

Paruku Rangers find the rare Night Parrot! Right people, right place

The Paruku Rangers have gathered photographic and audio evidence of only the third known living population of the incredibly rare Night Parrot. This discovery is the first to be led by traditional owners. Considered by some to be the world's most mysterious bird, for 100 years the Night Parrot was feared extinct. In 2013 it was rediscovered in western Queensland.

The ranger group was conducting biodiversity surveys in the Great Sandy Desert, with support from Alexander Watson (WWF) and Neil Hamaguchi (Environs Kimberley). The team went to a suspected Night Parrot location and set up a camera trap on a billabong, catching a blurry photo of a Night Parrot on the first night. The image was confirmed later with sound recordings.

I spoke to Neil about the sheer luck of it, the luck of a Night Parrot a) being there, b) flying in front of the camera, and c) getting photographed. Incredible — especially after the researchers working on the Queensland populations had just ruled out camera traps as a useful method, having set them in busy Night Parrot areas for two years now and only got one photo.

Neil Hamaguchi, with a cheeky grin on his face, told me, "it wasn't luck; all you need is the right people in the right place."

Neil had told me that that day they had harvested a few traditional cultural objects that give good luck, and he had asked to see a Night Parrot. That night they got the one in a million photograph. Just saying.

Traditional Owner Hanson Pye said he was "very happy" to capture an image and now an audio recording of the bird, having heard stories of its existence from his grandfather.

"I remember my grandfather telling me that one day I'll see it, but this bird is very clever and only comes out at night," Mr Pye said. "It wobbles around when walking and comes out to eat the seed from the plants at night time."

The exact location of the Night Parrot sighting is being kept secret for now to ensure continued protection of the extremely endangered bird. But what a great effort from the Paruku Rangers, WWF, Environs Kimberley and Kimberley Land Council.



The image of the Night Parrot, which although blurry is quite definitely a Night Parrot, as confirmed by audio recordings.

This project was funded by the WA Government Natural Resource Management Program.



Night Parrot team: Erin Flynn, Hanson Pye, Jamie Brown, Lachlan Jones, Neil Hamaguchi and Alexander Watson.



Report From The Chair

Kate Golson

Hello all,

Over the years, EK has spent time monitoring and assessing and, where necessary, responding to big development proposals in the Fitzroy Valley (most recently, for Gogo station), which, in the main, want to take large volumes of water from the Fitzroy River.

It was with this in mind that I watched the July '4 Corners' program *Pumped: Who's benefitting from the billions spent on the Murray-Darling?*¹ and have followed with interest the eventual fallout. The program investigated water theft from that river system by some of Queensland's and NSW's biggest cotton irrigators (including water bought by the Australian tax-payers for environmental flows) and explored how they have been getting away with it. While the head of NSW's top water bureaucrat rolled some months after the program aired, the NSW Government has only just released its review,² which is scathing about the extent of agency mismanagement.

Meanwhile, far downstream, the SA Government has announced it will hold a Royal Commission. No fewer than five other inquiries or reviews have been proposed, launched, or widened to assess matters raised in '4 Corners', and more and more criticisms of the 2012 Murray Darling Basin Plan are appearing in the media.

Perhaps these events will help bring the political spotlight to Australia's water scarcity and the national water reform agenda, the National Water Initiative (NWI). The NWI was set up in 2004, when questions about remedying over-allocation, balancing social, cultural, environmental and economic uses, managing droughts, repairing devastated rivers and ensuring food security were on the national agenda -- which seems like a century ago.

Despite the Kimberley's remoteness and small population, the pressures on its water sources, and particularly the Fitzroy river system, are ever-present — from government visions of transporting water by canal to Perth to industry plans to dam and channel water for large-scale irrigated agriculture and mining projects. Since buying the stations of Liveringa, Nerrima and Fossil Downs on the Fitzroy River, Gina Rinehart has railed against the red tape preventing more of the Fitzroy's water from being used by irrigators, so that it is "wasted as it uselessly flows into the ocean".³

Would a Martian visiting Earth ever suspect that water is a community-owned resource?

These pressures led in 2016 to traditional owners along the river declaring a united position to protect and manage the Fitzroy.⁴ In the March election this year, the WA Government committed to a 'no dams on the Fitzroy' policy and the development of a plan of management for the entire river system. Let us make sure that these promises are kept.

All the best for the festive season and summer.

Kate

- 1 www.abc.net.au/4corners/pumped/8727826
- 2 www.industry.nsw.gov.au/__data/assets/pdf_file/0016/120193/2Matthews-interim-report-nsw-water.pdf
- 3 thewest.com.au/news/the-kimberley-echo/fitzroy-river-future-a-cocktail-of-competing-interests-ng-b88658728z
- 4 www.klc.org.au/news-media/newsroom/news-detail/2016/11/15/kimberley-traditional-owners-unite-for-the-fitzroy-river

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Please contact us if you'd like advice on making a bequest to EK.

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Letters To The Editor

Environs Kimberley welcomes letters to the Editor. We accept comment and criticism, and print all letters that are not obscene, offensive or libellous. If you have a bone to pick, pick it with us.

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Thanks for helping us to protect the Kimberley environment



Director's Report

Martin Pritchard

A new economy for the Kimberley

It's been a turbulent year for the Kimberley. Proposals for dams on the Fitzroy and Margaret Rivers, with an accompanying push for landclearing on a massive scale from the Pilbara to the Northern Territory border and large mining proposals and plans for fracking (despite a moratorium), risk undermining the Kimberley's reputation as a place of outstanding natural values, whilst providing minimal economic returns for people on the ground. Also at risk is the potential for new industries such as Kimberley Bush Products, which depend on an intact natural environment for success.

