conservation estate, ensuring these are consistent with the vision and policies set out in the Yawuru Cultural Management Plan
- strategic monitoring of implementation of the joint management plans
- assessment of the effectiveness of joint management of the Yawuru Conservation Estate.

This Plan has been developed through the collaboration of the Yawuru RNTBC and the Shire with the assistance of Parks and Wildlife, as per the Assistance Agreement in the ILUA under Section 33 (1)(f) of the CALM Act. It will guide management

of the Park for 10 years from the date of approval by Minister of Lands, until it is either replaced by a new plan, or as a result of a review initiated by either party.

Public Liability

Yawuru, the Shire and the Department acknowledge the indemnity provisions in Section 11.7 of the JMA and agree that each party is liable for its actions only and not the actions of the other parties in relation to the management of the Park.

Urgent Works

Both Yawuru and the Shire recognise the importance of protecting the Yawuru people's cultural values and culturally significant sites. However, both parties recognise and acknowledge that Shire employees may be required to undertake work in areas containing these values and/or sites in certain extenuating circumstances. Therefore, through this Plan the parties authorise Shire employees to enter such areas if required to conduct urgent works for public safety. The Shire undertakes that it will seek to contact Yawuru before these works have been undertaken to ensure there is understanding between the parties in relation to the need for and nature of the works undertaken, and to obtain advice on how the works are carried out.

1.7 Location and Tenure

The Park comprises twenty land parcels extending from the Dampier Creek Intertidal Zone, around the Broome Peninsula and north *Bilingurr* within the Broome town site boundary (Figure 4), and covers an area of 1384.6349 ha (Appendix 1); the Park includes land surrendered by the Kimberley Ports Authority.

The roles and responsibilities of the joint management partners and the YPC for the Park are described in Table 1 and Management Orders will necessitate the joint care, control and management by the Yawuru RNTBC and the Shire (Figure 4). The joint management parties may (by written agreement) add to, or subtract from the area of the Yawuru Conservation Estate. Opportunities may arise over the life of this plan to add areas of cultural or conservation value to the Yawuru Conservation Estate. These will be considered if, and as they arise.

Should land be added to the Park over the life of this plan, it will be managed consistently and in accordance with the Vision, Strategic Goals and Objectives of this Plan, until such time that more specific and detailed planning is done for the area when the Plan is reviewed.

The Assistance Agreement between the Yawuru RNTBC, the Shire and the Executive Body (Executive Director of the Department of Biodiversity, Conservation and Attractions) enables the Department to provide advice to and supply services to the Yawuru PBC and the Shire.

In addition to the Joint Managers, the Kimberley Ports Authority is a key stakeholder due to its proximity to Park lands. A formal mechanism for consultation with the Kimberley Ports Authority Park will be progressed by YPC members. The Port of Broome has played an important role in the development of Broome as the only all-tide port in the Kimberley; its ongoing operations and growth are essential to the local and regional economy.

Figure 4: *Joint management (Source: DBCA)*

Figure 5: *Yawuru Minyirr Buru Reserves*

Table 1: *Roles and Responsibilities*

Organisation	Roles and Responsibilities
Yawuru Park Council	Established under the Yawuru ILUAs, comprises representatives from the Yawuru RNTBC, the Department and the Shire. The role of the YPC is to administer the management of the Yawuru Conservation Estate including the development, implementation, monitoring and review of the management plans for the Conservation Estate. Further detail regarding the role of the YPC is in the JMA (Clause 9.2).
Yawuru RNTBC	• Native title holders for lands and waters in and around Broome and Roebuck Bay; • Member of the YPC; • The ongoing protection of the cultural values identified in the ***Yawuru Cultural Management Plan***; • Responsible jointly for the preparation of this Plan; and • Ongoing joint managers of the Yawuru Conservation Estate.
Shire of Broome	• Responsible for the local government area of Broome; • Member of the YPC; • Responsible jointly for the preparation of this Plan; • Powers and responsibilities to provide for the good governance of the district in accordance with the provisions of the ***Local Government Act 1995*** and its associated regulations, and other legislation; and • Responsible authority for the implementation and enforcement of Local Planning Scheme No. 6 in accordance with the ***Planning and Development Act 2005***.
Parks and Wildlife	Assisting in the development of this Plan and undertaking day-to-day management and implementation. The Department will provide the following support: • Day to day management of the Park in accordance with the management plan; • Provision of qualified rangers to undertake the day to day management of the Park in accordance with the Plan; • Training and supervision of trainee rangers appointed pursuant to the program; and • Administrative support for the day to day management of the Park.

2.0 Performance Assessment

Mechanisms to assess the implementation and effectiveness of management are important components of an adaptive management framework and signal where management may need to be altered if it is not successfully meeting management objectives.

The YPC will measure the success of this Plan by using key performance indicators (KPIs) and/or other surrogates as necessary.

A set of KPIs (comprising performance measures, targets and reporting requirements) have been identified for selected values and management issues – these are presented throughout the Plan in the sections where those values and issues are discussed. The KPIs chosen reflect management priorities as identified during the planning process.

As a newly established conservation area, there is generally a lack of adequately detailed information documented about the values of the area, and therefore the KPIs reflect that the description of baseline conditions is a high priority in this initial Plan. Consequently, this Plan includes KPIs that are focused on assessing achievement of management outputs (e.g. availability of baseline condition data and reports) as well as management outcomes (e.g. protection of a particular value and development of recreational infrastructure). Protocols for measuring and reporting on KPIs (e.g. details of the data required, calculation methods and data presentation) will need to be developed.

Annual reviews will occur to demonstrate the successful implementation this Plan, with a summary of information provided to the YPC annually. The following are examples of evidence of implementation of this Plan that may be used for assessment purposes:

- specific quantitative monitoring of significant assets such as special habitats and threatened ecological communities
- series of photographs, mapping or other imagery which show whether spatial and temporal changes have occurred
- checklists
- surveys
- incident investigation reports or records
- other written documents or forms.

The vision for the Yawuru Minyirr Buru Conservation Park is:

Yawuru people and their partners working together to restore, protect and maintain the cultural, natural and recreational values of the conservation estate for the enjoyment and benefit of present and future generations.

3.0 Vision and Goals

Broome is the heart of Yawuru *birra* and *nagula buru*, land-side and sea-side country. Yawuru people have customary responsibility to look after their country (Figure 6), which is now recognised through their native title rights.

The Broome area is recognised internationally for its unique ecological values, and provides social and commercial benefit to the local community and a growing number of national and international visitors.

Figure 6: *YPC vision for the future (Source: DBCA)*

4.0 Management of Yawuru Minyirr Buru Conservation Park

Conservation and management of the key cultural, ecological, social and economic values of the Yawuru Conservation Estate is the primary purpose of this Plan, and is addressed under separate headings.

This allows the development of clear management objectives and strategies for each. This section describes the main values associated with the Park, and the KPIs for those with the highest management priorities for the life of this Plan. Management strategies are prioritised as high (H), medium (M) and low (L). High priority management strategies are defined as those relating to high pressure threats and require action within 1 – 2 years, while medium priority management strategies require action within 3 – 7 years, and low priority management actions in 8 – 10 years. Some management actions will occur on an ongoing or as required basis, and have been designated as such.

A table outlining the management arrangements for each KPI is provided. Each table includes:

- a description of the management objective
- the management strategies that will be implemented, along with their nominated priority, the lead management agency amongst the joint partners (Yawuru, Shire or DBCA) or the YPC, and a reference to the *Yawuru Cultural Management Plan*
- the performance measures
- targets
- reporting requirements and the responsible lead agency.

The coastal nature of the Park means that their values and pressures occur across the wider Yawuru Conservation Estate, including the adjacent marine reserve (Yawuru Nagulagun/Roebuck Bay Marine Park) and the out-of-town areas (Yawuru Birragun Conservation Park), reemphasising the importance of integration between the four management plans for the Yawuru Conservation Estate and the need for cooperative management. Yawuru RNTBC, the Shire and The Department, as the joint management partners, have the primary responsibility for coordinating and implementing the management strategies outlined in the management summary tables under each value.

4.1 Yawuru Cultural Values

Yawuru cultural values stem from the relationships between Yawuru people and Yawuru country.

Like the country itself, they arise from *Bugarrigarra*, which gave form to the landscape, determined law and gave Yawuru people the responsibility for caring for Yawuru country (YRNTBC, 2011). This section draws from the values described in Section 2.3 of the *Yawuru Cultural Management Plan* in the context of the proposed Park. Readers are strongly encouraged to refer to the *Yawuru Cultural Management Plan* to obtain a fuller understanding of these values.

Underpinning the management of each value for the Park and Yawuru Conservation Estate is the importance of the Yawuru seasonal cycle. Understanding the subtle changes within the Yawuru Conservation Estate and following the seasons is part of Yawuru cultural heritage and provides a guide as to how to look after the resources of the Yawuru Conservation Estate. This seasonal guide is fundamental in mapping, monitoring, education and the management strategies that will sustain the values of the Yawuru Conservation Estate.

4.1.1 Living Cultural Landscape (KPI)

According to Yawuru law everything comes from *Bugarrigarra*, the world-creating epoch. During this time, ancestral beings travelled through country naming places and creating the features of the land, waters and skies, introducing rules and rituals associated with particular areas, the regional languages, the seasons and their cycles. *Bugarrigarra* narratives form an intricate network of 'song lines' and 'dreaming' tracks, which traverse Yawuru country.

"When we die our rayi return to that place in our country. When we visit places we know the rayi of our ancestors are there, guiding us and looking after country, watching the behaviour of our people."

(Yawuru RNTBC 2011)

In this way *Yawuru buru*, or 'Yawuru country', means much more than just the physical land to which Yawuru belong. *Buru* is the physical expression of *Bugarrigarra*, in which the features of Yawuru country were formed. As *Bugarrigarra* beings created and named places they endowed them with significance. The associated narratives and rituals recount their activities and link Yawuru people to particular areas of country for all time. These narratives ascribe metaphysical meaning to all aspects of physical reality; the landscape, under the ground, the sky, the water, the diverse biota and ecosystems.

Like all living things Yawuru people are believed to arise from country. Certain places in Yawuru country have *rayi*, a life-giving essence that creates Yawuru spirit-children. This connection of a spirit-child to a specific place; its *bugarri*, is typically discovered through dreams or unusual events. Throughout life a Yawuru person remains connected to their *rayi* place, the place that gave them life.

Other metaphysical beings are known to be linked with certain places, but can also move around and be unpredictable. For example, *Jurru* are snake like beings associated with saltwater, fresh water and storms, that can protect or destroy Yawuru country.

Bugarrigarra is not detached from contemporary life. It continues to exist and is the spiritual force that shapes ongoing cultural values and practice, relationships, obligations and responsibilities. Life since colonial times has contributed to the continuing evolution of the living cultural landscape that is Yawuru country. The influence of the pearling industry was particularly strong, bringing Aboriginal and Asian people together as indentured labour, living and working together and intermarrying. These events and other heritage areas including burial sites, archaeological sites of old living areas, resources sites, contemporary camping places, mission areas and places of work that shaped the lives of Yawuru people are the range of sites that make up the living cultural landscape and have become part of the Yawuru story.

Summary of Management Arrangements for Living Cultural Landscape

		Priority	Lead Agency	YCMP Reference
Management objective	To ensure that activities within the Yawuru Minyirr Buru Conservation Park do not adversely affect sites and opportunities for Yawuru people to have ongoing cultural connection and expression. To promote increased understanding of Yawuru values and concepts of living cultural landscape.			
Management strategies	1. Prepare a colour-coded 'Living Cultural Landscape' spatial map that indicates the significance and general location of culturally significant areas.	H	Yawuru	1.2
	2. Develop operational protocols and similar to enable the appropriate management of activities.	H	Shire	1.5, 3.2
	3. Ensure cultural heritage sites are protected, in particular highly significant and sensitive sites at immediate risk.	Ongoing	Yawuru	3.4
	4. Assess human activities that may inhibit the protection of the living cultural landscape in accordance with the operational protocols.	Ongoing	Yawuru	1.1
	5. Develop and implement a cultural education and interpretation programme that considers appropriate communication actions including signage.	M	Yawuru	
Performance measures	1. Preparation of the Living Cultural Landscape map and operational protocols. 2. Information, education and interpretation program for the Yawuru Minyirr Buru Conservation Park incorporates material about the values and concepts of living cultural landscape.			
Targets	1. No deterioration of important sites as a result of human activity. 2. No deterioration of opportunities for ongoing cultural connection to the Yawuru living landscape for Yawuru people. 3. Visitors have been provided with opportunities to increase their understanding about Yawuru values and concepts of living cultural landscape.			
Reporting requirements	Annually		DBCA	

4.1.2 Traditional Ecological Knowledge (KPI)

Like many Indigenous peoples across the globe, Yawuru have a deep understanding of the flora, fauna, landscape features, seasons (Figure 7) and cycles that make up their country, and changes that have occurred over time.

Developed over millennia, this knowledge is deeply embedded within Yawuru culture and is often expressed through the stories and law that govern the relationships between people and country. Having used this knowledge to not only live off the land, but to sustain this lifestyle for thousands of years, there is much for modern conservation science to gain from traditional ecological knowledge.

Similar to other aspects of Yawuru life and resource harvesting, knowledge of resources is largely underpinned by the six Yawuru seasons and the life cycles of individual species. Cultural rules and responsibilities established from this knowledge provide guidance on the use of country, such as what and when particular species should be harvested, how to tell they are 'fat' or 'ready', who should not eat certain resources, and not wasting resources.

Broome Climate and weather

The climate experienced in Broome is tropical, with a wet (*Man-gala*) and dry season. The Bureau of Meteorology (2017) describes the climate at the Broome Airport (Station ID 003003) as:

- average rainfall is 609.3 mm pa, with the majority falling between December and March
- average maximum temperature ranges from 28.9 °C in the dry season to 34.3 °C in the wet season, with the highest recorded maximum being 44.8 °C
- average minimum temperatures range from 13.7 °C in the dry season to 26.5 °C in the wet season, with the lowest recorded minimum being 3.3 °C
- predominant wind directions include westerlies, easterlies and south-easterlies. The average wind speed is 18.2 km/h with gusts of more than 150 km/h possible during cyclones (*wangal jarrangu*).

In contrast, the Yawuru recognise six seasons (Figure 5):

- wet season, December to March (*Man-gala*)
- April to May (*Marrul*)
- May (*Wirralburu*)
- cold season, June to August (*Barrgana*)
- warming up season, September to October (*Wirralburu*)
- late October to November – December (*Laja*).

Figure 7: *Yawuru seasons*

Summary of Management Arrangements for Traditional Ecological Knowledge

		Priority	Lead Agency	YCMP Reference
Management Objective	To apply Yawuru traditional ecological knowledge and integrate it with modern conservation science and land management.			
Management Strategies	1. Develop processes and protocols for consulting and integrating Yawuru traditional ecological knowledge in the management of the Park. 2. Develop a database of the most important elements of Yawuru traditional ecological knowledge and investigate opportunities for integrating this with conservation science and land management.	M H	Yawuru Yawuru	2.3, 3.4 2.3
Performance Measure	1. Protocols developed. 2. Database developed.			
Target(s)	1. Traditional ecological knowledge is incorporated into ongoing management activities.			
Reporting requirements	Annually	DBCA		

4.1.3 Enjoyment of Country and Customary Practices (KPI)

Although Yawuru country extends more than a hundred kilometres inland, Yawuru consider themselves to be saltwater people as they would travel and live along the coast, exploiting the resources of *nagulagun buru*—their sea country—according to seasons.

Therefore, the ability to access to the coast and sea within Conservation Estate for customary practices is particularly important (Figure 8). As the recognised traditional owners of Yawuru country, Yawuru people have the right to enjoy Yawuru country and maintain their customary practices; however, it is noted that it is also important for traditional owners to consider the safety, security and environmental obligations of neighbours and partners, particularly those of the Kimberley Ports Authority.

