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Kimberley Science and Conservation News
October 2015

Department of **Parks and Wildlife**

Foreword

Strong outcomes are being achieved under the State Government's *Kimberley Science and Conservation Strategy,* with significant progress being made in establishing several major new jointly managed marine parks in partnership with the relevant traditional owners.

With the Dambimangari traditional owners, we have released the draft management plan for the proposed Lalang-garram / Horizontal Falls and North Lalang-garram marine parks, and proposed Oomeday National Park.

The three-month public comment period for the proposed Yawuru Nagulagun/Roebuck Bay Marine Park and the Yawuru Birragun Conservation Park recently closed. More than 15,000 submissions were received from members of the public, demonstrating the immense public interest in the extensive suite of marine parks the State Government is establishing in the region.

I am also pleased that planning for the proposed North Kimberley Marine Park is at an advanced stage (see page 3).

These and other new marine parks created under the strategy will contribute to the proposed Great Kimberley Marine Park, which will cover about three million hectares (or 30,000km^2) of Western Australian coastal waters and extend from west of Talbot Bay to the Northern Territory border.

The *Kimberley Science and Conservation Strategy* is achieving important social and economic outcomes by providing opportunities for Aboriginal involvement and employment in land and sea management, and by promoting nature and culture based tourism.

On the terrestrial front, the Department of Parks and Wildlife and its partners have made great progress in eradicating several serious weed species from the Kimberley. New visitor facilities have been built in some of the State's most significant parks, research is underway for a Kimberley-specific bait for feral cats, a major estuarine crocodile survey has been carried out and important research findings from major surveys of Kimberley islands have been released.

Albert Jacob MLA
Minister for Environment

Top left: Talbot Bay in the proposed Lalang-garram / Horizontal Falls Marine Park. *Photo – Kimberley Media*

Top right: Biodiversity survey with Wilinggin Traditional Owners at Pantijan. *Photo – Corrin Everitt*

Above: Indo-Pacific bottlenose dolphin. *Photo – Simon Allen*

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Big plans for parks at Horizontal Falls

Environment Minister Albert Jacob has released a draft joint management plan to protect one of the most significant tourist attractions of the Kimberley coast, and surrounding areas.

The plan covers the proposed Lalang-garram / Horizontal Falls and North Lalang-garram marine parks, and proposed Oomeday National Park which surrounds Horizontal Falls. They are within Dambimangari people's traditional country along Western Australia's Kimberley coast and will be jointly managed with them.

The renowned Horizontal Falls is considered one of the last relatively pristine coastal areas left in the world.

The proposed parks are being established under the *Kimberley Science and Conservation Strategy*, which provides for the creation of one of the world's largest networks of interconnected marine and terrestrial reserves.

Together with the Lalang-garram / Camden Sound Marine Park and the proposed North Kimberley Marine Park, the new marine parks will contribute to the proposed Great Kimberley Marine Park, which will stretch from Horizontal Falls to the Northern Territory border.

The diverse land and seascape includes spectacular gorges and waterfalls, islands with fringing coral reefs and mangrove-lined creeks and bays.

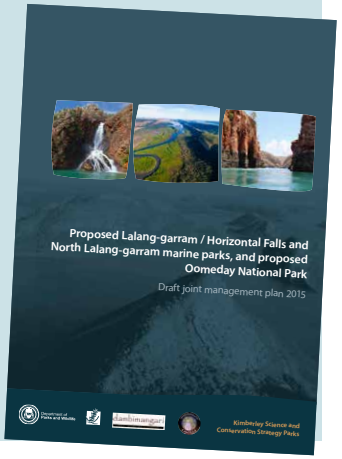
Visitors can experience the awe-inspiring Horizontal Falls, see whales and other wildlife, and fish for barramundi.

The Lalang-garram / Horizontal Falls Marine Park includes the tidal Walcott Inlet, which extends for about 30km from Collier Bay and is up to 11km wide.

Significant Dambimangari cultural sites in the parks include rock art, burial sites, middens, stone arrangements, hunting places, water sources, camping areas and important mythological areas.

Above: *Garaanngaddim*, the Dambimangari name for Horizontal Falls. *Photo – Todd Quartermaine/Parks and Wildlife*

You can view and make comments on the plan at dpaw.wa.gov.au/horizontalfalls. The plan is open for public comment for three months until 22 January 2015.

