



Kimberley students and community confront the Premier

Shaun Clark

In September the Premier and WA Cabinet came to Broome for a 'Community Cabinet' meeting. Over 100 people came along to greet the Premier and Ministers and support the School Strike 4 Climate (SS4C) national youth action.

Many of these people travelled over 300km to explain to the Premier what country means to them and their culture and why fracking should be banned. If government and industry continue to gear up their quest to frack this wonderful region, so will the resistance against such destruction. We'll be keeping a close eye on fracking and climate change policies heading up to the next state election in March 2021.



School Strike for Students. Isaiah Mckenna calls for strong climate action
Photo: Damian Kelly



The Kimberley Community shows the Premier that we oppose fracking. Photo: Damian

Volunteers Needed!

Environs Kimberley is in dire need of volunteers for our Courthouse Market Stall on Saturday mornings next year. Shifts are from 7.30 to 10.00am and from 10.00 to 12.30 pm.

On average, a volunteer helps on the stall about once a month between April and September, less often from then till Christmas. Arrangements are flexible. Training is given, stallholders get to meet people, sell produce and have fun. Working in pairs, volllies can take turns to look around the market or buy coffee. Drivers are also needed to drive our trailer to the market and back. **To join our happy marketeers, contact Tess at EK.**



Report From The Chair

Kate Golson

Hello all.

At a well-attended AGM on 12 November, a mix of Broome-based members, Board members and staff welcomed five new faces onto the Board — Natalie Davey, Monica Edgar, Alexis Harper, Rebecca Laird and Isaiah McKenna — and thanked those who were departing — Sean Salmon, Cassie Douglas-Hill and Sarah Dobson — for their contributions.

After the months of restrictions and in the knowledge that we continue to live with the threat of the pandemic (as I write, the outbreak in South Australia is being talked of as a potential second wave), face-to-face gatherings such as this take on a new significance.

As I mentioned in my report for the AGM, the event caps off a year, much of which we spent steering a course through uncertain waters. Overseen by the ever-so-capable management team of Martin, Louise and Malcolm, the organisation swiftly and effectively adopted a range of new and better ways of running our business, predominantly through the use of online platforms to interact, communicate and hold events. These changes have opened us to exploring other exciting possibilities, including ways to extend the reach

of the organisation, and how we might interact in more targeted ways with EK members and supporters beyond Broome.

I also noted auditor Fong Richards' positive assessment of our financial health and the successful outcome of our efforts to strengthen EK's financial management systems, including engaging accountancy support to work with our Finance Officer, Christine.

2021 is shaping up to be another year in which EK strikes out in new directions, though it is hoped this will happen in less tumultuous circumstances.

Following the recent recruitment of ecologist Matt McDonald and conservation biologist Victoria de Bruyn to the impressive 10-member-strong Kimberley Nature Project team, this month Liz Jack stepped into the newly created position of Social Enterprise Development Manager, which is jointly funded by our partner Impact SEED.

On a final note, if you would like to read more about our activities, our recently released 2019/20 Annual Report is available here.

All the best until the next issue,

Kate

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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

Bulldozing the world's most intact tropical savannah – sponsored by the Department of Primary Industries and Regional Development.

Martin Pritchard

The Kimberley's tropical savannah has been described by scientists as the most intact in the world. It contains significant stores of carbon in the soil and in the plants and animals.

It is the habitat and last major stronghold of threatened species like the Greater Bilby, which is now extinct from 70% of its former range. This is all lost on the Department of Primary Industries and Regional Development, which has yet to realise that regional development does not require a bulldozer and the destruction of the world's most intact savannah. The department promotes landclearing for high-risk experimental industries and the government provides free land and water.

This is what's happened at Skuthorpe (20km from Broome) over the past few years. 680 hectares of land was put out to tender in 2016. A permit to clear 165 hectares was granted to Kimberley Asparagus in November 2017, despite the Department of Biodiversity and Conservation acknowledging the high level of biodiversity in the area, with the Greater Bilby, Masked Owl, Dampier Peninsula Goanna, Spectacled Hare-wallaby, Dampierland Burrowing Snake as well as other rare species all likely to be present.

The plan was to grow 70 hectares of asparagus, a crop that's never been grown at a commercial scale in the Kimberley before. According to questions in parliament (Question On Notice No. 2054 asked by Hon Robin Chapple in the Legislative Council on 2 April 2019), 'Kimberley Asparagus will trial 10 hectares of other high-value crops including table grapes.'

The Northern Territory's only asparagus grower in Katherine has been attempting to grow the crop for years. He said recently, "...agronomically, we've been mucking around with it for a long time and we still don't have the answers...".

Perhaps this is why the shareholders of the leased land, Fresh Produce Group Western Australia Pty Ltd, whose address is in Sydney, have opted to grow more table grapes (approximately 50 hectares) than asparagus. It appears that, despite DPIRD's advice to Minister MacTiernan that there would be a trial of table grapes, it didn't happen.

Questions in parliament further revealed that jobs not taken up by locals would go to backpackers and the Seasonal Worker Programme. We don't know if table grapes can be grown successfully in this climate, which favours fungi and termites needing chemical control. We don't know how many jobs will be created for locals; DPIRD has no idea how many tonnes of carbon were released into the atmosphere when the savannah was bulldozed and burnt, nor how many Bilbies and other animals were killed. Government departments have a history of facilitating the destruction of vast ecosystems in Western Australia, the wheatbelt being a prime example. Until DPIRD is able to comprehend and value the Kimberley's tropical savannah, and look at different ways of creating an economy without destroying the habitat of threatened species, we will do all we can to defend the nature of the Kimberley.