"We took the boys out to Kunin today. I had the best day. I feel so good. I been on country today and I will sleep good tonight."

Gajai Frank Sebastian

(Yawuru RNTBC 2011)

Figure 8: *Access to country (Source: Brand, 2015)*

Summary of Management Arrangements for Enjoyment of Country and Customary Practices

		Priority	Lead Agency	YCMP Reference
Management Objectives	To recognise and support the right of Yawuru people to continue customary practices and to benefit from their country consistent with the purpose for the Park.			
Management Strategies	Identify factors that may inhibit the Yawuru people to enjoy country or maintain customary practices. If required, develop special access arrangements needed for continuance of customary practices.	H L	Yawuru Yawuru	4.4 4.4
Performance Measures	Identification of factors. Development of protocols, if required.			
Target	Factors identified.			
Reporting requirements	Annually		DBCA	

4.1.4 Responsibility for Country (KPI)

Yawuru customary law and responsibility for country is derived from *Bugarrigarra*.

Through this, Yawuru people maintain the right to 'speak for and look after' Yawuru country. The relationship of Yawuru people to their country is dynamic and the country is considered to be animated and often unpredictable. The country itself, and the forces that lie within, must be respected and it is the responsibility of the Yawuru people to use its resources sustainably and ensure the protection of the country and family and others who visit. This goes to the heart of maintaining good *liyan* with the country. If Yawuru people or others do the wrong thing there will be serious consequences for Yawuru people and their families.

Central to this responsibility is looking after sacred and significant areas. To Yawuru people, significance refers to cultural heritage in the broadest terms and includes the intangible values of country and heritage (Figure 9). Such areas include:

- cultural (*Bugarrigarra*) areas (sites, tracks, areas), which may have cultural access restrictions, including suitable buffers
- registered sites
- *rayi* sites (birth and origins; where child spirits arise from the country)
- burial sites
- seasonal hunting, fishing and harvest areas for specific species
- traditional camping areas
- water sites
- historical sites
- archaeological sites.

"The people, the land, and the Law are three aspects of the same thing. We have a duty to look after them all, and looking after one means looking after the other two as well".

Joseph Nipper Roe Ngulibardu
(cited in Yawuru RNTBC 2011)

As part of responsibility for country, access to certain culturally sensitive areas must be restricted to persons who have special cultural authority. The need for special access restrictions to certain parts of the Conservation Estate is recognised in the ILUA and the JMA, and provisions have been incorporated into this Plan accordingly.

Figure 9: *Cultural heritage (Bugarrigarra) Source: DBCA*

Summary of Management Arrangements for Responsibility for Country

		Priority	Lead Agency	YCMP Reference
Management objective	To facilitate and maintain the opportunity for Yawuru to carry out their roles and responsibilities as protectors and managers of their country and culture.			
Management strategies	1. Ensure Yawuru has access to country for management purposes.	Ongoing	DBCA	
	2. Continue to develop the Yawuru Ranger Program and investigate the authorisation of officers for enforcement activities such as vehicle usage in prohibited areas and camping.	H	DBCA	3.1
	3. Develop operational protocols to enable the appropriate management of activities.	H	Shire	3.5
	4. Investigate opportunities to increase the number of Yawuru RNTBC members involved in management of the Park (including, for example, exploring opportunities for traditional owners as cultural rangers).	M	Yawuru	3.1
Performance Measure	1. Access to country maintained. 2. Yawuru Ranger program expands. 3. Operational protocols developed.			
Target	1. Yawuru continues to have access to country for management purposes.			
Reporting Requirements	1. Every two years		DBCA	

4.2 Physical values

4.2.1 Geomorphology

The Park comprise striking and richly diverse coastal and geomorphologic features.

The Kimberley coast has an ancient geology and distinctive irregular topography of rugged red cliffs falling away to white and pink sandy beaches (Eliot and Eliot, 2008). The Dampier Peninsula lies in the northern part of the Canning Basin and is part of a sedimentary coast. The oldest outcropping rock in the area is the Broome Sandstone, a formation deposited approximately 145 million years ago (Semeniuk, 2008). Red sand plains cover much of the Broome Sandstone (Pepping *et al.* 1999) and were deposited through sheetwash during seasonal flood episodes and by wind (Vogwill, 2003). The Fitzroy Trough and Pindanland are the two sub-regions that make up Dampierland (McKenzie *et al.*, 2002) with Broome lying on the coast of Pindanland. This sub region is mainly formed from sandstone which supports pindan vegetation on the plains and hummock grasslands on the hills (McKenzie *et al.*, 2002). The following description of some of the key geomorphology features of relevance to this Plan has been largely drawn from the work of Graham (2001) and Semeniuk (2008) unless otherwise indicated.

Sand Dominated Beaches and Dunes (***Niyamarri***)

In contrast to the adjacent tidal creeks and embayments, the shelly sand beaches and high dunes along Cable Beach have been created under contemporary high energy deposits. Seasonal reworking of sediment and landform change is a natural occurrence in this highly dynamic coastal environment. The sparsely vegetated beach sand dunes are susceptible to erosion, and high vehicle or pedestrian access across these landforms exacerbates the issue.

Cliffs of Broome Sandstone and Semi-hardened Red Sand

Red cliffs of pindan sand over Broome Sandstone occur along the shores of Reddell Beach (Figure 10) and Simpson Beach. The weakly consolidated pindan soil is very prone to erosion once it is wet. Erosion of the cliffs by wave activity is a natural process. Similarly, natural erosion of pindan from the land surface occurs following heavy rain during the wet season. These natural processes are; however, exacerbated by increased water run-off from roads and sealed surfaces providing access in this area. Deep gully erosion is problematic at several sites along the coast, especially around access points to Reddell Beach and Simpson Beach.

Figure 10: *Reddell Beach (Source: DBCA)*

Fossils

The Lower Cretaceous Broome Sandstone contains numerous fossils, including those of extinct plants and the greatest variety of dinosaur footprints of any area in the world (DSEWPC, 2011a; Kenneally *et al*, 1996). Dinosaur footprints are located along the Broome coastline, including the intertidal zone that abuts the Minyirr Buru conservation Estate. The fossils of the Dampier coast are one of the features contributing to the west Kimberley being recognised for its outstanding heritage value to the nation through its inclusion on the National Heritage List (DSEWPC, 2011a, DotE, 2015a). Fossils and subfossils of marine invertebrates were used to assist with characterising the coastal Holocene formations of the area (Semeniuk, 2008). The YPC WG acknowledges the significance of the dinosaur tracks in the intertidal zones abutting the conservation estate.

Existing and potential pressures on geomorphology values

The main pressures on the geomorphological values described above are either from activities or developments that cause direct physical damage to landforms or disturb the sedimentary and hydrological processes that maintain them. These include:

- access and physical disturbance by vehicles and pedestrians
- channelled runoff from roads and drainage culverts forming deep erosion gullies, leaving cliffs susceptible to collapse
- loss of vegetation, erosion, soil compaction and localised changes to water drainage as a result of camels and horses
- mineral exploration and mining activities, along with those associated with petroleum exploration
- urban development and associated infrastructure in coast areas, including dredging, dredge spoil and urban drainage networks.

The extraction of sand, gravel and other raw materials, along with continued development within the coastal sector has the potential to affect geomorphic features and processes within the Park. Planning and development proposals within the Park must be assessed for potential effects on the geomorphological values of the Conservation Estate. Activities and developments with the potential to indirectly affect geomorphology (e.g. changes to drainage networks, and modifications to coastal sediment transport processes) need to be considered in addition to those that would cause direct physical disturbance.

Summary of Management Arrangements for Geomorphology

		Priority	Lead Agency	YCMP Reference
Management objective	The geomorphology and geomorphic processes that the maintain the cultural and ecological values of the Park are not adversely altered by human activity.			
Management strategies	Ensure that potential adverse effects on geomorphic features (e.g.: dinosaur tracks, fossils, rock formations), and processes from development and management activities are taken into account and mitigated.	Ongoing	DBCA	3.2
	Implement strategies to address adverse or potential effects on geomorphology from inappropriate vehicle and pedestrian access as required.	L	Shire	3.2
	Undertake research activities to characterise the geomorphic features and processes and their associated ecological function.	L	DBCA	3.4
	Ensure appropriate coastal setback distances are used when developing recreation and other infrastructure within the Park.	Ongoing	Shire	3.5
Performance Measures	Assessment of current levels of impact to geomorphic features and processes. Potential adverse effects on geomorphic features and processes are mitigated.			
Targets	Impact assessment activities completed. Integrity of geomorphic features and processes are maintained. Consideration of geomorphic features and processes occurs early in the planning phase of management activities.			
Reporting Requirements	Every two years		DBCA	

4.2.2 Hydrology and Drainage

Water Resources

High water quality and the protection of natural water flows are essential in maintaining healthy ecological systems within the Park. Water flows within the Park and the Yawuru Conservation Estate as a whole are strongly influenced by tropical cyclones and monsoonal troughs around the *Man-gala* (wet) season. The cyclone season generally lasts from November to April and while these events can damage the ecology of the Park, the intense rain periods are important to the Kimberley ecosystems, replenishing water reserves in springs and the Broome sandstone aquifer (Water and Rivers Commission, 2001), as well as influencing oceanic tides, waves and currents.

Surface water flow to the coast is seasonal and reflective of heavy rainfall over *Man-gala*. Due to the largely flat landscape surrounding Broome, surface water generally flows in sheets rather than in well-defined channels. Some low-lying areas in the Yawuru Minyirr Buru Conservation Park, such as Minyirr Park between Gantheaume Point Road and the dune system, retain water for some time, pooling on the surface in the wetter months. Some small temporary streams become active over *Man-gala*, for example seasonal streams will flow into the Dampier Creek and into drainage channels on Roebuck Plains (Matthews, *et al*. 2011 and Oldmeadow, 2007). The occurrence of water in the springs, soaks and other *bilarra* (wetlands)

"Water is the life for us all. It is the main part. If we are gonna lose that water.... everything will die. That's the power of water. He connect with the land. Bugarrigarra put im all together. One life."

(John 'Dudu' Nangkiriny, pg. 188, YRNTBC, 2011)
KARIJARRI MAN

of the Yawuru Conservation Estate vary throughout the year, reflecting the seasonal changes in surface and subsurface water levels and flows.

The Broome Sandstone Aquifer is the primary water supply for the Broome town site and for horticultural, pastoral and other land use in the Broome surrounds (Water and Rivers Commission, 2001). Groundwater flows generally to the south and the west due to the south-westerly dip of the Broome Sandstone (Vogwill, 2003). Near the coast and extending several kilometres inland, a wedge of salt water lies beneath the freshwater in the Broome Sandstone (Laws, 1991). Freshwater also occurs in the coastal limestone, coastal dunes and the Pleistocene red sand dunes. Depending on the local conditions such as the presence of tidal mud flat and variations in the topography of the sandstone, this water may be contiguous or separate from the Broome Sandstone groundwater (Semeniuk Research Group, 2011). A small local aquifer within the coastal dunes to the north of Broome has also been identified as providing a considerable source of recharge to the Broome Sandstone (Laws, 1991).

Maintaining high water quality while supporting the natural fluxes in water quantity and flow is of critical importance in protecting the key values of the Park. The interconnection of groundwater with landforms along the coast produces a unique array of important freshwater seepages and wetlands (Matthews *et al*., 2011, Semeniuk Research Group, 2011). Many species inhabiting these areas have restricted distributions, occurring only in areas of surface or near surface freshwater. Freshwater also discharges to the low tidal and rocky shore zones in some areas, commonly creating brackish water microhabitats which support species such as the mangrove *Avicennia marina* (Matthews *et al*., 2011).

The major management concerns for the hydrology values of the Yawuru Conservation Estate are the abstraction of groundwater and pollution. Water removal needs to be managed in a way which does not significantly affect the amount of water available for flora and fauna, cause saltwater intrusion into naturally low saline areas or change natural drainage and flow patterns (Matthews *et al*., 2011). Unsustainable abstraction also has the potential to cause long term changes in the direction of groundwater flow, affecting species and ecosystems which rely on groundwater, particularly the mangroves and habitats in the intertidal zone (Vogwill, 2003).

There is limited knowledge about the parameters of acceptable change in water regimes. The *jila*, other *bilarra* and many ecological values associated with these are totally or significantly groundwater dependent, for example, the unique fringing linear *Melaleuca* thickets are found where the fresh water at the edge of the pindan terrain intersects with the muddy upper shore tidal flat zone, causing interaction of hinterland groundwater and tidal flat carbonate mud (Semeniuk Research Group, 2011). There is a need to improve and better quantify understanding of the water requirements and regimes that are needed to sustain groundwater dependent ecosystems and species. This knowledge will provide information needed for management, and assist in making sure that water abstraction is within ecologically sustainable parameters.

At present, a strategic water monitoring program has not been implemented within the Park. If implemented, such a program would aid in determining whether activities are or have the potential to significantly affect local hydrology and habitats within the Yawuru Conservation Estate.

Figure 11: *Drainage management Source: DBCA*

"There is water right back to the Pindan country – all our jila (permanent waterholes), from reef back to birra (inland) have got stories. The underground streams feed the jila"

(Jimmy Edgar, pg. 73, YRNTBC, 2011)

Drainage

The town of Broome lies within an important wetland network with sensitive natural drainage systems (Semeniuk Research Group, 2011). Increased urban development has resulted in an increase in stormwater runoff from built up areas. Effective drainage is necessary to protect buildings from damage and facilitate access around the town site after heavy rainfall (Figure 11). The largely vegetated areas of the Park provide an important drainage sink for high rainfall events, however this has potential to impact on cultural and ecological values if not managed properly.

In Broome there are currently a number of drainage outlets along the Peninsula. Broome's location on a peninsula surrounded on three sides by receiving water bodies means that there will always be a need for stormwater drainage to flow through portions of the Park. Drainage from the Port will also need to flow through the Park. It will be necessary to manage this drainage in accordance with best practice principles, to reduce potential negative impacts on the Park.

When drainage design neglects to consider aspects of natural water flow and the environmental characteristics of the area, the possibility of negative impact to surrounding values is increased. Further research into the natural water flows in Broome and surrounds as well as investigation into best practice surface water drainage designs is fundamental in protecting the values of the Yawuru Conservation Estate and the town of Broome. The Shire is currently preparing a District Stormwater Management Strategy which will consider stormwater runoff patterns and investigate ways to improve the existing drainage network to reduce negative environmental impacts.

Potential Pressures on Hydrology and Drainage Values

Potential pressures include:

- over abstraction of groundwater
- knowledge gaps of the ecological water requirements of groundwater dependent species and communities
- pollution and/or contamination of surface, groundwater, embayments and wetland
- any activity or development that has the potential to significantly change the natural water regimes
- high and/or extended water inundation
- deposition of large amounts of sediment into the reserves
- erosion
- weed infestation
- direct and indirect effects on fauna and flora communities
- rubbish build up from storm water flows into the Yawuru Minyirr Buru Conservation Park.

To ensure that the values of the Park are not affected by abstraction of groundwater, water removal needs to be at a level that does not:

- significantly change the amount or quality of water available for flora and fauna, particularly for species that are fully or highly groundwater-dependent
- cause saltwater intrusion into naturally less saline areas
- change natural drainage flows and patterns.

At present, there is no need for abstracting groundwater from the Park for management purposes, and it is expected that this will continue to be the case over the life of this Plan. Many of the Park's values are groundwater-dependent and may therefore be vulnerable to changes in regional groundwater, a resource which is subject to increasing and competing demands. Over-abstraction of groundwater from the Broome Groundwater Area is the likely cause of an increase in groundwater salinity along the coast, and at depths of about 100 m below ground further inland (Searle, 2012). The Department of Water has initiated several measures to address this situation, including reduced levels of abstraction from some production bores within the town water supply reserve, bore field redesign, research and monitoring program amendments, and a review of the existing Broome Groundwater Management Plan (DoW 2010a; Searle, 2012).