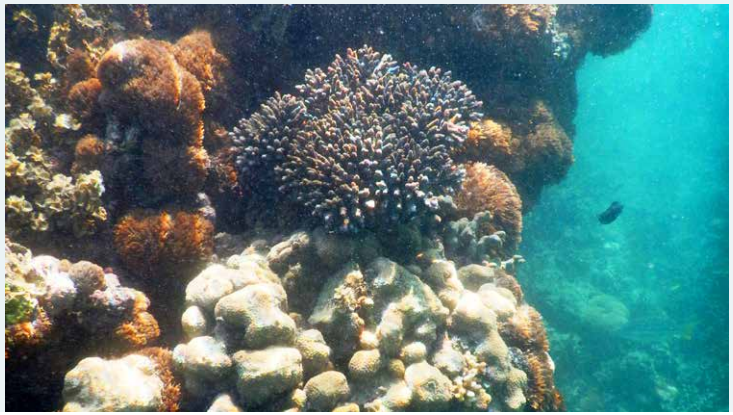


Planning for a North Kimberley Marine Park

Above: Wanambal Traditional Owner Jazzlyn Phillips takes water samples from the proposed North Kimberley Marine Park.

Right: A drop camera was used to examine coral reef diversity and health.

Photos – Anna Smith/Parks and Wildlife



Parks and Wildlife staff and Wunambal Traditional Owners recently visited remote north Kimberley waters to gather information on the area's natural and cultural values.

They visited some spectacular features that attract visitors from all over the world and undertook preliminary work to identify wildlife hotspots by drawing on both Aboriginal traditional knowledge and modern scientific methods.

Findings from the trip will be used in the planning process for the proposed 1,845,000ha North Kimberley Marine Park, which is an important State Government commitment under its *Kimberley Science and Conservation Strategy*.

Parks and Wildlife scientist Andrew Halford and Wunambal Traditional Owners used a drop camera to look at sea life on the ocean floor and to search for uncharted coral reefs in deeper water.

The voyage provided a rare opportunity to explore the remote and rarely visited East Holothuria Reef, which is about 30km from the tip of Bougainville Peninsula.

There were no previous records of plants and animals from the reef, and the underwater camera revealed pristine and diverse coral reef platforms and high numbers of turtles. It is thought the area might be an important foraging ground for four species of threatened marine turtle.

The team also found a remarkable array of wildlife at the Montesquieu Island Group in the Admiralty Gulf including turtles, dugongs, sea snakes and extensive coral reefs. They saw several shoals of mackerel and trevally herding smaller fish into bait balls that were then attacked from above by diving birds.

The diving terns were busily collecting fish to feed hundreds of hungry chicks on a nearby island. Sterna Island is classified as an Important Bird and Biodiversity Area (IBA) by Birdlife International because more than one per cent of the world population of roseate terns (*Sterna dougallii*) breed on the island. It is also a major nesting colony for crested terns (*Thalasseus bergii*) and a few lesser crested terns (*Thalasseus bengalensis*).

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Weeding out Kimberley weeds

***Kimberley Science and Conservation Strategy* partners in the north Kimberley are having significant success in attempts to eradicate several Weeds of National Significance in the north-west Kimberley.**

Top: Giant sensitive plant. *Photo – David Chemello/Parks and Wildlife*

Above: Kandiwal traditional owners Lionel Pindan, Selwyn Maley and Kade Maley with Parks and Wildlife ranger Greg Goonack and hand-pulled grader grass at Mitchell Plateau. *Photo – Parks and WIldlife*

The giant sensitive plant (*Mimosa pigra*) from tropical America has infested 85,000ha of wetlands in the Northern Territory.

In WA it is known from three small populations around Kununurra, on the eastern side of Lake Argyle. Here a coordinated effort by Parks and Wildlife, Department of Agriculture and Food Western Australia (DAFWA), the Water Corporation, Ord Land and Water, and Aboriginal Rangers from Miriuwung and Kija traditional owners is underway to contain, eradicate and prevent the weed entering the north Kimberley.

Gamba grass (*Andropogon gayanus*), another Weed of National Significance, is present in WA as a single population on El Questro Station in the east Kimberley, where a combined effort by Parks and Wildlife, DAFWA, the Wunggur Rangers and the pastoralists is attempting to eradicate this species before it can spread.

Since 2010, Ord Land and Water, under the auspices of the Rangeland Biosecurity Group, has been controlling prickly acacia (*Vachiella* prev. *Acacia nilotica*) over 10,000ha west of Wyndham and has reduced the population by 96 per cent.

Eventual eradication may be possible but prickly acacia has very long-lived seeds, so long-term monitoring and control will be essential. This fast-growing African tree forms dense thorny thickets that choke out native vegetation and is a potential threat to large areas of the Kimberley.

Like gamba grass, grader grass (*Themeda quadrivalvis*) forms dense stands that transform parts of the north Kimberley into annual grassland.

The fight against grader grass is being coordinated on stations and roadsides Kimberley-wide by the Australian Wildlife Conservancy and involves the Shire of Derby-West Kimberley, Parks and Wildlife and the Wunggurr and Uunguu rangers.

While the weed is already present on more than 400km of roadsides, settlements, stations and some conservation areas, the aim is to stop further expansion and reduce infestation levels with some local eradication.