Kimberley Bush Products are already being successfully sold, from Gubinge powder, wafers and ointments to bush teas like native lemongrass and Jilungin (Wingnut Tree). There is no doubt that this is an industry that is going to take off in a very big way, so long as the trees are not flattened.

Gubinge is the superstar at this stage, with its medicinal, health, cosmetics and food-preserving properties. Researchers believe it could be one of the most powerful treatments for Alzheimer's disease, its extremely high vitamin C content make it highly valued in the health food industry, and Gubinge extract has been used as a natural food preservative for prawns, extending the shelf life by three weeks. Gubinge is one of thousands of useful native plants in Australia.

The great thing about Bush Products enterprises is that they're Aboriginal owned and driven, use Aboriginal labour to harvest from the wild, and need careful custodianship of the natural environment to be sustainable.

Another key to a new economy is renewable energy, which is slowly starting to take off with the trial of a micro-grid in Broome North. A more ambitious proposal, which is out for comment now through the Environmental Protection Authority, is for an Asian Renewable Energy Hub using wind and solar power to supply electricity to Indonesia via subsea cable. This is a \$13 billion project, inland of 80 Mile Beach.



If this went ahead, it would be a game changer for renewables in the North. The scenario of 100% renewable energy for the west Kimberley is getting closer, and we'll be announcing more on this in 2018.

Eco-tourism and cultural tourism recently moved to a new level with local tour operator Bart Pigram (Narljia Tours), who joined forces with Broome Whale Watching to create a new 'Cultural Cruise' on Roebuck Bay. The opportunities for 'dinosaur tourism' are immense, particularly given children's fascination with dinosaurs. Family packages including tours of the dinosaur footprints alongside a 'dinosaur experience' interpretive centre with all the trimmings would surely be a hit and encourage a new type of tourism for Broome.

The main question that I want answered is why governments have put so much money into environmentally questionable industries over the past eight years, like beef (\$15 million over 4 years – Barnett–Grylls Government), irrigation investigation into the Fitzroy Valley and La Grange (\$25 million Barnett–Grylls Government/Barnaby Joyce), the Ord (\$364 million Barnett–Grylls Government), and put very little into the Bush Products, Renewable Energy and Cultural Tourism industries.

A sustainable economic, environmental, social and cultural future for the Kimberley requires a community groundswell of support for the New Economy – will you be part of it?

Wishing you a happy and safe festive season from all of us at EK.

EK'S NEW WEBSITE

After much anticipation we are now pleased to announce the launch of the new EK website!

With new and improved design, as well as a sophisticated database and communication management systems, we hope that this will be great tool for the continued growth and success of EK. We would like to send a big thank you to Julia Rau for coordinating the project, and also to Lotteries West for generous funding support.

Please check it out at:
www.environskimberley.org.au
and let us know what you think.

More tips to improve the sustainability of our daily lives without too much effort.

REPURPOSING

'Repurposing' is a neologism of the 21st Century, which I don't really approve of, but the concept is a good one. It means putting something to a use other than that for which it was intended, preferably after it has served its original purpose. There are innumerable instances of repurposing, but one that springs to mind is the use of empty tuna-fish tins as simple oil lamps by people in Bangladesh. A friend who spent some years in that country soon found to her shame that people raided her rubbish bin for such treasures.

Aboriginal people who made first contact with white people or, if not with people, with their goods, had a flair for repurposing. They found that, like glass, the ceramic insulators at the top of telegraph poles were ideal raw material for making spearheads and the like. They made knives out of old car springs by grinding the metal down with stones and attaching the resultant blade to a wooden handle with animal sinew.

Poverty is probably the strongest driving force behind repurposing, but those of us who understand that the earth's resources are fast becoming depleted are often keen to use some of our unwanted goods in new ways rather than throw them out.

I am going to offer a couple of examples of repurposing from my own paltry experience, and invite readers to submit ideas of their own. In fact, I have just decided to make this a competition — the most interesting and useful example (with or without photo) wins a mystery prize. Send name and address.

Someone once wrote to the local paper asking what to do with all those unwanted paper advertisements rolled into it. Like many of us, she wasn't satisfied with just binning them, even into the recycled bin. I'm no craft expert, but I imagine they could be used to make papier maché, which in turn can be fashioned into all sorts of things that would do for homemade Christmas presents. I, less creatively, have used them as colourful gift-wrap. No one has complained.

My latest repurposing venture has been to re-use those tough plastic zip-lock bags that come containing rice, dog treats, flat bread and the like, as freezer and fridge bags. Perhaps it's not strictly repurposing — they are still bags — but I use them to store things such as green leafy vegetables, which survive so much longer in the fridge if they are sealed in airtight packets. They are much stronger than most zip-lock bags, and what true environmentalist would buy empty plastic bags anyway? They can also be used as an outer envelope for dry goods, such as pasta, that come in flimsier packets, to protect them from the attentions of ants and cockroaches in one's pantry.

After writing the above, I heard a man on the radio talk about re-purposing one's life. I've since been pondering what else mine could be used for.

Ruminating with MAD COW



ADVENTURES WITH SPIDERS

Once, I drove with my companion from the town of Broome to a distant camp. We carried with us two full 20-litre heavy-duty water containers. On the third day, when we had used up most of the contents of one container, I unscrewed the lid from the other and, as I started to pour water from it into the billy, noticed a small ball floating on top of the water. I tipped the foreign body onto the ground, where it immediately uncurled, revealing itself to be a stocky spider, and ran off, seemingly quite dry.

I drew my friend's attention to the spider, wondering how it had got into the container and surprised that it hadn't drowned. 'Oh, that's right', he remarked. 'I saw it at home when I was filling up the bottle. I forgot to get it out.'