Table grape trellises at Skuthorpe August, 2020

Thanks to Josie

Josie Farrer MLA has represented the seat of the Kimberley since 2013 and is retiring after two terms. Josie has stood strong against fracking in the Kimberley, going against the McGowan Government's policy. Fracking is banned in many countries across the world and also in the South West of WA and most of the Dampier Peninsula. Thanks for standing strong against this toxic industry, Josie.

Thank you also for your support in protecting the Martuwarra Fitzroy River from big pumps and irrigation. We are calling on all candidates for the state election in March next year to commit to protecting the Fitzroy and ban fracking.

"I urge all my Kimberley mob and the people of Western Australia to join me in keeping the pressure on the State Government until we see a full ban on fracking in the Kimberley and all of Western Australia."

Josie Farrer, Member for the Kimberley, June 25 2018



Broome community, Josie Farrer's office, show of support for her call to ban fracking, July 5, 2018

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

BOTTLES and CANS

I am not going to give advice on Christmas this year. If you want ideas for environmentally sound gifts, please refer to last December's edition of Living Green. You can find it on EK's website.

This time, I'm going to tell you about the Cash for Containers scheme, which we have been awaiting for so long. Yes, folks, as you could have guessed from the sudden reduction in the middens of beer cans and soft-drink bottles around towns, it's up and running at last.

The best way to find out about it in detail is to look it up on the Containers for Change website. There are four methods: Depot, where staff members help you and you get paid immediately; Bag Drop, where you leave your tagged bag of bottles and cans at a collection point, and get your refund paid into your bank account later; a regular mobile pop-up service for small communities; and a fully automatic reverse vending machine, which accepts only undamaged cans and bottles. You pop in your item, it checks the barcode and pays the refund by your preferred means. I haven't found one of those in the Kimberley.

It is heartening to see that there are numerous depots and a few pop-ups across the region, including some in Aboriginal communities such as Bidyadanga and Djarindjin. To prepare myself for writing this article, I investigated the Broome depot at Nirrumbuk on Clementson Street.

What a busy place it is! You drive in and park, enter the big shed with your sack of cans (I took a modest supermarket bagful), hand them over to one of the helpful staff members or tip them into a vacant receptacle, and wait while someone sorts them, counts them and then issues your refund: in cash, into your bank account, if you have registered, or — and here's the best idea — to a charity of your choosing, preferably Environs Kimberley. To donate the takings to EK, you have to give the ID number to the staff member assisting you. Ours is **C10296595**.

While there, I asked a few questions: do they accept crushed cans — yes, so long as they have nothing in them, such as cigarette ends (that must apply to uncrushed ones as well). Glass bottles yes, broken glass no. When are the busiest times — mainly after school when parents bring their children along.

The list of things they can't take is interesting: wine and spirit bottles, cordial and syrup bottles, and any container holding over three litres — and kindly take the tops off the bottles. Curiously, they accept no pure milk cartons, but flavoured milk cartons up to (but not including) a litre are eligible. The theory is that the ineligible containers are less likely to turn up as litter. I guess that depends where you live.

Ruminating with MAD COW



ON FEAR

I have sometimes camped on my own in the bush, in the company of termite mounds — the tall, more-or-less conical type of mounds such as those you see in regiments along the Derby Road. With all that seething insect life close by, it's impossible to feel alone. There are the soothing sounds of insects (no mozzies in the dry season) and late-night birds, the occasional moo of feral cattle, and, if you are lucky, the lovelorn howl of dingoes. The night sky is such as can be seen in few places on Earth.

'Weren't you frightened?' timorous people ask. With a moment's reflection they should see that there is little to be afraid of in the Australian bush. Anyone set on doing harm to others would surely be looking for victims in populated places, not out in the sticks amongst termites. Yes, there is always the remote possibility that an Ivan Milat or a Bradley Murdoch will descend on my modest campsite with murderous intent, but the chances are vanishingly small — and I'm happy to take that minuscule risk. The wildlife is mostly benign, and snakes don't normally crawl into swags. It's true that a snake did once join me in bed at home, and bit me, but never in the bush, and I don't think I'm likely to experience that sort of excitement more than once. The small risk is compensated for by the joy of solitude in nature — that alertness of the senses, which is never as acute when other people are present with their commentaries and jocularities.

Sure, terrible misfortunes do befall some people, and with hindsight it is tempting to attribute that to the risk they took. In the majority of cases the risk was a reasonable one and, against the odds, their number came up. If something is 99% safe, there is always that one per cent that isn't.

Fear of being in the unlucky one per cent prevents a lot of people from doing a lot of things. No one seems to hitchhike any more — not only because people can now organise lifts through websites, but also as a reaction to a few horrific and well publicized events — but there was great joy and fraternal fun when hitchhiking was common, in more innocent, pre-digital times. It was its own adventure, leading to unpredictable meetings and experiences — far more rewarding than riding in the relative safety of buses and trains.

Women sometimes hold 'Reclaim the Night' marches, but not many of them reclaim it the rest of the time. This is a pity; the more people walking around town at night, the safer the lone walker is likely to be. It's like driving children to school — if few parents did, then groups of children could safely walk together. Parental fear keeps children from exploring, and makes them fearful too. Fear is the great killjoy.