Work to control the invasive rubber vine (*Cryptostegia grandiflora*) should see it eradicated from the Kimberley in the medium term (see 'Rubbing out rubber vine' *Kimberley Science and Conservation News* Issue 5).

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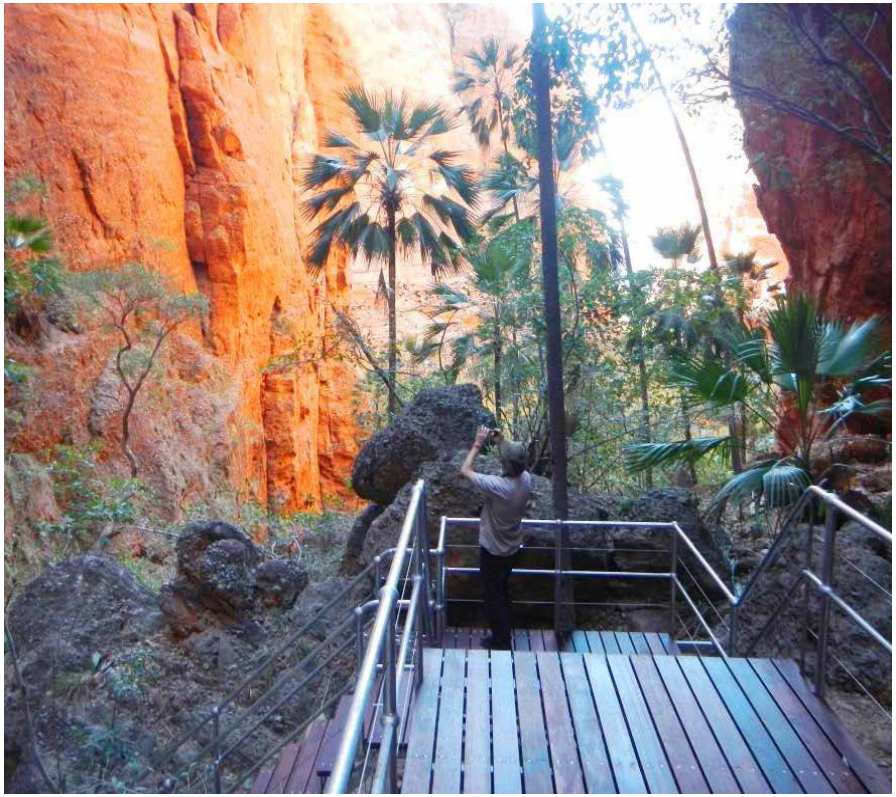
Far left: The new lookout at Mini Palms Gorge.
Left: Transporting building materials by helicopter.
Photos – Bill Dempsey/Parks and Wildlife

New visitor facilities for Kimberley parks

Parks and Wildlife staff devised some innovative solutions to upgrade the viewing platform and stairs at the end of the Mini Palms walk trail in Purnululu National Park.



Construction began in June and was completed in just 14 days, with materials carried in to the difficult-to-access gorge on a sling suspended beneath a helicopter.

Thirty two loads were carried in, including three tonnes of wood, steel and tools and 240 bags of concrete, and 24 loads choppered out including removal of the old structure, while 2500 litres of water needed to be pumped in via 700 metres of poly pipe and a light fire unit.

The new platform and stairs were redesigned to take in amazing views of the spectacular Mini Palms Gorge. Improvements to the Mini Palms walk trail were also completed during the upgrade.

New facilities were also built in other key Kimberley destinations with Royalties for Regions funds.

As Mirima National Park is the most visited park in the east Kimberley, its Looking at Plants Trail was upgraded to be wheelchair friendly. A 170m concrete path was constructed to link a 250m raised fibre reinforced plastic boardwalk, built in 2012, with the car park and the new disabled access double cubical toilet.

The trail has interpretive signs on the native plants and how they are used by local Miriuwung people.

Around 2.6 km of access roads to Molly Springs, Middle Spring and Black Rock Falls, all day use sites in Ngamoowalem Conservation Park, were also constructed and/or surfaced.

A new access track to Black Rock Falls was cleared and surfaced to move it away from an ever encroaching creek running parallel to the old track.

The Middle Spring access track was resurfaced as new tracks had been created when visitors drove around boggy or rocky sections, and the alternate tracks were ripped and left to rehabilitate.

Department of
Parks and Wildlife

Documenting island life

A new book that improves the biological knowledge of islands in the Kimberley and provides a robust basis for their conservation planning and management has been released by Parks and Wildlife Director General Jim Sharp.

The exceptionally beautiful islands of the Kimberley lie within one of the world's last great wilderness areas.

There are more than 2,500 mapped islands along this visually stunning coastline and they support numerous threatened species.