'Three days ago?' The water containers had been standing in the back of the ute for a seven-hour journey, not counting breaks for meals and refuelling, been shaken and shuddered for half that time on the dirt road, the water sloshing around inside them. At our destination we had heaved the containers out of the ute and placed them under a tree, which afforded shade during part of the day, direct sun falling on them during the rest of it. The spider had endured all this, without sustenance, floating on the water tightly curled into a ball, its fur far more water-resistant than any nylon raincoat I have ever owned, and, once released to dry land, had scurried off, showing no evidence of being the worse for wear.

Why am I telling you this? I have no idea, unless it is to offer yet another little example of the marvelousness of nature.

Another time, in my bathroom at home, I inadvertently flushed a small jumping spider down the plughole of the washbasin. I knew this spider — it had been lurking around my toothbrush mug for some time, and I was dismayed to see it swirled away with the water. I looked around wildly and found a length of string, which I lowered through the basin strainer into the dark circle of water below. A few moments later, the spider emerged through the strainer, still climbing. I could have kissed it. I lifted the string clear of the basin and deposited the spider where it belonged, near my toothbrush mug. Spiders are not only water resistant — they are smart.

My last spider story is about one that appeared to have drowned in a droplet of water in the same washbasin (my bathroom used to be a sanctuary for spiders before the frogs took over). I lifted it up on one finger, where it lay splayed out as drowned spiders do. So I gave it the 'kiss of life' — I blew over it, hoping both to stimulate its breathing apparatus and to help dry it out. And it moved: first one leg, then another. It raised itself from its prone position. It took tentative steps — and then ran along my hand, happy to be alive.

Have a great Yulefest.

Abundant Acacias

Ayesha Moss



In 2017 The Kimberley Community Seedbank continued its work with the Karajarri, Nyul Nyul, Bardi Jawi Oorany Rangers and Yawuru Country Managers to collect, clean, store and use provenance seed.

With funding from the State NRM, WWF-Australia and Belgiorno-

Nettis Foundation from 2015 to 2017, the seedbank has been able to:

- Support on-Country trips with rangers to collect seed for revegetation from the Kimberley's most endangered ecosystem — Monsoon Vine Thickets on the Dampier Peninsula
- Support the Karajarri Women Rangers and cultural advisors develop wildflower seed packets
- Setup a seedbank facility
- Host a study tour to specialist facilities in Perth
- Provide on-Country expert support and training in seed work.

In addition to collecting seed for conservation, we are interested in working with traditional owner groups to support an emerging conservation economy in bush products, with a focus on seeds.

Ever heard of wattle-seed coffee? Not only can it be used as a coffee substitute, but you can mix it into desserts and baked goods, or sprinkle it on your breakfast cereal. There's even been a wattle-seed whisky. The wattle (*Acacia victoriae*), whose seed has been used in these products, is common in Eastern Australia. We don't have that species in the Kimberley, but do have several wattles that could be used for similar purposes, such as *Acacia colei*, *Acacia tumida* and *Acacia eriopoda*. Some of these have been grown in Africa as a food crop for over 10 years.

In October and November we visited the Karajarri Rangers, Yawuru Country Managers and Nyul Nyul Rangers to conduct seed collection training en masse. With our conservation principle in mind, to collect no more than 20% of the crop, we managed to collect well over 10kg of Soap (*Acacia colei*) and Spear (*Acacia tumida*) Wattle seed.

Although hot and sweaty work, it was fun. Everyone enjoyed getting out on country, working as a team and connecting young people, elders and cultural advisors to share knowledge and stories.

Elders told us of the many wattles that are edible. They described the hard work involved in collecting, cleaning, cooking and grinding to finally eat some of these seeds. Science now tells us something the elders and their ancestors already knew: that although some Acacias can be toxic to eat raw, cooking the seed can denature the toxins. We wondered if modern technology and tools could reduce the labour of preparing these seeds to make them more accessible to the community...food for thought!

Although funding is coming to an end, we hope to continue working with our friends within the Karajarri, Nyul Nyul, Bardi Jawi Oorany Rangers and Yawuru Country Managers. With further funding we hope to reach out to other parts of the Kimberley and play an active role in supporting a network of traditional owners in the emerging bush products industry.



Left to right: Ayesha Moss and Kylie Weatherall (EK), Cecile Hansen (Danish researcher), Jessica Bangu (Karajarri Ranger and Cultural Advisor), Peter Włodarczyk (Newport Lakes Native Nursery), Tara Sampi, Diane Hopiga, Antonet Hale, Renee Hopiga (Karajarri Cultural Advisors), Jacqueline Shovellor (Karajarri Ranger) and Signe Bendtsen (Danish researcher).



Left to right: Ayesha Moss (EK), Mike Wysong (NBY IPA Coordinantor), Eduardo Maher (NBY Country Manager), Jacob Smith (NBY Country Manager), Johani Mamid (NBY Country Manager), Peter Włodarczyk (Newport Lakes Native Nursery), Pius Gregory (NBY Country Manager).



Seed collecting with Nyul Nyul Rangers: Ayesha Moss and Devena Cox.

Launch of Kimberley Neem Management Plan

Lousie Beames



Neem was introduced as a shade tree to many communities in the Kimberley in the 1960's, but its rapid spread has raised alarm bells throughout the region. In 2015, attendees at the Kimberley Weed Forum identified Neem as the #1 priority weed for the region.

Following on from the great work conducted by KNP project officer Neil Hamaguchi, with Nyul Nyul and Karajarri Rangers, Yawuru Country Managers and DBCA Yawuru Rangers, to control Neem, we have launched the Interim Kimberley Neem Management Plan.

The Plan benchmarks the present state of knowledge about Neem distribution, spread and impact in the Kimberley. In an online survey we conducted in September, 93 respondents expressed concerns about Neem, identified locations of infestations and described control methods they had used. We collated this information and then worked with weed control operators and others to gather additional data. We also compiled extensive information from reports and other documents, and Neem invasion experiences, from the Northern Territory and Queensland.