There is a need to increase understanding of the water requirements and regimes that are needed to sustain groundwater-dependent ecosystems and species and to maintain ***bilarra*** in a healthy condition. Regional water resource management plans include several strategies aimed at addressing this situation (DoW 2010a, 2010b, 2012).

In the absence of appropriate risk avoidance and mitigation measures, certain activities on adjacent lands and waters and/or within the Park have the potential to adversely affect water quality in the Conservation Estate. Prevention of water pollution is an issue that requires collaborative and cross tenure management approaches and several government agencies have responsibilities in this area.

Summary of Management Arrangements for Hydrology

		Priority	Lead Agency	YCMP Reference
Management objectives	1. Increase knowledge of the ecological water requirements of groundwater dependent species and ecosystems within the Park.			
	2. Work with agencies that have water resource protection and management roles and responsibilities to maintain the water regimes that sustain key cultural and ecological values of the Park.			
	3. Ensure that stormwater runoff from urban development does not significantly impact the Park.			
Management strategies	1. Implement or support a water monitoring program in conjunction with the relevant water resource management agencies that improves understanding of baseline water regime conditions (i.e. quality, quantity and flow patterns) and helps to identify limits of acceptable change and ecological water requirements for groundwater dependent ecosystems/species, including further research into hydrogeology of specific areas.	L	DBCA	3.4
		L	DBCA	3.5
		L	YPC	1.5
	2. Identify, implement or assist management interventions as needed in response to matters of concern identified through the water monitoring program.	Ongoing	DBCA	1.5
		H	DBCA	3.5
	3. Groundwater abstraction from the Park requires consent of the YPC.	L	DBCA	3.7
	4. Ensure that management operations within the Park do not negatively affect natural water regimes.	M	DBCA	3.4
	5. Identify drainage needs and assess potential impacts within the Park.			
	6. If required, develop and implement strategies to address drainage needs and impacts within the Park.			
	7. Implement a monitoring program (e.g. of vegetation, erosion, rubbish, sediment deposits etc.) which improves understanding of the impacts associated with changes to drainage practices and infrastructure on important ecological and cultural values of the Park.			
Performance Measures	1. Maintaining availability of water quality monitoring data.			
	2. Water quality and quantity measures (e.g. nutrients, toxicants, pathogens, water levels, as per ANZECC guidelines).			
	3. Level of understanding of the ecological water requirements of groundwater dependent species.			
	4. Identification of drainage needs.			
	5. Development and implementation of strategies if required.			
	6. Monitoring program outcomes.			
Targets	1. If required, a strategic water monitoring program is implemented, and baseline water monitoring data for selected high risk and/or high value sites.			
	2. Water quality and quantity parameters do not exceed defined limits of acceptable change as a result of management or other activities.			
	3. The ecological water requirements of groundwater dependent species and ecosystems are maintained.			
	4. Avoid impacts within the Park due to inappropriate drainage.			
Reporting Requirements	1. Every two years		DBCA	

4.3 Ecological Values

Vegetation types in Broome are reasonably diverse as a reflection of the geology, variety of soil types and topography of the area.

Vegetation studies have found a minimum of 117 native plant species from 50 families of flowering plants in the Broome area (WADPUD, 1990; and Department of Parks and Wildlife, 2015a). These species form the basis of the fauna species in a particular location, and thus the ecological communities present. Turpin and Bamford (2010) identified 385 fauna species potentially occurring in the Broome region, this comprised 11 frogs, 82 reptiles, 255 birds and 37 mammal species. A dominant vegetation type of the Park is that of the red sandplains; acacia shrubland over grassland with a sparse upper layer of eucalypts. This vegetation and the red soils on which it occurs are both commonly referred to as 'pindan'. Other vegetation types occurring in the Park include melaleuca thickets, samphire flats, saline grasslands, mangrove communities, *Acacia bivenosa* dominated communities on coastal limestone outcrops, and wetland vegetation communities in seasonal freshwater swamps and claypans. This diversity of habitats, and particularly the inclusion of a range of coastal elements, provides important biodiversity conservation values.

4.3.1 Flora, Fauna and Ecological Communities (KPI)

Threatened and priority flora

The only threatened flora species that has been recorded in the Park is the Fringed Keraudrenia (*Keraudrenia exastia*) (Figure 12), which was recorded adjacent to the Port lands. This species is specially protected under the *Wildlife Conservation Act 1950* (WA) and listed as critically endangered under the *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth) (EPBC Act).

Four priority listed flora species have been recorded within the Park, namely:

- Pindan Glycine (*Glycine pindanica* – P3), which may be locally common but is endemic to the western side of the Dampier Peninsula
- Cable Beach Ghost Gum (*Corymbia paractia* – P1), which is endemic to Broome, often occurring in the transition between coastal beach dunes and pindan sand (Kenneally et al., 1996)
- *Lophostemon grandiflorus* subsp. *grandiflorus* (P3), which occupies damp habitats around swamps and seepages (Department of Parks and Wildlife, 2015a)
- *Pterocaulon intermedium* (P3), known from northern Australia (Atlas of Living Australia, 2015).

These species do not meet the criteria for listing as threatened, but which are of special conservation interest due to a lack of information to determine if they are common or threatened.

Fauna

There are many fauna species within Broome and the Park that have important ecological, cultural and social values (Figure 13). The high diversity of vegetation within the Broome town site provides a range of habitats that support a wide variety of local and migratory fauna species. The faunal assemblages of the Dampier Peninsula show components of both the arid zone to the south and the tropical Kimberley to the north-east, reflecting the transitional climate in the area (Turpin & Bamford, 2010). The diversity of habitats near the coast is an important factor contributing to the rich bird fauna that is found in the area (Johnstone 1983). Many habitats which are quite restricted in area, such as mangroves, melaleuca thickets and other wetland habitats, are particularly important for conservation of bird diversity (Johnstone 1983; Waples 2007). As a result of this transitional zone most of the fauna species expected to occur within the Broome town site are widespread; however, some are restricted to only the Dampier Peninsula.

Figure 12: *Fringed Keraudrenia (Source: DBCA)*

Flatback Turtle (*Natator depressus*)

Frill-neck Lizard (*Chlamydosaurus kingii*)

Tawny Frogmouth (*Podargus strigoides*)

Figure 13: ***Park fauna (Source: DBCA)***

Most species of reptiles and amphibians recorded on the Dampier Peninsula are widespread and extend from the Kimberley south to at least the Pilbara (Storr & Johnstone 1983). Storr and Johnstone (1983) identified more than a quarter of recorded species as being northern species occurring at or near their southern limit, and eight arid zone species close to their northern limit. Important invertebrate species within Broome include crabs, other crustaceans, molluscs, echinoderms (e.g.: starfish), marine worms and other burrowing organisms. Other invertebrate species that have been classified as short-range endemics tend to have common life history characteristics such as poor powers of dispersal or confinement to discontinuous habitats. Research into short-range endemic species within the Broome area would be beneficial for the management of this fauna group.

Many of the potential impacts of human interaction and proposed developments upon fauna can be related to ecological processes and these threats are often similar for many species. Potential impacts to fauna species within the Park includes:

- increased mortality (e.g. from land clearing and expansion of road network or road kill),
- loss of habitat affecting population survival,
- loss of connected habitat affecting population movements and gene flow,
- species interaction such as predators, competitors and feral animals including cane toads,
- fire, particularly uncontrolled fires, and
- light and noise disturbance.

The Yawuru native title determination recognised the Yawuru people's rights and interests as including the right to hunt and gather for personal, domestic or non-commercial communal purposes (including social, cultural, religious, spiritual and ceremonial purposes). Amendments to the CALM Act, the *Wildlife Conservation Act* (WA) and associated regulations include provisions for Aboriginal people to take flora and fauna for Aboriginal customary purposes. These provide the broad context for management of Yawuru hunting and gathering activities in the Park.

Threatened and Other Significant Fauna

A number of fauna species occurring or possibly occurring in the Park are specially protected under the *Wildlife Conservation* Act 1950 (WA) and/or the EPBC Act because they are rare or likely to become extinct:

- Two species of mammal; the ***wintarru*** or Golden Bandicoot (*Isoodon auratus auratus*) and the Bilby or ***dalgyte*** (*Macrotis lagotis*).
- Three species of reptile; the Airlie Island Ctenotus (skink) (*Ctenotus angusticeps*), the Flatback Turtle (*Natator depressus*) and the ***gurlibil*** or Green Turtle (*Chelonia mydas*).
- Ten species of bird; the Australian Painted Snipe (*Rostratula benghalensis australis*), Grey Falcon (*Falco hypoleucos*), Hutton's Shearwater (*Puffinus huttoni*), Curlew Sandpiper (*Calidris ferruginea*), Great Knot (*Calidris tenuirostris*), Greater Sand Plover (*Charadrius leschenaultii leschenaultii*), Lesser Sand Plover (*Charadrius mongolus*), Bar-tailed Godwit (*Limosa lapponica menzbieri*), Eastern Curlew (*Numenius madagascariensis*) and Red Knot (*Calidris canutus rogersi*). The latter seven are the subject of international migratory bird agreements.

Other species of the Park that are specially protected under the *Wildlife Conservation Act 1950* (WA) include the Estuarine Crocodile (*Crocodylus porosus*) and numerous migratory bird species which, in addition to those mentioned above, are the subject of international agreements such as the Japan–Australia Migratory Birds Agreement, the China–Australia Migratory Birds Agreement and the Republic of Korea – Australia Migratory Birds Agreement.

Although five species of marine turtle are known to frequent the waters around Broome, only the Flatback Turtle is known to regularly nest on beaches at southern Roebuck Bay near Cape Villaret and on Cable Beach (Figure 14). The peak nesting period is from November to December and the peak hatching period is from February to March. Annual flatback turtle monitoring programs run by Conservation Volunteers Australia include the beach at the southern end of Roebuck Bay and parts of Cable Beach within the Park. Flatback turtles nest every one-to-five years' so monitoring needs to occur over several years to determine population trends. Green turtles occasionally nest on the beaches in the area, but monitoring to date indicates this is rare (Conservation Volunteers Australia recorded one green turtle nest on Cable Beach during the 2006/07 monitoring period).

The Australian Painted Snipe generally inhabits shallow fresh or brackish water wetlands including temporary and permanent lakes, swamps and claypans (DSEWPC 2012b). Threats to the Australian Painted Snipe are loss and degradation of wetland habitats through grazing and trampling by stock, and weed invasion (DSEWPC 2012b).

Figure 14: *Turtle nest (Source: DBCA)*

The critical habitat for migratory shorebirds visiting the Broome area is focused on the Roebuck Bay intertidal areas within the Park, with roosts in the Yawuru Birragun Conservation Park also important. The saltpans and saltmarsh of Roebuck Plains become particularly important during spring high tides, when the intertidal roost areas contract and shorebirds are forced to find alternatives further inland.

Broome is at the southern extent of the distribution of estuarine crocodiles in Western Australia (Australian Museum 2010), although confirmed sightings are now regularly recorded from the Pilbara further south. Estuarine crocodiles occur in the mangroves and tidal creeks of the Yawuru Conservation Estate in very small numbers.

The Department maintains lists of fauna species that do not meet the criteria for listing as threatened but are nevertheless of special conservation interest. At the time of writing, there were no Priority 1 fauna species and two Priority 2 fauna species recorded in the Yawuru Conservation Estate; the Dampierland Plain Slider (*Lerista separanda*) and the Dampierland Burrowing Snake (*Simoselaps minimus*), which is endemic to Western Australia (Storr, Smith & Johnstone 2002), along with several Priority 3 and 4 species.

Figure 15: *Monsoonal Vine Thickets (Source: DBCA)*

Threatened and Priority Ecological Communities

Two threatened ecological communities occur within the Park, namely:

- The 'monsoon vine thickets on coastal sand dunes of the Dampier Peninsula' (Figure 15), which is listed under the *Wildlife Conservation Act 1950* (WA) and the EPBC Act.
- The 'Roebuck Bay mudflats', described a species-rich faunal community of the intertidal mudflats of Roebuck Bay. According to the Roebuck Bay Working Group Inc. (undated), surveys carried out by international scientists and others during 1997, 2000, and 2002 identified 30,000 animals from at least 265 species; surveys during 2006 identified a further 26 taxa not previously encountered (Piersma *et al*, 2006).

Three Priority 1 ecological communities within the Park are also listed:

1. The relict dune system dominated by extensive areas of *mangarr* (*Sersalisia sericea*) occurs on relict dune systems in the Broome Port extension areas and has the potential to also occur within the Park, north west of the intersection between Kavite Road and Port Drive. The *mangarr* community is believed to be a restricted plant community with a connection to the vine thickets (Beams, Docherty and Dureau 2011). The community appears to be unique within the Broome Peninsula and occurs on the crests and flanks of the relict red desert and sand dune systems that generally run in an east-west direction. The aged dune system on which the *mangarr* communities are found are geographically and potentially geologically distinct from the existing coastal dune systems. The significance of the plant community is due to the frequent incidences of mature (estimated at 100 years +) *mangarr* trees. The *mangarr* is also an important and renowned local bush food species for the Yawuru people and does not occur in such frequency and longevity in other locations (Beams, Docherty & Dureau 2011).
2. The dwarf pindan heath community of Broome coast occurs between the racecourse and Gantheaume Point lighthouse. There has not been sufficient surveying outside the Broome town site area to determine the full extent of this community (Department of Parks and Wildlife 2015b).
3. *Corymbia paractia* dominated community on dunes occurs behind dunes within the Broome township area in a transition zone where coastal dunes (with vine thickets) merge with pindan (desert) vegetation and in the port area to the north (Department of Parks and Wildlife 2015b).

Ecological Communities

Six ecological communities are recorded within the Park (Figure 16), with key features summarised in Table 2 and detailed descriptions included in the *Yawuru Cultural Management Plan*.

