Kimberley Science and Conservation News
June 2014

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Department of **Parks and Wildlife**

Carson River joins Kimberley conservation corridor

The State Government has joined forces with the Kalumburu Aboriginal Corporation (KAC) to help create a conservation corridor across the north Kimberley.

The KAC owned Carson River Station, a 313,155ha pastoral property, is the focus of an agreement that will assist towards the establishment of a corridor stretching from Prince Regent National Park in the west to Drysdale River National Park to the east.

"The corridor is a major part of the State Government's $81.5 million Kimberley Science and Conservation Strategy and is vital for maintaining biodiversity and allowing the movement of species responding to fire or climate variations," Environment Minister Albert Jacob said.

"The agreement between KAC and the Department of Parks and Wildlife will provide conservation, tourism and cultural management outcomes, and employment opportunities for traditional owners."

Traditional owner David Hudson said the agreement had already assisted in developing opportunities that engaged youth and community members in a culturally positive way.

"We recognise that connection to culture can create positive change, along with adapting to mainstream nature conservation and land management techniques," he said.

Carson River Station will continue to run cattle in selected areas with protection for those parts with high nature conservation and cultural values. Works in the next 12 months include re-establishing fences, feral cattle control, establishment of an agreed fire management plan and planning for a new campground, funded through the Royalties for Regions program. Traditional owners will also undertake land management training programs provided by Parks and Wildlife, such as weed control and fire management.

Above: Traditional Owners and supporting agency staff at an on-country meeting at Carson River Station.

Parks and Wildlife is also working with the owners of Theda and Doongan Stations as part of the conservation corridor, providing resources for the removal of feral herbivores and has recently assisted with biodiversity survey programs on those properties.

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Big boost for recreational fishers

Broome's famed Roebuck Bay will become a jewel in the crown for recreational fishing in the Kimberley, with the closure of the bay to commercial gillnet fishing.

The commercial gillnet fishing licences in Roebuck Bay have been purchased by the State Government to ensure a quality fishing experience for threadfin salmon in the bay and boost the potential barramundi stocks available for fishers in the area.

The purchase of these licenses represents a significant recreational fishing outcome for Broome and will have a positive impact on the region's tourism sector. It will also complement the creation of the proposed Roebuck Bay Marine Park, one of the five marine parks in the Kimberley to be delivered under the Kimberley Science and Conservation Strategy.

A $700,000 four-year project by the Department of Fisheries to restock barramundi in Lake Kununurra is underway to boost recreational fishing and create a valuable asset for regional tourism in the East Kimberley.

The Kimberley Training Institute (KTI) won the contract to collect broodstock, breed and release juvenile barramundi and monitor the success of the stocking program.

The first release of barramundi into Lake Kununurra occurred in January 2013. These fish should now have reached minimum legal size (550mm).

Approximately 70,000 barramundi, 40-70mm in length, were released into Lake Kununurra on 5 December 2013, followed by a release of approximately 200,000 barramundi fingerlings, averaging over 50mm in size, at the Lake Kununurra side of the Argyle Dam wall on 13 and 20 May 2014.

Local Parks and Wildlife and Miriuwung-Gajerrong Corporation Rangers have provided support during release and monitoring events.

Above: Jeff Cooper of the Kimberley Training Institute with barramundi fingerlings.
Above right: Minister for Fisheries Ken Baston and Jeff Cooper releasing barramundi fingerlings into Lake Kununurra.

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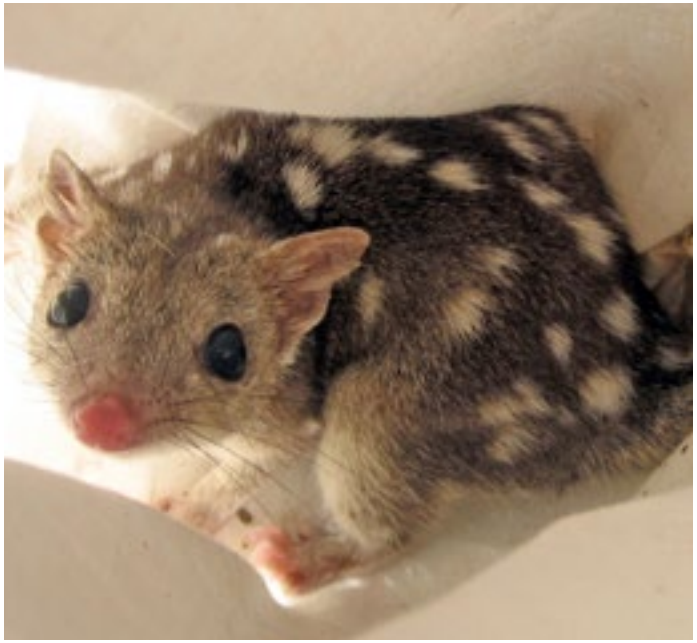

New quoll population spotted on island

A new population of the endangered northern quoll has been discovered on a Kimberley island, during a six-day survey for quolls in the Talbot Bay area in late October 2013.