The Plan includes case studies from our own and others' recent Neem control projects. These, along with control recommendations and advice about new techniques, will enable people to better design and implement effective future Neem control projects.

In the Kimberley Neem is invading many different areas, developing impenetrable forests along waterways, dominating and killing iconic boab trees and mature gums, displacing nationally Endangered monsoon vine thicket, and threatening Endangered Purple-crowned Fairy-wren habitat. Similarly, it is infesting and degrading environmental, cultural and agricultural sites across Queensland and the Northern Territory. In 2015 the NT declared Neem a weed to be controlled under their Weeds Management Act. Queensland undertook an Invasive Plant Assessment in 2016 and is keen to follow the NT and tighten regulations around Neem, but in WA there are no State regulations in place to control the introduction or spread of this notorious weed.

Through the goodwill and foresight of a handful of operators we have greatly enhanced the distribution maps for Neem in the Kimberley. The Neem problem is far greater than most government organisations, land managers and community members realised and we will be advocating that the state act quickly upon the eleven recommendations in the Plan.

The Plan was written by Louise Beames with the assistance of Neil Hamaguchi and Ilse Pickerd. Malcolm Lindsay and Jessica Miller launched the Plan amongst Kimberley weed warriors, Aboriginal rangers, and government and community organisations on November 30. John 'Rubbervine' Szymanski then canvassed new Neem-control technology and techniques that will be trialled within our 'Looking after Oongkalkada' Project, managed by our new Project Officer, Jessica Miller.

Copies of the Interim Kimberley Neem Management Plan can be found on our website, or email Jessica@environskimberley.org.au

The Kimberley Interim Neem Management Plan has been produced by Environs Kimberley as part of the following project, funded by State NRM WA: 'Sharing knowledge to tackle Kimberley Weed Priorities — Neem, *Azadirachta indica*



John Szymanski demonstrating use of herbicide capsule to Johani Mamid (Trainee Country Manager Coordinator) and Jacob Smith (Yawuru Country Manager)



EK Art Auction goes to Fremantle

Tessa Mossop

This October Environs Kimberley (EK) made the trip all the way down south to put on the first ever Environs Kimberley Aboriginal Art Auction and exhibition at Fremantle's Kidogo Arthouse.

This inaugural event displayed a broad range of contemporary Aboriginal art from right across the Kimberley, and provided a rare chance for Aboriginal art lovers to experience the diversity and quality of Kimberley art, outside the region.

Dr Carmen Lawrence opened the exhibition and spoke warmly on behalf of EK, and over 250 enthusiastic people attended. There was a smoking ceremony and Uncle Ben Taylor welcomed people to country.

The exhibition featured the work of renowned Kimberley artists including Sonia Kurarra, Phyllis Thomas, Elizabeth Nyumi, and the late Jimmy Pike and Jimmy Nerrima.

The main focus of the evening was an auction of selected works, inspired by the annual EK Art Auction event here in Broome.

Special guest-artists Mervyn Street (a Gooniyandi man from Fitzroy Crossing) and Edwin Lee Mulligan (a Walmajarri/Nyikina man from Noonkanbah), both of whom had work in the exhibition, generously gave their time to attend the event and support EK.

This event was a great opportunity to raise some extra funds, as well as a chance to let people in Perth and Fremantle know about what is happening on the environmental front in the Kimberley.

The raffle of a stunning piece by Balgo artist Lucy Loomoo was drawn on the night, and the winner was lucky ticket-holder Norman Pater (ticket 165).

EK sends a big thank you to everyone who supported and helped out with the event, including all the artists and art centres, Joanna Robertson at Kidogo Arthouse, Dr Carmen Lawrence, Kimberley – Like Nowhere Else Alliance, all the volunteers, our fantastic EK Freo members and supporters, and everyone else who came along and supported us by taking part in the raffle, or by buying a beautiful piece of Kimberley Art.

This was a big step for EK and we hope that this collaborative event is able to grow into something even bigger and better in the future..



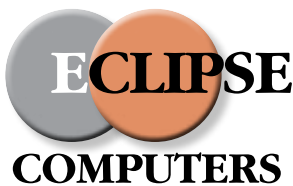
Opening night with welcome by Dr Carmen Lawrence, Ben Taylor and Martin Pritchard (photo by Jemma Scott)



The auction. Photo: Jemma Scott



And the winner is... Congratulations to the lucky ticket-holder and thanks to everyone for your support!



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Celebrating Gunurru — a Broome local



Lousie Beames

The Cable Beach Ghost Gum (CBGG) *Corymbia paractia* is one of several ghost gums known by Yawuru people as Gunurru. It occurs in and around the Broome Peninsula and nowhere else. CBGG and the plants associated with it are listed as a Priority One Ecological Community (PEC) in Western Australia. In 2015, CBGG was nominated for listing as Threatened under the Commonwealth Environment Protection and Biodiversity Conservation Act (1999). The application failed for lack of data.

Environs Kimberley has been working hard to advance knowledge about CBGG and improve its conservation and management. In 2015 we worked with Broome Botanical Society to map many patches and individual trees on the Broome Peninsula. In 2016/17, with funding from Eucalypt Australia, we worked with Society for Kimberley Indigenous Plants and Animals (SKIPPA), Nyamba Buru Yawuru (NBY) and Broome Botanical Society to map populations north and south of the Broome Highway. 2800 individual trees have now been mapped, and at least 419 hectares of CBGG habitat. We have also worked with Yawuru people to document eco-cultural information.

With Chris Parker from NBY we determined that CBGG may once have occurred across 10,644 hectares. We found that at least 1500–1668 hectares have been cleared since the Broome township was built. It is highly probable that CBGG habitat covers a further 3,122 hectares.