Funnily enough, we all do the things that present the greatest risks: we form relationships (many murders occur within families) and we drive cars. I rest my case.



How does Right-way Fire help animals in the desert?

Hamsini Bijlani

In September this year, Environs Kimberley ecologists and the Ngurrara Rangers headed to Kuduarra (Well 46) down the spectacular Canning Stock Route with traditional owners for the area, the Karajarri Rangers and ecologists from the Department of Biodiversity, Conservation and Attractions and the 10 Deserts Project. The purpose of the trip was to conduct a biodiversity survey to find out how the Ngurrara Rangers' fire management is benefiting the animals of the Great Sandy Desert. This survey was built on the principles of two-way science and was the first in a series of long-term biodiversity trips planned on Ngurrara Country, conducted with support from the NESP Threatened Species Hub.

Our first day was spent digging buckets and trenches in amongst jitapuru (spinifex in Walmajarri language) of different ages, for the long-term biodiversity trapping sites. The sites were in four different ages of jitapuru: yurnara or jarlujangka jitapuru (old growth spinifex), nyirinyanu or yitilajangka jitapuru (medium-age spinifex), parrawa or larpnwarnti jitapuru (re-sprouting/recently burnt spinifex), and wuntara (very recently burnt spinifex).

We spent the next few days checking the traps every morning and evening to see what animals we would find. We kept a running scoreboard at the camp of how many species were caught in the different habitats each day, so that everyone could see the results and emerging patterns. We even had a tab (La TAB) where everyone betted on which fire-age they thought would have the most species and the greatest number of animals.

By the end of the survey we had caught a total of 261 individual animals of 27 species. These included species of wurrkarn (skinks), wakura (geckos), wiji (small dragons), pampirta (large dragons), and punypuny (mice). We even caught a little mammal called a kaluta, which had never been recorded in that part of the desert before.

We found that some animals don't mind what kind of jitapuru (spinifex) they are in, whereas others are really picky. Some animals, like the Central Netted Dragon (*Ctenophorus nuchalis*), were only caught at sites that had been burnt within the last three years and had lots of bare ground (*wuntara* and *parrawa*), whereas other animals, like the Leopard Skink (*Ctenotus pantherinus*), were only caught at sites with lots of big, old spinifex.

This means that if we want to help all the animals of the desert we need to have patches of jitapuru of all these different ages scattered across the landscape to form a mosaic. This is exactly what the Ngurrara Rangers are trying to achieve with their fire management work.

Right-way warlu (fire) = lots of jitapuru of different ages = lots of different animals = Healthy Country!



Emily (Ngurrara Ranger) checks a pitfall trap



Alfie (Ngurrara Traditional Owner) and Hamsini (Environs Kimberley) measure a legless lizard (*Pygopus nigriceps*) (photo by Valerie Densmore, DBCA)



Malcolm (Environs Kimberley), Emily (Ngurrara Ranger) and Julian (Karajarri Ranger) put up fencing for the pitfall traps at a survey site.



The team at Well 49 on our way back home after the survey



A kaluta (*Dasykaluta rosamondae*) caught in a pitfall trap. This was the first record of a kaluta in the area. (Photo by Hannah Cliff, 10 Deserts Project)



Department of Biodiversity,
Conservation and Attractions

PARKS AND
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Natural Environmental Science Programme





Call on McGowan Government to protect the Kimberley from landclearing

Martin Pritchard

When a new government is elected we sometimes hope that the outlook for our environment will improve. Australia, with its shocking record of extinctions since European occupation, is in a biodiversity crisis. The Commonwealth Government says:

"Australia's biodiversity is currently in decline; in Australia, more than 1,700 species and ecological communities are known to be threatened and at risk of extinction."

18 million hectares have been cleared in WA. The Kimberley, though overgrazed by cattle, is still relatively unscathed. It is part of the most intact tropical savannah remaining in the world. To date, no government has fully acknowledged this and taken action to protect it.

We are constantly facing native vegetation clearing proposals and finding illegal clearing. We are aware of plans to clear at least 80,000 hectares of land across our region. Less than 7% of the Kimberley is protected in conservation reserves.

The Minister for the Environment, Stephen Dawson, released an issues paper on 'Native Vegetation in Western Australia' for public comment in November 2019. The paper's main focus was a new policy. While this is welcome, it's unlikely to stop the damaging loss of Kimberley ecosystems. The danger is that the new policy, without legislative changes, will merely regulate the decline of native vegetation across the region.

The Kimberley is one of the few places in the world where the native vegetation is still relatively intact. We have an opportunity to retain it and make sure that it underpins the future prosperity of the region and the health of the people. A report into global ecoregions identified Northern Australian savannahs in the Global 200 as a *"...priority target for conservation action because they harbor the most outstanding and representative examples of the world's diverse ecosystems."*

The Kimberley, as part of the Northern Australian ecoregion, *"...contains some of the largest and least disturbed areas of tropical savannah in the world."*¹

What we seek from the McGowan Government

1. Recognition that the Kimberley's vegetation is part of the most intact tropical savannah on the planet
2. A commitment to retain all remaining vegetation across the region
3. A commitment to increasing conservation reserve areas of the Kimberley to 15% of the region by 2025, subject to Traditional Owner agreement
4. A commitment to allowing pastoral leases to be destocked and run as tourism, carbon farming, conservation and bush product enterprises

We have an opportunity like nowhere else in the world. The Kimberley is world-renowned for its magnificent landscapes and the species that live in them; let's make sure it remains that way.