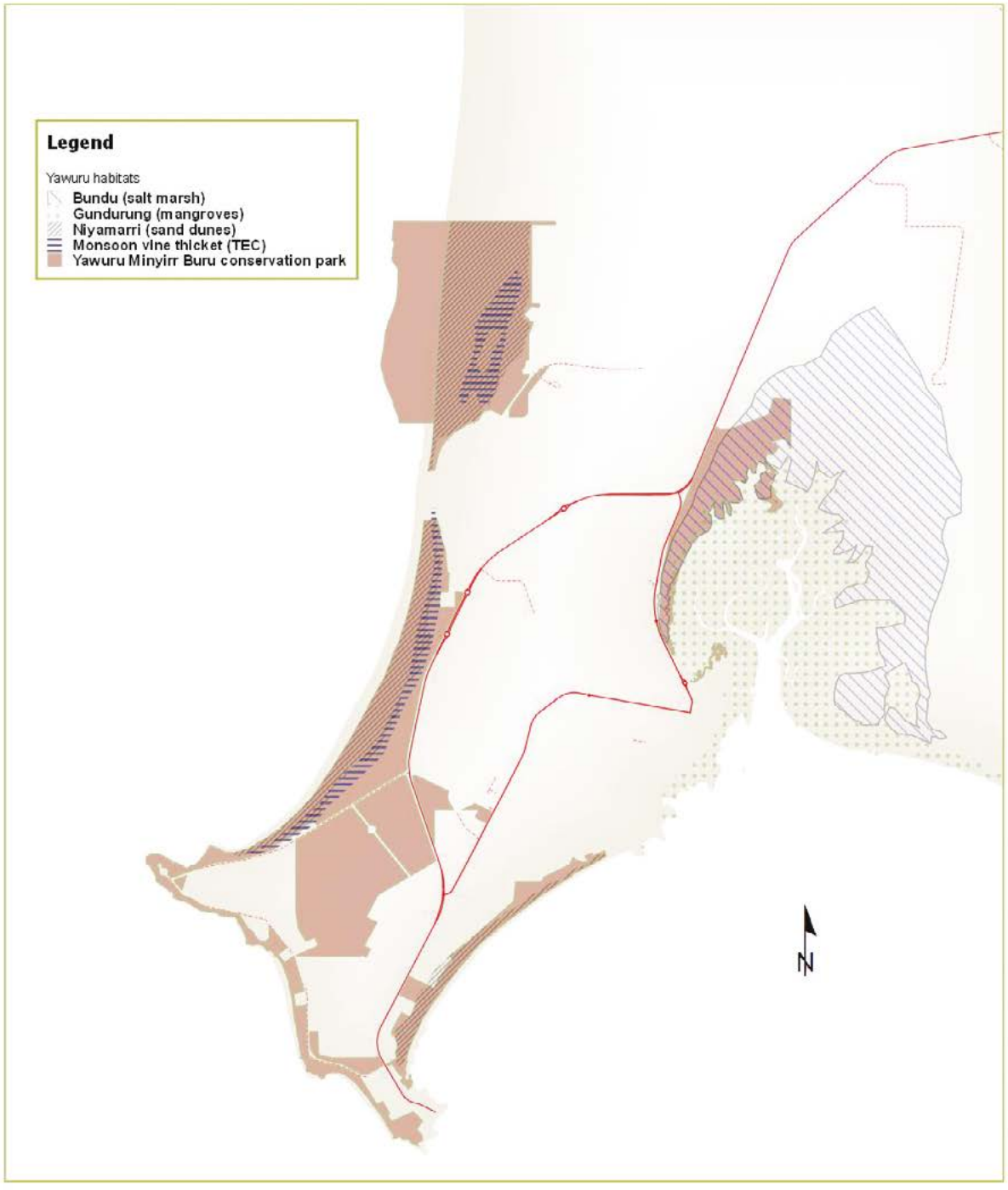
Table 2: *Ecological Communities*

Name	Description	Pressures	Photograph
Niyamarri (beaches and sand dune communities) (KPI)	*Niyamarri* is characterised by the exposed Holocene age white sand dunes running parallel to the coast along Cable Beach and northward. Older pink, Pleistocene dunes fringe Reddell Beach, Simpson Beach and eastward along Roebuck Bay (YRNTBC, 2011). The inland side of the sand dunes are often characterised by dense shrub thickets of Acacia and patches of wild grass and Spinifex. The more subdued sand dune systems in the area then often merge into sand plain surfaces with pindan via pockets of vine thicket (McKenzie, 1983). The larger dunes, such as those running along the coast within Minyirr Park provide conditions suitable for the persistence of larger vine thicket patches.	• erosion • weeds • inappropriate access and recreation	 Source: Brand, 2015
Bundurr-bundurr (Pindan)	Pindan vegetation comprises grassy woodland vegetation dominated by Eucalyptus and Acacia on the red sand plains surrounding Broome and the Dampier Peninsula (YRNTBC, 2011). The pindan communities in the Yawuru Conservation Estate are generally low open Acacia dominated woodlands, while further north on the Peninsula, there is a trend towards open eucalypt dominated forests reflecting differences in rainfall, soils and fire patterns (McKenzie, 1983).	• fire • clearing • weeds • altered drainage	 Source: Brand, 2015

Name	Description	Pressures	Photograph
Mayingan manja balu (Vine thickets)	The vine thickets comprise some of the oldest and most important trees in the Broome area including the Banyan fig (*Ficus virens*) and Wild Apple (*Syzygium eucalyptoides* subsp. *bleeseri*), as well as the dominant Ebony Wood (*Diospyros humilis*), Bullet wood (*Mimusops elengi*), Ai Salo (*Celtis philippensis)* and the less dominant *mangarr* (*Sersalisia sericea*) (Kenneally *et al*., 1996 and Black *et al*., 2010). The semi-deciduous Currant bush (*Grewia Breviflora*) is an important smaller tree of the thickets. Throughout the thickets are many vine species such as *jinyjalguriny* Crab's Eye bean (*Abrus precatorius)*, Harpoon Bud (*Gymnanthera oblonga)*, *Jacquemontia paniculata*, *Passiflora foetida* (the noxious wild passionfruit weed)*,* Snake vine *(Tinospora smilacina),* and Oyster-catcher Bill (*Tylophora cinerascens)* (Kenneally *et al*., 1996).	• weeds • fire • clearing • inappropriate access and recreation • altered drainage • introduced fauna • pollution	 Source: DBCA
Gundurung (Mangroves)	*Gundurung* White Mangrove (*Avicennia marina*) grows in a wide range of salinities and intertidal topographic positions, including in the mangal community around *Burrgungun* (Semeniuk, 1983). At the seaward and creek margins it commonly occurs in conjunction with *biyal-biyal* Kapok mangrove (*Camptostemon schultzii*). *Gundurung* and *biyal-biyal* also occur in the central zone of the mangal, mainly mixed with Spotted-leaved Red mangrove (*Rhizophora stylosa*) (Semeniuk, 1983). Other mangrove species recorded in the area include Club mangrove (*Aegialitis annulata*), *garl-garl* Milky mangrove (*Excoecaria agallocha*), White-flowered Black mangrove (*Lumnitzera racemosa*), River mangrove (*Aegiceras corniculatum*), Myrtle mangrove *(Osbornia octodonta*) and Ribbed mangrove (*Bruguiera exaristata*), although the latter species is uncommon (Semeniuk, 1983).	• changes to water and sediment quality • altered drainage and hydrology • altered sedimentation • development • clearing	 Source: Brand, 2015

Name	Description	Pressures	Photograph
Bundu (Saltmarsh and saline grassland)	The *bundu* or salt marsh tidal flats of the Yawuru Conservation Estate are generally located behind the mangroves above the high water mark. They are dominated by Marine Couch (*Sporobolus virginicus*) which is a hardy perennial grass with creeping rhizomes (Trudgen 2002), *wirn-gi* samphire (*Tecticornia spp*.) and other low shrubs such as Speedy Weed (*Flaveria australasica)* and the mat-forming Frog Fruit (*Phyla nodiflora)* growing on the landward margins (Kenneally *et al*, 1996). The large expansive pastures of grasslands are found on Roebuck Plains; however, there are smaller *bundu* just inland of Dampier Creek and around *Burrgungun* (Morgan's camp) (YRNTBC, 2011).	• erosion • weeds • development • altered hydrology and drainage	 Source: Brand, 2015
Murrga-yirr-garnburr (Melaleuca thickets)	There are small patches of Melaleuca around *Bilingurr* and Dampier Creek. The width and density of the paperbark communities can vary from a closed-canopy thicket to a discontinuous line of a few trees (more common within the Park). The paperbarks can reach 4 – 10 metres tall and climbers such as Mangrove Vine (*Cynanchum carnosum)*, Harpoon Bud (*Gymnanthera oblonga)* and the semi-parasitic Devil's Twine (*Cassytha filiformis)* can be seen in the canopy (Kenneally *et al*., 1996).	• fire • introduced fauna • weeds • altered hydrology and drainage	 Source: DBCA

Yawuru habitats



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Produced by Jason Richardson,
Parks and Wildlife Service

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Figure 16: *16*

Existing and Potential Pressures on Flora, Fauna and Ecological Community Values

The main existing or potential pressures on flora and fauna values of the Park are:

- habitat disturbance, degradation or loss
- weeds
- inappropriate fire regimes
- introduced fauna species that predate on or compete with native species
- recreational pressures on habitats used by specially protected species vulnerable to disturbance (e.g. migratory shorebird roosting areas)
- alterations to hydrological regimes
- pollution, including declines in water quality.

While influential in isolation, the combined effects of multiple, interacting threatening processes can leave native flora and fauna particularly vulnerable to environmental stressors. Preventing or reducing pressures is a vital facet of management needed to improve and promote the natural resilience and resistance of species and ecosystems.

Summary of Management Arrangements for Flora, Fauna and Ecological Communities

Management objectives

1. To conserve the flora, fauna and ecological communities of the Park.
2. To increase understanding of the flora, fauna, and ecological community values of the Park and of the factors presenting a threat to those values.

		Priority	Lead Agency	YCMP Reference
Management strategies	1. Carry out research and monitoring to establish the baseline condition of the ecological communities within the Park and assist with identifying and managing significant threats.	H	DBCA	3.4
	2. If required, implement strategies to minimise the effects of threatening processes on native flora, fauna and ecological communities.	L	DBCA	1.5
	3. Determine the need for access restrictions as necessary to protect flora, fauna and ecological communities, and implement as required.	L	DBCA	1.5, 3.4
	4. Implement research, monitoring and recovery actions for threatened and priority species and communities.	H	DBCA	3.4
Performance Measures	1. Survey outcomes. 2. Implementation of management strategies. 3. Outcomes of research programs.			
Targets	1. Implement key protection strategies. 2. Baseline flora, fauna, and ecological community research.			
Reporting Requirements	1. Every two years		DBCA	

Introduced Flora Management

Environmental weeds are those plants that establish in natural ecosystems (marine, aquatic or terrestrial) and modify natural process, usually adversely and often resulting in the decline of the native communities they have invaded (Department of Conservation and Land Management, 1999). Weeds can originate from intra-state, inter-state and overseas and are declared under the *Biosecurity and Agriculture Management Act 2007* (WA). Many weeds, particularly grass species and vines grow quickly and have abundant seeds that spread widely. Weeds compete with native plants for space, nutrients, water and sunlight and may also hinder native plant regeneration and local nutrient recycling.

The invasion of weeds is a major threat to the ecological, cultural and socio-economic values of the Yawuru Minyirr Buru Conservation Park and the Yawuru Conservation Estate. It is fundamental that management strategies address the degradation processes caused by weed species. There are a number of factors that have contributed to the presence of weeds in the Yawuru Conservation Estate, including:

- land clearing, such as that for developments,
- soil disturbance from vehicles, e.g. in Minyirr Park area along Cable Beach,
- construction of paths, fire access tracks and other facilities,
- conventional fire regimes,
- dumping of garden refuse, such as the refuse found in the sand dunes area behind Simpson Beach,
- invasive species planted in Broome town road verges and gardens (Neem trees have historically been popular in Broome gardens and have become a significant pest within the Park and the Yawuru Birragun Conservation Park,
- transportation of seeds by birds, and
- grasses planted for amenity purposes in the Broome town site which can spread, invading bushland areas within the Park.

Key weed species within the Park are highlighted in Table 3, Figure 17. Both Bellyache Bush (*Jatropha gossypiifolia*) and Mint Weed (*Hyptis suaveolens*) are declared weeds under the *Biosecurity and Agriculture Management Act* 2007(WA) (Department of Agriculture and Food WA, 2015) and Lantana (*Lantana camara*) is a declared weed (Department of Agriculture and Food WA, 2015) as well as being a Weed of National Significance (WoNS) (Department of the Environment, 2015b). Creepers such as the Passion Vine (*Passiflora foetida* var. *hispida*) and Siratro (*Macroptilium atropurpureum*) are prolific through the bush landscape and monsoonal vine thickets, threatening native vegetation communities. Neem Trees (*Azadirachta indica*), Bellyache Bush and Mint Weed are also fast spreading around the Broome town site and are particularly numerous around newly cleared areas and road verges.

Table 3: *Key Weed Species in the Yawuru Minyirr Buru Conservation Park*

Common Name	Scientific Name	Common Name	Scientific Name
Bellyache Bush	*Jatropha gossypifolia*	Khaki Weed	*Alternanthera pungens*
Bristly Foxtail	*Setaria verticillata*	Lantana	*Lantana camara*
Buffel Grass	*Cenchrus ciliaris*	Mint Weed	*Hyptis suaveolens*
Butterfly Pea	*Clitoria ternatea*	Morning Glory	*Ipomoea sp.*
Caltrop	*Tribulus terrestris*	Neem Tree	*Azadirachta indica*
Chinese Date	*Ziziphus mauritiana*	Passion vine	*Passiflora foetida* var. *hispida*
Coffee Bush	*Leucaena leucocephala*	Red Tassel Flower	*Emilia sonchifolia*
Flannel Weed	*Sida cordifolia*	Siratro	*Macroptilium atropurpureum*

Common Name	Scientific Name	Common Name	Scientific Name
Gallons Curse	*Cenchrus biflorus*	Tridax Daisy	*Tridax procumbens*
Grass sp.	*Chloris barbata*	White Convolvulus Creeper	
Horehound	*Hyptis suaveolens*	Yellow Poinciana	*Peltophorum pterocarpum*
Kapok Bush	*Aerva javanica*		

Bellyache Bush
(*Jatropha gossypiifolia*)

Wild Passionfruit
(*Passiflora foetida*)

Coffee Bush
(*Leucaena leucocephala*)

Neem
(*Azadirachta indica*)

Mint Bush
(*Hyptis suaveolens*)

Caltrop
(*Tribulus terrestris*)

Siratro
(*Macroptilium atropurpureum*)

Gallon's Curse
(*Cenchrus biflorus*)

Buffel Grass
(*Cenchrus ciliaris*)

Figure 17: *Examples of key weed species (Source: Shire of Broome, 2016)*

Figure 18: *Neem removal (Source: DBCA)*

Currently the Shire's Parks section manages weeds on Shire owned or managed land and weed management (Figure 18) has been supported by a range of groups including Yawuru, the Shire, Ministry of Justice, Environs Kimberley, DBCA, Broome Bird Observatory, Coastwest (previously Coastcare), Broome Botanical Society, Conservation Volunteers Australia (CVA), the Society for Kimberley Indigenous Plants and Animals (SKIPA) and the Kimberley Training Institute. Weed mapping has been undertaken within the Minyirr Buru Conservation Estate by the Yawuru, The Department and others; outcomes will contribute to a weed management plan.

Summary of Management Arrangements for Weeds

		Priority	Lead Agency	YCMP Reference
Management objective	Ensure the impact of environmental weeds on the Park is minimised.			
Management strategies	1. Assess current extent and impact of weeds in the Park.	H	DBCA	3.4
	2. Develop a Weed Management Plan to be informed, where relevant, by the Shire's Weed Management Strategy.	H	DBCA	3.10
Performance Measures	1. Weed mapping outcomes. 2. Development of Weed Management Plan. 3. Area and type of weed control completed.			
Targets	1. No increase in the abundance, distribution or extent of priority environmental weeds from current levels. 2. No new populations of weed species established that are rated high in the Species-led Ranking Summary for the Kimberley Region.			
Reporting Requirements	Every two years		DBCA	

Introduced Fauna Management (KPI)

Feral animals are non-native species that have the potential to cause a serious impact on the natural systems through direct effects such as predation, habitat destruction/degradation, competition for food and territory and introduction of disease. The main problem feral animals present in the Yawuru Conservation Estate, including, the Park, are cats and dogs. There is also the potential for the cane toad to colonise the area within the next ten years (Turpin and Bamford, 2009), causing detrimental effects to a number of native species and the values of the reserves. Cats are also common within the Park and hunt and kill native birds, mammals, reptiles and insects and are a significant threat to the survival of vulnerable and threatened species (DSEWPC, 2012b). Foxes may also be present.

Management of feral animals will be the responsibility of Yawuru and the Shire with the assistance of The Department, Department of Agriculture and Food, and the community. The managing agencies will need to determine the extent and impacts of the problem animals and where appropriate implement control options.