Changes to fire regimes, changes in climate and rainfall and introduced grazing animals have further contracted the range of CBGG. More losses are expected as the town expands and the Broome Road Industrial Area, which includes approximately 180 hectares of CBGG habitat, develops. Up to 33.6% of likely remnant habitat is contained in the Birragun Buru Conservation Estate, Guniyan Buru Conservation Park and Minyirr Buru Conservation Estate.

Traditionally, Gunurru bark was used to make coolamons and burnt for ashes to mix with chewing tobacco. The spectacular flowering of Gunurru in Mankala season (now) indicates that sharks and other reef life are 'fat' and good for hunting. Certain Gunurru trees were meeting places and Yawuru knowledge of these sites gives us greater confidence in our findings.

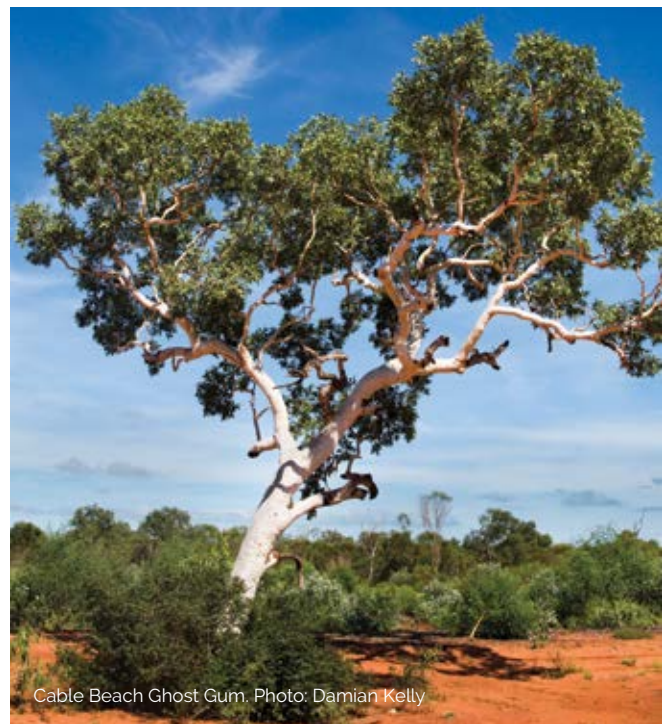
We found approximately 60 species of native plants associated with *C. paractia*. The most common weed was *Neem Azadirachta indica*, often found growing under and into the canopy of CBGG trees.

We made five recommendations: that the community be listed in Western Australia as a Threatened Ecological Community (Vulnerable); that further mapping be undertaken of the distribution, density and quality of remaining patches; that a second application be prepared for this species to be listed as Vulnerable under the EPBC Act (1999); that planning and landclearing optimise protection of CBGG habitat; and that control of *Neem Azadirachta indica* be prioritised throughout public and private lands containing CBGG.

Copies of our final report, *Distribution, ecology and cultural importance of Gunurru or Cable Beach Ghost Gum Corymbia paractia in the Broome Area, Western Australia*, can be found on our website, or email louise.natureproject@environskimberley.org.au

Our Kimberley Nature Project team, Dr Steven Reynolds and Louise Beames, wrote the report, assisted by Tim Willing (Broome Botanical Society) and Chris Parker (NBY).

Malcolm Lindsay and Kylie Weatherall launched the report and the information brochure alongside Nyamba Buru Yawuru and Yawuru Traditional Owners on December 7.



Cable Beach Ghost Gum. Photo: Damian Kelly

This project was kindly funded by Eucalypt Australia and supported through the State NRM WA Capability Grant to the Kimberley Nature Project.



The Bilby conservation conversation continues with countrymen

Malcolm Lindsay

Last year we were lucky enough to help organise a convoy of Kimberley rangers to attend the Kiwirrkurra Indigenous Bilby Knowledge Festival, a coming together of Aboriginal rangers and ecologists working on Bilbies.

The conversation around Aboriginal conservation of Bilbies continued recently at the Indigenous Desert Alliance workshop in Fremantle, and yes, that is correct, a desert workshop at the Fremantle Maritime Museum. There was a strong Kimberley contingent, from the desert groups, as one would expect: Paruku, Ngurrara and Nyangumarta, but also Nyul Nyul Rangers, who are on the Indigenous sub-committee for the National Bilby Recovery Team.

Environs Kimberley helped facilitate a session about the drafting of the National Bilby Recovery Plan. The Bilby's remaining range covers around 80% of Aboriginal managed land, yet up until recently Aboriginal land managers had not been properly included in the national conversation about its conservation. It doesn't make much sense to not include the majority land manager from the conversation, let alone those who have been the land managers and custodians over tens of thousands of years. This workshop continued the process of asking rangers what they think needs to be done to save the Bilby, how their traditional knowledge and culture should be used and what they need for their work to conserve the Bilby.

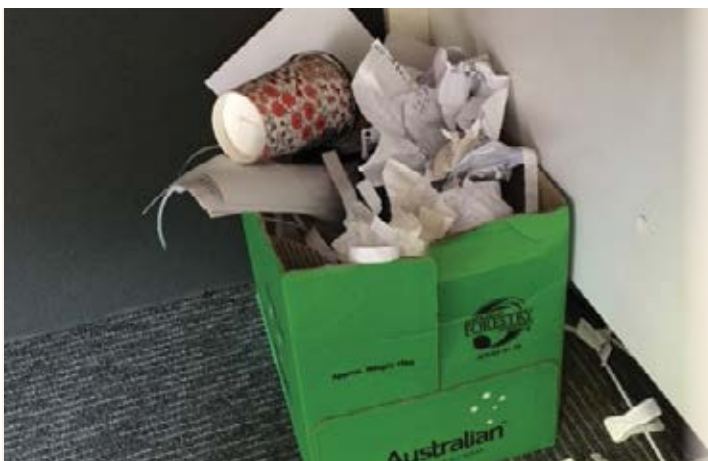
This is the first time that Aboriginal rangers are being included in a National Threatened Species Recovery process on such a scale. This makes it important not only in starting a better two-way conversation to conserve the Bilby, but also for the many other threatened species that occur mainly on Aboriginal Management Land, such as the Night Parrot, Great Desert Skink, Mallee Fowl etc.