¹ The Global 200: the list of ecoregions identified by WWF, the global conservation organization, as priorities for conservation.

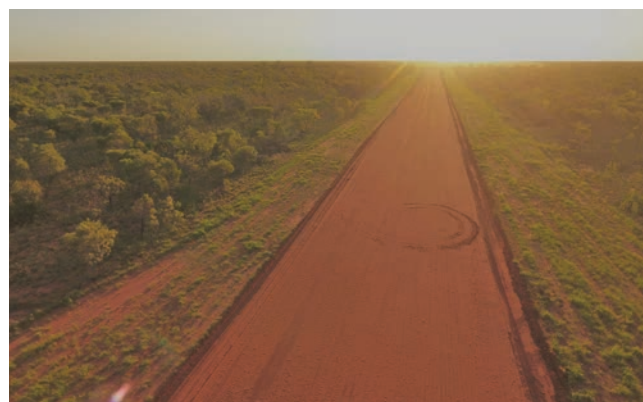
McGowan Government soft on illegal landclearing

The McGowan Government's track record on illegal landclearing is poor. We have reported several instances of illegal clearing in recent years:

- Nita Downs pastoral lease – illegal clearing of 67 hectares
- Anna Plains pastoral lease – illegal landclearing (area unknown)

Both got 'letters of warning'.

- Land behind the Roebuck Plains Roadhouse to make a runway – not investigated – owner of adjacent property notified of the potential breach.



Runway illegally cleared at the back of the Roebuck Plains Roadhouse, February 2020

Clearing by the Water Corporation near Coconut Wells – no surveys despite known Bilby population

The Water Corporation cleared land under its statewide 'purpose permit' in prime Bilby habitat off McGuigan road. Despite the Department of Biodiversity, Conservation and Attractions conducting survey work on adjacent land, the Water Corporation did not consult them. The Minister for Water stated, *"The Water Corporation only became aware of a known population of Bilbies on the adjacent property after the grading had started."*



Water Corporation landclearing of prime Bilby habitat without surveys

Despite us ringing the regulator, the Department of Water and Environment Regulation, about the clearing with no permit or surveys, the bulldozer kept destroying the vegetation and the regulator refused to go out on site. We had no choice but to enter the site and stop the bulldozer ourselves.

Yakka Munga – still no prosecution

Nyikina Traditional Owners informed us of this illegal clearing. It took a blockade by Traditional Owners and several thousand people emailing Minister for the Environment Stephen Dawson to get the government to stop this. A year later, we're still waiting for the investigation to be completed. We found out through an application under the Freedom of Information Act that the owners, Shanghai Zenith from China, had plans to create an 'all-weather' station at Yakka Munga pastoral lease by excavating drainage channels across the entire 190,000-hectare pastoral lease to enhance grazing, destroying some of the Kimberley's landscape and culture.



Yakka Munga illegal landclearing



Nyikina Traditional Owners blockading Shanghai Zenith's illegal landclearing

DevelopmentWA (formerly Landcorp) bulldozes prime Bilby habitat

DevelopmentWA has been busy bulldozing a site on the Cape Leveque road that is known Bilby habitat.



Proposal to bulldoze the best patch of Gunurru/Cable Beach Ghost Gum by DevelopmentWA

WA Government agency DevelopmentWA is seeking approval to bulldoze 70 hectares of prime Kimberley bush just out of Broome at the Industrial Park. This is despite having only sold one lot in the Park since it opened.

Their own commissioned report states, *'The vegetation within the study area is considered to be generally in Very Good to Good condition, which offers excellent habitat for native fauna.'* Bilbies are known to live in this area. It is also the site of the highest density and largest patches of Gunurru/Cable Beach Ghost Gum/ *Corymbia paractia* in existence. Gunurru is only found on or around the Broome Peninsula — nowhere else in the world. The specis has been recommended for protection. The report to the WA Government states that it is 'possible' they are present.

DevelopmentWA's 'Sustainable Development Outcomes Framework' states that part of the Environmental Integrity outcome is 'To protect and manage natural systems, habitat and biodiversity'. It also says the Social Inclusion outcome is 'To engage with the community to provide opportunities for them to positively influence development outcomes'. They have not engaged with EK at all. We'll let you come to your own conclusions about the integrity of DevelopmentWA's public claims.

The Commonwealth is currently assessing the proposal.



Gunurru/Cable Beach Ghost Gum at the Broome Road Industrial Park
Photo: Damian Kelly



Area proposed for bulldozing by DevelopmentWA



New Tech for Conservation

Dr Malcolm Lindsay

At Environs Kimberley we are always investigating how new technologies can assist our projects to protect the Kimberley's environment and culture. In 2018 we were Runners-up in the 2018 Australian Google.org Impact Challenge, alongside our partners the Karajarri Rangers and Walkes Services. We thought it would be great to tell you about some of the new technology we are investigating through the Google.org project and others, and to explain how we will apply it to conserving the Kimberley.

What's the weather like in the Desert this time of year? Real-time weather readings inform Karajarri Rangers' fire management.

There are many places in the Kimberley where you can't get wifi or mobile phone service, shock horror.

It means that, when Aboriginal rangers are doing complex land management, decisions will be informed by complex traditional ecological knowledge, but lack the recent and widespread information that modern technology can provide.

Through the funding from the Google.org Impact Challenge, Toby Barton from Walkes Services, the Karajarri Rangers and Environs Kimberley have installed three solar-powered satellite-connected weather stations out on Karajarri's *pirra* (inland, or desert) country.