The islands are refuges for native species, remain largely free of invasive species and are less altered by fire than adjacent areas on the Kimberley mainland.

From 2007 to 2010, scientists from the Department of Parks and Wildlife and Western Australian Museum, in partnership with Balanggarra, Wunambal Gaambera, Dambimangari, Mayala and Bardi-Jawi Traditional Owners, documented the plant and animal species on 24 islands ranging in size from 300 to 19,000 hectares.

The survey focused on species believed to be at risk from threats affecting biodiversity on the Kimberley mainland, such as the cane toad, and included mammals, reptiles, frogs, land snails, birds and plants.

Seven of the papers in the book, *Biodiversity values on selected Kimberley islands, Australia*, describe island patterns for each of the plant or animal groups that were surveyed.

Another describes Aboriginal connections, values and knowledge of the Kimberley islands.

The final paper in the book uses the biological data obtained during the survey to identify common patterns among the plant or animal groups, to facilitate setting of conservation and management actions and priorities for the surveyed islands.

The Kimberley Island Biodiversity Survey more than doubled the number of species known on several islands and gathered the first biological data for seven other islands. Island populations of many wildlife species were discovered, including three threatened mammals.

The publication provides important scientific knowledge to inform decisions on protecting the significant natural and cultural values of the Kimberley islands.

It is available from the Western Australian Museum bookshops or online store for $45.

Above: St Andrew Island.
Photo – Lesley Gibson/Parks and Wildlife

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Increase in Kimberley crocodiles

Early results from the biggest estuarine crocodile survey in the Kimberley in almost 30 years indicate numbers in the Prince Regent, Roe and Hunter rivers are continuing to increase.

Crocodile surveys were last undertaken in the region in 1987 when numbers were still recovering from unregulated hunting in the 1950s and 60s.

The three river systems surveyed in August – the Prince Regent, Roe and Hunter rivers – have the largest areas of suitable nesting habitat and hence support the largest numbers of estuarine (saltwater) crocodiles in the west Kimberley. These systems are also regularly accessed by tourism operators and commercial barramundi fishers.

Because the river systems are remote and difficult to access, the survey required significant planning and logistical support with work determined by the region's extreme tides.

The research work will help us understand how crocodiles have recovered from very low numbers in the 1980s and devise management actions.

There are two Crocodile Risk Mitigation Areas (at Broome and Lake Kununurra) where Parks and Wildlife will respond to all sightings and either relocate the crocodile to a farm or destroy it (only as last resort).

Researchers collected their data using an innovative e-data system which maximises the efficiency, quality and integrity of data collected in remote areas while also providing managers with real-time updates from the field.

Tissue samples were collected from a number of crocodiles as part of a national genetics study seeking to understand the levels of connectivity between crocodile populations across northern Australia and whether west Kimberley crocodile populations are demographically separate from northern Australia populations.

Researchers used a new method for collecting the tissue samples with a biopsy pole developed by Parks and Wildlife Senior Marine Ranger Daniel Barrow.

By having traditional owners on the surveys, Parks and Wildlife is building relationships with them enabling traditional knowledge to be melded with western science to create a highly effective way of managing and monitoring the natural resources of the Kimberley.

Left: Estuarine crocodile. *Photo – Raphael Matos*

Above: Parks and Wildlife scientist Andrew Halford undertakes genetic sampling of a small crocodile. *Photo – Daniel Barrow/ Parks and Wildlife*

Department of Parks and Wildlife

Cats to be *Hisstory* in the Kimberley

The Department of Parks and Wildlife is undertaking new research to develop feral cats baits specifically for the Kimberley.

A modified version of Eradicat®, known as *Hisstory*, will be trialled by Parks and Wildlife in the Kimberley with funding support of $250,000 from the Australian Government.

The Eradicat® feral cat bait has been developed by Parks and Wildlife researchers and was registered for operational use last year.

This enables integration of feral cat control with fox control across Western Australia's conservation estate. The State Government's *Western Shield* program (expending about $3 million per annum) will be boosted by a further $1.7 million over three years from the Commonwealth.

The *Hisstory* trial will determine how effective the modified bait is on feral cats in Kimberley conditions and whether there is an impact on native species, such as the northern quoll.

Unlike native animals of the south-west, the northern quoll does not have a tolerance of the toxic compound 1080, which occurs naturally in poison plants in the south-west and used in the Eradicat® baits.

This project will involve local traditional owners in the Kimberley, who will be trained in feral cat management.

Progressing broad scale cat baiting in the Kimberley will further add to efforts to protect the nature of the Kimberley via the State Government's $81.5 million *Kimberley Science and Conservation Strategy*.

Above: Feral cat. *Photo – Neil Burrows/Parks and Wildlife*

Information current as at October 2015.
This publication is available in alternative formats on request.

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