A big thanks goes out to the Indigenous Desert Alliance crew for organising the workshop, and to all the desert groups for coming, sharing their knowledge and presenting.



Zynal Cox from the Nyul Nyul Rangers talking about Bilby Conservation at the Indigenous Desert Alliance.

This project was funded by the WA Government Natural Resource Management Program.



SHAME!

What is that non-recyclable coffee cup doing on our premises, let alone in the recycled bin? Who could be responsible? (And, incidentally, where did that Foster's carton come from? What revelries have I not been invited to?) Ed.

Photo of an EK rubbish bin provided by shocked visitor.



Now on the BBC and ABC 'Stargazing Live' program with Professor Brian Cox.



Greg's new book!



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The Cherabin Challenge

Jason Fowler

Good old Blue-claws thinks he dominates the river bed. The giant freshwater prawns, or Cherabin (*Macrobrachium*

spinipes), of the Fitzroy River have a pecking order that results in certain death to smaller males that step out of line. The mere presence of old blue-claws inhibits the growth of smaller males. The second in line, orange-clawed males, have to grow bigger than old blue-claws before they can metamorphose and take on old Bluey. The challenger's orange claws double in size, giving him confidence and a chance at taking the throne. The ladies will happily mate with old and young alike. Old Blue-claws may be too obsessed defending his empire to notice a small male sneaking in and mating with his girls.

During mating, the male passes a sticky bundle of sperm called a spermatophore to the female. This occurs just after the female has moulted, when her shell is soft, leaving her vulnerable. Old Blue-claws fiercely guards her against predators until her shell hardens up.

Big, fat Mumma Cherabin faces the ultimate logistical challenge. She must time the release of her eggs perfectly with the first big flush of floodwater down the river, otherwise all her babies will die. If Cherabin eggs hatch in fresh water they explode, so must reach salt water beforehand — and they have around 7–10 days to get there.

Mumma Cherabin tunes in to river flow and releases tens of thousands of eggs, heralding the start of the great migration. From that point on she can only cross her pincers and hope some of her babies make it home.

The eggs float down the river en masse in their protective little shells, unaware of the challenges ahead. Once they reach the river mouth the eggs hatch and out pop alien-looking larvae that settle on the bottom as postlarvae and start crawling and feasting. They wait until the floodwaters back off a little before attempting to crawl the 600km upstream back to Mumma.

Upon reaching the upstream pools they continue to feast and grow fast in the fading heat of the wet season. With the onset of the dry season growth slows to a halt and Cherabin go into survival mode as war breaks out in the refugia pools. As pools get smaller and fish become concentrated, Cherabin are the number one target and their numbers rapidly diminish. Only the most elusive survive to adulthood, ready for the next flood.

Cherabin number in the tens of millions and dominate the biomass in the river. They scour the river bed, removing sand covering plants and algae, stimulate growth and recycle nutrients that benefit all of the river's inhabitants. They are devoured by fish and humans alike.

How do we ensure Cherabin numbers stay healthy? They are good climbers and scale Myroodah Crossing and the Camballin Barrage on their epic journey upstream. The main threat to Cherabin is a decrease in floodwaters. Without big floods pushing the eggs downstream they may not make it to the salt water on time. Proposals to dam the river or take off floodwaters could be disastrous to Cherabin. Protecting the life-giving floods will allow old Blue-claws to continue dominating his minions and give big Mumma Cherabin peace of mind that her babies will make it home safely.



Image: Jason Fowler

How seagrass supports the values of Roebuck Bay

Fiona West

Seagrass holds the fabric of the Roebuck Bay universe together via ecological services. Come on, grab your mud boots, let's take a tour of our bay's values and see how seagrass bolsters each of them.

Okay, stop right here. Note the water quality. To keep Roebuck Bay's marine ecosystems healthy, we need high water quality. Enter seagrass: our green leafy friend stabilises soft substrates, secures sediment and purifies seawater, absorbing pathogens — sickness-causing bacteria. Seagrass means cleaner, clearer seawater in the bay.

Let's head over to the mangroves. Via its plethora of services, seagrass supports other ecological communities in the bay such as this mangrove forest and its occupants — its sawfish, prawns, crabs, bats and the Red-dress Woman — by helping to stabilise the hydrological and sedimentary processes, and as a primary producer and nutrient cyclor.

Ah, you've spotted a dugong feeding-trail winding through the seagrass. Dugong and sea turtles eat seagrass. Dugong love the *Halophila ovalis* species, eating up to 40kg daily, and green turtles enjoy *Halodule uninervis*, eating up to 2kg daily.

Another Roebuck Bay value is its filter-feeding community: all the silky, slimy things like the soft and hard corals, sponges, sea squirts, and all the squelchy creatures that are encased in hard protective exteriors such as sea pens, cockles, barnacles and oysters — including the pearl oysters that made my earrings. Seagrass supports these communities as a habitat and food source via its detritus. What's detritus? It's the old dead bits of seagrass. It rhymes with 'Delight us' because it delights the taste buds of all the crustaceans, molluscs, worms and filter feeders in the bay who gorge on it as a delicacy. 'Hello waiter, I'll take the dead particulate seagrass matter, and a nice Merlot.' Of course, these fancy detritus diners are then consumed by invertebrates and nearly everything else via the food web.