These robust units can be installed in under 30 minutes, and log temperature, humidity, rainfall, wind speed, wind direction and battery voltage. These data are sent through satellite connection to Internet storage. The rangers can then access

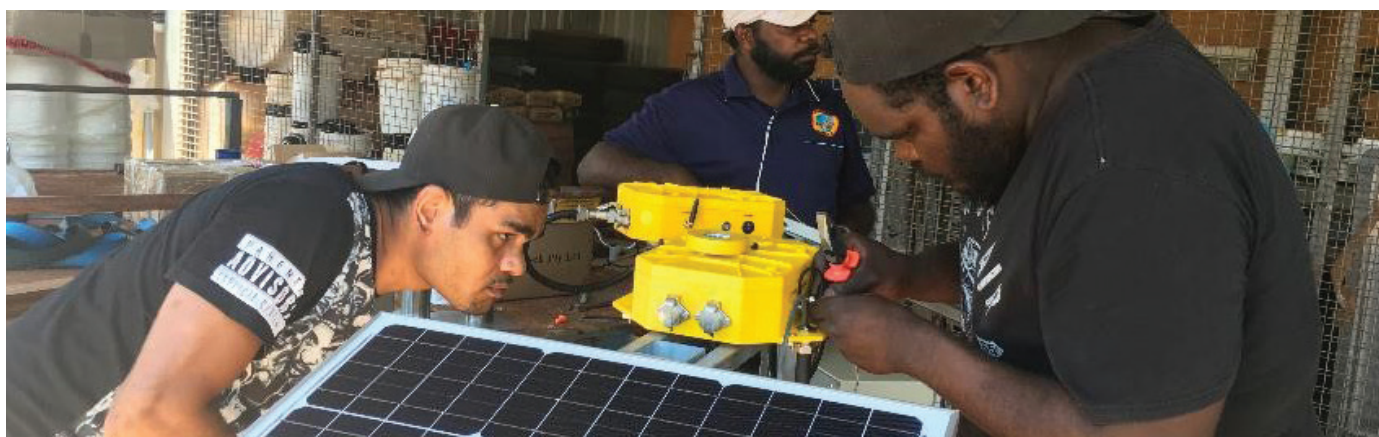
this information from the comfort of their air-conditioned ranger base in Bidyadanga.

This has already been useful for planning for the 2020 fire season. The rangers are wanting to burn as soon as they can after the wet season, when fires burn cool and small, and are often put out at nighttime by the lingering humidity. The rangers can check the long-term weather from the sites to know when humidity and temperatures indicate that grass is ready to burn, then check the weather the day of burning to gauge wind speeds and strength to plan how they will burn. This means that their fire management will be safer, more efficient and more effective.

It also helped on recent biodiversity surveys that Environs Kimberley conducted with the rangers and NESP Threatened Species Hub. Not only can we relate the daytime and nighttime weather conditions of the sites to the numbers of animals we recorded, but we can relate it to ourselves when preparing — how hot has it been out at the sites, and how much will we sweat?

This is another example of how new technology can provide regular and detailed information to complement traditional ecological knowledge, leading to better conservation outcomes.

This project was part of the *Pirra pani pijara: Desert eyes and ears* project, a collaboration between Environs Kimberley, Walkes Services and the Karajarri Rangers, and a finalist in the 2018 Google.org Impact Challenge



LUFFT Temperature	14.7 deg. C		
LUFFT Rain Gauge	335 mm		
LUFFT Wind Speed	7 kph		
LUFFT Humidity	38 %RH		
LUFFT Wind Direction	109 deg		

Karajarri Rangers set up weather station (top), weather station on site (left) and live data interface (right)



EK Art Auction Goes Online

Tessa Mossop

The uncertainties of 2020 provided the perfect opportunity for Environs Kimberley to try taking the EK Art Auction, our largest annual fundraising event, online.

With unwavering support from Kimberley artists and Art Centres, and a huge amount of work from EK staff, the auction ran online for ten days and displayed over 120 pieces of art. Supporters from all over Australia, and internationally, took part in the occasion and there was some fierce competition for the stunning selection of Kimberley works. The live auction was as exciting as ever, despite the Covid-reduced crowd, not least because we were taking online and telephone bids, thanks to Mal, as well as those from the floor.

Overall the online event was a huge success and the lessons learned mean that we'll be continuing with this fundraising strategy into the future.

As always, EK sends a huge thank you to everyone who came out and supported us in these very difficult times, especially the artists and art centres, volunteers, and all the generous people who participated in the inaugural online event by bidding on and buying art!

We hope that we can continue to develop this online model in the future, to promote the conservation work of Environs Kimberley, and the high-quality and diverse Kimberley art, to wider audiences of art lovers and Kimberley supporters.



Photo: Julia Rau

Environs Kimberley Art Raffle 2020

'Life on the Edge – we are all in this together' by Jeanné Browne.

And the winner is... Steven Robinson (ticket #11)

Thanks to everyone who bought a ticket and congratulations to the lucky winner!



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

Greg's new book!

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Investigating wattles

Ayesha Moss

With support from a National Landcare Program Smart Farms grant, we are developing sustainable harvest principles for wattle seed and other native plant seed. Wattle seed season varies slightly from species to species but, on average, peaks during September and October.