Northern quoll populations have contracted and declined sharply across much of their former range in northern Australia. Islands can provide refuge against threats faced on the mainland, including areas free of the highly toxic cane toad.

These attractive spotted marsupials were found on Molema Island in the proposed Horizontal Falls National Park, where the survey team was able to land by small boat.

Populations of northern quoll are known from 11 other Kimberley islands, but Molema Island had never before been surveyed as it was too rugged to land a helicopter on the island.

The team that made the discovery included scientists and operational staff from the Department of Parks and Wildlife, Dambimangari Rangers representing the Worrarra traditional owners and volunteers from Monash University.

The team placed remote cameras on Molema Island, Traverse Island, an unnamed island nearby, and several other smaller islands that have no official names.

They did beach surveys on another 12 small islands for animal tracks, with water rat tracks being recorded on two.

Tracks and scats of northern quolls were also found on two islands south-east of Koolan Island, which has quolls. Both islands are narrowly separated from the mainland by tidal mangroves.

Quolls consume other small mammal species, so more than 100 quoll scats were collected to identify other species that might be present on the islands.

Scientists also made bat recordings, with 11 species of microbat detected on Molema Island, and undertook other general survey work.

Above left: Northern quoll.

Left: Parks and Wildlife scientist Russell Palmer and Dambimangari Rangers examine quoll tracks and scats.

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Above: Bardi Jawi Ranger Azton filters a water sample from Tallon Island.

Pushing the frontiers of reef research

Studies of the unusual reef systems of the western Kimberley, underway as part of the Kimberley Science and Conservation Strategy, will deepen global knowledge of how reef ecosystems function and aid local management of these reefs.

Late in 2012, researchers from the University of Western Australia began a four-year field study of the west Kimberley reefs.

The study site, Tallon Island, lies in the Sunday Island group adjacent to Cape Leveque. Instruments were secured to the reef with large weights to continuously measure water levels, current velocity, temperature and the concentrations of dissolved oxygen. When the tide dropped below reef level, the researchers collected water samples (on foot) from areas dominated by seagrass and coralline algae to compare their oxygen production and nutrient uptake rates.

Local knowledge from Bardi Jawi Rangers and the Kimberley Marine Research Station has been indispensable to the study. Knowledge gained from the research will be available to the Bardi Jawi community and rangers to help implement the management plan for the recently-established Bardi Jawi Indigenous Protected Area (IPA), which includes the Sunday Island group.

Early results indicate that the fringing platform reefs of the west Kimberley are globally unique. During the first experiment, reef temperatures were shown to fluctuate up to 10°C in just six hours; a greater change than many reefs experience over an entire year! In which other ways are the Kimberley reefs different to the conventional model? Over the next three years, many more surprises and challenges no doubt await.

This project is one of 25 research projects led by Western Australian Marine Science Institution (WAMSI) partners taking place across the Kimberley over the next five years, the result of State Government funding of $12 million over six years under the Kimberley Science and Conservation Strategy. The funding is for research in the Kimberley marine environment to support the management of the proposed State marine park network across the Kimberley, and is being coordinated by the Department of Parks and Wildlife.

Eighty Mile Beach Conservation Program

Above: Flatback turtle hatchling *Photo – Kellie Pendoley*

The shoreline of Eighty Mile Beach Marine Park is reaping the benefits from a $500,000, two-year conservation program funded by BHP Billiton Iron Ore and implemented by Parks and Wildlife.

The popular tourist area, approximately 250km north of Port Hedland, is an internationally protected wetland area that is one of the world's most important areas for migratory shorebirds.

It is an important nesting area for the threatened flatback turtle, and home to other threatened turtle species and the green sawfish, and its fragile dune system is now being protected from straying cattle and unauthorised access by four-wheel drive vehicles.

Since 2011, almost 80km of fencing has been erected to exclude livestock from Eighty Mile Beach, protecting critical habitat for migratory shorebirds and threatened flatback turtle (*Natador depressus*) nesting areas. The fencing also enables pastoral lease managers to manage stock more effectively by allowing paddocks to be created from this primary fenceline.

Approximately 300 days of planning, fencing and signage construction has been completed to date, providing employment opportunities for Karajarri and Nyangumarta people on their country and ensuring that the program is meeting traditional owner aspirations.

Pastoralists have recognised the ecological importance of the dunes and have agreed to these fragile dune areas becoming conservation reserves.

Information current as at June 2014.
This publication is available in alternative formats on request.
dpaw.wa.gov.au/kimberleystrategy

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