Dugong

Do you know who loves to eat invertebrates? Birds! International migratory shorebirds fly from the Arctic to Roebuck Bay for food. Our bay can host more than 100,000 shorebirds daily. Epic. The birds feast thanks to the food web described above, which primary-producer seagrass helps kick-start. Also, seagrass provides habitat and nursery for the fish that feed the birds. Yes, locals, I said fish. That got your attention, you fishing-mad mob.

Broomies love their fishing, cherishing this pastime as a sacred activity, central to the meaning of life, in the same way that others cherish their religions, or Australian Rules Footy. Seagrass is crucial for good fishing, supporting fisheries as a nursery and providing habitat for juvenile fish, by oxygenating and cleaning water and by contributing energy and nutrients to the food web.

There are many more values that seagrass supports — nature-based tourism, seascapes, sediment quality, social values, cultural values — but after the last paragraph I can see you're eager to head off fishing, so off you go. But as you cast out your line remember to also cast a thought of appreciation to seagrass, which supports everything we love and enjoy about Roebuck Bay.



Every quadrat a new source of fascination. September 2017 seagrass Town Beach



Green turtle near Demco seagrass monitoring site Sept 2017



Department of
Parks and Wildlife



SKIPA Struts its Stuff



Kylie Weatherall

On September 30 in Larja (Yawuru season, also known as the 'build-up'), SKIPA volunteers hosted a fun Kimberley native plant event at Magabala Botanic Park in Broome North. The day was made possible with help from Water Corporation's West Kimberley Community Grant Scheme (WKC GS) and supported by the Lions Club of Broome

The principal aim of the 'Plant a Local Community' event was all about connecting the wider Broome community with Kimberley indigenous plants and showcasing Broome's own botanic garden.

The day kicked off with a walk and talk on indigenous plant use with Micklo Corpus. Follow-up talks included the park's history and development (UDLA & Northern Landscapes), planting for wildlife with the Broome Bird Observatory, weeds in your garden (Beau Bibby) and water recycling in Broome, industrially (Water Corporation WA), and domestically (with water expert Kat Taylor).

Vanessa Mills from ABC Kimberley hosted the event and kept the morning rolling along. Plant giveaways, kids' activities and cups of tea and cake kept everyone happy.

A major feature of the day was the unveiling of the new laterite plateau, one of the six Kimberley habitat areas created in the park. The plateau is modelled on breakaway country found throughout the Kimberley and characterised by poor gravelly soils and low sparse vegetation. (Laterite plateaux can be seen between Halls Creek and Fitzroy Crossing, with the camping area at Ngumpun Cliffs a good example). The remodelling works on the plateau wouldn't have been possible without a great deal of support from generous community members and businesses including Dingo Drilling, Main Roads WA, Northern Landscapes and Gungalla McKay — who were creative in how they got their materials delivered.

SKIPA is proud to have been involved since the conversations began around the creation of the park, and has been instrumental in park design and giving technical advice on plants and plantings. We will continue to work with the Shire on managing and developing the park, and are always looking for volunteers to help with busy bees and planting days. SKIPA also runs other activities, including growing plants, creating gardens, revegetating in Minyirr Park and occasional bush excursions.

Do yourself a favour — go and have a look at the park at the end of Magabala Drive (last car parks on the left) in Waranyjarri Estate (Broome North).

SKIPA is supported by the Kimberley Nature Project at Environs Kimberley and occasional grant funding.

Proudly supported by the
West Kimberley
Community
Grants Scheme



Planting out out the newly landscaped Laterite Plateau



Adelaide De Bruyn having fun potting up native plants



SKIPA native plant giveaways

Plant of the Month

Gum trees flowering in november/december

You may have noticed in your travels in the west Kimberley lately a profusion of gum trees in flower. Below I've written a short description of four of them to help you to distinguish one from the other.

Eucalyptus tectifica

Grey Box, as it's commonly known, has rough grey bark with uneven vertical lines running through it. It often grows in low-lying country in the west Kimberley. Good examples, covered in pale yellow blossoms, can be seen in the grounds of St Mary's College and on the Guy Street verge outside.

Corymbia paractia

Cable Beach Ghost Gum's rough scaly bark turns white as it matures. The tree flowers quickly with creamy white blossoms, and produces viable seed within a month. Cable Beach Gum is endemic to the Broome Peninsula and good examples can be seen outside DPAW offices on Herbert Street. *C. paractia* blossoms will probably be finished by the time this newsletter is printed and the fruit will be forming.

Corymbia zygomphylla

Twin-leaf or Broome Bloodwood is easily distinguishable from the others by its opposite leaves, dark scaly bark and large, urn-shaped fruit (think conky nut). It has creamy yellow flowers, which are bursting into bloom as this newsletter goes to print.

Corymbia bella

Bella, meaning beautiful, is an apt description of this large, handsome white gum, which is very common around Derby, and good specimens can be seen in the One Arm Point area. Superficially similar to *C. paractia*, it is easily distinguished by its wineglass-shaped fruit and shorter pedicel (fruit stalk).

You may be wondering why I've used the term 'gum tree' instead of Eucalypt. Eucalypts have now been split into two genera, Eucalyptus and Corymbia. Check out the profusion of insects when you are blossom-gazing.



Tenth Anniversary for two valued staff members

Congratulations to Louise Beames and Christine Elsasser, each of whom has spent 10 years working for Environs Kimberley. We are so grateful to have you with us and we hope that you will both continue to support and inspire us with your hard work and dedication for many years to come.

Louise joined us first as our coordinator for the humble Kimberley Weeds Project, and introduced effective working relationships with Aboriginal rangers and land managers on the Dampier Peninsula. The work expanded to become the Kimberley Nature Project, which does cooperative land management with traditional owner groups, and spread from the west to Fitzroy Crossing, the Great Sandy Desert and beyond. Now Louise has exported our expertise beyond the state and into Victoria. Where will it all end? We hope it won't. Despite residing in Victoria now, EK staff and partner Aboriginal Rangers still feel her presence due to her continued support, warmth and boundless energy.