Summary of Management Arrangements for Introduced Fauna

		Priority	Lead Agency	YCMP Reference
Management objective	To minimise the impact of feral animals on the cultural, ecological and social values of the Park			
Management strategies	1. Assess current extent and impact of feral and pest animals in the Park.	M	DBCA	3.4
	2. Consider options for feral and pest animal control in the Park that are appropriate and supported by the local community.	L	DBCA	3.4
Performance Measures	1. Assessment of outcomes. 2. Development and implementation of pest animal control options. 3. Development and availability of educational material.			
Targets	Minimal impact from feral animals to native fauna and flora within the Park.			
Reporting Requirements	Every two years		DBCA	

4.3.2 Fire Management

Fire was used by the Yawuru people and other indigenous groups for a variety of purposes including burning for vegetation regrowth (attracting kangaroos and wallabies), food gathering (judicious fire farming techniques increased supplies of important plant food), cooking, signalling, access and for cultural reasons (Kenneally *et al*, 1996, EPA, 2005, YRNBC, 2011).

Traditional burning practices generally involved small fires, carefully lit in the appropriate season and in restricted areas. Care was taken to avoid burning in coastal vine thicket country like that found in Minyirr Park as these areas hold valuable food resources (Kenneally *et al*, 1996). Traditional burning promoted a patchwork mosaic of vegetation growth and also reduced the risk of lightning-ignited fires developing into intense bushfires. With the departure from traditional Aboriginal burning practices and the many irreversible modifications to the environment that have occurred since European colonisation, fire regimes have changed with large, high intensity, late dry season fires more common (YRNBC, 2011).

Contemporary fire regimes are believed to have led to impacts on biodiversity, including sensitive vegetation types and susceptible habitats, as well as associated fauna. Structural simplification of vegetation communities, decline in small mammals (such as the Golden Bandicoot and water rat), granivorous bird species, weed infestation and the loss of fine grain habitat mosaics are a number of impacts associated with changed fire regimes in the Kimberley region (EPA, 2005).

Species and communities vary in their response to fire. While many species are resilient to a range of fire regimes, others may have very specific fire requirements (for example, flora that has relatively long germination periods and fauna that prefers medium to late successional stages of vegetation). Due to gaps in current knowledge, fire management for biodiversity conservation should focus on avoiding frequent, large, hot late dry season fires by creating and maintaining a spatial and temporal mosaic of functional habitats across the landscape. This will promote as much resilience as possible for ecosystems in the face of disturbance. As information from research and monitoring increases (e.g. on the vital attributes of species and their fire regime requirements), this knowledge will be incorporated into fire planning and operations.

While there is limited information currently available on fire regime requirements of species and communities within the Park, special consideration and further research should be given to number of key areas:

- fire regeneration cycles in pindan communities;
- effect of fire on mistletoe species; and
- response of threatened flora and fauna (such as *Keraudrenia exastia* and the Peregrine Falcon (*Falco peregrinus*) to fire and fire management.

Within the Broome town site, the Shire and Department of Fire and Emergency Services (DFES) are responsible for bushfire prevention and control, and in establishing and running the bush fire brigades under the *Bush Fires Act 1954*. The Shire is also responsible for serving notices regarding fire breaks and fire prevention strategies. DFES is responsible for all unvested Crown Land within the town site. As the Park is now established and vested with Yawuru and the Shire, the joint managers are responsible for the land and strategic fire management and mitigation requirements. However, in accordance with the Assistance Agreement, The Department will undertake fire mitigation work on behalf of Yawuru and the Shire at the direction of the YPC.

As fire poses a significant risk to the safety of fire fighters, visitors, neighbours and local communities as well as a range of community assets, identifying fire vulnerable community assets within the Park, and determining the risk, likelihood and consequences of bushfire impact on those assets, will help in the management and prioritisation of risk mitigation strategies for bushfires. It is noted that the potential risk of fire in the Park is greatest within areas of high vegetation density and in areas where there is an understory of weed species that dry in the summer, such as at Minyirr Park, *Bilingurr* (Hidden Valley area), the northern bush blocks situated on the northern town boundary that form part of the Park and the bush areas inland of Gantheaume Point Road. Key elements of bushfire risk mitigation include:

- managing fuel levels to reduce the consequence of unplanned fire events and facilitate more effective fire response capability (Figure 19),
- maintaining a strategic system of protective fire breaks,
- maintaining access for fire management, including tracks suitable for emergency vehicles,
- maintaining fire response/fire suppression capability, and
- maintaining effective communication with fire management bodies (DFES, the Shire, DBCA) and the local community.

Figure 19: *Fire fuel load maintenance (Source: DBCA)*

Summary of Management Arrangements for Fire Management

		Priority	Lead Agency	YCMP Reference
Management objective	To mitigate the risk of adverse impacts of bushfire on human life, property and community assets. To promote the maintenance of habitat biodiversity and the persistence of 'fire regime specific' biota and habitats.			
Management strategies	Carry out fire risk assessments in accordance with State Planning Policy 3.7, the State Bushfire Prone Areas Map and the *Bush Fires Act 1954* (WA) (Bush Fires Act).	H	DBCA	3.4
	Develop and implement a Bushfire Mitigation Strategy identifying strategies relating to fuel reduction burning, provision of access, establishment of strategic fire breaks and other relevant strategies in liaison with key stakeholders.	H	DBCA	1.5
	Maintain best available and up to date knowledge of fire management in accordance with the Bush Fires Act, Yawuru traditional knowledge and Shire policies and ensure the ecological and social values of the Park are included in response plans for fire management to assist in addressing any significant fire events.	H	DBCA	2.3
	Monitor and record the effects of fire on the most important and vulnerable values and assets, and on habitats or species which may require specific fire regimes (for example Monsoonal Vine Thickets, Keraudrenia species etc.).	Ongoing	DBCA	3.4
	Ensure that Yawuru Rangers are trained in fire management principles and practices.	M	DBCA	2.3
Performance Measures	Completion of fire risk assessment. Preparation of a Bushfire Mitigation Strategy. Implementation of Bushfire Mitigation Strategy. Outcomes of monitoring activities. Training of Yawuru rangers.			
Targets	Minimise impacts associated with fire in the Park.			
Reporting Requirements	Annually		DBCA	

4.4 Social and Economic Values

4.4.1 History and Heritage

Broome and its surrounds, including the Yawuru Conservation Estate, are exceedingly rich with history and multilayered cultural heritage.

Thousands of years of Aboriginal occupation and the arrival of pearlers, pastoralists and other settlers, which led to the evolution of the pearling and pastoral industries and the establishment of the town of Broome, are defining influences in the heritage of the region. There are numerous Aboriginal heritage sites registered under the *Aboriginal Heritage Act 1972* (WA). Parts of the Park are included within the boundary of the West Kimberley National Heritage Area (DSEWPaC, 2011b) (Figure 20).

Archaeology and Aboriginal Heritage

According to Akerman (1975), the coastal portions of Dampierland Peninsula shows evidence of use and occupation dominated by the presence of mollusc shells, tools and other artefacts that are evidence of early Aboriginal activity both before and after contact with non-Aboriginals. A review of the Aboriginal Heritage Inquiry System maintained by the Department of Aboriginal Affairs (2016) records a number of registered Aboriginal sites including along Cable Beach, near Gantheaume Point, and in the Reddell Beach area. A number of these sites are within or in close proximity to the Park. However, there are numerous sites that are currently unregistered.

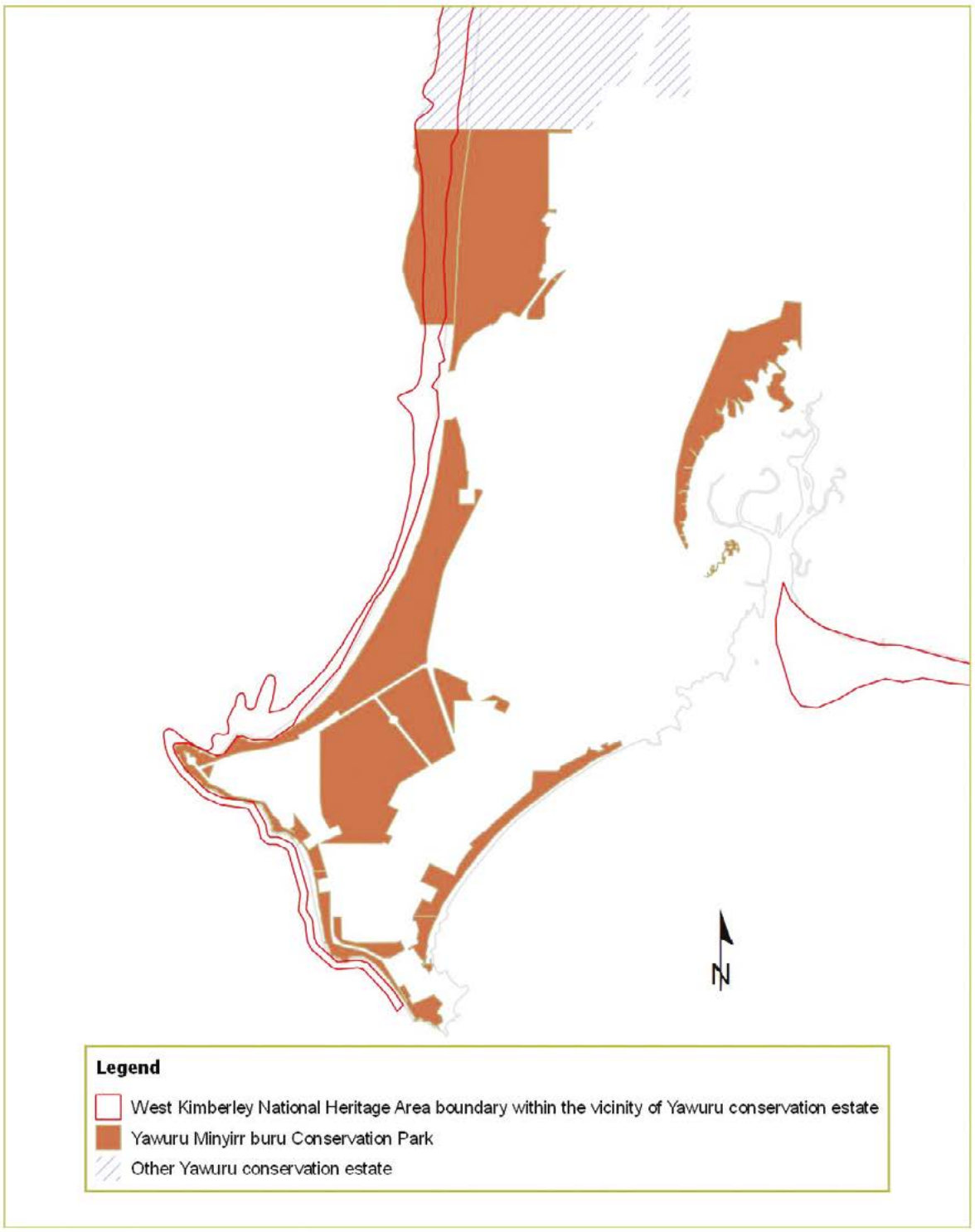
Early History

Broome has a rich non-indigenous heritage which commenced in 1699 when William Dampier named Roebuck Bay after his ship. Little further exploration occurred until late in 1801 when Nicholas Baudin travelled the north-west coast as captain of a French scientific expedition and named several points along the Kimberley coast including Gantheaume Point. In the 1870s pearlers travelled to Broome to explore for rich pearling beds and the Broome pearling industry was launched. This was a brutal time for the Aboriginal people trapped into pearling labour. As 'dress diving' became the practice, Aboriginal 'skin divers' slowly declined and the workforce increasingly comprised workers from the east and southeast Asia. By the late 1890s, approximately 80 percent of the world's supply of mother-of-pearl shell originated from Broome.

Heritage

The Broome town site holds a number of listed heritage sites including the Broome cemetery, Court House, Museum, Chinatown Conservation Area, a number of churches, Streeters jetty and several pearling buildings, however there are no listed heritage sites within the Park (Heritage Council, 2015). There are places which have local historical significance such as Morgan's Camp, Demco and Gantheaume Point, and these places would benefit from heritage protection and interpretation. It is important to maintain Broome's seaside heritage and identity with the coastal environment.

National heritage area boundaries



Produced by Jason Richardson,
Parks and Wildlife Service

Geographic Projection
Datum: GDA94

The Parks and Wildlife Service does not guarantee that this map is without flaw of any kind and disclaims all liability for any errors, loss or other consequence which may arise from relying on any information depicted. Roads and tracks on land managed by DBCA may contain unmarked hazards and their surface condition is variable. Exercise caution and drive to conditions on all roads.

Figure: 20

Summary of Management Arrangements for History and Heritage Values

		Priority	Lead Agency	YCMP Reference
Management objective	Ensure consideration and the protection of cultural heritage sites and values within the Park.			
Management strategies	Identify important non-indigenous heritage sites.	M	Shire	1.1
	Identify key coastal Aboriginal heritage sites.	M	Yawuru	1.1
Performance Measures	Identification of non-indigenous heritage sites. Assessment of key coastal Aboriginal heritage sites.			
Targets	Avoid impact to heritage sites.			
Reporting Requirements	Every two years		DBCA	

4.4.2 Recreation

Nature-based recreation and cultural tourism are key attractions within the Kimberley.

Broome offers a variety of attractions for the local community and visitors, including secluded bays of turquoise waters, rocky shores, intertidal flats, mangroves, sand dunes and beaches with abundant wildlife. It is recognised that conservation reserves have the capacity to satisfy an important public demand for outdoor recreation and nature-based tourism, and in so doing contribute significantly to the social, psychological, physical and economic wellbeing of the community (DEC, 2006). Management of use and visitation in the Park will be guided by the management objectives, strategies and targets in Sections 4 and 5 of this Plan, any zoning implemented, as well as by the provisions of the LA Act, *Local Government Act 1995* (WA), the Shire's local laws, *Wildlife Conservation Act 1950* (WA) and other governing legislation relating to terrestrial management. Within this setting, a range of socio-economic values are recognised and will continue to be consistent with management targets set for cultural and ecological values in the Park.

There are a number of recreational areas within the Park (Figure 21) including Gantheaume Point, Minyirr Park and beach access points adjacent to Demco Beach, Simpsons Beach, Reddell Beach and Entrance Point. Recreation and tourism activities within the Park include wildlife viewing, walking, nature-based education tours (e.g. school excursions at Base Camp in Minyirr Park), and recreational fishing on beaches adjacent to the Park. The Park provides opportunities for sustainable recreational activities that are consistent with maintaining the cultural and ecological values of the area.

Minyirr Park

Gantheaume Point

Demco Beach

Figure 21: *Recreational locations, Minyirr Buru Conservation Park (Source: Brand, 2015)*

Wildlife Viewing and Walking

Wildlife viewing and walking are popular activities throughout Broome and the Park, particularly along the walk trails in Minyirr Park and the Lurujarri trail. Minyirr Park, also known as the coastal park, is of great cultural significance to Yawuru people and sits between Gubinge Road and the sea. The park offers unique walking and wildlife viewing opportunities with approximately 22 kilometres of walk trails meandering through the dunes, pindan and bushland.

Other popular sightseeing opportunities include the dinosaur foot prints, Anastasias Pool and the coastal views around Gantheaume Point. Given the Park's proximity to residential areas and use as an access to the beach, dog walking is also a common activity. This activity is discussed in more detail in further later in this Section.

Picnicking

Picnicking is an important recreational activity which brings family and friends together and often goes hand in hand with fishing and beach trips. Currently within the Park there are no designated picnic areas; however large shelters and tables are available at Gantheaume Point, Demco and less formally at Base Camp in Minyirr Park. There are a number of possible sites within the Park that would benefit from the establishment of picnic facilities such as the parking areas at Reddell Beach, Demco Beach, Entrance Point and the Gantheaume Point beach access area. The facilities may range from a basic table and chair to shelters, lookout platforms and toilets.