We have been working with the Yawuru Jarndu Country Managers Sharee Dolby and Monica Edgar to collect seed from yirragulu (*Acacia eriopoda*) and liringgirn (*Acacia cole*) in Broome and with the Karajarri women and rangers Jacqueline Shovellor, Diane Hopiga and Ashma Possum to collect liringkin (*Acacia cole*) near and around Bidadanga.

We have been picking wattle seed from these two species to find out how much seed a particular tree can produce and trialling different methods of collection to determine which is the most effective.

There is a growing market for wattle seed food products. We hope to support local people to increase their participation in this market by learning more and sharing our knowledge about the characteristics of these local plants.

While seed collecting, we noticed a high volume of animal activity. What an array of animals use the wattle! Rainbow lorikeets had been seen eating the seeds, while many ants were observed taking seeds to their nests (they favour the oily, springy part of the seed, the aril). We even had a mouse eat through a paper bag of seed that had not yet been packaged and stored. There were many other animals amongst the seed and leaves. Their presence and activities led us to appreciate the importance of leaving some seed behind, for the environment. This is a key element in sustainable harvesting.



Lirringkin collection with Karajarri Women Rangers.



Beetle



Green Spider



Hairy Caterpillar





Traditional Owners still waiting for fracking veto rights

Shaun Clark

So where are the promised veto rights for Traditional Owners and private landholders?

Back in November 2018 the State Government announced the lifting of the moratorium on fracking. This announcement included the statement: *'Consent by traditional owners and farmers required before fracking production is allowed.'* 'Veto rights' became a term commonly used by the government in the media to back up the lifting of the moratorium. And here we are, in late 2020, and companies are presenting deals with timelines to be signed off, which include fracking production, while TOs still do not have right of veto.



Nuria Jadai calls on Premier McGowan to ban fracking (photo: Damian Kelly)

So when will TOs have that right, and be in the box seat to make decisions? The answer now is not until after the next election, because legislation has to be changed and the legislative agenda for the rest of the year is full. People are having to make major decisions on what happens on their country (decisions that can bind for decades) without being armed with the best tools possible..

DomGas Policy – What does it mean?

The McGowan Government made a shock announcement in late August about a major change to domestic gas policy.

The existing policy was that LNG export projects from offshore gas basins (as owned by Woodside, Shell and Chevron) had to make 15% of their gas available to the WA domestic market. There was still a projected shortfall in future years for gas in WA. In its revised policy the McGowan Government announced that the export of onshore gas, via pipeline or ship to other parts of Australia or overseas, is no longer permitted. There was one exception. The Waitsia project in the Mid-West will be allowed to fill available capacity at the Karratha Gas Plant and export some of its gas as LNG. The project is owned by Japanese conglomerate Mitsui and Co, and Kerry Stokes-backed Beach Energy joint venture. Kerry Stokes is the owner of the West Australian, Channel 7, GWN and Broome Advertiser.

While the onshore gas export ban could be seen as a positive step, this is a policy that is easily amended, and exemptions can be granted, as we have already seen occur in the Mid West. It has, however, created uncertainty for companies like Black Mountain and Theia Energy, who are focussed on exporting Canning Basin fracked gas — and uncertainty doesn't attract investors. In the meantime, we will continue to call on the government to ban fracking throughout WA and protect our future energy needs by rapidly transitioning to renewable energy.

Historic launch of the Martuwarra Fitzroy River Council Management Plan

On October 31st we had the privilege of attending the Martuwarra Fitzroy River Council launch of a management plan for the river, along with a series of short films, talks by Traditional Owners and a viewing of *'The Serpent's Tale'*, a film by Mark Jones.

EK Director Martin Pritchard spoke at the event and congratulated the Council, led by Dr Anne Poelina, on its hard work. He reminded everyone that we stood together in the past and stopped three dams proposed for the Fitzroy and Margaret Rivers. We can and will protect the river again.

This is groundbreaking work by Traditional Owners towards the protection of the Martuwarra Fitzroy River. The management plan released on the night, available on the Council's website, outlines the view of Traditional Owners, that all the water flowing down the Fitzroy "...is already allocated to traditional and environmental uses and values, sustaining people and places, plant, animal and fish populations and customary harvestable production as well as community and spiritual connections." In other words, taking water out of the river in large quantities would diminish the uses and values of the river.

The Martuwarra Council also lays out the importance of a buffer zone to protect the river and floodplains from incompatible industry and development.

The test now is to see if the McGowan government will listen to Traditional Owners or, instead, give free water to the millionaires and billionaires who are planning to get big pumps, canals and long earth walls to capture floodwater before it gets into the river.

We've seen what's happened to the Murray-Darling; we cannot let this happen to the Martuwarra Fitzroy River.

Please sign and share our petition to the McGowan Government calling for protection of the river www.environskimberley.org.au/protect_fitzroy



Martuwarra Fitzroy River Council Management Plan and film launch on the night of the blue moon

Symbiosis in the seagrass

Victoria de Bruyn

Seagrass meadows are famous for being a thriving hub of biodiversity and here in Broome they are intricately linked to the health of Roebuck Bay. You may also know seagrass as the major food for dugong and green sea turtle, and as a nursery for some of our beloved fishing species.

However, you may not be aware of some of the multitude of symbiotic relationships going on in the bay. I would like to share with you just a couple of the many interesting creatures we came across in our October monitoring sessions within the meadows of *Halodule uninervis* and *Halophila ovalis*.