Christine started as EK's Administration Officer, a role that included organising events and running the Courthouse markets, as well as managing the finances. As EK grew from its small beginnings with one paid Coordinator to an organisation with around a dozen staff members and more than 15 separately funded projects each year, Christine has managed the finances brilliantly, never failing to satisfy our auditor.



EK staff 2011: Christine Elsasser, Louise Beames, Taran Cox, Martin Pritchard, Kylie Weatherall and Jason Roe.

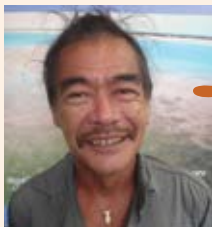
During this process of change, Christine handed over part of her role to Tess, and became our dedicated Finance Manager. Staff past and present have appreciated Christine for her warmth and good humour, as well as for her efficiency and integrity.



Nyul Nyul Rangers

They work the Peninsula from East to West
 Their knowledge of Bilbies is up with the best.
 The beaches are many from ocean to sound
 But they keep them all clean, get the shit off the ground.
 They also report strange things that they find
 Like foreign objects the tides left behind.
 The monsoon vine thickets are ancient and rare;
 The rangers all know this and take extra care.
 They learn of the animals, plants and their seeds
 But some of their time is spent just killing weeds.
 They use modern science from day to day
 But never forget what the old people say.
 Fire is there as a friend or a foe
 Do they fight it with fire or just let it go?
 Call Nyul Nyul Rangers — they'll surely know.
 Sometimes a few elders and kids come along
 The Rangers all love it, makes everything strong.

Neil Hamaguchi (now working with Nyul Nyul Rangers).



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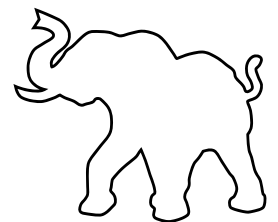


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EK Annual Awards

Dirty Socks and Broken Thongs



This is the time of year to hold our much-anticipated end-of-year virtual awards ceremony for notable disservice to the environment over the past 12 months.

After much thought, the Dirty Sock Award goes to Rio Tinto for bulldozing a road just outside the Horizontal Falls National Park boundary, and beginning construction of a base camp, in order to explore for copper. The company may not be doing anything illegal, but anyone should be able to see that the

area is sensitive and needs a buffer zone. Tourism operators are upset, particularly as the bulldozed road and camp are clearly visible from light aircraft flying scenic tours. Nothing very scenic about bare ground and mining camps.

The runner-up in this hard-fought competition and recipient the Broken Thong Award is Ms Gina Rinehart. Gina wins the award for her statement that the floodwater of the Fitzroy River is 'wasted' as it runs out to sea. This is an example of the sort of ignorance of natural processes that has bedevilled our region — our entire continent — since European settlement. During our first Fitzroy River campaign EK was at pains to explain how the regular flooding of the river serves numerous ecological functions, such as scouring out debris, revitalising habitat for all manner of plants and animals, especially fish, and providing a pulse of freshwater and nutrients (healthy ones; not the sort produced by fertilisers) necessary to coastal life. The whole system works brilliantly and we interfere with it at our — and other species' — peril. It seems we have to explain it all again.

Bouquets

One of our annual bouquets goes to Mark McGowan for keeping his election promises for a Fitzroy and Margaret River National Park, a management plan for the Fitzroy River, no dams on the Fitzroy and a moratorium on fracking in the Kimberley, pending the report of an inquiry into the safety of the industry. EK will be mustering its resources to make the moratorium a permanent ban.

We present our second bouquet to Bart Pigram for sharing insights into the cultural and natural beauty of Broome and surrounds through his Narlijia Cultural Tours.

And let us hand out posies to one another for all the good work EK has done this year, made possible through the support of our members, friends and volunteers.



New Staff Member

Jessica Miller

Jess hails from the east-coast Hunter region. She spent a lot of time in the ocean and bush as a kid. She has a diverse work background, including environmental and heritage management in the Australian and ACT Governments. Her qualifications include a Bachelor of Natural History Illustration, a Master of Natural Resource Management and a soon-to-be-completed research Masters in Environmental Impact Assessment and Ecology. Jess loves volunteering in environmental education, conservation and community advocacy. She spends the rest of her time learning about sustainability leadership, adventuring with friends and making art. As part of the KNP Team Jess will be running two projects "Looking after Oongkalkada - Managing weeds and conserving eco-cultural heritage" and "Documenting and promoting Bunuba language and eco-cultural knowledge about Balali (Limestone Country)". She will also assist with other Kimberley Nature Project work.

New Board Members

Sean Salmon

After growing up in Country Victoria, Sean attended University in Ballarat. Seeking adventure, he travelled to the Kimberley in 1996 and has remained here ever since. He enjoyed working in the Pearling and Fishing industries on the remote Kimberley coast, and finally completed his degree in Education in 2006 whilst working on community landscaping projects. His teaching career began in Wyndham in 2007. In 2009 he returned to Broome with his partner and two sons and continues teaching in Broome, specialising in Indigenous Education.

Nik Wevers

Nik has lived in the Pilbara and Kimberley since the late 1970s. She has been employed by and sat on the Boards of numerous not-for-profit community organisations, mostly responsible for the delivery of social services. She has also sat as a Board member of the Broome Port Authority and the Kimberley Development Commission, and served for 10 years as a Shire of Broome Councillor, including six years as Deputy Shire President. Nik is committed to the sensible preservation of the natural environment of the Kimberley, while supporting development that creates opportunities for Kimberley people.

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- 1 year for \$30.00/ Concession \$20.00 (Inc of GST)
- 3 years for \$80.00/ Concession \$50.00 (Inc of GST)
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