Recreational Fishing

Recreational fishing is a popular activity along the beaches and creeks adjacent to the Park, as well as in the Cable Beach intertidal zone reserve and is highly valued by the local community. Recreational fishing is experiencing significant growth in the region driven by an increase in resident population and tourists visiting during the dry season. The majority of recreational fishing within the Broome town site area occurs on coastal cliffs, beaches and creeks, such as Gantheaume Point, Reddell Beach, Simpson Beach and Dampier Creek, with fishers targeting bait fish, ***birrala*** Threadfin Salmon (*Polydactylus macrochir*), walga walga Bluenose Salmon (*Eleutheronema tetradactylum*), Barramundi (*Lates calcarifer*), Tripletail (*Lobotes surinamensis*) and Black Jewfish (*Protonibea diacanthus*) (Bennelongia, 2009) Bluebone (*Choerodon rubescens*) and other reef fish.

Pedestrian access for recreational fishing is available throughout the Park, while vehicle access is provided at several boat ramps within the town. The access to the section of the beach at Gantheaume Beach used as a boat launching site (south end of Cable Beach) is through the Park, while boat ramps are at Town Beach, Entrance Point and the Catalinas. The main pressures associated with recreational fishing for the adjacent Park are localised impacts associated with the effects of access on ecological values (i.e. from litter and disturbance of sensitive habitats).

Summary of Management Arrangements for Recreation Values

		Priority	Lead Agency	YCMP Reference
Management objective	Ensure that recreational activities are supported and managed in a manner that is consistent with maintaining the ecological and socio-economic values of the Park.			
Management strategies	1. Maintain the Recreation Master Plan (RMP).	Ongoing	DBCA	3.11
	2. Develop and implement an Interpretation Plan.	H	Yawuru	1.1
	3. Monitor environmental impacts associated with recreation by developing a database to record this information on an ongoing basis.	Ongoing	DBCA	3.4
	4. Prioritise and cost infrastructure identified within the RMP.	H	DBCA	3.11
	5. Seek external funding opportunities for capital works for recreation sites.	Ongoing	DBCA	3.11
	6. Conduct a visitor survey programme to better understand visitor use, numbers and satisfaction of visitor experience.	H	DBCA	3.4
Performance Measures	1. Updates to the RMP. 2. Preparation of the Interpretation Plan. 3. Recording outcomes of monitoring and assessment processes. 4. Setting infrastructure priorities. 5. Identification of suitable funding options. 6. Completion of visitor survey program.			
Targets	Ensure a high-quality recreation experience is provided.			
Reporting Requirements	Every two years		DBCA	

Dogs

Dog walking and exercising is a common activity across the Yawuru Conservation Estate, and particularly within the Park due to its close proximity to the Broome town site and residential areas. The Shire is responsible for administering and enforcing the *Dog Act 1976* (WA) within the town site. The Act states that a dog shall not be in a public place unless it is:

a. Held by a person who is capable of controlling the dog; or

b. Securely tethered for a temporary purpose, by means of a chain, cord, leash or harness of sufficient strength and not exceeding the prescribed length.

The Shire has also specified 'dog exercise areas' as being the beach foreshore within the district with the exception of those areas specified in the prohibited areas. Within the 'dog exercising areas', dogs are permitted off-leash as long as the owner is within reasonable proximity to the dog. The owner is also required to carry and be capable of attaching a leash for the purposes of controlling the dog.

Summary of Management Arrangements for Dogs

Management objective	Provide equitable access within the Park for dog owners			
		Priority	**Lead Agency**	**YCMP Reference**
Management strategies	Use appropriate signage to advise the community where dogs are allowed and where they are not permitted.	M	DBCA	3.5
Performance Measures	Development and installation of signage.			
Targets	Installation of signage in appropriate locations if not already present.			
Reporting Requirements	Every two years		DBCA	

Horses

Horse riding is also an important recreational activity enjoyed primarily by locals as well as being associated with the horse racing events at the racecourse inland of Gantheaume Point. Horse riders make use of the Gantheaume Point Beach utilising the exercise area described in the Shire's 'Horses on Cable Beach Policy'. The policy states that horses are required to cross Gantheaume Point Road at the signed horse crossing and use the 'horse only' access/egress point to and from the beach foreshore (Figure 22). Race horses are only permitted between 1st of April and the 31st of August. All horses must be granted approval from the Shire and approvals are granted for one year only. Horses entering the beach exercise area may impact on the values of the Park if their access is not managed effectively. If horses remain on designated paths and do not enter sensitive cultural and ecological areas such as those in the nearby Minyirr Park, then horse riding activities should not pose a threat to the values of the Park.

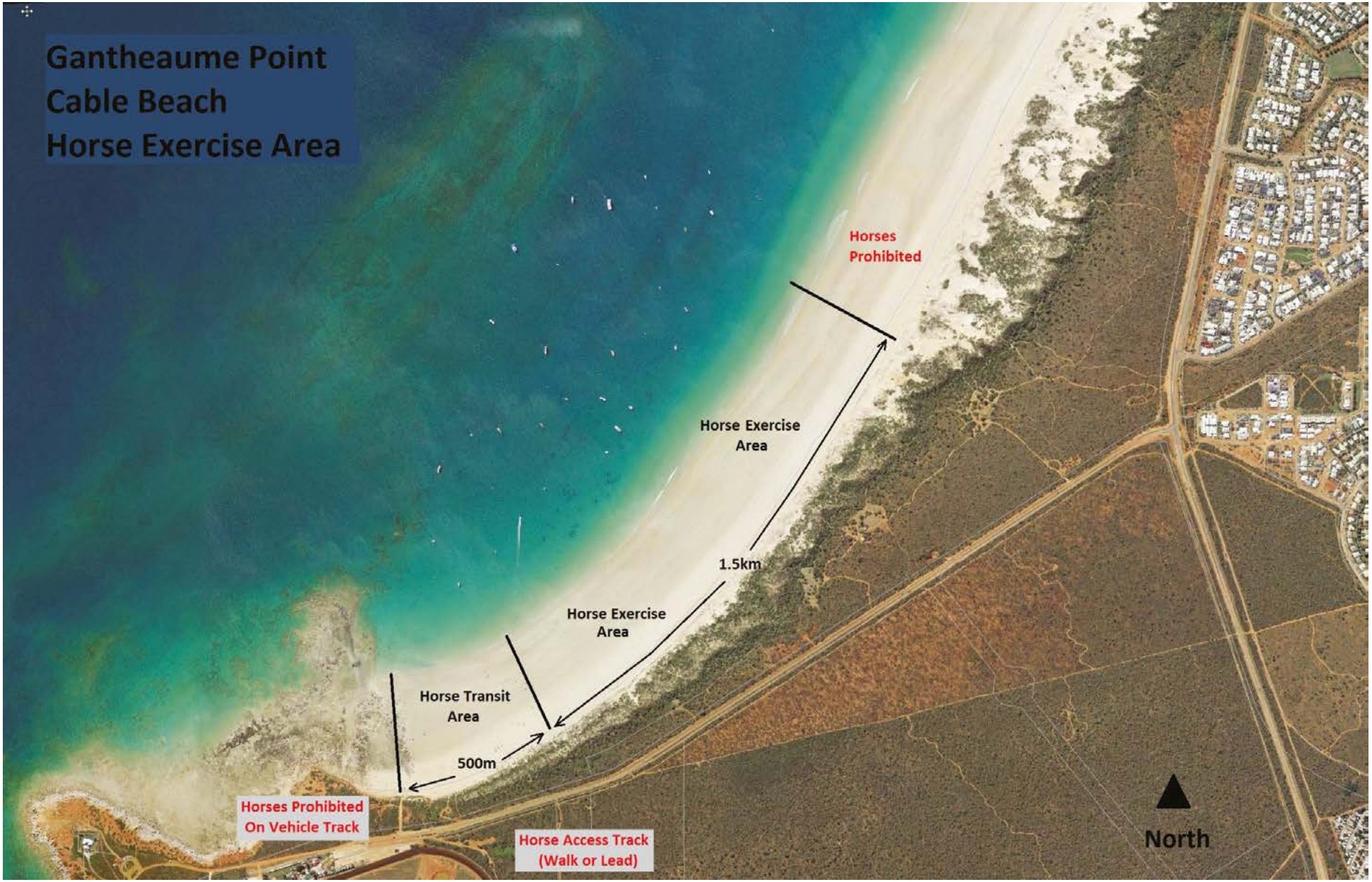
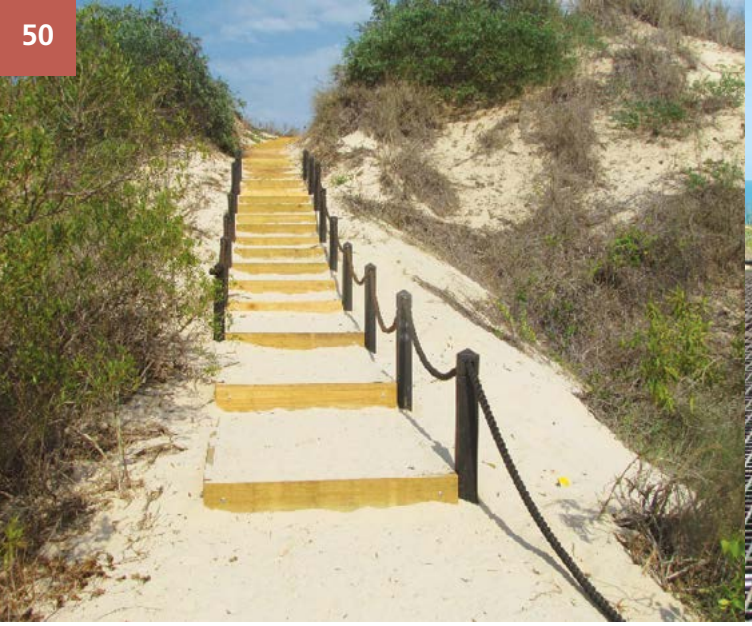


Figure 22: *Horse access to Cable Beach (Source, Shire of Broome, 2016)*



Gurlibil trail

Minyirr Park staircase

Simpson Park stairs

Figure 23: *Access upgrades (Source: DBCA)*

4.4.3 Access

Access Restrictions

At present, no restricted access areas have been identified within the Park for Aboriginal cultural and customary purposes. The partners recognise that there may be areas of cultural heritage significance that require access restrictions and management in accordance with the *Yawuru Cultural Management Plan*. Any future restricted access zones must be agreed upon by all joint management parties.

Pedestrian Access

Due to ongoing residential development and the associated increased use of walk trails such as those in Minyirr Park, many of the existing tracks and walkways, particularly ***Nagula*** trails traversing the sand dunes, as well as parking facilities need to be upgraded and stabilised (Figure 23). Particular access ways that require management include:

- beach access path over dunes opposite Murray Road,
- De Marchi Road and McMahon pathways (pathway from McMahon oval) and dune crossings;
- pathways, dune crossing and car parking facilities in the Base Camp area,
- the requirement for an established path way and dune crossing near the Cable Beach Road West roundabout when further development occurs,
- pathways around Gantheaume Point,
- access and car parking facilities for the use of Gantheaume Point Beach (south end of Cable Beach), and
- increased signage and interpretation in Minyirr Park and other recreational nodes.

Vehicle Access

Existing roads within the Park provide public vehicle access to recreational use areas. Vehicle access within recreation areas will be further defined through site-level design. Off road driving is also a popular activity in Broome particularly on Gantheaume Point Beach and in the Cable Beach Intertidal zone adjacent to the Park. Some off-road driving also occurs around the sand dunes of Reddell Beach and bollards and large rocks are used to restrict this activity in these sensitive dunes. Signs are used to depict where driving is prohibited on the beach and dune systems at Gantheaume Point Beach where vehicles are only allowed for 500 metres up the beach before signs display the prohibition of this activity.

All vehicles entering the Park must be licensed under the *Road Traffic Act 1974* (WA). There are no 'permitted areas' for off-road vehicles under the *Control of Vehicles (Off-road Areas) Act 1978* (WA). Vehicles such as unlicensed off-road motorbikes and dune buggies are not permitted in the Park. Illegal use of unlicensed off-road vehicles and indiscriminate use of licensed four-wheel drive vehicles have the potential to adversely impact the values of the Park. Four-wheel drive vehicles can potentially access a variety of existing tracks, whilst motor bikes and quad bikes have the capacity to access a far greater area, including walk trails and dune systems. Concerns from off road vehicle use include the possible impacts to beach flora and fauna such as turtles and shore crabs.

Flatback Turtles (*Natator depressus*) and Green Turtles (*Chelonia mydas*) are known to nest along Cable Beach, particularly in the northern areas inland of *Bilingurr* and within the intertidal zone. The section of Cable Beach with the most turtle activity has been the area from the steps of the surf club and 2.1 kilometres north, which is also the section of beach that receives the highest level of human activity (Conservation Volunteers Australia, 2010). Seasonal beach closures to off-road vehicles are already in place and enforced by the Shire.

Other off-road vehicle use such as quad bikes and motor bikes occurs in the sand dune system around Minyirr Park, *Bilingurr*, Dampier Creek and the northern bush blocks within the Park. The current use is unsustainable with significant potential for public safety issues, damage to vegetation and erosion of the dunes. Existing signage is not effective and an increased management effort is required to enforce these restrictions, which may include fencing, barriers, locked gates, public education and other management methods.

Access for Visitors with Disabilities

The joint management partners wish to improve access to services, information and facilities for people with disabilities. Disability access issues will be considered and addressed during detailed recreation site planning and development. There may be practical constraints in providing access for people with disabilities to some of the more natural recreation sites within the Park. However, it will generally be possible to provide universal access at larger modified sites.

Illegal Camping

Currently in the high season many campers illegally camp down dirt tracks and sand dunes in the Yawuru Minyirr Buru Conservation Park, primarily around Reddell and Simpson Beaches. This results in impacts such as vegetation disturbance and rubbish and requires ongoing management.

Patrol and Enforcement

Shire Rangers manage and enforce Broome local laws and local government legislation within the Broome town site. Within the Park, on ground management and enforcement will be effected by Shire Rangers and Yawuru Rangers employed by The Department; joint patrols carried out by The Department and the Shire of Broome have commenced.

This Plan details a range of strategies relating to the management of human activities within the Park. While users typically comply with management regulations when they understand why such controls have been implemented, there is always a need to monitor the level of compliance and take action to stop inappropriate or illegal behaviour. To achieve this, an appropriate level of field presence by correctly authorised Rangers (Figure 24) will be necessary to provide information and educational messages, and where appropriate undertake compliance activities. Users of the area (e.g. tourism operators and the general community) can also play a key role in self-regulation and peer surveillance.

Figure 24: ***Community education and interaction (Source: DBCA)***

The Ranger program for Yawuru community members includes training towards participants becoming authorised officers under the *Local Government Act 2005* (WA), CALM Act and the *Wildlife Conservation Act 1950* (WA). This will allow Yawuru Rangers who gain authorisation to undertake patrol and enforcement duties throughout the Park, specifically in the areas of illegal vehicle use and illegal camping. Yawuru (trainee) Rangers will need to work with Shire Rangers, DBCA authorised officers and other agencies, such as Fisheries, to gain experience in patrol and enforcement activities.

Summary of Management Arrangements for Access Management

Management objective

1. To maintain public access to the Park in a way that does not compromise the cultural, ecological or socio-economic values of the Park.
2. To maximise public compliance with regulations related to the ongoing management of the Park.