Volunteer Gary Leinart spotted what appears to be a type of goby fish in the shallow pools nestled within the seagrass. The Gobiidae family, to which this fish could belong, contains around 1800 species (Do you know what species it is? Please tell us! We will let you know if we get a positive ID).

The gobiidae, or 'gobies', as they are affectionately known, are predominantly bottom-dwelling carnivores, and the shrimp/prawn-gobies have a delightful symbiotic relationship with (surprisingly!) shrimp. The two creatures share one home, often a burrow in the sea floor, which the shrimp has dug out. While this provides a protective home for the goby, the short-sighted shrimp benefits from its house-mate's great eyesight. A goby, which is far more efficient at spotting predatory fish at a safe distance, will warn the shrimp with a quick flick of its tail or by darting into the safety of the burrow. This mutualistic relationship enables both animals to inhabit environments that are not favourable to either species on its own, such as barren sandy areas amidst seagrass meadows.

How these two creatures identify each other to start their relationship is also interesting. A shrimp will use olfactory cues to ascertain whether or not to permit a goby of a certain species into its burrow, while the goby will visually assess an appropriately sized shrimp burrow and identify a given shrimp's species.

Another pair of impressive creatures spotted amongst the seagrass meadows were the tube-dwelling anemones (ceriantharians) and their associated dark horseshoe worms (phoronids). While tube anemones are solitary, they are often found in the company of many horseshoe worms, who harmlessly anchor themselves to the anemone's tube. The horseshoe worms benefit from anchoring to the tube and catching scraps of food dropped by the anemone as it feeds. As the anemone is capable of defending itself from predation the horseshoe worm is also inadvertently defended. The tube anemone appears to neither benefit from nor be harmed by the relationship.

Tube anemones also appear to have symbiotic relationships with copepods. However, the complexities of these relationships are not yet well understood.

One last (clearly understood!) symbiotic relationship I would like to share with you began on the shores of Roebuck Bay. Our indispensable seagrass volunteers were sumptuously fed and watered before heading out to the seagrass meadows where their priceless help enabled us to complete the seagrass surveys, before the tide and sun brought the curtain down on the majestic mudflats of Roebuck Bay.



A fish from the Gobiidae family.



A Tube Anemone (Ceriantharia) and its associated Anemone Horseshoe Worms (Phoronida)



Wonderful seagrass volunteers celebrating the success of the Black Ledge seagrass monitoring event!

 **BROOME SEAGRASS**
Community Monitoring Project





Bilbies of the Fitzroy Catchment

Jesse Alai

It's been a busy return to fieldwork since we've been able to resume relatively normal operations, which has meant rapid-fire bilby abundance surveys across the Fitzroy River catchment area for me.

The greater bilby (*Macrotis lagotis*) is one of Australia's iconic marsupial species. Despite bilbies being nationally listed as vulnerable, their populations are still declining in their range and abundance as a result of pressures such as introduced predators, altered fire regimes and habitat loss and degradation. Like many things in the Kimberley, we don't know much about our bilby population here. We do know that the West Kimberley is one of the last strongholds for populations of wild bilbies, which formerly ranged across 70% of the mainland!

In consultation with traditional owners we started our surveys at sites where there was cultural knowledge of bilbies, and areas of known favourable habitat. It is a lot of country to try to survey so this intimate knowledge of land and its inhabitants by the traditional owners was crucial to our success in finding populations.

One of the Gooniyandi traditional owners is still practising good fire management and has for many years been intentionally creating a mosaic of fired land around a bilby population. Camera trapping was done in the area in 2017 and successfully captured images of bilbies, but the size of the population in that area was still unknown. Being nomadic, bilbies are notoriously difficult to find; they will move great distances according to food availability, so it is great to continue to find bilbies in this area.

You might think working with bilbies is an opportunity to see these cute little guys all the time, but that is really not the case. When you're doing this type of work you have to accept that, despite spending days on end following their tracks, you most likely won't ever see a bilby in the flesh. Their elusiveness makes it difficult to estimate populations accurately using conventional methods of capture, recapture and camera trapping. Fortunately, a method of DNA analysis used for other mammal species has now been adapted to use for bilbies. This means we spend a lot of time in the sun sifting through bilby diggings looking for their poo... The life of an ecologist is indeed a glamorous one.

All jokes aside, these advances in sampling methods mean that not only are we now able to estimate populations much more accurately, we will also have a unique DNA record of each individual we come across. Imagine it as a barcode that every time we collect bilby scats we are able to scan to know exactly who dropped them. This information could be critical to helping us understand more about their movements on a larger scale, potentially shedding light onto where they go when they disappear into the desert.

This project is funded by the NESP Northern Australia Hub, in conjunction with traditional owners, their ranger groups, the Department of Biodiversity, Conservation and Attractions and the Kimberley Land Council.



Left to right: Martin (DBCA) with Abel and Kamahl (Ngurrara rangers) after setting up a sensor camera over a burrow



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Kimberley Weeds Network News

Danielle Bain,
Kimberley Weeds Network

Once we realised that our 2020 Weeds Forum would have to be postponed, we knew we needed to find a way to maintain momentum within the regional weeds working group, which had been established in December 2019. EK is very proud to have not only maintained momentum, but increased interest and participation among Kimberley 'weedos'.

In the course of 2020, the Kimberley Weeds Network was established and online meetings evolved into online mini-forums. The push for everyone to go online in response to Covid-19 has been an unexpected benefit for us; as you can imagine, the long distances between major towns in the Kimberley make face-to-face meetings difficult and infrequent. Our mini-forums have been well attended by weedos from the east to the west of the Kimberley, by NT weed managers and Perth CSIRO Scientists. This year we have held three mini-forums, which can be viewed on our private Youtube channel. If you would like to view these presentations, or take part in future mini-forums, please email Danielle at weeds@environskimberley.org.au

Through the email list, you will also have access to our Kimberley Weeds News (https://www.environskimberley.org.au/kimberley_weeds_network), which is a collection of information about Kimberley



Kimberley Weeds Network online mini-forum May 2020

weeds and stories about the people who are fighting these weeds on the ground, through research and policy.

The Kimberley Weeds Network has been a success in bringing people together to discuss weed matters and improve our regional voice. Collaboration is key to getting on top of the weeds that are threatening our native species in the Kimberley.

A working group has been established to plan a face-to-face forum in early 2021, based in Kununurra. We are looking forward to providing you with more information in coming months...fingers crossed!



Kimberley Weeds
NETWORK

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New Board Members



Alexis Harper

Lexi is passionate about health and values local environments, food systems and communities and the roles they play in people's wellbeing. Her academic background includes a BA in Naturopathy and a Master's in Public Health. She has lived in Northern Australia for over

10 years; Darwin and Fitzroy Crossing. She has recently decided to call Broome home for a while. Lexi is interested in creating local, sustainable food systems as well as ensuring the wild spaces that make the Kimberley special are preserved for future generations.



Isaiah Mckenna

A newly graduated Year-12 from Saint Mary's College and this year's Head Girl, Isaiah is excited to be joining the EK Board. At the age of 15, Isaiah represented the Kimberley in the YMCA WA Youth Parliament as a member for Arts and Culture. Her committee's

'Arts and Culture Redevelopment Bill' passed and was given to the Premier. Isaiah is enthusiastic about causes such as Native Title, the Arts and world history. Her goals are to become a Constitutional or Intellectual Property lawyer and Australian Minister for Indigenous Affairs. Isaiah hopes to enhance the success of EK and generate progressive change throughout the community.



Natalie Davey

Natalie Davey comes from Fitzroy Crossing. She works at Baya Gawi, the Children and Parenting Centre (CPC) and Early Childhood Learning Unit (ECLU). She is building a teachers' resource system for local and visiting educators and creating programs based around

the local Aboriginal seasonal calendars. At Wangki Radio, the local station, she is a broadcaster with her father. They present a morning language program called 'Dangujarra'. With Mangkaja Arts, Natalie is developing a jewellery collection inspired by country. She is dedicated to sharing the world around her and bringing people together through cultural understanding.



Rebecca Laird

Rebecca grew up in Western Australian country towns and moved to the Kimberley as a teacher 20 years ago. She has taught in remote and Broome schools and has a B.Ed. in Intercultural Studies and a Master's in Applied Linguistics. Rebecca helped develop the sustainable schools

community in Broome. She is passionate about digital education and supports teachers integrating technology into their work. She joined EK to help preserve the beautiful Kimberley environment and support the people who care for it. Rebecca is keen to work with the Kimberley community to ensure a sustainable future for its land and people.



Monica Edgar

I am Lead Country Manager for NBY. I have a passion for 'looking after country'. I love our home in the Kimberley and want to help protect it from the pressuring outside world. I have worked in collaboration with others through my job and find that the majority of the Kimberley's residents work hard looking

after country to keep it safe. I also provide education to the younger generation through school programs.

New Staff Members



Dr Matthew Macdonald Project Coordinator, Kimberley Nature Project

Matt grew up in central Victoria and completed a biological science degree at La Trobe University, majoring in animal ecology with

honours in conservation genetics. He then worked in local government, managing a range of ecosystem types, before completing a PhD in Botany from the University of New England, investigating weed invasion of floodplains and wetlands in the Murray-Darling Basin. Matt moved to Western Australia in 2009 and has since undertaken flora and fauna assessments across the state. Matt joined EK to work on the Kimberley Wetlands Project with six Indigenous ranger groups and their communities to protect and manage wetlands on their Country.



Victoria de Bruyn,

Victoria grew up in South Eastern Australia and has always enjoyed the outdoors and marvelled at nature. She has first-class honours in Conservation Biology from Monash University. During her undergraduate studies, Victoria started supporting

a South African leopard conservation project. She relocated to South Africa and built a decade's worth of experience working with multiple stakeholders to improve the conservation status of leopards in northern Zululand. Victoria moved to Broome in 2012 with her family and joined EK in September 2020 to support the Broome Community Seagrass Monitoring Project. She looks forward to working with TOs, ranger groups and the greater Broome community to facilitate and raise awareness of this great project.



Liz Jack, Social Enterprise Development

Liz has spent 15 years developing cultural tourism and native food enterprises with Aboriginal entrepreneurs across the Kimberley region. Before that, Liz worked in agriculture, having grown up on a

farm in the WA wheatbelt and graduated with a B.Sc (Agric.) Hons from the University of WA. Transitioning from agriculture to socio-economic development entailed completing postgraduate qualifications in History and Politics, and then Business, at Notre Dame University (NDU). A subsequent two-year stint teaching Business to Aboriginal students at NDU, Broome campus, deepened Liz's understanding of the shared history between Aboriginal and non-Aboriginal people and started her on the path of socio-economic development. A recently completed 'Next Economy' MBA via the USA, revisiting key business fundamentals from a socially just and environmentally regenerative perspective, has cemented her passion for supporting social enterprises.

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