Management strategies

		Priority	Lead Agency	YCMP Reference
1.	Map the locations of all formal and informal access locations in the Park.	H	DBCA	3.11
2.	Consolidate and formalise access locations, closing surplus access ways with agreement from YPC.	M	DBCA	3.11
3.	If required, implement access management arrangements to ensure access to culturally sensitive areas is managed appropriately, with all access restrictions to be agreed by YPC.	M	Yawuru	3.11
4.	Implement access restrictions as necessary to protect flora, fauna and ecological communities, with all restrictions to be agreed by YPC.	M	DBCA	3.11
5.	Implement strategies as necessary to prevent adverse impacts on the values of the Park from inappropriate vehicle or pedestrian access,	M	DBCA	3.11
6.	Educate, mentor and support trainee rangers through working with Shire Rangers, The Department authorised officers and other agencies to gain experience in patrol and enforcement activities, to the extent possible within the existing resources of the Shire and The Department.	Ongoing	DBCA	3.1
7.	Develop and implement a collaborative patrol and enforcement program to:	H	DBCA	3.5
8.	(a) Ensure compliance with relevant regulations; and	Ongoing	DBCA	3.11
9.	(b) Maximise efficiency and effectiveness of patrol and enforcement activities.	L	DBCA	3.4
10.	Apply culturally appropriate and sensitive management to illegal camping issues within the Yawuru Minyirr Buru Conservation Park.	L	DBCA	
11.	Facilitate cross-authorisation of government enforcement officers as appropriate			
12.	Maintain a database of compliance statistics and issues.			

Performance Measures

1. Number of trained and trainee rangers.
2. Compliance statistics.
3. Installation of signage and other management measures.

Targets

1. Decreasing trend of non-compliance within the Park.
2. Rangers are working throughout the Park.
3. Completion of regular and annual inspection and maintenance programs.

Reporting Requirements

Every two years — DBCA

4.4.4 Visual Amenity

The Park has very high visual amenity values which are important for Yawuru people and local residents, and are a major part of the appeal of Broome for visitors.

The Park affords panoramic vistas of unique environments including turquoise waters, beaches, rocky shores, intertidal flats, mangroves, sand dune systems and monsoonal vine thickets with abundant wildlife. These attributes can be enjoyed from the beach, higher vantage points along the coast and inland though dense thickets and bushland. They also provide commercial value to the tourism industry (such as charter, caravan and camping operators) as a drawcard for tourists. Due to the location of the Park being so central to the Broome town site and port facility, the visual values are not pristine. However, a significant proportion of the Park is quiet and secluded with limited infrastructure, subsequently having high visual and tranquillity values.

Management of landscape quality will focus on identifying areas that have high landscape value and ensuring that activities do not significantly degrade these values.

Structures along the coastline also have the potential to degrade the unique values of the Park. This can include signage, shelters, toilets, picnic areas, lighting, jetties and other infrastructure which may impede the cultural value, history and unique nature of the Park. Litter, pollution and the development of roads and facilities that promote visitation can be a threat to these values.

Summary of Management Arrangements for Visual Amenity Values

		Priority	Lead Agency	YCMP Reference
Management objective	Ensure consideration and the protection of the visual amenity values within the Yawuru Minyirr Buru Conservation Park			
Management strategies	Identify the key characteristics and map the spatial extent of important landscapes.	H	DBCA	1.5
	Ensure recreation and commercial activities are consistent with maintaining the landscape.	M	DBCA	4.4
	Minimise visual impacts of structures through appropriate placement, design and colour of materials used.	M	DBCA	3.10
Performance Measures	Mapping outcomes.			
Targets	Visual amenity considered on an ongoing basis.			
Reporting Requirements	Every two years			

4.4.5 Commercial Activities

Tourism

The Park provides opportunities for commercial and tourism activities and development. Broome is an internationally renowned tourist destination and the gateway for tourists wanting to explore the wider Kimberley region. Tourism Research Australia statistics indicate the average annual number of over-night visitors to the Shire of Broome has been increasing over the last decade and the average annual figure for the year ended December 2014 was approximately 245,000 (Tourism WA, 2015). Growing numbers of tourists are also visiting during the wet season ***Man-gala*** to observe the vast flocks of migratory shorebirds.

Increasingly, international and national tourists want to experience an authentic Aboriginal experience and the indigenous tourism industry is developing at a rapid rate (WAITOC, 2014). The West Australian Indigenous Tourism Operators Council (WAITOC) had 78 full members, registered as Indigenous tourism businesses in 2013/14 (WAITOC, 2014). Indigenous tourism opportunities in the Kimberley and around Broome are significant, and the Park offers an insight into unique natural experiences of Yawuru culture within easily accessible areas and close to the Broome town site.

The Park offers a variety of natural and cultural attractions and opportunities for visitors to the area, with popular activities including site seeing, beach walking and wildlife appreciation. Management strategies for recreation and tourism in the Park will focus on major activities and proposed recreational sites.

Access tracks including those in Minyirr Park, Demco, Morgan's Camp, Simpsons Beach and Reddell Beach have also been identified as requiring different forms of infrastructure and support. Inappropriate paths and tracks can be closed and the focus will then be given to the maintaining and upgrading appropriate access ways.

Each identified recreational area identified within the RMP will have a site-specific plan detailing the site location and specific facilities and infrastructure proposed. The priority, timing and funding arrangements will be detailed in each site plan. Base Camp, Youth Camp, Gantheaume Point Beach and Morgan's Camp have also been identified as possible commercial nodes.

Cultural Ecological Tourism

Cultural appreciation is an area of potential growth with both ecological and financial benefits. Commercial opportunities consistent with the purpose of the Park and Yawuru Conservation Estate is supported and promoted through the ILUAs and the JMA. The *Yawuru Cultural Management Plan* proposes the development of an Interpretation Plan that will apply across the Park.

The importance of maintaining Yawuru traditional ecological knowledge and culture as well as tourism demands for cultural tours and Aboriginal cultural appreciation has emphasised the benefits to further develop the existing cultural appreciation infrastructure as well as establishing new sites. The bush furniture and Yawuru season signage around Base Camp has been highlighted for upgrade. A boardwalk around ***Burrgungun*** Morgan's Camp and interpretive signage to speak the history of the place and the importance of the Mangrove communities for the Yawuru people has also been proposed.

Nature-based recreation and tourism has the potential to make an important contribution to protecting the region's ecosystems by fostering a greater cultural and environmental understanding. However, unless carefully managed, visitation and tourism activities have the potential to cause environmental damage, particularly as the numbers of visitors continue to increase.

Commercial Activities

Yawuru have identified that the Park provides opportunities for developing commercial businesses such as cultural heritage and eco-tourism tours, training opportunities such as cultural awareness training, cultural workshops, excursions and field programs (YRNTBC, 2011). It is acknowledged under the JMA that the Yawuru RNTBC has the first right to take up business and commercial opportunities in the Conservation Estate. Other operators may also be interested in developing commercial operations within the Park. All commercial activities will be assessed in accordance with the agreed protocols. If commercial opportunities are not progressed by Yawuru, then consideration may be given to commercial use of the Park by other persons in accordance with agreed protocols.

Events on the Conservation Estate

In additional to commercial tourism opportunities, the Park offers the opportunity for events to be held at various locations by Yawuru people and other persons. Event applications will be assessed and approved in accordance with agreed protocols.

Summary of Management Arrangements for Commercial Activities

		Priority	Lead Agency	YCMP Reference
Management objectives	1. To ensure that commercial activities are encouraged and managed in a manner that is consistent with maintaining the cultural, ecological and social-economic values of the Park. 2. To maintain the ecological and socio-economic values of the Park that are important to commercial operators, through the appropriate management of human based activities that adversely impact upon these values. 3. To provide opportunities for Yawuru community and Yawuru RNTBC to develop and operate commercial businesses consistent with maintaining the values of the Park.			
Management strategies	1. Assist Yawuru people and others to identify areas of commercial opportunity within the Park.	Ongoing	Yawuru	4.4
	2. Determine and develop appropriate management protocols for assessment, licencing and management of commercial activities and events.	H	Shire	4.4
	3. Approvals issued for commercial activities and events with appropriate conditions.	Ongoing	Shire	4.4
	4. Provide Yawuru people with new commercial opportunities in the Park.	Ongoing	Yawuru	4.1
Performance Measures	1. Commercial operations visitor numbers. 2. Identification of commercial opportunities and associated management frameworks. 3. Number of Licenses/Permits applied for and issued.			
Targets	All commercial operators have the required approvals and abide by relevant conditions.			
Reporting Requirements	Every two years		DBCA	

Resource values

The region has identified (and prospective) mineral, oil and gas resources that are important to the regional economy. Two petroleum exploration permits apply to the Park (Landgate, 2015); however, no mining or extraction activities are presently being undertaken. A number of basic raw materials are located in proximity to the Park, and include the Broome South Sand, Red Hill Mesand, Beacon Hill and Broome South Sand.

In recognition of the natural and cultural values and the management purpose of the Park, it is preferable that all basic raw materials needed for construction within the Park (e.g. for the construction of roads and recreation developments) are obtained from outside the Park, or from areas that are already disturbed or of lower conservation value

Summary of Management Arrangements for Resource Use

		Priority	Lead Agency	YCMP Reference
Management objective	To protect the values of the Park from any adverse effects associated with resource use activities in or near to the Park.			
Management strategies	1. Obtain raw materials for use within the Park from outside the Park, unless any adverse effects on the natural and cultural values are demonstrated to be very low and there are no other practical, environmentally or culturally acceptable alternatives. 2. Ensure that rehabilitation has been effective by post-rehabilitation monitoring and evaluation, and implementation of any additional or alternative restorative works if required.	Ongoing L	DBCA DBCA	3.11 3.11
Performance Measures	1. Decision making process relating to source of raw materials for use within the Park. 2. Development and implementation of completion criteria for areas disturbed due to extraction of raw materials.			
Targets	1. Avoid adverse effects within the Park. 2. Restoration to equivalent or better condition at the conclusion of raw material extraction activities.			
Reporting Requirements	Every two years		DBCA	

4.5 General Management Measures

4.5.1 Asset Management

Responsible asset management will be a key component of the successful management of the Park.

As the day to day managers of the Park, The Department will be the owner of all assets located within the Park, and under the Assistance Agreement, will be responsible for ongoing maintenance of these assets.

To help achieve best practice asset management, an Asset Management Plan will be developed by The Department and endorsed by the YPC to provide a detailed understanding of the fixed assets located within the Park, with cultural and environmental assets described in-line with the *Yawuru Cultural Management Plan*. The Asset Management Plan will be configured to be fit for purpose to provide an overview of current assets, provide technical data and property details, as well as deliver performance and accountability measures (i.e. condition and maintenance information) which correspond with YPC agreed criterion. As a minimum, the Asset Management Plan will record the locations of:

- significant cultural and heritage sites,
- local roads (sealed and unsealed),
- beach access points, stairs, footpaths, tracks and trails,
- car parks (both developed and areas utilised for parking),
- culverts, drains, catchments (stormwater and sewerage),
- signage,
- open space, and
- buildings and other structures such as seats, sheds, and shaded areas.

Accordingly, the Asset Management Plan will assist with providing:

- recognition of cultural heritage values,
- asset locations;
- the current condition of assets;
- when/if assets need to be replaced;
- information/upgrades required to meet regulatory requirements;
- the level and frequency of asset maintenance programs; and
- life cycle costs by asset, program and business activity.

Agreed maintenance and capital programs may also be generated from the asset register for various activities including:

- new works;
- industry and community partnerships;
- asset replacement;
- routine maintenance; and
- reactive maintenance.

Summary of Management Arrangements for Asset Management

		Priority	Lead Agency	YCMP Reference
Management objective	Ensure assets within the Park are managed appropriately.			
Management strategies	Develop an Asset Management Plan.	H Ongoing	DBCA	
	Undertake annual inspections of infrastructure within the Park.	H	DBCA	3.11
	Prepare an annual Capital Works Program based on the Asset Management Plan, to be approved by the YPC.		DBCA	3.11
Performance Measures	Preparation and endorsement of Asset Management Plan. Annual inspection program completed. Preparation and endorsement of annual Capital Works Programs.			
Targets	Asset Management Plan endorsed by the YPC. Annual Capital Works Programs endorsed by the YPC. Annual inspection programs completed and results documented. Asset maintenance and replacement undertaken in accordance with Asset Management Plan and Capital Works Programs.			
Reporting Requirements	Annually		DBCA	

4.5.2 Waste Management

The Department will undertake a Park waste management inspection program through routine patrols to determine the extent of illegal rubbish dumping and waste product dumping. These inspections will determine the location, quantity and type of waste that is deposited. The outcomes will contribute to the development of a Waste Management Plan for the Park, to be presented to the YPC for approval and implemented by The Department. The Waste Management Plan will also consider the arrangements for servicing rubbish and dog waste bins that are adjacent to the Park, which are currently serviced by the Shire.

Summary of Management Arrangements for Waste Management

		Priority	Lead Agency	YCMP Reference
Management objective	To ensure waste is managed appropriately within the Park.			
Management strategies	Develop and implement a Waste Management Plan.	M	DBCA	3.11
Performance Measures	Development and implementation of the Waste Management Plan. Amount of illegal dumping.			
Targets	Waste managed appropriately. No illegal dumping of rubbish.			
Reporting Requirements	Every two years		DBCA	

4.5.3 Information, Education and Interpretation

The development of an education and interpretation program will increase public awareness and understanding of conservation, Yawuru people and culture, and management issues in the Park. This increased understanding will help to develop a sense of community stewardship which will subsequently lead to better protection of ecological and cultural values and the responsible management of social values. An important component of the education and interpretation program is to promote Yawuru culture and heritage values. This program will draw heavily on the outcomes and messages from the *Yawuru Cultural Management Plan* and other management plans for the Yawuru Conservation Estate. A linkage between the Leave No Trace (LNT) principals would be an effective way to consistently communicate values of the Park. The education and interpretation program needs to be flexible and applied in ways that maximise the effectiveness of the program for various sectors and target audiences as well as working with stakeholders wherever possible.

Summary of Management Arrangements for Information, Education and Interpretation

		Priority	Lead Agency	YCMP Reference
Management objective	To enhance community understanding of, and support for, the values of the Park through education and interpretation programs.			
Management strategies	1. Develop and implement an Integrated Education and Interpretation Plan to ensure users of the Park understand:	H	Yawuru	1.1
	• the importance of the key cultural, ecological and socio-economic values of the Park as set out in this Plan	M	Yawuru	5.1
	• the integration of traditional ecological knowledge into the management of the Park	H	Yawuru	1.1
	• the rights of Yawuru people, as the recognised traditional owners in and around Broome to enjoy Yawuru country and maintain their cultural practices	H	DBCA	5.1
	• areas of cultural and historical significance and culturally appropriate behaviour in these areas	L	Yawuru	
	• the flora and fauna that are sensitive to disturbance (e.g. roosting shorebirds) and appropriate behaviour to minimise impacts	Ongoing	Yawuru	
	• the effects of dumping rubbish and garden refuse and the threat invasive plants pose to the values of the Park			
	• appropriate behaviours to reduce illegal vehicle access and camping			
	• appropriate behaviours to reduce the risk of injury and ensure public safety.			
	2. Ensure the education and interpretation program for the Park is appropriately integrated with relevant outcomes and messages from the *Cultural Management Plan* and other management plans for the Conservation Estate.			
	3. Ensure that Yawuru people have an active role in the education and interpretation programs.			
	4. Install culturally appropriate signage for the Park for educational purposes where appropriate, and with approval from the YPC and consistent with the Interpretive Plan			
	5. Encourage and assist the tourism industry to provide educational courses/materials to their staff and customers to foster community stewardship of the Park.			
	6. Develop promotional and educational material.			
Performance Measures	1. Development and implementation of Education and interpretation Plan.			
	2. Visitor and industry surveys.			
	3. Promotional and educational materials produced.			
Targets	1. Fifty percent of visitors to the Park are aware of the existence of the Park, its values and the management requirement that apply within five years of the release of the Plan.			
Reporting Requirements	Every two years		DBCA	

4.5.4 Public Participation

Public participation can help to build and sustain community support that is critical for effective implementation of this Plan.

This can be achieved in a number of ways including advisory committees, community forums, surveys, and information events. Given the unique circumstances (i.e. a number of individual management plans and a variety of vesting arrangements), it will be necessary to consider carefully how best to achieve public participation in management of all the Yawuru Conservation Estate, including the Park.

Groups and organisations including the Yawuru RNTBC, NBY, the Shire, Roebuck Bay Working Group (RBWG) Environs Kimberley, The Department, Broome Bird Observatory, Coastwest, Broome Botanical Society, Conservation Volunteers Australia, SKIPA, Ministry of Justice, Kimberley Training Institute and local business, as well the wider community, have already established strong working partnerships which have been integral in previous conservation programs. There is also an opportunity to consider the role of cultural caretakers in areas of special significance such as Morgan's Camp and Minyirr Park.

Summary of Management Arrangements for Public Participation

Management objective	To encourage and facilitate ongoing public participation in the management of the Park.			
		Priority	Lead Agency	YCMP Reference
Management strategies	1. Consider and establish appropriate structures and mechanisms to provide for community input and involvement in ongoing management of the Park.	H	DBCA	3.10
	2. Develop and implement a public participation program for the Park which encourages community involvement through a range of opportunities, including education and monitoring programs.	M	DBCA	3.6
	3. Maintain records of public participation.	L	DBCA	3.4
Performance Measures	1. Development of community involvement mechanisms. 2. Development and implementation of the public participation program. 3. Development of the public participation records database.			
Targets	To facilitate ongoing public participation in the management of the Park.			
Reporting Requirements	Every two Years		DBCA	

4.5.5 Research and Monitoring

The nature and diversity of habitats in the Park combined with the proximity to the Broome town site provide unique opportunities for ecological, cultural, archaeological, geomorphological and socio-economic research, with close community involvement and participation.

A good understanding of the cultural values and ecology of the Park and knowledge about the cumulative long-term impact of recreational and commercial activities on these values are fundamental requirements for effective management. There has been a significant amount of research characterising the Broome wetlands, mangroves, intertidal flats and migratory shorebirds, however this large body of work remains to be collated and synthesised in a coherent and systematic manner to realise its full potential for long term management. Recent research initiatives have been developed through various community groups, academic institutions and environmental government and non-government organisations, focusing on research projects such as the monsoonal vine thickets, significant flora of the region, Snubfin Dolphins and Flatback Turtle nesting.

All research within the Park requires Yawuru and Shire approval and the appropriate research permit and/or approvals issued under the *Local Government Act 2005* (WA), *Wildlife Conservation Act 1950* (WA), *Fish Resources Management Act 1994* (WA), EPBC Act and/or the *Animal Welfare Act 2002* (WA), as relevant to the research proposal. Special access requirements may be necessary for research into areas with restricted access.

Summary of Management Arrangements for Research and Monitoring

		Priority	Lead Agency	YCMP Reference
Management objectives	To provide access and opportunities for scientific research in the Park.			
Management strategies	1. Encourage and facilitate as far as practicable community and other involvement in research and monitoring programs, providing financial and logistical assistance where possible.	L	DBCA	5.1
Performance Measures	1. Involvement of various organisations in research projects.			
Targets	Increased knowledge of the various values within the Park.			
Reporting Requirements	Every two years, or in accordance with research project timetables.		DBCA	

4.5.6 Risk Management and Safety

Risks to public safety within the Park include:

- the possibility of sudden pindan cliff collapses should visitors stray from formal lookouts, recreation areas and walking trails
- weather events such as cyclones and severe storms
- some marine and coastal fauna (e.g. crocodiles, irukandji jellyfish)
- ongoing erosion caused by coastal processes.

Yawuru people view transgressions against the law as a cause of natural disasters and human tragedies and take seriously their cultural duty to ensure that Yawuru community members and 'strangers' do not place themselves and others at risk of harm. Yawuru cultural protocols include protocols that help Yawuru people fulfil their cultural responsibilities to look after anyone on Yawuru country e.g. protocols about access to culturally sensitive areas that Yawuru people believe are subject to powerful and dangerous forces (Yawuru RNTBC 2011).

A risk assessment and risk management plan will be developed by The Department for the Park, comprising identification, analysis and efficient control of exposure to public liability risks

Summary of Management Arrangements for Risk Management and Safety

		Priority	Lead Agency	YCMP Reference
Management objective	To minimise risks to visitors within the Yawuru Minyirr Buru Conservation Park from natural and other hazards.			
Management strategies	1. Undertake a biannual risk assessment and develop a risk management plan to identify hazards/risks and proposed corrective/ mitigation actions.	H	DBCA	3.10
	2. Identify the estimated costs associated with each proposed corrective action.	H	DBCA	3.10
	3. Consider the recommendations of the Broome Townsite Coastal Hazard Risk Management and Adaptation Plan (CHRMAP) in undertaking the risk assessment and implementing the risk management plan.	H	DBCA	
Performance Measures	1. Identification and prioritisation of risks. 2. Implementation of management strategies.			
Targets	3. No serious injuries reported in the Park.			
Reporting Requirements	Annually		DBCA	

5.0 Yawuru Language Glossary

balyjarr ..... *saltwater couch (Sporobolus virginicus)*

Barrgana ..... *Yawuru season: cold season, May*

bilarra ..... *wetland/spring*

bilgin ..... *Water chestnut (Eleocharis dulcis)*

birra ..... *bush; bush country, inland country*

biyal-biyal ..... *kapok mangrove (Camptostemon schultzii)*

bugarrigarra ..... *the Dreaming; Dreamtime; history before time began; derived from bugarri = dream and garra = more than one*

bundu ..... *salt marsh (saline grasslands, samphire, mudflats)*

bundurr-bundurr ..... *the red sandplains and vegetation known as 'pindan'*

buru ..... *one's country; traditional country; land/earth/dirt/ground; can also mean time/place/season*

galji ..... *the fine-grained soft carbonate mud that occurs around Broome*

garl-garl ..... *'blind your eye' mangrove or milky mangrove (Excoecaria agallocha), which has a blinding sap*

girrbaju ..... *bush honey; sugar bag*

gudurrwarany ..... *brolga (Grus rubicunda)*

gundurung ..... *Mangrove; and in particular the light green leaf white mangrove (Avicennia marina)*

gurlju buru ..... *saline grassland/grassland*

jarrmirdany ..... *corkscrew Pandanus (Pandanus spiralis)*

jigily ..... *Kimberley bauhinia (Bauhinia cunninghamii)*

jila ..... *'living water'; permanent freshwater sources*

jurru ..... *mystical being; serpent-like figure; snake*

Laja ..... *Yawuru season: late October/November-December*

langurr ..... *northern nail-tail wallaby (Onychogalea unguifera)*

liyan ..... *feelings that express emotional strength, dignity and pride*

man-gala ..... *Yawuru season: December to March, wet season*

marrul ..... *Yawuru season: April to May*

mayi ..... *bush foods; bush fruit*

murrga-yirr-garnburr .. *melaleuca thicket*

nagula ..... *ocean; sea country*

nirliyangarr ..... *dune wattle (Acacia bivenosa)*

niyamarri ..... *beaches and dunes*

rarrga-rarrga ..... *beach spinifex (Spinifex longifolius)*

rayi ..... *spiritual essence; spirit being; child-spirit*

rirrwal ..... *white dragon tree (Sesbania formosa)*

wirralburu ..... *Yawuru season: warming up season; September to October*

wirn-gi ..... *samphire; saltbush (Frankenia ambita)*

wirralburu ..... *Yawuru season: May*

Source: ***Yawuru cultural management plan (Yawuru RNTBC 2011)***

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YRNTBC 2011-see Yawuru Registered Native Title Body Corporate, 2011

Copies of the Yawuru cultural management plan are available from:

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7.0 Acronyms

ANZECC ..... *Australia and New Zealand Environment and Conservation Council*
BBO ..... *Broome Bird Observatory*
BF Act ..... *Bush Fires Act 1954 (WA)*
BPA ..... *Broome Ports Authority*
CALM Act ... *Conservation and Land Management Act 1984 (WA)*
CAMBA ..... *China-Australia Migratory Bird Agreement*
CCWA ..... *Conservation Commission of Western Australia*
CVA ..... *Conservation Volunteers Australia*
DBCA ..... *Department of Biodiversity, Conservation and Attractions; the Department (previously the Department of Parks and Wildlife)*
DFES ..... *Department of Fire and Emergency Services (formerly Fire and Emergency Services Authority)*
DoF ..... *Department of Fisheries*
DMP ..... *Department of Mines and Petroleum*
DoT ..... *Department of Transport*
DoP ..... *Department of Planning*
EP Act ..... *Environmental Protection Act 1986 (WA)*
EPBC Act ..... *Environment Protection and Biodiversity Conservation Act 1999 (Cwlth)*
EPA ..... *Environmental Protection Authority*
FRM ..... *Fish Resource Management Act 1994 (WA)*
H ..... *High priority management strategy*
H-KMS ..... *High key management strategy*
ILUA ..... *Indigenous Land Use Agreement*
IPA ..... *Indigenous protected area*
IUCN ..... *International Union for the Conservation of Nature*
JAMBA ..... *Japan-Australia Migratory Bird Agreement*
JMA ..... *Joint Management Agreement*
KPI ..... *Key performance indicator*
KTI ..... *Kimberley Training Institute*
LA Act ..... *Land Administration Act 1997 (WA)*
LG Act ..... *Local Government Act 1995 (WA)*
L-KMS ..... *Low priority key management strategy*
LNT ..... *Leave no trace*
M-KMS ..... *Medium priority key management strategy*
MOU ..... *Memorandum of understanding*
MPRA ..... *Marine Parks and Reserves Authority*
NT Act ..... *Native Title Act 1993 (Cwlth)*
PaW ..... *Department of Parks and Wildlife (known as Parks and Wildlife; formerly Department of Environment and Conservation)*
PEC ..... *Priority ecological community*
RNTBC ..... *Registered Native Title Body Corporate*
ROKAMBA . *Republic of Korea-Australia Migratory Bird Agreement*
SKIPA ..... *Society for Kimberley Indigenous Plants and Animals*
SoB ..... *Shire of Broome*
TEC ..... *Threatened ecological community*
TEK ..... *Traditional ecological knowledge*
UCL ..... *Unallocated crown land*
WAM ..... *Western Australian Museum*
WADPUD .... *West Australian Department of Planning and Urban Development (now Department of Planning)*
WC Act ..... *Wildlife Conservation Act 1950 (WA)*
WRC ..... *Water and Rivers Commission*
YCE ..... *Yawuru Conservation Estate*
YCMP ..... *Yawuru Cultural Management Plan*
YPC ..... *Yawuru Park Council*

Appendix 1 – Tenure of Reserves within Yawuru Minyirr Buru Conservation Park

Map No.	ILUA Area	Lot Details	Reserve No.	Class	Management Order	Purpose	Spatial Area (ha)
	Town site Areas (Yawuru Prescribed Body Corporate ILUA)						
1	Area 1, Schedule 9	Lot 450 on DP 72928	51115	A	Care, control and management to Yawuru RNTBC and the Shire of Broome	Conservation, recreation, and traditional and customary Aboriginal use and enjoyment	144.1953
2	Area 2, Schedule 9	Lot 520 on DP 71094	50994	A	Care, control and management to Yawuru RNTBC and the Shire of Broome	Conservation, recreation, and traditional and customary Aboriginal use and enjoyment	294.83
3	Area 2.5, Schedule 9	Lot 301 on DP 71518	50994	A	Care, control and management to Yawuru RNTBC and the Shire of Broome	Conservation, recreation, and traditional and customary Aboriginal use and enjoyment	165.36
4	Area 3, Schedule 9	Lot 601 on DP 70309	51106	C	Care, control and management to Yawuru RNTBC and the Shire of Broome	Conservation, recreation, and traditional and customary Aboriginal use and enjoyment	268.48
5	Area 4, Schedule 9	Lot 400 on DP 70309	51106	C	Care, control and management to Yawuru RNTBC and the Shire of Broome	Conservation, recreation, and traditional and customary Aboriginal use and enjoyment	22.314
6	Area 5, Schedule 9	Lot 450 on DP 72936	51304	A	Care, control and management to Yawuru RNTBC and the Shire of Broome	Conservation, recreation, and traditional and customary Aboriginal use and enjoyment	63.519

Map No.	ILUA Area	Lot Details	Reserve No.	Class	Management Order	Purpose	Spatial Area (ha)
7	Area 6, Schedule 9	Lots 560 and 562 on DP 71526	52308	C	Care, control and management to Yawuru RNTBC and the Shire of Broome	Conservation, recreation, and traditional and customary Aboriginal use and enjoyment	20.851
8	Area 7, Schedule 9	Lot 602 on DP 70310	51106	C	Care, control and management to Yawuru RNTBC and the Shire of Broome	Conservation, recreation, and traditional and customary Aboriginal use and enjoyment	1.3650
9	Area 9, Schedule 9	Lots 521, 524 and 525 on DP 71095	50994	A	Care, control and management to Yawuru RNTBC and the Shire of Broome	Conservation, recreation, and traditional and customary Aboriginal use and enjoyment	8.7476
10	Area 10, Schedule 9	Lot 560 on DP 72599	51176	A	Care, control and management to Yawuru RNTBC and the Shire of Broome	Conservation, recreation, and traditional and customary Aboriginal use and enjoyment	3.3342
11	Area 12, Schedule 9	Lot 389 on DP 72932	51114	C	Care, control and management to Yawuru RNTBC and the Shire of Broome	Conservation, recreation, and traditional and customary Aboriginal use and enjoyment	247.916
12	Area 13 "Port Excision Area", Schedule 9	Lot 603 on DP 70311	51001	C	Care, control and management to Yawuru RNTBC and the Shire of Broome	Conservation, recreation, and traditional and customary Aboriginal use and enjoyment	12.886
13	Area 14 "Port Excision Area", Schedule 9	Lot 620 on DP 70861	51001	C	Care, control and management to Yawuru RNTBC and the Shire of Broome	Conservation, recreation, and traditional and customary Aboriginal use and enjoyment	10.406

Map No.	ILUA Area	Lot Details	Reserve No.	Class	Management Order	Purpose	Spatial Area (ha)
14	Area 14a "Port Excision Area", Schedule 9	Lot 622 on DP 70861	51001	C	Care, control and management to Yawuru RNTBC and the Shire of Broome	Conservation, recreation, and traditional and customary Aboriginal use and enjoyment	1.0427
15	Area 15 "Port Excision Area", Schedule 9	Lot 623 on DP 70861	51001	C	Care, control and management to Yawuru RNTBC and the Shire of Broome	Conservation, recreation, and traditional and customary Aboriginal use and enjoyment	13.781
	Town site Areas (Yawuru Area Agreement ILUA)						
16	Part 2(a), Schedule 7	Lot 750 on DP 75607	51901	A	Care, control and management to Yawuru RNTBC and the Shire of Broome	Conservation, recreation, and traditional and customary Aboriginal use and enjoyment	5.3854
17	Part 2(a) Schedule 7	Lot 1195 on DP 181457	51106	C	Care, control and management to Yawuru RNTBC and the Shire of Broome	Conservation, recreation, and traditional and customary Aboriginal use and enjoyment	3.4317
18	Part 2(a) Schedule 7	Lot 561 on DP 71526	52308	C	Care, control and management to Yawuru RNTBC and the Shire of Broome	Conservation, recreation, and traditional and customary Aboriginal use and enjoyment	35.7125
19	Part 2(a) Schedule 7	Lot 447 on DP 116035	51176	A	Care, control and management to Yawuru RNTBC and the Shire of Broome	Conservation, recreation, and traditional and customary Aboriginal use and enjoyment	0.0685
20	Part 2(b) Schedule 7	Lots 614 and 615 on DP 70854	51123	C	Care, control and management to Yawuru RNTBC and the Shire of Broome	Conservation, recreation, and traditional and customary Aboriginal use and enjoyment	61.009

Yawuru
Conservation Park
Broome

PARKS AND
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Yawuru Minyirr Buru Conservation Park

Joint management plan 2018

Version 10

Shire of Broome
people • place • prosperity

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Department of **Biodiversity, Conservation and Attractions**

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